The Twenty-sixth Session of the Scientific Advisory Committee (SAC26)
on the Acid Deposition Monitoring Network in East Asia
20-22 October 2026, Kuala Lumpur, Malaysia (Hybrid)

Adoption of the Data Report 2025

I. INTRODUCTION

1. The Acid Deposition Monitoring Network in East Asia (EANET) was established as an initiative for regional cooperation among the participating countries, creation of a common understanding on the state of both air concentration and acid deposition problems and for providing useful inputs to policy makers at various levels. Monitoring activities started during the preparatory phase activities of EANET from March 1998 to December 2000. Regular air concentration and acid deposition monitoring started in January 2001 with 10 participating countries, namely China, Indonesia, Japan, Malaysia, Mongolia, Philippines, Republic of Korea, Russia, Thailand, and Vietnam. Cambodia, Lao PDR, and Myanmar joined EANET in 2001, 2002 and 2005, respectively.

2. Air concentration and acid deposition monitoring activities of EANET consist of five environmental items – dry deposition (air concentration), wet deposition, soil and vegetation, inland aquatic environment, and catchment-scale monitoring. Monitoring for dry and wet deposition is implemented to measure atmospheric concentrations and to evaluate fluxes of acidic substances to the land surface, while monitoring for soil and vegetation, inland aquatic environment and catchment-scale is carried out to assess adverse impacts on terrestrial and aquatic ecosystems. These monitoring data are used to evaluate the state of air concentration and acid deposition as well as impacts on ecosystems. The Data Report is a key publication of the EANET.

3. The participating countries are required to submit monitoring data and related information obtained from the monitoring activities to the Network Center for EANET (NC) by the end of June of each year based on the guidelines of EANET. The NC prepares a draft Data Report through the discussion with QA/QC managers from participating countries at the Senior Technical Managers' Meeting (STM). After verification by the experts of each monitoring field, the NC submits the draft Data Report to the session of Scientific Advisory Committee (SAC), and the Data Report is adopted. Following the comments and guidance at the SAC, the NC elaborated and finalized the report.

4. For over 20 years, EANET has fostered a reputable coordinated regional monitoring system using standardized methodologies and a scientific exchange platform and has contributed gradually to solving acid deposition problems in the region. In recognition of the emerging

challenges on atmospheric deposition, in 2021, in a landmark decision, the Participating Countries agreed to expand the scope of EANET to also include atmospheric environment related substances, such as fine particulate matter ($PM_{2.5}$) and surface ozone, among others. In line with EANET's expanded scope, the priority of EANET during MTP (2026-2030) includes PM2.5, PM (inorganic ions), surface ozone, NOx, NH3 and VOCs (indicated by dark blue color in Table 1).

Table 1. Proposed increased focus of the MTP (2026-2030) based on the Annex to the Instrument

Atmospheric Environment-related Substances		Item 4 Monitoring and Reporting	Item 5 Assessment	Item 6 Research Activities	Item 7 Education and Training	Item 8 Public Awareness	Item 9 Exchange of Information
SO_2		√	√	*	√	√	√
NO_X		√	√	*	√	√	√
NH_3		√	√	*	√	√	√
PM	PM2.5	√	√	*	√	√	√
	PM10	√	√	*	√	√	√
	TSP	√	√	*	√	√	√
	DSS[a]	√	√	*	√	√	√
	PM (inorganic ions)	√	√	*	√	√	√
	PM (metallic elements)	-	-	*	√	√	√
	PM (organic aerosols)	-	-	*	√	√	√
Precipitation Chemistry (ions, pH, EC)		√	√	*	√	√	√
Surface Ozone		√	√	*	√	√	√
CO		-	-	*	√	√	√
VOCs		-	-	*	√	√	√

Legend of the symbols:
[√: Applicable]
[-: Not applicable]
[*: Partly applicable]: see Item 3, para 4[15]
[a: Dust and Sand Storms (DSS) are suspended dust and sand caused by dust and sandstorms.]
Items in blue are priority of EANET during MTP (2026-2030)

5. Based on EANET's previous activities and to address the identified challenges and priorities, EANET's participating countries selected three outcomes for EANET for the coming five years (2026-2030):
    1. Outcome 1. Understanding on the state of air pollution in the priority areas and atmospheric deposition in East Asia is built through strengthened monitoring, particularly focusing on the following pollutants: PM2.5 and its components (e.g., inorganic ions), surface ozone (O_3), nitrogen oxides (NO_x), ammonia (NH_3)
    2. Outcome 2. Decision-makers at local, national and regional levels have increased access to evidence-based policy relevant information
    3. Outcome 3. Cooperation on the issues related to air pollution in the priority areas and atmospheric deposition in East Asia is increased

6. The priority of EANET has been shifted from acid deposition to air pollution and atmospheric deposition. Therefore, the importance of air concentration monitoring has increased.

II. DATA REPORT 2025 AND THE REVISION OF THE STRUCTURE OF THE DATA REPORT

7. Against these backgrounds, the order of Chapter for Wet Deposition Monitoring and that for Air Concentration and Dry Deposition Monitoring was switched in Data Report 2025 as follows (No changes were made to the detailed structure other than changing the order of the chapters):

Data Report 2024	Data Report 2025
1. Introduction	1. Introduction
2. Network Description	2. Network Description
3. Wet Deposition Monitoring	**3. Air Concentration and Dry Deposition Monitoring**
4. Air Concentration and Dry Deposition Monitoring	**4. Wet Deposition Monitoring**
5. Soil and Vegetation Monitoring	5. Soil and Vegetation Monitoring
6. Inland Aquatic Environment Monitoring	6. Inland Aquatic Environment Monitoring
7. Catchment-sacle Monitoring	7. Catchment-sacle Monitoring

8. The current Data Report, including its detailed structure, is optimized for acid deposition monitoring. However, as mentioned above, the priority of EANET has been shifted from acid deposition to air pollution and atmospheric deposition, which, including the acid deposition which contains higher than normal acidity, is the transfer process of air pollutants to the Earth's surface. Based on these considerations, the NC would like to propose the following changes to the structure of the Data Report from 2026 onward as an example (see next page):

Data Report 2025	Data Report from 2026 onward
1. Introduction	1. Introduction
2. Network Description	2. Network Description
3. Air Concentration and Dry Deposition Monitoring	**3. Air Concentration Monitoring**
4. Wet Deposition Monitoring	**4. Atmospheric Deposition Monitoring**
	4.1 Wet Deposition Monitoring
	4.2 Dry Deposition Monitoring
	Appendix. Nitrogen Deposition Monitoring
5. Soil and Vegetation Monitoring	5. Soil and Vegetation Monitoring
6. Inland Aquatic Environment Monitoring	6. Inland Aquatic Environment Monitoring
7. Catchment-sacle Monitoring	7. Catchment-sacle Monitoring

In addition, the monitoring data items especially in Chapter 3, Air Concentration Monitoring, need to be reorganized because current order is basically optimized for acid deposition monitoring. Example proposal for the organization of air concentration monitoring data for Data Report from 2026 onward is as follows:

- $PM_{2.5}$ (Automatic monitor (AT)), PM_{10} (AT), PM Component (Filter pack (FP)) (+$PM_{2.5}$ Component (FP and …))
- O_3 (AT and passive sampler)
- NO_x (AT), SO_2 (AT/FP), NH_3（FP）, HNO_3（FP）, and HCl（FP）

III. ACTIONS REQUIRED

9. The Twenty-sixth Session of the Scientific Advisory Committee (SAC26) Meeting is invited to consider the adoption of the Data Report 2025 (Attachment 1), with modification, including changes to its structure (switching the order of Chapter 3 and 4: Chapter 3, Air Concentration and Dry Deposition Monitoring, and Chapter 4, Wet Deposition Monitoring) and discuss the revision of the structure and reorganization of the monitoring items for the Data Report from 2026 onward.

Attachment 1

The Twenty-sixth Session of the Scientific Advisory Committee
on the Acid Deposition Monitoring Network in East Asia
20-22 October 2026, Kuala Lumpur, Malaysia (Hybrid)

Draft Data Report 2025

October 2026

Network Center for EANET

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Appendix 1 *Overview of Data Report 2025* *TBD*
Appendix 2 *Meteorological Statistics at the Monitoring Sites* *TBD*
Appendix 3 *Corrigenda of Air Concentration and Dry Deposition Monitoring* *TBD*
Appendix 4 *Corrigenda of Inland Aquatic Environment Monitoring* *TBD*

CHAPTER 1

Introduction

1. Introduction

The Acid Deposition Monitoring Network in East Asia (EANET) was established as an initiative for regional cooperation among the participating countries, creation of a common understanding on the state of both air concentration and acid deposition problems and for providing useful inputs to policy makers at various levels.

Monitoring activities started during the preparatory phase activities of EANET from March 1998 to December 2000. Regular air concentration and acid deposition monitoring started in January 2001 with 10 participating countries, namely China, Indonesia, Japan, Malaysia, Mongolia, Philippines, Republic of Korea, Russia, Thailand, and Vietnam. Cambodia, Lao PDR, and Myanmar joined EANET in 2001, 2002 and 2005, respectively. There are currently 13 countries participating in the EANET activities.

Air concentration and acid deposition monitoring activities of EANET consist of five environmental items – dry deposition (air concentration), wet deposition, soil and vegetation, inland aquatic environment, and catchment-scale monitoring. Monitoring for dry and wet deposition is implemented to measure atmospheric concentrations and to evaluate fluxes of acidic substances to the land surface, while monitoring for soil and vegetation, inland aquatic environment and catchment-scale is carried out to assess adverse impacts on terrestrial and aquatic ecosystems. These monitoring data are used to evaluate the state of air concentration and acid deposition as well as impacts on ecosystems.

The participating countries are required to submit monitoring data and related information obtained from the monitoring activities to the Network Center for EANET (NC) by the end of June of each year based on the guidelines of EANET. The NC prepared a draft Data Report 2024 through the discussion with QA/QC managers from participating countries at the 27th Senior Technical Managers' Meeting (STM27). After verification by the experts of each monitoring field, the NC submitted the draft Data Report to the 26th session of Scientific Advisory Committee (SAC26) held in October 2026, and the Data Report 2025 was adopted. Following the comments and guidance at the SAC26, the NC elaborated and finalized the report.

The Data Report 2025 contains the data obtained from monitoring activities carried out in 2025.

CHAPTER 2

Network Description

2. Network Description

2.1 Classification of Monitoring Sites

EANET monitoring sites are classified into two basic categories, namely "air concentration/ acid deposition monitoring sites" and "ecological survey sites". Air concentration/acid deposition monitoring sites are ones for the collection of fundamental data on the temporal and spatial distribution of acid deposition as well as air concentration, and they are further classified into 3 sub-categories: remote sites, rural sites, and urban sites for specific objectives of monitoring. Ecological survey sites are those that provide basic data for assessing the effects of acidification on terrestrial ecosystems, and they are further classified into 2 sub-categories: basic survey sites and ecosystem analysis sites. The classification of the monitoring sites is shown in Table 2.1.

Table 2.1 Classification of monitoring sites

Site category	Site classification	Main purpose and siting criteria
Air concentration/ acid deposition monitoring site for dry deposition and wet deposition monitoring	Urban site	- Assessment of the state of air concentration and acid deposition in urban areas - Urbanized and industrial areas, and the areas immediately outside the urban area - Data can be used for evaluation of air concentrati-on and acid deposition effect on buildings and historical monuments or human health
	Rural site	- Assessment of the state of air concentration and acid deposition in rural areas and/or hinterlands - Data can be used for the evaluation of air concentration and acid deposition on agricultural crops, forests etc. - More than 20 km apart from large pollution sources like cities, power plants and highways
	Remote site	- Assessment of the state of air concentration and acid deposition in background areas - Data can be used for evaluation of long-range transport and deposition models - More than 50 km apart from large pollution sources like cities, power plants and highways - More than 500 m apart from main roads (less than 500 vehicles per day)
Ecological survey site for soil and vegetation, Inland aquatic environment, and catchment-scale monitoring	Basic survey site	- Accumulation of basic data on soil, forest, and inland aquatic environment and disclose trends in their properties - In the vicinity of the air concentration and acid deposition monitoring site
	Ecosystem analysis site	- Assessment of air concentration and acid deposition impacts on whole ecosystem through application of terrestrial ecosystem analysis and/or catchment analysis - Sensitive areas to changes in atmospheric acidity and ecologically conserved area

2.2 Monitoring Activities in 2025

Thirteen EANET countries, namely, Cambodia, China, Indonesia, Japan, Lao PDR, Malaysia, Mongolia, Myanmar, Philippines, Republic of Korea, Russia, Thailand, and Vietnam participated in air concentration and acid deposition monitoring in 2025. A total of 65 sites are nominated for the air concentration/acid deposition monitoring, including 27 urban, 19 rural, and 19 remote sites. The map showing the locations of these sites with the classification information is provided in Figure 2.1. The details on the locations of these sites are presented in Table 2.2.

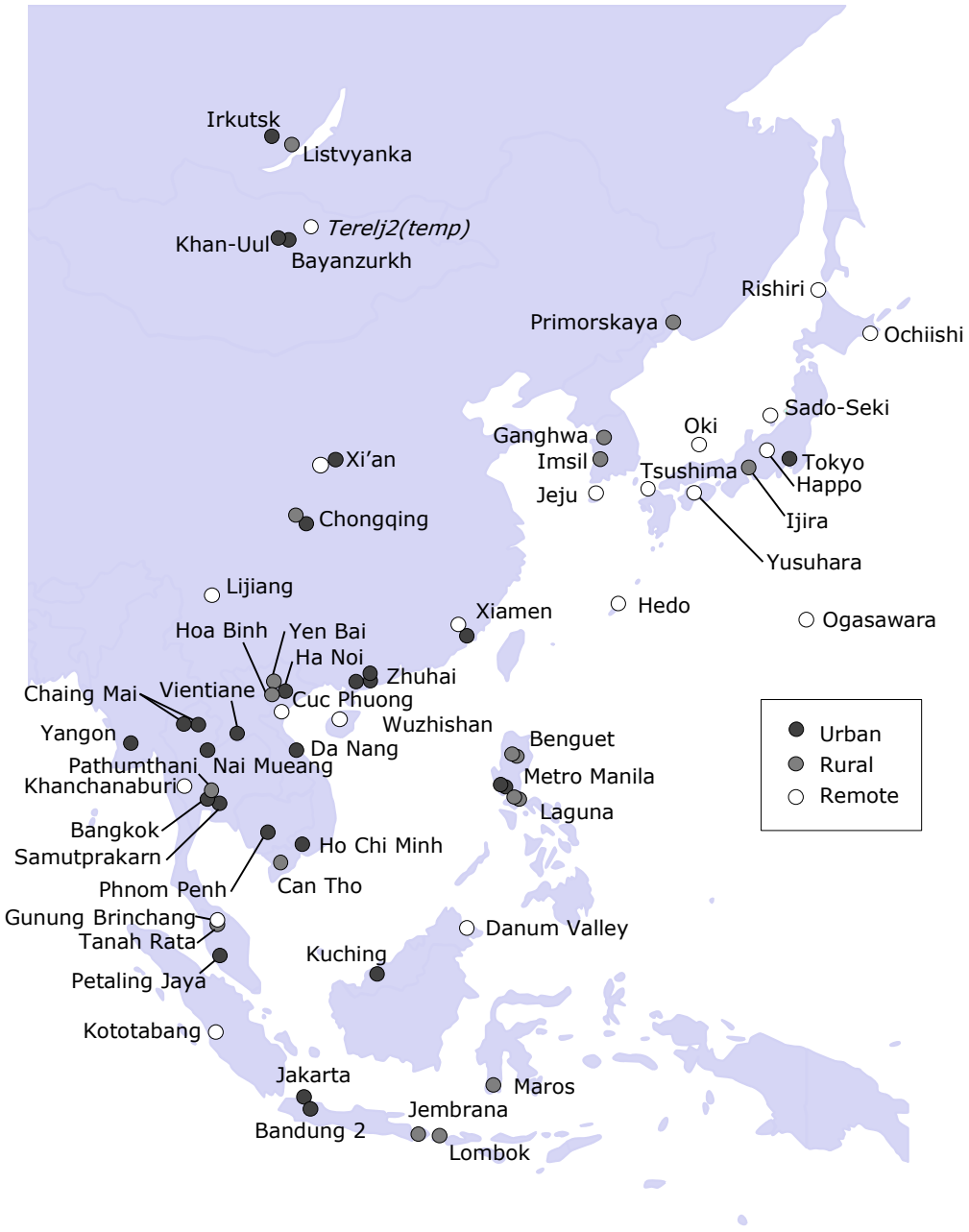


Figure 2.1 Locations of air concentration/acid deposition monitoring sites in 2025

NOTE: "temp" indicates a provisional site name and will be replaced with the official name once finalized.

Table 2.2 Locations of air concentration/acid deposition monitoring sites in 2025

Country	Site	Code[*1]	Class.	Latitude[*2]	Longitude[*2]	Altitude /m
Cambodia	Phnom Penh	KHA001	Urban	11°33'18"N	104°56'20"E	15
China	Chongqing - Haifu	CNA003	Urban	29°37'30"N	106°30'34"E	317
	- Jinyunshan	CNA004	Rural	29°49'42"N	106°22'43"E	871
	Xi'an - Shizhan	CNA005	Urban	34°14'33"N	108°57'10"E	415
	- Jiwozi	CNA007	Remote	33°51'06"N	108°48'52"E	1,837
	Xiamen - Hongwen	CNA008	Urban	24°28'47"N	118°09'47"E	39
	- Xiaoping	CNA009	Remote	24°51'23"N	118°02'55"E	530
	Zhuhai - Xiang Zhou	CNA010	Urban	22°16'22"N	113°31'46"E	29
	- Zhuxiandong	CNA011	Urban	22°12'24"N	113°31'00"E	18
	- Haibin-Park	CNA012	Urban	22°15'40"N	113°34'25"E	10
	Wuzhishan - Wuzhishan	CNA013	Remote	18°50'11"N	109°29'26"E	958
	Lijiang - Lijiang	CNA014	Remote	27°13'38"N	100°14'48"E	3410
Indonesia	Jakarta	IDA001	Urban	06°09'22"S	106°50'32"E	7
	Kototabang	IDA003	Remote	00°12'08"S	100°19'05"E	845
	Maros	IDA005	Rural	04°59'50"S	119°34'17"E	1
	Jembrana	IDA006	Rural	08°20'27"S	114°37'02"E	24
	Lombok	IDA007	Rural	08°38'10"S	116°10'15"E	52
	Bandung 2[*3]	IDA008	Urban	06°54'43"S	107°36'35"E	768
Japan	Rishiri	JPA001	Remote	45°07'30"N	141°14'30"E	40
	Ochiishi	JPA002	Remote	43°09'43"N	145°29'50"E	49
	Sado-seki	JPA004	Remote	38°15'02"N	138°24'01"E	129
	Happo	JPA005	Remote	36°41'48"N	137°47'53"E	1,850
	Ijira	JPA006	Rural	35°34'14"N	136°41'51"E	140
	Oki	JPA007	Remote	36°17'19"N	133°11'06"E	90
	Yusuhara[*4]	JPA009	Remote	33°22'46"N	132°56'06"E	790
	Hedo	JPA010	Remote	26°51'58"N	128°14'55"E	60
	Ogasawara	JPA011	Remote	27°05'32"N	142°13'02"E	212
	Tokyo	JPA012	Urban	35°41'30"N	139°45'10"E	26
	Tsushima	JPA014	Remote	34°14'48"N	129°17'17"E	390
Lao PDR	Vientiane	LAA001	Urban	17°59'53"N	102°34'56"E	175
Malaysia	Petaling Jaya	MYA001	Urban	03°06'07"N	101°38'42"E	46
	Tanah Rata	MYA002	Rural	04°29'03"N	101°22'17"E	1,545
	Danum Valley	MYA003	Remote	04°58'53"N	117°50'37"E	426
	Kuching	MYA004	Urban	01°29'25"N	101°21'09"E	22
	Gunung Brinchang	MYA005	Remote	04°31'22"N	101°23'17"E	2,012
Mongolia	Bayanzurkh	MNA003	Urban	47°55'03.25"N	106°56'15.44"E	1,301
	Khan-Uul	MNA004	Urban	47°53'39.54"N	106°52'57.19"E	1,284
	Terelj[*5]	MNA002	Remote	47°59'7.65"N	107°27'30.41"E	1,550
	Terelj2_temp[*5]	MNA005	Rural	47°59'18.87"N	107°27'25.59"E	1,550
Myanmar	Yangon	MMA001	Urban	16°51'53"N	96°09'13"E	21

Table 2.2 Locations of air concentration/acid deposition monitoring sites in 2025 (continued)

Country	Site	Code*1	Classification	Latitude*2	Longitude*2	Altitude/m
Philippines	Metoro Manila					
	- Manila Observatory	PHA001	Urban	14°38'09"N	121°04'43"E	55
	- North Caloocan	PHA004	Urban	14°44'59.95"N	121°3'45.35"E	76
	Laguna - Los Baños	PHA002	Rural	14°09'53"N	121°15'00"E	25
	- Sta Rosa	PHA005	Rural	14°18'57.88"N	121°6'37.85"E	8
	Benguet					
	- Mt. Sto. Tomas	PHA003	Rural	16°21'23" N	120°33'33"E	1,500
	- Lower Session Road	PHA006	Rural	16°24'41.1" N	120°35'55.38" E	1,473
Republic of Korea	Ganghwa	KRA001	Rural	37°42'32"N	126°16'26"E	60
	Jeju	KRA002	Remote	33°17'32"N	126°09'43"E	37
	Imsil	KRA003	Rural	35°36'09"N	127°10'53"E	217
Russia	Listvyanka	RUA002	Rural	51°50'47"N	104°53'34"E	646
	Irkutsk	RUA003	Urban	52°14'53"N	104°15'33"E	495
	Primorskaya	RUA004	Rural	43°37'45"N	132°14'13"E	85
Thailand	Bangkok	THA001	Urban	13°47'04"N	100°32'22"E	5
	Samutprakarn	THA002	Urban	13°39'58"N	100°36'21"E	4
	Pathumthani	THA003	Rural	14°02'46"N	100°42'43"E	6
	Khanchanaburi (Vajiralongkorn Dam)	THA004	Remote	14°47'05"N	98°36'05"E	130
	Chiang Mai					
	- Chang Phueak	THA006	Urban	18°50'26"N	98°58'11"E	329
	- Si Phum	THA007	Urban	18°47'27"N	98°59'24"E	313
	Nakhon Ratchasima					
	- Nai Mueang	THA009	Urban	14°58'46"N	102°05'53"E	184
Vietnam	Hanoi	VNA001	Urban	21°03'24"N	105°43'36"E	6
	Hoa Binh	VNA002	Rural	20°50'12"N	105°20'32"E	23
	Cuc Phuong	VNA003	Remote	20°18'01"N	105°41'38"E	155
	Da Nang	VNA004	Urban	16°02'35"N	108°12'24"E	5
	Can Tho	VNA005	Rural	10°05'18"N	105°41'45"E	2
	Ho Chi Minh	VNA006	Urban	10°47'04"N	106°42'00"E	5
	Yen Bai	VNA007	Rural	21°42'28"N	104°52'29"E	56

*1 Codes for the air concentration/acid deposition monitoring sites are assigned according to the following rules.
e.g.) KH A 0 01
(a) (b) (c) (d)
(a): country code (2 digits)
(b): item code ("A" : air concentration/acid deposition monitoring)
(c): sub-serial number for ecological monitoring
(d): serial number for each country (2 digits)

*2 Coordinates are shown according to the World Geodetic System (WGS)

*3 Bandung 2 (IDA008) started sampling in May 2025. However, considering the distance between the previous and current monitoring locations, it is treated as a distinct site from the former Bandung (IDA004).

*4 Yusuhara has been discontinued since April 2025 due to the change in the National Monitoring Plan of Japan.

*5 Terelj (MNA002) was relocated in August 2025. However, considering the distance between the previous and current monitoring locations, the new location is treated as a distinct site, designated as Terelj2_temp (MNA005).

The current status on basic survey sites for ecological monitoring and their nearest air concentration/acid deposition monitoring sites are shown in Table 2.3. Soil and vegetation monitoring and inland aquatic environment monitoring are conducted at 33 plots in 10 countries and 19 lakes/rivers in 11 countries, respectively. Most of the ecological monitoring sites are corresponded to the air concentration/acid deposition monitoring sites. Soil and vegetation monitoring is conducted in the vicinity of four air concentration/acid deposition monitoring sites in China, one site in Indonesia, four sites in Japan, four sites in Malaysia, two sites in Mongolia, four sites in Philippines, one site in Republic of Korea, seven sites in Russia, two sites in Thailand, and two sites in Vietnam. Similarly, inland aquatic environment monitoring is carried out at one site in Cambodia, four sites in China, two sites in Indonesia, two sites in Japan, one site in Lao PDR, two sites in Malysia, one site in Mongolia, two sites in Philippines, two sites in Russia, one site in Thailand, and one site in Vietnam. It is expected that the air concentration and acid deposition monitoring data collected at their nearest monitoring sites will be used for interpretation of the data on ecological monitoring.

Table 2.3 Basic survey sites for ecological monitoring and their nearest air concentration /acid deposition monitoring sites

Country	Site for air concentration/ acid deposition monitoring	Plot for soil and vegetation monitoring	Code for soil and vegetation monitoring[*1]	Site for inland aquatic environment monitoring	Code for inland aquatic environment monitoring[*1]
Cambodia	-	-	-	Sras Srang Lake	KHI002
China	Chongqing - Jinyunshan	Jinyunshan	CNS004	Jinyunshan Lake	CNI004
	Xi'an - Jiwozi	Dabagou	CNS007	Jiwozi River	CNI007
	Xiamen - Xiaoping	Xiaoping	CNS009	Xiaoping Dam	CNI209
	Zhuhai - Zhuxiandong	Zhuxiandong	CNS011	Zhuxiandong Stream	CNI111
Indonesia	Serpong	Bogor Research Forest (Dramaga Experimental Forest)	IDS002	-	-
	Bandung	-	-	Patengang Lake	IDI004
	-	-	-	Gunung Lake	IDI006
Japan	Happo	Sekido-san	JPS005	Futago-ike Lake	JPI005
		Horyu-zan	JPS105		
	Ijira	Ijira	JPS006	Ijira Lake	JPI006
		Yamato	JPS106		
Lao PDR	Vientiane	-		Nam Houm Lake	LAI001

Table 2.3 Basic survey sites for ecological monitoring and their nearest air concentration/acid deposition monitoring sites (continued)

Country	Site for air concentration/ acid deposition monitoring	Plot for soil and vegetation monitoring	Code for soil and vegetation monitoring*1	Site for inland aquatic environment monitoring	Code for inland aquatic environment monitoring*1
Malaysia	Petaling Jaya	Pasoh TEAM Plot 1	MYS201	-	-
		Pasoh TEAM Plot 8	MYS202	-	-
	Danum Valley	-	-	Baru River	MYI103
	-	UPMKB Rehabilitated Forest Planted in 1991	MYS005	-	-
		UPMKB Rehabilitated Forest Planted in 2008	MYS105	-	-
	-	-	-	Kuala Tahan	MYI006
Mongolia	Ulaanbaatar	Bogdkhan Mountain	MNS001	-	-
	Terelj	Terelj Mountain	MNS002	Terelj River	MNI002
Philippines	Manila Observatory	La Mesa Watershed	PHS001		
	Los Baños	Mt. Makiling	PHS002	Pandin Lake	PHI102
		UP Quezon, Land Grant	PHS102		
	Mt. Sto Tomas	Boneco Long Term Ecological Research Site	PHS003	Ambulalakaw Lake	PHI003
Republic of Korea	Imsil	Mt. Naejang	KRS003	-	-
Russia	Irkutsk	Irkutsk	RUS003	-	-
	Listvyanka	Bolshie Koty	RUS002		
		Pereemnaya river catchment	RUS102	Pereemnaya River	RUI102
	Mondy	Ilchir Lake	RUS001	-	-
		Okinskoe Lake	RUS101		
		Solar Observatory	RUS201		
	Primorskaya	Primorskaya	RUS004	Komarovka River	RUI004
Thailand	Khanchanaburi (Vajiralongkorn Dam)	Vajiralongkorn Dam	THS004	Vajiralongkorn Dam	THI004
		Vajiralongkorn Puye	THS104		
Vietnam	Hoa Binh	Cave of Heaven	VNS002	Hoa Binh Reservoir	VNI002
		Thang Ranh	VNS102		

*1 Each code of ecological monitoring sites is assigned in accordance with the following rules.
e.g.) CN S 0 04
(a) (b) (c) (d)
(a): country code (2 digits) (b): item code ("S": soil and vegetation monitoring, "I": inland aquatic environment monitoring)
(c): sub-serial number when there are multiple ecological monitoring sites in the nearest air concentration/acid deposition monitoring site
(d): 2-digit serial number corresponding to its nearest air concentration/acid deposition monitoring site
(If there is no nearest air concentration/acid deposition monitoring site within 50 km, another new serial number is assigned after the existing air concentration/acid deposition monitoring site in its country.)

Table 2.4 shows the sites for catchment-scale monitoring.

Table 2.4 Site for catchment-scale monitoring

Country	Site for air concentration /acid deposition monitoring	Site for catchment-scale monitoring	Code for catchment-scale monitoring[*1]
Japan	Ijira	Lake Ijira catchment	JPC006
Philippines	Manila Observatory	La Mesa Watershed	PHC001

*1 Each code of the catchment-scale monitoring sites is assigned in accordance with the following rules.

e.g.) JP C 0 06
(a) (b) (c) (d)

(a): country code (2 digits) (b): item code ("C": catchment-scale monitoring)
(c): Sub-serial number when there are multiple ecological monitoring sites in the nearest air concentration/acid deposition monitoring site
(d): 2-digit number corresponding to its nearest air concentration/acid deposition monitoring site
(If there is no nearest air concentration/acid deposition monitoring site within 50 km, another new serial number is assigned after the existing air concentration/acid deposition monitoring site in its country.)

CHAPTER 3

Air Concentration and Dry Deposition Monitoring

3. Air Concentration and Dry Deposition Monitoring

3.1 Method

Automatic monitoring and manual monitoring methods were used to implement air concentration and dry deposition monitoring in 2025. The monitoring items were selected considering the priority chemical species defined in S*trategy Paper for Future Direction of Dry Deposition Monitoring of EANET (2016-2020 Edition, 2015)*.

3.1.1 Automatic Monitoring Method

The priority chemical species of SO_2, O_3, NO, NO_2 (urban), PM_{10} and $PM_{2.5}$ are monitored by automatic monitoring methods. The criteria and quality assurance/quality control (QA/QC) for automatic monitoring methods are described in Chapter 3 of *Technical Manual for Air Concentration Monitoring in East Asia* (Technical Manual, EANET, 2013).

3.1.2 Manual Monitoring Method

Filter pack and passive sampler are used for manual monitoring in EANET. The filter pack method is used to determine gaseous substances (SO_2, HNO_3, HCl, NH_3) and particulate matter components (PMCs; SO_4^{2-}, NO_3^-, Cl^-, NH_4^+, Na^+, K^+, Mg^{2+}, Ca^{2+}), which are identified as the priority chemical species in EANET. The passive sampler method is also used to determine gaseous species of SO_2, NH_3, NO_2 and O_3. The recommended monitoring method by means of the four-stage filter pack is explained in the Technical Manual, EANET, 2013. The basic flow chart of the four-stage filter pack method is shown in Figure 3.1. The QA/QC for the manual monitoring methods is described in Chapter 4 of the Technical Manual, EANET, 2013.

3.1.3 Monitoring Sites

The measurement methods, monitoring intervals (time intervals of submitted data), and parameters at each monitoring site for air concentration and dry deposition monitoring in 2025 are shown in Table 3.1.1. Automatic monitors were used in Cambodia, China, Japan, Lao PDR, Mongolia, Myanmar, Philippines, Republic of Korea, Russia, Thailand, and Vietnam. The methods of automatic monitors are shown in Table 3.1.2.
The filter pack method was used in Cambodia, Japan, Lao PDR, Malaysia, Mongolia, Myanmar, Philippines, Republic of Korea, Russia, Thailand and Vietnam, and the passive sampler method was conducted in Russia in 2025.

Preparation of filter pack

Stage	Specification of filter	Collected species
1st (F0)	PTFE filter (pore size: 0.8 μm, diameter: 47 mm)	Aerosols
2nd (F1)	Polyamide filter (pore size: 0.45 μm, diameter: 47 mm)	HNO_3, SO_2, HCl, NH_3
3rd (F2)	Impregnated cellulose filter Solution: 6% K_2CO_3 + 2% glycerin	SO_2, HCl
4th (F3)	Impregnated cellulose filter Solution: 5% H_3PO_4 + 2% glycerin	NH_3

↓

Sampling on site

Air flow rate: approximately 1 or 2 liter/minute
Sampling period: one week or two weeks

↓

Extraction of filter pack

Stage	Solvent	Extracted species
F0	Extraction with 20 mL of deionized water	SO_4^{2-}, NO_3^-, Cl^-, NH_4^+, Na^+, K^+, Mg^{2+}, Ca^{2+}
F1	Extraction with 20 mL of deionized water	SO_4^{2-}, NO_3^-, Cl^-, NH_4^+
F2	Extraction with 20mL of 0.05% H_2O_2	SO_4^{2-}, Cl^-
F3	Extraction with 20mL of deionized water	NH_4^+

↓

Chemical analysis

By ion chromatography or other suitable analytical methods

Figure 3.1 Flow chart of the four-stage filter pack method

Table 3.1.1 Sampling methods and parameters for air concentration and dry deposition monitoring in 2025

Country	Site	Method	Monitoring Interval[*1]	Parameter
Cambodia	Phnom Penh	AT	Hourly	NO^{*4}, $NO_2{}^{*4}$, $NO_x{}^{*4}$, O_3, $PM_{2.5}$
		FP[*4]	2 weeks	SO_2, HNO_3, HCl, NH_3, PMCs
China	Chongqing			
	- Jinyunshan	AT	Daily	SO_2, NO, NO_x*, O_3-8h, PM_{10}, $PM_{2.5}$
	Xiamen			
	- Hongwen	AT	Daily	SO_2, NO_2, O_3-8h, PM_{10}, $PM_{2.5}$
	Zhuhai			
	- Haibin-Park	AT	Daily	SO_2, NO_2, O_3-8h, PM_{10}, $PM_{2.5}$
	Wuzhishan	AT	Daily	SO_2, NO_2, PM_{10}
	Lijiang	AT	Daily	SO_2, NO_2, PM_{10}
Indonesia	Jakarta	PS[*4]	Monthly	SO_2, NO_2
	Kototabang	PS[*4]	Monthly	SO_2, NO_2
Japan	Rishiri	AT	Hourly	SO_2, NO, NO_x*, O_3, PM_{10}, $PM_{2.5}$
		FP	2 weeks	SO_2, HNO_3, HCl, NH_3, PMCs
	Ochiichi	AT	Hourly	SO_2, NO, NO_x*, O_3, PM_{10}, $PM_{2.5}$
		FP	2 weeks	SO_2, HNO_3, HCl, NH_3, PMCs
	Sado-seki	AT	Hourly	O_3, PM_{10}, $PM_{2.5}$
		FP	2 weeks	SO_2, HNO_3, HCl, NH_3, PMCs
	Happo	AT	Hourly	O_3, PM_{10}, $PM_{2.5}$
		FP	2 weeks	SO_2, HNO_3, HCl, NH_3, PMCs
	Ijira	AT	Hourly	PM_{10}, $PM_{2.5}$
		FP	2 weeks	SO_2, HNO_3, HCl, NH_3, PMCs
	Oki	AT	Hourly	O_3, PM_{10}, $PM_{2.5}$
		FP	2 weeks	SO_2, HNO_3, HCl, NH_3, PMCs
	Yusuhara	AT	Hourly	PM_{10}, $PM_{2.5}$
		FP	2 weeks	SO_2, HNO_3, HCl, NH_3, PMCs
	Hedo	AT	Hourly	PM_{10}, $PM_{2.5}$
		FP[*4]	2 weeks	SO_2, HNO_3, HCl, NH_3, PMCs
	Ogasawara	AT	Hourly	O_3, PM_{10}, $PM_{2.5}$
		FP	2 weeks	SO_2, HNO_3, HCl, NH_3, PMCs
	Tokyo	FP	2 weeks	SO_2, HNO_3, HCl, NH_3, PMCs
	Tsushima	AT	Hourly	O_3, PM_{10}, $PM_{2.5}$
		FP	2 weeks	SO_2, HNO_3, HCl, NH_3, PMCs
Lao PDR	Vientiane	AT[*4]	Hourly	NO, NO_2, NO_x, PM_{10}, $PM_{2.5}$
		FP[*4]	monthly	SO_2, HNO_3, HCl, NH_3, PMCs
Malaysia	Petaling Jaya	FP	1week	SO_2, HNO_3, HCl, NH_3, PMCs
	Tanah Rata	FP	1week	SO_2, HNO_3, HCl, NH_3, PMCs
	Danum Valley	FP	2 weeks	SO_2, HNO_3, HCl, NH_3, PMCs
Mongolia	Ulaanbaatar			
	-Bayanzurkh	AT	Hourly	SO_2, NO, NO_2, NO_x, O_3, PM_{10}, $PM_{2.5}$
	-Khan-Uul	AT	Hourly	SO_2, NO, NO_2, NO_x, O_3, PM_{10}, $PM_{2.5}$
		FP	1 week	SO_2, HNO_3, HCl, PMCs

Table 3.1.1 Sampling methods and parameters for air concentration and dry deposition monitoring in 2025 (continued)

Country	Site	Method	Monitoring Interval[*1]	Parameter
Mongolia	Terelj	FP	2 weeks	SO_2, HNO_3, HCl, PMCs
	Terelj II TBD	FP	2 weeks	SO_2, HNO_3, HCl, PMCs
Myanmar	Yangon	AT	Hourly	$PM_{2.5}$
		FP	2 weeks	SO_2, HNO_3, HCl, NH_3, PMCs
Philippines	Metro Manila			
	-Manila Observatory	AT[*4]	Hourly/Daily	SO_2, NO_2, O_3
		FP	4-17 days[*3]	SO_2, HNO_3, HCl, NH_3, PMCs
	-North Caloocan	AT[*4]	Hourly/Daily	PM_{10}, $PM_{2.5}$
	Laguna			
	-Los Baños	FP	5-28 days[*3]	SO_2, HNO_3, HCl, NH_3, PMCs
	-Sta. Rosa	AT	Hourly/Daily	SO_2, NO_2, O_3, PM_{10}, $PM_{2.5}$
	Benguet			
	-Mt. Sto. Tomas	AT	Hourly/Daily	PM_{10}, $PM_{2.5}$
		FP[*4]	1 week	SO_2, HNO_3, HCl, NH_3, PMCs
	-Lower Session Road	AT[*4]	Hourly/Daily	SO_2, NO_2, O_3,
Republic of Korea	Ganghwa	AT	Hourly	SO_2, NO_2, O_3, PM_{10}, $PM_{2.5}$
		FP	Once every 6 days	HNO_3, HCl, NH_3, PMCs in $PM_{2.5}$
	Jeju	AT	Hourly	SO_2, NO_2, O_3, PM_{10}, $PM_{2.5}$
		FP	Once every 6 days	HNO_3, HCl, NH_3, PMCs in $PM_{2.5}$
	Imsil	AT	Hourly	SO_2, NO_2, O_3, PM_{10}, $PM_{2.5}$
		FP	Once every 6 days	HNO_3, HCl, NH_3, PMCs in $PM_{2.5}$
Russia	Listvyanka	AT	Daily	SO_2, NO, NO_x*, O_3
		FP	1 week	SO_2, HNO_3, HCl, NH_3, PMCs
		PS	13-31 days[*3]	O_3
	Irkutsk	FP	1 week	SO_2, HNO_3, HCl, NH_3, PMCs
		PS	6-49 days[*3]	O_3
	Primorskaya	FP	15 days	SO_2, HNO_3, HCl, NH_3, PMCs
Thailand	Bangkok	AT	Hourly	NO, NO_2, ~~O_3,~~ PM_{10}, $PM_{2.5}$
	Samutprakarn	AT	Hourly	$PM_{2.5}$
	Khanchanaburi	AT	Hourly	$PM_{2.5}$
	Chiang Mai			
	-Chang Phueak	AT	Hourly	$PM_{2.5}$
	- Si Phum	AT	Hourly	$PM_{2.5}$
	Nakhon Ratchasima			
	- Nai Mueang	AT	Hourly	NO, NO_2, NO_x, PM_{10}, $PM_{2.5}$
Vietnam	Hanoi	FP	1 week	SO2, HNO3, HCl, NH3, PMCs
	Hoa Binh	AT	Hourly	$PM_{2.5}$
		FP	1 week	SO2, HNO3, HCl, NH3, PMCs
	Can Tho	FP	1 week	SO2, HNO3, HCl, NH3, PMCs
	Ho Chi Minh	FP	1 week	SO2, HNO3, HCl, NH3, PMCs
	Yen Bai	FP	1 week	SO2, HNO3, HCl, NH3, PMCs

Table 3.1.1 is based on their national monitoring plans.

AT: Automatic monitor, FP: Filter pack, PMCs: particulate matter components.

NOx*: NOx measured by CLD in remote or rural sites.

*1 The Monitoring interval in Table 3.1.1 refers to the time intervals for submitted data from participating countries for each site and method. The submitted data are disclosed on the EANET website: https://monitoring.eanet.asia/document/register/index (registration required).

*2 FP sampling at the Ganghwa, Jeju, and Imsil sites in the Republic of Korea is conducted once every six days for a 24-hour period using a $PM_{2.5}$ cyclone.

*3 Their sampling periods are basically 1 week, 2 weeks, 3 weeks or 1 month, however, sometimes change irregularly.

*4 Their monitoring results were not submitted yet.

Table 3.1.2 Methods of automatic monitors in 2024

Country	Site	Parameter				
		SO_2	NO_x	O_3	PM_{10}	$PM_{2.5}$
Cambodia	Phnom Penh	--	CLD	UVP	--	β–ray
China	Jinyunshan	UVF	CLD		β–ray	β–ray
	Hongwen	DOAS	DOAS		TEOM	β–ray
	Haibin-Park	DOAS	DOAS		TEOM	β–ray
	Wuzhishan	UVF	CLD	--	β–ray	--
	Lijiang	UVF	CLD	--	β–ray	--
Japan	Rishiri	UVF	CLD	UVP	β–ray	β–ray
	Ochiishi	UVF	--	UVP	β–ray	β–ray
	Sado-seki	--	CLD	UVP	β–ray	β–ray
	Happo	--	--	UVP	β–ray	β–ray
	Ijira	--	--	--	β–ray	β–ray
	Oki	--	--	UVP	β–ray	β–ray
	Yusuhara	--	--	--	β–ray	β–ray
	Hedo	--	--	--	β–ray	β–ray
	Ogasawara	--	--	UVP	β–ray	β–ray
	Tsushima	--	--	UVP	β–ray	β–ray
Mongolia	Bayanzurkh	UVF	CLD	UVP	β–ray	β–ray
	Khan-Uul	UVF	CLD	UVP	β–ray	β–ray
Myanmar	Yangon	--	--	--	--	β–ray
Philippines	Manila Observatory	--	CLD	UVP	--	--
	North Caloocan	--	--	--	--	β–ray
	Sta. Rosa	DOAS	DOAS	--	TEOM	TEOM
	Mt. Sto. Tomas	--	--	--	--	β–ray
	Lower Session Road	--	--	--	--	--

Table 3.1.2 Methods of automatic monitors in 2025 (continued)

Country	Site	Parameter				
		SO_2	NO_x	O_3	PM_{10}	$PM_{2.5}$
Republic of Korea	Ganghwa	UVF	CLD	UVP	β–ray	β–ray
	Jeju (Kosan)	UVF	CLD	UVP	β–ray	β–ray
	Imsil	UVF	CLD	UVP	β–ray	β–ray
Thailand	Bangkok	--	CLD --	--	β–ray	β–ray
	Samutprakarn	--	--	--	--	β–ray
	Khanchanaburi	--		--	--	β–ray
	Chiang Mai		--			
	- Chang Phueak	--	--	--	--	β–ray
	- Si Phum	--		--	--	β–ray
	Nakhon Ratchasima					
	- Nai Mueang	--	CLD	--	--	β–ray
Vietnam	Hoa Binh	--	--	--	--	β–ray

UVF: Ultraviolet fluorescent method, CLD: Chemiluminescence detection method, UVP: Ultraviolet photometric method, β–ray: β–ray absorption method, TEOM: Tapered element oscillating microbalance method, LS: Light scattering method, DOAS: Differential optical absorption spectroscopy method, "--": no monitoring by auto monitors.

3.2 Results of Monitoring

Monitoring data were summarized into monthly average values accompanied with maximum, minimum and data completeness monthly. Summarized data in 2025 are presented in Table 3.4.1 through Table 3.21.2. Some sites have monitored SO_2, NH_3, and/or O_3 with 2 methods. On data report 2025, those values are all shown in each table. The terms and abbreviations are given in Table 3.2.

Table 3.2 Terms and abbreviations

Term/Abbreviation	Definition
Mean	Monthly or annual arithmetic average values
Max-d	Maximum values of daily data
Min-d	Minimum values of daily data
Max-10d	Maximum values of 10-day sampling data
Min-10d	Minimum values of 10-day sampling data
Max-w	Maximum values of weekly data
Min-w	Minimum values of weekly data
Max-2w	Maximum values of biweekly data
Min-2w	Minimum values of biweekly data
Max-15d	Maximum values of 15-day sampling data

Table 3.2 Terms and abbreviations (continued)

Term/Abbreviation	Definition
Min-15d	Minimum values of 15-day sampling data
Max-m	Maximum values of monthly data
Min-m	Minimum values of monthly data
Max-irreg	Maximum values of data during irregular sampling periods (See *3 of Table 3.1.1)
Min-irreg	Minimum values of data during irregular sampling periods (See *3 of Table 3.1.1)
Max-8h d	Maximum of the daily maximum 8-hour average ozone concentrations in the month
Min-8h d	Minimum of the daily maximum 8-hour average ozone concentrations in the month
%	Percentages of monthly or annual data completeness
[<1]	The monthly or the annual value was lower than their reporting limits of O_3, PM_{10} or $PM_{2.5}$.
[<0.1]	The monthly or the annual value was lower than their reporting limits of gaseous substances (SO_2, HNO_3, HCl, NH_3).
[<0.01]	The monthly or the annual value was lower than their reporting limits of particular matter components (PMC).
( )	Reference data
[***]	No data or no measurement
Data in hatched cell (▒)	Annual data completeness was not satisfied with EANET criteria. (<70%)
Black cell (■)	Monitoring was not carried out.

For information on long-term trends of air concentrations, annual averages of gases and particulate matter concentrations from 2011 to 2025 are summarized in Table 3.22 through Table 3.39.

Monthly and annual dry deposition amounts of gaseous and particulate substances in 2025 are summarized in Table 3.40 through Table 3.50. The Inferential Method is adopted to estimate the dry depositions of EANET priority chemical species. Dry deposition amounts of gaseous and particulate substances are estimated by the product of an atmospheric concentration and a deposition velocity expressed as, Fdry = Vd × C, where Fdry, Vd, and C denote the dry deposition flux, the calculated deposition velocity, and the measured atmospheric concentrations, respectively for each species and type of surface. The Vd was calculated by meteorological parameters at the site and parameterization described in the "Technical Manual on Dry Deposition Flux Estimation in East Asia (Network Center for EANET, 2010)". From 2012 to 2024, because the deposition velocity (Vd) of gases and particulate matter differs among land surface types, Vd at each site was first calculated separately for

forest and grass surfaces, and a weighted-average Vd was then estimated according to the land-use ratio of forest and grass within a 1-km square surrounding the site. Starting in 2025, however, dry deposition calculations for all sites in Japan have been conducted assuming 100% forest cover and 0% grass cover. Table 3.3 shows the forest and grass cover fractions used for dry deposition calculations from 2012 to 2024.

Table 3.3 Forest and grass cover fractions for each site (2012-2024)

Site	Forest	Grass
Rishiri	16	84
Ochiishi	3	97
Sadoseki	58	42
Happo	52	48
Ijira	99	1
Oki	89	11
Yusuhara	89	11
Hedo	40	60
Ogasawara	60	40
Niigata-maki	0	100
Tsushima	0	100

The estimation of dry deposition flux was made only for the sites in which hourly meteorological data and land use data are available. When cloud cover data are unavailable, hourly values are set to neutral conditions. In addition, the results calculated using the previous method are presented in Supplement. Furthermore, a bug was identified and corrected in the Excel spreadsheet used for the calculation of particulate matter (PM) deposition velocity (Vd) over forest surfaces. This error affected the estimated dry deposition of Cl^-, Na^+, K^+, Mg^{2+}, and Ca^{2+}, and the affected values have been revised accordingly. Moreover, beginning with Data Report 2025, SO_2 dry deposition has been calculated using SO_2 concentrations measured by the filter pack (FP) method instead of those obtained from the automatic monitoring system (AUTO).

In Table 3.4.1 through Table 3.39, ppb unit is used for gases and $\mu g/m^3$ unit for particulate matter concentrations. In Table 3.40 through Table 3.50, mmol m^{-2} unit is used for monthly or annual dry deposition amounts. For comparing the other networks' data, conversion ratios from ppb to $\mu g/m^3$, which are based on 20 °C, 1 atm, are provided in Table 3.51.

Reporting limits for individual species depend on specifications of instruments and/or procedures of sampling and analyzing. The NC sets up the reporting limits as shown in Table 3.52 considering methods adopted by each country. The data that air concentrations were less

than the reporting limit are specified in the summarized tables. Regarding the particulate matter components measured by the filter pack method, their detection limits for particulate matter components were determined as 0.01 $\mu g/m^3$ for sampled air volume of 20.16 m^3 considering the value of 3σ, where σ is the standard deviation of blank values obtained at Japan sites in 2003.

Table 3.4.1 SO_2 - Measured by AT

Unit : ppb

Country	Site		2025												Annual
			Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	
China	Jinyunshan	Mean	2.3	2.3	2.5	2.0	2.1	2.4	2.5	2.4	0.9	0.8	0.8	1.6	1.9
		%	97	100	97	100	100	100	97	100	100	100	100	100	99
		Max-d	3.4	3.4	4.5	2.6	3.4	4.1	4.1	4.9	1.9	1.5	2.3	1.9	4.9
		Min-d	1.5	1.9	1.5	0.8	1.5	1.5	0.8	0.8	0.4	0.4	0.4	0.8	0.4
	Hongwen	Mean	1.0	0.7	0.8	0.8	0.9	1.0	0.8	1.0	1.1	1.0	1.1	1.2	1.0
		%	100	100	97	100	100	100	100	100	100	100	100	100	100
		Max-d	2.3	1.1	2.3	1.5	1.9	1.9	1.1	1.5	1.9	1.5	1.5	1.9	2.3
		Min-d	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.8	0.8	0.8	0.8	0.4
	Haibin-Park	Mean	2.5	2.2	2.4	2.6	2.2	1.9	1.3	1.5	1.9	2.3	2.8	2.6	2.2
		%	100	100	100	100	94	97	97	100	100	100	100	100	99
		Max-d	3.0	2.6	3.0	4.1	3.4	3.0	1.5	1.9	2.3	3.0	3.8	3.8	4.1
		Min-d	1.9	1.9	1.9	2.3	0.8	0.8	0.8	1.1	1.5	1.9	2.3	2.3	0.8
	Wuzhishan	Mean	0.4	0.2	0.3	0.3	0.2	0.1	0.2	0.2	0.2	0.2	0.4	0.3	0.2
		%	100	100	100	100	100	100	100	97	100	100	100	87	99
		Max-d	1.2	0.3	0.8	0.6	0.3	0.2	0.3	0.4	0.3	0.3	1.4	0.6	1.4
		Min-d	0.1	0.1	0.2	0.2	＜0.1	＜0.1	＜0.1	＜0.1	0.1	＜0.1	＜0.1	0.2	＜0.1
	Lijiang	Mean	0.2	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.2	0.1	0.2	0.2	0.2
		%	26	4	71	90	81	77	94	100	100	97	100	100	79
		Max-d	0.3	0.2	0.5	0.3	0.3	0.4	0.2	0.2	0.4	0.4	0.3	0.5	0.5
		Min-d	0.1	0.2	＜0.1	＜0.1	＜0.1	＜0.1	＜0.1	0.1	＜0.1	＜0.1	＜0.1	＜0.1	＜0.1
Japan	Rishiri	Mean	<0.1	0.2	<0.1	<0.1	0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.1	<0.1
		%	97	98	95	96	97	96	98	98	85	98	98	97	96
		Max-d	0.3	0.5	0.2	0.2	0.3	0.4	0.2	<0.1	0.1	0.1	0.2	0.3	0.5
		Min-d	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
	Ochiishi	Mean	0.1	0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.2	<0.1
		%	96	97	97	96	89	97	97	72	97	88	89	94	92
		Max-d	0.5	0.4	0.3	0.3	0.2	0.2	0.7	0.2	0.2	0.6	0.5	0.8	0.8
		Min-d	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Mongolia	Bayanzurkh	Mean	29.1	23.1	9.5	6.9	3.9	2.0	1.9	1.3	2.4	5.9	10.2	11.7	9.0
		%	100	99	100	98	100	95	94	98	100	100	100	100	99
		Max-d	52.2	35.8	17.0	14.5	11.7	7.3	6.1	5.4	6.5	15.1	22.1	21.2	52.2
		Min-d	4.9	7.6	2.5	1.3	0.5	0.5	0.3	0.4	0.4	0.5	0.8	2.4	0.3
	Khan-Uul	Mean	18.8	15.2	10.4	9.0	5.4	2.8	2.6	4.6	4.8	7.0	9.2	12.8	8.8
		%	100	100	100	87	84	83	74	94	94	96	100	100	93
		Max-d	37.6	21.0	20.0	17.7	18.6	10.4	5.8	9.1	10.1	19.2	17.3	21.7	37.6
		Min-d	5.3	7.1	4.5	2.6	0.6	<0.1	0.2	0.3	2.0	1.9	2.2	5.2	<0.1
Philippines	Manila Observatory	Mean	***	***	***	***	***	***	***	***	***	***	***	***	***
		%	***	***	***	***	***	***	***	***	***	***	***	***	***
		Max-d	***	***	***	***	***	***	***	***	***	***	***	***	***
		Min-d	***	***	***	***	***	***	***	***	***	***	***	***	***
	Sta. Rosa	Mean	***	***	***	***	***	***	***	***	***	***	***	***	***
		%	***	***	***	***	***	***	***	***	***	***	***	***	***
		Max-d	***	***	***	***	***	***	***	***	***	***	***	***	***
		Min-d	***	***	***	***	***	***	***	***	***	***	***	***	***
	Lower Session Road	Mean	***	***	***	***	***	***	***	***	***	***	***	***	***
		%	***	***	***	***	***	***	***	***	***	***	***	***	***
		Max-d	***	***	***	***	***	***	***	***	***	***	***	***	***
		Min-d	***	***	***	***	***	***	***	***	***	***	***	***	***
Republic of Korea	Ganghwa	Mean	2.8	2.8	3.0	2.9	2.4	2.5	2.0	1.8	2.1	2.5	2.7	2.3	2.5
		%	98	98	94	97	98	96	92	81	97	97	90	98	95
		Max-d	4.4	5.4	3.9	3.9	3.2	3.2	3.2	2.6	2.9	3.1	4.4	3.0	5.4
		Min-d	1.7	2.0	2.2	2.4	1.5	1.9	1.4	1.4	1.9	2.1	1.7	1.6	1.4
	Jeju	Mean	0.7	0.5	0.5	0.5	0.5	0.4	1.0	0.7	0.5	0.5	0.6	0.6	0.6
		%	99	99	99	98	98	98	98	97	95	96	99	99	98
		Max-d	1.5	0.9	1.0	0.8	0.9	0.8	3.4	1.7	0.7	0.7	1.1	1.0	3.4
		Min-d	0.3	0.3	0.2	0.3	0.4	0.3	0.3	0.4	0.4	0.4	0.3	0.3	0.2
	Imsil	Mean	1.5	1.3	1.3	1.4	1.4	1.4	1.4	1.4	1.3	1.3	1.4	1.5	1.4
		%	96	98	97	94	98	98	97	98	98	97	98	93	97
		Max-d	1.9	1.8	2.0	2.3	1.9	1.7	1.9	1.8	1.5	1.5	1.6	1.8	2.3
		Min-d	1.3	1.0	1.0	1.2	1.3	1.3	1.3	1.3	1.2	1.2	1.2	1.2	1.0
Russia	Listvyanka	Mean	6.8	9.9	8.4	2.8	2.6	2.2	1.7	1.6	3.7	14.8	6.6	8.7	6.1
		%	100	100	100	100	100	93	97	3	40	68	100	100	83
		Max-d	27.3	62.9	33.6	7.1	6.4	5.5	3.2	1.6	8.0	51.1	32.7	30.1	62.9
		Min-d	1.5	0.9	1.7	1.2	0.5	0.5	0.4	1.6	0.9	1.7	1.8	1.5	0.4

Table 3.4.2 SO_2 - Measured by FP

Unit : ppb

Country	Site		2025												Annual
			Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	
Cambodia	Phnom Penh	Mean	***	***	***	***	***	***	***	***	***	***	***	***	***
		%	***	***	***	***	***	***	***	***	***	***	***	***	***
		Max-2w	***	***	***	***	***	***	***	***	***	***	***	***	***
		Min-2w	***	***	***	***	***	***	***	***	***	***	***	***	***
Japan	Rishiri	Mean	<0.1	0.1	<0.1	<0.1	0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.1	<0.1
		%	100	100	100	100	100	100	100	100	100	100	100	100	100
		Max-2w	0.1	0.2	<0.1	<0.1	0.1	0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.1	0.2
		Min-2w	<0.1	0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
	Ochiishi	Mean	0.2	0.2	0.1	0.1	<0.1	<0.1	0.2	0.1	0.2	0.2	0.2	0.5	0.2
		%	100	100	100	100	100	100	100	100	100	100	100	100	100
		Max-2w	0.3	0.2	0.1	0.2	0.1	0.1	0.2	0.2	0.2	0.2	0.2	0.6	0.6
		Min-2w	0.1	0.2	0.1	0.1	<0.1	<0.1	0.1	0.1	0.2	0.1	0.1	0.3	<0.1
	Sado-seki	Mean	<0.1	0.1	0.1	0.1	0.2	0.3	0.2	0.1	0.2	<0.1	0.2	<0.1	0.2
		%	100	100	100	100	100	100	100	100	100	100	100	100	100
		Max-2w	0.1	0.2	0.2	0.2	0.3	0.4	0.2	0.2	0.2	0.1	0.2	0.1	0.4
		Min-2w	<0.1	<0.1	0.1	<0.1	0.1	0.2	0.2	0.1	0.1	<0.1	0.1	<0.1	<0.1

Table 3.4.2 SO_2 - Measured by FP (continued)

Unit : ppb

Country	Site		2025												Annual
			Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	
Japan	Happo	Mean	0.1	0.1	0.1	0.3	0.3	0.3	0.3	0.2	0.3	0.2	0.2	0.2	0.2
		%	100	100	100	100	100	100	100	100	100	100	100	100	96
		Max-2w	0.2	0.2	0.1	0.3	0.4	0.3	0.4	0.3	0.3	0.3	0.2	0.2	0.4
		Min-2w	0.1	<0.1	0.1	0.2	0.3	0.2	0.2	0.2	0.2	0.2	0.2	0.2	<0.1
	Ijira	Mean	<0.1	<0.1	0.3	0.1	0.3	0.2	0.3	<0.1	0.1	<0.1	<0.1	<0.1	0.1
		%	63	31	70	100	100	100	100	100	100	100	100	100	88
		Max-2w	<0.1	<0.1	0.3	0.2	0.3	0.3	0.4	<0.1	0.1	0.1	<0.1	<0.1	0.4
		Min-2w	<0.1	<0.1	0.3	<0.1	0.2	0.1	0.2	<0.1	0.1	<0.1	<0.1	<0.1	<0.1
	Oki	Mean	0.1	0.1	0.1	0.1	0.2	0.2	0.2	0.2	<0.1	<0.1	<0.1	0.1	0.1
		%	100	100	100	100	100	100	100	100	100	100	100	100	100
		Max-2w	0.1	0.1	0.1	0.2	0.2	0.2	0.2	0.2	<0.1	0.1	0.1	0.1	0.2
		Min-2w	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.2	<0.1	<0.1	<0.1	<0.1	<0.1
	Yusuhara	Mean	0.3	0.3	0.4	***	***	***	***	***	***	***	***	***	0.3
		%	100	100	97	***	***	***	***	***	***	***	***	***	25
		Max-2w	0.5	0.3	0.6	***	***	***	***	***	***	***	***	***	0.6
		Min-2w	0.2	0.2	0.2	***	***	***	***	***	***	***	***	***	0.2
	Hedo	Mean	***	***	***	***	***	***	***	***	***	***	***	***	***
		%	***	***	***	***	***	***	***	***	***	***	***	***	***
		Max-2w	***	***	***	***	***	***	***	***	***	***	***	***	***
		Min-2w	***	***	***	***	***	***	***	***	***	***	***	***	***
	Ogasawara	Mean	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
		%	100	100	100	100	100	100	100	100	100	100	100	100	100
		Max-2w	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
		Min-2w	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
	Tokyo	Mean	0.6	0.7	0.5	0.7	0.8	1.0	1.0	1.6	0.7	0.4	0.5	0.5	0.7
		%	100	100	100	100	100	100	100	100	100	100	100	100	100
		Max-2w	0.6	0.8	0.6	0.8	0.9	1.1	1.2	2.0	0.7	0.6	0.7	0.8	2.0
		Min-2w	0.6	0.6	0.4	0.5	0.7	0.9	0.8	1.2	0.6	0.3	0.3	0.3	0.3
	Tsushima	Mean	0.4	0.4	0.3	0.2	0.3	0.2	0.3	0.4	0.1	0.2	0.4	0.4	0.3
		%	100	100	100	100	100	100	100	100	100	100	100	100	100
		Max-2w	0.5	0.4	0.4	0.3	0.3	0.4	0.4	0.6	0.2	0.2	0.4	0.4	0.6
		Min-2w	0.4	0.4	0.2	0.2	0.3	0.1	0.3	0.1	<0.1	0.1	0.3	0.3	<0.1
Lao PDR	Vientiane	Mean	***	***	***	***	***	***	***	***	***	***	***	***	***
		%	***	***	***	***	***	***	***	***	***	***	***	***	***
		Max-m	***	***	***	***	***	***	***	***	***	***	***	***	***
		Min-m	***	***	***	***	***	***	***	***	***	***	***	***	***
Malaysia	Petaling Jaya	Mean	0.2	0.5	0.6	0.3	1.0	0.7	1.1	0.9	0.7	0.9	0.7	0.3	0.7
		%	100	100	100	100	100	100	100	100	100	60	75	100	94
		Max-w	0.3	1.0	1.4	0.6	1.9	0.9	1.5	1.5	0.9	1.2	1.1	0.5	1.9
		Min-w	<0.1	0.2	0.2	0.1	0.2	0.5	0.6	0.7	0.6	0.7	0.5	0.1	<0.1
	Tanah Rata	Mean	<0.1	<0.1	<0.1	<0.1	0.1	0.1	0.1	0.2	<0.1	<0.1	<0.1	<0.1	<0.1
		%	100	100	100	100	100	100	100	100	100	100	100	75	98
		Max-w	<0.1	<0.1	0.1	<0.1	0.4	0.2	0.3	0.5	<0.1	0.2	<0.1	<0.1	0.5
		Min-w	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
	Danum Valley	Mean	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
		%	100	100	100	100	100	100	75	100	100	50	100	100	94
		Max-2w	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
		Min-2w	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Mongolia	Khan-Uul	Mean	8.8	6.9	4.9	3.3	3.5	1.6	1.5	2.2	2.0	2.4	3.0	5.8	3.8
		%	100	100	100	100	100	100	100	100	100	100	100	100	100
		Max-w	22.1	12.0	5.8	5.4	4.5	2.6	2.1	2.8	2.4	4.1	4.7	10.1	22.1
		Min-w	2.4	2.0	3.6	1.9	1.5	0.8	1.1	1.2	1.7	0.7	1.9	2.7	0.7
	Terelj	Mean	0.5	0.7	0.4	0.3	0.2	0.2	***	***	***	***	***	***	0.4
		%	100	100	100	100	100	50	***	***	***	***	***	***	46
		Max-2w	0.5	0.9	0.6	0.3	0.3	0.2	***	***	***	***	***	***	0.9
		Min-2w	0.5	0.5	0.2	0.3	0.2	0.2	***	***	***	***	***	***	0.2
	Terelj II TBD	Mean	***	***	***	***	***	0.7	0.2	0.1	0.2	0.4	0.4	1.1	0.4
		%	***	***	***	***	***	50	100	100	100	100	100	100	54
		Max-2w	***	***	***	***	***	0.7	0.2	0.2	0.2	0.5	0.6	1.3	1.3
		Min-2w	***	***	***	***	***	0.7	<0.1	<0.1	<0.1	0.3	0.3	0.9	<0.1
Myanmar	Yangon	Mean	0.2	0.1	0.5	0.3	0.4	0.4	0.6	0.3	0.4	0.3	0.5	0.3	0.4
		%	100	100	100	100	100	100	100	100	100	100	100	100	100
		Max-2w	0.2	0.1	0.5	0.4	0.4	0.5	0.7	0.4	0.6	0.4	0.6	0.3	0.7
		Min-2w	0.2	0.1	0.4	0.2	0.4	0.3	0.4	0.3	0.2	0.3	0.3	0.3	0.1

Table 3.4.2 SO_2 - Measured by FP (continued)

Unit : ppb

Country	Site		2025												Annual
			Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	
Philippines	Manila Observatory	Mean	0.3	0.4	0.5	2.4	0.3	0.6	0.3	0.2	0.4	0.5	0.3	<0.1	0.6
		%	100	100	100	100	81	48	100	64	47	100	100	100	86
		Max-irreg	0.4	0.5	1.0	7.9	0.9	0.9	0.4	0.5	0.5	0.8	1.0	0.2	7.9
		Min-irreg	0.2	0.2	0.2	0.5	0.1	0.4	0.2	<0.1	0.4	<0.1	<0.1	<0.1	<0.1
	Los Baños	Mean	<0.1	<0.1	0.4	0.8	0.1	0.5	0.4	0.4	0.4	0.2	0.3	<0.1	0.3
		%	100	100	100	68	100	100	100	100	100	100	100	100	98
		Max-irreg	<0.1	0.2	1.3	2.4	0.2	1.7	0.7	1.8	0.9	0.2	0.7	<0.1	2.4
		Min-irreg	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
	Mt. Sto. Tomas	Mean	***	***	***	***	***	***	***	***	***	***	***	***	***
		%	***	***	***	***	***	***	***	***	***	***	***	***	***
		Max-w	***	***	***	***	***	***	***	***	***	***	***	***	***
		Min-w	***	***	***	***	***	***	***	***	***	***	***	***	***
Russia	Listvyanka	Mean	4.8	4.1	4.6	1.5	1.0	0.8	0.8	0.8	1.6	3.2	3.2	5.2	2.6
		%	100	100	100	100	100	100	100	100	100	100	100	100	100
		Max-w	8.9	7.1	6.9	2.4	1.5	1.0	1.2	1.3	2.6	4.7	5.1	5.8	8.9
		Min-w	1.9	2.4	0.6	0.9	0.5	0.6	0.5	0.2	0.1	2.5	2.4	4.3	0.1
	Irkutsk	Mean	15.0	14.6	10.4	6.3	2.4	2.4	2.5	3.5	6.0	5.7	15.3	15.9	8.1
		%	100	100	100	100	100	100	100	100	100	100	100	100	100
		Max-w	21.8	22.4	16.6	19.7	4.1	4.0	5.5	4.7	9.4	6.6	17.9	20.5	22.4
		Min-w	9.4	4.8	3.9	1.6	<0.1	1.2	1.3	1.9	3.4	5.0	11.4	9.8	<0.1
	Primorskaya	Mean	0.1	0.1	0.8	1.4	0.4	0.5	0.3	0.4	0.4	<0.1	0.1	0.1	0.4
		%	100	100	100	100	100	100	100	100	100	100	100	100	100
		Max-15d	0.2	0.2	1.0	1.4	0.5	0.6	0.5	0.5	0.4	0.1	0.2	0.1	1.4
		Min-15d	<0.1	<0.1	0.6	1.3	0.4	0.3	<0.1	0.4	0.3	<0.1	0.1	0.1	<0.1
Vietnam	Hanoi	Mean	1.3	1.3	1.3	1.1	0.8	0.6	0.7	0.9	0.8	0.8	0.5	0.4	0.9
		%	100	100	100	100	100	100	100	100	100	100	100	100	100
		Max-w	1.5	2.9	1.4	1.2	1.2	0.7	0.9	1.2	0.9	1.0	0.6	0.4	2.9
		Min-w	1.0	0.6	1.0	0.9	0.6	0.5	0.6	0.6	0.6	0.6	0.3	0.3	0.3
	Hoa Binh	Mean	1.0	0.8	0.7	0.9	2.4	0.5	0.7	0.6	0.5	0.9	0.7	0.9	0.9
		%	100	100	100	100	100	100	100	100	100	100	100	100	100
		Max-w	1.7	1.4	0.7	1.3	3.7	0.6	0.9	0.8	0.8	1.3	0.9	1.3	3.7
		Min-w	0.5	0.5	0.6	0.4	1.7	0.4	0.4	0.5	0.4	0.6	0.6	0.5	0.4
	Can Tho	Mean	0.4	0.5	0.4	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
		%	100	100	100	100	100	100	100	100	100	100	100	100	100
		Max-w	0.5	0.6	0.5	0.6	0.5	0.5	0.6	0.6	0.5	0.5	0.5	0.6	0.6
		Min-w	0.3	0.4	0.4	0.4	0.4	0.4	0.4	0.5	0.5	0.4	0.4	0.4	0.3
	Ho Chi Minh	Mean	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7
		%	100	100	100	100	100	100	100	100	100	100	100	100	100
		Max-w	0.8	0.8	0.7	0.8	0.8	0.9	0.8	0.8	0.8	0.7	0.7	0.7	0.9
		Min-w	0.6	0.7	0.6	0.6	0.5	0.7	0.7	0.5	0.7	0.6	0.6	0.7	0.5
	Yen Bai	Mean	0.5	0.4	0.5	0.4	0.6	0.6	0.5	0.6	0.5	0.6	0.4	0.4	0.5
		%	100	100	100	100	100	100	100	100	100	100	100	100	100
		Max-w	0.5	0.5	0.5	0.5	1.0	0.9	0.7	0.8	0.7	0.9	0.4	0.4	1.0
		Min-w	0.5	0.4	0.5	0.4	0.4	0.4	0.5	0.4	0.4	0.4	0.3	0.4	0.3

Terms and abbreviations are given in Table 3.2.

Table 3.5.1 HNO_3 - Measured by FP

Unit : ppb

Country	Site		2025												Annual
			Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	
Cambodia	Phnom Penh	Mean	***	***	***	***	***	***	***	***	***	***	***	***	***
		%	***	***	***	***	***	***	***	***	***	***	***	***	***
		Max-2w	***	***	***	***	***	***	***	***	***	***	***	***	***
		Min-2w	***	***	***	***	***	***	***	***	***	***	***	***	***
Japan	Rishiri	Mean	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
		%	100	100	100	100	100	100	100	100	100	100	100	100	100
		Max-2w	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.2	<0.1	<0.1	<0.1	<0.1	<0.1	0.2
		Min-2w	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
	Ochiishi	Mean	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
		%	100	100	100	100	100	100	100	100	100	100	100	100	100
		Max-2w	0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.1
		Min-2w	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
	Sado-seki	Mean	<0.1	<0.1	<0.1	0.1	0.2	0.3	0.2	0.1	<0.1	<0.1	<0.1	<0.1	0.1
		%	100	100	100	100	100	100	100	100	100	100	100	100	100
		Max-2w	<0.1	<0.1	0.1	0.1	0.3	0.5	0.2	0.2	<0.1	<0.1	<0.1	<0.1	0.5
		Min-2w	<0.1	<0.1	<0.1	<0.1	0.1	0.2	0.2	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
	Happo	Mean	<0.1	<0.1	<0.1	<0.1	0.2	0.4	0.3	0.3	0.2	<0.1	<0.1	<0.1	0.2
		%	100	100	100	100	100	100	100	100	100	100	100	100	96
		Max-2w	0.1	<0.1	<0.1	0.1	0.3	0.4	0.4	0.4	0.2	<0.1	<0.1	<0.1	0.4
		Min-2w	<0.1	<0.1	<0.1	<0.1	0.1	0.3	0.3	0.1	0.1	<0.1	<0.1	<0.1	<0.1
	Ijira	Mean	<0.1	<0.1	0.2	0.1	0.2	0.2	0.3	0.2	0.1	<0.1	<0.1	<0.1	0.1
		%	63	31	70	100	100	100	100	100	100	100	100	100	88
		Max-2w	<0.1	<0.1	0.2	0.2	0.4	0.3	0.3	0.2	0.1	<0.1	<0.1	<0.1	0.4
		Min-2w	<0.1	<0.1	0.2	0.1	0.1	0.2	0.3	0.2	0.1	<0.1	<0.1	<0.1	<0.1
	Oki	Mean	<0.1	<0.1	<0.1	<0.1	<0.1	0.3	0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
		%	100	100	100	100	100	100	100	100	100	100	100	100	100
		Max-2w	<0.1	<0.1	<0.1	<0.1	<0.1	0.5	0.1	0.1	<0.1	<0.1	<0.1	<0.1	0.5
		Min-2w	<0.1	<0.1	<0.1	<0.1	<0.1	0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
	Yusuhara	Mean	<0.1	<0.1	0.2	***	***	***	***	***	***	***	***	***	0.1
		%	100	100	97	***	***	***	***	***	***	***	***	***	25
		Max-2w	<0.1	<0.1	0.4	***	***	***	***	***	***	***	***	***	0.4
		Min-2w	<0.1	<0.1	<0.1	***	***	***	***	***	***	***	***	***	<0.1
	Hedo	Mean	***	***	***	***	***	***	***	***	***	***	***	***	***
		%	***	***	***	***	***	***	***	***	***	***	***	***	***
		Max-2w	***	***	***	***	***	***	***	***	***	***	***	***	***
		Min-2w	***	***	***	***	***	***	***	***	***	***	***	***	***
	Ogasawara	Mean	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
		%	100	100	100	100	100	100	100	100	100	100	100	100	100
		Max-2w	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
		Min-2w	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
	Tokyo	Mean	0.2	0.2	0.3	0.3	0.5	0.9	0.5	1.4	0.6	0.3	0.2	0.2	0.5
		%	100	100	100	100	100	100	100	100	100	100	100	100	100
		Max-2w	0.2	0.3	0.5	0.3	0.7	1.2	0.5	1.9	0.8	0.4	0.3	0.3	1.9
		Min-2w	0.2	0.2	0.2	0.3	0.3	0.6	0.5	0.9	0.4	0.1	0.2	0.2	0.1
	Tsushima	Mean	<0.1	<0.1	0.1	0.1	0.3	0.4	0.2	0.3	<0.1	<0.1	0.1	0.1	0.2
		%	100	100	100	100	100	100	100	100	100	100	100	100	100
		Max-2w	<0.1	<0.1	0.2	0.1	0.4	0.5	0.3	0.4	0.1	0.2	0.2	0.2	0.5
		Min-2w	<0.1	<0.1	<0.1	<0.1	0.2	0.3	0.2	0.1	<0.1	<0.1	<0.1	<0.1	<0.1

Table 3.5.1 HNO_3 - Measured by FP (continued)

Unit : ppb

Country	Site		2025												Annual
			Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	
Lao PDR	Vientiane	Mean	***	***	***	***	***	***	***	***	***	***	***	***	***
		%	***	***	***	***	***	***	***	***	***	***	***	***	***
		Max-m	***	***	***	***	***	***	***	***	***	***	***	***	***
		Min-m	***	***	***	***	***	***	***	***	***	***	***	***	***
Malaysia	Petaling Jaya	Mean	0.5	0.5	0.3	0.4	0.7	0.7	0.6	0.7	0.5	0.4	0.3	0.5	0.5
		%	100	100	100	100	100	100	100	100	100	60	75	100	94
		Max-w	0.7	0.9	0.6	0.5	0.8	1.1	0.8	0.9	0.6	0.5	0.5	0.8	1.1
		Min-w	0.2	0.2	0.1	0.3	0.6	0.4	0.4	0.3	0.4	0.1	0.3	0.3	0.1
	Tanah Rata	Mean	<0.1	<0.1	<0.1	<0.1	<0.1	0.1	0.2	0.2	<0.1	<0.1	<0.1	<0.1	<0.1
		%	100	100	100	100	100	100	100	100	100	100	100	75	98
		Max-w	<0.1	0.1	0.1	<0.1	0.1	0.3	0.5	0.3	0.1	0.1	<0.1	<0.1	0.5
		Min-w	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
	Danum Valley	Mean	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
		%	100	100	100	100	100	100	75	100	100	50	100	100	94
		Max-2w	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
		Min-2w	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Mongolia	Khan-Uul	Mean	0.2	<0.1	<0.1	<0.1	<0.1	<0.1	0.2	0.1	<0.1	0.1	<0.1	<0.1	0.1
		%	100	100	100	100	100	100	100	100	100	100	100	100	100
		Max-w	0.5	0.1	0.1	0.1	<0.1	<0.1	0.5	0.2	<0.1	0.4	0.1	<0.1	0.5
		Min-w	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
	Terelj	Mean	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	***	***	***	***	***	***	<0.1
		%	100	100	100	100	100	50	***	***	***	***	***	***	46
		Max-2w	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	***	***	***	***	***	***	<0.1
		Min-2w	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	***	***	***	***	***	***	<0.1
	Terelj II TBD	Mean	***	***	***	***	***	<0.1	0.2	<0.1	<0.1	<0.1	<0.1	0.1	<0.1
		%	***	***	***	***	***	50	100	100	100	100	100	100	54
		Max-2w	***	***	***	***	***	<0.1	0.2	<0.1	<0.1	<0.1	<0.1	0.2	0.2
		Min-2w	***	***	***	***	***	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Myammar	Yangon	Mean	<0.1	<0.1	<0.1	0.1	0.3	0.1	<0.1	<0.1	0.1	0.2	0.2	0.1	0.1
		%	100	100	100	100	100	100	100	100	100	100	100	100	100
		Max-2w	0.1	<0.1	<0.1	0.3	0.4	0.2	<0.1	<0.1	0.3	0.3	0.3	0.1	0.4
		Min-2w	<0.1	<0.1	<0.1	<0.1	0.2	<0.1	<0.1	<0.1	<0.1	<0.1	0.1	0.1	<0.1
Philippines	Manila Observatory	Mean	<0.1	<0.1	<0.1	0.2	0.2	0.1	0.2	<0.1	0.5	<0.1	0.2	0.2	0.1
		%	100	100	100	100	81	48	100	64	47	100	100	100	86
		Max-irreg	<0.1	<0.1	<0.1	0.3	0.4	0.2	0.4	<0.1	0.6	0.1	0.5	0.5	0.6
		Min-irreg	<0.1	<0.1	<0.1	0.1	<0.1	<0.1	<0.1	<0.1	0.3	<0.1	<0.1	<0.1	<0.1
	Los Baños	Mean	1.5	0.1	0.2	0.2	0.2	0.1	<0.1	0.3	<0.1	0.5	<0.1	<0.1	0.2
		%	100	100	100	68	100	100	100	100	100	100	100	100	98
		Max-irreg	1.5	0.3	0.4	0.3	0.7	0.4	<0.1	0.7	0.1	0.8	0.4	<0.1	1.5
		Min-irreg	1.5	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
	Mt. Sto. Tomas	Mean	***	***	***	***	***	***	***	***	***	***	***	***	***
		%	***	***	***	***	***	***	***	***	***	***	***	***	***
		Max-w	***	***	***	***	***	***	***	***	***	***	***	***	***
		Min-w	***	***	***	***	***	***	***	***	***	***	***	***	***
Republic of Korea	Ganghwa	Mean	<0.1	<0.1	0.3	1.0	0.8	1.4	0.1	0.1	0.2	0.3	0.2	0.1	0.5
		%	16	14	16	13	16	17	6	16	17	16	17	16	15
		Max-d	0.2	0.1	0.5	1.9	2.2	5.1	0.2	0.4	0.6	1.2	0.4	0.2	5.1
		Min-d	<0.1	<0.1	0.2	0.7	0.2	<0.1	<0.1	<0.1	<0.1	<0.1	0.1	<0.1	<0.1
	Jeju	Mean	0.3	0.2	0.3	0.3	***	***	<0.1	0.2	0.1	0.3	0.3	0.2	0.2
		%	6	11	19	10	***	***	13	16	17	16	17	16	10
		Max-d	0.5	0.4	0.7	0.6	***	***	0.1	0.5	0.2	0.8	1.2	0.6	0.7
		Min-d	<0.1	0.1	0.1	0.2	***	***	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
	Imsil	Mean	0.2	<0.1	0.2	0.6	0.4	0.3	***	<0.1	0.1	0.2	0.4	0.1	0.3
		%	10	11	13	17	16	7	***	13	17	16	17	16	11
		Max-d	0.3	<0.1	0.3	0.8	0.7	0.5	***	0.1	0.2	0.8	0.7	0.2	0.8
		Min-d	<0.1	<0.1	<0.1	0.3	0.1	0.1	***	<0.1	<0.1	<0.1	0.2	<0.1	<0.1
Russia	Listvyanka	Mean	<0.1	<0.1	0.2	<0.1	<0.1	0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
		%	100	100	100	100	100	100	100	100	100	100	100	100	100
		Max-w	0.2	0.1	0.3	0.2	0.1	0.1	0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.3
		Min-w	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
	Irkutsk	Mean	0.2	0.2	0.4	0.3	0.1	0.1	0.2	0.4	0.2	0.1	0.2	0.3	0.2
		%	100	100	100	100	100	100	100	100	100	100	100	100	100
		Max-w	0.3	0.3	0.5	0.8	0.2	0.2	0.3	0.6	0.3	0.3	0.3	0.4	0.8
		Min-w	<0.1	0.1	0.4	0.1	<0.1	<0.1	0.1	0.2	<0.1	<0.1	<0.1	0.2	<0.1
	Primorskaya	Mean	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
		%	100	100	100	100	100	100	100	100	100	100	100	100	100
		Max-15d	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
		Min-15d	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1

Table 3.5.1 HNO_3 - Measured by FP (continued)

Unit : ppb

Country	Site		2025												Annual
			Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	
Thailand	Bangkok	Mean	***	***	***	***	***	***	***	***	***	***	***	***	***
		%	***	***	***	***	***	***	***	***	***	***	***	***	***
		Max-10d	***	***	***	***	***	***	***	***	***	***	***	***	***
		Min-10d	***	***	***	***	***	***	***	***	***	***	***	***	***
Vietnam	Hanoi	Mean	1.5	1.7	1.1	1.5	0.9	0.6	0.7	1.0	0.7	0.7	0.6	0.4	0.9
		%	100	100	100	100	100	100	100	100	100	100	100	100	100
		Max-w	2.3	4.0	1.8	2.1	1.3	0.7	1.1	1.3	0.8	1.0	0.7	0.4	4.0
		Min-w	0.8	0.8	0.7	1.0	0.7	0.5	0.5	0.6	0.6	0.6	0.6	0.4	0.4
	Hoa Binh	Mean	0.9	1.0	1.2	0.8	0.9	0.7	0.6	0.5	0.5	0.7	0.7	0.7	0.8
		%	100	100	100	100	100	100	100	100	100	100	100	100	100
		Max-w	1.1	1.3	1.4	0.9	1.2	0.7	0.7	0.6	0.6	0.9	0.7	0.9	1.4
		Min-w	0.7	0.6	1.0	0.7	0.7	0.6	0.5	0.5	0.4	0.5	0.6	0.6	0.4
	Can Tho	Mean	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.1	0.1	0.1
		%	100	100	100	100	100	100	100	100	100	100	100	100	100
		Max-w	0.2	0.1	0.1	0.2	0.2	0.1	0.2	0.1	0.2	0.2	0.2	0.1	0.2
		Min-w	<0.1	0.1	<0.1	0.1	<0.1	0.1	0.1	0.1	<0.1	0.1	0.1	0.1	<0.1
	Ho Chi Minh	Mean	0.4	0.2	0.3	0.3	0.4	0.4	0.3	0.3	0.3	0.3	0.4	0.4	0.3
		%	100	100	100	100	100	100	100	100	100	100	100	100	100
		Max-w	0.5	0.3	0.4	0.4	0.4	0.5	0.3	0.3	0.5	0.4	0.4	0.5	0.5
		Min-w	0.2	0.2	0.2	0.2	0.3	0.3	0.2	0.3	0.2	0.3	0.3	0.3	0.2
	Yen Bai	Mean	0.4	0.4	0.5	0.6	0.9	0.9	0.5	0.6	0.6	0.6	0.4	0.4	0.6
		%	100	100	100	100	100	100	100	100	100	100	100	100	100
		Max-w	0.4	0.5	0.5	0.9	1.4	1.2	0.7	0.8	0.6	0.8	0.4	0.4	1.4
		Min-w	0.3	0.4	0.5	0.5	0.6	0.7	0.5	0.5	0.6	0.4	0.3	0.4	0.3

Terms and abbreviations are given in Table 3.2.

Table 3.6.1 HCl - Measured by FP

Unit : ppb

Country	Site		2025												Annual
			Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	
Cambodia	Phnom Penh	Mean	***	***	***	***	***	***	***	***	***	***	***	***	***
		%	***	***	***	***	***	***	***	***	***	***	***	***	***
		Max-2w	***	***	***	***	***	***	***	***	***	***	***	***	***
		Min-2w	***	***	***	***	***	***	***	***	***	***	***	***	***
Japan	Rishiri	Mean	0.4	0.4	0.4	0.3	0.6	0.5	0.7	0.3	0.3	0.2	0.3	0.2	0.4
		%	100	100	100	100	100	100	100	100	100	100	100	100	100
		Max-2w	0.4	0.4	0.4	0.5	0.7	0.5	0.8	0.4	0.3	0.2	0.3	0.2	0.8
		Min-2w	0.3	0.4	0.4	0.2	0.5	0.5	0.5	0.2	0.2	0.1	0.3	0.2	0.1
	Ochiishi	Mean	0.2	<0.1	<0.1	0.2	0.2	0.4	0.5	0.4	0.4	0.1	<0.1	0.1	0.2
		%	100	100	100	100	100	100	100	100	100	100	100	100	100
		Max-2w	0.3	0.1	0.1	0.3	0.2	0.5	0.6	0.4	0.8	0.1	<0.1	0.2	0.8
		Min-2w	0.1	<0.1	<0.1	0.1	0.2	0.3	0.4	0.3	0.1	0.1	<0.1	<0.1	<0.1
	Sado-seki	Mean	0.3	0.2	0.5	0.6	0.7	0.7	0.5	1.0	0.5	0.3	0.4	0.3	0.5
		%	100	100	100	100	100	100	100	100	100	100	100	100	100
		Max-2w	0.5	0.2	0.7	0.7	0.8	0.9	0.5	1.4	0.5	0.3	0.5	0.4	1.4
		Min-2w	0.3	0.2	0.3	0.5	0.5	0.5	0.4	0.5	0.4	0.3	0.3	0.2	0.2
	Happo	Mean	0.1	0.1	<0.1	0.1	0.2	0.1	0.2	0.1	0.1	<0.1	0.2	0.1	0.1
		%	100	100	100	100	100	100	100	100	100	100	100	100	96
		Max-2w	0.1	0.1	<0.1	0.1	0.3	0.1	0.2	0.1	0.2	0.1	0.2	0.1	0.3
		Min-2w	0.1	<0.1	<0.1	<0.1	0.1	<0.1	0.2	<0.1	<0.1	<0.1	0.2	<0.1	<0.1
	Ijira	Mean	<0.1	<0.1	0.2	0.2	0.2	0.1	0.3	0.1	0.2	0.1	<0.1	<0.1	0.1
		%	63	31	70	100	100	100	100	100	100	100	100	100	88
		Max-2w	<0.1	<0.1	0.2	0.2	0.2	0.2	0.3	0.2	0.2	0.2	0.1	<0.1	0.3
		Min-2w	<0.1	<0.1	0.2	0.2	<0.1	<0.1	0.2	0.1	0.1	<0.1	<0.1	<0.1	<0.1
	Oki	Mean	0.2	0.2	0.4	0.5	0.5	0.7	0.7	0.8	0.2	0.3	0.3	0.2	0.4
		%	100	100	100	100	100	100	100	100	100	100	100	100	100
		Max-2w	0.3	0.2	0.7	0.6	0.6	0.8	1.0	0.9	0.3	0.4	0.4	0.4	1.0
		Min-2w	<0.1	0.2	0.1	0.4	0.4	0.6	0.3	0.6	0.2	0.3	0.2	<0.1	<0.1
	Yusuhara	Mean	0.2	0.2	0.2	***	***	***	***	***	***	***	***	***	0.2
		%	100	100	97	***	***	***	***	***	***	***	***	***	25
		Max-2w	0.2	0.2	0.3	***	***	***	***	***	***	***	***	***	0.3
		Min-2w	0.1	0.2	<0.1	***	***	***	***	***	***	***	***	***	<0.1
	Hedo	Mean	***	***	***	***	***	***	***	***	***	***	***	***	***
		%	***	***	***	***	***	***	***	***	***	***	***	***	***
		Max-2w	***	***	***	***	***	***	***	***	***	***	***	***	***
		Min-2w	***	***	***	***	***	***	***	***	***	***	***	***	***
	Ogasawara	Mean	0.2	0.4	0.4	0.2	0.4	0.3	0.2	0.2	0.3	0.2	0.2	0.2	0.3
		%	100	100	100	100	100	100	100	100	100	100	100	100	100
		Max-2w	0.3	0.5	0.7	0.3	0.4	0.5	0.2	0.2	0.3	0.3	0.2	0.2	0.7
		Min-2w	0.1	0.3	0.2	0.2	0.4	0.2	<0.1	0.1	0.3	0.2	0.2	0.1	<0.1
	Tokyo	Mean	0.3	0.3	0.6	0.7	0.8	0.8	1.1	1.2	1.0	0.7	0.5	0.4	0.7
		%	100	100	100	100	100	100	100	100	100	100	100	100	100
		Max-2w	0.3	0.4	0.9	0.9	0.9	0.9	1.2	1.2	1.0	0.8	0.5	0.5	1.2
		Min-2w	0.2	0.2	0.4	0.5	0.8	0.8	1.1	1.1	0.9	0.5	0.5	0.3	0.2
	Tsushima	Mean	0.3	0.2	0.5	0.5	0.5	0.3	0.6	0.5	0.2	0.4	0.4	0.3	0.4
		%	100	100	100	100	100	100	100	100	100	100	100	100	100
		Max-2w	0.3	0.2	0.7	0.5	0.6	0.4	0.6	0.5	0.3	0.5	0.4	0.4	0.7
		Min-2w	0.2	0.2	0.2	0.5	0.3	0.2	0.6	0.4	0.2	0.2	0.4	0.2	0.2

Table 3.6.1 HCl - Measured by FP (continued)

Unit : ppb

Country	Site		2025												Annual
			Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	
Lao PDR	Vientiane	Mean	***	***	***	***	***	***	***	***	***	***	***	***	***
		%	***	***	***	***	***	***	***	***	***	***	***	***	***
		Max-m	***	***	***	***	***	***	***	***	***	***	***	***	***
		Min-m	***	***	***	***	***	***	***	***	***	***	***	***	***
Malaysia	Petaling Jaya	Mean	0.7	0.8	1.1	0.7	1.3	1.0	1.6	1.0	1.0	1.2	1.0	1.0	1.0
		%	100	100	100	100	100	100	100	100	100	60	75	100	94
		Max-w	1.0	1.3	1.8	0.7	2.2	1.2	1.8	1.3	1.2	1.4	1.5	1.2	2.2
		Min-w	0.4	0.5	0.4	0.6	0.7	0.8	1.3	0.7	0.9	0.9	0.6	0.8	0.4
	Tanah Rata	Mean	0.2	0.2	0.2	0.2	0.2	0.4	0.4	0.2	0.3	0.3	0.3	0.2	0.3
		%	100	100	100	100	100	100	100	100	100	100	100	75	98
		Max-w	0.5	0.3	0.4	0.4	0.4	0.5	0.7	0.3	0.3	0.6	0.5	0.3	0.7
		Min-w	<0.1	<0.1	<0.1	0.1	0.2	0.3	0.3	<0.1	0.2	0.2	<0.1	0.1	<0.1
	Danum Valley	Mean	0.2	0.2	<0.1	0.1	0.1	0.2	0.4	0.20	0.20	0.2	0.1	0.2	0.2
		%	100	100	100	100	100	100	75	100	100	50	100	100	94
		Max-2w	0.2	0.2	0.1	0.2	0.1	0.2	0.7	0.30	0.30	0.2	0.1	0.4	0.7
		Min-2w	0.1	0.1	<0.1	0.1	0.1	0.1	0.1	0.20	<0.1	0.2	<0.1	0.1	<0.1
Mongolia	Khan-Uul	Mean	0.4	0.7	0.8	0.6	0.8	0.8	0.7	0.7	0.7	0.6	0.7	0.5	0.7
		%	100	100	100	100	100	100	100	100	100	100	100	100	100
		Max-w	0.6	1.4	1.1	0.9	0.9	1.1	0.9	0.7	0.8	0.7	0.7	0.6	1.4
		Min-w	0.2	0.3	0.5	0.4	0.7	0.7	0.6	0.6	0.6	0.5	0.5	0.5	0.2
	Terelj	Mean	<0.1	0.2	0.2	0.2	0.3	0.3	***	***	***	***	***	***	0.2
		%	100	100	100	100	100	50	***	***	***	***	***	***	46
		Max-2w	0.1	0.2	0.3	0.3	0.4	0.3	***	***	***	***	***	***	0.4
		Min-2w	<0.1	0.2	0.2	0.2	0.3	0.3	***	***	***	***	***	***	<0.1
	Terelj II TBD	Mean	***	***	***	***	***	0.4	0.4	0.4	0.3	0.3	0.2	0.4	0.3
		%	***	***	***	***	***	50	100	100	100	100	100	100	54
		Max-2w	***	***	***	***	***	0.4	0.4	0.4	0.4	0.3	0.2	0.5	0.5
		Min-2w	***	***	***	***	***	0.4	0.4	0.4	0.3	0.2	0.2	0.3	0.2
Myammar	Yangon	Mean	0.4	0.2	0.7	0.8	0.7	0.5	0.3	0.7	1.1	0.3	0.5	0.6	0.6
		%	100	100	100	100	100	100	100	100	100	100	100	100	100
		Max-2w	0.4	0.2	0.7	0.8	0.8	0.8	0.5	0.9	1.6	0.4	0.9	0.7	1.6
		Min-2w	0.3	0.1	0.6	0.7	0.6	0.2	0.2	0.5	0.5	0.1	<0.1	0.6	<0.1
Philippines	Manila Observatory	Mean	0.1	0.3	0.3	0.4	0.3	1.9	0.4	0.1	<0.1	<0.1	0.5	1.4	0.5
		%	100	100	100	100	81	48	100	64	47	100	100	100	86
		Max-irreg	0.2	0.3	0.5	0.5	0.3	2.3	0.5	0.1	0.1	0.1	1.4	3.3	3.3
		Min-irreg	0.1	0.2	0.2	0.4	0.2	1.4	0.3	<0.1	<0.1	<0.1	0.1	0.2	<0.1
	Los Baños	Mean	0.4	0.9	1.0	1.2	0.7	1.2	0.6	0.2	<0.1	<0.1	0.5	6.7	1.2
		%	100	100	100	68	100	100	100	100	100	100	100	100	98
		Max-irreg	0.4	1.2	1.5	1.8	1.0	1.9	0.8	0.3	<0.1	<0.1	1.3	24.7	24.7
		Min-irreg	0.4	0.7	0.5	0.8	0.5	0.5	0.3	<0.1	<0.1	<0.1	<0.1	0.5	<0.1
	Mt. Sto. Tomas	Mean	***	***	***	***	***	***	***	***	***	***	***	***	***
		%	***	***	***	***	***	***	***	***	***	***	***	***	***
		Max-w	***	***	***	***	***	***	***	***	***	***	***	***	***
		Min-w	***	***	***	***	***	***	***	***	***	***	***	***	***
Republic of Korea	Ganghwa	Mean	0.1	<0.1	0.2	<0.1	<0.1	***	<0.1	0.2	<0.1	<0.1	0.2	0.1	<0.1
		%	13	14	13	10	6	***	6	3	13	13	13	13	9
		Max-d	0.2	0.1	0.4	0.1	<0.1	***	<0.1	0.2	<0.1	0.2	0.4	0.2	0.4
		Min-d	<0.1	<0.1	<0.1	<0.1	<0.1	***	<0.1	0.2	<0.1	<0.1	0.2	0.1	<0.1
	Jeju	Mean	0.3	<0.1	<0.1	<0.1	***	***	0.1	0.1	<0.1	***	0.1	0.3	0.1
		%	6	11	16	7	***	***	13	13	3	***	13	16	8
		Max-d	0.3	<0.1	0.1	<0.1	***	***	0.2	0.2	<0.1	***	0.2	0.4	0.3
		Min-d	0.3	<0.1	<0.1	<0.1	***	***	<0.1	<0.1	<0.1	***	<0.1	0.2	<0.1
	Imsil	Mean	0.1	***	<0.1	<0.1	0.1	***	***	<0.1	***	***	<0.1	0.1	<0.1
		%	10	***	3	10	10	***	***	10	***	***	13	16	5
		Max-d	0.3	***	<0.1	0.2	0.2	***	***	<0.1	***	***	<0.1	0.2	0.3
		Min-d	<0.1	***	<0.1	<0.1	<0.1	***	***	<0.1	***	***	<0.1	<0.1	<0.1
Russia	Listvyanka	Mean	0.3	0.3	0.4	0.5	0.3	0.4	0.6	0.3	0.2	<0.1	<0.1	0.3	0.3
		%	100	100	100	100	100	100	100	100	100	100	100	100	100
		Max-w	0.4	0.4	0.7	0.5	0.4	0.6	1.0	0.5	0.4	0.1	<0.1	0.6	1.0
		Min-w	0.2	0.3	0.3	0.4	0.2	0.3	0.2	0.3	<0.1	<0.1	<0.1	<0.1	<0.1
	Irkutsk	Mean	0.4	0.6	1.0	0.9	0.3	0.4	0.5	0.9	0.3	0.2	0.2	0.4	0.5
		%	100	100	100	100	100	100	100	100	100	100	100	100	100
		Max-w	0.6	0.8	1.1	2.4	0.4	0.7	0.7	1.4	0.9	0.3	0.4	0.5	2.4
		Min-w	0.3	0.3	0.8	0.3	<0.1	0.2	0.3	0.5	<0.1	<0.1	<0.1	0.1	<0.1
	Primorskaya	Mean	<0.1	0.2	0.3	0.2	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.3	0.3	0.1
		%	100	100	100	100	100	100	100	100	100	100	100	100	100
		Max-15d	0.1	0.2	0.4	0.2	0.2	<0.1	0.2	<0.1	<0.1	<0.1	0.3	0.3	0.4
		Min-15d	<0.1	0.1	0.2	0.2	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.3	0.2	<0.1

Table 3.6.1 HCl - Measured by FP (continued)

Unit : ppb

Country	Site		2025												Annual
			Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	
Thailand	Bangkok	Mean	***	***	***	***	***	***	***	***	***	***	***	***	***
		%	***	***	***	***	***	***	***	***	***	***	***	***	***
		Max-10d	***	***	***	***	***	***	***	***	***	***	***	***	***
		Min-10d	***	***	***	***	***	***	***	***	***	***	***	***	***
Vietnam	Hanoi	Mean	3.4	2.6	2.8	3.0	2.9	2.4	1.9	2.1	2.0	1.7	1.3	0.7	2.2
		%	100	100	100	100	100	100	100	100	100	100	100	100	100
		Max-w	4.2	3.5	3.3	3.9	3.2	2.6	2.0	2.3	2.0	1.8	1.4	0.8	4.2
		Min-w	2.2	2.0	2.2	2.3	2.4	2.1	1.8	1.9	1.9	1.6	1.3	0.7	0.7
	Hoa Binh	Mean	3.7	3.5	2.9	3.1	6.8	2.4	2.5	2.3	2.5	2.3	2.2	2.8	3.1
		%	100	100	100	100	100	100	100	100	100	100	100	100	100
		Max-w	6.0	4.8	3.0	4.4	10.1	2.6	2.7	2.5	2.8	2.7	2.5	3.5	10.1
		Min-w	2.9	3.0	2.7	2.2	5.5	2.2	2.2	2.1	2.2	1.9	1.8	1.7	1.7
	Can Tho	Mean	1.7	1.7	1.8	1.8	1.7	1.8	1.7	1.8	1.8	1.8	1.7	1.8	1.8
		%	100	100	100	100	100	100	100	100	100	100	100	100	100
		Max-w	1.9	1.9	1.9	1.8	2.0	2.0	2.0	1.9	2.0	2.1	1.9	1.9	2.1
		Min-w	1.5	1.4	1.6	1.7	1.7	1.6	1.5	1.7	1.7	1.6	1.5	1.7	1.4
	Ho Chi Minh	Mean	1.5	1.4	1.7	1.6	1.6	1.6	1.5	1.6	1.6	1.6	1.6	1.5	1.6
		%	100	100	100	100	100	100	100	100	100	100	100	100	100
		Max-w	1.8	1.7	2.0	1.8	1.7	1.9	1.7	1.9	1.8	1.9	1.9	1.7	2.0
		Min-w	1.2	1.3	1.4	1.6	1.4	1.4	1.3	1.3	1.3	1.5	1.4	1.3	1.2
	Yen Bai	Mean	1.6	1.5	1.6	1.8	1.7	1.6	1.4	1.2	1.5	1.1	1.0	1.0	1.4
		%	100	100	100	100	100	100	100	100	100	100	100	100	100
		Max-w	1.8	1.6	1.7	2.3	1.9	1.7	1.6	1.4	1.9	1.2	1.2	1.0	2.3
		Min-w	1.3	1.5	1.6	1.5	1.5	1.5	1.3	1.1	1.3	1.1	0.9	1.0	0.9

Terms and abbreviations are given in Table 3.2.

Table 3.7.1 NH_3 - Measured by FP

Unit : ppb

Country	Site		2025												Annual
			Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	
Cambodia	Phnom Penh	Mean	***	***	***	***	***	***	***	***	***	***	***	***	***
		%	***	***	***	***	***	***	***	***	***	***	***	***	***
		Max-2w	***	***	***	***	***	***	***	***	***	***	***	***	***
		Min-2w	***	***	***	***	***	***	***	***	***	***	***	***	***
Japan	Rishiri	Mean	0.2	0.5	0.6	0.9	1.2	1.1	1.6	1.1	1.1	0.7	0.7	0.4	0.8
		%	100	100	100	100	100	100	100	100	100	100	100	100	100
		Max-2w	0.4	0.6	0.6	1.3	1.3	1.1	1.9	1.2	1.1	0.8	0.7	0.5	1.9
		Min-2w	0.1	0.3	0.6	0.4	1.2	1.1	1.1	0.9	1.1	0.7	0.6	0.3	0.1
	Ochiishi	Mean	0.3	0.1	0.2	0.2	0.3	0.7	0.6	0.7	0.7	0.7	0.6	0.4	0.5
		%	100	100	100	100	100	100	100	100	100	100	100	100	100
		Max-2w	0.5	0.2	0.2	0.2	0.4	1.2	0.7	0.8	0.7	0.7	0.9	0.6	1.2
		Min-2w	0.1	<0.1	0.2	0.2	0.2	0.2	0.5	0.7	0.6	0.7	0.4	0.2	<0.1
	Sado-seki	Mean	0.3	0.4	1.3	1.2	1.7	1.8	1.6	1.3	1.1	0.7	0.7	0.4	1.0
		%	100	100	100	100	100	100	100	100	100	100	100	100	100
		Max-2w	0.5	0.6	1.9	1.6	1.8	2.2	1.8	1.4	1.4	0.9	0.8	0.6	2.2
		Min-2w	0.2	0.2	0.7	0.9	1.6	1.5	1.4	1.3	0.9	0.5	0.7	0.2	0.2
	Happo	Mean	0.2	0.1	0.3	1.1	1.1	0.9	0.8	0.5	0.5	0.4	0.3	0.2	0.5
		%	100	100	100	100	100	100	100	100	100	100	100	100	96
		Max-2w	0.2	0.1	0.3	1.4	1.2	1.1	0.8	0.5	0.5	0.5	0.3	0.2	1.4
		Min-2w	0.1	0.1	0.3	0.8	0.9	0.7	0.8	0.5	0.4	0.4	0.3	0.2	0.1
	Ijira	Mean	0.3	0.3	1.3	1.1	1.1	1.1	1.4	0.7	0.9	0.6	0.3	0.3	0.8
		%	63	31	70	100	100	100	100	100	100	100	100	100	88
		Max-2w	0.3	0.3	1.3	1.2	1.4	1.3	1.6	1.1	1.1	0.7	0.4	0.3	1.6
		Min-2w	0.2	0.3	1.3	1.1	0.9	0.9	1.1	0.3	0.8	0.4	0.3	0.2	0.2
	Oki	Mean	0.3	0.3	0.8	1.1	0.8	1.2	1.1	0.7	0.7	0.4	0.5	0.3	0.7
		%	100	100	100	100	100	100	100	100	100	100	100	100	100
		Max-2w	0.5	0.4	1.3	1.2	0.9	1.4	1.2	0.8	0.8	0.5	0.5	0.4	1.4
		Min-2w	0.2	0.1	0.4	1.0	0.7	0.8	1.0	0.7	0.5	0.3	0.5	0.3	0.1
	Yusuhara	Mean	0.2	0.2	1.2	***	***	***	***	***	***	***	***	***	0.5
		%	100	100	97	***	***	***	***	***	***	***	***	***	25
		Max-2w	0.3	0.2	2.1	***	***	***	***	***	***	***	***	***	2.1
		Min-2w	0.1	0.1	0.3	***	***	***	***	***	***	***	***	***	0.1
	Hedo	Mean	***	***	***	***	***	***	***	***	***	***	***	***	***
		%	***	***	***	***	***	***	***	***	***	***	***	***	***
		Max-2w	***	***	***	***	***	***	***	***	***	***	***	***	***
		Min-2w	***	***	***	***	***	***	***	***	***	***	***	***	***
	Ogasawara	Mean	0.4	0.4	0.7	0.7	0.7	0.5	0.5	0.5	0.7	0.5	0.4	0.4	0.5
		%	100	100	100	100	100	100	100	100	100	100	100	100	100
		Max-2w	0.4	0.6	1.0	0.7	0.7	0.7	0.5	0.6	0.8	0.6	0.4	0.4	1.0
		Min-2w	0.4	0.3	0.4	0.7	0.7	0.4	0.5	0.4	0.6	0.4	0.4	0.3	0.3
	Tokyo	Mean	3.1	2.5	3.3	3.1	3.2	4.6	3.9	4.9	4.1	3.5	3.8	3.8	3.7
		%	100	100	100	100	100	100	100	100	100	100	100	100	100
		Max-2w	3.4	2.6	4.1	3.6	3.4	5.1	4.5	5.5	4.4	4.0	4.3	4.4	5.5
		Min-2w	2.9	2.4	2.4	2.6	3.0	3.7	3.3	4.4	3.7	2.9	3.4	3.1	2.4
	Tsushima	Mean	0.5	0.4	1.4	1.1	1.1	1.2	1.3	1.1	1.1	0.7	0.9	0.6	0.9
		%	100	100	100	100	100	100	100	100	100	100	100	100	100
		Max-2w	0.6	0.6	2.1	1.1	1.2	1.3	1.5	1.6	1.2	0.9	0.9	0.8	2.1
		Min-2w	0.5	0.2	0.6	1.1	1.1	1.2	1.0	0.6	1.0	0.5	0.8	0.3	0.2

Table 3.7.1 NH_3 - Measured by FP (continued)

Unit : ppb

Country	Site		2025												Annual
			Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	
Lao PDR	Vientiane	Mean	***	***	***	***	***	***	***	***	***	***	***	***	***
		%	***	***	***	***	***	***	***	***	***	***	***	***	***
		Max-m	***	***	***	***	***	***	***	***	***	***	***	***	***
		Min-m	***	***	***	***	***	***	***	***	***	***	***	***	***
Malaysia	Petaling Jaya	Mean	7.1	7.0	8.5	6.5	8.9	7.7	10.7	9.0	7.4	8.0	7.4	7.7	8.0
		%	100	100	100	100	100	100	100	100	100	60	75	100	94
		Max-w	7.6	7.4	9.2	6.8	9.9	8.2	11.9	10.6	8.5	8.2	8.6	9.9	11.9
		Min-w	6.5	6.4	7.7	6.1	8.2	7.0	8.8	6.6	6.7	7.7	6.6	6.1	6.1
	Tanah Rata	Mean	1.4	1.8	2.1	1.4	1.5	2.5	2.8	2.2	1.4	1.4	1.6	2.0	1.8
		%	100	100	100	100	100	100	100	100	100	100	100	75	98
		Max-w	2.2	2.4	2.3	1.9	2.4	3.9	3.4	2.9	2.2	1.9	2.1	2.7	3.9
		Min-w	0.9	1.2	1.8	1.2	1.2	1.8	2.4	1.7	1.1	1.0	1.1	1.3	0.9
	Danum Valley	Mean	1.2	1.3	1.5	2.8	1.5	1.6	3.8	1.90	1.10	1.5	1.3	1.7	1.8
		%	100	100	100	100	100	100	75	100	100	50	100	100	94
		Max-2w	1.3	1.6	1.8	4.5	1.8	1.8	6.5	2.30	1.60	1.5	1.4	2.4	6.5
		Min-2w	1.1	0.9	1.3	1.1	1.2	1.5	1.1	1.40	0.60	1.5	1.3	1.2	0.6
Mongolia	Khan-Uul	Mean	3.9	4.6	6.5	6.4	6.2	7.5	5.8	5.4	3.3	2.9	2.3	1.6	4.7
		%	100	100	100	100	100	100	100	100	100	100	100	100	100
		Max-w	9.4	6.7	12.4	7.5	7.9	12.1	8.4	6.7	4.4	4.9	2.7	2.5	12.4
		Min-w	<0.1	2.8	3.1	4.7	3.8	4.5	3.7	4.2	2.1	1.8	1.1	0.7	<0.1
	Terelj	Mean	0.2	0.9	1.4	1.5	1.8	1.2	***	***	***	***	***	***	1.2
		%	100	100	100	100	100	50	***	***	***	***	***	***	46
		Max-2w	0.3	1.7	1.7	2.0	2.5	1.2	***	***	***	***	***	***	2.5
		Min-2w	<0.1	<0.1	1.2	1.0	1.2	1.2	***	***	***	***	***	***	<0.1
	Terelj II TBD	Mean	***	***	***	***	***	6.2	3.4	3.7	2.7	1.2	1.0	1.4	2.5
		%	***	***	***	***	***	50	100	100	100	100	100	100	54
		Max-2w	***	***	***	***	***	6.2	4.0	5.1	3.7	1.3	1.4	1.8	6.2
		Min-2w	***	***	***	***	***	6.2	2.8	2.2	2.1	1.0	0.6	1.0	0.6
Myammar	Yangon	Mean	1.7	0.4	1.1	0.4	0.8	0.6	0.9	1.8	1.3	0.1	1.1	0.9	0.9
		%	100	100	100	100	100	100	100	100	100	100	100	100	100
		Max-2w	2.0	0.7	1.4	0.9	0.9	0.9	1.6	1.9	1.9	0.1	1.3	0.9	2.0
		Min-2w	1.4	0.2	0.8	0.2	0.7	0.3	0.3	1.7	0.5	<0.1	1.0	0.9	<0.1
Philippines	Manila Observatory	Mean	4.0	6.5	5.9	6.3	5.4	1.8	2.7	4.4	2.9	3.8	3.0	1.8	4.3
		%	100	100	100	100	81	48	100	64	47	100	100	100	86
		Max-irreg	5.2	8.0	6.8	6.8	6.5	2.0	4.0	7.7	3.5	5.2	4.7	2.7	8.0
		Min-irreg	2.8	4.4	5.5	5.5	4.5	1.7	1.9	2.2	2.4	3.1	1.6	1.3	1.3
	Los Baños	Mean	1.6	1.1	0.2	1.1	5.2	0.7	0.7	2.5	0.7	1.5	1.1	1.3	1.5
		%	100	100	100	68	100	100	100	100	100	100	100	100	98
		Max-irreg	1.6	1.7	0.6	2.0	15.2	1.3	0.9	4.5	1.1	2.2	1.6	2.3	15.2
		Min-irreg	1.6	0.3	<0.1	0.3	1.4	<0.1	0.6	1.8	0.5	0.7	0.9	0.7	<0.1
	Mt. Sto. Tomas	Mean	***	***	***	***	***	***	***	***	***	***	***	***	***
		%	***	***	***	***	***	***	***	***	***	***	***	***	***
		Max-w	***	***	***	***	***	***	***	***	***	***	***	***	***
		Min-w	***	***	***	***	***	***	***	***	***	***	***	***	***
Republic of Korea	Ganghwa	Mean	1.5	0.7	3.0	2.0	3.8	2.6	3.8	2.3	2.8	2.5	2.0	1.3	2.6
		%	16	11	16	17	16	17	16	16	17	16	17	16	16
		Max-d	2.3	1.2	4.5	3.8	4.9	4.9	5.4	3.6	5.0	4.6	4.9	3.1	5.4
		Min-d	0.9	0.1	1.8	0.8	2.9	0.6	2.3	1.1	1.8	1.0	0.4	0.3	0.1
	Jeju	Mean	3.0	1.0	2.9	2.7	***	***	6.6	4.3	2.1	5.1	2.3	1.4	3.4
		%	6	11	19	10	***	***	13	16	10	16	17	16	10
		Max-d	3.7	1.4	4.4	3.4	***	***	10.0	6.4	3.1	7.6	4.3	2.0	10.0
		Min-d	2.3	0.4	1.9	2.2	***	***	5.0	2.1	0.3	2.1	1.1	0.2	0.3
	Imsil	Mean	2.0	0.9	3.4	6.5	5.7	7.9	***	5.3	0.5	3.4	4.0	2.5	4.3
		%	10	11	13	17	16	7	***	13	7	16	17	16	10
		Max-d	3.8	1.4	7.9	9.2	11.2	8.5	***	6.3	0.8	5.1	5.8	4.7	11.2
		Min-d	1.1	0.6	0.7	5.3	3.2	7.4	***	4.6	0.2	2.1	2.8	1.1	0.2
Russia	Listvyanka	Mean	1.0	0.9	1.1	1.6	2.2	2.5	3.9	3.1	4.7	2.7	1.8	2.1	2.3
		%	100	100	100	100	100	100	100	100	100	100	100	100	100
		Max-w	1.5	1.2	1.6	2.0	2.6	3.7	4.4	3.5	6.3	4.1	2.6	2.4	6.3
		Min-w	0.7	0.5	0.8	1.2	1.7	1.0	3.1	2.7	3.3	1.8	1.2	1.7	0.5
	Irkutsk	Mean	5.5	3.1	4.5	5.9	3.0	4.3	5.6	8.0	6.9	6.4	8.4	6.6	5.7
		%	100	100	100	100	100	100	100	100	100	100	100	100	100
		Max-w	8.7	4.3	5.9	14.7	5.9	5.1	10.2	13.8	12.6	10.2	9.4	10.4	14.7
		Min-w	4.2	1.7	3.5	2.2	<0.1	3.8	1.3	0.4	2.4	1.3	6.9	2.8	<0.1
	Primorskaya	Mean	0.9	0.9	0.6	0.9	0.6	1.0	1.1	1.2	1.2	1.7	2.1	1.4	1.1
		%	100	100	100	100	100	100	100	100	100	100	100	100	100
		Max-15d	1.1	1.1	0.7	1.0	0.7	1.3	1.5	1.6	1.4	1.8	2.3	2.1	2.3
		Min-15d	0.7	0.8	0.4	0.8	0.6	0.7	0.8	0.9	1.0	1.5	1.8	0.6	0.4

Table 3.7.1 NH_3 - Measured by FP (continued)

Unit : ppb

Country	Site		2025												Annual
			Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	
Thailand	Bangkok	Mean	***	***	***	***	***	***	***	***	***	***	***	***	***
		%	***	***	***	***	***	***	***	***	***	***	***	***	***
		Max-10d	***	***	***	***	***	***	***	***	***	***	***	***	***
		Min-10d	***	***	***	***	***	***	***	***	***	***	***	***	***
Vietnam	Hanoi	Mean	4.8	4.5	4.6	4.0	3.7	3.4	3.8	3.8	4.0	3.9	3.5	2.3	3.9
		%	100	100	100	100	100	100	100	100	100	100	100	100	100
		Max-w	5.6	4.9	5.3	4.7	4.1	3.7	4.1	3.9	4.1	4.2	3.9	2.5	5.6
		Min-w	4.0	4.0	3.7	3.3	3.1	3.1	3.6	3.5	3.9	3.7	3.0	2.1	2.1
	Hoa Binh	Mean	2.3	3.2	2.8	2.5	2.1	1.9	2.1	2.0	2.3	2.2	2.3	2.5	2.3
		%	100	100	100	100	100	100	100	100	100	100	100	100	100
		Max-w	3.2	3.8	3.0	2.9	2.6	2.1	2.6	2.3	2.5	2.5	2.7	2.8	3.8
		Min-w	1.8	2.3	2.5	2.2	1.6	1.8	1.7	1.9	2.2	2.0	1.7	2.0	1.6
	Can Tho	Mean	3.5	3.6	3.6	3.8	3.7	3.5	3.7	3.5	3.8	3.7	3.1	3.6	3.6
		%	100	100	100	100	100	100	100	100	100	100	100	100	100
		Max-w	4.4	3.9	4.6	4.4	4.5	4.2	4.1	3.9	4.2	4.3	3.4	4.8	4.8
		Min-w	3.1	3.3	2.8	3.0	3.2	2.9	3.2	3.1	3.5	3.0	2.5	3.0	2.5
	Ho Chi Minh	Mean	4.2	4.2	4.3	3.8	4.4	3.8	3.8	4.2	3.9	3.8	3.8	3.8	4.0
		%	100	100	100	100	100	100	100	100	100	100	100	100	100
		Max-w	4.9	4.7	4.8	4.3	5.1	4.3	4.7	4.7	4.5	4.4	4.1	4.3	5.1
		Min-w	3.5	3.0	3.9	3.3	3.2	3.6	2.6	3.8	2.5	3.6	3.3	3.1	2.5
	Yen Bai	Mean	2.4	2.3	2.8	2.3	2.3	2.5	2.5	2.2	2.7	2.5	2.2	2.1	2.4
		%	100	100	100	100	100	100	100	100	100	100	100	100	100
		Max-w	2.6	2.5	3.0	2.5	2.7	2.9	2.7	2.3	2.8	2.9	2.3	2.4	3.0
		Min-w	2.2	2.1	2.5	2.2	2.0	2.1	2.2	2.0	2.5	2.2	2.0	1.8	1.8

Terms and abbreviations are given in Table 3.2.

Table 3.8 NO - Measured by AT

Unit : ppb

Country	Site		2025												Annual
			Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	
Cambodia	Phnom Penh	Mean	***	***	***	***	***	***	***	***	***	***	***	***	***
		%	***	***	***	***	***	***	***	***	***	***	***	***	***
		Max-d	***	***	***	***	***	***	***	***	***	***	***	***	***
		Min-d	***	***	***	***	***	***	***	***	***	***	***	***	***
China	Jinyunshan	Mean	1.9	1.7	1.7	1.7	1.7	1.8	1.8	2.0	1.2	1.0	1.2	1.3	1.6
		%	97	100	100	100	100	100	100	100	100	100	100	100	100
		Max-d	3.2	2.4	3.2	2.4	2.4	2.4	2.4	4.0	2.4	1.6	1.6	2.4	4.0
		Min-d	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	0.8	0.8	0.8	0.8	0.8
Japan	Rishiri	Mean	<0.1	<0.1	<0.1	<0.1	***	***	***	***	***	***	***	***	<0.1
		%	97	97	94	34	***	***	***	***	***	***	***	***	26
		Max-d	0.1	0.1	0.1	<0.1	***	***	***	***	***	***	***	***	0.1
		Min-d	<0.1	<0.1	<0.1	<0.1	***	***	***	***	***	***	***	***	<0.1
	Ochiishi	Mean	***	***	***	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
		%	***	***	***	96	90	97	96	96	97	72	89	61	66
		Max-d	***	***	***	0.1	0.1	0.5	0.6	0.5	0.2	<0.1	<0.1	<0.1	0.6
		Min-d	***	***	***	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Lao PDR	Vientiane	Mean	***	***	***	***	***	***	***	***	***	***	***	***	***
		%	***	***	***	***	***	***	***	***	***	***	***	***	***
		Max-d	***	***	***	***	***	***	***	***	***	***	***	***	***
		Min-d	***	***	***	***	***	***	***	***	***	***	***	***	***
Mongolia	Bayanzurkh	Mean	24.0	22.7	9.5	10.5	4.9	3.8	2.2	6.8	13.1	18.7	27.5	26.5	14.2
		%	98	100	100	98	100	98	94	86	45	60	99	100	90
		Max-d	62.6	51.3	31.6	26.7	11.0	9.0	4.1	15.5	29.1	39.4	53.6	47.8	62.6
		Min-d	3.5	4.4	1.3	1.6	1.7	1.7	1.2	1.5	2.5	3.5	2.9	6.1	1.2
	Khan-Uul	Mean	47.5	41.5	27.0	22.1	19.0	17.0	14.5	16.7	22.3	34.4	45.9	50.2	30.5
		%	100	100	100	98	91	74	78	96	87	99	96	95	93
		Max-d	97.6	93.6	73.2	37.9	32.4	30.2	20.6	31.1	42.4	81.8	108.4	77.8	108.4
		Min-d	11.5	13.0	12.5	9.3	4.8	7.7	6.2	7.5	9.2	12.8	12.2	22.8	4.8
Russia	Listvyanka	Mean	2.5	2.7	3.1	1.7	1.1	1.1	1.0	1.8	＜0.1	0.2	0.1	0.6	1.3
		%	100	89	94	97	100	93	97	3	40	100	100	100	84
		Max-d	9.2	12.8	9.9	6.0	3.8	3.9	3.8	1.8	＜0.1	1.7	1.0	4.5	12.8
		Min-d	＜0.1	＜0.1	0.5	＜0.1	＜0.1	＜0.1	＜0.1	1.8	＜0.1	＜0.1	＜0.1	＜0.1	＜0.1
Thailand	Bangkok	Mean	***	***	***	***	***	***	***	***	***	7	5	4	5
		%	***	***	***	***	***	***	***	***	***	96	95	96	24
		Max-d	***	***	***	***	***	***	***	***	***	28	23	14	28
		Min-d	***	***	***	***	***	***	***	***	***	1	1	1	1
	Nai Mueang	Mean	10	7	5	5	6	8	9	9	***	***	***	***	7
		%	88	96	94	96	47	96	96	43	***	***	***	***	54
		Max-d	26	22	10	11	12	12	14	13	***	***	***	***	26
		Min-d	2	2	2	3	3	4	6	7	***	***	***	***	2

Terms and abbreviations are given in Table 3.2.

Table 3.9 NO_2 - Measured by AT

Unit : ppb

Country	Site		2025												Annual
			Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	
Cambodia	Phnom Penh	Mean	***	***	***	***	***	***	***	***	***	***	***	***	***
		%	***	***	***	***	***	***	***	***	***	***	***	***	***
		Max-d	***	***	***	***	***	***	***	***	***	***	***	***	***
		Min-d	***	***	***	***	***	***	***	***	***	***	***	***	***
China	Hongwen	Mean	9.2	7.6	10.4	10.0	7.2	5.5	4.8	7.1	8.1	6.1	7.6	9.2	7.7
		%	100	100	100	100	97	100	90	100	100	100	100	100	99
		Max-d	15.7	19.9	18.3	16.2	11.0	9.4	8.9	13.1	16.2	10.5	24.6	20.4	24.6
		Min-d	3.7	1.0	4.7	5.8	3.7	1.6	2.1	3.1	3.7	3.7	3.1	4.7	1.0
	Haibin-Park	Mean	16.1	11.7	12.9	10.3	7.1	4.2	5.5	5.8	5.9	7.9	12.9	18.3	9.9
		%	100	100	100	100	90	97	97	100	100	100	100	100	99
		Max-d	28.2	20.4	22.0	21.4	14.1	13.6	11.0	16.7	15.7	13.1	26.7	32.9	32.9
		Min-d	5.8	5.2	7.3	4.7	3.7	1.6	2.6	2.6	2.1	2.6	8.4	9.9	1.6
	Wuzhishan	Mean	2.2	0.9	1.3	0.8	0.4	0.3	0.2	0.3	0.2	0.7	1.5	1.2	0.8
		%	97	100	100	100	90	100	100	97	100	100	100	100	99
		Max-d	5.1	2.1	3.4	1.9	1.0	1.1	0.6	0.6	0.7	2.1	3.2	2.9	5.1
		Min-d	0.3	0.5	0.3	0.1	＜0.1	＜0.1	＜0.1	＜0.1	＜0.1	＜0.1	0.1	0.2	＜0.1
	Lijiang	Mean	1.0	0.4	0.9	1.0	0.9	0.7	0.7	0.6	0.5	0.7	1.0	1.0	0.8
		%	26	4	71	90	81	73	94	81	100	97	100	97	76
		Max-d	1.8	0.4	1.9	1.5	1.6	1.4	1.6	1.1	0.7	1.2	1.4	1.8	1.9
		Min-d	0.6	0.4	0.4	0.5	0.5	0.4	0.4	0.4	0.3	0.4	0.6	0.3	0.3
Lao PDR	Vientiane	Mean	***	***	***	***	***	***	***	***	***	***	***	***	***
		%	***	***	***	***	***	***	***	***	***	***	***	***	***
		Max-d	***	***	***	***	***	***	***	***	***	***	***	***	***
		Min-d	***	***	***	***	***	***	***	***	***	***	***	***	***
Mongolia	Bayanzurkh	Mean	23.6	27.9	19.0	19.1	16.7	15.3	11.5	14.9	19.5	23.7	27.9	31.6	20.9
		%	98	100	100	98	100	98	94	86	45	60	99	100	90
		Max-d	40.2	38.7	29.5	29.0	25.8	22.3	18.6	22.1	25.1	32.0	40.8	39.8	40.8
		Min-d	8.7	12.6	7.3	8.2	6.8	7.6	6.4	8.0	11.8	11.6	9.7	13.9	6.4
	Khan-Uul	Mean	18.6	14.1	7.5	4.5	3.0	2.4	1.5	3.2	5.9	12.3	18.4	18.5	9.5
		%	100	100	100	98	91	74	78	96	87	99	96	95	93
		Max-d	55.8	50.0	39.9	11.2	7.8	9.2	3.5	12.3	24.1	49.0	68.5	37.4	68.5
		Min-d	1.6	2.4	1.3	1.1	0.3	0.3	0.2	0.2	0.7	1.1	2.1	4.8	0.2
Philippines	Manila Observatory	Mean	***	***	***	***	***	***	***	***	***	***	***	***	***
		%	***	***	***	***	***	***	***	***	***	***	***	***	***
		Max-d	***	***	***	***	***	***	***	***	***	***	***	***	***
		Min-d	***	***	***	***	***	***	***	***	***	***	***	***	***
	Sta. Rosa	Mean	***	***	***	***	***	***	***	***	***	***	***	***	***
		%	***	***	***	***	***	***	***	***	***	***	***	***	***
		Max-d	***	***	***	***	***	***	***	***	***	***	***	***	***
		Min-d	***	***	***	***	***	***	***	***	***	***	***	***	***
	Lower Session Road	Mean	***	***	***	***	***	***	***	***	***	***	***	***	***
		%	***	***	***	***	***	***	***	***	***	***	***	***	***
		Max-d	***	***	***	***	***	***	***	***	***	***	***	***	***
		Min-d	***	***	***	***	***	***	***	***	***	***	***	***	***
Republic of Korea	Ganghwa	Mean	7.1	6.5	6.6	5.9	5.0	5.0	4.0	3.5	5.0	3.5	6.5	7.6	5.5
		%	98	98	94	98	98	97	86	79	97	92	91	69	91
		Max-d	14.3	16.8	15.8	10.4	8.7	7.2	6.5	7.0	8.7	6.0	16.0	22.0	22.0
		Min-d	2.7	3.0	1.3	2.8	2.7	2.9	2.6	2.4	2.4	2.3	3.3	3.2	1.3
	Jeju	Mean	3.8	2.6	4.7	4.1	3.4	2.9	2.1	2.0	2.7	2.3	3.2	2.8	3.1
		%	98	99	99	98	97	98	98	97	95	96	98	99	98
		Max-d	10.4	8.5	13.0	6.3	6.1	5.2	3.3	4.4	4.6	3.4	5.5	5.6	13.0
		Min-d	1.1	0.7	1.8	2.6	1.7	1.3	0.9	0.7	1.1	1.1	1.7	1.0	0.7
	Imsil	Mean	5.7	4.4	5.8	3.1	2.8	2.7	2.3	2.1	2.1	2.9	3.5	4.4	3.5
		%	98	98	93	93	98	98	97	98	98	97	98	93	97
		Max-d	11.1	7.2	10.1	4.5	3.8	3.7	3.0	3.1	2.7	8.4	6.2	10.8	11.1
		Min-d	3.1	2.7	2.5	2.0	2.1	2.0	1.8	1.6	1.5	1.8	2.1	2.6	1.5
Thailand	Bangkok	Mean	***	***	***	***	***	***	***	***	***	20	21	24	22
		%	***	***	***	***	***	***	***	***	***	96	95	96	24
		Max-d	***	***	***	***	***	***	***	***	***	31	40	35	40
		Min-d	***	***	***	***	***	***	***	***	***	10	11	13	10
	Nai Mueang	Mean	24	19	16	11	9	8	9	9	***	***	***	***	14
		%	88	96	94	96	47	96	96	43	***	***	***	***	54
		Max-d	43	39	31	20	14	13	14	15	***	***	***	***	43
		Min-d	8	6	8	4	6	5	5	5	***	***	***	***	4

Table 3.10 NOx - Measured by AT

Unit : ppb

Country	Site		2025												Annual
			Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	
Cambodia	Phnom Penh	Mean	***	***	***	***	***	***	***	***	***	***	***	***	***
		%	***	***	***	***	***	***	***	***	***	***	***	***	***
		Max-d	***	***	***	***	***	***	***	***	***	***	***	***	***
		Min-d	***	***	***	***	***	***	***	***	***	***	***	***	***
China	Jinyunshan	Mean	11.2	8.2	8.0	7.1	6.6	5.7	5.5	6.0	6.4	5.0	5.3	6.6	6.8
	(NOx*)	%	97	100	100	100	100	100	100	100	100	100	100	100	100
		Max-d	19.9	12.9	11.3	11.8	11.0	7.6	7.4	8.7	10.2	8.4	8.4	10.5	19.9
		Min-d	6.3	5.8	5.3	4.7	4.7	4.2	3.7	3.7	2.9	2.9	2.4	3.4	2.4
Japan	Rishiri	Mean	0.5	0.6	0.7	0.6	***	***	***	***	***	***	***	***	0.6
	(NOx*)	%	97	97	94	34	***	***	***	***	***	***	***	***	26
		Max-d	1.3	1.8	1.5	0.9	***	***	***	***	***	***	***	***	1.8
		Min-d	0.2	0.2	0.3	0.3	***	***	***	***	***	***	***	***	0.2
	Ochiishi	Mean	***	***	***	0.9	1.1	1.0	1.2	1.2	1.1	0.6	0.7	0.6	1.0
	(NOx*)	%	***	***	***	96	90	97	96	96	97	72	89	61	66
		Max-d	***	***	***	2.6	2.5	2.1	2.8	2.5	2.6	1.4	1.5	1.2	2.8
		Min-d	***	***	***	<0.1	0.4	0.2	<0.1	0.5	0.2	0.2	0.2	0.3	<0.1
Lao PDR	Vientiane	Mean	***	***	***	***	***	***	***	***	***	***	***	***	***
		%	***	***	***	***	***	***	***	***	***	***	***	***	***
		Max-d	***	***	***	***	***	***	***	***	***	***	***	***	***
		Min-d	***	***	***	***	***	***	***	***	***	***	***	***	***
Mongolia	Bayanzurkh	Mean	47.6	50.6	28.5	29.5	21.6	19.1	13.7	21.8	32.6	42.4	55.4	58.1	35.1
		%	98	100	100	98	100	98	94	86	45	60	99	100	90
		Max-d	102.7	89.9	57.9	55.7	36.8	29.8	22.7	34.8	53.9	70.2	94.2	87.2	102.7
		Min-d	12.2	18.1	8.6	9.8	9.1	9.8	7.5	9.5	17.3	15.1	12.6	20.1	7.5
	Khan-Uul	Mean	66.1	55.6	34.5	26.6	22.0	19.4	16.0	19.9	28.2	46.7	64.4	68.6	40.0
		%	100	100	100	98	91	74	78	96	87	99	96	95	93
		Max-d	153.4	143.6	113.0	49.1	40.3	39.4	23.7	43.3	66.6	130.8	176.9	114.6	176.9
		Min-d	13.1	15.5	14.7	11.2	5.0	8.0	6.4	7.9	10.4	13.8	14.7	28.3	5.0
Russia	Listvyanka	Mean	7.4	7.5	7.0	3.8	2.6	2.4	2.3	3.1	1.1	3.9	2.9	5.1	4.3
		%	100	89	94	97	100	93	97	3	40	100	100	100	84
		Max-d	25.7	33.1	26.0	13.9	9.3	8.3	10.1	3.1	3.3	13.9	6.6	16.5	33.1
		Min-d	＜0.1	＜0.1	0.7	0.2	0.1	0.2	0.4	3.1	0.2	0.2	＜0.1	0.4	＜0.1
Thailand	Bangkok	Mean	***	***	***	***	***	***	***	***	***	26	26	27	27
		%	***	***	***	***	***	***	***	***	***	96	95	96	24
		Max-d	***	***	***	***	***	***	***	***	***	58	63	47	63
		Min-d	***	***	***	***	***	***	***	***	***	11	12	15	11
	Nai Mueang	Mean	34	27	21	16	15	16	18	18	***	***	***	***	21
		%	88	96	94	96	47	96	96	43	***	***	***	***	54
		Max-d	66	60	35	26	24	25	26	27	***	***	***	***	66
		Min-d	10	9	10	7	9	9	11	12	***	***	***	***	7

NOx* : NOx measured by CLD in remote or rural sites
Terms and abbreviations are given in Table 3.2.

Table 3.11.1 O_3 - Measured by AT

Unit : ppb

Country	Site		2025												Annual
			Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	
Cambodia	Phnom Penh	Mean	38	30	28	51	26	10	9	***	***	15	21	23	27
		%	100	99	100	100	97	100	66	***	***	24	100	83	72
		Max-d	49	45	42	95	95	15	16	***	***	22	35	31	95
		Min-d	24	17	22	17	6	7	3	***	***	9	8	15	3
Japan	Rishiri	Mean	39	44	47	45	46	40	24	25	33	34	36	36	37
		%	98	99	96	97	98	97	99	99	86	99	99	98	97
		Max-d	44	61	60	59	69	57	39	36	46	46	44	43	69
		Min-d	33	39	41	35	27	23	12	18	24	25	23	30	12
	Ochiishi	Mean	35	38	42	42	42	36	26	30	33	32	32	31	35
		%	99	100	100	99	92	99	99	99	99	94	92	97	98
		Max-d	39	45	55	52	51	50	39	37	42	39	39	38	55
		Min-d	31	35	36	35	34	13	10	15	24	27	26	27	10
	Sado-seki	Mean	40	43	52	55	53	49	34	37	41	41	39	38	43
		%	98	99	99	99	99	99	99	95	99	99	99	99	99
		Max-d	47	59	74	73	74	70	44	47	50	47	48	44	74
		Min-d	34	38	42	44	38	30	22	25	30	33	33	31	22
	Happo	Mean	45	46	54	61	58	50	35	35	38	40	45	44	46
		%	99	99	98	99	99	99	99	96	99	99	99	99	99
		Max-d	58	56	73	77	84	76	50	51	51	49	55	52	84
		Min-d	39	34	45	46	43	14	15	15	18	29	37	35	14
	Oki	Mean	44	46	55	57	54	47	30	33	37	41	42	39	44
		%	96	99	99	99	99	99	80	99	99	99	99	100	97
		Max-d	56	59	84	74	80	67	47	45	52	47	56	54	84
		Min-d	36	39	44	48	36	24	19	17	25	36	30	32	17
	Ogasawara	Mean	45	45	39	49	57	***	***	***	***	***	35	33	42
		%	98	98	31	68	4	***	***	***	***	***	7	94	33
		Max-d	52	51	51	70	59	***	***	***	***	***	36	45	70
		Min-d	36	39	29	27	59	***	***	***	***	***	35	22	22
	Tsushima	Mean	***	***	***	***	***	***	***	***	***	***	***	***	***
		%	***	***	***	***	***	***	***	***	***	***	***	***	***
		Max-d	***	***	***	***	***	***	***	***	***	***	***	***	***
		Min-d	***	***	***	***	***	***	***	***	***	***	***	***	***
Mongolia	Bayanzurkh	Mean	3	5	8	9	11	10	13	10	6	6	4	2	7
		%	100	100	100	99	100	13	92	100	99	100	100	100	92
		Max-d	13	12	13	17	17	13	22	22	13	14	9	6	22
		Min-d	<1	2	4	5	6	8	6	4	3	1	<1	<1	<1
	Khan-Uul	Mean	11	13	18	20	24	29	28	23	17	14	11	9	18
		%	100	100	100	98	93	91	95	98	94	99	100	100	97
		Max-d	23	23	25	29	34	50	38	38	32	29	23	19	50
		Min-d	3	7	9	13	16	19	14	12	10	8	4	5	3.0
Philippines	Manila Observatory	Mean	***	***	***	***	***	***	***	***	***	***	***	***	***
		%	***	***	***	***	***	***	***	***	***	***	***	***	***
		Max-d	***	***	***	***	***	***	***	***	***	***	***	***	***
		Min-d	***	***	***	***	***	***	***	***	***	***	***	***	***
	Sta. Rosa	Mean	***	***	***	***	***	***	***	***	***	***	***	***	***
		%	***	***	***	***	***	***	***	***	***	***	***	***	***
		Max-d	***	***	***	***	***	***	***	***	***	***	***	***	***
		Min-d	***	***	***	***	***	***	***	***	***	***	***	***	***
	Lower Session Road	Mean	***	***	***	***	***	***	***	***	***	***	***	***	***
		%	***	***	***	***	***	***	***	***	***	***	***	***	***
		Max-d	***	***	***	***	***	***	***	***	***	***	***	***	***
		Min-d	***	***	***	***	***	***	***	***	***	***	***	***	***

Table 3.11.1 O_3 - Measued by AT (continued)

Unit : ppb

Country	Site		2025												Annual
			Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	
Republic of Korea	Ganghwa	Mean	35	41	50	55	55	52	37	39	38	33	39	29	42
		%	98	98	94	98	98	98	92	79	98	98	91	98	95
		Max-d	42	53	62	73	88	77	58	60	62	47	63	43	88
		Min-d	26	33	40	44	33	16	14	19	24	23	28	7	7
	Jeju	Mean	46	48	54	59	55	45	27	29	36	44	47	42	44
		%	100	100	100	100	99	100	99	99	96	98	100	100	99
		Max-d	64	63	74	75	77	74	61	58	59	55	73	60	77
		Min-d	36	41	35	39	30	16	12	12	14	36	34	35	12
	Imsil	Mean	31	39	45	49	42	35	23	17	22	24	29	27	32
		%	98	98	97	94	98	98	97	98	98	97	98	93	97
		Max-d	41	45	59	66	61	52	46	31	32	36	40	38	66
		Min-d	24	28	21	36	23	10	9	6	11	15	18	16	6
Russia	Listvyanka	Mean	30	34	46	39	39	37	29	21	32	30	32	29	34
		%	100	100	100	100	100	93	97	3	70	100	100	100	88
		Max-d	42	49	69	60	54	54	44	21	46	43	47	46	69
		Min-d	15	11	26	19	14	20	13	21	20	11	23	9	9

Table 3.11.2 O_3 - Measued by Passive sampler

Unit : ppb

Country	Site		2025												Annual
			Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	
Russia	Listvyanka	Mean	30	21	44	32	24	40	34	***	30	68	29	29	37
		%	100	100	83	100	64	96	78	***	63	100	100	100	83
		Max-d	45	36	44	53	24	41	36	***	30	145	29	32	145
		Min-d	15	7	44	2	24	39	32	***	30	29	29	26	2
	Irkutsk	Mean	7	15	17	21	23	16	19	14	12	9	19	10	15
		%	100	100	100	100	100	100	100	100	100	100	100	100	100
		Max-irreg	11	15	23	24	25	16	19	14	14	9	20	10	25
		Min-irreg	4	14	10	18	21	16	19	14	10	9	18	10	4

Table 3.11.3 O_3-8h - Measured by AT (monthly and annual averages were calculated using 8-hour moving averages.)

Unit : ppb

Country	Site		2025												Annual
			Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	
China	Jinyunshan	Max-8h d*1	62	58	100	99	127	103	101	94	82	67	55	49	127
		Min-8h d*2	17	17	20	31	31	29	34	39	17	20	15	8	8
		%	97	100	100	100	100	100	100	100	100	100	100	100	100
		Mean	38	31	43	62	72	61	64	61	45	32	33	27	48
	Hongwen	Max-8h d*1	79	80	78	93	83	67	70	63	71	77	67	65	93
		Min-8h d*2	41	21	22	25	24	16	18	23	18	31	30	21	16
		%	100	100	100	100	97	100	100	100	100	100	100	100	100
		Mean	54	45	48	57	58	38	45	37	45	52	51	50	48
	Haibin-Park	Max-8h d*1	83	73	99	153	89	59	92	76	69	91	94	102	153
		Min-8h d*2	37	27	4	21	24	17	22	17	22	22	22	20	4
		%	100	96	94	93	94	97	94	97	100	100	100	100	97
		Mean	57	45	42	56	50	31	48	32	36	51	62	61	48

*1 Max-8h d: Maximum of the daily maximum 8-hour average ozone concentrations in the month

*2 Min-8h d: Minimum of the daily maximum 8-hour average ozone concentrations in the month

Terms and abbreviations are given in Table 3.2.

Table 3.12 PM_{10} - Measured by AT

Unit : μg/m^3

Country	Site		2025												Annual
			Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	
China	Jinyunshan	Mean	58	31	32	37	41	21	19	25	27	23	43	65	35
		%	97	100	94	77	100	97	100	100	100	100	100	97	97
		Max-d	118	61	65	65	71	42	32	32	65	37	97	114	118
		Min-d	13	13	8	17	9	7	9	17	10	13	13	23	7
	Hongwen	Mean	55	39	35	40	34	22	25	20	21	29	31	42	33
		%	100	100	100	83	97	100	100	100	100	97	80	100	96
		Max-d	104	70	61	68	56	41	41	37	36	48	48	59	104
		Min-d	22	13	7	14	11	11	9	9	8	11	7	20	7
	Haibin-Park	Mean	59	41	33	35	28	15	22	19	16	27	44	52	33
		%	100	100	100	73	94	93	100	100	100	97	97	100	96
		Max-d	92	68	55	62	48	28	41	38	28	64	92	80	92
		Min-d	24	16	12	21	13	2	8	9	8	10	20	25	2
	Wuzhishan	Mean	23	8	12	21	9	7	7	9	5	6	12	11	11
		%	100	100	100	100	100	100	100	100	100	100	100	100	100
		Max-d	48	19	28	92	17	15	17	24	10	16	37	32	92
		Min-d	1	<1	1	3	3	<1	1	2	2	<1	<1	<1	<1
	Lijiang	Mean	9	7	10	14	8	6	4	5	5	5	7	9	7
		%	26	4	71	90	81	67	84	100	100	100	97	97	77
		Max-d	16	7	27	29	16	18	11	11	10	15	13	19	29
		Min-d	6	7	3	4	<1	2	<1	<1	1	<1	1	<1	<1
Japan	Rishiri	Mean	13	19	23	19	30	25	27	18	16	17	26	22	21
		%	99	100	100	98	99	97	100	100	93	100	100	98	99
		Max-d	29	93	93	62	62	82	78	44	58	57	67	48	93
		Min-d	5	7	6	6	8	7	10	7	4	6	7	8	4
	Ochiishi	Mean	12	13	15	13	14	12	14	12	14	12	13	14	13
		%	94	98	90	86	97	99	99	99	99	99	98	96	96
		Max-d	21	28	36	24	30	22	22	25	26	29	23	29	36
		Min-d	5	5	4	4	4	3	4	6	6	5	5	5	3
	Sado-seki	Mean	17	24	29	21	20	17	15	19	15	15	20	18	19
		%	99	100	100	74	98	100	100	100	93	100	100	99	97
		Max-d	29	59	76	45	44	30	41	44	28	30	34	40	76
		Min-d	5	7	4	3	8	2	6	7	9	5	8	5	2
	Happo	Mean	4	5	14	14	10	9	13	9	7	5	6	4	9
		%	58	88	98	99	23	25	100	95	99	100	100	41	77
		Max-d	14	10	89	67	21	14	22	17	18	14	25	10	89
		Min-d	1	2	1	<1	4	4	3	2	2	1	2	<1	<1
	Ijira	Mean	6	6	19	17	16	18	28	25	15	9	9	7	15
		%	100	49	68	100	100	100	100	98	99	96	100	100	93
		Max-d	18	17	64	33	41	34	82	60	44	17	17	22	82
		Min-d	2	2	2	4	4	5	6	10	6	4	3	2	2
	Oki	Mean	32	35	44	34	28	24	22	26	24	26	26	26	29
		%	100	96	99	100	100	99	100	100	99	100	95	100	99
		Max-d	71	57	119	75	56	46	54	52	42	53	47	53	119
		Min-d	8	16	14	15	9	9	7	9	13	13	13	8	7
	Yusuhara	Mean	11	11	17	15	14	15	17	13	10	10	13	9	13
		%	99	100	99	32	99	100	99	100	100	54	87	92	88
		Max-d	28	32	69	26	53	35	83	36	23	17	22	22	83
		Min-d	3	2	<1	4	2	2	2	4	2	4	7	5	<1
	Hedo	Mean	24	23	26	31	28	21	28	17	18	31	33	23	25
		%	100	100	43	100	99	99	99	100	95	92	99	100	94
		Max-d	37	42	46	63	55	40	47	37	36	69	78	44	78
		Min-d	14	12	15	14	14	7	8	8	9	9	20	11	7
	Ogasawara	Mean	15	18	19	21	18	14	21	15	13	27	23	18	18
		%	100	100	100	99	100	100	99	100	99	99	93	100	99
		Max-d	26	32	29	40	29	28	46	55	39	50	43	41	55
		Min-d	7	9	5	5	9	5	10	4	5	9	8	6	4
	Tsushima	Mean	26	21	29	27	18	14	20	20	15	16	18	18	20
		%	100	100	96	99	100	100	100	100	99	96	100	100	99
		Max-d	76	54	67	61	40	29	39	33	24	28	48	54	76
		Min-d	9	8	7	7	4	3	4	10	9	6	9	4	3

Table 3.12 PM_{10} - Measured by AT (continued)

Unit : $\mu g/m^3$

Country	Site		2025												Annual
			Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	
Lao PDR	Vientiane	Mean	***	***	***	***	***	***	***	***	***	***	***	***	***
		%	***	***	***	***	***	***	***	***	***	***	***	***	***
		Max-d	***	***	***	***	***	***	***	***	***	***	***	***	***
		Min-d	***	***	***	***	***	***	***	***	***	***	***	***	***
Mongolia	Bayanzurkh	Mean	101	113	64	58	48	43	32	34	45	58	70	70	61
		%	100	100	100	99	100	100	99	100	100	100	100	100	100
		Max-d	203	245	112	110	91	81	55	65	88	104	138	109	245
		Min-d	15	24	17	19	13	14	12	12	9	18	6	12	6
	Khan-Uul	Mean	86	79	69	79	58	52	43	38	48	59	65	65	62
		%	100	100	100	98	97	97	72	100	93	90	97	100	95
		Max-d	186	136	185	199	93	138	82	78	81	113	143	108	199
		Min-d	20	32	30	25	24	22	18	20	26	22	21	25	18
Philippines	North Caloocan	Mean	***	***	***	***	***	***	***	***	***	***	***	***	***
		%	***	***	***	***	***	***	***	***	***	***	***	***	***
		Max-d	***	***	***	***	***	***	***	***	***	***	***	***	***
		Min-d	***	***	***	***	***	***	***	***	***	***	***	***	***
	Sta. Rosa	Mean	***	***	***	***	***	***	***	***	***	***	***	***	***
		%	***	***	***	***	***	***	***	***	***	***	***	***	***
		Max-d	***	***	***	***	***	***	***	***	***	***	***	***	***
		Min-d	***	***	***	***	***	***	***	***	***	***	***	***	***
	Mt. Sto. Tomas	Mean	***	***	***	***	***	***	***	***	***	***	***	***	***
		%	***	***	***	***	***	***	***	***	***	***	***	***	***
		Max-d	***	***	***	***	***	***	***	***	***	***	***	***	***
		Min-d	***	***	***	***	***	***	***	***	***	***	***	***	***
Republic of Korea	Ganghwa	Mean	34	34	49	34	27	21	16	15	16	19	40	29	28
		%	98	98	94	96	97	97	92	82	98	94	91	97	95
		Max-d	71	75	140	52	49	35	30	35	31	42	82	78	140
		Min-d	12	15	7	12	6	6	6	5	6	3	16	15	3
	Jeju	Mean	30	29	38	35	25	21	24	22	19	18	33	25	26
		%	98	88	82	95	94	98	97	97	97	95	88	98	94
		Max-d	76	63	75	80	37	43	41	41	27	38	102	68	102
		Min-d	12	10	13	8	4	8	12	9	11	6	16	9	4
	Imsil	Mean	28	25	36	30	21	22	14	14	14	15	28	26	23
		%	99	98	96	88	98	98	90	98	98	97	98	90	96
		Max-d	68	63	111	56	39	38	23	24	22	28	50	55	111
		Min-d	10	13	5	14	8	7	6	5	6	8	15	9	5
Thailand	Bangkok	Mean	60	46	44	29	24	24	25	21	17	22	31	39	32
		%	100	100	100	100	100	100	100	100	100	100	97	100	100
		Max-d	91	74	89	44	36	47	38	29	27	30	60	70	91
		Min-d	39	25	24	18	18	17	18	12	10	12	14	23	10

Terms and abbreviations are given in Table 3.2.

Table 3.13 $PM_{2.5}$ - Measured by AT

Unit : μg/m^3

Country	Site		2025												Annual
			Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	
Cambodia	Phnom Penh	Mean	36	35	35	22	14	12	14	14	12	14	16	18	20
		%	100	99	88	86	99	80	90	99	99	100	95	100	95
		Max-d	99	95	79	35	22	21	22	25	18	29	29	36	99
		Min-d	16	13	22	14	8	7	9	7	7	7	8	10	7
China	Jinyunshan	Mean	44	23	24	21	18	10	8	13	16	12	26	45	22
		%	97	100	94	73	100	100	100	100	100	100	100	100	97
		Max-d	98	40	54	40	40	21	17	22	42	20	60	84	98
		Min-d	12	10	6	8	5	5	5	7	8	5	8	17	5
	Hongwen	Mean	26	23	19	20	17	9	11	10	12	16	15	23	17
		%	100	100	100	83	97	100	100	100	100	94	80	100	96
		Max-d	49	47	36	35	30	24	22	22	26	28	28	40	49
		Min-d	11	9	3	6	5	4	3	5	4	6	3	10	3
	Haibin-Park	Mean	33	26	83	23	17	8	12	10	8	17	24	35	25
		%	100	100	94	73	94	93	100	100	100	100	93	100	96
		Max-d	58	58	198	38	31	27	28	22	21	47	46	68	198
		Min-d	8	7	8	15	7	2	2	2	2	2	4	10	2
Japan	Rishiri	Mean	6	8	9	7	10	8	9	5	5	6	9	8	7
		%	99	100	100	98	99	97	100	100	93	100	100	98	99
		Max-d	15	26	29	20	16	17	18	10	11	18	27	16	29
		Min-d	2	3	3	2	3	4	3	2	2	2	2	4	2
	Ochiishi	Mean	6	5	7	6	7	6	7	4	5	5	7	5	6
		%	94	98	91	87	97	99	99	99	99	99	98	98	96
		Max-d	10	14	19	10	14	11	11	9	9	15	16	12	19
		Min-d	2	2	1	1	2	1	1	2	2	2	2	2	1
	Sado-seki	Mean	6	8	11	9	9	9	9	8	6	6	7	6	8
		%	99	100	100	74	98	100	100	100	93	100	100	99	97
		Max-d	13	25	27	17	19	19	24	23	10	16	14	14	27
		Min-d	2	3	<1	1	3	1	4	3	4	2	3	2	<1
	Happo	Mean	4	3	7	7	5	6	9	6	4	2	3	1	5
		%	58	88	98	99	23	25	100	95	99	100	100	41	77
		Max-d	14	7	33	24	11	10	17	12	11	6	7	5	33
		Min-d	<1	<1	<1	<1	2	2	<1	<1	<1	<1	<1	<1	<1
	Ijira	Mean	5	4	11	11	9	9	10	9	5	4	6	4	7
		%	100	49	68	100	100	100	100	99	99	96	100	100	93
		Max-d	14	14	39	20	21	18	33	20	10	8	13	13	39
		Min-d	<1	1	<1	<1	2	1	<1	2	<1	1	2	1	<1
	Oki	Mean	11	10	13	11	9	10	9	9	6	6	8	8	9
		%	100	96	99	100	100	99	100	100	99	100	95	100	99
		Max-d	37	24	32	20	18	22	22	24	10	11	19	16	37
		Min-d	3	4	3	3	4	3	3	2	2	3	4	2	2
	Yusuhara	Mean	9	8	11	10	10	12	13	11	7	7	9	7	10
		%	99	100	99	32	99	100	99	100	100	54	87	92	88
		Max-d	20	24	32	17	26	27	64	27	18	12	15	15	64
		Min-d	3	2	<1	4	2	2	1	3	2	3	4	4	<1
	Hedo	Mean	11	11	11	13	11	5	6	5	4	9	11	9	9
		%	100	100	43	100	99	99	99	100	95	92	99	100	94
		Max-d	18	21	21	23	25	13	11	9	7	19	21	16	25
		Min-d	6	5	8	6	5	2	2	3	2	4	6	5	2
	Ogasawara	Mean	5	6	7	7	5	4	4	3	3	5	6	5	5
		%	100	100	100	99	100	100	99	100	99	99	93	100	99
		Max-d	10	12	13	13	9	13	8	10	10	8	10	9	13
		Min-d	3	2	2	1	2	2	2	<1	1	2	2	1	<1
	Tsushima	Mean	16	12	14	12	10	8	10	11	6	7	9	9	10
		%	100	100	96	99	100	100	100	100	99	96	100	100	99
		Max-d	53	35	37	24	23	17	26	20	12	22	28	23	53
		Min-d	6	4	3	4	2	1	1	5	2	3	3	3	1

Table 3.13 $PM_{2.5}$ - Measured by AT(continued)

Unit : μg/m^3

Country	Site		2025												Annual
			Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	
Lao PDR	Vientiane	Mean	***	***	***	***	***	***	***	***	***	***	***	***	***
		%	***	***	***	***	***	***	***	***	***	***	***	***	***
		Max-d	***	***	***	***	***	***	***	***	***	***	***	***	***
		Min-d	***	***	***	***	***	***	***	***	***	***	***	***	***
Mongolia	Bayanzurkh	Mean	39	37	18	16	9	15	11	8	10	15	49	57	24
		%	88	100	100	99	94	71	100	100	100	93	92	100	95
		Max-d	75	57	31	37	13	46	40	14	17	29	104	96	104
		Min-d	7	12	7	6	3	5	7	5	6	7	10	16	3
	Khan-Uul	Mean	57	44	22	26	15	28	30	17	18	26	19	23	27
		%	100	100	100	98	99	72	93	100	83	93	89	89	93
		Max-d	138	94	37	96	26	66	69	33	28	37	39	43	138
		Min-d	12	16	13	15	8	17	12	10	10	12	5	8	5
Myanmar	Yangon	Mean	41	48	42	23	13	9	9	8	9	15	21	32	23
		%	100	100	93	71	90	96	92	97	98	99	86	99	93
		Max-d	57	73	60	45	28	17	12	14	14	34	44	45	73
		Min-d	29	23	29	11	6	5	5	5	6	7	6	26	5
Philippines	North Caloocan	Mean	***	***	***	***	***	***	***	***	***	***	***	***	***
		%	***	***	***	***	***	***	***	***	***	***	***	***	***
		Max-d	***	***	***	***	***	***	***	***	***	***	***	***	***
		Min-d	***	***	***	***	***	***	***	***	***	***	***	***	***
	Sta. Rosa	Mean	***	***	***	***	***	***	***	***	***	***	***	***	***
		%	***	***	***	***	***	***	***	***	***	***	***	***	***
		Max-d	***	***	***	***	***	***	***	***	***	***	***	***	***
		Min-d	***	***	***	***	***	***	***	***	***	***	***	***	***
	Mt. Sto. Tomas	Mean	2	2	5	8	4	2	1	***	***	2	2	***	3
		%	99	99	97	99	99	96	60	***	***	70	29	***	62
		Max-d	8	6	13	16	12	5	2	***	***	3	2	***	16
		Min-d	<1	<1	<1	4	1	1	<1	***	***	<1	<1	***	<1
Republic of Korea	Ganghwa	Mean	25	20	28	20	17	13	11	10	9	11	23	17	17
		%	98	93	90	97	97	97	91	81	97	97	91	98	94
		Max-d	54	46	56	32	32	24	22	26	20	29	60	47	60
		Min-d	10	9	6	6	2	3	3	3	3	2	7	8	2
	Jeju	Mean	15	17	22	18	15	13	12	10	9	11	20	16	15
		%	97	90	80	94	94	98	98	97	97	90	88	96	93
		Max-d	51	48	45	30	27	30	29	22	14	26	37	35	51
		Min-d	5	4	8	6	4	5	6	5	5	3	8	7	3
	Imsil	Mean	20	15	22	16	15	15	11	10	8	10	19	18	15
		%	99	98	95	88	98	97	97	98	97	97	98	90	96
		Max-d	55	45	46	26	28	29	19	19	15	19	35	42	55
		Min-d	7	7	4	6	5	3	3	5	2	4	9	7	2
Thailand	Bangkok	Mean	34	29	26	15	11	10	11	9	8	11	17	21	17
		%	100	100	100	100	100	100	100	99	100	100	100	96	100
		Max-d	57	46	58	28	23	21	19	14	14	15	38	36	58
		Min-d	17	13	12	5	6	6	6	5	5	6	7	11	5
	Samutprakarn	Mean	43	35	29	18	15	14	17	13	12	16	21	27	21
		%	100	100	100	100	100	100	100	95	100	100	95	90	98
		Max-d	74	64	65	31	23	21	21	18	18	21	40	46	74
		Min-d	21	18	16	9	8	8	11	10	8	10	11	15	8
	Khanchanaburi (Vajiralongkorn Dam)	Mean	43	39	37	23	19	14	16	12	12	15	20	27	23
		%	95	98	97	98	95	99	100	99	100	100	100	100	98
		Max-d	65	66	65	48	38	25	22	20	14	19	32	38	66
		Min-d	26	16	19	9	11	9	10	9	10	10	11	17	9
	Chang Phueak	Mean	31	32	55	35	16	14	13	12	12	16	15	24	23
		%	100	98	99	99	95	98	100	100	94	97	92	100	98
		Max-d	45	44	92	69	31	24	21	20	16	21	29	31	92
		Min-d	23	17	16	13	10	8	9	8	9	12	8	17	8
	Si Phum	Mean	29	26	39	22	10	9	9	9	8	10	11	23	17
		%	100	100	99	100	100	100	100	100	100	100	100	100	100
		Max-d	42	40	63	40	21	17	17	14	13	17	20	32	63
		Min-d	18	11	16	7	6	6	6	6	6	6	6	17	6
	Nai Mueang	Mean	43	33	38	26	16	13	15	15	12	14	19	26	23
		%	98	100	99	99	99	100	99	100	92	100	99	100	99
		Max-d	66	54	80	51	33	22	22	20	16	23	44	41	80
		Min-d	18	11	19	13	7	8	9	10	9	10	10	14	7
Vietnam	Hoa Binh	Mean	49	23	27	27	12	9	***	***	***	***	***	***	25
		%	100	100	100	100	100	100	***	***	***	***	***	***	50
		Max-d	99	77	69	50	25	16	***	***	***	***	***	***	99
		Min-d	15	7	10	11	4	3	***	***	***	***	***	***	3

Terms and abbreviations are given in Table 3.2.

Table 3.14.1 Particulate matter component: SO_4^{2-} - Measured by FP

Unit : μg/m^3

Country	Site		2025												Annual
			Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	
Cambodia	Phnom Penh	Mean	***	***	***	***	***	***	***	***	***	***	***	***	***
		%	***	***	***	***	***	***	***	***	***	***	***	***	***
		Max-2w	***	***	***	***	***	***	***	***	***	***	***	***	***
		Min-2w	***	***	***	***	***	***	***	***	***	***	***	***	***
Japan	Rishiri	Mean	1.33	1.80	2.26	1.50	2.62	2.60	2.78	1.08	1.32	1.22	1.84	1.70	1.85
		%	100	100	100	100	100	100	100	100	100	100	100	100	100
		Max-2w	1.46	1.91	2.27	2.30	2.86	2.61	2.98	1.21	1.58	1.51	2.11	1.88	2.98
		Min-2w	1.22	1.69	2.25	0.70	2.39	2.59	2.50	0.94	1.07	0.92	1.57	1.49	0.70
	Ochiishi	Mean	1.60	2.72	1.89	3.53	0.52	1.94	1.98	1.57	1.42	1.56	3.28	2.63	2.08
		%	100	100	100	100	100	100	100	100	100	100	100	100	100
		Max-2w	1.83	3.52	1.99	4.84	1.01	2.03	2.74	1.79	2.35	1.62	4.18	3.09	4.84
		Min-2w	1.26	1.92	1.79	2.23	0.03	1.77	1.22	1.35	0.49	1.51	1.62	2.17	0.03
	Sado-seki	Mean	1.89	2.60	3.52	1.77	2.99	3.23	1.97	3.30	1.64	1.56	1.83	1.70	2.33
		%	100	100	100	100	100	100	100	100	100	100	100	100	100
		Max-2w	2.68	2.62	4.28	2.76	3.13	4.12	2.05	4.64	1.71	1.64	2.35	1.93	4.64
		Min-2w	1.17	2.57	2.76	0.78	2.85	2.43	1.89	1.96	1.56	1.47	1.31	1.34	0.78
	Happo	Mean	0.79	0.68	1.03	1.62	1.43	2.78	1.56	2.22	1.22	0.69	0.76	0.50	1.31
		%	100	100	100	100	100	100	100	100	100	100	100	100	96
		Max-2w	1.14	0.73	1.03	1.80	1.55	3.29	1.79	3.77	1.37	0.82	0.76	0.57	3.77
		Min-2w	0.43	0.64	1.03	1.44	1.31	2.27	1.32	0.66	1.08	0.56	0.76	0.43	0.43
	Ijira	Mean	0.89	0.82	2.63	2.11	2.25	3.44	3.33	4.20	1.71	0.73	1.19	1.07	2.08
		%	63	31	70	100	100	100	100	100	100	100	100	100	88
		Max-2w	1.02	0.82	2.63	2.16	3.05	5.89	4.52	5.24	1.72	0.82	1.29	1.44	5.89
		Min-2w	0.76	0.82	2.63	2.06	1.46	2.15	2.13	3.16	1.70	0.65	1.10	0.84	0.65
	Oki	Mean	3.17	2.58	3.10	2.91	1.97	3.69	3.04	3.59	1.57	1.47	1.94	2.16	2.64
		%	100	100	100	100	100	100	100	100	100	100	100	100	100
		Max-2w	4.21	2.80	3.50	3.22	1.98	5.57	3.59	3.63	1.73	1.69	2.22	2.69	5.57
		Min-2w	2.60	2.35	2.70	2.60	1.96	2.75	2.49	3.56	1.41	1.24	1.65	1.71	1.24
	Yusuhara	Mean	1.97	2.23	2.42	***	***	***	***	***	***	***	***	***	2.17
		%	100	100	97	***	***	***	***	***	***	***	***	***	25
		Max-2w	2.41	2.67	3.37	***	***	***	***	***	***	***	***	***	3.37
		Min-2w	1.55	1.78	1.47	***	***	***	***	***	***	***	***	***	1.47
	Hedo	Mean	***	***	***	***	***	***	***	***	***	***	***	***	***
		%	***	***	***	***	***	***	***	***	***	***	***	***	***
		Max-2w	***	***	***	***	***	***	***	***	***	***	***	***	***
		Min-2w	***	***	***	***	***	***	***	***	***	***	***	***	***
	Ogasawara	Mean	1.45	2.17	2.31	2.01	1.29	1.19	1.14	0.63	0.95	1.45	1.54	1.48	1.46
		%	100	100	100	100	100	100	100	100	100	100	100	100	100
		Max-2w	1.67	2.46	3.06	2.40	1.41	1.49	1.34	0.70	1.06	1.57	1.75	1.69	3.06
		Min-2w	1.23	1.88	1.57	1.62	1.17	0.78	0.95	0.57	0.84	1.33	1.33	1.22	0.57
	Tokyo	Mean	1.06	1.50	2.59	2.52	2.69	3.78	4.20	5.67	3.07	1.89	1.40	1.31	2.58
		%	100	100	100	100	100	100	100	100	100	100	100	100	100
		Max-2w	1.51	1.80	3.48	2.93	3.57	5.56	6.03	6.99	3.13	2.26	1.54	1.85	6.99
		Min-2w	0.78	1.20	1.71	2.11	1.82	2.56	2.38	4.36	3.01	1.51	1.26	1.01	0.78
	Tsushima	Mean	2.7	2.0	3.4	2.64	2.43	3.05	2.80	3.62	2.25	2.02	2.31	2.28	2.63
		%	100	100	100	100	100	100	100	100	100	100	100	100	100
		Max-2w	3.2	2.3	4.1	3.23	2.53	4.67	2.90	4.10	2.58	2.27	2.33	2.52	4.67
		Min-2w	2.2	1.7	2.7	2.05	2.34	1.60	2.70	3.14	1.91	1.78	2.29	2.06	1.60

Table 3.14.1 Particulate matter component: SO_4^{2-} - Measured by FP (continued)

Unit : μg/m^3

Country	Site		2025												Annual
			Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	
Lao PDR	Vientiane	Mean	***	***	***	***	***	***	***	***	***	***	***	***	***
		%	***	***	***	***	***	***	***	***	***	***	***	***	***
		Max-m	***	***	***	***	***	***	***	***	***	***	***	***	***
		Min-m	***	***	***	***	***	***	***	***	***	***	***	***	***
Malaysia	Petaling Jaya	Mean	2.53	3.34	2.97	1.93	3.70	4.32	4.53	4.39	3.16	2.69	3.31	2.81	3.33
		%	100	100	100	100	100	100	100	100	100	60	75	100	94
		Max-w	3.32	4.95	5.20	2.40	4.46	6.05	6.83	5.94	4.79	3.61	3.98	4.05	6.83
		Min-w	1.52	2.06	0.39	0.80	3.05	2.83	2.70	3.59	2.30	1.31	2.49	1.93	0.39
	Tanah Rata	Mean	1.00	1.71	1.94	1.32	2.23	3.40	2.94	3.39	1.96	1.35	1.42	1.37	2.01
		%	100	100	100	100	100	100	100	100	100	100	100	75	98
		Max-w	1.74	3.14	4.12	2.02	3.16	5.87	4.95	5.19	2.80	1.90	2.21	1.75	5.87
		Min-w	0.56	0.79	0.58	0.67	1.25	2.42	1.71	2.22	1.03	0.99	0.46	0.82	0.46
	Danum Valley	Mean	0.57	0.81	0.64	0.51	0.38	1.12	1.18	1.81	1.08	0.73	1.14	0.73	0.93
		%	100	100	100	100	100	100	75	100	100	50	100	100	94
		Max-2w	0.65	1.01	0.70	0.82	0.51	1.26	1.31	3.46	1.38	0.73	1.45	0.93	3.46
		Min-2w	0.48	0.61	0.57	0.21	0.25	0.99	1.05	0.75	0.77	0.73	0.82	0.55	0.21
Mongolia	Khan-Uul	Mean	11.43	2.06	2.01	1.16	1.16	2.09	1.32	1.16	1.63	1.74	2.53	3.39	2.74
		%	100	100	100	100	100	100	100	100	100	100	100	100	100
		Max-w	21.58	5.11	4.32	2.74	1.54	5.01	2.32	1.68	2.78	3.76	6.31	5.52	21.58
		Min-w	1.14	0.80	0.34	0.29	0.63	0.58	0.61	0.69	0.73	0.65	0.87	1.49	0.29
	Terelj	Mean	0.17	0.33	0.23	0.38	0.34	0.40	***	***	***	***	***	***	0.29
		%	100	100	100	100	100	50	***	***	***	***	***	***	46
		Max-2w	0.19	0.53	0.34	0.44	0.34	0.40	***	***	***	***	***	***	0.53
		Min-2w	0.15	0.14	0.13	0.31	0.34	0.40	***	***	***	***	***	***	0.13
	Terelj II TBD	Mean	***	***	***	***	***	0.32	0.37	0.23	0.36	0.71	0.84	0.62	0.50
		%	***	***	***	***	***	50	100	100	100	100	100	100	54
		Max-2w	***	***	***	***	***	0.32	0.44	0.25	0.43	0.98	1.11	0.66	1.11
		Min-2w	***	***	***	***	***	0.32	0.31	0.22	0.27	0.44	0.57	0.58	0.22
Myammar	Yangon	Mean	0.73	0.44	0.07	0.20	0.66	0.96	0.97	0.42	0.96	0.51	1.10	0.82	0.65
		%	100	100	100	100	100	100	100	100	100	100	100	100	100
		Max-2w	0.79	0.56	0.11	0.31	0.94	1.03	1.12	0.45	1.19	0.87	1.14	0.90	1.19
		Min-2w	0.66	0.32	0.03	0.07	0.37	0.88	0.81	0.39	0.80	0.14	1.06	0.75	0.03
Philippines	Manila Observatory	Mean	0.51	1.02	0.71	0.84	0.78	0.74	0.49	0.82	0.64	0.96	0.30	0.06	0.66
		%	100	100	100	100	81	48	100	64	47	100	100	100	86
		Max-irreg	0.58	2.51	1.25	2.82	1.49	0.82	0.77	1.55	0.83	2.68	0.70	0.09	2.82
		Min-irreg	0.45	0.42	0.21	0.13	0.33	0.67	<0.01	0.38	0.45	<0.01	<0.01	<0.01	<0.01
	Los Baños	Mean	0.19	0.19	2.07	1.29	<0.01	0.27	0.28	7.60	0.36	0.17	0.05	0.01	1.30
		%	100	100	100	68	100	100	100	100	100	100	100	100	98
		Max-irreg	0.19	0.24	4.39	3.30	<0.01	0.72	0.64	37.94	0.69	0.51	0.14	0.03	37.94
		Min-irreg	0.19	0.15	0.40	0.17	<0.01	0.08	<0.01	<0.01	0.05	<0.01	<0.01	<0.01	<0.01
	Mt. Sto. Tomas	Mean	***	***	***	***	***	***	***	***	***	***	***	***	***
		%	***	***	***	***	***	***	***	***	***	***	***	***	***
		Max-w	***	***	***	***	***	***	***	***	***	***	***	***	***
		Min-w	***	***	***	***	***	***	***	***	***	***	***	***	***
Russia	Listvyanka	Mean	0.38	0.68	1.00	0.47	0.32	0.62	0.69	0.70	0.52	0.55	0.21	0.36	0.55
		%	100	100	100	100	100	100	100	100	100	100	100	100	100
		Max-w	0.78	1.28	1.58	0.77	0.42	0.83	1.01	1.25	0.61	1.13	0.37	0.55	1.58
		Min-w	0.22	0.20	0.04	0.28	0.21	0.14	0.32	0.39	0.42	0.35	0.03	0.04	0.03
	Irkutsk	Mean	3.71	4.11	3.90	1.46	0.94	0.52	0.79	1.80	1.00	1.70	1.66	4.16	2.14
		%	100	100	100	100	100	100	100	100	100	100	100	100	100
		Max-w	5.10	9.56	6.44	3.59	1.93	0.70	1.29	2.66	1.85	3.97	2.31	5.51	9.56
		Min-w	1.41	0.88	2.46	0.54	0.19	0.30	0.44	1.16	0.49	0.72	0.52	2.80	0.19
	Primorskaya	Mean	0.07	0.05	0.31	0.09	0.05	0.04	0.06	0.09	0.04	0.05	0.26	0.22	0.11
		%	100	100	100	100	100	100	100	100	100	100	100	100	100
		Max-15d	0.10	0.07	0.60	0.16	0.07	0.05	0.09	0.14	0.06	0.08	0.29	0.22	0.60
		Min-15d	0.04	0.03	0.02	0.02	0.02	0.03	0.02	0.05	0.02	<0.01	0.22	0.21	<0.01

Table 3.14.1 Particulate matter component: SO_4^{2-} - Measured by FP (continued)

Unit : μg/m^3

Country	Site		2025												Annual
			Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	
Thailand	Bangkok	Mean	***	***	***	***	***	***	***	***	***	***	***	***	***
		%	***	***	***	***	***	***	***	***	***	***	***	***	***
		Max-10d	***	***	***	***	***	***	***	***	***	***	***	***	***
		Min-10d	***	***	***	***	***	***	***	***	***	***	***	***	***
Vietnam	Hanoi	Mean	20.21	12.01	7.47	10.81	3.84	2.22	2.47	2.89	2.02	1.85	2.01	2.29	5.94
		%	100	100	100	100	100	100	100	100	100	100	100	100	100
		Max-w	32.23	16.43	14.29	14.99	5.91	3.46	3.58	3.90	2.64	2.57	2.45	2.83	32.23
		Min-w	4.39	9.50	2.45	7.55	2.13	1.42	1.29	2.33	1.26	1.13	1.57	1.80	1.13
	Hoa Binh	Mean	1.80	2.31	3.43	1.08	1.95	1.50	1.86	1.75	2.06	1.79	1.72	2.89	2.00
		%	100	100	100	100	100	100	100	100	100	100	100	100	100
		Max-w	2.51	2.95	4.93	1.39	2.31	1.72	2.37	1.95	2.40	2.11	2.16	4.40	4.93
		Min-w	1.00	1.20	1.88	0.55	1.75	1.13	1.32	1.48	1.34	1.45	1.42	1.94	0.55
	Can Tho	Mean	6.27	7.08	7.36	6.90	6.59	5.86	5.83	6.23	6.24	5.88	5.94	5.86	6.32
		%	100	100	100	100	100	100	100	100	100	100	100	100	100
		Max-w	6.43	7.98	8.49	7.94	8.02	6.21	6.37	7.14	6.41	6.39	6.98	6.11	8.49
		Min-w	5.99	6.31	5.93	5.71	5.62	5.18	4.48	5.06	5.89	5.46	4.46	5.65	4.46
	Ho Chi Minh	Mean	7.69	7.77	8.57	9.08	7.90	8.32	7.70	7.76	7.40	7.37	7.67	8.14	7.93
		%	100	100	100	100	100	100	100	100	100	100	100	100	100
		Max-w	8.39	8.27	8.95	9.35	8.81	9.84	8.93	9.94	8.45	8.49	8.15	8.71	9.94
		Min-w	6.87	7.08	8.15	8.93	7.06	6.85	6.85	5.54	6.83	6.25	6.85	7.62	5.54
	Yen Bai	Mean	3.55	4.30	4.26	4.87	3.20	3.78	3.24	2.34	2.17	1.60	3.74	4.22	3.40
		%	100	100	100	100	100	100	100	100	100	100	100	100	100
		Max-w	4.24	4.92	5.02	5.94	5.26	5.32	3.41	2.89	2.50	1.80	5.15	4.96	5.94
		Min-w	2.99	3.39	2.37	4.38	1.80	2.38	3.09	1.41	1.27	1.51	1.98	2.89	1.27

Table 3.14.2 Particulate matter component: SO_4^{2-} - Measured by FP using $PM_{2.5}$ cyclone

Unit : μg/m^3

Country	Site		2025												Annual
			Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	
Republic of Korea	Ganghwa	Mean	2.87	2.11	3.80	2.71	2.45	2.33	2.42	2.72	2.19	1.53	2.04	2.50	2.66
		%	16	14	16	17	16	17	16	16	17	16	17	16	16
		Max-d	5.66	3.66	6.25	3.83	4.51	4.06	4.93	3.51	4.32	3.91	3.40	3.21	6.25
		Min-d	1.51	1.39	1.93	2.00	1.01	0.76	0.84	1.45	0.68	0.39	1.22	1.47	0.68
	Jeju	Mean	2.38	2.54	3.22	2.56	***	***	3.56	2.11	1.29	1.82	2.35	2.50	2.52
		%	6	11	19	10	***	***	13	16	17	16	17	16	10
		Max-d	3.34	2.89	6.16	3.30	***	***	5.42	3.12	2.21	2.71	3.88	4.04	6.16
		Min-d	1.42	1.98	1.77	1.59	***	***	2.31	1.06	0.69	1.02	0.95	1.74	0.69
	Imsil	Mean	0.53	0.56	1.16	2.22	2.47	2.23	***	2.04	1.64	1.13	2.96	2.20	1.66
		%	10	11	13	17	16	7	***	13	17	16	17	16	11
		Max-d	0.63	0.71	2.45	2.77	4.29	3.01	***	4.13	3.18	1.91	3.40	3.75	4.29
		Min-d	0.44	0.38	0.56	1.40	1.02	1.46	***	0.93	0.65	0.57	2.03	1.21	0.38

Terms and abbreviations are given in Table 3.2.

Table 3.15.1 Particulate matter component: NO_3^- - Measured by FP

Unit : μg/m^3

Country	Site		2025												Annual
			Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	
Cambodia	Phnom Penh	Mean	***	***	***	***	***	***	***	***	***	***	***	***	***
		%	***	***	***	***	***	***	***	***	***	***	***	***	***
		Max-2w	***	***	***	***	***	***	***	***	***	***	***	***	***
		Min-2w	***	***	***	***	***	***	***	***	***	***	***	***	***
Japan	Rishiri	Mean	0.41	1.16	1.00	0.71	1.29	1.11	0.70	0.40	0.49	0.43	1.09	0.92	0.80
		%	100	100	100	100	100	100	100	100	100	100	100	100	100
		Max-2w	0.61	1.20	1.14	1.10	1.32	1.38	0.98	0.48	0.60	0.53	1.49	1.14	1.49
		Min-2w	0.19	1.12	0.85	0.32	1.26	0.85	0.40	0.33	0.38	0.33	0.69	0.70	0.19
	Ochiishi	Mean	0.44	0.96	0.78	0.95	0.37	1.08	0.97	0.66	0.20	0.57	0.46	0.68	0.67
		%	100	100	100	100	100	100	100	100	100	100	100	100	100
		Max-2w	0.58	1.29	0.89	1.33	0.74	1.43	1.21	0.68	0.37	0.70	0.63	0.89	1.43
		Min-2w	0.28	0.62	0.67	0.57	<0.01	0.87	0.72	0.63	0.03	0.43	0.35	0.46	<0.01
	Sado-seki	Mean	0.69	2.08	2.53	1.44	1.17	1.09	0.97	1.28	0.95	0.77	1.01	0.67	1.18
		%	100	100	100	100	100	100	100	100	100	100	100	100	100
		Max-2w	1.19	2.78	3.75	2.39	1.39	1.64	1.00	1.61	0.96	0.84	1.42	0.76	3.75
		Min-2w	0.31	1.39	1.32	0.48	0.96	0.67	0.94	0.96	0.94	0.69	0.60	0.60	0.31
	Happo	Mean	0.25	0.34	0.46	1.27	0.54	0.18	0.11	0.04	0.12	0.19	0.34	0.15	0.33
		%	100	100	100	100	100	100	100	100	100	100	100	100	96
		Max-2w	0.41	0.39	0.46	1.55	0.81	0.20	0.16	0.05	0.17	0.22	0.34	0.23	1.55
		Min-2w	0.08	0.29	0.46	0.99	0.27	0.16	0.06	0.03	0.07	0.16	0.34	0.06	0.03
	Ijira	Mean	0.26	0.26	1.46	0.83	0.42	0.25	0.44	0.08	0.33	0.28	0.48	0.36	0.41
		%	63	31	70	100	100	100	100	100	100	100	100	100	88
		Max-2w	0.33	0.26	1.46	0.90	0.54	0.44	0.79	0.08	0.45	0.31	0.58	0.52	1.46
		Min-2w	0.20	0.26	1.46	0.76	0.29	0.05	0.10	0.07	0.21	0.25	0.38	0.23	0.05
	Oki	Mean	2.24	2.01	2.67	2.52	1.43	1.18	0.98	1.28	0.82	0.75	1.40	1.61	1.59
		%	100	100	100	100	100	100	100	100	100	100	100	100	100
		Max-2w	2.62	2.30	4.22	2.91	1.96	1.42	1.05	1.34	0.91	0.90	1.70	2.10	4.22
		Min-2w	1.92	1.71	1.12	2.13	0.89	0.83	0.92	1.22	0.73	0.60	1.09	0.91	0.60
	Yusuhara	Mean	1.46	1.35	1.67	***	***	***	***	***	***	***	***	***	1.49
		%	100	100	97	***	***	***	***	***	***	***	***	***	25
		Max-2w	1.50	1.43	2.91	***	***	***	***	***	***	***	***	***	2.91
		Min-2w	1.39	1.28	0.42	***	***	***	***	***	***	***	***	***	0.42
	Hedo	Mean	***	***	***	***	***	***	***	***	***	***	***	***	***
		%	***	***	***	***	***	***	***	***	***	***	***	***	***
		Max-2w	***	***	***	***	***	***	***	***	***	***	***	***	***
		Min-2w	***	***	***	***	***	***	***	***	***	***	***	***	***
	Ogasawara	Mean	0.52	0.70	0.87	1.04	0.50	0.29	0.11	0.13	0.26	0.41	0.52	0.52	0.48
		%	100	100	100	100	100	100	100	100	100	100	100	100	100
		Max-2w	0.64	0.86	1.32	1.33	0.57	0.38	0.14	0.13	0.27	0.56	0.55	0.75	1.33
		Min-2w	0.41	0.53	0.43	0.76	0.42	0.15	0.09	0.12	0.25	0.27	0.49	0.31	0.09
	Tokyo	Mean	2.09	2.16	3.05	3.01	2.39	2.33	2.29	2.52	2.64	2.51	2.41	2.89	2.51
		%	100	100	100	100	100	100	100	100	100	100	100	100	100
		Max-2w	2.64	2.87	3.95	3.79	2.71	2.85	3.05	2.55	2.86	2.90	3.05	3.65	3.95
		Min-2w	1.60	1.46	2.15	2.23	2.07	1.95	1.53	2.49	2.42	2.12	1.78	2.20	1.46
	Tsushima	Mean	4.69	3.02	5.13	2.52	1.45	0.29	0.91	0.55	0.82	1.06	2.72	3.48	2.29
		%	100	100	100	100	100	100	100	100	100	100	100	100	100
		Max-2w	5.51	3.17	8.24	3.37	2.28	0.59	1.34	0.92	0.87	1.19	3.72	4.69	8.24
		Min-2w	3.79	2.87	2.03	1.67	0.63	0.04	0.48	0.17	0.76	0.92	1.72	2.43	0.04

Table 3.15.1 Particulate matter component: NO_3^- - Measured by FP (continued)

Unit : μg/m^3

Country	Site		2025												Annual
			Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	
Lao PDR	Vientiane	Mean	***	***	***	***	***	***	***	***	***	***	***	***	***
		%	***	***	***	***	***	***	***	***	***	***	***	***	***
		Max-m	***	***	***	***	***	***	***	***	***	***	***	***	***
		Min-m	***	***	***	***	***	***	***	***	***	***	***	***	***
Malaysia	Petaling Jaya	Mean	1.43	1.67	1.17	0.70	1.20	1.70	1.67	1.72	1.14	1.77	1.63	1.47	1.43
		%	100	100	100	100	100	100	100	100	100	60	75	100	94
		Max-w	2.45	2.77	2.30	1.02	1.64	1.85	2.48	2.47	1.43	2.36	2.34	1.58	2.77
		Min-w	0.98	0.89	0.04	0.31	0.84	1.43	1.09	1.06	0.83	1.42	1.17	1.24	0.04
	Tanah Rata	Mean	0.18	0.37	0.27	0.10	0.12	0.28	0.58	0.13	0.25	0.23	0.21	0.32	0.24
		%	100	100	100	100	100	100	100	100	100	100	100	75	98
		Max-w	0.33	0.72	0.65	0.13	0.32	0.46	1.01	0.26	0.35	0.48	0.45	0.38	1.01
		Min-w	0.09	0.20	0.06	0.06	0.03	0.13	0.29	0.03	0.14	0.07	<0.01	0.25	<0.01
	Danum Valley	Mean	0.10	0.11	0.08	0.05	0.01	0.01	0.05	0.03	0.02	0.01	0.04	0.11	0.06
		%	100	100	100	100	100	100	75	100	100	50	100	100	94
		Max-2w	0.13	0.18	0.12	0.07	0.02	0.02	0.05	0.07	0.04	0.01	0.05	0.18	0.18
		Min-2w	0.07	0.05	0.03	0.03	<0.01	<0.01	0.05	<0.01	<0.01	0.01	0.03	0.02	<0.01
Mongolia	Khan-Uul	Mean	3.37	0.30	0.27	1.08	0.96	1.49	1.75	0.92	0.89	1.09	1.45	2.10	1.34
		%	100	100	100	100	100	100	100	100	100	100	100	100	100
		Max-w	6.92	0.85	0.48	2.85	1.39	2.28	2.88	1.22	1.61	3.08	4.06	3.51	6.92
		Min-w	0.30	0.08	0.08	0.05	0.71	0.69	1.21	0.70	0.41	0.27	0.34	0.69	0.05
	Terelj	Mean	0.36	0.07	0.06	0.38	0.39	0.44	***	***	***	***	***	***	0.25
		%	100	100	100	100	100	50	***	***	***	***	***	***	46
		Max-2w	0.55	0.08	0.09	0.41	0.45	0.44	***	***	***	***	***	***	0.55
		Min-2w	0.17	0.06	0.04	0.34	0.32	0.44	***	***	***	***	***	***	0.04
	Terelj II TBD	Mean	***	***	***	***	***	0.48	0.83	0.34	0.27	0.43	0.37	0.19	0.40
		%	***	***	***	***	***	50	100	100	100	100	100	100	54
		Max-2w	***	***	***	***	***	0.48	0.99	0.39	0.31	0.56	0.40	0.24	0.99
		Min-2w	***	***	***	***	***	0.48	0.68	0.30	0.23	0.30	0.33	0.15	0.15
Myammar	Yangon	Mean	0.20	0.07	0.02	0.04	0.15	0.04	<0.01	0.22	0.88	0.53	0.50	0.08	0.25
		%	100	100	100	100	100	100	100	100	100	100	100	100	100
		Max-2w	0.28	0.08	0.02	0.10	0.15	0.08	<0.01	0.26	1.06	0.97	0.90	0.09	1.06
		Min-2w	0.13	0.07	0.01	<0.01	0.15	<0.01	<0.01	0.18	0.64	0.09	0.09	0.08	<0.01
Philippines	Manila Observatory	Mean	1.14	0.74	0.81	0.63	0.50	1.32	2.74	7.05	4.22	0.06	0.76	0.17	1.47
		%	100	100	100	100	81	48	100	64	47	100	100	100	86
		Max-irreg	1.62	1.05	1.16	0.87	0.69	1.74	6.32	10.34	6.02	0.17	2.09	0.31	10.34
		Min-irreg	0.66	0.43	0.55	0.42	0.24	0.91	0.79	2.33	2.41	<0.01	<0.01	0.05	<0.01
	Los Baños	Mean	<0.01	1.14	0.79	0.07	<0.01	4.83	3.65	9.10	3.05	0.31	<0.01	0.22	2.32
		%	100	100	100	68	100	100	100	100	100	100	100	100	98
		Max-irreg	<0.01	3.39	2.43	0.21	<0.01	14.04	6.13	34.85	5.90	0.75	<0.01	0.90	34.85
		Min-irreg	<0.01	<0.01	<0.01	<0.01	<0.01	0.25	0.13	0.88	1.77	<0.01	<0.01	<0.01	<0.01
	Mt. Sto. Tomas	Mean	***	***	***	***	***	***	***	***	***	***	***	***	***
		%	***	***	***	***	***	***	***	***	***	***	***	***	***
		Max-w	***	***	***	***	***	***	***	***	***	***	***	***	***
		Min-w	***	***	***	***	***	***	***	***	***	***	***	***	***
Russia	Listvyanka	Mean	0.14	0.17	0.18	0.12	0.02	<0.01	0.01	0.01	0.06	0.07	0.04	0.12	0.08
		%	100	100	100	100	100	100	100	100	100	100	100	100	100
		Max-w	0.26	0.33	0.28	0.17	0.06	0.02	0.02	0.01	0.12	0.15	0.07	0.14	0.33
		Min-w	0.07	0.07	0.12	0.08	<0.01	<0.01	<0.01	<0.01	0.02	0.04	0.01	0.07	<0.01
	Irkutsk	Mean	1.99	2.19	1.83	0.58	0.21	0.03	0.04	0.21	0.15	0.36	0.53	2.02	0.83
		%	100	100	100	100	100	100	100	100	100	100	100	100	100
		Max-w	2.76	4.85	2.53	1.65	0.45	0.05	0.07	0.53	0.28	0.87	0.73	2.96	4.85
		Min-w	0.47	0.39	0.76	0.16	<0.01	<0.01	0.02	0.07	0.04	0.10	0.14	1.12	<0.01
	Primorskaya	Mean	0.02	<0.01	0.04	<0.01	0.02	0.02	<0.01	0.03	<0.01	0.02	<0.01	0.03	0.02
		%	100	100	100	100	100	100	100	100	100	100	100	100	100
		Max-15d	0.04	0.02	0.08	<0.01	0.03	0.02	0.01	0.06	0.02	0.04	<0.01	0.03	0.08
		Min-15d	<0.01	<0.01	<0.01	<0.01	0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.03	<0.01

Table 3.15.1 Particulate matter component: NO_3^- - Measured by FP (continued)

Unit : μg/m^3

Country	Site		2025												Annual
			Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	
Thailand	Bangkok	Mean	***	***	***	***	***	***	***	***	***	***	***	***	***
		%	***	***	***	***	***	***	***	***	***	***	***	***	***
		Max-10d	***	***	***	***	***	***	***	***	***	***	***	***	***
		Min-10d	***	***	***	***	***	***	***	***	***	***	***	***	***
Vietnam	Hanoi	Mean	22.40	13.03	7.44	11.11	4.05	2.28	3.27	2.51	2.75	2.12	1.84	4.01	6.52
		%	100	100	100	100	100	100	100	100	100	100	100	100	100
		Max-w	31.33	16.38	16.12	14.86	6.58	2.44	4.21	3.31	3.63	2.70	2.12	6.90	31.33
		Min-w	5.81	10.13	3.10	6.20	2.34	1.96	2.27	1.99	1.94	1.45	1.35	2.33	1.35
	Hoa Binh	Mean	2.15	2.05	3.94	1.60	1.61	1.03	1.03	1.16	1.53	1.53	1.68	2.64	1.81
		%	100	100	100	100	100	100	100	100	100	100	100	100	100
		Max-w	2.89	2.60	8.38	2.09	1.93	1.25	1.38	1.24	1.80	1.84	2.05	3.78	8.38
		Min-w	1.50	1.46	0.99	1.42	1.37	0.79	0.85	1.00	1.28	1.32	1.33	1.40	0.79
	Can Tho	Mean	2.22	2.24	2.20	2.21	2.04	2.25	2.42	1.84	2.40	2.37	2.33	2.19	2.23
		%	100	100	100	100	100	100	100	100	100	100	100	100	100
		Max-w	2.80	2.60	2.74	2.46	2.20	2.52	2.80	2.16	2.48	2.66	2.52	2.50	2.80
		Min-w	1.88	1.77	1.96	1.88	1.71	2.00	2.08	1.69	2.30	2.14	1.88	2.00	1.69
	Ho Chi Minh	Mean	4.56	4.10	4.43	4.42	4.88	5.05	4.65	4.46	4.77	4.26	4.42	4.62	4.55
		%	100	100	100	100	100	100	100	100	100	100	100	100	100
		Max-w	5.06	4.56	5.22	4.62	5.73	6.41	5.63	4.92	5.73	5.20	5.10	5.04	6.41
		Min-w	4.25	3.75	3.97	4.11	4.05	3.73	3.47	3.61	4.03	3.65	3.75	4.29	3.47
	Yen Bai	Mean	6.08	5.98	8.88	6.39	2.97	3.28	4.52	2.27	2.62	2.56	5.49	5.24	4.64
		%	100	100	100	100	100	100	100	100	100	100	100	100	100
		Max-w	7.28	7.38	12.08	7.01	4.27	4.89	5.58	3.61	3.77	3.02	7.61	6.99	12.08
		Min-w	4.88	5.00	6.91	5.67	1.91	1.72	3.69	1.24	1.63	2.00	3.20	3.24	1.24

Table 3.15.2 Particulate matter component: NO_3^- - Measured by FP using $PM_{2.5}$ cyclone

Unit : μg/m^3

Country	Site		2025												Annual
			Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	
Republic of Korea	Ganghwa	Mean	6.62	5.57	9.25	2.15	0.60	0.23	0.07	0.04	0.19	0.26	1.39	4.27	2.68
		%	16	14	16	17	16	17	16	13	17	16	17	16	16
		Max-d	14.85	17.51	17.85	3.64	2.29	0.56	0.15	0.09	0.67	0.48	3.98	8.24	17.85
		Min-d	1.28	0.71	1.92	0.63	0.04	0.06	<0.01	0.02	0.03	0.10	0.35	0.71	<0.01
	Jeju	Mean	6.30	1.79	2.75	2.24	***	***	0.16	0.17	0.24	0.25	0.60	1.74	1.52
		%	6	11	19	10	***	***	13	16	17	16	17	16	10
		Max-d	12.18	2.25	5.39	4.20	***	***	0.24	0.30	0.42	0.40	1.59	4.88	12.18
		Min-d	0.41	1.00	1.06	0.93	***	***	0.10	0.10	0.08	0.10	0.15	0.27	0.08
	Imsil	Mean	2.09	0.47	2.29	1.40	0.60	0.05	***	0.11	0.04	1.05	2.69	3.23	0.87
		%	10	11	13	17	16	7	***	13	17	16	17	16	11
		Max-d	2.37	0.54	5.75	2.75	1.71	0.07	***	0.13	0.08	4.04	5.44	6.48	5.75
		Min-d	1.90	0.35	0.73	0.61	0.15	0.04	***	0.11	0.02	0.10	1.24	0.64	0.02

Terms and abbreviations are given in Table 3.2.

Table 3.16.1 Particulate matter component: Cl^- - Measured by FP

Unit : $\mu g/m^3$

Country	Site		2025												Annual
			Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	
Cambodia	Phnom Penh	Mean	***	***	***	***	***	***	***	***	***	***	***	***	***
		%	***	***	***	***	***	***	***	***	***	***	***	***	***
		Max-2w	***	***	***	***	***	***	***	***	***	***	***	***	***
		Min-2w	***	***	***	***	***	***	***	***	***	***	***	***	***
Japan	Rishiri	Mean	1.13	3.71	3.89	1.52	3.81	2.52	1.49	2.29	4.02	2.50	4.99	3.47	2.84
		%	100	100	100	100	100	100	100	100	100	100	100	100	100
		Max-2w	1.34	4.41	4.76	1.62	4.94	3.46	3.27	2.37	4.09	3.34	5.78	4.33	5.78
		Min-2w	0.93	3.02	3.01	1.41	2.68	1.58	0.12	2.20	3.94	1.65	4.20	2.65	0.12
	Ochiishi	Mean	4.49	12.78	5.08	3.02	0.96	1.61	2.59	2.52	8.86	6.15	19.15	12.17	6.81
		%	100	100	100	100	100	100	100	100	100	100	100	100	100
		Max-2w	5.51	21.82	5.63	4.74	1.82	2.97	3.16	2.81	14.58	6.45	26.02	15.77	26.02
		Min-2w	3.27	3.74	4.54	1.30	0.10	0.55	2.03	2.22	3.14	5.84	8.13	8.56	0.10
	Sado-seki	Mean	5.28	6.49	6.53	2.50	6.47	0.41	0.24	2.22	3.23	3.75	5.62	5.38	3.97
		%	100	100	100	100	100	100	100	100	100	100	100	100	100
		Max-2w	6.71	7.69	8.15	4.12	11.63	0.49	0.26	2.67	4.09	3.77	7.17	6.89	11.63
		Min-2w	3.56	5.29	4.91	0.87	1.32	0.30	0.22	1.76	2.38	3.72	4.07	3.78	0.22
	Happo	Mean	0.01	0.06	0.06	0.04	0.04	<0.01	<0.01	<0.01	0.02	0.02	0.04	0.02	0.02
		%	100	100	100	100	100	100	100	100	100	100	100	100	96
		Max-2w	0.01	0.06	0.06	0.06	0.07	<0.01	0.01	<0.01	0.02	0.03	0.04	0.02	0.07
		Min-2w	0.01	0.06	0.06	0.02	<0.01	<0.01	<0.01	<0.01	0.01	0.02	0.04	<0.01	<0.01
	Ijira	Mean	0.07	0.16	0.08	0.06	0.07	0.01	0.02	<0.01	0.04	0.07	0.13	0.12	0.07
		%	63	31	70	100	100	100	100	100	100	100	100	100	88
		Max-2w	0.08	0.16	0.08	0.06	0.11	0.02	0.04	<0.01	0.07	0.08	0.15	0.15	0.16
		Min-2w	0.07	0.16	0.08	0.05	0.03	<0.01	<0.01	<0.01	0.02	0.06	0.11	0.09	<0.01
	Oki	Mean	9.34	7.81	4.98	4.25	1.78	0.55	0.95	2.05	2.75	3.59	4.21	6.47	4.21
		%	100	100	100	100	100	100	100	100	100	100	100	100	100
		Max-2w	11.31	10.93	5.49	4.55	2.31	0.96	1.08	2.43	3.93	3.86	5.21	8.65	11.31
		Min-2w	7.53	4.68	4.46	3.95	1.24	0.27	0.83	1.68	1.58	3.32	3.20	4.91	0.27
	Yusuhara	Mean	0.26	0.18	0.12	***	***	***	***	***	***	***	***	***	0.20
		%	100	100	97	***	***	***	***	***	***	***	***	***	25
		Max-2w	0.35	0.21	0.16	***	***	***	***	***	***	***	***	***	0.35
		Min-2w	0.19	0.15	0.08	***	***	***	***	***	***	***	***	***	0.08
	Hedo	Mean	***	***	***	***	***	***	***	***	***	***	***	***	***
		%	***	***	***	***	***	***	***	***	***	***	***	***	***
		Max-2w	***	***	***	***	***	***	***	***	***	***	***	***	***
		Min-2w	***	***	***	***	***	***	***	***	***	***	***	***	***
	Ogasawara	Mean	3.56	4.13	3.26	2.60	2.19	1.59	5.34	1.52	3.18	5.28	4.49	4.94	3.49
		%	100	100	100	100	100	100	100	100	100	100	100	100	100
		Max-2w	3.89	5.00	4.68	2.62	2.55	1.75	5.53	2.43	4.44	5.56	5.60	5.55	5.60
		Min-2w	3.23	3.25	1.85	2.59	1.84	1.36	5.14	0.61	1.93	4.99	3.38	4.22	0.61
	Tokyo	Mean	0.33	0.38	0.67	0.46	0.30	0.10	0.79	0.10	0.68	1.47	0.50	0.55	0.50
		%	100	100	100	100	100	100	100	100	100	100	100	100	100
		Max-2w	0.34	0.42	1.06	0.59	0.36	0.14	1.19	0.16	1.14	1.91	0.53	0.76	1.91
		Min-2w	0.31	0.33	0.28	0.33	0.23	0.03	0.38	0.05	0.23	1.03	0.47	0.35	0.03
	Tsushima	Mean	0.7	0.9	0.9	0.57	0.23	0.02	0.23	0.07	0.39	1.77	0.66	0.71	0.58
		%	100	100	100	100	100	100	100	100	100	100	100	100	100
		Max-2w	0.8	0.9	0.9	0.80	0.35	0.03	0.31	0.08	0.48	2.49	0.85	0.94	2.49
		Min-2w	0.7	0.9	0.9	0.34	0.12	<0.01	0.16	0.06	0.30	1.05	0.47	0.57	<0.01

Table 3.16.1 Particulate matter component: Cl^- - Measured by FP (continued)

Unit : $\mu g/m^3$

Country	Site		2025												Annual
			Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	
Lao PDR	Vientiane	Mean	***	***	***	***	***	***	***	***	***	***	***	***	***
		%	***	***	***	***	***	***	***	***	***	***	***	***	***
		Max-m	***	***	***	***	***	***	***	***	***	***	***	***	***
		Min-m	***	***	***	***	***	***	***	***	***	***	***	***	***
Malaysia	Petaling Jaya	Mean	0.11	0.10	0.02	0.03	0.09	0.10	0.14	0.09	0.06	0.14	0.12	0.11	0.09
		%	100	100	100	100	100	100	100	100	100	60	75	100	94
		Max-w	0.17	0.33	0.05	0.04	0.17	0.18	0.35	0.11	0.12	0.22	0.25	0.14	0.35
		Min-w	0.06	<0.01	<0.01	<0.01	0.05	0.07	0.03	0.06	0.03	0.09	0.03	0.07	<0.01
	Tanah Rata	Mean	0.06	0.08	0.05	0.02	0.01	0.02	0.07	<0.01	0.02	0.03	0.02	0.10	0.04
		%	100	100	100	100	100	100	100	100	100	100	100	75	98
		Max-w	0.14	0.14	0.16	0.05	0.03	0.03	0.13	0.01	0.03	0.06	0.05	0.13	0.16
		Min-w	<0.01	0.02	<0.01	<0.01	<0.01	0.01	0.03	<0.01	0.01	<0.01	<0.01	0.09	<0.01
	Danum Valley	Mean	0.16	0.16	0.05	0.01	<0.01	<0.01	<0.01	<0.01	0.02	<0.01	0.02	0.07	0.04
		%	100	100	100	100	100	100	75	100	100	50	100	100	94
		Max-2w	0.26	0.30	0.10	0.02	<0.01	<0.01	0.02	<0.01	0.03	<0.01	0.04	0.15	0.30
		Min-2w	0.06	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Mongolia	Khan-Uul	Mean	2.92	0.67	0.43	1.29	1.55	1.88	1.72	1.40	1.30	1.40	2.07	1.97	1.58
		%	100	100	100	100	100	100	100	100	100	100	100	100	100
		Max-w	9.07	1.04	0.75	2.16	1.83	2.56	1.85	1.66	1.45	2.62	5.11	2.90	9.07
		Min-w	0.08	0.26	0.16	0.20	1.31	1.45	1.60	1.23	1.21	0.93	0.93	1.03	0.08
	Terelj	Mean	0.08	0.07	0.07	0.58	0.59	0.58	***	***	***	***	***	***	0.29
		%	100	100	100	100	100	50	***	***	***	***	***	***	46
		Max-2w	0.08	0.07	0.08	0.59	0.61	0.58	***	***	***	***	***	***	0.61
		Min-2w	0.07	0.07	0.06	0.58	0.56	0.58	***	***	***	***	***	***	0.06
	Terelj II TBD	Mean	***	***	***	***	***	0.67	0.74	0.60	0.55	0.58	0.44	0.37	0.55
		%	***	***	***	***	***	50	100	100	100	100	100	100	54
		Max-2w	***	***	***	***	***	0.67	0.77	0.63	0.58	0.58	0.46	0.44	0.77
		Min-2w	***	***	***	***	***	0.67	0.71	0.57	0.53	0.58	0.42	0.30	0.30
Myammar	Yangon	Mean	0.61	0.13	0.23	0.09	0.08	0.02	<0.01	0.29	0.92	0.07	0.03	0.09	0.24
		%	100	100	100	100	100	100	100	100	100	100	100	100	100
		Max-2w	0.62	0.24	0.24	0.15	0.10	0.04	<0.01	0.38	1.39	0.08	0.05	0.10	1.39
		Min-2w	0.59	0.02	0.21	0.04	0.07	<0.01	<0.01	0.20	0.08	0.06	0.01	0.08	<0.01
Philippines	Manila Observatory	Mean	0.31	0.90	0.48	0.12	0.22	<0.01	0.49	0.02	0.14	0.03	0.19	0.44	0.30
		%	100	100	100	100	81	48	100	64	47	100	100	100	86
		Max-irreg	0.42	2.63	0.88	0.17	0.39	<0.01	0.81	0.05	0.24	0.06	0.33	1.13	2.63
		Min-irreg	0.20	0.21	0.16	0.08	0.04	<0.01	<0.01	<0.01	0.03	<0.01	0.05	<0.01	<0.01
	Los Baños	Mean	0.12	0.17	0.34	0.03	0.09	0.08	0.12	0.24	0.04	0.05	0.07	0.09	0.13
		%	100	100	100	68	100	100	100	100	100	100	100	100	98
		Max-irreg	0.12	0.26	0.55	0.04	0.14	0.39	0.18	1.19	0.15	0.12	0.15	0.28	1.19
		Min-irreg	0.12	0.06	0.15	0.02	0.05	<0.01	0.04	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
	Mt. Sto. Tomas	Mean	***	***	***	***	***	***	***	***	***	***	***	***	***
		%	***	***	***	***	***	***	***	***	***	***	***	***	***
		Max-w	***	***	***	***	***	***	***	***	***	***	***	***	***
		Min-w	***	***	***	***	***	***	***	***	***	***	***	***	***
Russia	Listvyanka	Mean	0.02	0.01	0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.01	0.02	0.02	0.03	0.01
		%	100	100	100	100	100	100	100	100	100	100	100	100	100
		Max-w	0.04	0.02	0.02	<0.01	0.01	<0.01	<0.01	<0.01	0.03	0.03	0.04	0.08	0.08
		Min-w	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
	Irkutsk	Mean	0.31	0.47	1.01	0.16	0.05	0.02	0.02	0.10	0.04	0.10	0.26	0.26	0.24
		%	100	100	100	100	100	100	100	100	100	100	100	100	100
		Max-w	0.60	0.62	2.08	0.49	0.11	0.02	0.02	0.36	0.05	0.21	0.40	0.48	2.08
		Min-w	0.06	0.27	0.18	0.03	<0.01	<0.01	0.01	0.03	0.03	0.04	0.04	0.17	<0.01
	Primorskaya	Mean	<0.01	<0.01	<0.01	<0.01	0.02	<0.01	<0.01	0.02	<0.01	<0.01	0.03	0.03	<0.01
		%	100	100	100	100	100	100	100	100	100	100	100	100	100
		Max-15d	<0.01	<0.01	<0.01	<0.01	0.02	<0.01	<0.01	0.02	0.01	<0.01	0.03	0.03	0.03
		Min-15d	<0.01	<0.01	<0.01	<0.01	0.01	<0.01	<0.01	0.01	<0.01	<0.01	0.02	0.02	<0.01

Table 3.16.1 Particulate matter component: Cl^- - Measured by FP (continued)

Unit : μg/m^3

Country	Site		2025												Annual
			Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	
Thailand	Bangkok	Mean	***	***	***	***	***	***	***	***	***	***	***	***	***
		%	***	***	***	***	***	***	***	***	***	***	***	***	***
		Max-10d	***	***	***	***	***	***	***	***	***	***	***	***	***
		Min-10d	***	***	***	***	***	***	***	***	***	***	***	***	***
Vietnam	Hanoi	Mean	7.72	5.16	2.94	2.88	1.25	1.04	0.97	1.55	0.86	0.77	1.09	1.59	2.35
		%	100	100	100	100	100	100	100	100	100	100	100	100	100
		Max-w	13.93	7.86	5.29	3.48	1.83	1.42	1.58	2.07	1.03	1.31	1.27	2.19	13.93
		Min-w	1.06	2.95	1.00	2.27	0.86	0.84	0.76	1.32	0.73	0.46	1.00	0.94	0.46
	Hoa Binh	Mean	1.01	1.38	1.00	0.88	1.14	0.74	0.73	0.81	0.70	1.12	0.92	1.56	1.00
		%	100	100	100	100	100	100	100	100	100	100	100	100	100
		Max-w	1.71	1.84	1.49	0.97	1.30	0.86	1.19	0.99	0.80	1.37	1.12	2.21	2.21
		Min-w	0.63	0.82	0.73	0.70	1.03	0.58	0.54	0.64	0.58	0.87	0.37	0.96	0.37
	Can Tho	Mean	2.11	2.14	2.23	2.16	2.52	2.10	2.43	2.32	1.99	2.37	2.52	2.31	2.27
		%	100	100	100	100	100	100	100	100	100	100	100	100	100
		Max-w	2.42	2.34	2.48	2.30	2.84	2.36	2.72	2.48	2.24	2.68	3.08	2.46	3.08
		Min-w	1.85	1.94	2.12	2.08	2.18	1.69	2.18	2.12	1.77	2.08	1.85	2.08	1.69
	Ho Chi Minh	Mean	3.18	2.95	3.13	3.31	3.15	2.83	3.20	3.01	3.13	3.15	3.30	3.15	3.13
		%	100	100	100	100	100	100	100	100	100	100	100	100	100
		Max-w	3.61	3.51	3.61	3.61	3.35	3.29	3.75	3.51	3.57	3.61	3.49	3.51	3.75
		Min-w	2.54	2.38	2.70	2.56	2.80	2.36	2.28	2.36	2.64	2.46	3.13	2.72	2.28
	Yen Bai	Mean	1.57	0.94	1.29	1.08	0.69	1.19	1.23	1.12	0.59	0.39	0.88	1.22	1.01
		%	100	100	100	100	100	100	100	100	100	100	100	100	100
		Max-w	2.61	1.07	1.35	1.37	0.81	1.86	1.30	1.76	0.69	0.43	1.03	1.64	2.61
		Min-w	1.11	0.80	1.20	0.97	0.52	0.80	1.15	0.77	0.51	0.32	0.77	0.87	0.32

Table 3.16.2 Particulate matter component: Cl^- - Measured by FP using $PM_{2.5}$ cyclone

Unit : μg/m^3

Country	Site		2025												Annual
			Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	
Republic of Korea	Ganghwa	Mean	0.35	0.24	0.27	0.08	0.01	0.04	0.01	***	<0.01	0.01	0.05	0.18	0.15
		%	16	14	16	17	10	13	6	***	13	10	17	16	11
		Max-d	0.68	0.56	0.73	0.24	0.02	0.17	0.02	***	<0.01	0.02	0.08	0.53	0.73
		Min-d	0.19	0.06	0.02	<0.01	<0.01	<0.01	<0.01	***	<0.01	<0.01	0.02	0.04	<0.01
	Jeju	Mean	0.11	0.10	0.08	0.12	***	***	0.03	0.05	0.02	0.05	0.07	0.19	0.07
		%	6	11	19	10	***	***	3	10	13	13	17	16	8
		Max-d	0.17	0.19	0.19	0.19	***	***	0.03	0.08	0.05	0.13	0.12	0.37	0.19
		Min-d	0.04	0.03	0.03	0.04	***	***	0.03	<0.01	<0.01	0.01	0.01	0.04	<0.01
	Imsil	Mean	0.13	0.10	0.03	<0.01	0.01	***	***	***	***	<0.01	0.06	0.19	0.05
		%	10	11	13	7	13	***	***	***	***	13	17	16	6
		Max-d	0.31	0.18	0.10	<0.01	0.05	***	***	***	***	0.02	0.13	0.51	0.31
		Min-d	0.02	0.03	<0.01	<0.01	<0.01	***	***	***	***	<0.01	0.01	0.04	<0.01

Terms and abbreviations are given in Table 3.2.

Table 3.17.1 Particulate matter component: NH_4^+ - Measured by FP

Unit : μg/m^3

Country	Site		2025												Annual
			Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	
Cambodia	Phnom Penh	Mean	***	***	***	***	***	***	***	***	***	***	***	***	***
		%	***	***	***	***	***	***	***	***	***	***	***	***	***
		Max-2w	***	***	***	***	***	***	***	***	***	***	***	***	***
		Min-2w	***	***	***	***	***	***	***	***	***	***	***	***	***
Japan	Rishiri	Mean	0.31	0.47	0.52	0.29	0.39	0.52	0.45	0.13	0.15	0.22	0.44	0.48	0.37
		%	100	100	100	100	100	100	100	100	100	100	100	100	100
		Max-2w	0.37	0.50	0.63	0.46	0.41	0.52	0.48	0.14	0.19	0.23	0.62	0.53	0.63
		Min-2w	0.20	0.44	0.41	0.12	0.37	0.51	0.43	0.11	0.11	0.21	0.26	0.39	0.11
	Ochiishi	Mean	0.32	0.47	0.38	0.36	0.13	0.34	0.31	0.12	0.03	0.16	0.19	0.30	0.26
		%	100	100	100	100	100	100	100	100	100	100	100	100	100
		Max-2w	0.41	0.61	0.40	0.56	0.24	0.44	0.47	0.15	0.05	0.22	0.29	0.37	0.61
		Min-2w	0.27	0.32	0.35	0.16	0.02	0.26	0.14	0.09	0.02	0.10	0.13	0.24	0.02
	Sado-seki	Mean	0.31	0.67	0.62	0.23	0.27	0.57	0.41	0.37	0.15	0.18	0.21	0.23	0.35
		%	100	100	100	100	100	100	100	100	100	100	100	100	100
		Max-2w	0.46	0.85	0.65	0.29	0.37	0.93	0.44	0.51	0.18	0.18	0.30	0.27	0.93
		Min-2w	0.17	0.49	0.59	0.17	0.16	0.34	0.38	0.24	0.11	0.18	0.13	0.20	0.11
	Happo	Mean	0.26	0.19	0.23	0.34	0.32	0.86	0.43	0.63	0.29	0.10	0.12	0.08	0.34
		%	100	100	100	100	100	100	100	100	100	100	100	100	96
		Max-2w	0.41	0.22	0.23	0.44	0.38	1.12	0.50	1.10	0.33	0.13	0.12	0.11	1.12
		Min-2w	0.10	0.16	0.23	0.25	0.26	0.60	0.37	0.17	0.25	0.08	0.12	0.06	0.06
	Ijira	Mean	0.30	0.24	0.60	0.53	0.49	0.94	0.80	1.08	0.34	0.15	0.28	0.31	0.52
		%	63	31	70	100	100	100	100	100	100	100	100	100	88
		Max-2w	0.34	0.24	0.60	0.57	0.67	1.61	1.08	1.43	0.35	0.15	0.30	0.41	1.61
		Min-2w	0.27	0.24	0.60	0.49	0.30	0.59	0.52	0.74	0.33	0.15	0.26	0.26	0.15
	Oki	Mean	0.71	0.61	0.66	0.56	0.38	0.71	0.46	0.51	0.18	0.19	0.35	0.39	0.49
		%	100	100	100	100	100	100	100	100	100	100	100	100	100
		Max-2w	0.96	0.75	0.83	0.72	0.49	1.07	0.49	0.60	0.19	0.22	0.39	0.57	1.07
		Min-2w	0.53	0.47	0.48	0.39	0.28	0.45	0.42	0.42	0.18	0.17	0.30	0.27	0.17
	Yusuhara	Mean	0.76	0.78	0.57	***	***	***	***	***	***	***	***	***	0.71
		%	100	100	97	***	***	***	***	***	***	***	***	***	25
		Max-2w	0.88	0.91	0.74	***	***	***	***	***	***	***	***	***	0.91
		Min-2w	0.61	0.65	0.40	***	***	***	***	***	***	***	***	***	0.40
	Hedo	Mean	***	***	***	***	***	***	***	***	***	***	***	***	***
		%	***	***	***	***	***	***	***	***	***	***	***	***	***
		Max-2w	***	***	***	***	***	***	***	***	***	***	***	***	***
		Min-2w	***	***	***	***	***	***	***	***	***	***	***	***	***
	Ogasawara	Mean	0.20	0.19	0.21	0.18	0.09	0.10	0.06	0.08	0.08	0.06	0.12	0.11	0.12
		%	100	100	100	100	100	100	100	100	100	100	100	100	100
		Max-2w	0.22	0.21	0.31	0.19	0.11	0.17	0.09	0.11	0.08	0.06	0.15	0.15	0.31
		Min-2w	0.18	0.17	0.11	0.18	0.06	0.07	0.04	0.05	0.08	0.05	0.09	0.06	0.04
	Tokyo	Mean	0.84	0.73	0.80	0.71	0.64	0.92	0.73	1.32	0.63	0.49	0.66	0.87	0.79
		%	100	100	100	100	100	100	100	100	100	100	100	100	100
		Max-2w	1.05	0.96	0.82	0.77	0.84	1.33	1.00	1.72	0.64	0.53	0.86	1.04	1.72
		Min-2w	0.73	0.50	0.78	0.64	0.44	0.67	0.47	0.92	0.62	0.46	0.47	0.79	0.44
	Tsushima	Mean	1.6	1.1	1.45	0.62	0.61	0.62	0.38	0.51	0.45	0.30	0.87	1.17	0.85
		%	100	100	100	100	100	100	100	100	100	100	100	100	100
		Max-2w	2.1	1.2	2.15	0.90	0.64	0.85	0.45	0.78	0.49	0.39	1.16	1.31	2.15
		Min-2w	1.2	1.0	0.76	0.33	0.59	0.35	0.31	0.24	0.42	0.22	0.58	0.90	0.22

Table 3.17.1 Particulate matter component: NH_4^+ - Measured by FP (continued)

Unit : μg/m^3

Country	Site		2025												Annual
			Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	
Lao PDR	Vientiane	Mean	***	***	***	***	***	***	***	***	***	***	***	***	***
		%	***	***	***	***	***	***	***	***	***	***	***	***	***
		Max-m	***	***	***	***	***	***	***	***	***	***	***	***	***
		Min-m	***	***	***	***	***	***	***	***	***	***	***	***	***
Malaysia	Petaling Jaya	Mean	0.74	0.78	0.85	0.67	0.98	1.09	1.30	1.26	0.70	0.76	0.93	0.80	0.91
		%	100	100	100	100	100	100	100	100	100	60	75	100	94
		Max-w	0.89	1.28	1.61	0.79	1.31	1.57	2.10	1.73	0.91	0.95	1.16	1.12	2.10
		Min-w	0.61	0.52	0.14	0.50	0.62	0.68	0.74	1.01	0.48	0.41	0.80	0.63	0.14
	Tanah Rata	Mean	0.28	0.46	0.55	0.31	0.57	0.67	0.70	0.90	0.36	0.30	0.35	0.32	0.49
		%	100	100	100	100	100	100	100	100	100	100	100	75	98
		Max-w	0.48	0.90	1.17	0.42	0.64	1.12	1.19	1.60	0.63	0.46	0.54	0.37	1.60
		Min-w	0.19	0.21	0.18	0.23	0.38	0.46	0.38	0.52	0.19	0.19	0.22	0.23	0.18
	Danum Valley	Mean	0.06	0.13	0.11	0.11	0.09	0.19	0.24	0.31	0.17	0.13	0.13	0.08	0.15
		%	100	100	100	100	100	100	75	100	100	50	100	100	94
		Max-2w	0.07	0.17	0.12	0.19	0.10	0.20	0.27	0.54	0.22	0.13	0.19	0.10	0.54
		Min-2w	0.06	0.09	0.09	0.04	0.08	0.19	0.22	0.13	0.12	0.13	0.08	0.05	0.04
Mongolia	Khan-Uul	Mean	3.45	0.26	0.44	0.71	0.96	0.94	1.08	0.87	0.84	1.04	1.42	2.03	1.21
		%	100	100	100	100	100	100	100	100	100	100	100	100	100
		Max-w	8.59	0.54	1.02	1.23	1.53	1.13	1.34	1.20	1.35	1.97	3.08	3.17	8.59
		Min-w	0.47	0.08	0.12	0.07	0.65	0.69	1.00	0.72	0.52	0.58	0.65	0.87	0.07
	Terelj	Mean	0.11	0.10	0.05	0.39	0.36	0.41	***	***	***	***	***	***	0.21
		%	100	100	100	100	100	50	***	***	***	***	***	***	46
		Max-2w	0.18	0.17	0.08	0.40	0.39	0.41	***	***	***	***	***	***	0.41
		Min-2w	0.04	0.04	0.03	0.38	0.32	0.41	***	***	***	***	***	***	0.03
	Terelj II TBD	Mean	***	***	***	***	***	0.47	0.51	0.56	0.35	0.50	0.43	0.15	0.42
		%	***	***	***	***	***	50	100	100	100	100	100	100	54
		Max-2w	***	***	***	***	***	0.47	0.56	0.65	0.37	0.63	0.51	0.28	0.65
		Min-2w	***	***	***	***	***	0.47	0.47	0.48	0.34	0.37	0.36	0.02	0.02
Myammar	Yangon	Mean	0.09	0.09	0.03	0.08	0.64	0.40	0.06	0.14	0.10	0.07	0.18	0.08	0.16
		%	100	100	100	100	100	100	100	100	100	100	100	100	100
		Max-2w	0.10	0.12	0.05	0.13	1.17	0.78	0.09	0.23	0.16	0.14	0.28	0.08	1.17
		Min-2w	0.09	0.06	0.02	0.04	0.11	0.03	0.04	0.06	<0.01	<0.01	0.07	0.07	<0.01
Philippines	Manila Observatory	Mean	0.02	0.02	0.02	0.16	0.04	<0.01	0.69	1.89	0.71	0.13	0.07	<0.01	0.27
		%	100	100	100	100	81	48	100	64	47	100	100	100	86
		Max-irreg	0.04	0.03	0.07	0.30	0.09	<0.01	1.87	2.78	1.36	0.38	0.13	0.02	2.78
		Min-irreg	<0.01	<0.01	<0.01	0.05	<0.01	<0.01	0.03	0.37	0.06	<0.01	<0.01	<0.01	<0.01
	Los Baños	Mean	<0.01	0.44	0.39	0.16	<0.01	1.14	1.24	2.04	0.64	0.03	0.01	0.03	0.59
		%	100	100	100	68	100	100	100	100	100	100	100	100	98
		Max-irreg	<0.01	1.31	1.30	0.48	<0.01	4.41	2.03	7.98	1.77	0.09	0.05	0.12	7.98
		Min-irreg	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.06	<0.01	0.09	<0.01	<0.01	<0.01	<0.01
	Mt. Sto. Tomas	Mean	***	***	***	***	***	***	***	***	***	***	***	***	***
		%	***	***	***	***	***	***	***	***	***	***	***	***	***
		Max-w	***	***	***	***	***	***	***	***	***	***	***	***	***
		Min-w	***	***	***	***	***	***	***	***	***	***	***	***	***
Russia	Listvyanka	Mean	0.06	0.10	0.24	0.11	0.02	0.02	0.16	0.07	0.04	0.03	<0.01	0.10	0.08
		%	100	100	100	100	100	100	100	100	100	100	100	100	100
		Max-w	0.12	0.21	0.37	0.20	0.05	0.05	0.27	0.26	0.06	0.09	0.02	0.21	0.37
		Min-w	0.02	<0.01	0.04	0.05	<0.01	<0.01	0.02	<0.01	0.02	<0.01	<0.01	0.01	<0.01
	Irkutsk	Mean	2.13	0.97	1.18	0.38	0.29	0.26	0.40	1.01	0.07	0.15	0.16	1.36	0.69
		%	100	100	100	100	100	100	100	100	100	100	100	100	100
		Max-w	3.64	1.23	1.62	1.03	0.61	0.32	0.60	1.98	0.15	0.60	0.24	1.90	3.64
		Min-w	0.34	0.43	0.71	0.08	<0.01	0.12	0.16	0.49	0.02	<0.01	<0.01	0.64	<0.01
	Primorskaya	Mean	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.01	<0.01	<0.01
		%	100	100	100	100	100	100	100	100	100	100	100	100	100
		Max-15d	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.01	<0.01	0.01
		Min-15d	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01

Table 3.17.1 Particulate matter component: NH_4^+ - Measured by FP (continued)

Unit : μg/m^3

Country	Site		2025												Annual
			Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	
Thailand	Bangkok	Mean	***	***	***	***	***	***	***	***	***	***	***	***	***
		%	***	***	***	***	***	***	***	***	***	***	***	***	***
		Max-10d	***	***	***	***	***	***	***	***	***	***	***	***	***
		Min-10d	***	***	***	***	***	***	***	***	***	***	***	***	***
Vietnam	Hanoi	Mean	5.46	4.32	1.81	1.36	0.63	0.30	0.33	0.21	0.54	0.56	0.49	0.62	1.41
		%	100	100	100	100	100	100	100	100	100	100	100	100	100
		Max-w	11.02	6.92	4.28	1.71	1.02	0.37	0.48	0.31	0.76	0.71	0.81	1.12	11.02
		Min-w	1.11	2.26	0.43	1.07	0.44	0.24	0.13	0.09	0.18	0.29	0.35	0.34	0.09
	Hoa Binh	Mean	0.46	0.57	1.32	0.13	0.31	0.11	0.11	0.22	0.09	0.28	0.21	0.55	0.36
		%	100	100	100	100	100	100	100	100	100	100	100	100	100
		Max-w	0.85	0.96	3.22	0.21	0.46	0.12	0.16	0.29	0.12	0.55	0.47	0.99	3.22
		Min-w	0.08	0.07	0.09	0.08	0.23	0.10	0.07	0.09	0.07	0.07	0.06	0.17	0.06
	Can Tho	Mean	0.98	1.03	1.44	1.08	1.05	0.73	0.86	1.01	0.96	1.02	0.74	0.84	0.98
		%	100	100	100	100	100	100	100	100	100	100	100	100	100
		Max-w	1.31	1.35	1.63	1.21	1.27	0.89	1.33	1.73	1.53	1.33	1.05	1.21	1.73
		Min-w	0.73	0.69	1.21	0.81	0.83	0.54	0.69	0.65	0.46	0.79	0.54	0.44	0.44
	Ho Chi Minh	Mean	1.15	1.22	1.57	1.41	1.21	1.33	1.25	1.27	1.34	1.28	1.21	1.09	1.27
		%	100	100	100	100	100	100	100	100	100	100	100	100	100
		Max-w	1.37	1.29	2.16	1.77	1.55	1.59	1.47	1.41	1.61	1.47	1.55	1.33	2.16
		Min-w	0.97	1.05	1.07	1.11	0.97	1.13	1.01	1.03	1.05	1.09	0.73	0.83	0.73
	Yen Bai	Mean	1.74	1.46	2.51	2.16	0.91	0.48	0.69	0.44	0.46	0.38	0.65	1.48	1.10
		%	100	100	100	100	100	100	100	100	100	100	100	100	100
		Max-w	2.18	1.98	3.01	2.67	1.81	0.74	1.03	0.56	0.61	0.53	0.94	1.77	3.01
		Min-w	1.12	0.84	1.88	1.69	0.38	0.30	0.54	0.33	0.20	0.27	0.16	1.09	0.16

Table 3.17.2 Particulate matter component: NH_4^+ - Measured by FP using $PM_{2.5}$ cyclone

Unit : μg/m^3

Country	Site		2025												Annual
			Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	
Republic of Korea	Ganghwa	Mean	3.05	2.51	3.96	1.74	1.07	0.84	0.81	0.87	0.82	0.54	1.02	2.27	1.72
		%	16	14	16	17	16	17	16	16	17	16	17	16	16
		Max-d	6.61	6.98	6.88	2.54	2.29	1.44	1.85	1.17	1.93	1.39	1.87	3.71	6.98
		Min-d	0.57	0.83	1.09	0.91	0.42	0.19	0.27	0.42	0.22	0.14	0.49	0.70	0.19
	Jeju	Mean	2.41	1.22	1.99	1.49	***	***	1.38	0.75	0.58	0.67	1.04	1.30	1.31
		%	6	11	19	10	***	***	13	16	17	16	17	16	10
		Max-d	4.33	1.35	2.70	2.29	***	***	2.35	0.92	1.02	1.05	1.80	2.74	4.33
		Min-d	0.50	1.01	1.21	0.52	***	***	0.79	0.42	0.34	0.41	0.40	0.67	0.34
	Imsil	Mean	0.73	0.27	1.15	1.36	1.28	0.99	***	0.88	0.75	0.75	1.87	1.83	0.95
		%	10	11	13	17	16	7	***	13	17	16	17	16	11
		Max-d	0.82	0.32	2.57	1.77	1.99	1.24	***	1.69	1.35	1.80	2.74	3.24	2.57
		Min-d	0.60	0.21	0.51	0.74	0.64	0.74	***	0.42	0.30	0.24	1.42	0.76	0.21

Terms and abbreviations are given in Table 3.2.

Table 3.18.1 Particulate matter component: Na^+ - Measured by FP

Unit : μg/m^3

Country	Site		2025												Annual
			Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	
Cambodia	Phnom Penh	Mean	***	***	***	***	***	***	***	***	***	***	***	***	***
		%	***	***	***	***	***	***	***	***	***	***	***	***	***
		Max-2w	***	***	***	***	***	***	***	***	***	***	***	***	***
		Min-2w	***	***	***	***	***	***	***	***	***	***	***	***	***
Japan	Rishiri	Mean	0.77	2.20	2.12	1.25	2.52	1.92	1.51	1.54	2.51	1.67	3.24	2.21	1.90
		%	100	100	100	100	100	100	100	100	100	100	100	100	100
		Max-2w	0.93	2.66	2.53	1.39	3.11	2.49	2.43	1.56	2.53	2.26	3.88	2.71	3.88
		Min-2w	0.66	1.75	1.71	1.10	1.94	1.35	0.71	1.52	2.49	1.08	2.59	1.72	0.66
	Ochiishi	Mean	2.62	7.10	3.04	2.91	0.63	1.46	1.98	1.89	5.00	3.67	10.77	6.92	4.10
		%	100	100	100	100	100	100	100	100	100	100	100	100	100
		Max-2w	3.16	11.94	3.32	2.96	1.22	2.13	2.07	1.98	8.28	3.96	14.57	8.87	14.57
		Min-2w	1.87	2.26	2.75	2.85	0.05	0.96	1.88	1.79	1.71	3.38	4.61	4.98	0.05
	Sado-seki	Mean	3.21	3.93	4.20	1.86	4.21	0.98	0.69	2.28	2.30	2.42	3.51	3.22	2.70
		%	100	100	100	100	100	100	100	100	100	100	100	100	100
		Max-2w	4.15	4.56	5.29	3.12	6.80	1.23	0.72	2.48	2.76	2.48	4.45	4.13	6.80
		Min-2w	2.14	3.30	3.10	0.60	1.62	0.80	0.67	2.07	1.83	2.36	2.57	2.26	0.60
	Happo	Mean	0.05	0.11	0.10	0.14	0.14	0.05	0.12	0.08	0.10	0.10	0.21	0.08	0.10
		%	100	100	100	100	100	100	100	100	100	100	100	100	96
		Max-2w	0.07	0.11	0.10	0.20	0.21	0.07	0.14	0.12	0.13	0.13	0.21	0.11	0.21
		Min-2w	0.04	0.11	0.10	0.07	0.07	0.03	0.11	0.04	0.07	0.07	0.21	0.04	0.03
	Ijira	Mean	0.13	0.18	0.45	0.32	0.27	0.16	0.40	0.24	0.24	0.15	0.31	0.19	0.24
		%	63	31	70	100	100	100	100	100	100	100	100	100	88
		Max-2w	0.16	0.18	0.45	0.38	0.34	0.19	0.41	0.24	0.33	0.19	0.35	0.22	0.45
		Min-2w	0.10	0.18	0.45	0.25	0.21	0.14	0.40	0.24	0.16	0.11	0.27	0.15	0.10
	Oki	Mean	5.50	4.58	3.45	3.09	1.57	0.96	1.36	2.00	1.95	2.32	2.79	4.01	2.88
		%	100	100	100	100	100	100	100	100	100	100	100	100	100
		Max-2w	6.52	6.20	4.07	3.25	1.92	1.19	1.53	2.10	2.66	2.56	3.39	5.27	6.52
		Min-2w	4.48	2.97	2.84	2.94	1.21	0.84	1.20	1.89	1.24	2.08	2.19	3.04	0.84
	Yusuhara	Mean	0.34	0.33	0.33	***	***	***	***	***	***	***	***	***	0.33
		%	100	100	97	***	***	***	***	***	***	***	***	***	25
		Max-2w	0.44	0.34	0.48	***	***	***	***	***	***	***	***	***	0.48
		Min-2w	0.27	0.33	0.18	***	***	***	***	***	***	***	***	***	0.18
	Hedo	Mean	***	***	***	***	***	***	***	***	***	***	***	***	***
		%	***	***	***	***	***	***	***	***	***	***	***	***	***
		Max-2w	***	***	***	***	***	***	***	***	***	***	***	***	***
		Min-2w	***	***	***	***	***	***	***	***	***	***	***	***	***
	Ogasawara	Mean	2.36	2.80	2.35	1.83	1.55	1.24	2.99	1.06	1.92	3.09	2.88	2.98	2.24
		%	100	100	100	100	100	100	100	100	100	100	100	100	100
		Max-2w	2.63	3.14	2.85	1.84	1.67	1.40	3.13	1.59	2.57	3.15	3.48	3.34	3.48
		Min-2w	2.08	2.47	1.84	1.82	1.44	1.13	2.86	0.52	1.26	3.04	2.27	2.64	0.52
	Tokyo	Mean	0.22	0.38	0.89	0.92	0.91	0.76	1.49	1.17	1.31	1.35	0.58	0.43	0.82
		%	100	100	100	100	100	100	100	100	100	100	100	100	100
		Max-2w	0.25	0.38	1.38	1.30	0.92	0.77	1.78	1.30	1.62	1.70	0.65	0.67	1.78
		Min-2w	0.21	0.38	0.40	0.54	0.90	0.75	1.19	1.03	1.00	0.99	0.52	0.28	0.21
	Tsushima	Mean	0.7	0.7	1.1	0.98	0.61	0.31	0.90	0.80	0.68	1.52	0.88	0.75	0.81
		%	100	100	100	100	100	100	100	100	100	100	100	100	100
		Max-2w	0.8	0.8	1.3	1.16	0.89	0.41	1.02	1.08	0.83	1.75	1.04	0.95	1.75
		Min-2w	0.7	0.7	1.0	0.80	0.34	0.21	0.79	0.51	0.53	1.28	0.72	0.57	0.21

Table 3.18.1 Particulate matter component: Na^+ (continued)

Unit : μg/m^3

Country	Site		2025												Annual
			Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	
Lao PDR	Vientiane	Mean	***	***	***	***	***	***	***	***	***	***	***	***	***
		%	***	***	***	***	***	***	***	***	***	***	***	***	***
		Max-m	***	***	***	***	***	***	***	***	***	***	***	***	***
		Min-m	***	***	***	***	***	***	***	***	***	***	***	***	***
Malaysia	Petaling Jaya	Mean	0.44	0.55	0.39	0.14	0.20	0.34	0.47	0.41	0.18	0.44	0.42	0.44	0.36
		%	100	100	100	100	100	100	100	100	100	60	75	100	94
		Max-irreg	0.87	0.98	0.87	0.23	0.37	0.49	0.81	0.60	0.33	0.78	0.72	0.49	0.98
		Min-irreg	0.24	0.26	<0.01	0.05	0.06	0.20	0.33	0.26	0.09	0.19	0.25	0.36	<0.01
	Tanah Rata	Mean	0.17	0.32	0.25	0.05	0.08	0.20	0.24	0.15	0.13	0.15	0.16	0.30	0.18
		%	100	100	100	100	100	100	100	100	100	100	100	75	98
		Max-irreg	0.32	0.56	0.61	0.11	0.18	0.33	0.38	0.21	0.17	0.40	0.41	0.32	0.61
		Min-irreg	0.06	0.18	0.13	0.01	0.03	0.12	0.12	0.07	0.11	0.03	0.01	0.30	0.01
	Danum Valley	Mean	0.20	0.30	0.15	0.07	0.02	0.07	0.08	0.12	0.09	0.05	0.13	0.21	0.13
		%	100	100	100	100	100	100	75	100	100	50	100	100	94
		Max-2w	0.22	0.43	0.20	0.13	0.04	0.09	0.11	0.25	0.13	0.05	0.17	0.32	0.43
		Min-2w	0.18	0.18	0.11	<0.01	0.01	0.05	0.05	0.05	0.04	0.05	0.10	0.10	<0.01
Mongolia	Khan-Uul	Mean	2.10	0.85	0.45	0.51	0.57	0.79	0.61	0.54	0.57	0.62	1.00	0.75	0.80
		%	100	100	100	100	100	100	100	100	100	100	100	100	100
		Max-w	6.63	1.95	0.94	0.85	0.64	1.41	0.73	0.61	0.65	1.09	2.47	0.97	6.63
		Min-w	0.09	0.24	0.10	0.10	0.52	0.54	0.49	0.49	0.50	0.44	0.47	0.54	0.09
	Terelj	Mean	0.06	0.04	0.04	0.28	0.26	0.27	***	***	***	***	***	***	0.14
		%	100	100	100	100	100	50	***	***	***	***	***	***	46
		Max-2w	0.09	0.05	0.04	0.28	0.26	0.27	***	***	***	***	***	***	0.28
		Min-2w	0.04	0.03	0.04	0.27	0.25	0.27	***	***	***	***	***	***	0.03
	Terelj II TBD	Mean	***	***	***	***	***	0.28	0.28	0.26	0.26	0.25	0.21	0.12	0.24
		%	***	***	***	***	***	50	100	100	100	100	100	100	54
		Max-2w	***	***	***	***	***	0.28	0.30	0.26	0.28	0.26	0.21	0.23	0.30
		Min-2w	***	***	***	***	***	0.28	0.27	0.25	0.25	0.24	0.21	<0.01	<0.01
Myammar	Yangon	Mean	0.13	0.06	0.10	0.05	0.14	0.08	0.04	0.20	0.22	0.07	0.07	0.12	0.11
		%	100	100	100	100	100	100	100	100	100	100	100	100	100
		Max-2w	0.17	0.09	0.11	0.07	0.18	0.09	0.05	0.26	0.32	0.12	0.13	0.16	0.32
		Min-2w	0.09	0.03	0.08	0.02	0.10	0.07	0.03	0.14	0.10	0.01	<0.01	0.08	<0.01
Philippines	Manila Observatory	Mean	0.21	0.37	0.27	0.19	0.18	0.25	0.37	0.04	0.27	<0.01	0.05	0.15	0.19
		%	100	100	100	100	81	48	100	64	47	100	100	100	86
		Max-w	0.31	0.91	0.56	0.26	0.23	0.37	0.54	0.05	0.33	0.03	0.16	0.34	0.91
		Min-w	0.10	0.08	0.01	0.14	0.11	0.13	0.16	0.03	0.21	<0.01	<0.01	0.02	<0.01
	Los Baños	Mean	0.12	0.12	0.37	0.07	0.11	0.06	0.12	2.22	0.05	<0.01	0.11	0.04	0.35
		%	100	100	100	68	100	100	100	100	100	100	100	100	98
		Max-w	0.12	0.20	0.49	0.09	0.14	0.17	0.19	11.05	0.11	<0.01	0.24	0.14	11.05
		Min-w	0.12	0.08	0.25	0.06	0.09	<0.01	0.07	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
	Mt. Sto. Tomas	Mean	***	***	***	***	***	***	***	***	***	***	***	***	***
		%	***	***	***	***	***	***	***	***	***	***	***	***	***
		Max-w	***	***	***	***	***	***	***	***	***	***	***	***	***
		Min-w	***	***	***	***	***	***	***	***	***	***	***	***	***
Russia	Listvyanka	Mean	0.03	0.03	0.03	0.02	0.04	0.04	0.02	0.03	0.03	0.03	0.02	0.03	0.03
		%	100	100	100	100	100	100	100	100	100	100	100	100	100
		Max-w	0.06	0.05	0.04	0.04	0.06	0.05	0.03	0.08	0.04	0.04	0.03	0.05	0.08
		Min-w	0.01	0.01	0.01	0.02	0.01	0.03	<0.01	0.02	0.02	0.02	0.01	0.02	<0.01
	Irkutsk	Mean	0.25	0.36	0.65	0.16	0.10	0.03	0.05	0.21	0.08	0.19	0.22	0.22	0.22
		%	100	100	100	100	100	100	100	100	100	100	100	100	100
		Max-w	0.37	0.45	1.55	0.43	0.31	0.05	0.10	0.44	0.11	0.32	0.29	0.32	1.55
		Min-w	0.08	0.28	0.18	0.06	<0.01	0.02	0.02	0.11	0.05	0.06	0.09	0.11	<0.01
	Primorskaya	Mean	0.05	0.02	0.02	<0.01	0.02	0.02	0.01	0.03	0.02	0.01	0.03	0.02	0.02
		%	100	100	100	100	100	100	100	100	100	100	100	100	100
		Max-15d	0.09	0.03	0.04	<0.01	0.02	0.02	0.02	0.03	0.02	0.02	0.03	0.03	0.09
		Min-15d	<0.01	<0.01	<0.01	<0.01	0.01	0.02	0.01	0.03	0.01	0.01	0.03	0.02	<0.01

Table 3.18.1 Particulate matter component: Na^+ - Measured by FP (continued)

Unit : μg/m^3

Country	Site		2025												Annual
			Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	
Thailand	Bangkok	Mean	***	***	***	***	***	***	***	***	***	***	***	***	***
		%	***	***	***	***	***	***	***	***	***	***	***	***	***
		Max-10d	***	***	***	***	***	***	***	***	***	***	***	***	***
		Min-10d	***	***	***	***	***	***	***	***	***	***	***	***	***
Vietnam	Hanoi	Mean	2.90	2.31	1.34	1.08	0.65	0.52	0.60	0.81	0.33	0.24	0.35	0.59	0.98
		%	100	100	100	100	100	100	100	100	100	100	100	100	100
		Max-w	4.53	2.96	1.85	1.80	0.82	0.77	1.21	1.18	0.45	0.29	0.50	0.84	4.53
		Min-w	1.18	1.69	0.80	0.52	0.51	0.35	0.31	0.54	0.24	0.19	0.18	0.40	0.18
	Hoa Binh	Mean	0.69	0.64	0.60	0.64	0.64	0.38	0.59	0.73	0.64	0.42	0.27	0.76	0.58
		%	100	100	100	100	100	100	100	100	100	100	100	100	100
		Max-w	0.82	0.76	0.72	0.75	0.71	0.51	1.28	0.98	1.01	0.56	0.30	1.24	1.28
		Min-w	0.62	0.52	0.50	0.53	0.57	0.31	0.34	0.49	0.43	0.22	0.25	0.29	0.22
	Can Tho	Mean	0.23	0.21	0.22	0.31	0.29	0.23	0.21	0.20	0.24	0.20	0.11	0.24	0.22
		%	100	100	100	100	100	100	100	100	100	100	100	100	100
		Max-w	0.30	0.34	0.34	0.42	0.36	0.30	0.36	0.32	0.34	0.24	0.24	0.30	0.42
		Min-w	0.18	0.02	0.10	0.22	0.14	0.16	0.02	0.08	0.02	0.08	0.04	0.22	0.02
	Ho Chi Minh	Mean	0.84	0.76	0.64	0.74	0.68	0.67	0.69	0.61	0.64	0.65	0.74	0.75	0.70
		%	100	100	100	100	100	100	100	100	100	100	100	100	100
		Max-w	0.97	1.03	0.97	1.09	0.99	0.95	0.75	0.91	0.77	0.83	1.03	0.75	1.09
		Min-w	0.54	0.36	0.28	0.54	0.54	0.48	0.56	0.48	0.48	0.28	0.56	0.73	0.28
	Yen Bai	Mean	0.69	0.34	0.42	0.53	0.43	1.07	1.05	0.56	0.54	0.53	0.99	0.69	0.66
		%	100	100	100	100	100	100	100	100	100	100	100	100	100
		Max-w	1.52	0.41	0.46	0.66	0.60	2.21	1.20	0.72	0.68	0.83	1.41	0.86	2.21
		Min-w	0.38	0.29	0.39	0.36	0.36	0.43	0.89	0.32	0.39	0.40	0.62	0.54	0.29

Table 3.18.2 Particulate matter component: $Na^{'}$ - Measured by FP using $PM_{2.5}$ cyclone

Unit : μg/m^3

Country	Site		2025												Annual
			Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	
Republic of Korea	Ganghwa	Mean	0.09	0.11	0.20	0.16	0.06	0.09	0.14	0.11	0.04	0.05	0.08	0.10	0.11
		%	16	14	16	17	16	17	16	16	17	16	17	16	16
		Max-d	0.18	0.14	0.69	0.24	0.10	0.24	0.32	0.17	0.08	0.07	0.13	0.21	0.69
		Min-d	0.05	0.06	0.04	0.10	0.03	0.02	0.04	0.08	0.02	0.03	0.04	0.06	0.02
	Jeju	Mean	0.09	0.21	0.16	0.30	***	***	0.33	0.32	0.13	0.21	0.20	0.36	0.22
		%	6	11	19	10	***	***	13	16	17	16	17	16	10
		Max-d	0.10	0.35	0.36	0.48	***	***	0.52	0.90	0.19	0.29	0.32	0.52	0.90
		Min-d	0.08	0.08	0.08	0.18	***	***	0.15	0.06	0.06	0.11	0.10	0.22	0.06
	Imsil	Mean	0.08	0.10	0.06	0.07	0.06	0.05	***	0.03	0.01	0.06	0.11	0.08	0.05
		%	10	11	13	17	16	7	***	13	17	16	17	16	11
		Max-d	0.18	0.16	0.10	0.20	0.14	0.06	***	0.05	0.02	0.11	0.23	0.11	0.20
		Min-d	0.01	0.06	0.02	0.03	0.03	0.04	***	0.01	<0.01	<0.01	0.04	0.05	<0.01

Terms and abbreviations are given in Table 3.2.

Table 3.19.1 Particulate matter component: K^+ - Measured by FP

Unit : μg/m^3

Country	Site		2025												Annual
			Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	
Cambodia	Phnom Penh	Mean	***	***	***	***	***	***	***	***	***	***	***	***	***
		%	***	***	***	***	***	***	***	***	***	***	***	***	***
		Max-2w	***	***	***	***	***	***	***	***	***	***	***	***	***
		Min-2w	***	***	***	***	***	***	***	***	***	***	***	***	***
Japan	Rishiri	Mean	0.07	0.15	0.15	0.09	0.18	0.14	0.13	0.10	0.15	0.13	0.29	0.16	0.14
		%	100	100	100	100	100	100	100	100	100	100	100	100	100
		Max-2w	0.08	0.16	0.17	0.12	0.21	0.15	0.16	0.11	0.16	0.13	0.31	0.21	0.31
		Min-2w	0.06	0.14	0.13	0.06	0.15	0.12	0.10	0.10	0.14	0.13	0.26	0.12	0.06
	Ochiishi	Mean	0.11	0.29	0.13	0.12	0.04	0.07	0.07	0.07	0.18	0.14	0.41	0.26	0.16
		%	100	100	100	100	100	100	100	100	100	100	100	100	100
		Max-2w	0.13	0.46	0.14	0.13	0.05	0.08	0.08	0.07	0.29	0.15	0.54	0.31	0.54
		Min-2w	0.08	0.11	0.11	0.11	0.04	0.06	0.06	0.07	0.06	0.13	0.17	0.20	0.04
	Sado-seki	Mean	0.15	0.21	0.24	0.10	0.19	0.07	0.04	0.10	0.10	0.12	0.20	0.13	0.14
		%	100	100	100	100	100	100	100	100	100	100	100	100	100
		Max-2w	0.22	0.25	0.32	0.17	0.28	0.08	0.04	0.11	0.12	0.12	0.26	0.16	0.32
		Min-2w	0.08	0.17	0.17	0.03	0.10	0.06	0.04	0.10	0.08	0.12	0.14	0.09	0.03
	Happo	Mean	0.04	0.02	0.02	0.05	0.04	0.04	0.02	0.02	0.02	0.02	0.04	0.01	0.03
		%	100	100	100	100	100	100	100	100	100	100	100	100	96
		Max-2w	0.06	0.03	0.02	0.07	0.05	0.05	0.02	0.03	0.02	0.02	0.04	0.02	0.07
		Min-2w	<0.01	0.0	0.0	0.0	0.0	0.0	0.0	<0.01	0.0	0.0	0.0	<0.01	<0.01
	Ijira	Mean	0.03	0.04	0.15	0.09	0.12	0.10	0.09	0.08	0.09	0.06	0.07	0.05	0.08
		%	63	31	70	100	100	100	100	100	100	100	100	100	88
		Max-2w	0.04	0.04	0.15	0.10	0.13	0.12	0.11	0.08	0.09	0.06	0.07	0.06	0.15
		Min-2w	0.03	0.04	0.15	0.09	0.10	0.10	0.08	0.07	0.09	0.06	0.07	0.03	0.03
	Oki	Mean	0.33	0.23	0.23	0.18	0.09	0.08	0.07	0.10	0.10	0.11	0.16	0.18	0.16
		%	100	100	100	100	100	100	100	100	100	100	100	100	100
		Max-2w	0.56	0.30	0.30	0.18	0.12	0.09	0.08	0.11	0.13	0.12	0.20	0.22	0.56
		Min-2w	0.20	0.15	0.16	0.17	0.07	0.08	0.07	0.08	0.07	0.10	0.12	0.13	0.07
	Yusuhara	Mean	0.10	0.06	0.08	***	***	***	***	***	***	***	***	***	0.08
		%	100	100	97	***	***	***	***	***	***	***	***	***	25
		Max-2w	0.19	0.06	0.13	***	***	***	***	***	***	***	***	***	0.19
		Min-2w	0.05	0.06	0.04	***	***	***	***	***	***	***	***	***	0.04
	Hedo	Mean	***	***	***	***	***	***	***	***	***	***	***	***	***
		%	***	***	***	***	***	***	***	***	***	***	***	***	***
		Max-2w	***	***	***	***	***	***	***	***	***	***	***	***	***
		Min-2w	***	***	***	***	***	***	***	***	***	***	***	***	***
	Ogasawara	Mean	0.11	0.11	0.11	0.09	0.08	0.07	0.13	0.06	0.08	0.12	0.12	0.11	0.10
		%	100	100	100	100	100	100	100	100	100	100	100	100	100
		Max-2w	0.11	0.12	0.11	0.09	0.08	0.07	0.14	0.07	0.10	0.12	0.15	0.12	0.15
		Min-2w	0.11	0.10	0.11	0.09	0.07	0.06	0.12	0.05	0.06	0.12	0.10	0.11	0.05
	Tokyo	Mean	0.09	0.08	0.12	0.12	0.11	0.12	0.11	0.15	0.13	0.12	0.15	0.10	0.12
		%	100	100	100	100	100	100	100	100	100	100	100	100	100
		Max-2w	0.13	0.08	0.17	0.16	0.12	0.12	0.12	0.17	0.13	0.14	0.15	0.13	0.17
		Min-2w	0.06	0.08	0.07	0.07	0.10	0.12	0.11	0.13	0.12	0.10	0.14	0.07	0.06
	Tsushima	Mean	0.2	0.1	0.2	0.11	0.08	0.06	0.06	0.07	0.07	0.07	0.13	0.11	0.10
		%	100	100	100	100	100	100	100	100	100	100	100	100	100
		Max-2w	0.3	0.2	0.2	0.14	0.08	0.07	0.07	0.10	0.09	0.08	0.13	0.15	0.26
		Min-2w	0.1	0.1	0.1	0.08	0.07	0.05	0.05	0.05	0.05	0.07	0.13	0.08	0.05

Table 3.19.1 Particulate matter component: K^+ - Measured by FP (continued)

Unit : μg/m^3

Country	Site		2025												Annual
			Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	
Lao PDR	Vientiane	Mean	***	***	***	***	***	***	***	***	***	***	***	***	***
		%	***	***	***	***	***	***	***	***	***	***	***	***	***
		Max-m	***	***	***	***	***	***	***	***	***	***	***	***	***
		Min-m	***	***	***	***	***	***	***	***	***	***	***	***	***
Malaysia	Petaling Jaya	Mean	0.45	0.51	0.41	0.26	0.24	0.27	0.47	0.34	0.12	0.24	0.28	0.28	0.33
		%	100	100	100	100	100	100	100	100	100	60	75	100	94
		Max-w	1.04	1.23	0.92	0.44	0.42	0.30	0.59	0.41	0.20	0.43	0.37	0.32	1.23
		Min-w	0.19	0.14	<0.01	0.10	0.12	0.25	0.35	0.29	0.07	0.07	0.22	0.22	<0.01
	Tanah Rata	Mean	0.15	0.16	0.16	0.09	0.12	0.18	0.24	0.22	0.09	0.11	0.07	0.13	0.14
		%	100	100	100	100	100	100	100	100	100	100	100	75	98
		Max-w	0.31	0.24	0.26	0.11	0.16	0.32	0.33	0.32	0.12	0.37	0.09	0.17	0.37
		Min-w	0.04	0.07	0.05	0.07	0.07	0.09	0.16	0.11	0.04	0.01	0.05	0.09	0.01
	Danum Valley	Mean	0.08	0.12	0.10	0.06	0.07	0.15	0.17	0.15	0.14	0.13	0.17	0.16	0.13
		%	100	100	100	100	100	100	75	100	100	50	100	100	94
		Max-2w	0.09	0.13	0.10	0.13	0.10	0.16	0.20	0.19	0.18	0.13	0.20	0.21	0.21
		Min-2w	0.08	0.12	0.09	<0.01	0.05	0.15	0.14	0.13	0.09	0.13	0.13	0.13	<0.01
Mongolia	Khan-Uul	Mean	0.28	0.04	0.04	0.04	0.03	0.07	0.05	0.02	0.05	0.04	0.08	0.11	0.07
		%	100	100	100	100	100	100	100	100	100	100	100	100	100
		Max-w	0.81	0.08	0.08	0.07	0.05	0.19	0.11	0.05	0.09	0.11	0.28	0.17	0.81
		Min-w	0.03	0.02	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.03	<0.01	<0.01	0.04	<0.01
	Terelj	Mean	0.01	<0.01	<0.01	<0.01	<0.01	0.01	***	***	***	***	***	***	<0.01
		%	100	100	100	100	100	50	***	***	***	***	***	***	46
		Max-2w	0.02	0.01	0.01	<0.01	<0.01	0.01	***	***	***	***	***	***	0.02
		Min-2w	<0.01	<0.01	<0.01	<0.01	<0.01	0.01	***	***	***	***	***	***	<0.01
	Terelj II TBD	Mean	***	***	***	***	***	<0.01	0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
		%	***	***	***	***	***	50	100	100	100	100	100	100	54
		Max-2w	***	***	***	***	***	<0.01	0.03	<0.01	0.01	0.01	<0.01	<0.01	0.03
		Min-2w	***	***	***	***	***	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Myammar	Yangon	Mean	0.11	0.05	0.26	0.15	0.08	0.22	0.06	0.10	0.10	0.18	0.42	0.32	0.17
		%	100	100	100	100	100	100	100	100	100	100	100	100	100
		Max-2w	0.20	0.10	0.50	0.27	0.13	0.40	0.06	0.12	0.15	0.29	0.64	0.42	0.64
		Min-2w	0.03	<0.01	0.02	0.01	0.04	0.04	0.06	0.07	0.02	0.07	0.20	0.22	<0.01
Philippines	Manila Observatory	Mean	0.15	0.10	0.10	0.25	0.08	<0.01	0.06	0.03	0.07	0.19	0.01	0.02	0.09
		%	100	100	100	100	81	48	100	64	47	100	100	100	86
		Max-irreg	0.23	0.14	0.14	0.71	0.08	<0.01	0.08	0.05	0.09	0.53	0.03	0.03	0.71
		Min-irreg	0.07	0.07	0.08	0.09	0.07	<0.01	0.05	0.02	0.04	<0.01	<0.01	<0.01	<0.01
	Los Baños	Mean	0.01	0.02	0.06	0.01	0.03	<0.01	0.03	0.28	0.03	<0.01	0.09	<0.01	0.06
		%	100	100	100	68	100	100	100	100	100	100	100	100	98
		Max-irreg	0.01	0.02	0.08	0.02	0.06	<0.01	0.05	1.27	0.07	<0.01	0.21	<0.01	1.27
		Min-irreg	0.01	0.01	0.04	<0.01	0.02	<0.01	0.02	<0.01	0.01	<0.01	<0.01	<0.01	<0.01
	Mt. Sto. Tomas	Mean	***	***	***	***	***	***	***	***	***	***	***	***	***
		%	***	***	***	***	***	***	***	***	***	***	***	***	***
		Max-w	***	***	***	***	***	***	***	***	***	***	***	***	***
		Min-w	***	***	***	***	***	***	***	***	***	***	***	***	***
Russia	Listvyanka	Mean	0.02	0.01	0.02	0.03	0.01	0.03	0.04	0.04	0.07	0.06	0.04	0.06	0.04
		%	100	100	100	100	100	100	100	100	100	100	100	100	100
		Max-w	0.06	0.03	0.03	0.04	0.03	0.06	0.10	0.11	0.09	0.07	0.06	0.12	0.12
		Min-w	<0.01	<0.01	0.01	0.02	<0.01	<0.01	<0.01	<0.01	0.02	0.04	0.01	0.04	<0.01
	Irkutsk	Mean	0.19	0.29	0.04	0.08	0.05	0.02	0.03	0.15	0.18	0.32	0.54	0.77	0.22
		%	100	100	100	100	100	100	100	100	100	100	100	100	100
		Max-w	0.39	1.02	0.07	0.22	0.15	0.03	0.04	0.25	0.42	0.82	1.09	1.64	1.64
		Min-w	0.02	0.02	0.02	0.01	<0.01	<0.01	<0.01	0.05	0.01	0.08	0.15	0.33	<0.01
	Primorskaya	Mean	0.02	<0.01	0.01	<0.01	0.02	0.02	0.01	0.02	0.01	0.01	0.12	0.16	0.03
		%	100	100	100	100	100	100	100	100	100	100	100	100	100
		Max-15d	0.03	<0.01	0.02	<0.01	0.02	0.03	0.01	0.02	0.01	0.01	0.15	0.19	0.19
		Min-15d	<0.01	<0.01	<0.01	<0.01	0.01	0.01	<0.01	0.02	<0.01	<0.01	0.10	0.13	<0.01

Table 3.19.1 Particulate matter component: K^+ - Measured by FP (continued)

Unit : μg/m^3

Country	Site		2025												Annual
			Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	
Thailand	Bangkok	Mean	***	***	***	***	***	***	***	***	***	***	***	***	***
		%	***	***	***	***	***	***	***	***	***	***	***	***	***
		Max-10d	***	***	***	***	***	***	***	***	***	***	***	***	***
		Min-10d	***	***	***	***	***	***	***	***	***	***	***	***	***
Vietnam	Hanoi	Mean	3.54	2.54	1.22	1.14	0.41	0.36	0.56	0.56	0.23	0.18	0.22	0.26	0.95
		%	100	100	100	100	100	100	100	100	100	100	100	100	100
		Max-w	5.79	3.44	1.91	1.92	0.67	0.73	1.22	1.17	0.38	0.29	0.32	0.52	5.79
		Min-w	1.11	2.04	0.34	0.76	0.18	0.18	0.18	0.22	0.13	0.09	0.16	0.12	0.09
	Hoa Binh	Mean	0.62	0.49	0.23	0.18	0.62	0.25	0.26	0.50	0.13	0.17	0.08	0.30	0.33
		%	100	100	100	100	100	100	100	100	100	100	100	100	100
		Max-w	1.22	0.81	0.41	0.24	1.30	0.31	0.60	0.68	0.25	0.28	0.11	0.45	1.30
		Min-w	0.13	0.13	0.10	0.14	0.20	0.18	0.06	0.30	0.08	0.09	0.05	0.07	0.05
	Can Tho	Mean	0.41	0.29	0.31	0.29	0.30	0.30	0.25	0.15	0.23	0.26	0.38	0.35	0.29
		%	100	100	100	100	100	100	100	100	100	100	100	100	100
		Max-w	0.52	0.56	0.52	0.63	0.54	0.50	0.36	0.28	0.50	0.44	0.60	0.60	0.63
		Min-w	0.24	0.08	0.04	0.08	0.20	0.16	0.12	0.02	0.02	0.02	0.28	0.26	0.02
	Ho Chi Minh	Mean	0.30	0.27	0.35	0.30	0.39	0.36	0.36	0.33	0.38	0.37	0.33	0.36	0.34
		%	100	100	100	100	100	100	100	100	100	100	100	100	100
		Max-w	0.36	0.32	0.38	0.34	0.58	0.46	0.44	0.52	0.48	0.54	0.38	0.44	0.58
		Min-w	0.28	0.24	0.30	0.26	0.26	0.22	0.24	0.18	0.26	0.30	0.26	0.32	0.18
	Yen Bai	Mean	0.62	0.57	0.68	0.64	0.32	1.40	1.56	0.47	0.12	0.08	0.27	0.36	0.59
		%	100	100	100	100	100	100	100	100	100	100	100	100	100
		Max-w	0.92	0.80	0.92	0.73	0.53	2.61	1.74	0.92	0.13	0.10	0.41	0.62	2.61
		Min-w	0.47	0.46	0.57	0.47	0.13	0.85	1.39	0.13	0.10	0.06	0.14	0.16	0.06

Table 3.19.2 Particulate matter component: K^+ - Measured by FP using $PM_{2.5}$ cyclone

Unit : μg/m^3

Country	Site		2025												Annual
			Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	
Republic of Korea	Ganghwa	Mean	0.53	0.16	0.30	0.10	0.13	0.06	0.05	0.06	0.06	0.11	0.21	0.20	0.16
		%	16	14	16	17	16	17	16	16	17	16	17	16	16
		Max-d	0.89	0.23	0.50	0.12	0.28	0.10	0.16	0.16	0.12	0.25	0.28	0.27	0.89
		Min-d	0.21	0.10	0.14	0.09	0.06	0.01	0.01	<0.01	0.02	<0.01	0.13	0.10	<0.01
	Jeju	Mean	0.19	0.05	0.07	0.03	***	***	<0.01	0.02	<0.01	0.03	0.01	0.05	0.04
		%	6	11	19	10	***	***	13	16	17	16	17	16	10
		Max-d	0.22	0.08	0.16	0.06	***	***	<0.01	0.03	<0.01	0.05	0.03	0.11	0.22
		Min-d	0.15	0.03	0.02	0.02	***	***	<0.01	<0.01	<0.01	<0.01	<0.01	0.01	<0.01
	Imsil	Mean	0.02	***	0.02	0.03	0.04	0.01	***	<0.01	0.01	0.03	0.18	0.08	0.02
		%	10	***	13	17	16	7	***	13	17	16	17	16	10
		Max-d	0.03	***	0.04	0.05	0.08	0.02	***	0.02	0.03	0.09	0.31	0.14	0.08
		Min-d	0.02	***	<0.01	0.02	0.02	<0.01	***	<0.01	<0.01	<0.01	0.09	0.02	<0.01

Terms and abbreviations are given in Table 3.2.

Table 3.20.1 Particulate matter component: Mg^{2+} - Measured by FP

Unit : $\mu g/m^3$

Country	Site		2025												Annual
			Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	
Cambodia	Phnom Penh	Mean	***	***	***	***	***	***	***	***	***	***	***	***	***
		%	***	***	***	***	***	***	***	***	***	***	***	***	***
		Max-2w	***	***	***	***	***	***	***	***	***	***	***	***	***
		Min-2w	***	***	***	***	***	***	***	***	***	***	***	***	***
Japan	Rishiri	Mean	0.09	0.27	0.27	0.16	0.31	0.23	0.19	0.19	0.30	0.20	0.39	0.27	0.23
		%	100	100	100	100	100	100	100	100	100	100	100	100	100
		Max-2w	0.11	0.33	0.32	0.18	0.38	0.29	0.30	0.19	0.30	0.27	0.47	0.34	0.47
		Min-2w	0.07	0.21	0.22	0.13	0.24	0.17	0.09	0.18	0.30	0.13	0.31	0.21	0.07
	Ochiishi	Mean	0.30	0.86	0.35	0.34	0.07	0.17	0.22	0.21	0.59	0.42	1.25	0.81	0.48
		%	100	100	100	100	100	100	100	100	100	100	100	100	100
		Max-2w	0.37	1.45	0.39	0.35	0.14	0.24	0.23	0.22	0.98	0.46	1.71	1.03	1.71
		Min-2w	0.21	0.27	0.32	0.33	<0.01	0.11	0.22	0.20	0.21	0.39	0.53	0.59	<0.01
	Sado-seki	Mean	0.38	0.47	0.54	0.25	0.52	0.14	0.08	0.28	0.29	0.31	0.43	0.38	0.33
		%	100	100	100	100	100	100	100	100	100	100	100	100	100
		Max-2w	0.49	0.53	0.70	0.42	0.81	0.15	0.09	0.31	0.34	0.31	0.55	0.48	0.81
		Min-2w	0.24	0.41	0.38	0.08	0.22	0.11	0.08	0.25	0.24	0.30	0.31	0.27	0.08
	Happo	Mean	<0.01	0.02	0.03	0.06	0.04	0.02	0.02	0.02	0.02	0.02	0.03	0.01	0.02
		%	100	100	100	100	100	100	100	100	100	100	100	100	96
		Max-2w	0.01	0.02	0.03	0.09	0.04	0.02	0.02	0.03	0.02	0.03	0.03	0.02	0.09
		Min-2w	<0.01	0.02	0.03	0.04	0.04	0.01	0.01	<0.01	0.02	0.01	0.03	<0.01	<0.01
	Ijira	Mean	0.01	0.02	0.11	0.07	0.06	0.03	0.06	0.03	0.04	0.02	0.04	0.02	0.04
		%	63	31	70	100	100	100	100	100	100	100	100	100	88
		Max-2w	0.02	0.02	0.11	0.07	0.06	0.03	0.06	0.03	0.04	0.03	0.04	0.03	0.11
		Min-2w	<0.01	0.02	0.11	0.06	0.06	0.03	0.06	0.03	0.03	0.02	0.03	0.01	<0.01
	Oki	Mean	0.67	0.55	0.43	0.39	0.19	0.12	0.16	0.23	0.22	0.28	0.33	0.48	0.35
		%	100	100	100	100	100	100	100	100	100	100	100	100	100
		Max-2w	0.81	0.76	0.52	0.41	0.23	0.14	0.18	0.25	0.31	0.30	0.40	0.63	0.81
		Min-2w	0.54	0.35	0.33	0.37	0.15	0.11	0.14	0.22	0.14	0.25	0.26	0.36	0.11
	Yusuhara	Mean	0.05	0.05	0.08	***	***	***	***	***	***	***	***	***	0.06
		%	100	100	97	***	***	***	***	***	***	***	***	***	25
		Max-2w	0.06	0.05	0.14	***	***	***	***	***	***	***	***	***	0.14
		Min-2w	0.04	0.05	0.03	***	***	***	***	***	***	***	***	***	0.03
	Hedo	Mean	***	***	***	***	***	***	***	***	***	***	***	***	***
		%	***	***	***	***	***	***	***	***	***	***	***	***	***
		Max-2w	***	***	***	***	***	***	***	***	***	***	***	***	***
		Min-2w	***	***	***	***	***	***	***	***	***	***	***	***	***
	Ogasawara	Mean	0.26	0.32	0.28	0.25	0.18	0.13	0.35	0.12	0.21	0.35	0.32	0.33	0.26
		%	100	100	100	100	100	100	100	100	100	100	100	100	100
		Max-2w	0.29	0.35	0.33	0.28	0.20	0.15	0.38	0.17	0.29	0.36	0.38	0.37	0.38
		Min-2w	0.23	0.29	0.23	0.23	0.17	0.11	0.33	0.07	0.13	0.35	0.27	0.29	0.07
	Tokyo	Mean	0.04	0.06	0.14	0.15	0.14	0.11	0.21	0.18	0.18	0.18	0.10	0.08	0.12
		%	100	100	100	100	100	100	100	100	100	100	100	100	100
		Max-2w	0.04	0.06	0.23	0.22	0.14	0.12	0.25	0.18	0.20	0.24	0.11	0.12	0.25
		Min-2w	0.03	0.06	0.05	0.09	0.13	0.10	0.16	0.18	0.16	0.13	0.08	0.05	0.03
	Tsushima	Mean	0.1	0.1	0.2	0.14	0.08	0.05	0.10	0.10	0.08	0.18	0.13	0.11	0.11
		%	100	100	100	100	100	100	100	100	100	100	100	100	100
		Max-2w	0.1	0.1	0.2	0.16	0.11	0.06	0.11	0.13	0.09	0.21	0.14	0.16	0.22
		Min-2w	0.1	0.1	0.1	0.12	0.06	0.03	0.09	0.06	0.07	0.16	0.11	0.08	0.03

Table 3.20.1 Particulate matter component: Mg^{2+} - Measured by FP(continued)

Unit : $\mu g/m^3$

Country	Site		2025												Annual
			Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	
Lao PDR	Vientiane	Mean	***	***	***	***	***	***	***	***	***	***	***	***	***
		%	***	***	***	***	***	***	***	***	***	***	***	***	***
		Max-m	***	***	***	***	***	***	***	***	***	***	***	***	***
		Min-m	***	***	***	***	***	***	***	***	***	***	***	***	***
Malaysia	Petaling Jaya	Mean	0.07	0.09	0.04	<0.01	<0.01	0.06	0.03	0.02	0.03	<0.01	0.03	0.06	0.04
		%	100	100	100	100	100	100	100	100	100	60	75	100	94
		Max-w	0.21	0.24	0.12	0.02	0.01	0.21	0.09	0.06	0.10	0.02	0.04	0.06	0.24
		Min-w	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.04	<0.01
	Tanah Rata	Mean	0.02	0.04	<0.01	<0.01	<0.01	0.04	0.04	0.03	0.01	0.02	0.02	0.04	0.02
		%	100	100	100	100	100	100	100	100	100	100	100	75	98
		Max-w	0.06	0.07	0.03	0.03	0.01	0.06	0.07	0.10	0.04	0.06	0.05	0.04	0.10
		Min-w	<0.01	0.02	<0.01	<0.01	<0.01	0.02	0.02	<0.01	<0.01	<0.01	<0.01	0.03	<0.01
	Danum Valley	Mean	0.01	0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.01	<0.01	<0.01	0.02	0.03	0.01
		%	100	100	100	100	100	100	75	100	100	50	100	100	94
		Max-2w	0.02	0.03	<0.01	<0.01	<0.01	<0.01	<0.01	0.03	<0.01	<0.01	0.02	0.05	0.05
		Min-2w	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.02	0.01	<0.01
Mongolia	Khan-Uul	Mean	0.17	0.04	0.05	0.03	0.02	<0.01	<0.01	<0.01	0.02	0.03	0.04	0.04	0.04
		%	100	100	100	100	100	100	100	100	100	100	100	100	100
		Max-w	0.33	0.08	0.08	0.09	0.05	<0.01	<0.01	<0.01	0.07	0.07	0.10	0.08	0.33
		Min-w	0.03	0.02	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
	Terelj	Mean	0.01	0.01	0.01	<0.01	<0.01	<0.01	***	***	***	***	***	***	<0.01
		%	100	100	100	100	100	50	***	***	***	***	***	***	46
		Max-2w	0.01	0.01	0.01	<0.01	<0.01	<0.01	***	***	***	***	***	***	0.01
		Min-2w	0.01	0.01	0.01	<0.01	<0.01	<0.01	***	***	***	***	***	***	<0.01
	Terelj II TBD	Mean	***	***	***	***	***	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
		%	***	***	***	***	***	50	100	100	100	100	100	100	54
		Max-2w	***	***	***	***	***	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
		Min-2w	***	***	***	***	***	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Myammar	Yangon	Mean	0.07	0.03	0.05	0.04	0.03	0.03	0.02	0.06	0.04	<0.01	0.04	0.04	0.04
		%	100	100	100	100	100	100	100	100	100	100	100	100	100
		Max-2w	0.08	0.03	0.07	0.05	0.04	0.05	0.03	0.06	0.06	0.01	0.05	0.05	0.08
		Min-2w	0.06	0.03	0.04	0.03	0.02	0.01	<0.01	0.06	<0.01	<0.01	0.03	0.03	<0.01
Philippines	Manila Observatory	Mean	0.05	0.07	0.07	0.08	0.05	0.11	0.09	0.01	0.03	<0.01	<0.01	<0.01	0.05
		%	100	100	100	100	81	48	100	64	47	100	100	100	86
		Max-irreg	0.06	0.15	0.10	0.15	0.06	0.15	0.11	0.02	0.03	<0.01	0.02	0.01	0.15
		Min-irreg	0.04	0.03	0.04	0.04	0.04	0.08	0.07	0.01	0.03	<0.01	<0.01	<0.01	<0.01
	Los Baños	Mean	0.02	0.02	0.09	0.03	0.03	0.03	0.05	0.25	<0.01	<0.01	0.14	<0.01	0.07
		%	100	100	100	68	100	100	100	100	100	100	100	100	98
		Max-irreg	0.02	0.03	0.16	0.04	0.05	0.08	0.10	1.23	<0.01	<0.01	0.30	<0.01	1.23
		Min-irreg	0.02	0.02	0.05	0.01	0.01	<0.01	0.02	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
	Mt. Sto. Tomas	Mean	***	***	***	***	***	***	***	***	***	***	***	***	***
		%	***	***	***	***	***	***	***	***	***	***	***	***	***
		Max-w	***	***	***	***	***	***	***	***	***	***	***	***	***
		Min-w	***	***	***	***	***	***	***	***	***	***	***	***	***
Russia	Listvyanka	Mean	<0.01	<0.01	<0.01	0.02	0.02	0.03	0.02	0.02	0.02	0.02	<0.01	<0.01	0.01
		%	100	100	100	100	100	100	100	100	100	100	100	100	100
		Max-w	<0.01	<0.01	0.02	0.03	0.03	0.04	0.02	0.04	0.03	0.05	<0.01	0.01	0.05
		Min-w	<0.01	<0.01	<0.01	0.01	<0.01	0.02	0.01	<0.01	0.02	0.01	<0.01	<0.01	<0.01
	Irkutsk	Mean	0.02	0.05	0.09	0.13	0.05	0.03	0.04	0.13	0.05	0.05	0.06	0.12	0.07
		%	100	100	100	100	100	100	100	100	100	100	100	100	100
		Max-w	0.04	0.09	0.13	0.34	0.10	0.04	0.07	0.20	0.07	0.16	0.08	0.16	0.34
		Min-w	<0.01	0.02	0.03	0.03	<0.01	0.01	0.01	0.08	0.02	<0.01	0.01	0.06	<0.01
	Primorskaya	Mean	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
		%	100	100	100	100	100	100	100	100	100	100	100	100	100
		Max-15d	<0.01	<0.01	0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.01
		Min-15d	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01

Table 3.20.1 Particulate matter component: Mg^{2+} - Measured by FP (continued)

Unit : μg/m^3

Country	Site		2025												Annual
			Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	
Thailand	Bangkok	Mean	***	***	***	***	***	***	***	***	***	***	***	***	***
		%	***	***	***	***	***	***	***	***	***	***	***	***	***
		Max-10d	***	***	***	***	***	***	***	***	***	***	***	***	***
		Min-10d	***	***	***	***	***	***	***	***	***	***	***	***	***
Vietnam	Hanoi	Mean	0.50	0.35	0.27	0.27	0.16	0.13	0.17	0.19	0.12	0.10	0.09	0.17	0.21
		%	100	100	100	100	100	100	100	100	100	100	100	100	100
		Max-w	0.72	0.40	0.47	0.38	0.24	0.16	0.26	0.29	0.14	0.17	0.10	0.23	0.72
		Min-w	0.11	0.27	0.09	0.16	0.11	0.09	0.04	0.12	0.10	0.07	0.08	0.13	0.04
	Hoa Binh	Mean	0.06	0.09	0.11	0.09	0.04	0.08	0.11	0.07	0.23	0.17	0.13	0.15	0.11
		%	100	100	100	100	100	100	100	100	100	100	100	100	100
		Max-w	0.07	0.11	0.14	0.11	0.07	0.11	0.15	0.08	0.35	0.32	0.14	0.20	0.35
		Min-w	0.05	0.06	0.08	0.08	<0.01	0.07	0.08	0.04	0.09	0.10	0.11	0.12	<0.01
	Can Tho	Mean	0.39	0.44	0.35	0.41	0.44	0.44	0.45	0.36	0.39	0.40	0.43	0.40	0.41
		%	100	100	100	100	100	100	100	100	100	100	100	100	100
		Max-w	0.54	0.52	0.44	0.56	0.54	0.52	0.58	0.44	0.42	0.56	0.46	0.46	0.58
		Min-w	0.30	0.32	0.26	0.36	0.38	0.38	0.38	0.32	0.32	0.34	0.40	0.34	0.26
	Ho Chi Minh	Mean	0.45	0.46	0.45	0.46	0.46	0.39	0.42	0.41	0.50	0.43	0.37	0.56	0.45
		%	100	100	100	100	100	100	100	100	100	100	100	100	100
		Max-w	0.60	0.48	0.50	0.67	0.50	0.48	0.56	0.46	0.60	0.50	0.46	0.71	0.71
		Min-w	0.34	0.44	0.42	0.36	0.36	0.32	0.30	0.34	0.44	0.40	0.22	0.40	0.22
	Yen Bai	Mean	0.19	0.09	0.06	0.08	0.12	0.10	0.10	0.11	0.09	0.07	0.13	0.15	0.11
		%	100	100	100	100	100	100	100	100	100	100	100	100	100
		Max-w	0.22	0.13	0.07	0.10	0.19	0.14	0.12	0.15	0.10	0.08	0.19	0.19	0.22
		Min-w	0.15	0.06	0.05	0.06	0.06	0.09	0.08	0.09	0.07	0.05	0.07	0.12	0.05

Table 3.20.2 Particulate matter component: Mg^{2+} - Measured by FP using $PM_{2.5}$ cyclone

Unit : μg/m^3

Country	Site		2025												Annual
			Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	
Republic of Korea	Ganghwa	Mean	0.03	0.03	0.03	0.02	<0.01	<0.01	0.01	0.01	<0.01	<0.01	0.02	0.01	0.02
		%	10	14	16	17	16	17	16	16	17	16	17	16	15
		Max-d	0.07	0.07	0.12	0.04	0.02	0.02	0.03	0.01	0.02	0.01	0.04	0.02	0.12
		Min-d	<0.01	0.02	<0.01	0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
	Jeju	Mean	0.02	0.02	0.02	0.03	***	***	0.03	0.03	<0.01	0.01	0.01	0.03	0.02
		%	6	11	19	10	***	***	13	16	17	16	17	16	10
		Max-d	0.02	0.04	0.04	0.05	***	***	0.06	0.08	0.01	0.02	0.02	0.04	0.08
		Min-d	0.01	<0.01	<0.01	0.01	***	***	0.01	<0.01	<0.01	<0.01	<0.01	0.02	<0.01
	Imsil	Mean	<0.01	<0.01	<0.01	0.01	<0.01	<0.01	***	<0.01	<0.01	<0.01	0.01	<0.01	<0.01
		%	10	11	13	17	16	7	***	13	17	16	17	16	11
		Max-d	0.02	0.01	<0.01	0.04	0.02	<0.01	***	<0.01	0.01	<0.01	0.02	0.01	0.04
		Min-d	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	***	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01

Terms and abbreviations are given in Table 3.2.

Table 3.21.1 Particulate matter component: Ca^{2+} - Measured by FP

Unit : μg/m^3

Country	Site		2025												Annual
			Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	
Cambodia	Phnom Penh	Mean	***	***	***	***	***	***	***	***	***	***	***	***	***
		%	***	***	***	***	***	***	***	***	***	***	***	***	***
		Max-2w	***	***	***	***	***	***	***	***	***	***	***	***	***
		Min-2w	***	***	***	***	***	***	***	***	***	***	***	***	***
Japan	Rishiri	Mean	0.05	0.18	0.18	0.13	0.17	0.12	0.10	0.08	0.16	0.12	0.20	0.15	0.13
		%	100	100	100	100	100	100	100	100	100	100	100	100	100
		Max-2w	0.06	0.23	0.18	0.18	0.20	0.15	0.15	0.08	0.18	0.17	0.25	0.21	0.25
		Min-2w	0.04	0.14	0.17	0.07	0.14	0.10	0.06	0.07	0.14	0.07	0.15	0.10	0.04
	Ochiishi	Mean	0.11	0.25	0.16	0.15	0.04	0.08	0.08	0.07	0.18	0.16	0.45	0.27	0.17
		%	100	100	100	100	100	100	100	100	100	100	100	100	100
		Max-2w	0.12	0.34	0.17	0.19	0.07	0.10	0.08	0.09	0.30	0.17	0.62	0.32	0.62
		Min-2w	0.08	0.16	0.15	0.12	<0.01	0.05	0.08	0.06	0.06	0.15	0.22	0.22	<0.01
	Sado-seki	Mean	0.16	0.38	0.70	0.33	0.37	0.19	0.06	0.13	0.16	0.17	0.22	0.19	0.25
		%	100	100	100	100	100	100	100	100	100	100	100	100	100
		Max-2w	0.22	0.42	1.04	0.57	0.44	0.31	0.06	0.14	0.16	0.17	0.29	0.22	1.04
		Min-2w	0.10	0.33	0.37	0.10	0.29	0.08	0.05	0.11	0.16	0.17	0.15	0.14	0.05
	Happo	Mean	0.03	0.05	0.18	0.56	0.25	0.10	0.03	0.03	0.08	0.08	0.06	0.05	0.13
		%	100	100	100	100	100	100	100	100	100	100	100	100	96
		Max-2w	0.04	0.06	0.18	0.84	0.30	0.17	0.04	0.05	0.10	0.09	0.06	0.10	0.84
		Min-2w	<0.01	0.05	0.18	0.27	0.19	0.04	0.02	0.01	0.05	0.08	0.06	0.01	<0.01
	Ijira	Mean	0.04	0.04	0.41	0.27	0.20	0.11	0.11	0.07	0.09	0.07	0.07	0.06	0.12
		%	63	31	70	100	100	100	100	100	100	100	100	100	88
		Max-2w	0.04	0.04	0.41	0.30	0.27	0.14	0.13	0.09	0.11	0.08	0.08	0.11	0.41
		Min-2w	0.04	0.04	0.41	0.24	0.12	0.10	0.09	0.05	0.08	0.06	0.05	0.02	0.02
	Oki	Mean	0.36	0.33	0.49	0.45	0.17	0.11	0.09	0.09	0.14	0.15	0.21	0.27	0.24
		%	100	100	100	100	100	100	100	100	100	100	100	100	100
		Max-2w	0.44	0.42	0.58	0.48	0.18	0.13	0.10	0.10	0.21	0.16	0.22	0.36	0.58
		Min-2w	0.30	0.25	0.39	0.43	0.16	0.07	0.09	0.09	0.08	0.14	0.21	0.17	0.07
	Yusuhara	Mean	0.13	0.13	0.56	***	***	***	***	***	***	***	***	***	0.25
		%	100	100	97	***	***	***	***	***	***	***	***	***	25
		Max-2w	0.15	0.15	1.00	***	***	***	***	***	***	***	***	***	1.00
		Min-2w	0.11	0.11	0.12	***	***	***	***	***	***	***	***	***	0.11
	Hedo	Mean	***	***	***	***	***	***	***	***	***	***	***	***	***
		%	***	***	***	***	***	***	***	***	***	***	***	***	***
		Max-2w	***	***	***	***	***	***	***	***	***	***	***	***	***
		Min-2w	***	***	***	***	***	***	***	***	***	***	***	***	***
	Ogasawara	Mean	0.13	0.18	0.20	0.37	0.19	0.07	0.14	0.06	0.09	0.17	0.18	0.17	0.16
		%	100	100	100	100	100	100	100	100	100	100	100	100	100
		Max-2w	0.14	0.20	0.21	0.49	0.24	0.08	0.15	0.09	0.13	0.17	0.20	0.21	0.49
		Min-2w	0.13	0.17	0.19	0.26	0.13	0.06	0.12	0.04	0.06	0.17	0.16	0.13	0.04
	Tokyo	Mean	0.26	0.38	0.54	0.44	0.38	0.39	0.40	0.46	0.32	0.35	0.37	0.35	0.38
		%	100	100	100	100	100	100	100	100	100	100	100	100	100
		Max-2w	0.32	0.41	0.84	0.59	0.44	0.44	0.45	0.61	0.33	0.42	0.45	0.48	0.84
		Min-2w	0.19	0.36	0.24	0.29	0.32	0.34	0.36	0.31	0.32	0.28	0.28	0.15	0.15
	Tsushima	Mean	0.3	0.3	0.6	0.41	0.19	0.09	0.07	0.06	0.04	0.12	0.25	0.30	0.23
		%	100	100	100	100	100	100	100	100	100	100	100	100	100
		Max-2w	0.3	0.3	0.8	0.48	0.19	0.13	0.08	0.09	0.04	0.13	0.27	0.55	0.76
		Min-2w	0.3	0.2	0.4	0.34	0.19	0.05	0.06	0.04	0.04	0.11	0.23	0.16	0.04

Table 3.21.1 Particulate matter component: Ca^{2+} - Measured by FP (continued)

Unit : μg/m^3

Country	Site		2025												Annual
			Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	
Lao PDR	Vientiane	Mean	***	***	***	***	***	***	***	***	***	***	***	***	***
		%	***	***	***	***	***	***	***	***	***	***	***	***	***
		Max-m	***	***	***	***	***	***	***	***	***	***	***	***	***
		Min-m	***	***	***	***	***	***	***	***	***	***	***	***	***
Malaysia	Petaling Jaya	Mean	0.12	0.32	0.06	0.02	0.04	0.11	0.13	0.07	0.04	0.04	0.34	0.39	0.13
		%	100	100	100	100	100	100	100	100	100	60	75	100	94
		Max-w	0.37	0.48	0.16	0.05	0.11	0.32	0.27	0.11	0.12	0.09	0.36	0.40	0.48
		Min-w	0.02	0.01	<0.01	<0.01	<0.01	0.02	0.04	0.03	<0.01	0.01	0.32	0.38	<0.01
	Tanah Rata	Mean	0.04	0.13	0.02	0.02	0.04	0.15	0.21	0.07	0.03	0.02	0.10	0.10	0.08
		%	100	100	100	100	100	100	100	100	100	100	100	75	98
		Max-w	0.15	0.21	0.04	0.05	0.14	0.29	0.34	0.19	0.07	0.06	0.15	0.15	0.34
		Min-w	<0.01	0.03	<0.01	<0.01	<0.01	0.09	0.13	0.01	<0.01	<0.01	0.02	0.07	<0.01
	Danum Valley	Mean	0.01	0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.01	<0.01	<0.01	0.02	0.02	<0.01
		%	100	100	100	100	100	100	75	100	100	50	100	100	94
		Max-2w	0.02	0.02	<0.01	<0.01	<0.01	0.01	<0.01	0.03	<0.01	<0.01	0.02	0.02	0.03
		Min-2w	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.01	<0.01	<0.01
Mongolia	Khan-Uul	Mean	2.15	0.47	0.83	0.77	0.76	1.34	0.98	0.89	1.06	0.90	0.79	0.56	0.98
		%	100	100	100	100	100	100	100	100	100	100	100	100	100
		Max-w	4.70	1.03	1.47	2.19	1.12	2.60	1.11	1.03	1.68	2.17	2.01	0.97	4.70
		Min-w	0.17	0.26	0.13	0.17	0.36	0.82	0.83	0.79	0.77	0.07	0.09	0.21	0.07
	Terelj	Mean	0.09	0.08	0.10	0.06	0.10	0.07	***	***	***	***	***	***	0.08
		%	100	100	100	100	100	50	***	***	***	***	***	***	46
		Max-2w	0.10	0.10	0.14	0.07	0.11	0.07	***	***	***	***	***	***	0.14
		Min-2w	0.07	0.06	0.07	0.04	0.09	0.07	***	***	***	***	***	***	0.04
	Terelj II TBD	Mean	***	***	***	***	***	0.08	0.10	0.08	0.08	0.13	0.06	0.07	0.09
		%	***	***	***	***	***	50	100	100	100	100	100	100	54
		Max-2w	***	***	***	***	***	0.08	0.12	0.09	0.08	0.15	0.06	0.07	0.15
		Min-2w	***	***	***	***	***	0.08	0.08	0.07	0.08	0.12	0.06	0.07	0.06
Myammar	Yangon	Mean	0.33	0.11	0.12	0.10	0.08	0.11	0.20	0.16	0.12	0.06	0.11	0.10	0.13
		%	100	100	100	100	100	100	100	100	100	100	100	100	100
		Max-2w	0.44	0.14	0.13	0.12	0.15	0.21	0.27	0.20	0.17	0.07	0.16	0.11	0.44
		Min-2w	0.21	0.09	0.10	0.08	0.02	<0.01	0.14	0.12	0.03	0.04	0.06	0.09	<0.01
Philippines	Manila Observatory	Mean	0.40	0.55	0.53	0.71	0.43	0.37	0.28	0.17	0.20	0.02	0.06	0.03	0.33
		%	100	100	100	100	81	48	100	64	47	100	100	100	86
		Max-irreg	0.58	0.66	0.74	0.82	0.46	0.41	0.48	0.23	0.25	0.06	0.24	0.07	0.82
		Min-irreg	0.23	0.47	0.07	0.53	0.39	0.33	0.17	0.09	0.15	<0.01	<0.01	<0.01	<0.01
	Los Baños	Mean	0.06	0.06	0.59	0.36	0.11	0.15	0.24	0.40	0.02	<0.01	0.07	<0.01	0.19
		%	100	100	100	68	100	100	100	100	100	100	100	100	98
		Max-irreg	0.06	0.10	1.00	0.71	0.33	0.42	0.56	1.86	0.06	<0.01	0.17	<0.01	1.86
		Min-irreg	0.06	<0.01	0.23	0.18	0.01	0.01	0.07	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
	Mt. Sto. Tomas	Mean	***	***	***	***	***	***	***	***	***	***	***	***	***
		%	***	***	***	***	***	***	***	***	***	***	***	***	***
		Max-w	***	***	***	***	***	***	***	***	***	***	***	***	***
		Min-w	***	***	***	***	***	***	***	***	***	***	***	***	***
Russia	Listvyanka	Mean	0.02	0.03	0.06	0.08	0.03	0.06	0.04	0.08	0.10	0.09	0.03	0.05	0.06
		%	100	100	100	100	100	100	100	100	100	100	100	100	100
		Max-w	0.03	0.07	0.11	0.13	0.05	0.09	0.04	0.17	0.11	0.17	0.05	0.06	0.17
		Min-w	<0.01	<0.01	0.03	0.05	<0.01	0.03	0.03	0.02	0.09	0.05	0.02	0.03	<0.01
	Irkutsk	Mean	0.17	0.33	0.42	0.55	0.21	0.07	0.09	0.34	0.19	0.22	0.29	0.56	0.29
		%	100	100	100	100	100	100	100	100	100	100	100	100	100
		Max-w	0.27	0.74	0.70	1.41	0.49	0.09	0.13	0.48	0.34	0.77	0.52	0.74	1.41
		Min-w	0.03	0.11	0.15	0.19	<0.01	0.04	0.02	0.18	0.10	0.07	0.04	0.33	<0.01
	Primorskaya	Mean	0.01	0.02	0.07	0.02	<0.01	<0.01	<0.01	0.04	<0.01	<0.01	<0.01	<0.01	0.02
		%	100	100	100	100	100	100	100	100	100	100	100	100	100
		Max-15d	0.01	0.02	0.14	0.03	<0.01	<0.01	0.02	0.08	<0.01	<0.01	<0.01	0.01	0.14
		Min-15d	<0.01	0.01	0.01	0.02	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01

Table 3.21.1 Particulate matter component: Ca^{2+} - Measured by FP (continued)

Unit : μg/m^3

Country	Site		2025												Annual
			Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	
Thailand	Bangkok	Mean	***	***	***	***	***	***	***	***	***	***	***	***	***
		%	***	***	***	***	***	***	***	***	***	***	***	***	***
		Max-10d	***	***	***	***	***	***	***	***	***	***	***	***	***
		Min-10d	***	***	***	***	***	***	***	***	***	***	***	***	***
Vietnam	Hanoi	Mean	8.38	3.48	2.82	6.25	1.87	1.01	1.11	1.33	0.94	0.77	0.85	1.51	2.57
		%	100	100	100	100	100	100	100	100	100	100	100	100	100
		Max-w	13.41	4.01	5.87	8.35	3.02	1.29	1.45	1.66	1.41	1.01	1.21	2.21	13.41
		Min-w	1.11	2.76	1.21	3.47	1.04	0.83	0.84	1.20	0.58	0.46	0.21	1.09	0.21
	Hoa Binh	Mean	0.39	0.74	0.95	0.47	0.59	0.57	0.51	0.19	0.60	0.80	0.96	1.21	0.66
		%	100	100	100	100	100	100	100	100	100	100	100	100	100
		Max-w	0.61	0.92	1.23	0.54	1.22	0.85	0.78	0.35	0.75	1.00	1.09	1.58	1.58
		Min-w	0.18	0.39	0.57	0.42	0.08	0.43	0.31	0.07	0.42	0.66	0.66	1.04	0.07
	Can Tho	Mean	1.83	1.93	1.84	1.97	1.84	1.73	1.87	1.93	1.85	1.82	2.01	1.85	1.87
		%	100	100	100	100	100	100	100	100	100	100	100	100	100
		Max-w	2.00	2.22	1.88	2.42	2.02	2.02	2.30	2.06	2.06	2.16	2.26	1.94	2.42
		Min-w	1.63	1.77	1.81	1.69	1.63	1.23	1.67	1.79	1.63	1.47	1.81	1.63	1.23
	Ho Chi Minh	Mean	3.18	2.64	2.81	2.95	3.04	3.17	3.23	3.21	2.91	2.74	2.69	3.43	3.00
		%	100	100	100	100	100	100	100	100	100	100	100	100	100
		Max-w	3.81	3.00	3.33	3.33	3.55	3.95	3.47	3.69	3.25	3.39	3.35	3.57	3.95
		Min-w	2.80	2.36	2.40	2.40	2.56	2.06	3.02	2.56	2.34	2.36	2.26	3.31	2.06
	Yen Bai	Mean	1.26	1.95	1.69	1.33	0.85	0.92	0.79	0.86	0.77	0.67	1.98	1.48	1.19
		%	100	100	100	100	100	100	100	100	100	100	100	100	100
		Max-w	1.90	2.77	2.54	1.57	1.16	1.13	0.96	1.19	0.98	0.74	3.12	1.86	3.12
		Min-w	0.90	0.77	1.31	1.08	0.62	0.71	0.63	0.55	0.47	0.61	0.77	1.07	0.47

Table 3.21.2 Particulate matter component: Ca^{2+} - Measured by FP using $PM_{2.5}$ cyclone

Unit : μg/m^3

Country	Site		2025												Annual
			Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	
Republic of Korea	Ganghwa	Mean	0.08	0.04	0.08	0.06	0.04	0.02	0.02	0.03	0.04	0.04	0.03	0.03	0.04
		%	10	14	16	17	16	17	16	16	17	16	17	16	15
		Max-d	0.18	0.05	0.25	0.17	0.09	0.03	0.04	0.05	0.08	0.11	0.04	0.04	0.25
		Min-d	0.02	0.03	0.02	0.02	0.02	<0.01	0.02	0.02	0.02	<0.01	0.01	0.02	<0.01
	Jeju	Mean	0.01	0.01	0.03	0.06	***	***	0.03	0.02	<0.01	0.01	0.02	0.03	0.02
		%	6	11	19	10	***	***	13	16	17	16	17	16	10
		Max-d	0.02	0.02	0.06	0.08	***	***	0.05	0.05	0.02	0.01	0.02	0.04	0.08
		Min-d	<0.01	<0.01	<0.01	0.03	***	***	<0.01	<0.01	<0.01	<0.01	<0.01	0.02	<0.01
	Imsil	Mean	0.02	0.02	0.03	0.04	0.02	0.01	***	0.01	0.07	<0.01	0.02	0.02	0.03
		%	10	11	13	17	16	7	***	13	17	16	17	16	11
		Max-d	0.04	0.04	0.06	0.11	0.06	0.01	***	0.02	0.30	0.02	0.04	0.04	0.30
		Min-d	<0.01	0.01	0.01	0.01	<0.01	<0.01	***	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01

Terms and abbreviations are given in Table 3.2.

Table 3.22 Annual SO_2 concentration from 2011 to 2025

unit: ppb

Country	Site	Method	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
Cambodia	Phnom Penh	FP	1.5	1.3	1.1	0.8	0.5	0.6	1.3	***	***	***	***	***	***	***	***
China	Jinyunshan	AT	9.3	9.8	8.6	7.5	5.3	3.3	3.6	2.6	2.9	2.8	2.7	2.7	3.0	3.2	1.9
	Hongwen	AT	5.8	7.2	5.6	6.3	2.4	3.3	3.6	3.3	2.0	1.8	1.5	1.3	1.0	1.0	1.0
		FP	6.7	***	***	***	***	2.9	2.9								
	Xiang Zhou	AT	5.6														
	Haibin-Park	AT		3.2	3.9	3.9	3.1	3.8	2.9	2.6	1.6	1.4	2.2	2.7	2.2	2.1	2.2
	Wuzhishan	AT									0.2	0.3	0.3	0.2	0.2	0.2	0.2
	Lijiang	AT									0.1	0.1	0.2	0.2	0.1	0.1	0.2
Indonesia	Jakarta	FP				6.0	5.4	2.5	1.7	2.7	1.8	3.2	4.2	4.0	***	***	***
		PS[*1]	5.0	6	5.3	4.5	5.2	5.6	4.4	6.2	6.5	5.4	7	7.2	***	***	***
	Serpong	FP	1.4	0.9	0.8	0.7	1.5	0.7	0.8	1.0	0.4	0.9	0.8	0.2	***	***	***
	Kototabang	PS[*1]	2.2	***	1.8	3.5	6.7	2.0	1.3	1.3	1.1	1.5	2	1.1	***	***	***
	Bandung	FP				4.1	1.3	1.9	1.7	4.3	4.2	2.7	4.5	4.9	***	***	***
		PS	4.0	4.0	4.0	4.3	3.2	4.8	4.1	3.0	2.8	2.1	2.9	3.8	***	***	***
Japan	Rishiri	AT	0.2	0.2	0.2	0.2	0.1	0.2	<0.1	0.1	<0.1	0.1	0.1	<0.1	<0.1	<0.1	<0.1
		FP	0.2	0.3	0.2	0.2	0.2	0.2	0.1	0.1	0.2	0.2	0.1	0.1	0.1	<0.1	<0.1
	Ochiishi	AT	0.1	0.1	0.1	0.2	0.1	0.2	0.2	0.1	0.1	0.1	0.2	0.1	0.1	<0.1	<0.1
		FP	0.3	0.4	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.2	0.2	0.2	0.2
	Tappi	AT	0.4	0.4	0.5	0.5	0.3	0.3	0.3	0.3							
		FP	0.4	0.5	0.4	0.5	0.3	0.3	0.3	0.3							
	Sado-seki	AT	0.4	0.3	0.4	0.4	0.3	0.2	0.2	0.2	0.2	0.1	<0.1	<0.1	0.1	0.1	
		FP	0.5	0.3	0.4	0.4	0.4	0.3	0.3	0.3	0.3	0.3	***	0.2	0.2	0.2	0.2
	Happo	AT	0.4	0.4	0.4	0.4	0.3	0.2	0.2	0.2	0.1	0.1	0.1	<0.1	0.1	<0.1	
		FP	0.3	0.5	0.5	0.6	0.6	0.4	0.4	0.4	0.4	0.4	0.4	0.3	0.3	0.3	0.2
	Ijira	AT	0.2	0.2	0.2	0.2	0.2	0.1	<0.1	0.2	0.1	0.2	0.1				
		FP	0.3	0.5	0.8	0.6	0.4	0.2	0.2	0.2	0.2	0.1	0.1	0.1	0.1	<0.1	0.1
	Oki	AT	0.6	0.5	0.6	0.5	0.4	0.3	0.4	0.4	0.3	0.2	0.1	0.1	0.2		
		FP	0.6	0.7	0.6	0.5	0.4	0.5	0.7	0.4	0.4	0.2	0.2	0.2	0.2	0.1	0.1
	Banryu	AT	0.5	0.6	0.5	0.4	0.3	0.3	0.3	0.2							
		FP	0.8	0.8	0.7	0.7	0.5	0.7	0.6	0.7							
	Yusuhara	AT	0.9	0.9	0.9	1.0	0.6	0.6	0.6	0.6	0.9	0.6	0.3	0.4	0.5		
		FP	0.7	0.7	0.8	0.9	0.5	0.5	0.5	0.4	0.6	0.4	0.3	0.3	0.3	0.3	0.3
	Hedo	AT	0.3	0.2	0.3	0.2	0.2	0.2	0.2	0.1	0.2	0.2	0.1	0.1	<0.1	0.1	***
		FP	0.2	0.3	0.4	0.3	0.4	0.2	0.2	0.3	0.4	0.4	0.3	0.2	<0.1	***	***
	Ogasawara	AT	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.3	0.2		
		FP	0.1	<0.1	<0.1	0.1	0.1	<0.1	<0.1	<0.1	<0.1	0.3	<0.1	0.4	0.3	<0.1	<0.1
	Tokyo	FP	1.6	1.4	1.6	1.5	1.3	1.3	1.4	1.3	1.2	0.7	0.7	0.7	0.7	0.6	0.7
	Niigata-maki	AT									0.2	0.1	<0.1	<0.1	0.2	<0.1	
		FP										0.3	0.3	0.2	0.2	0.1	
	Tsushima	FP										0.5	0.4	0.4	0.3	0.3	0.3
Lao PDR	Vientiane	FP					0.4	0.4	***	***	***	***	***	***	***	***	***
Malaysia	Petaling Jaya	FP	2.0	1.8	1.3	1.6	1.2	1.2	1.1	1.3	***	0.6	0.4	0.4	0.6	0.5	0.7
	Tanah Rata	FP	<0.1	<0.1	<0.1	0.2	<0.1	<0.1	<0.1	<0.1	***	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
	Danum Valley	FP	<0.1	0.1	0.2	<0.1	<0.1	<0.1	<0.1	<0.1	***	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Mongolia	Bayanzurkh	FP	6.1	***	***	***	***	7.5	4.8	3.4	5.0	5.8					
		AT				8.9	9.8	10.0	11.5	7.3	6.9	12.2	15.3	19.4	10.2	10.3	9.0
	Khan-Uul	AT															8.8
		FP										4.1	5.4	***	1.0	2.2	3.8
	Terelj	FP	0.7	***	***	***	***	0.6	0.2	0.1	0.3	0.2	0.4	***	0.5	0.4	0.4
	Terelj II TBD	FP															0.4
Myanmar	Yangon	FP	1.6	2.9	1.3	1.2	0.5	0.4	0.5	0.7	0.8	0.8	0.7	0.2	0.2	0.2	0.4
Philippines	Manila Observatory	AT													28.3	***	***
		FP	***	***	***	***	***	***	***	***	0.4	2.4	2.0	1.3	0.5	0.5	0.6
	Los Baños	FP	***	***	***	***	***	***	***	***	***	***	***	7.4	0.7	0.7	0.3
	Sta.Rosa	AT												11.2	***	11.1	***
	Mt. Sto. Tomas	FP	***	0.2	0.1	0.1	0.1	0.2	***	***	***	***	***	***	***	***	***
Republic of Korea	Ganghwa	AT	4.1	4.4	3.4	2.8	2.2	2.8	1.9	2.3	2.1	1.4	1.4	1.5	2.1	2.3	2.5
	Jeju	AT	2.5	0.9	0.6	0.5	0.5	0.5	0.5	0.8	1.0	0.7	0.7	0.5	0.5	0.5	0.6
	Imsil	AT	4.8	1.3	1.8	2.3	1.7	1.7	2.3	5.0	1.5	1.7	1.5	2.1	1.5	1.5	1.4
Russia	Mondy	FP	0.1	0.6	0.1	0.1	0.1	<0.1	0.2	0.2	0.3	<0.1	<0.1	<0.1	<0.1		
	Listvyanka	AT															6.1
		FP	2.8	5.2	2.6	1.1	2.8	4.1	2.9	2.2	2.2	1.9	4.4	2.7	4.6	3.6	2.6
	Irkutsk	FP	5.6	7.2	4.2	1.6	3.5	5.5	4.6	4.3	2.1	2.3	2.4	3.1	9.5	7.4	8.1
	Primorskaya	FP	1.2	1.2	0.7	0.4	0.7	0.8	0.4	0.1	0.2	0.3	0.2	0.5	0.6	0.2	0.4

Table 3.22 Annual SO_2 concentration from2011 to 2025 (continued)

unit: ppb

Country	Site	Method	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
Thailand	Bangkok	AT	1.6	1.5	1.9	1.4											
		FP	1.2	0.9	0.8	1.6	0.6	0.8	0.8	0.9	0.8	0.7	***	0.6	0.3		
	Samutprakarn	AT	2.6	2.5	3.0	3.7	3.0	2.0	1.5	2.0	1.0	1.5					
	Pathumthani	FP	0.6														
	Khanchanaburi	AT	1.3	0.6	1.0	1.8	1.2	1.7	1.4	1.4	0.7	***	***	0.2			
		FP	<0.1	0.2	<0.1	0.1	<0.1	0.4	0.1	0.3	0.2						
	Mae Hia	FP	0.3	0.2	0.2	<0.1	<0.1	0.2	0.2	<0.1	0.1						
	Chang Phueak	AT	0.6	0.9	1.3	0.9	1.3	0.8	0.8	0.9	0.6	0.4	1.2	0.4			
	Si Phum	AT			1.4	1.7	1.4	1.1	1.1	1.2	1.2	1.2	1.1	1.1	1.6		
	Sakaerat	FP	0.2	0.3	0.2	0.4	0.4	0.4	0.2	0.7	0.6						
	Nai Mueang	AT	1.4	1.1	1.2	1.0	2.9	3.2	0.7	0.7	0.9	0.6	0.6	0.8	1.1	1.7	
Vietnam	Hanoi	FP	1.9	2.2	2.1	3.2	4.5	1.8	1.0	0.5	0.4	0.7	0.9	0.9	0.4	0.7	0.9
	Hoa Binh	FP	1.2	1.2	1.1	2.8	3.6	1.3	0.6	0.5	0.3	0.8	1.0	0.7	0.8	0.9	0.9
	Can Tho	FP				1.2	1.0	0.3	0.2	0.6	0.5	0.6	0.5	0.5	0.6	0.6	0.5
	Ho Chi Minh	FP				1.6	1.5	0.5	0.4	0.6	0.6	0.6	0.6	0.5	0.5	0.6	0.7
	Yen Bai	FP					4.2	1.5	0.8	0.8	0.5	0.4	0.8	0.6	0.6	0.7	0.5

*1: Some annual averages are integers only, depending on their submitted unit and significant digits.

Terms and abbreviations are given in Table 3.2.

Table 3.23 Annual HNO_3 concentration from 2011 to 2025

unit: ppb

Country	Site	Method	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
Cambodia	Phnom Penh	FP	0.3	0.3	0.5	0.4	0.5	0.4	0.5	***	***	***	***	***	***	***	***
China	Hongwen	FP	2.1	***	***	***	***	1.2	1.1								
Indonesia	Jakarta	FP				3.1	1.4	1.0	1.0	1.4	0.9	1.1	1.3	1.0	***	***	***
	Serpong	FP	0.8	0.9	0.6	0.9	1.1	0.8	0.8	1.5	1.1	0.9	0.8	0.7	***	***	***
	Bandung	FP				0.7	0.5	0.5	0.4	0.8	0.9	0.4	0.5	0.4	***	***	***
Japan	Rishiri	FP	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
	Ochiishi	FP	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
	Tappi	FP	0.2	0.2	0.1	0.2	<0.1	<0.1	0.1	0.1							
	Sado-seki	FP	0.2	0.3	0.3	0.3	0.3	0.2	0.2	0.3	0.1	<0.1	***	0.1	0.1	<0.1	0.1
	Happo	FP	<0.1	0.3	0.3	0.3	0.3	0.2	0.2	0.2	0.2	0.2	0.2	0.1	0.2	0.2	0.2
	Ijira	FP	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.1	0.1	0.2	0.1	0.1	0.1
	Oki	FP	0.2	0.2	0.2	0.2	0.2	0.2	0.1	0.1	0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
	Banryu	FP	0.2	0.3	0.3	0.3	0.3	0.2	0.1	0.2							
	Yusuhara	FP	0.3	0.3	0.4	0.4	0.3	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.1	0.1	0.1
	Hedo	FP	<0.1	<0.1	0.1	0.1	0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	***	***
	Ogasawara	FP	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
	Tokyo	FP	0.6	0.6	0.8	0.8	0.7	0.6	0.7	0.6	0.5	0.5	0.4	0.4	0.4	0.5	0.5
	Niigata-maki	FP										0.1	0.1	0.1	0.1	<0.1	
	Tsushima	FP										0.4	0.3	0.2	0.2	0.1	0.2
Lao PDR	Vientiane	FP					0.3	0.2	***	***	***	***	***	***	***	***	***
Malaysia	Petaling Jaya	FP	0.7	0.5	0.7	0.8	0.7	0.4	0.5	0.9	***	0.4	0.5	0.5	0.6	0.5	0.5
	Tanah Rata	FP	<0.1	<0.1	0.1	0.1	0.1	<0.1	<0.1	<0.1	***	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
	Danum Valley	FP	<0.1	<0.1	0.3	<0.1	<0.1	<0.1	<0.1	<0.1	***	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Mongolia	Ulaanbaatar	FP	0.2	***	***	***	***	0.1	<0.1	<0.1	0.1	<0.1					
	Khan-Uul											0.1	<0.1	***	0.2	0.1	0.1
	Terelj	FP	0.1	***	***	***	***	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	***	<0.1	<0.1	<0.1
	Terelj II TBD	FP															<0.1
Myanmar	Yangon	FP	0.4	0.4	0.3	0.2	0.2	0.2	0.2	0.3	0.3	0.5	0.6	<0.1	0.1	0.1	0.1
Philippines	Manila Observatory	FP	***	***	***	***	***	***	***	***	0.1	0.3	0.4	0.7	0.4	0.2	0.1
	Los Baños	FP	***	***	***	***	***	***	***	***	***	***	***	0.6	0.3	0.3	0.2
	Mt. Sto. Tomas	FP	***	0.2	<0.1	0.1	<0.1	<0.1	***	***	***	***	***	***	***	***	***
Republic of Korea	Ganghwa	FP	***	***	0.4	0.5	0.3	0.4	0.1	0.1	<0.1	0.3	0.4	0.4	0.4	0.3	0.5
	Jeju	FP	***	***	0.4	0.8	0.5	0.6	0.3	0.4	<0.1	0.4	0.4	0.5	0.2	0.3	0.2
	Imsil	FP	***	***	0.6	0.6	0.4	0.7	0.6	0.4	<0.1	0.2	0.3	0.3	0.3	0.2	0.3
Russia	Mondy	FP	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1		
	Listvyanka	FP	0.1	<0.1	<0.1	<0.1	<0.1	0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
	Irkutsk	FP	0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.2	<0.1	<0.1	<0.1	<0.1	<0.1	0.2
	Primorskaya	FP	<0.1	0.1	0.3	0.2	0.2	0.3	0.2	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Thailand	Bangkok	FP	0.5	0.6	0.4	0.9	0.7	0.4	0.3	0.8	0.5	0.5	***	0.3	0.6		
	Pathumthani	FP	0.3														
	Khanchanaburi	FP	<0.1	0.3	0.1	0.2	0.3	1.7	0.2	0.4	0.5						
	Mae Hia	FP	0.1	0.2	0.2	<0.1	<0.1	0.2	0.2	0.1	0.2						
	Sakaerat	FP	<0.1	0.2	<0.1	0.3	0.3	0.4	0.2	0.3	0.3						
Vietnam	Hanoi	FP	0.9	1.0	0.7	0.5	0.7	0.9	1.6	0.4	0.4	0.6	0.8	0.8	0.4	0.6	0.9
	Hoa Binh	FP	0.3	0.4	0.3	0.4	0.5	0.7	0.9	0.4	0.3	0.6	0.5	0.6	0.7	0.7	0.8
	Can Tho	FP				0.5	0.4	0.2	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.1	0.1	0.1
	Ho Chi Minh	FP				0.6	0.6	0.2	0.4	0.4	0.3	0.4	0.4	0.3	0.4	0.5	0.3
	Yen Bai	FP					0.7	0.6	1.3	0.5	0.4	0.6	1.1	0.6	0.6	0.6	0.6

Terms and abbreviations are given in Table 3.2.

Table 3.24 Annual HCl concentration from 2011 to 2025

unit: ppb

Country	Site	Method	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
Cambodia	Phnom Penh	FP	0.4	0.7	1.3	1.1	1.3	1.2	1.6	***	***	***	***	***	***	***	***
China	Hongwen	FP	13.3	***	***	***	***	1.8	1.5								
Indonesia	Jakarta	FP				3.2	1.9	0.9	1.1	1.5	0.8	0.9	1.5	1.8	***	***	***
	Serpong	FP	0.7	0.8	0.7	0.8	1.0	0.7	0.9	1.3	1.3	1.0	1.1	1.1	***	***	***
	Bandung	FP				0.8	0.5	1.1	0.9	0.9	0.9	0.7	0.8	1.1	***	***	***
Japan	Rishiri	FP	0.5	0.4	0.5	0.4	0.4	0.4	0.4	0.4	0.8	0.4	0.3	0.3	0.3	0.4	0.4
	Ochiishi	FP	0.6	0.6	0.5	0.4	0.8	0.4	0.4	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.2
	Tappi	FP	0.7	0.6	0.6	0.7	0.5	0.5	0.5	0.4							
	Sado-seki	FP	0.8	0.9	0.8	0.9	1.2	0.7	0.8	1.0	0.5	0.5	***	0.6	0.5	0.5	0.5
	Happo	FP	<0.1	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.1
	Ijira	FP	0.2	0.1	0.1	0.1	0.2	0.2	0.2	0.2	0.2	0.1	0.2	0.1	0.2	0.2	0.1
	Oki	FP	1.0	0.9	1.0	0.9	0.9	0.8	0.8	0.7	0.7	0.6	0.4	0.6	0.5	0.4	0.4
	Banryu	FP	0.8	0.7	0.8	0.7	0.7	0.6	0.7	0.6							
	Yusuhara	FP	0.4	0.3	0.4	0.3	0.3	0.3	0.2	0.3	0.2	0.3	0.2	0.3	0.2	0.2	0.2
	Hedo	FP	0.4	0.6	1.0	1.1	1.1	1.0	0.9	0.9	0.9	0.8	0.5	0.6	0.4	***	***
	Ogasawara	FP	0.4	0.4	0.6	0.6	0.5	0.4	0.4	0.3	0.4	0.7	0.3	0.3	0.3	0.3	0.3
	Tokyo	FP	0.8	0.7	0.8	0.7	0.8	0.7	0.7	0.8	0.8	0.7	0.7	0.7	0.6	0.7	0.7
	Niigata-maki	FP										0.5	0.4	0.5	0.5	0.3	
	Tsushima	FP										0.6	0.5	0.5	0.4	0.5	0.4
Lao PDR	Vientiane	FP					0.3	0.2	***	***	***	***	***	***	***	***	***
Malaysia	Petaling Jaya	FP	0.8	1.2	1.3	1.1	0.7	2.8	0.3	1.5	***	1.2	1.2	1.0	0.8	0.7	1.0
	Tanah Rata	FP	0.2	0.4	0.3	0.3	0.4	0.7	0.2	<0.1	***	0.3	0.3	0.2	0.2	0.2	0.3
	Danum Valley	FP	0.2	0.5	1.0	0.4	0.3	0.3	0.1	0.2	***	0.2	0.6	0.2	0.2	0.2	0.2
Mongolia	Ulaanbaatar	FP	1.1	***	***	***	***	11.3	1.7	0.8	0.4	0.7					
	Khan-Uul	FP										4.1	0.6	***	2.9	1.9	0.7
	Terelj	FP	0.5	***	***	***	***	4.3	0.5	0.3	0.1	0.4	0.3	***	0.3	0.2	0.2
	Terelj II TBD	FP															0.3
Myanmar	Yangon	FP	1.5	1.5	0.6	0.7	0.7	0.2	0.4	0.5	0.6	0.8	0.7	0.3	0.3	0.5	0.6
Philippines	Manila Observatory	FP	***	***	***	***	***	***	***	***	0.6	0.4	1.0	1.2	0.9	0.4	0.5
	Los Baños	FP	***	***	***	***	***	***	***	***	***	***	***	1.8	1.4	1.9	1.2
	Mt. Sto. Tomas	FP	***	0.2	0.2	0.2	0.7	<0.1	***	***	***	***	***	***	***	***	***
Republic of Korea	Ganghwa	FP	***	***	0.3	0.2	0.1	<0.1	<0.1	<0.1	0.7	0.1	0.1	0.1	0.1	0.2	<0.1
	Jeju	FP	***	***	0.2	0.2	0.2	0.2	0.2	0.2	1.1	0.1	0.2	<0.1	0.1	0.1	0.1
	Imsil	FP	***	***	0.2	0.2	0.2	0.2	0.2	0.2	1.2	<0.1	<0.1	<0.1	0.1	<0.1	<0.1
Russia	Mondy	FP	0.4	0.7	0.7	0.8	1.9	1.6	2.7	2.6	1.0	0.2	0.1	0.2	<0.1		
	Listvyanka	FP	1.8	9.8	2.1	2.6	7.4	9.0	6.0	5.3	7.0	1.0	0.6	0.4	0.2	0.4	0.3
	Irkutsk	FP	1.4	2.6	1.7	1.4	7.0	3.2	4.7	5.3	1.8	0.3	0.4	0.3	0.3	0.3	0.5
	Primorskaya	FP	1.1	1.0	0.5	0.4	0.4	0.8	0.6	0.2	0.1	0.6	0.2	0.4	0.3	0.2	0.1
Thailand	Bangkok	FP	0.7	0.7	0.6	1.2	0.7	1.5	0.7	1.0	0.9	1.2	***	0.4	0.5		
	Pathumthani	FP	0.5														
	Khanchanaburi	FP	0.2	0.2	0.2	0.3	0.2	1.4	0.3	0.3	0.5						
	Mae Hia	FP	0.3	0.3	0.2	0.2	0.2	0.2	0.2	0.4	0.4						
	Sakaerat	FP	0.2	0.2	0.2	0.4	0.5	0.4	0.2	0.2	0.3						
Vietnam	Hanoi	FP	2.0	2.1	1.6	3.0	2.0	3.3	2.0	1.1	1.1	1.4	3.2	2.2	1.0	1.6	2.2
	Hoa Binh	FP	1.6	1.7	1.6	3.2	1.8	2.4	1.6	1.2	1.3	2.3	2.1	2.0	2.2	2.7	3.1
	Can Tho	FP				1.7	1.4	1.2	0.9	1.8	1.7	1.8	1.6	1.7	1.7	1.8	1.8
	Ho Chi Minh	FP				1.6	1.1	1.5	1.3	1.6	3.3	1.5	1.4	1.3	1.3	1.8	1.6
	Yen Bai	FP					2.4	2.4	2.3	1.8	1.4	1.9	2.3	2.0	1.7	1.8	1.4

Terms and abbreviations are given in Table 3.2.

Table 3.25 Annual NH_3 concentration from 2011 to 2025

unit: ppb

Country	Site	Method	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
Cambodia	Phnom Penh	FP	11.5	9.9	9.4	6.9	7.3	6.8	7.5	***	***	***	***	***	***	***	***
China	Hongwen	FP	9.5	***	***	***	***	10.7	9.3								
Indonesia	Jakarta	FP				38.3	13.7	10.5	4.1	15.2	2.4	9.2	10.8	12.6	***	***	***
	Serpong	FP	11.0	16.1	11.7	11.8	18.3	11.1	5.8	8.3	5.2	9.8	6.1	8.1	***	***	***
	Bandung	FP				8.4	9.4	6.6	8.6	8.7	10.5	10.1	10.3	10.1	***	***	***
		PS								9.8	11.9	20.7	15.5	15.6	***	***	***
Japan	Rishiri	FP	0.4	0.3	0.4	0.4	0.4	0.4	0.5	0.5	1.1	0.5	0.5	0.6	0.9	0.9	0.8
	Ochiishi	FP	0.4	0.4	0.3	0.4	0.3	0.3	0.3	0.3	0.4	0.4	0.3	0.3	0.4	0.4	0.5
	Tappi	FP	0.4	0.4	0.4	0.5	0.5	0.4	0.4	0.4							
	Sado-seki	FP	0.6	0.6	0.6	0.7	0.8	0.6	0.7	1.0	0.7	0.6	***	1.2	1.1	1.0	1.0
	Happo	FP	0.2	0.4	0.4	0.4	0.4	0.5	0.5	0.6	0.5	0.5	0.6	0.6	0.5	0.5	0.5
	Ijira	FP	1.0	1.0	1.3	0.9	1.0	0.8	0.9	1.1	1.0	0.8	0.9	0.8	0.8	0.8	0.8
	Oki	FP	0.7	0.5	0.6	0.6	0.7	0.9	0.6	0.9	0.9	0.8	0.9	0.8	0.8	0.7	0.7
	Banryu	FP	0.9	0.8	0.7	0.7	0.7	1.0	0.7	1.2							
	Yusuhara	FP	0.5	0.5	0.6	0.6	0.5	0.6	0.6	0.5	0.5	0.5	0.6	0.5	0.5	0.5	0.5
	Hedo	FP	0.9	1.3	1.1	1.1	1.3	1.2	1.3	1.1	1.4	1.2	1.1	0.9	0.8	***	***
	Ogasawara	FP	0.7	0.5	0.6	0.6	0.5	0.5	0.5	0.5	0.5	0.7	0.6	0.4	0.5	0.5	0.5
	Tokyo	FP	4.4	3.9	4.6	4.6	4.2	4.2	4.2	3.8	3.8	3.7	3.6	3.9	4.0	3.7	3.7
	Niigata-maki	FP										1.1	1.4	1.5	1.4	0.7	
	Tsushima	FP										0.9	1.0	1.0	1.0	1.1	0.9
Lao PDR	Vientiane	FP					2.6	2.7	***	***	***	***	***	<0.1	***	***	***
Malaysia	Petaling Jaya	FP	6.7	6.5	8.6	10.0	9.2	11.2	7.6	10.4	***	7.4	6.2	6.8	7.9	7.2	8.0
	Tanah Rata	FP	1.2	0.9	1.2	2.2	3.0	2.3	1.8	<0.1	***	1.7	1.4	1.2	1.5	1.5	1.8
	Danum Valley	FP	0.9	0.7	3.8	1.2	1.4	1.4	1.1	1.0	***	1.7	2.4	1.5	1.7	1.3	1.8
Mongolia	Ulaanbaatar	FP	8.7	***	***	***	***	***	9.7	7.3	7.0	4.8					
	Khan-Uul	FP										6.7	6.3	***	***	8.2	4.7
	Terelj	FP	1.5	***	***	***	***	***	1.7	2.1	1.3	1.2	1.5	***	***	1.2	1.2
	Terelj II TBD	FP															2.5
Myanmar	Yangon	FP	15.5	10.2	6.2	8.9	7.6	7.1	5.8	2.0	2.1	1.0	2.7	4.1	0.6	1.0	0.9
Philippines	Manila Observatory	FP	***	***	***	***	***	***	***	***	13.1	9.6	7.8	10.4	13.4	8.6	4.3
	Los Baños	FP	***	***	***	***	***	***	***	***	***	***	***	8.5	6.1	3.5	1.5
	Mt. Sto. Tomas	FP	***	1.0	1.1	2.2	1.9	1.9	***	***	***	***	***	***	***	***	***
Republic of Korea	Ganghwa	FP	***	***	7.4	3.7	4.3	0.8	0.4	0.5	3.8	3.6	3.8	3.0	3.2	3.2	2.6
	Jeju	FP	***	***	3.2	6.9	7.5	4.0	7.0	7.1	7.2	3.1	3.3	3.5	3.2	3.6	3.4
	Imsil	FP	***	***	3.0	6.3	5.6	4.3	8.4	9.4	10.8	3.4	4.0	7.6	5.8	4.8	4.3
Russia	Mondy	FP	0.4	0.7	0.6	0.4	0.8	1.5	1.0	1.2	1.4	1.1	0.7	1.3	0.1		
	Listvyanka	FP	0.8	0.6	1.3	2.4	2.8	3.9	2.9	1.7	2.9	3.3	4.3	3.1	1.3	2.0	2.3
	Irkutsk	FP	1.7	1.4	1.5	4.8	2.8	3.0	2.3	3.1	2.8	3.2	2.0	2.5	2.8	4.4	5.7
	Primorskaya	FP	4.2	1.3	1.1	1.3	1.4	2.5	0.8	1.4	6.4	1.4	1.1	1.0	2.4	1.2	1.1
Thailand	Bangkok	FP	8.8	8.3	8.7	14.6	9.2	9.7	6.4	12.2	6.8	7.5	***	1.7	4.4		
	Pathumthani	FP	5.2														
	Khanchanaburi	FP	1.5	2.4	3.4	4.8	3.0	7.9	4.2	3.8	3.1						
	Mae Hia	FP	5.3	4.4	3.5	1.5	0.9	5.0	4.6	4.6	4.8						
	Sakaerat	FP	1.8	3.3	2.9	3.5	3.9	4.6	3.5	4.6	5.8						
Vietnam	Hanoi	FP	6.4	4.8	1.4	1.6	2.6	4.3	3.9	2.4	2.1	2.8	3.8	4.2	2.0	2.6	3.9
	Hoa Binh	FP	2.4	2.6	1.7	1.4	1.2	1.3	1.8	1.4	1.4	1.3	1.2	1.5	1.5	2.1	2.3
	Can Tho	FP				2.6	2.5	3.3	3.4	4.9	5.4	4.9	4.3	5.0	5.2	4.5	3.6
	Ho Chi Minh	FP				3.0	2.8	4.3	5.6	4.6	4.1	4.6	4.1	3.9	3.1	2.7	4.0
	Yen Bai	FP					2.9	2.8	3.5	3.2	3.4	2.5	3.1	3.6	3.0	2.9	2.4

Terms and abbreviations are given in Table 3.2.

Table 3.26 Annual NO concentration from 2011 to 2025

unit: ppb

Country	Site	Method	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
Cambodia	Phnom Penh	AT(CLD)									4.1	3.0	1.6	3.9	2.1	1.1	***
China	Jinyunshan	AT(DOAS)	1.6	2.1	1.6	1.7	1.5	3.3	8.7	7.6	6.0	8.1	2.8	2.6	2.0	1.7	1.6
Japan	Rishiri	AT(CLD)	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
	Ochiishi	AT(CLD)	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	***	<0.1
	Tappi	AT(CLD)	0.2	0.1	0.1	<0.1	<0.1	0.2	0.1	<0.1							
	Sado-seki	AT(CLD)	<0.1	<0.1	0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	
	Happo	AT(CLD)	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1				
	Ijira	AT(CLD)	0.2	0.1	0.2	0.2	0.5	0.3	0.1	0.3	0.5	0.3	0.4	0.1	0.2	0.2	
	Oki	AT(CLD)	<0.1	<0.1	<0.1	0.2	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1			
	Banryu	AT(CLD)	<0.1	0.2	0.2	0.2	0.2	0.2	0.2	0.1							
	Yusuhara	AT(CLD)	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1				
	Hedo	AT(CLD)	0.2	<0.1	0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1		
	Ogasawara	AT(CLD)	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1		
	Niigata-maki	AT(CLD)									0.1	0.1	0.2	0.1	0.2	<0.1	
Lao PDR	Vientiane	AT(CLD)				8.4	10.9	***	***	***	***	***	***	***	***	***	***
Mongolia	Ulaanbaatar	AT(CLD)															
	Bayanzurkh	AT(CLD)				21.8	27.8	22.7	19.4	12.7	15.2	15.4	18.3	17.1	16.6	55.3	14.2
	Khan-Uul	AT(CLD)															30.5
Philippines	Manila Observatory	AT(CLD)					17.6	13.9	***	***	***	***	***	***	***	***	***
Russia	Listvyanka																1.3
Thailand	Bangkok	AT(CLD)	10.3	9.5	8.5	6.5	6.2	5.0	6.6	6.0	4.4	3.4	2.9	***	***	***	5
	Samutprakarn	AT(CLD)	15.1	17.1	12.6	11.6	9.5	8.5	7.3	7.1	7.0	2.7					
	Khanchanaburi	AT(CLD)	1.1	0.5	3.3	7.0	1.0	0.1	0.5	2.9	1.0	0.3	***	11.9			
	ChangPhueak	AT(CLD)	2.0	4.3	1.9	2.3	3.5	2.8	2.4	2.0	1.6	1.4	1.2	1.1			
	Si Phum	AT(CLD)			6.9	7.0	11.8	13.5	9.1	7.7	7.9	10.8					
	Nai Mueang	AT(CLD)	16.5	15.6	15.4	11.7	11.3	13.6	13.0	10.3	11.4	8.4	6.3	7.6	7.2	***	7

Terms and abbreviations are given in Table 3.2.

Table 3.27 Annual NO_2 concentration from 2011 to 2025

unit: ppb

Country	Site	Method	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
Cambodia	Phnom Penh	AT(CLD)									10.0	7.7	2.5	7.2	3.4	3.6	***
China	Hongwen	AT(DOAS)	20.2	20.0	19.5	18.6	14.8	16.1	14.7	13.5	11.2	8.7	10.0	9.6	8.6	6.5	7.7
	Haibin-Park	AT(DOAS)		13.8	17.6	18.7	15.6	16.9	15.9	15.5	13.3	11.2	12.1	9.3	9.2	9.6	9.9
	Wuzhishan	AT(CLD)									0.9	0.9	1.1	0.9	0.8	0.9	0.8
	Lijiang	AT(CLD)									0.6	1.2	1.4	1.4	0.8	0.8	0.8
Indonesia	Jakarta	PS[*1]	***	16	26.5	25.9	25.7	26.5	28.4	22.8	21.4	16.0	17	18.9	***	***	***
	Kototabang	PS[*1]	***	***	2.5	0.7	1.2	1.0	1.2	1.0	0.9	0.9	1	0.6	***	***	***
	Bandung	PS	39.0	42.8	41.0	40.6	54.4	74.6	36.0	30.3	35.9	31.2	17.3	21.2	***	***	***
Japan	Banryu	AT(CLD)	2.5	1.9	1.7	1.8	1.6	1.8	2.0	1.7							
Lao PDR	Vientiane	AT(CLD)				10.0	11.4	***	***	***	***	***	***	***	***	***	
Mongolia	Bayanzurkh	AT(CLD)				26.9	30.3	35.9	42.9	34.3	33.5	21.9	23.4	25.2	21.9	20.5	20.9
	Khan-Uul	AT(CLD)															9.5
Philippines	Manila Observatory	AT(CLD)					15.5	12.9	***	***	***	***	***	***	7.8	***	***
	Sta. Rosa	AT(CLD)												48.7	***	48.3	***
Republic	Ganghwa	AT(CLD)	5.4	5.0	5.7	5.9	7.4	6.8	5.7	4.9	5.4	4.6	6.0	5.6	6.2	5.0	5.5
of Korea	Jeju	AT(CLD)	4.4	3.0	3.4	3.3	3.7	3.1	2.7	3.6	4.6	4.3	3.7	3.2	3.1	2.7	3.1
	Imsil	AT(CLD)	5.0	4.6	5.1	4.0	4.4	4.6	4.0	4.1	4.2	4.0	5.2	5.2	4.6	4.1	3.5
Thailand	Bangkok	AT(CLD)	24.5	24.7	25.3	20.3	14.4	16.1	17.6	19.1	17.5	15.1	14.0	***	***	***	22
	Samutprakarn	AT(CLD)	21.5	17.1	15.1	12.4	10.5	13.4	15.6	17.4	17.7	15.4	***				
	ChangPhueak	AT(CLD)	9.6	11.2	12.3	11.2	10.2	9.3	8.4	5.8	9.1	8.3	11.9	4.3			
	Si Phum	AT(CLD)			16.1	14.9	18.1	18.9	14.5	19.0	15.3	24.4					
	Nai Mueang	AT(CLD)	17.6	18.7	19.4	15.6	15.0	17.7	22.7	19.0	16.2	16.8	14.4	15.0	15.0	***	14

*1: Some annual averages are integers only, depending on their submitted unit and significant digits.
Terms and abbreviations are given in Table 3.2.

Table 3.28 Annual NO_x concentration from 2011 to 2025

unit: ppb

Country	Site	Method	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
Cambodia	Phnom Penh	AT(CLD)									14.0	10.7	3.8	11.1	5.4	4.7	***
China	Jinyunshan (NOx*)	AT(CLD)	10.0	8.4	9.1	8.9	9.6	13.5	18.5	17.9	14.1	16.0	12.9	11.5	9.8	8.8	6.8
Japan	Rishiri (NOx*)	AT(CLD)	0.6	0.7	0.6	0.7	0.5	0.6	0.6	0.6	0.5	0.5	0.6	0.5	0.5	0.4	0.6
	Ochiishi (NOx*)	AT(CLD)	1.1	1.0	0.8	0.9	0.9	0.9	0.9	0.9	0.9	0.9	1.0	0.8	0.9	***	1.0
	Tappi (NOx*)	AT(CLD)	1.1	1.2	1.4	1.5	1.4	1.4	1.3	1.2							
	Sado-seki (NOx*)	AT(CLD)	0.7	0.7	0.8	0.7	0.7	0.7	0.7	0.7	0.8	0.7	0.4	0.5	0.7	0.7	
	Happo (NOx*)	AT(CLD)	1.1	1.1	0.9	1.1	0.9	0.7	0.7	0.8	0.6	0.6	0.6				
	Ijira (NOx*)	AT(CLD)	2.0	2.2	1.7	1.7	2.4	1.6	1.4	1.9	1.8	1.0	1.5	1.3	1.5	1.0	
	Oki (NOx*)	AT(CLD)	1.3	1.0	1.1	1.3	1.1	1.0	1.0	1.1	1.0	0.7	0.5	0.6			
	Banryu	AT(CLD)	2.5	2.0	1.9	2.0	1.8	1.9	2.1	1.8							
	Yusuhara (NOx*)	AT(CLD)	1.3	1.4	1.4	1.2	1.3	1.3	1.5	1.2	1.4	1.0	1.0	***	***		
	Hedo (NOx*)	AT(CLD)	0.7	0.5	0.9	0.7	0.7	0.6	0.7	0.7	0.6	0.5	0.5	0.5	0.9		
	Ogasawara (NOx*)	AT(CLD)	0.4	0.5	0.4	0.3	0.4	0.3	0.4	0.3	0.4	0.7	0.2	0.3	0.1		
	Niigata-miki (NOx*)	AT(CLD)									2.1	1.8	2.0	1.7	1.8	1.9	
Lao PDR	Vientiane	AT(CLD)				18.4	22.4	***	***	***	***	***	***	***	***	***	***
Mongolia	Ulaanbaatar	AT(CLD)															
	Bayanzurkh	AT(CLD)				48.7	58.2	58.6	62.3	47.0	48.7	37.3	41.8	42.3	38.5	75.9	35.1
	Khan-Uul	AT(CLD)															40.0
Philippines	Manila Observatory	AT(CLD)					33.2	26.9	***	***	***	***	***	***	***	***	***
Russia	Listvyanka																4.3
Thailand	Bangkok	AT(CLD)	35.0	34.5	34.0	27.0	20.6	21.2	24.2	25.1	22.0	18.5	16.9	***	***	***	27
	Samutprakarn	AT(CLD)	36.7	34.1	27.7	24.0	20.0	21.8	22.8	24.5	24.6	18.1					
	Khanchanaburi (NOx*)	AT(CLD)	4.1	2.0	4.7	11.6	3.0	2.7	1.4	6.1	3.0	3.0	***	15.8			
	Chang Phueak	AT(CLD)	11.6	15.5	14.2	13.5	13.7	12.1	10.7	7.9	10.7	9.5	13.0	5.2			
	Si Phum	AT(CLD)			23.0	21.9	29.8	32.3	23.5	26.6	23.1	35.2					
	Nai Mueang	AT(CLD)	34.0	34.2	34.6	27.3	26.2	31.3	35.7	29.3	27.5	25.0	20.6	22.5	22.1	***	21

Terms and abbreviations are given in Table 3.2.

Table 3.29.1 Annual O_3 concentration from 2011 to 2025

unit: ppb

Country	Site	Method	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
Cambodia	Phnom Penh	AT(UVP)									18	19	24	17	19	24	27
Indonesia	Bandung	AT(UVP)					26	10	11	15	8	***	***	***	***	***	***
		PS								10	11	9	7	9	***	***	***
Japan	Rishiri	AT(UVP)	37	34	37	39	40	39	37	36	32	34	35	35	35	35	37
	Ochiishi	AT(UVP)	35	39	39	42	40	38	42	40	33	35	34	33	34	34	35
	Tappi	AT(UVP)	38	41	40	39	38	41	45	45							
	Sado-seki	AT(UVP)	49	46	46	47	45	45	45	44	44	40	36	38	42	42	43
	Happo	AT(UVP)	53	49	49	48	48	47	47	50	51	45	47	45	46	42	46
	Ijira	AT(UVP)	20	24	26	28	26	25	28	28	24	17	25	22	29	***	***
	Oki	AT(UVP)	46	46	48	47	47	46	47	46	45	43	43	43	43	44	44
	Banryu	AT(UVP)	33	33	33	33	33	33	35	32							
	Yusuhara	AT(UVP)	33	34	39	40	40	37	41	39	39	39	38	37	44	***	***
	Hedo	AT(UVP)	33	35	38	40	39	36	36	29	37	30	29	27	38	***	***
	Ogasawara	AT(UVP)	29	32	37	33	35	29	36	30	45	41	29	28	42	25	42
	Niigata-maki	AT(UVP)									38	35	36	35	35	37	
	Tsushima	AT(UVP)									47	43	45	44	41	***	***
Mongolia	Bayanzurkh	AT(UVP)				12	13	12	9	11	12	12	11	11	10	8	7
	Khan-Uul	AT(CLD)															18
Philippines	Manila Observatory	AT(UVP)					7	10	***	***	***	***	***	***	***	***	***
	Sta. Rosa	AT(UVP)												42	***	98	***
Republic	Ganghwa	AT(UVP)	39	44	46	50	47	45	43	41	46	42	43	44	34	40	42
of Korea	Jeju	AT(UVP)	35	39	41	45	46	39	47	42	46	42	45	45	45	43	44
	Imsil	AT(UVP)	30	33	31	31	36	36	29	28	36	29	31	31	32	32	32
Russia	Mondy	AT(UVP)	40	38	38	35	40	43	27								
		PS								42	***	***	***	27			
	Listvyanka	AT															34
		PS				39	39	35	25	36	***	***	***	31	***	39	37
	Irkutsk	PS						30	14	22	***	20	***	18	***	10	15
Thailand	Bangkok	AT(UVP)	19	17	21	19	43	21	22	22	***	29	29	27	31		
	Samutprakarn	AT(UVP)	17	19	20	22	23	16	17	20	***	29	26	27			
	Khanchanaburi	AT(UVP)	12	16	13	22	20	19	18	25	***	23	***	36			
	ChangPhueak	AT(UVP)	25	21	21	20	22	25	22	29	31	26	31	32			
	Si Phum	AT(UVP)			22	19											
	Nai Mueang	AT(UVP)	***	19	22	22	21	22	26	22	25	26	26	25	24	21	

Table 3.29.2 Annual O_3 concentration based on the daily maximum 8-hour moving average in China from 2022 to 2025.

unit: ppb

Country	Site	Method	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
China	Jinyunshan													31	48	49	48
	Hongwen													42	42	38	48
	Haibin-Park													41	48	46	48

Terms and abbreviations are given in Table 3.2.

Table 3.30 Annual PM_{10} concentration from 2011 to 2025

unit: μg/m^3

Country	Site	Method	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
China	Jinyunshan	AT(β-ray)	45	43	64	57	48	56	50	48	39	35	38	33	38	32	35
	Hongwen	AT(TEOM)	61	59	58	54	43	42	43	41	37	33	35	32	37	34	33
	Xiang Zhou	AT(TEOM)	49														
	Haibin-Park	AT(TEOM)		44	54	46	50	41	42	40	37	31	34	29	33	33	33
	Wuzhishan	AT(Hybrid)									14	11	12	11	12	13	11
	Lijiang	AT(Hybrid)									8	7	9	9	8	8	7
Japan	Rishiri	TEOM/AT(β-ray)	15	13	12	26	19	16	17	17	22	18	19	20	21	21	21
	Ochiishi	AT(β-ray)	23	20	16	26	22	18	16	15	15	13	16	15	16	13	13
	Tappi	AT(β-ray)	18	17	18	20	20	18	16	16							
	Sado-seki	TEOM/AT(β-ray)	21	19	20	23	24	20	21	22	24	20	21	***	18	20	19
	Happo	AT(β-ray)	12	11	11	12	10	10	7	9	6	7	9	9	6	11	9
	Ijira	AT(β-ray)	19	16	18	17	17	16	18	17	15	13	13	12	14	14	15
	Oki	AT(β-ray)	25	23	27	31	32	29	28	29	30	29	36	***	30	28	29
	Banryu	AT(β-ray)	24	22	25	25	24	22	24	22							
	Yusuhara	AT(β-ray)	16	15	17	15	16	14	14	15	13	13	14	12	13	9	13
	Hedo	AT(β-ray)	28	27	26	27	31	28	29	31	29	29	29	26	25	30	25
	Ogasawara	AT(β-ray)	10	11	12	11	18	19	19	20	20	19	16	16	19	18	18
	Niigata-maki	AT(β-ray)										21	23	22	25	24	
	Tsushima	AT(β-ray)									23	19	22	17	21	18	20
Lao PDR	Vientiane	AT(β-ray)				72	72	***	***	***	***	***	***	***	***	***	
Mongolia	Bayanzurkh	AT(β-ray)				211	106	97	102	121	126	92	84	87	81	76	61
	Khan-Uul	AT(β-ray)															62
Philippines	Manila Observatory	AT(β-ray)					33	29	***	***	***	***	***	***	***	***	***
	North Caloocan	AT(β-ray)												51	56	***	***
	Sta. Rosa	AT(β-ray)												32	21	69	***
Republic of Korea	Ganghwa	AT(β-ray)	44	45	48	49	52	51	49	42	43	36	32	29	39	35	28
	Jeju	AT(β-ray)	42	37	45	47	45	42	37	39	39	30	30	30	33	27	26
	Imsil	AT(β-ray)	38	36	39	44	43	42	39	37	49	34	38	31	30	22	23
Thailand	Bangkok	AT(β-ray)	38	37	41	37	32	35	36	36	34	32	32	31	34		
	Samutprakarn	AT(β-ray)	54	39	44	41	35	38	38	42	40	34	35	35	61		
	Khanchanaburi	AT(β-ray)	23	10	28	90	23	34	17	35	33	121	***	41			
	ChangPhueak	AT(β-ray)	33	42	41	45	43	48	43	50	56	52	46	37			
	Si Phum	AT(β-ray)			47	47	49	52	45	41	50	46	38	33	75		
	Nai Mueang	AT(β-ray)	***	54	59	51	45	55	54	53	49	50	44	41	43		

Terms and abbreviations are given in Table 3.2.

Table 3.31 Annual $PM_{2.5}$ concentration from 2011 to 2025

unit: μg/m^3

Country	Site	Method	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
Cambodia	Phnom Penh	AT(β-ray)							13	19	28	20	18	17	19	20	20
China	Jinyunshan	AT(β-ray)												29	22	20	22
	Hongwen	AT(β-ray)												16	19	19	17
	Haibin-Park	AT(β-ray)												19	18	19	25
Indonesia	Jakarta	AT(β-ray)						***	39	46	38	34	***	***	***	***	***
Japan	Rishiri	AT(β-ray)	8	8	7	8	8	7	8	7	8	7	6	6	7	7	7
	Ochiishi	AT(β-ray)	10	9	7	7	9	8	7	6	7	5	6	6	6	5	6
	Tappi	AT(β-ray)					10	9	8	9							
	Sadoseki	AT(β-ray)				11	10	10	10	9	9	7	4	***	7	8	8
	Happo	AT(β-ray)					7	6	6	6	5	5	5	5	3	7	5
	Ijira	AT(β-ray)					11	9	11	8	8	6	6	6	6	6	7
	Oki	AT(β-ray)	14	13	15	13	13	12	11	12	10	9	11	***	8	7	9
	Banryu	AT(β-ray)					13	12	13	11							
	Yusuhara	AT(β-ray)					11	10	10	10	10	9	9	8	9	7	10
	Hedo	AT(β-ray)					10	10	11	11	10	10	9	8	9	8	9
	Ogasawara	AT(β-ray)					7	6	6	6	6	6	6	5	6	5	5
	Niigata-maki	AT(β-ray)										7	6	7	7	6	
	Tsushima	AT(β-ray)									12	10	10	9	10	9	10
Lao PDR	Vientiane	AT(β-ray)								31	32	29	27	27	38	37	***
Mongoloa	Ulaanbaatar	AT(β-ray)					72	53	48	43	39						
	Bayanzurkh	AT(β-ray)				50	53	58	52	45	35	29	49	25	23	23	24
	Khan-Uul	AT(β-ray)															27
Myanmar	Yangon	AT(β-ray)								24	24	22	28	26	27	25	23
	Mandalay	AT(β-ray)					47	33	37	16	41	77					
Philippines	Manila Observatory	AT(β-ray)					22	20	18	17	16	12	13	***	***	***	***
	North Caloocan	AT(β-ray)												20	26	***	***
	Sta. Rosa	AT(β-ray)												21	17	53	***
	Mt. Sto. Tomas	AT(β-ray)											3	3	5	8	3
Republic of Korea	Ganghwa	AT(β-ray)						28	25	22	23	19	19	18	22	18	17
	Jeju	AT(β-ray)						21	16	16	20	15	12	13	13	14	15
	Imsil	AT(β-ray)									19	16	18	18	19	15	15
Thailand	Bangkok	AT(β-ray)					18	23	25	21	21	19	18	16	18	16	17
	Samutprakarn	AT(β-ray)						28	24	23	22	19	20	23	26	23	21
	Khanchanaburi	AT(β-ray)					24	***	7	27	7	104	***	15	25	33	23
	ChangPhueak	AT(β-ray)						24	30	29	36	33	29	23	34	30	23
	Si Phum	AT(β-ray)			35	33	33	32	23	30	31	28	24	19	33	28	17
	Nai Mueang	AT(β-ray)									24	27	25	24	27	27	23
Vietnam	Hoa Binh	AT(β-ray)					40	49	37	37	34	30	29	***	13	25	25

Terms and abbreviations are given in Table 3.2.

Table 3.32 Annual SO_4^{2-} in PM concentration from 2011 to 2025

unit: μg/m^3 unit: μg/m^3

Country	Site	Method	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
Cambodia	Phnom Penh	FP	2.95	2.63	2.91	2.11	2.20	1.54	2.11	***	***	***	***	***	***	***	***
China	Hongwen	FP	17.60	***	***	***	***	10.92	9.08								
Indonesia	Jakarta	FP				11.44	6.76	3.53	4.23	6.68	5.52	4.07	6.42	5.47	***	***	***
	Serpong	FP	0.65	4.03	3.54	3.69	5.16	3.41	4.43	6.42	6.05	4.99	5.49	3.78	***	***	***
	Bandung	FP				6.93	2.69	2.73	2.28	7.52	8.08	5.03	7.14	8.12	***	***	***
Japan	Rishiri	FP	2.71	2.32	2.72	2.21	2.52	2.05	2.13	2.05	3.82	2.13	1.81	1.92	2.02	1.63	1.85
	Ochiishi	FP	2.13	1.95	2.19	2.52	2.05	1.98	2.38	2.03	2.05	1.67	2.14	2.09	1.96	1.61	2.08
	Tappi	FP	3.99	3.76	3.83	5.38	4.30	3.08	3.02	2.56							
	Sado-seki	FP	3.50	3.53	3.71	3.54	4.03	2.88	2.82	3.73	2.50	2.08	***	2.01	2.28	1.91	2.33
	Happo	FP	1.02	2.36	2.50	2.49	2.16	1.80	1.57	1.56	1.24	1.54	1.06	1.02	1.27	1.14	1.31
	Ijira	FP	3.55	2.52	2.88	3.84	2.84	2.91	2.50	2.45	2.51	1.64	1.60	1.78	1.60	1.49	2.08
	Oki	FP	4.76	4.90	5.56	5.25	4.69	4.84	4.31	4.12	3.68	3.47	2.79	3.12	2.87	2.48	2.64
	Banryu	FP	4.55	5.05	5.56	4.99	4.60	4.24	3.52	3.59							
	Yusuhara	FP	4.03	4.44	5.28	4.72	3.75	3.29	3.16	2.94	2.88	2.53	2.15	2.37	2.11	1.76	2.17
	Hedo	FP	2.48	4.28	5.43	5.39	5.12	4.57	4.37	4.37	3.84	3.79	2.86	2.88	2.16	***	***
	Ogasawara	FP	2.46	2.41	3.10	2.58	2.69	1.93	1.94	1.67	1.86	3.01	2.00	1.67	1.68	1.35	1.46
	Tokyo	FP	4.06	3.14	4.38	4.11	3.79	3.16	3.08	3.28	3.11	2.53	2.18	2.26	2.32	1.92	2.58
	Niigata-maki	FP										1.93	1.62	1.69	2.10	1.70	
	Tsushima	FP										3.19	2.78	2.58	2.66	2.25	2.63
Lao PDR	Vientiane	FP					4.75	3.77	***	***	***	***	***	***	***	***	***
Malaysia	Petaling Jaya	FP	4.22	3.24	3.17	4.81	4.19	2.96	2.77	4.72	***	2.65	2.40	2.61	3.20	2.97	3.33
	Tanah Rata	FP	1.18	1.52	1.48	2.59	3.29	2.01	1.28	0.15	***	1.42	1.09	1.13	1.90	1.68	2.01
	Danum Valley	FP	0.86	0.38	0.78	1.11	1.80	1.10	0.75	1.05	***	0.77	0.72	0.73	0.91	1.03	0.93
Mongolia	Ulaanbaatar	FP	4.11	***	***	***	***	2.10	2.23	1.25	1.15	1.07					
	Khan-Uul	FP										0.84	1.27	***	0.13	1.69	2.74
	Terelj	FP	1.06	***	***	***	***	1.70	0.11	0.07	0.15	0.11	0.27	***	0.17	0.18	0.29
	Terelj II TBD	FP															0.50
Philippines	Manila Observatory	FP	***	***	***	***	***	***	***	***	2.33	3.18	3.88	3.12	3.16	1.27	0.66
	Los Baños	FP	***	***	***	***	***	***	***	***	***	***	***	3.80	4.10	0.94	1.30
	Mt. Sto. Tomas	FP	***	0.15	0.17	0.38	0.27	0.30	***	***	***	***	***	***	***	***	***
Republic of Korea	Ganghwa	FP with $PM_{2.5}$ cyclone	***	***	7.43	7.17	6.12	6.11	4.20	3.37	3.37	4.23	3.58	3.46	3.40	2.53	2.66
	Jeju	FP with $PM_{2.5}$ cyclone	***	***	4.37	7.81	5.62	4.75	2.01	3.45	4.35	3.41	2.31	2.34	2.19	2.97	2.52
	Imsil	FP with $PM_{2.5}$ cyclone	***	***	5.61	5.86	4.66	5.07	3.55	3.30	3.77	2.65	2.13	3.06	2.29	1.90	1.66
Russia	Mondy	FP	0.19	0.22	0.22	0.05	0.29	0.45	0.58	0.35	0.21	0.09	0.06	0.04	0.02		
	Listvyanka	FP	1.00	1.09	0.67	1.00	0.86	0.88	0.85	0.78	0.53	0.31	0.38	0.44	0.56	0.66	0.55
	Irkutsk	FP	2.28	3.07	1.71	2.14	2.18	2.03	1.85	2.28	1.15	1.00	1.01	1.50	2.06	1.86	2.14
	Primorskaya	FP	3.60	3.27	3.66	3.62	3.24	2.23	1.08	0.52	0.38	0.59	0.66	0.47	1.07	0.15	0.11
Thailand	Bangkok	FP	3.31	2.26	2.80	4.38	2.64	4.10	1.47	3.77	3.10	2.12	***	0.67	2.07		
	Pathumthani	FP	1.64														
	Khanchanaburi	FP	2.08	2.34	1.40	3.19	1.97	15.58	1.82	3.27	3.71						
	Mae Hia	FP	1.34	1.12	0.39	0.10	0.08	0.86	0.87	0.83	1.17						
	Sakaerat	FP	2.74	2.44	2.89	3.31	2.70	2.79	2.35	3.26	2.17						
Vietnam	Hanoi	FP	14.40	7.82	11.54	8.47	10.83	8.84	7.96	4.50	5.19	6.95	8.30	10.24	5.00	3.81	5.94
	Hoa Binh	FP	3.81	1.59	2.58	4.95	6.38	5.78	3.24	4.43	2.90	3.26	3.49	3.62	4.68	1.47	2.00
	Can Tho	FP				1.40	1.22	1.42	5.58	5.40	5.83	5.46	5.26	5.85	6.24	6.77	6.32
	Ho Chi Minh	FP				2.08	2.42	2.15	7.68	6.75	7.11	7.24	5.82	5.97	7.03	8.50	7.93
	Yen Bai	FP					8.68	6.49	6.61	7.14	5.30	5.67	7.73	6.18	5.12	3.83	3.40

Terms and abbreviations are given in Table 3.2.

Table 3.33 Annual NO_3^- in PM concentration from 2011 to 2025

unit: μg/m^3 μg/m^3

Country	Site	Method	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
Cambodia	Phnom Penh	FP	1.27	1.20	1.18	1.22	2.03	1.37	1.58	***	***	***	***	***	***	***	***
China	Hongwen	FP	11.66	***	***	***	***	7.62	8.26								
Indonesia	Jakarta	FP				4.67	2.37	1.34	1.36	2.78	2.47	1.39	1.51	1.56	***	***	***
	Serpong	FP	0.57	1.09	0.53	0.86	1.12	0.82	1.05	1.54	1.22	0.83	0.75	0.65	***	***	***
	Bandung	FP				1.92	1.19	1.00	0.73	1.57	1.92	1.66	2.16	2.05	***	***	***
Japan	Rishiri	FP	0.66	0.63	0.60	0.51	0.75	0.63	0.70	0.74	1.49	0.74	0.66	0.68	0.93	0.67	0.80
	Ochiishi	FP	0.67	0.43	0.42	0.71	0.57	0.67	0.82	0.82	0.75	0.60	0.78	0.75	0.86	0.68	0.67
	Tappi	FP	1.27	0.98	1.04	1.45	1.29	1.23	1.27	1.18							
	Sado-seki	FP	1.13	0.90	0.92	1.06	1.23	1.02	1.10	1.42	0.91	0.92	***	0.95	1.17	0.95	1.18
	Happo	FP	0.14	0.31	0.36	0.58	0.34	0.39	0.36	0.42	0.20	0.27	0.34	0.29	0.43	0.32	0.33
	Ijira	FP	0.47	0.25	0.30	0.42	0.39	0.46	0.41	0.47	0.49	0.32	0.54	0.41	0.50	0.40	0.41
	Oki	FP	1.85	1.51	1.82	1.79	1.66	2.10	2.70	1.98	1.87	1.58	1.76	1.80	1.61	1.43	1.59
	Banryu	FP	1.68	1.51	1.65	1.45	1.47	1.67	2.13	1.72							
	Yusuhara	FP	0.61	0.41	0.66	0.55	0.50	0.54	0.56	0.57	0.56	0.56	0.89	0.73	0.76	0.51	1.49
	Hedo	FP	0.80	1.27	1.62	1.72	1.87	1.59	1.75	1.58	1.60	1.39	1.41	1.23	1.13	***	***
	Ogasawara	FP	0.53	0.53	0.60	0.48	0.71	0.52	0.55	0.48	0.56	0.53	0.65	0.43	0.47	0.40	0.48
	Tokyo	FP	3.76	2.73	3.13	3.13	3.55	3.19	2.99	3.34	3.10	2.65	2.86	2.69	2.82	2.40	2.51
	Niigata-maki	FP										0.78	0.95	0.82	1.15	1.01	
	Tsushima	FP										1.57	2.39	2.23	2.06	1.57	2.29
Lao PDR	Vientiane	FP					0.47	0.40	***	***	***	***	***	***	***	***	***
Malaysia	Petaling Jaya	FP	1.14	1.23	1.65	1.53	1.70	1.46	1.29	1.77	***	1.37	1.21	1.30	1.15	1.24	1.43
	Tanah Rata	FP	0.13	0.18	0.34	0.40	0.54	0.26	0.13	0.01	***	0.16	0.18	0.15	0.19	0.17	0.24
	Danum Valley	FP	0.04	0.08	0.09	0.11	0.11	0.10	0.08	0.06	***	0.08	0.11	0.07	0.06	0.13	0.06
Mongolia	Ulaanbaatar	FP	1.81	***	***	***	***	0.10	0.18	0.18	0.16	0.09					
	Khan-Uul	FP										0.19	0.37	***	0.22	0.91	1.34
	Terelj	FP	0.29	***	***	***	***	<0.01	0.01	0.01	0.01	0.02	0.04	***	0.05	0.10	0.25
	Terelj II TBD	FP															0.40
Myanmar	Yangon	FP	0.31	0.92	0.54	0.33	0.44	0.48	1.65	0.82	0.60	0.91	0.58	0.20	0.20	0.19	0.25
Philippines	Manila Observatory	FP	***	***	***	***	***	***	***	***	1.35	1.66	1.64	1.67	1.14	0.87	1.47
	Los Baños	FP	***	***	***	***	***	***	***	***	***	***	***	1.13	2.20	0.64	2.32
	Mt. Sto. Tomas	FP	***	0.19	0.14	0.26	0.27	0.14	***	***	***	***	***	***	***	***	***
Republic of Korea	Ganghwa	FP with $PM_{2.5}$ cyclone	***	***	3.51	2.54	3.40	3.25	2.82	2.74	3.10	2.75	4.15	1.99	2.06	1.13	2.68
	Jeju	FP with $PM_{2.5}$ cyclone	***	***	0.74	1.10	0.79	0.75	1.92	1.41	1.15	0.61	0.49	0.49	1.37	1.99	1.52
	Imsil	FP with $PM_{2.5}$ cyclone	***	***	2.95	2.82	1.93	1.17	2.72	3.17	2.56	2.67	1.65	3.20	1.39	0.12	0.87
Russia	Mondy	FP	0.02	0.03	0.02	<0.01	0.03	0.01	0.04	0.03	0.03	0.01	<0.01	<0.01	<0.01		
	Listvyanka	FP	0.25	0.12	0.09	0.18	0.27	0.20	0.07	0.10	0.05	0.01	0.06	0.18	0.06	0.10	0.08
	Irkutsk	FP	0.88	0.92	0.49	0.80	0.66	0.67	0.63	0.75	0.25	0.25	0.25	0.64	0.76	0.59	0.83
	Primorskaya	FP	0.27	0.68	1.17	1.37	1.15	0.77	0.53	0.19	0.39	1.08	0.27	1.00	0.82	0.16	0.02
Thailand	Bangkok	FP	2.00	1.91	1.41	2.77	2.20	1.98	1.28	2.68	2.29	2.26	***	1.26	1.64		
	Pathumthani	FP	0.92														
	Khanchanaburi	FP	0.04	0.10	0.11	0.17	0.20	0.83	0.24	0.20	0.19						
	Mae Hia	FP	0.24	0.31	0.30	0.11	0.13	0.18	0.18	0.20	0.35						
	Sakaerat	FP	0.31	0.28	0.41	0.58	0.32	0.30	0.27	0.38	0.50						
Vietnam	Hanoi	FP	6.82	5.57	6.73	5.86	7.26	6.58	11.14	4.19	4.50	5.91	6.52	8.66	3.66	4.19	6.52
	Hoa Binh	FP	1.14	0.92	1.11	1.88	2.95	3.21	3.28	2.95	2.22	2.85	2.61	2.89	3.42	1.12	1.81
	Can Tho	FP				0.67	0.55	0.66	2.19	2.16	2.15	2.15	1.97	2.16	2.29	2.33	2.23
	Ho Chi Minh	FP				1.09	1.07	2.06	5.67	5.80	5.84	5.75	5.03	5.12	4.97	5.80	4.55
	Yen Bai	FP					3.19	4.36	8.00	5.89	3.91	4.70	5.71	5.02	3.72	2.84	4.64

Terms and abbreviations are given in Table 3.2.

Table 3.34 Annual Cl^- in PM concentration from 2011 to 2025

unit: $\mu g/m^3$

Country	Site	Method	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
Cambodia	Phnom Penh	FP	0.24	0.24	0.40	0.26	0.54	0.56	0.32	***	***	***	***	***	***	***	***
China	Hongwen	FP	1.51	***	***	***	***	0.99	0.95								
Indonesia	Jakarta	FP				1.35	0.51	0.41	0.54	0.84	1.25	0.52	0.39	0.47	***	***	***
	Serpong	FP	0.10	0.16	0.20	0.18	0.28	0.29	0.23	0.25	0.23	0.28	0.34	0.16	***	***	***
	Bandung	FP				0.31	0.27	0.20	0.57	0.17	0.21	0.36	0.35	0.38	***	***	***
Japan	Rishiri	FP	2.31	1.94	2.00	2.95	3.57	2.21	2.66	2.93	4.54	2.66	2.67	3.27	2.64	2.47	2.84
	Ochiishi	FP	3.28	3.06	4.58	4.12	4.46	3.89	3.81	3.97	3.89	3.14	6.72	7.97	4.74	4.53	6.81
	Tappi	FP	5.93	8.15	5.91	15.78	12.97	5.79	5.70	5.54							
	Sado-seki	FP	3.06	3.02	3.43	3.00	4.39	3.77	3.52	5.80	4.30	3.74	***	3.31	3.83	3.55	3.97
	Happo	FP	0.02	0.02	0.02	0.03	0.02	0.02	0.03	0.03	0.01	0.03	0.03	0.02	0.08	0.02	0.02
	Ijira	FP	0.04	0.02	0.03	0.06	0.05	0.06	0.06	0.10	0.08	0.07	0.08	0.07	0.11	0.08	0.07
	Oki	FP	4.29	4.20	4.98	4.96	4.58	5.25	10.45	5.07	4.09	5.26	5.68	6.24	4.49	4.74	4.21
	Banryu	FP	1.53	0.99	1.52	1.60	1.40	0.78	2.79	1.45							
	Yusuhara	FP	0.08	0.17	0.06	0.06	0.07	0.07	0.06	0.06	0.08	0.08	0.15	0.09	0.14	0.12	0.20
	Hedo	FP	3.09	6.02	7.27	7.61	5.86	7.53	7.16	7.69	6.57	7.17	7.36	7.20	5.11	***	***
	Ogasawara	FP	3.79	3.55	3.51	3.50	4.32	3.83	3.71	3.59	4.09	3.75	5.46	3.72	3.69	3.61	3.49
	Tokyo	FP	0.70	0.49	0.59	0.53	0.53	0.57	0.43	0.66	0.62	0.52	0.72	0.48	0.60	0.52	0.50
	Niigata-maki	FP										1.12	1.82	1.44	1.84	2.83	
	Tsushima	FP										0.82	0.74	0.62	0.59	0.69	0.58
Lao PDR	Vientiane	FP					0.06	0.06	***	***	***	***	***	***	***	***	***
Malaysia	Petaling Jaya	FP	0.11	0.13	0.16	0.23	0.15	0.21	0.13	0.13	***	0.17	0.11	0.16	0.14	0.12	0.09
	Tanah Rata	FP	0.03	0.03	0.07	0.10	0.11	0.09	0.04	<0.01	***	0.06	0.04	0.03	0.05	0.06	0.04
	Danum Valley	FP	0.04	0.02	0.11	0.13	0.11	0.07	0.08	0.02	***	0.13	0.12	0.06	0.14	0.13	0.04
Mongolia	Ulaanbaatar	FP	1.18	***	***	***	***	0.08	0.20	0.14	0.20	0.08					
	Khan-Uul	FP										0.15	0.18	***	0.12	0.77	1.58
	Terelj	FP	0.23	***	***	***	***	0.02	0.03	0.02	0.02	<0.01	0.02	***	0.07	0.06	0.29
	Terelj II TBD	FP															0.55
Myanmar	Yangon	FP	0.59	0.56	0.21	0.27	0.63	0.57	0.13	0.52	0.23	0.48	0.27	0.15	0.15	0.17	0.24
Philippines	Manila Observatory	FP	***	***	***	***	***	***	***	***	0.69	1.05	1.00	0.98	0.70	0.50	0.30
	Los Baños	FP	***	***	***	***	***	***	***	***	***	***	***	1.12	1.95	0.98	0.13
	Mt. Sto. Tomas	FP	***	0.05	0.04	0.10	0.08	0.04	***	***	***	***	***	***	***	***	***
Republic of Korea	Ganghwa	FP with $PM_{2.5}$ cyclone	***	***	0.47	0.13	0.13	0.10	0.28	0.11	0.09	0.08	0.15	0.08	0.17	0.12	0.15
	Jeju	FP with $PM_{2.5}$ cyclone	***	***	1.12	0.72	0.37	0.60	0.54	0.62	0.23	0.19	0.08	0.12	0.14	0.10	0.07
	Imsil	FP with $PM_{2.5}$ cyclone	***	***	0.48	0.25	0.38	0.31	0.39	0.41	0.20	0.14	0.08	0.22	0.13	0.15	0.05
Russia	Mondy	FP	0.04	0.24	0.14	0.04	0.05	0.01	0.03	0.02	0.07	0.02	<0.01	0.03	<0.01		
	Listvyanka	FP	0.04	0.26	0.06	0.09	0.12	0.06	0.05	0.04	0.03	0.03	0.06	0.09	0.02	0.02	0.01
	Irkutsk	FP	0.43	0.46	0.24	0.26	0.17	0.23	0.19	0.15	0.11	0.13	0.10	0.21	0.27	0.24	0.24
	Primorskaya	FP	0.09	0.29	0.28	0.14	0.15	0.10	0.12	0.03	0.09	0.49	0.41	0.40	0.20	0.07	<0.01
Thailand	Bangkok	FP	0.32	0.26	0.16	0.31	0.19	0.34	0.09	0.27	0.28	0.22	***	0.3	0.22		
	Pathumthani	FP	0.15														
	Khanchanaburi	FP	0.05	<0.01	0.05	0.04	0.08	0.26	0.22	0.03	0.10						
	Mae Hia	FP	0.12	0.13	0.12	0.08	0.06	0.21	0.15	0.13	0.22						
	Sakaerat	FP	0.06	0.10	0.12	0.16	0.08	0.21	0.04	0.08	0.09						
Vietnam	Hanoi	FP	1.33	1.11	1.75	1.34	1.94	2.32	4.04	2.33	1.72	3.92	5.27	4.23	2.51	1.24	2.35
	Hoa Binh	FP	0.27	0.43	0.59	1.18	0.79	1.18	1.04	1.88	2.79	2.61	1.97	2.92	3.53	0.91	1.00
	Can Tho	FP				0.56	0.46	1.78	1.08	2.14	2.23	2.36	2.01	2.22	2.26	2.41	2.27
	Ho Chi Minh	FP				0.74	0.59	1.29	1.40	4.03	4.42	4.45	3.70	3.71	3.27	3.51	3.13
	Yen Bai	FP					1.01	1.25	3.58	3.52	2.78	2.92	3.20	3.49	3.18	1.37	1.01

Terms and abbreviations are given in Table 3.2.

Table 3.35 Annual NH_4^+ in PM concentration from 2011 to 2025

unit: μg/m^3

Country	Site	Method	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
Cambodia	Phnom Penh	FP	0.50	0.34	0.57	0.52	0.54	0.54	0.38	***	***	***	***	***	***	***	***
China	Hongwen	FP	5.85	***	***	***	***	3.68	2.83								
Indonesia	Jakarta	FP				0.57	0.71	0.40	0.32	1.11	1.03	0.69	1.26	1.29	***	***	***
	Serpong	FP	0.32	0.78	0.38	0.47	0.67	0.55	0.50	1.07	0.88	1.01	0.87	0.82	***	***	***
	Bandung	FP				1.20	1.17	1.42	1.13	1.60	1.38	1.29	1.93	2.11	***	***	***
Japan	Rishiri	FP	0.47	0.41	0.45	0.35	0.46	0.40	0.42	0.43	0.73	0.42	0.33	0.33	0.38	0.28	0.37
	Ochiishi	FP	0.37	0.32	0.28	0.38	0.24	0.32	0.38	0.35	0.35	0.25	0.28	0.25	0.32	0.22	0.26
	Tappi	FP	0.64	0.53	0.58	0.69	0.46	0.48	0.49	0.42							
	Sado-seki	FP	0.56	0.54	0.62	0.61	0.69	0.48	0.44	0.56	0.39	0.27	***	0.27	0.33	0.26	0.35
	Happo	FP	0.26	0.64	0.63	0.80	0.59	0.53	0.47	0.43	0.33	0.36	0.28	0.28	0.32	0.28	0.34
	Ijira	FP	0.95	0.69	0.81	1.11	0.76	0.82	0.68	0.64	0.65	0.44	0.40	0.47	0.38	0.36	0.52
	Oki	FP	0.93	0.94	1.10	1.05	0.90	1.13	0.77	0.83	0.74	0.54	0.49	0.54	0.47	0.42	0.49
	Banryu	FP	1.06	1.24	1.40	1.22	1.11	1.17	0.93	0.90							
	Yusuhara	FP	0.96	1.06	1.25	1.10	0.91	0.86	0.89	0.72	0.74	0.60	0.52	0.65	0.52	0.44	0.71
	Hedo	FP	0.43	0.71	0.69	0.61	0.66	0.51	0.53	0.46	0.41	0.34	0.25	0.29	0.22	***	***
	Ogasawara	FP	0.22	0.22	0.31	0.23	0.25	0.19	0.22	0.16	0.17	0.25	0.16	0.12	0.15	0.11	0.12
	Tokyo	FP	1.57	1.10	1.44	1.42	1.40	1.18	1.16	1.11	1.02	0.85	0.72	0.71	0.75	0.60	0.79
	Niigata-maki	FP										0.34	0.31	0.33	0.39	0.42	
	Tsushima	FP										0.75	0.80	0.87	0.80	0.62	0.85
Lao PDR	Vientiane	FP					1.22	1.12	***	***	***	***	***	***	***	***	***
Malaysia	Petaling Jaya	FP	1.12	0.75	0.94	1.37	1.18	0.92	0.74	1.28	***	0.80	0.70	0.76	1.00	1.00	0.91
	Tanah Rata	FP	0.49	0.46	0.39	0.63	1.11	0.46	0.32	<0.01	***	0.39	0.28	0.31	0.56	0.46	0.49
	Danum Valley	FP	0.13	0.08	0.13	0.12	0.25	0.10	0.09	0.14	***	0.13	0.10	0.11	0.20	0.17	0.15
Mongolia	Ulaanbaatar	FP	1.80	***	***	***	***	0.67	0.58	0.34	0.32	0.14					
	Khan-Uul	FP										0.10	0.61	***	***	0.50	1.21
	Terelj	FP	0.43	***	***	***	***	0.06	0.04	<0.01	0.05	0.01	0.14	***	***	0.05	0.21
	Terelj II TBD	FP															0.42
Myanmar	Yangon	FP	0.34	0.38	0.30	0.50	0.45	0.37	0.80	0.33	0.40	0.59	1.05	0.18	0.29	0.32	0.16
Philippines	Manila Observatory	FP	***	***	***	***	***	***	***	***	0.59	0.09	0.51	0.53	0.41	0.15	0.27
	Los Baños	FP	***	***	***	***	***	***	***	***	***	***	***	0.61	0.73	0.44	0.59
	Mt. Sto. Tomas	FP	***	<0.01	0.01	0.10	0.05	<0.01	***	***	***	***	***	***	***	***	***
Republic of Korea	Ganghwa	FP with $PM_{2.5}$ cyclone	***	***	3.54	3.58	3.48	3.20	2.50	2.13	1.99	2.06	2.38	1.86	1.77	1.11	1.72
	Jeju	FP with $PM_{2.5}$ cyclone	***	***	1.80	2.83	2.30	1.86	1.19	1.38	1.59	1.16	0.76	0.81	1.07	1.50	1.31
	Imsil	FP with $PM_{2.5}$ cyclone	***	***	2.82	2.87	2.36	2.02	1.96	1.92	1.86	1.56	1.21	2.20	1.23	0.68	0.95
Russia	Mondy	FP	0.02	0.04	<0.01	0.02	0.03	0.09	0.12	0.05	0.03	0.01	<0.01	<0.01	<0.01		
	Listvyanka	FP	0.22	0.22	0.10	0.35	0.20	0.21	0.32	0.10	0.13	0.04	0.06	0.08	0.13	0.14	0.08
	Irkutsk	FP	0.62	0.80	0.40	0.55	0.70	0.93	0.57	0.73	0.35	0.28	0.24	0.39	0.55	0.63	0.69
	Primorskaya	FP	0.77	0.70	1.06	0.88	1.04	0.80	0.45	0.13	0.27	0.45	0.32	0.40	0.45	0.10	<0.01
Thailand	Bangkok	FP	0.60	0.53	0.79	1.27	0.65	0.75	1.02	0.77	0.63	0.56	***	0.21	0.98		
	Pathumthani	FP	0.26														
	Khanchanaburi	FP	0.46	0.07	0.30	0.67	0.60	2.73	0.58	0.57	0.50						
	Mae Hia	FP	0.31	0.23	0.09	0.09	0.11	0.38	0.25	0.18	0.24						
	Sakaerat	FP	0.96	0.84	0.90	1.01	0.88	0.80	0.77	1.62	1.36						
Vietnam	Hanoi	FP	4.50	2.83	3.32	2.46	2.06	2.32	3.41	1.37	0.71	1.19	2.66	1.95	0.88	0.53	1.41
	Hoa Binh	FP	1.55	0.66	0.90	1.76	1.99	1.90	1.03	1.42	0.96	0.73	0.85	0.97	1.12	0.41	0.36
	Can Tho	FP				0.63	1.08	0.77	1.39	1.21	1.12	1.09	0.98	1.00	1.07	0.97	0.98
	Ho Chi Minh	FP				1.00	1.35	1.44	1.23	1.37	1.33	1.33	0.95	1.01	0.91	0.97	1.27
	Yen Bai	FP					2.00	2.62	3.17	2.58	1.35	1.15	1.96	1.53	1.24	1.25	1.10

Terms and abbreviations are given in Table 3.2.

Table 3.36 Annual Na^+ in PM concentration from 2011 to 2025

unit: $\mu g/m^3$ $\mu g/m^3$

Country	Site	Method	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
Cambodia	Phnom Penh	FP	0.63	0.57	0.67	0.59	0.81	0.64	0.63	***	***	***	***	***	***	***	***
China	Hongwen	FP	1.62	***	***	***	***	1.61	1.58								
Indonesia	Jakarta	FP				1.84	0.97	0.56	0.49	1.10	0.97	0.82	0.78	0.96	***	***	***
	Serpong	FP	0.16	0.45	0.37	0.40	0.69	0.36	0.32	0.70	0.54	0.52	0.61	0.31	***	***	***
	Bandung	FP				0.57	0.64	0.41	0.49	0.67	0.49	0.48	0.47	0.36	***	***	***
Japan	Rishiri	FP	1.84	1.58	1.64	2.13	2.44	1.65	1.88	2.08	3.43	1.90	1.87	2.11	1.96	1.68	1.90
	Ochiishi	FP	2.45	2.15	3.00	2.72	2.86	2.56	2.64	2.64	2.60	2.11	4.15	4.78	3.00	2.82	4.10
	Tappi	FP	3.97	5.12	4.05	9.88	7.92	3.81	3.77	3.58							
	Sado-seki	FP	2.43	2.38	2.56	2.34	3.17	2.68	2.57	3.91	2.81	2.57	***	2.38	2.58	2.39	2.70
	Happo	FP	0.05	0.09	0.09	0.09	0.09	0.09	0.08	0.10	0.06	0.09	0.11	0.07	0.12	0.08	0.10
	Ijira	FP	0.25	0.16	0.16	0.21	0.23	0.24	0.25	0.28	0.30	0.23	0.26	0.23	0.27	0.23	0.24
	Oki	FP	3.28	3.25	3.80	3.74	3.40	3.89	6.68	3.66	3.09	3.67	3.77	4.18	3.11	3.17	2.88
	Banryu	FP	1.59	1.29	1.62	1.60	1.46	1.07	2.23	1.46							
	Yusuhara	FP	0.42	0.39	0.45	0.34	0.30	0.30	0.28	0.32	0.30	0.32	0.38	0.33	0.35	0.30	0.33
	Hedo	FP	2.28	4.34	5.27	4.79	4.43	5.21	5.03	5.29	4.58	4.84	4.73	4.64	3.30	***	***
	Ogasawara	FP	2.61	2.45	2.65	2.54	3.06	2.54	2.50	2.40	2.74	2.75	3.45	2.44	2.44	2.31	2.24
	Tokyo	FP	0.89	0.71	0.87	0.77	0.87	0.86	0.76	0.98	0.94	0.76	0.93	0.84	0.90	0.84	0.82
	Niigata-maki	FP										1.07	1.37	1.20	1.45	1.80	
	Tsushima	FP										1.02	1.00	0.87	0.82	0.87	0.81
Lao PDR	Vientiane	FP					0.28	0.25	***	***	***	***	***	***	***	***	***
Malaysia	Petaling Jaya	FP	0.32	0.27	0.42	0.47	0.53	0.36	0.30	0.44	***	0.47	0.32	0.33	0.37	0.38	0.36
	Tanah Rata	FP	0.12	0.12	0.16	0.21	0.24	0.20	0.08	<0.01	***	0.19	0.14	0.12	0.17	0.19	0.18
	Danum Valley	FP	0.17	0.05	0.16	0.32	0.35	0.25	0.18	0.19	***	0.32	0.17	0.14	0.21	0.29	0.13
Mongolia	Ulaanbaatar	FP	0.20	***	***	***	***	0.20	0.31	0.18	0.22	0.22					
	Khan-Uul	FP										0.13	0.12	***	***	0.51	0.80
	Terelj	FP	0.09	***	***	***	***	0.03	0.03	0.02	0.03	0.01	0.03	***	***	0.05	0.14
	Terelj II TBD	FP															0.24
Myanmar	Yangon	FP	0.59	0.74	0.21	0.34	0.12	0.31	0.19	0.58	0.27	1.88	0.42	0.16	0.20	0.14	0.11
Philippines	Manila Observatory	FP	***	***	***	***	***	***	***	***	0.66	0.77	0.99	0.46	0.99	0.43	0.19
	Los Baños	FP	***	***	***	***	***	***	***	***	***	***	***	1.10	1.81	0.62	0.35
	Mt. Sto. Tomas	FP	***	0.07	0.10	0.31	0.58	0.24	***	***	***	***	***	***	***	***	***
Republic of Korea	Ganghwa	FP with $PM_{2.5}$ cyclone	***	***	0.51	0.30	0.26	0.25	0.23	0.20	0.26	0.24	0.14	0.14	0.13	0.18	0.11
	Jeju	FP with $PM_{2.5}$ cyclone	***	***	0.64	0.57	0.28	0.39	0.38	0.39	0.30	0.31	0.25	0.30	0.19	0.14	0.22
	Imsil	FP with $PM_{2.5}$ cyclone	***	***	0.24	0.20	0.21	0.24	0.26	0.26	0.21	0.15	0.07	0.08	0.08	0.08	0.05
Russia	Mondy	FP	<0.01	0.08	0.06	0.01	0.06	0.02	0.16	0.03	0.02	0.03	0.01	0.22	<0.01		
	Listvyanka	FP	0.04	0.24	0.05	0.06	0.06	0.13	0.24	0.05	0.02	0.06	0.05	0.05	0.04	0.05	0.03
	Irkutsk	FP	0.28	0.28	0.14	0.16	0.13	0.14	0.45	0.16	0.11	0.15	0.14	0.18	0.30	0.26	0.22
	Primorskaya	FP	0.11	0.22	0.27	0.79	0.18	0.14	0.10	0.05	0.03	0.12	0.04	0.08	0.08	0.01	0.02
Thailand	Bangkok	FP	0.54	0.43	0.47	1.03	0.53	0.71	0.15	0.49	0.51	0.54	***	0.14	0.40		
	Pathumthani	FP	0.22														
	Khanchanaburi	FP	0.09	0.07	0.13	0.25	0.19	1.49	0.20	0.09	0.16						
	Mae Hia	FP	0.10	0.16	0.11	0.07	0.08	0.29	0.25	0.21	0.33						
	Sakaerat	FP	0.17	0.18	0.13	0.27	0.43	0.33	0.18	0.37	0.52						
Vietnam	Hanoi	FP	0.67	0.70	0.75	0.58	1.23	1.58	1.44	0.66	0.48	0.80	1.78	1.11	0.58	0.28	0.98
	Hoa Binh	FP	0.23	0.31	0.44	0.26	0.78	1.21	0.54	0.49	0.84	0.65	0.47	0.84	0.89	0.46	0.58
	Can Tho	FP				0.24	0.31	0.24	0.48	0.24	0.13	0.22	0.19	0.18	0.22	0.19	0.22
	Ho Chi Minh	FP				0.26	0.37	0.38	1.08	1.05	1.36	1.18	0.84	0.88	0.88	0.84	0.70
	Yen Bai	FP					0.83	1.18	0.88	0.78	0.90	0.78	1.14	1.03	0.82	0.30	0.66

Terms and abbreviations are given in Table 3.2.

Table 3.37 Annual K^+ in PM concentration from 2011 to 2025

unit: $\mu g/m^3$

Country	Site	Method	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
Cambodia	Phnom Penh	FP	0.59	0.46	0.73	0.67	0.75	0.50	0.56	***	***	***	***	***	***	***	***
China	Hongwen	FP	0.72	***	***	***	***	0.55	0.51								
Indonesia	Jakarta	FP				0.96	0.48	0.32	0.22	0.71	0.71	0.34	0.38	0.61	***	***	***
	Serpong	FP	0.37	0.45	0.37	0.40	0.45	0.39	0.28	0.71	0.61	0.48	0.55	0.40	***	***	***
	Bandung	FP				0.55	0.74	0.48	0.47	0.64	0.73	0.39	0.44	0.46	***	***	***
Japan	Rishiri	FP	0.14	0.10	0.10	0.15	0.16	0.12	0.13	0.15	0.31	0.15	0.12	0.13	0.14	0.13	0.14
	Ochiishi	FP	0.12	0.10	0.12	0.13	0.15	0.14	0.11	0.12	0.12	0.08	0.17	0.19	0.12	0.12	0.16
	Tappi	FP	0.23	0.24	0.19	0.38	0.31	0.19	0.19	0.18							
	Sado-seki	FP	0.17	0.14	0.15	0.16	0.18	0.14	0.14	0.19	0.13	0.12	***	0.11	0.15	0.12	0.14
	Happo	FP	0.02	0.04	0.04	0.05	0.03	0.03	0.03	0.03	0.02	0.02	0.02	0.02	0.03	0.02	0.03
	Ijira	FP	0.11	0.06	0.07	0.11	0.09	0.09	0.10	0.11	0.09	0.06	0.08	0.08	0.09	0.07	0.08
	Oki	FP	0.24	0.22	0.24	0.24	0.20	0.54	0.29	0.20	0.19	0.18	0.19	0.19	0.16	0.16	0.16
	Banryu	FP	0.19	0.16	0.18	0.17	0.15	0.27	0.17	0.12							
	Yusuhara	FP	0.15	0.09	0.12	0.13	0.09	0.08	0.07	0.06	0.08	0.05	0.06	0.06	0.05	0.04	0.08
	Hedo	FP	0.12	0.25	0.26	0.28	0.24	0.26	0.25	0.25	0.24	0.24	0.23	0.22	0.17	***	***
	Ogasawara	FP	0.13	0.12	0.13	0.12	0.18	0.11	0.12	0.10	0.12	0.13	0.15	0.11	0.11	0.10	0.10
	Tokyo	FP	0.17	0.12	0.16	0.16	0.16	0.13	0.13	0.14	0.14	0.12	0.12	0.11	0.13	0.12	0.12
	Niigata-maki	FP										0.08	0.09	0.08	0.11	0.10	
	Tsushima	FP										0.10	0.11	0.09	0.10	0.09	0.10
Lao PDR	Vientiane	FP					0.36	0.36	***	***	***	***	***	***	***	***	***
Malaysia	Petaling Jaya	FP	0.34	0.27	0.37	0.45	0.41	0.24	0.28	0.42	***	0.35	0.33	0.33	0.34	0.28	0.33
	Tanah Rata	FP	0.12	0.11	0.13	0.18	0.22	0.12	0.08	<0.01	***	0.13	0.10	0.10	0.13	0.12	0.14
	Danum Valley	FP	0.16	0.06	0.14	0.20	0.21	0.17	0.15	0.16	***	0.14	0.12	0.11	0.14	0.14	0.13
Mongolia	Ulaanbaatar	FP	0.29	***	***	***	***	0.08	0.15	0.06	0.05	0.06					
	Khan-Uul	FP										0.06	0.04	***	***	0.16	0.07
	Terelj	FP	0.08	***	***	***	***	0.03	0.03	0.02	0.01	0.01	0.01	***	***	0.02	<0.01
	Terelj II TBD	FP															<0.01
Myanmar	Yangon	FP	1.24	0.76	0.24	0.55	0.94	0.40	0.47	0.40	1.40	0.67	1.05	0.34	0.39	0.29	0.17
Philippines	Manila Observatory	FP	***	***	***	***	***	***	***	***	0.63	1.25	0.22	0.72	0.29	0.14	0.09
	Los Baños	FP	***	***	***	***	***	***	***	***	***	***	***	0.41	0.70	0.23	0.06
	Mt. Sto. Tomas	FP	***	0.01	0.01	0.07	0.06	0.10	***	***	***	***	***	***	***	***	***
Republic of Korea	Ganghwa	FP with $PM_{2.5}$ cyclone	***	***	0.29	0.29	0.21	0.20	0.17	0.09	0.17	0.14	0.17	0.13	0.12	0.04	0.16
	Jeju	FP with $PM_{2.5}$ cyclone	***	***	0.15	0.25	0.11	0.15	0.10	0.07	0.09	0.06	0.03	0.03	0.03	0.19	0.04
	Imsil	FP with $PM_{2.5}$ cyclone	***	***	0.16	0.16	0.13	0.15	0.15	0.13	0.14	0.08	0.04	0.08	0.06	0.04	0.02
Russia	Mondy	FP	0.02	0.08	0.08	0.01	0.03	0.03	0.08	0.04	0.05	0.04	0.04	0.03	<0.01		
	Listvyanka	FP	0.06	0.28	0.06	0.05	0.05	0.07	0.28	0.05	0.04	0.06	0.02	0.06	0.01	0.05	0.04
	Irkutsk	FP	0.25	0.32	0.15	0.16	0.09	0.15	0.53	0.16	0.11	0.28	0.14	0.23	0.17	0.12	0.22
	Primorskaya	FP	0.27	0.30	0.40	0.20	0.23	0.19	0.14	0.06	0.05	0.09	0.05	0.09	0.06	0.01	0.03
Thailand	Bangkok	FP	0.41	0.37	0.47	0.85	0.49	0.87	0.21	0.47	0.41	0.43	***	0.43	0.27		
	Pathumthani	FP	0.24														
	Khanchanaburi	FP	0.13	0.06	0.19	0.43	0.27	1.78	6.90	0.35	0.44						
	Mae Hia	FP	0.27	0.21	0.17	0.05	0.07	0.26	0.19	0.23	0.21						
	Sakaerat	FP	0.64	0.51	0.16	0.33	0.30	0.25	0.22	0.64	0.54						
Vietnam	Hanoi	FP	0.85	1.36	2.34	0.64	0.98	1.09	0.96	0.55	0.40	0.43	0.21	0.53	0.25	0.35	0.95
	Hoa Binh	FP	0.32	0.56	1.30	0.83	0.70	0.90	0.31	0.35	0.14	0.15	0.16	0.17	0.19	0.23	0.33
	Can Tho	FP				0.89	0.19	0.30	0.29	0.24	0.23	0.23	0.22	0.27	0.26	0.30	0.29
	Ho Chi Minh	FP				0.53	0.34	0.58	0.66	0.97	1.04	1.10	0.81	0.85	0.86	0.61	0.34
	Yen Bai	FP					1.11	0.94	0.91	0.85	0.27	0.31	0.44	0.31	0.19	0.71	0.59

Terms and abbreviations are given in Table 3.2.

Table 3.38 Annual Mg^{2+} in PM concentration from 2011 to 2025

unit: μg/m^3

Country	Site	Method	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
Cambodia	Phnom Penh	FP	0.14	0.11	0.14	0.13	0.17	0.12	0.16	***	***	***	***	***	***	***	***
China	Hongwen	FP	0.31	***	***	***	***	0.25	0.30								
Indonesia	Jakarta	FP				0.34	0.16	0.09	0.07	0.18	0.20	0.12	0.20	0.16	***	***	***
	Serpong	FP	0.05	0.09	0.08	0.09	0.07	0.06	0.05	0.11	0.15	0.09	0.14	0.07	***	***	***
	Bandung	FP				0.14	0.21	0.17	0.15	0.17	0.19	0.12	0.13	0.11	***	***	***
Japan	Rishiri	FP	0.22	0.19	0.19	0.25	0.29	0.19	0.23	0.26	0.43	0.23	0.24	0.26	0.24	0.21	0.23
	Ochiishi	FP	0.30	0.25	0.35	0.33	0.34	0.28	0.30	0.31	0.30	0.24	0.49	0.55	0.34	0.33	0.48
	Tappi	FP	0.46	0.60	0.49	1.11	0.90	0.43	0.44	0.42							
	Sado-seki	FP	0.30	0.29	0.31	0.29	0.38	0.32	0.32	0.48	0.33	0.30	***	0.29	0.32	0.29	0.33
	Happo	FP	0.01	0.02	0.03	0.03	0.02	0.02	0.01	0.02	0.01	0.02	0.02	0.02	0.03	0.02	0.02
	Ijira	FP	0.04	0.02	0.02	0.04	0.03	0.03	0.03	0.04	0.04	0.03	0.04	0.03	0.04	0.03	0.04
	Oki	FP	0.36	0.39	0.46	0.44	0.40	0.47	0.79	0.44	0.38	0.44	0.45	0.50	0.37	0.38	0.35
	Banryu	FP	0.21	0.17	0.22	0.22	0.20	0.14	0.28	0.19							
	Yusuhara	FP	0.07	0.06	0.08	0.06	0.05	0.05	0.04	0.05	0.05	0.05	0.06	0.05	0.05	0.04	0.06
	Hedo	FP	0.29	0.53	0.63	0.67	0.55	0.65	0.65	0.69	0.63	0.63	0.60	0.57	0.41	***	***
	Ogasawara	FP	0.32	0.31	0.33	0.31	0.36	0.31	0.31	0.29	0.33	0.34	0.40	0.29	0.30	0.28	0.26
	Tokyo	FP	0.13	0.11	0.14	0.13	0.13	0.12	0.12	0.13	0.14	0.11	0.12	0.12	0.13	0.12	0.12
	Niigata-maki	FP										0.13	0.16	0.15	0.19	0.23	
	Tsushima	FP										0.13	0.14	0.11	0.11	0.10	0.11
Lao PDR	Vientiane	FP					0.05	0.05	***	***	***	***	***	***	***	***	***
Malaysia	Petaling Jaya	FP	0.04	0.03	0.07	0.08	0.08	0.04	0.04	0.06	***	0.06	0.03	0.04	0.05	0.04	0.04
	Tanah Rata	FP	0.02	0.02	0.03	0.04	0.04	0.02	<0.01	<0.01	***	0.02	0.02	0.02	0.02	0.02	0.02
	Danum Valley	FP	0.02	<0.01	0.01	0.04	0.05	0.03	0.02	0.03	***	0.03	0.02	0.02	0.02	0.02	0.01
Mongolia	Ulaanbaatar	FP	0.38	***	***	***	***	0.04	0.05	0.04	0.02	<0.01					
	Khan-Uul	FP										<0.01	0.02	***	***	0.11	0.04
	Terelj	FP	0.05	***	***	***	***	0.01	<0.01	<0.01	<0.01	<0.01	<0.01	***	***	<0.01	<0.01
	Terelj II TBD	FP															<0.01
Myanmar	Yangon	FP	0.18	0.13	0.04	0.09	0.15	0.20	0.04	0.06	0.05	1.12	0.08	0.04	0.03	0.05	0.04
Philippines	Manila Observatory	FP	***	***	***	***	***	***	***	***	0.10	0.13	0.19	<0.01	0.08	0.08	0.05
	Los Baños	FP	***	***	***	***	***	***	***	***	***	***	***	0.05	0.09	0.14	0.07
	Mt. Sto. Tomas	FP	***	0.03	0.04	0.03	0.04	0.04	***	***	***	***	***	***	***	***	***
Republic of Korea	Ganghwa	FP with $PM_{2.5}$ cyclone	***	***	0.08	0.02	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.03	0.02	0.02	0.02	0.02
	Jeju	FP with $PM_{2.5}$ cyclone	***	***	0.04	0.04	0.03	0.07	0.03	0.03	<0.01	0.01	0.02	0.03	0.02	0.02	0.02
	Imsil	FP with $PM_{2.5}$ cyclone	***	***	0.03	0.03	0.03	0.08	0.03	0.02	<0.01	<0.01	<0.01	0.01	0.01	0.01	<0.01
Russia	Mondy	FP	<0.01	0.02	<0.01	<0.01	<0.01	<0.01	0.01	<0.01	<0.01	<0.01	<0.01	0.04	<0.01		
	Listvyanka	FP	0.02	0.01	<0.01	<0.01	<0.01	0.04	0.02	0.01	<0.01	<0.01	<0.01	0.01	0.01	0.01	0.01
	Irkutsk	FP	0.09	0.06	0.04	0.05	0.04	0.06	0.04	0.26	0.02	0.02	0.02	0.05	0.05	0.05	0.07
	Primorskaya	FP	0.07	0.06	0.08	0.20	0.05	0.07	0.01	<0.01	<0.01	0.02	<0.01	0.01	0.02	<0.01	<0.01
Thailand	Bangkok	FP	0.09	0.07	0.11	0.20	0.13	0.12	0.07	0.13	0.10	0.07	***	0.03	0.15		
	Pathumthani	FP	0.04														
	Khanchanaburi	FP	0.03	0.03	0.03	0.06	0.05	0.41	0.03	0.05	0.12						
	Mae Hia	FP	0.02	0.03	0.03	0.01	0.02	0.04	0.04	0.08	0.05						
	Sakaerat	FP	0.01	0.01	<0.01	0.02	0.03	0.22	0.05	0.29	0.36						
Vietnam	Hanoi	FP	0.35	0.41	0.46	0.41	0.57	0.50	0.38	0.26	0.17	0.24	0.16	0.36	0.18	0.11	0.21
	Hoa Binh	FP	0.08	0.14	0.28	0.19	0.21	0.25	0.14	0.22	0.07	0.08	0.09	0.08	0.12	0.06	0.11
	Can Tho	FP				0.15	0.20	0.22	0.40	0.37	0.42	0.42	0.37	0.36	0.42	0.40	0.41
	Ho Chi Minh	FP				0.23	0.46	0.72	0.44	0.68	0.58	0.68	0.88	0.69	0.54	0.43	0.45
	Yen Bai	FP					0.19	2.26	0.13	0.22	0.18	0.18	0.20	0.19	0.14	0.05	0.11

Terms and abbreviations are given in Table 3.2.

Table 3.39 Annual Ca^{2+} in PM concentration from 2011 to 2025

unit: $\mu g/m^3$

Country	Site	Method	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
Cambodia	Phnom Penh	FP	0.82	0.76	0.87	0.71	1.32	1.07	1.17	***	***	***	***	***	***	***	***
China	Hongwen	FP	1.59	***	***	***	***	1.56	1.80								
Indonesia	Jakarta	FP				3.18	1.14	0.83	0.59	1.13	1.12	0.61	0.66	0.66	***	***	***
	Serpong	FP	0.18	0.59	0.51	0.54	0.68	0.43	0.41	0.94	0.86	0.44	0.52	0.39	***	***	***
	Bandung	FP				1.32	1.61	1.28	1.09	1.51	1.53	0.89	1.38	1.72	***	***	***
Japan	Rishiri	FP	0.13	0.13	0.14	0.13	0.18	0.12	0.15	0.16	0.27	0.13	0.15	0.14	0.18	0.13	0.13
	Ochiishi	FP	0.14	0.10	0.17	0.24	0.14	0.12	0.15	0.15	0.13	0.10	0.19	0.20	0.16	0.13	0.17
	Tappi	FP	0.29	0.27	0.26	0.45	0.41	0.24	0.24	0.21							
	Sado-seki	FP	0.25	0.19	0.25	0.25	0.31	0.23	0.22	0.30	0.21	0.19	***	0.16	0.28	0.21	0.25
	Happo	FP	0.04	0.11	0.19	0.18	0.13	0.10	0.07	0.12	0.05	0.10	0.08	0.09	0.16	0.12	0.13
	Ijira	FP	0.17	0.08	0.09	0.13	0.11	0.12	0.11	0.13	0.12	0.07	0.12	0.09	0.14	0.10	0.12
	Oki	FP	0.38	0.25	0.30	0.30	0.28	0.35	0.45	0.32	0.27	0.27	0.32	0.29	0.33	0.21	0.24
	Banryu	FP	0.26	0.20	0.25	0.21	0.21	0.23	0.26	0.23							
	Yusuhara	FP	0.21	0.15	0.26	0.19	0.12	0.12	0.12	0.16	0.11	0.12	0.19	0.12	0.16	0.07	0.25
	Hedo	FP	0.18	0.32	0.42	0.41	0.40	0.38	0.38	0.43	0.38	0.38	0.35	0.30	0.30	***	***
	Ogasawara	FP	0.17	0.15	0.16	0.14	0.29	0.14	0.15	0.14	0.16	0.18	0.21	0.15	0.18	0.15	0.16
	Tokyo	FP	0.49	0.36	0.52	0.49	0.45	0.40	0.43	0.46	0.46	0.39	0.41	0.38	0.45	0.37	0.38
	Niigata-maki	FP										0.12	0.18	0.12	0.23	0.16	
	Tsushima	FP										0.19	0.32	0.21	0.27	0.15	0.23
Lao PDR	Vientiane	FP					0.22	0.22	***	***	***	***	***	***	***	***	***
Malaysia	Petaling Jaya	FP	0.37	0.38	0.47	0.81	0.81	0.44	0.35	0.55	***	0.36	0.20	0.26	0.22	0.12	0.13
	Tanah Rata	FP	0.07	0.09	0.28	0.42	0.18	0.12	0.05	<0.01	***	0.06	0.09	0.08	0.08	0.06	0.08
	Danum Valley	FP	0.02	0.02	0.04	0.07	0.04	0.03	0.02	0.04	***	0.02	0.01	0.01	0.02	0.02	<0.01
Mongolia	Ulaanbaatar	FP	3.35	***	***	***	***	0.55	0.74	0.83	0.54	0.42					
	Khan-Uul	FP										0.58	0.79	***	***	1.35	0.98
	Terelj	FP	0.32	***	***	***	***	0.40	0.06	0.08	0.06	0.05	0.11	***	***	0.08	0.08
	Terelj II TBD	FP															0.09
Myanmar	Yangon	FP	1.82	1.03	0.29	0.51	3.11	1.69	0.40	0.24	0.27	0.54	0.34	0.39	0.14	0.18	0.13
Philippines	Manila Observatory	FP	***	***	***	***	***	***	***	***	0.71	1.08	1.39	0.52	1.11	0.54	0.33
	Los Baños	FP	***	***	***	***	***	***	***	***	***	***	***	0.14	2.19	0.26	0.19
	Mt. Sto. Tomas	FP	***	0.35	0.29	0.39	0.48	0.18	***	***	***	***	***	***	***	***	***
Republic of Korea	Ganghwa	FP with $PM_{2.5}$ cyclone	***	***	0.14	0.11	0.02	0.03	0.05	0.03	0.02	0.04	0.06	0.03	0.05	0.03	0.04
	Jeju	FP with $PM_{2.5}$ cyclone	***	***	0.09	0.10	0.08	0.12	0.05	0.08	0.07	0.03	0.04	0.02	0.03	0.03	0.02
	Imsil	FP with $PM_{2.5}$ cyclone	***	***	0.08	0.07	0.09	0.14	0.08	0.08	0.06	0.02	0.02	0.03	0.04	0.03	0.03
Russia	Mondy	FP	0.04	0.05	<0.01	<0.01	0.03	0.08	0.06	0.05	0.01	0.01	<0.01	0.20	<0.01		
	Listvyanka	FP	0.10	0.14	0.06	0.08	0.15	0.21	0.07	0.10	0.05	0.04	0.03	0.08	0.07	0.13	0.06
	Irkutsk	FP	0.35	0.49	0.36	0.42	0.44	0.38	0.23	0.27	0.17	0.13	0.16	0.33	0.38	0.46	0.29
	Primorskaya	FP	0.28	0.41	0.35	0.35	0.44	0.34	0.09	0.05	0.06	0.17	0.05	0.11	0.15	0.03	0.02
Thailand	Bangkok	FP	1.03	0.74	1.29	2.09	0.97	1.01	0.49	1.29	1.09	0.73	***	0.27	0.57		
	Pathumthani	FP	0.50														
	Khanchanaburi	FP	0.12	0.28	0.12	0.23	0.14	1.65	0.07	0.16	0.39						
	Mae Hia	FP	0.22	0.47	0.46	0.12	0.15	0.42	0.27	0.18	0.30						
	Sakaerat	FP	0.16	0.14	0.11	0.16	0.22	0.31	0.22	1.36	0.93						
Vietnam	Hanoi	FP	8.67	4.07	6.23	4.11	5.99	4.76	3.01	1.92	2.99	4.38	3.68	5.57	2.75	2.42	2.57
	Hoa Binh	FP	1.62	1.50	3.12	1.62	1.84	2.04	0.94	1.36	1.50	2.15	1.84	2.03	2.71	0.35	0.66
	Can Tho	FP				1.52	1.53	1.74	1.36	1.41	2.00	1.70	1.39	1.83	1.82	1.91	1.87
	Ho Chi Minh	FP				1.18	1.05	1.78	2.88	2.63	2.71	2.85	2.28	2.41	2.57	3.78	3.00
	Yen Bai	FP					4.08	0.17	2.42	2.63	2.26	3.12	3.02	3.10	2.64	1.17	1.19

Terms and abbreviations are given in Table 3.2.

Table 3. 40 Monthly and annual dry deposition amounts of gaseous and particulate substances[*2]

Site: Rishiri **Country: Japan** Ratio : Forest 100 : Grass 0

	Gases				Particulate matter components							
	SO_2 [*4]	HNO_3	NH_3	NO_2 [*1]	nss-SO_4^{2-}	NO_3^-	Cl^-	NH_4^+	Na^+	K^+	Mg^{2+}	Ca^{2+}
2025	mmol m^{-2}	mmol m^{-2}	mmol m^{-2}	mmol m^{-2}	mmol m^{-2}	mmol m^{-2}	mmol m^{-2}	mmol m^{-2}	mmol m^{-2}	mmol m^{-2}	mmol m^{-2}	mmol m^{-2}
Jan	0.10	0.03	0.15	0.01	0.06	0.03	1.54	0.07	1.65	0.03	0.18	0.05
Feb	0.06	0.03	0.13	0.01	0.05	0.03	0.79	0.06	0.84	0.01	0.09	0.02
Mar	0.04	0.03	0.13	0.04	0.06	0.03	0.94	0.08	1.00	0.02	0.11	0.03
Apr	0.04	0.02	0.16	0.06	0.05	0.03	0.48	0.06	0.52	0.01	0.06	0.01
May	0.01	0.02	0.20	0.06	0.05	0.03	0.78	0.06	0.83	0.01	0.09	0.02
June	0.03	0.02	0.21	0.07	0.04	0.02	0.60	0.05	0.64	0.01	0.07	0.02
July	0.03	0.02	0.20	0.06	0.04	0.02	0.50	0.05	0.54	0.01	0.06	0.01
Aug	0.03	0.02	0.20	0.07	0.04	0.02	0.58	0.06	0.61	0.01	0.07	0.02
Sept	0.00	0.02	0.17	0.07	0.05	0.03	0.58	0.07	0.62	0.01	0.07	0.02
Oct	0.05	0.03	0.12	0.04	0.05	0.03	0.77	0.07	0.82	0.01	0.09	0.02
Nov	0.03	0.03	0.17	0.04	0.05	0.03	0.93	0.06	0.99	0.02	0.11	0.03
Dec	0.06	0.03	0.11	0.03	0.05	0.02	1.06	0.05	1.13	0.02	0.12	0.03
Annual	0.49	0.29	1.96	0.56	0.59	0.32	9.56	0.73	10.20	0.18	1.12	0.28

Table 3.41 Monthly and annual dry deposition amounts of gaseous and particulate substances[*2]

Site: Ochiishi[*3] **Country: Japan** Ratio : Forest 100 : Grass 0

	Gases				Particulate matter components							
	SO_2 [*4]	HNO_3	NH_3	NO_2 [*1]	nss-SO_4^{2-}	NO_3^-	Cl^-	NH_4^+	Na^+	K^+	Mg^{2+}	Ca^{2+}
2025	mmol m^{-2}	mmol m^{-2}	mmol m^{-2}	mmol m^{-2}	mmol m^{-2}	mmol m^{-2}	mmol m^{-2}	mmol m^{-2}	mmol m^{-2}	mmol m^{-2}	mmol m^{-2}	mmol m^{-2}
Jan	0.22	0.66	0.21	***	0.52	0.46	18.54	0.86	16.73	0.40	1.84	0.38
Feb	0.12	0.16	0.08	***	0.41	0.80	53.96	1.08	46.02	1.07	5.27	0.87
Mar	0.18	0.11	0.22	***	0.65	0.87	20.94	1.12	19.33	0.48	2.14	0.58
Apr	0.44	0.09	0.58	0.09	1.03	0.64	8.57	0.67	13.03	0.33	1.44	0.39
May	0.40	0.12	0.75	0.14	0.22	0.39	4.24	0.34	4.49	0.14	0.48	0.13
June	0.47	0.45	1.92	0.24	0.54	0.73	4.47	0.63	6.16	0.17	0.68	0.19
July	0.72	0.52	1.33	0.26	0.41	0.53	6.15	0.43	7.30	0.16	0.78	0.17
Aug	0.74	0.24	1.46	0.21	0.36	0.43	7.06	0.23	8.15	0.18	0.85	0.19
Sept	0.73	0.22	1.00	0.20	0.07	0.19	31.07	0.08	27.18	0.56	3.04	0.58
Oct	0.36	0.09	0.49	0.03	0.29	0.46	53.04	0.41	46.61	1.02	5.14	1.15
Nov	0.61	0.17	0.67	0.04	0.40	0.69	120.38	0.78	104.40	2.37	11.47	2.49
Dec	1.80	0.31	0.52	0.02	0.68	1.08	78.11	1.23	68.37	1.47	7.55	1.54
Annual	6.79	3.16	9.24	1.23	5.59	7.26	406.54	7.85	367.77	8.36	40.68	8.67

Table 3.42 Monthly and annual dry deposition amounts of gaseous and particulate substances[*2]

Site: Sado-seki[*3] **Country: Japan** Ratio : Forest 100 : Grass 0

	Gases				Particulate matter components							
	SO_2 [*4]	HNO_3	NH_3	NO_2 [*1]	nss-SO_4^{2-}	NO_3^-	Cl^-	NH_4^+	Na^+	K^+	Mg^{2+}	Ca^{2+}
2025	mmol m^{-2}	mmol m^{-2}	mmol m^{-2}	mmol m^{-2}	mmol m^{-2}	mmol m^{-2}	mmol m^{-2}	mmol m^{-2}	mmol m^{-2}	mmol m^{-2}	mmol m^{-2}	mmol m^{-2}
Jan	0.42	0.26	0.54	***	0.53	0.68	24.10	0.74	22.71	0.63	2.50	0.66
Feb	0.30	0.22	0.37	***	0.75	1.84	26.84	1.63	24.92	0.80	2.80	1.26
Mar	0.38	0.70	1.52	***	0.78	1.72	19.58	1.10	19.40	0.66	2.36	1.87
Apr	0.54	0.79	2.12	***	0.54	1.21	16.96	0.48	17.33	0.49	2.07	1.25
May	0.66	1.23	2.35	***	0.54	0.76	18.27	0.44	18.53	0.50	2.14	0.91
June	0.77	1.54	2.77	***	0.50	0.42	0.85	0.54	2.96	0.14	0.41	0.38
July	0.54	0.91	1.53	***	0.29	0.26	0.37	0.44	1.63	0.06	0.20	0.08
Aug	0.47	0.65	1.70	***	0.43	0.47	4.02	0.38	6.33	0.17	0.74	0.20
Sept	0.44	0.25	1.21	***	0.21	0.40	7.20	0.17	7.91	0.20	0.95	0.31
Oct	0.24	0.15	0.64	***	0.18	0.31	8.77	0.19	8.71	0.25	1.04	0.34
Nov	0.39	0.19	0.58	***	0.25	0.53	15.94	0.31	15.25	0.49	1.77	0.59
Dec	0.37	0.22	0.55	***	0.40	0.61	25.81	0.52	23.83	0.56	2.65	0.81
Annual	5.54	7.11	15.87	0.00	5.40	9.20	168.72	6.93	169.51	4.95	19.62	8.67

Table 3.43 Monthly and annual dry deposition amounts of gaseous and particulate substances[*2]

Site: Happo[*3] **Country: Japan** Ratio : Forest 100 : Grass 0

	Gases				Particulate matter components							
	SO_2 [*4]	HNO_3	NH_3	NO_2 [*1]	nss-SO_4^{2-}	NO_3^-	Cl^-	NH_4^+	Na^+	K^+	Mg^{2+}	Ca^{2+}
2025	mmol m^{-2}	mmol m^{-2}	mmol m^{-2}	mmol m^{-2}	mmol m^{-2}	mmol m^{-2}	mmol m^{-2}	mmol m^{-2}	mmol m^{-2}	mmol m^{-2}	mmol m^{-2}	mmol m^{-2}
Jan	0.05	0.46	0.04	***	0.27	0.14	0.05	0.41	0.33	0.10	0.05	0.08
Feb	0.05	0.31	0.03	***	0.32	0.28	0.24	0.44	0.69	0.11	0.10	0.22
Mar	0.09	0.22	0.10	***	0.16	0.14	0.10	0.19	0.24	0.03	0.06	0.23
Apr	0.41	0.68	0.72	***	0.55	0.81	0.17	0.57	0.87	0.16	0.33	1.71
May	0.71	1.19	0.84	***	0.31	0.14	0.04	0.29	0.36	0.09	0.13	0.60
June	0.50	1.30	0.85	***	0.32	0.06	0.01	0.43	0.17	0.07	0.06	0.28
July	0.37	1.23	0.42	***	0.23	0.03	0.02	0.35	0.30	0.03	0.04	0.04
Aug	0.46	0.94	0.42	***	0.25	0.01	0.01	0.37	0.21	0.03	0.04	0.04
Sept	0.50	0.53	0.34	***	0.17	0.03	0.03	0.20	0.31	0.04	0.05	0.13
Oct	0.35	0.22	0.30	***	0.09	0.05	0.04	0.07	0.32	0.03	0.05	0.12
Nov	0.33	0.18	0.24	***	0.13	0.11	0.08	0.10	0.60	0.06	0.08	0.15
Dec	0.21	0.24	0.13	***	0.19	0.13	0.07	0.14	0.52	0.05	0.09	0.23
Annual	4.04	7.49	4.41	***	3.00	1.95	0.84	3.55	4.93	0.81	1.08	3.82

Table 3.44 Monthly and annual dry deposition amounts of gaseous and particulate substances[*2]

Site: Ijira[*3] **Country: Japan** Ratio : Forest 100 : Grass 0

	Gases				Particulate matter components							
	SO_2 [*4]	HNO_3	NH_3	NO_2 [*1]	nss-SO_4^{2-}	NO_3^-	Cl^-	NH_4^+	Na^+	K^+	Mg^{2+}	Ca^{2+}
2025	mmol m^{-2}	mmol m^{-2}	mmol m^{-2}	mmol m^{-2}	mmol m^{-2}	mmol m^{-2}	mmol m^{-2}	mmol m^{-2}	mmol m^{-2}	mmol m^{-2}	mmol m^{-2}	mmol m^{-2}
Jan	0.02	0.02	0.08	***	0.01	0.00	0.04	0.01	0.20	0.01	0.01	0.01
Feb	0.01	0.00	0.02	***	0.00	0.00	0.03	0.00	0.08	0.01	0.01	0.01
Mar	0.05	0.15	0.25	***	0.04	0.05	0.03	0.05	0.38	0.05	0.06	0.14
Apr	0.04	0.18	0.24	***	0.06	0.05	0.05	0.09	0.39	0.07	0.07	0.18
May	0.06	0.24	0.23	***	0.05	0.02	0.04	0.07	0.29	0.08	0.06	0.12
June	0.06	0.18	0.29	***	0.05	0.01	0.01	0.09	0.16	0.06	0.03	0.07
July	0.08	0.25	0.39	***	0.07	0.01	0.01	0.11	0.38	0.06	0.05	0.06
Aug	0.02	0.20	0.20	***	0.08	0.01	0.00	0.12	0.28	0.05	0.04	0.05
Sept	0.03	0.07	0.19	***	0.02	0.01	0.03	0.03	0.23	0.05	0.03	0.05
Oct	0.01	0.02	0.06	***	0.01	0.01	0.05	0.01	0.17	0.04	0.02	0.04
Nov	0.01	0.03	0.04	***	0.02	0.01	0.08	0.02	0.29	0.04	0.03	0.05
Dec	0.01	0.02	0.03	***	0.01	0.01	0.08	0.02	0.19	0.03	0.02	0.03
Annual	0.40	1.37	2.02	***	0.43	0.20	0.45	0.62	3.02	0.54	0.43	0.80

Table 3.45 Monthly and annual dry deposition amounts of gaseous and particulate substances[*2]

Site: Oki[*3] **Country: Japan** Ratio : Forest 100 : Grass 0

	Gases				Particulate matter components							
	SO_2 [*4]	HNO_3	NH_3	NO_2 [*1]	nss-SO_4^{2-}	NO_3^-	Cl^-	NH_4^+	Na^+	K^+	Mg^{2+}	Ca^{2+}
2025	mmol m^{-2}	mmol m^{-2}	mmol m^{-2}	mmol m^{-2}	mmol m^{-2}	mmol m^{-2}	mmol m^{-2}	mmol m^{-2}	mmol m^{-2}	mmol m^{-2}	mmol m^{-2}	mmol m^{-2}
Jan	0.30	0.08	0.29	***	0.44	1.04	26.64	0.88	24.21	0.84	2.79	0.92
Feb	0.29	0.08	0.23	***	0.35	0.87	24.59	0.70	21.93	0.74	2.53	0.88
Mar	0.25	0.33	0.52	***	0.60	1.38	14.05	0.96	14.66	0.54	1.69	1.08
Apr	0.20	0.37	0.72	***	0.52	1.16	10.16	0.68	11.41	0.38	1.36	0.96
May	0.26	0.39	0.56	***	0.37	0.57	3.69	0.44	5.14	0.18	0.59	0.33
June	0.28	0.93	0.92	***	0.53	0.36	1.04	0.55	2.74	0.14	0.32	0.19
July	0.23	0.88	0.82	***	0.60	0.35	1.52	0.48	3.87	0.13	0.43	0.14
Aug	0.31	0.45	0.57	***	0.58	0.43	3.97	0.48	5.93	0.17	0.66	0.17
Sept	0.11	0.14	0.45	***	0.23	0.29	5.33	0.20	6.00	0.17	0.65	0.24
Oct	0.13	0.09	0.24	***	0.20	0.32	8.74	0.22	8.72	0.25	0.98	0.32
Nov	0.14	0.12	0.30	***	0.21	0.50	8.81	0.30	8.94	0.29	1.00	0.42
Dec	0.25	0.07	0.28	***	0.24	0.63	16.20	0.39	15.51	0.40	1.76	0.60
Annual	2.76	3.91	5.90	***	4.88	7.92	124.72	6.28	129.05	4.24	14.76	6.25

Table 3.46 Monthly and annual dry deposition amounts of gaseous and particulate substances[*2]

Site: Yusuhara **Country: Japan** Ratio : Forest 100 : Grass 0

	Gases				Particulate matter components							
	SO_2 [*4]	HNO_3	NH_3	NO_2 [*1]	nss-SO_4^{2-}	NO_3^-	Cl^-	NH_4^+	Na^+	K^+	Mg^{2+}	Ca^{2+}
2025	mmol m^{-2}	mmol m^{-2}	mmol m^{-2}	mmol m^{-2}	mmol m^{-2}	mmol m^{-2}	mmol m^{-2}	mmol m^{-2}	mmol m^{-2}	mmol m^{-2}	mmol m^{-2}	mmol m^{-2}
Jan	0.01	0.00	0.00	***	0.02	0.02	0.01	0.01	0.02	0.01	0.00	0.01
Feb	0.01	0.01	0.00	***	0.03	0.02	0.01	0.01	0.02	0.00	0.00	0.01
Mar	0.01	0.02	0.02	***	0.02	0.02	0.01	0.01	0.02	0.00	0.00	0.03
Apr	***	***	***	***	***	***	***	***	***	***	***	***
May	***	***	***	***	***	***	***	***	***	***	***	***
June	***	***	***	***	***	***	***	***	***	***	***	***
July	***	***	***	***	***	***	***	***	***	***	***	***
Aug	***	***	***	***	***	***	***	***	***	***	***	***
Sept	***	***	***	***	***	***	***	***	***	***	***	***
Oct	***	***	***	***	***	***	***	***	***	***	***	***
Nov	***	***	***	***	***	***	***	***	***	***	***	***
Dec	***	***	***	***	***	***	***	***	***	***	***	***
Annual	0.02	0.03	0.03	0.00	0.07	0.07	0.03	0.03	0.05	0.01	0.01	0.04

Table 3.47 Monthly and annual dry deposition amounts of gaseous and particulate substances[*2]

Site: Hedo[*3] **Country: Japan** Ratio : Forest 100 : Grass 0

	Gases				Particulate matter components							
	SO_2 [*4]	HNO_3	NH_3	NO_2 [*1]	nss-SO_4^{2-}	NO_3^-	Cl^-	NH_4^+	Na^+	K^+	Mg^{2+}	Ca^{2+}
2025	mmol m^{-2}	mmol m^{-2}	mmol m^{-2}	mmol m^{-2}	mmol m^{-2}	mmol m^{-2}	mmol m^{-2}	mmol m^{-2}	mmol m^{-2}	mmol m^{-2}	mmol m^{-2}	mmol m^{-2}
Jan	***	***	***	***	***	***	***	***	***	***	***	***
Feb	***	***	***	***	***	***	***	***	***	***	***	***
Mar	***	***	***	***	***	***	***	***	***	***	***	***
Apr	***	***	***	***	***	***	***	***	***	***	***	***
May	***	***	***	***	***	***	***	***	***	***	***	***
June	***	***	***	***	***	***	***	***	***	***	***	***
July	***	***	***	***	***	***	***	***	***	***	***	***
Aug	***	***	***	***	***	***	***	***	***	***	***	***
Sept	***	***	***	***	***	***	***	***	***	***	***	***
Oct	***	***	***	***	***	***	***	***	***	***	***	***
Nov	***	***	***	***	***	***	***	***	***	***	***	***
Dec	***	***	***	***	***	***	***	***	***	***	***	***
Annual	***	***	***	***	***	***	***	***	***	***	***	***

Table 3.48 Monthly and annual dry deposition amounts of gaseous and particulate substances[*2]

Site: Ogasawara[*3] **Country: Japan** Ratio : Forest 100 : Grass 0

	Gases				Particulate matter components							
	SO_2 [*4]	HNO_3	NH_3	NO_2 [*1]	nss-SO_4^{2-}	NO_3^-	Cl^-	NH_4^+	Na^+	K^+	Mg^{2+}	Ca^{2+}
2025	mmol m^{-2}	mmol m^{-2}	mmol m^{-2}	mmol m^{-2}	mmol m^{-2}	mmol m^{-2}	mmol m^{-2}	mmol m^{-2}	mmol m^{-2}	mmol m^{-2}	mmol m^{-2}	mmol m^{-2}
Jan	0.03	0.02	0.11	***	0.06	0.08	4.51	0.07	4.64	0.12	0.49	0.15
Feb	0.04	0.04	0.09	***	0.11	0.10	5.41	0.08	5.52	0.13	0.59	0.20
Mar	0.08	0.07	0.42	***	0.16	0.16	4.35	0.10	4.77	0.13	0.54	0.24
Apr	0.09	0.04	0.51	***	0.17	0.22	3.88	0.10	4.22	0.13	0.56	0.50
May	0.07	0.03	0.54	***	0.10	0.09	2.82	0.04	3.18	0.10	0.35	0.19
June	0.05	0.02	0.43	***	0.08	0.05	2.09	0.05	2.54	0.08	0.25	0.08
July	0.07	0.02	0.43	***	0.06	0.04	10.53	0.05	9.19	0.24	1.02	0.24
Aug	0.04	0.01	0.38	***	0.04	0.03	3.54	0.05	3.40	0.10	0.37	0.10
Sept	0.03	0.02	0.31	***	0.03	0.03	3.34	0.03	3.11	0.08	0.32	0.09
Oct	0.05	0.03	0.19	***	0.07	0.08	7.73	0.04	7.04	0.16	0.75	0.23
Nov	0.03	0.02	0.14	***	0.06	0.08	5.10	0.05	5.05	0.13	0.54	0.19
Dec	0.03	0.03	0.10	***	0.06	0.07	6.38	0.05	5.92	0.13	0.62	0.19
Annual	0.62	0.35	3.67	***	1.02	1.03	59.68	0.71	58.58	1.52	6.40	2.41

Table 3.49 Monthly and annual dry deposition amounts of gaseous and particulate substances[*2]

Site: Tokyo[*3] **Country: Japan** Ratio : Forest 100 : Grass 0

	Gases				Particulate matter components							
	SO_2 [*4]	HNO_3	NH_3	NO_2 [*1]	nss-SO_4^{2-}	NO_3^-	Cl^-	NH_4^+	Na^+	K^+	Mg^{2+}	Ca^{2+}
2025	mmol m^{-2}	mmol m^{-2}	mmol m^{-2}	mmol m^{-2}	mmol m^{-2}	mmol m^{-2}	mmol m^{-2}	mmol m^{-2}	mmol m^{-2}	mmol m^{-2}	mmol m^{-2}	mmol m^{-2}
Jan	0.25	0.63	0.78	***	0.10	0.43	0.42	0.46	0.46	0.12	0.07	0.32
Feb	0.22	0.97	0.57	***	0.18	0.54	0.54	0.52	0.82	0.11	0.12	0.48
Mar	0.72	1.55	2.60	***	0.35	0.90	1.11	0.66	2.27	0.19	0.34	0.82
Apr	0.87	1.58	2.30	***	0.37	0.95	0.86	0.60	2.69	0.20	0.42	0.72
May	1.32	2.72	2.65	***	0.40	0.78	0.52	0.57	2.67	0.20	0.37	0.65
June	1.56	4.87	4.03	***	0.54	0.70	0.21	0.71	2.18	0.21	0.32	0.63
July	1.89	3.24	2.82	***	0.86	0.74	1.61	0.90	4.60	0.21	0.61	0.71
Aug	1.96	6.30	2.97	***	0.80	0.84	0.30	1.03	3.61	0.26	0.51	0.75
Sept	0.95	2.87	2.74	***	0.39	0.73	1.15	0.49	3.33	0.19	0.44	0.49
Oct	0.57	0.95	2.32	***	0.17	0.55	2.12	0.30	3.05	0.18	0.40	0.48
Nov	0.31	0.76	1.20	***	0.12	0.48	0.66	0.37	1.12	0.16	0.18	0.43
Dec	0.32	0.65	1.38	***	0.11	0.54	0.70	0.45	0.80	0.12	0.14	0.41
Annual	10.93	27.10	26.36	***	4.41	8.19	10.21	7.06	27.60	2.14	3.91	6.89

Starting in 2025, dry deposition at the Tokyo site was newly calculated assuming 100% forest cover.

Table 3.50 Monthly and annual dry deposition amounts of gaseous and particulate substances[*2]

Site: Tsushima[*3] **Country: Japan** Ratio : Forest 100 : Grass 0

	Gases				Particulate matter components							
	SO_2 [*4]	HNO_3	NH_3	NO_2 [*1]	nss-SO_4^{2-}	NO_3^-	Cl^-	NH_4^+	Na^+	K^+	Mg^{2+}	Ca^{2+}
2025	mmol m^{-2}	mmol m^{-2}	mmol m^{-2}	mmol m^{-2}	mmol m^{-2}	mmol m^{-2}	mmol m^{-2}	mmol m^{-2}	mmol m^{-2}	mmol m^{-2}	mmol m^{-2}	mmol m^{-2}
Jan	0.27	0.46	0.18	***	0.43	1.56	1.29	1.52	1.94	0.27	0.29	0.47
Feb	0.25	0.34	0.15	***	0.35	1.13	1.57	1.13	2.02	0.22	0.30	0.46
Mar	0.57	0.71	0.55	***	0.61	2.09	2.15	1.57	3.93	0.33	0.58	1.07
Apr	0.37	0.61	0.66	***	0.46	0.98	1.21	0.65	3.24	0.21	0.44	0.75
May	0.57	1.41	0.82	***	0.41	0.48	0.43	0.59	1.84	0.14	0.24	0.34
June	0.29	1.73	0.98	***	0.41	0.09	0.04	0.48	0.84	0.10	0.12	0.15
July	0.45	1.48	0.96	***	0.45	0.16	0.27	0.39	1.96	0.09	0.21	0.10
Aug	0.52	0.84	0.48	***	0.37	0.13	0.14	0.30	1.78	0.09	0.20	0.08
Sept	0.16	0.21	0.40	***	0.13	0.10	0.35	0.15	0.93	0.05	0.11	0.04
Oct	0.20	0.27	0.37	***	0.15	0.20	1.85	0.16	2.71	0.10	0.32	0.15
Nov	0.24	0.58	0.22	***	0.27	0.83	1.08	0.70	2.08	0.18	0.30	0.44
Dec	0.48	0.60	0.27	***	0.36	1.08	1.34	1.01	2.26	0.17	0.32	0.47
Annual	4.38	9.23	6.04	***	4.40	8.83	11.71	8.64	25.54	1.96	3.41	4.52

1 NO_2 = NOx- NO

*2 The cloud cover needed to calculate their deposition velocity for dry deposition was obtained from "Grid Point Value (GPV) data of numerical weather prediction (Meso-Scale Model (MSM))", Japan Meteorological Agency, which were collected and distributed by Research Institute for Sustainable Humanosphere, Kyoto University. (http://database.rish.kyoto-u.ac.jp/index-e.html)

*3 Since some necessary meteorological data required for dry deposition calculations were unavailable at several monitoring sites, the missing data were supplemented using data from nearby Japan Meteorological Agency monitoring stations. The names and locations of these stations are listed below.

Ochiishi: Nemuro-Latitude :latitude:43º19'48"N, Longitude: 145º35'6"E, Alltitude: 25.2 m (for wind speed from June 1 to Oct.14.)

Sado-seki: Niigata- latitude:37º53'36"N, Longitude: 139º01'06"E, Alltitude: 4.1 m (for solar radiation.)

Happo： Nagano-latitude:36º39'42"N, Longitude: 138º11'30"E, Alltitude: 418.2 m (for relative humidity.)

Ijira: Gifu- latitude:35º24'30"N, Longitude: 136º45'42"E, Alltitude: 12.7 m (for temperature, relative humidity, windspeed and precipitation.)

Oki: Saigo- latitude:36º12'12"N, Longitude: 133º20'00"E, Alltitude: 26.5 m (for temperature, relative humidity, wind speed and precipitation.)

Matsue- latitude:35º27'24"N, Longitude: 133º03'54"E, Alltitude: 16.9 m (for solar radiation.)

Hedo: Oku- latitude:26º50'06"N, Longitude: 128º16'18"E, Alltitude: 232 m (for temperature, relative humidity, wind speed and precipitation.)

Naha- latitude:26º12'24"N, Longitude: 127º41'12"E, Alltitude: 28.1 m (for solar radiation.)

Ogasawara: Chichijima- latitude:27º05'30"N, Longitude: 142º11'24"E, Alltitude: 2.7 m (for relative humidity.)

Tokyo: Tokyo - latitude:35º41'30"N, Longitude: 139º45'00"E, Alltitude: 25.2 m (for temperature, relative humidity, wind speed, relative humidity and precipitation.)

Tsushima: Izuhara- latitude:34º11'48"N, Longitude: 129º17'30"E, Alltitude: 4.6 m (for temperature and relative humidity.)

Fukuoka- latitude:33º34'54"N, Longitude: 130º22'30"E, Alltitude: 2.5 m (for solar radiation.)

*4 The SO_2 used in the calculation was taken from the FP data.

Table 3.51 Conversion ratios from ppb to μg/m^3 (20°C, 1 atm)

Species	SO_2	HNO_3	HCl	NH_3	NO	NO_2	O_3
Ratio	x 2.66	x 2.62	x 1.52	x 0.71	x 1.25	x 1.91	x 2.00

Table 3.52 Reporting limits for summarizing air concentration data

Species	Reporting limit
SO_2	0.1 ppb
HNO_3	0.1 ppb
HCl	0.1 ppb
NH_3	0.1 ppb
NO, NO_2, NO_x	0.1 ppb
O_3	1 ppb
PM	1 μg/m^3
Particulate matter components	0.01 μg/m^3

Supplement

Table 1 Monthly and annual dry deposition amounts of gaseous and particulate substances[*2]

Site: Rishiri **Country: Japan** Ratio : Forest 16 : Grass 84

	Gases				Particulate matter components							
	SO_2[*4]	HNO_3	NH_3	NO_2[*1]	nss-SO_4^{2-}	NO_3^-	Cl^-	NH_4^+	Na^+	K^+	Mg^{2+}	Ca^{2+}
2025	mmol m^{-2}	mmol m^{-2}	mmol m^{-2}	mmol m^{-2}	mmol m^{-2}	mmol m^{-2}	mmol m^{-2}	mmol m^{-2}	mmol m^{-2}	mmol m^{-2}	mmol m^{-2}	mmol m^{-2}
Jan	0.07	0.03	0.14	0.01	0.06	0.04	0.53	0.08	0.56	0.03	0.06	0.02
Feb	0.10	0.04	0.23	0.01	0.07	0.09	1.38	0.12	1.26	0.05	0.14	0.06
Mar	0.06	0.05	0.34	0.06	0.11	0.11	1.82	0.17	1.55	0.06	0.18	0.07
Apr	0.07	0.06	0.61	0.03	0.06	0.06	0.77	0.08	0.86	0.03	0.10	0.04
May	0.09	0.08	0.83	***	0.11	0.12	1.27	0.12	1.31	0.05	0.15	0.05
June	0.07	0.10	0.94	***	0.08	0.06	0.55	0.10	0.70	0.03	0.08	0.03
July	0.08	0.09	1.03	***	0.09	0.06	0.55	0.10	0.76	0.04	0.09	0.03
Aug	0.07	0.03	0.91	***	0.05	0.04	0.81	0.05	0.88	0.04	0.10	0.03
Sept	0.06	0.02	0.76	***	0.04	0.05	1.49	0.05	1.44	0.05	0.16	0.05
Oct	0.04	0.03	0.37	***	0.04	0.04	1.04	0.06	1.05	0.05	0.12	0.04
Nov	0.09	0.04	0.41	***	0.06	0.11	2.26	0.14	2.25	0.11	0.26	0.08
Dec	0.09	0.03	0.22	***	0.06	0.08	1.50	0.12	1.47	0.06	0.17	0.06
Annual	0.90	0.59	6.78	0.10	0.83	0.88	13.97	1.19	14.09	0.62	1.63	0.56

Table 2 Monthly and annual dry deposition amounts of gaseous and particulate substances[*2]

Site: Ochiishi[*3] **Country: Japan** Ratio : Forest 3 : Grass 97

	Gases				Particulate matter components							
	SO_2[*4]	HNO_3	NH_3	NO_2[*1]	nss-SO_4^{2-}	NO_3^-	Cl^-	NH_4^+	Na^+	K^+	Mg^{2+}	Ca^{2+}
2025	mmol m^{-2}	mmol m^{-2}	mmol m^{-2}	mmol m^{-2}	mmol m^{-2}	mmol m^{-2}	mmol m^{-2}	mmol m^{-2}	mmol m^{-2}	mmol m^{-2}	mmol m^{-2}	mmol m^{-2}
Jan	0.24	0.24	0.22	***	0.05	0.04	1.07	0.10	0.97	0.02	0.11	0.02
Feb	0.16	0.06	0.08	***	0.05	0.09	3.11	0.14	2.65	0.06	0.30	0.05
Mar	0.13	0.04	0.16	***	0.08	0.10	1.38	0.15	1.28	0.03	0.14	0.04
Apr	0.21	0.04	0.32	0.11	0.13	0.07	0.54	0.09	0.81	0.02	0.09	0.02
May	0.19	0.05	0.44	0.16	0.03	0.04	0.27	0.04	0.29	0.01	0.03	0.01
June	0.20	0.17	1.15	0.24	0.07	0.08	0.28	0.08	0.39	0.01	0.04	0.01
July	0.30	0.19	0.82	0.26	0.06	0.07	0.42	0.06	0.50	0.01	0.05	0.01
Aug	0.30	0.09	0.91	0.22	0.05	0.05	0.44	0.03	0.51	0.01	0.05	0.01
Sept	0.32	0.08	0.68	0.21	0.01	0.02	2.02	0.01	1.77	0.04	0.20	0.04
Oct	0.20	0.03	0.36	0.03	0.03	0.05	2.87	0.05	2.53	0.06	0.28	0.06
Nov	0.33	0.06	0.53	0.05	0.04	0.06	6.15	0.07	5.33	0.12	0.59	0.13
Dec	0.92	0.11	0.40	0.03	0.06	0.08	3.97	0.11	3.48	0.07	0.38	0.08
Annual	3.51	1.16	6.07	1.32	0.65	0.74	22.52	0.94	20.49	0.47	2.27	0.49

Table 3 Monthly and annual dry deposition amounts of gaseous and particulate substances[*2]

Site: Sado-seki[*3] **Country: Japan** Ratio : Forest 58 : Grass 42

	Gases				Particulate matter components							
	SO_2[*4]	HNO_3	NH_3	NO_2[*1]	nss-SO_4^{2-}	NO_3^-	Cl^-	NH_4^+	Na^+	K^+	Mg^{2+}	Ca^{2+}
2025	mmol m^{-2}	mmol m^{-2}	mmol m^{-2}	mmol m^{-2}	mmol m^{-2}	mmol m^{-2}	mmol m^{-2}	mmol m^{-2}	mmol m^{-2}	mmol m^{-2}	mmol m^{-2}	mmol m^{-2}
Jan	0.32	0.19	0.45	***	0.32	0.41	14.18	0.45	13.37	0.37	1.47	0.39
Feb	0.25	0.16	0.34	***	0.46	1.12	15.86	1.00	14.73	0.47	1.65	0.75
Mar	0.30	0.51	1.29	***	0.50	1.07	11.67	0.70	11.56	0.39	1.41	1.11
Apr	0.41	0.58	1.78	***	0.34	0.74	10.03	0.30	10.25	0.29	1.23	0.74
May	0.50	0.89	1.99	***	0.35	0.48	10.85	0.28	11.01	0.30	1.27	0.54
June	0.57	1.12	2.28	***	0.35	0.28	0.51	0.37	1.79	0.08	0.25	0.23
July	0.42	0.66	1.31	***	0.22	0.18	0.23	0.32	1.02	0.03	0.12	0.05
Aug	0.35	0.47	1.44	***	0.30	0.31	2.43	0.26	3.84	0.10	0.45	0.12
Sept	0.33	0.18	1.03	***	0.14	0.26	4.32	0.11	4.75	0.12	0.57	0.19
Oct	0.19	0.11	0.53	***	0.12	0.20	5.24	0.12	5.21	0.15	0.62	0.21
Nov	0.30	0.14	0.49	***	0.16	0.33	9.46	0.19	9.05	0.29	1.05	0.35
Dec	0.28	0.16	0.45	***	0.25	0.37	15.19	0.32	14.03	0.33	1.56	0.48
Annual	4.23	5.15	13.40	***	3.50	5.74	99.99	4.44	100.62	2.94	11.65	5.15

Table 4 **Monthly and annual dry deposition amounts of gaseous and particulate substances**[*2]

Site: Happo **Country: Japan** Ratio : Forest 52 : Grass 48

	Gases				Particulate matter components							
	SO_2[*4]	HNO_3	NH_3	NO_2[*1]	nss-SO_4^{2-}	NO_3^-	Cl^-	NH_4^+	Na^+	K^+	Mg^{2+}	Ca^{2+}
2025	mmol m^{-2}	mmol m^{-2}	mmol m^{-2}	mmol m^{-2}	mmol m^{-2}	mmol m^{-2}	mmol m^{-2}	mmol m^{-2}	mmol m^{-2}	mmol m^{-2}	mmol m^{-2}	mmol m^{-2}
Jan	0.08	0.31	0.04	***	0.15	0.08	0.03	0.23	0.18	0.05	0.03	0.04
Feb	0.06	0.21	0.03	***	0.18	0.16	0.13	0.25	0.37	0.06	0.05	0.12
Mar	0.07	0.15	0.08	***	0.09	0.08	0.05	0.11	0.13	0.02	0.03	0.12
Apr	0.32	0.47	0.63	***	0.32	0.47	0.09	0.34	0.47	0.09	0.18	0.92
May	0.52	0.81	0.70	***	0.18	0.08	0.02	0.17	0.20	0.05	0.07	0.32
June	0.37	0.88	0.71	***	0.21	0.04	0.01	0.29	0.09	0.04	0.03	0.15
July	0.28	0.83	0.36	***	0.16	0.02	0.01	0.25	0.17	0.02	0.02	0.02
Aug	0.34	0.64	0.35	***	0.18	0.01	0.00	0.26	0.12	0.02	0.02	0.02
Sept	0.36	0.36	0.28	***	0.11	0.02	0.02	0.14	0.17	0.02	0.03	0.07
Oct	0.26	0.15	0.23	***	0.05	0.03	0.02	0.04	0.17	0.02	0.03	0.07
Nov	0.25	0.12	0.19	***	0.08	0.07	0.04	0.06	0.32	0.03	0.04	0.08
Dec	0.19	0.16	0.11	***	0.11	0.07	0.04	0.08	0.28	0.02	0.05	0.12
Annual	3.10	5.11	3.72	***	1.84	1.12	0.45	2.23	2.66	0.43	0.58	2.06

Table 5 **Monthly and annual dry deposition amounts of gaseous and particulate substances**[*2]

Site: Ijira[*3] **Country: Japan** Ratio : Forest 99 : Grass 1

	Gases				Particulate matter components							
	SO_2[*4]	HNO_3	NH_3	NO_2[*1]	nss-SO_4^{2-}	NO_3^-	Cl^-	NH_4^+	Na^+	K^+	Mg^{2+}	Ca^{2+}
2025	mmol m^{-2}	mmol m^{-2}	mmol m^{-2}	mmol m^{-2}	mmol m^{-2}	mmol m^{-2}	mmol m^{-2}	mmol m^{-2}	mmol m^{-2}	mmol m^{-2}	mmol m^{-2}	mmol m^{-2}
Jan	0.02	0.02	0.08	***	0.01	0.00	0.04	0.01	0.20	0.01	0.01	0.01
Feb	0.01	0.00	0.02	***	0.00	0.00	0.03	0.00	0.08	0.01	0.01	0.01
Mar	0.05	0.15	0.25	***	0.04	0.05	0.03	0.05	0.37	0.05	0.06	0.14
Apr	0.04	0.18	0.24	***	0.06	0.05	0.05	0.09	0.38	0.06	0.07	0.17
May	0.06	0.24	0.23	***	0.05	0.02	0.04	0.07	0.28	0.07	0.05	0.12
June	0.06	0.18	0.29	***	0.05	0.01	0.01	0.09	0.16	0.06	0.03	0.07
July	0.08	0.25	0.38	***	0.07	0.01	0.01	0.11	0.38	0.06	0.05	0.06
Aug	0.02	0.20	0.20	***	0.08	0.01	0.00	0.12	0.28	0.05	0.04	0.05
Sept	0.03	0.07	0.19	***	0.02	0.01	0.03	0.03	0.23	0.05	0.03	0.05
Oct	0.01	0.02	0.06	***	0.01	0.01	0.05	0.01	0.16	0.03	0.02	0.04
Nov	0.01	0.03	0.04	***	0.02	0.01	0.08	0.02	0.29	0.04	0.03	0.04
Dec	0.01	0.02	0.03	***	0.01	0.01	0.08	0.02	0.19	0.03	0.02	0.03
Annual	0.40	1.36	2.02	***	0.43	0.19	0.45	0.62	3.00	0.53	0.43	0.79

Table 6 **Monthly and annual dry deposition amounts of gaseous and particulate substances**[*2]

Site: Oki[*3] **Country: Japan** Ratio : Forest 89 : Grass 11

	Gases				Particulate matter components							
	SO_2[*4]	HNO_3	NH_3	NO_2[*1]	nss-SO_4^{2-}	NO_3^-	Cl^-	NH_4^+	Na^+	K^+	Mg^{2+}	Ca^{2+}
2025	mmol m^{-2}	mmol m^{-2}	mmol m^{-2}	mmol m^{-2}	mmol m^{-2}	mmol m^{-2}	mmol m^{-2}	mmol m^{-2}	mmol m^{-2}	mmol m^{-2}	mmol m^{-2}	mmol m^{-2}
Jan	0.29	0.07	0.27	***	0.40	0.94	23.80	0.79	21.63	0.75	2.49	0.82
Feb	0.28	0.07	0.22	***	0.32	0.79	21.97	0.64	19.59	0.66	2.26	0.79
Mar	0.24	0.30	0.50	***	0.54	1.25	12.57	0.87	13.12	0.48	1.51	0.96
Apr	0.19	0.34	0.70	***	0.47	1.05	9.11	0.62	10.23	0.35	1.22	0.86
May	0.25	0.36	0.54	***	0.34	0.52	3.31	0.41	4.61	0.16	0.52	0.29
June	0.26	0.86	0.89	***	0.49	0.33	0.93	0.50	2.46	0.13	0.29	0.17
July	0.22	0.81	0.80	***	0.55	0.33	1.37	0.45	3.48	0.11	0.39	0.13
Aug	0.30	0.42	0.55	***	0.53	0.40	3.57	0.45	5.32	0.16	0.59	0.16
Sept	0.11	0.13	0.44	***	0.21	0.26	4.77	0.18	5.38	0.15	0.58	0.22
Oct	0.13	0.08	0.23	***	0.19	0.29	7.82	0.20	7.81	0.23	0.88	0.29
Nov	0.13	0.11	0.28	***	0.19	0.45	7.89	0.28	8.01	0.26	0.89	0.38
Dec	0.23	0.06	0.27	***	0.22	0.57	14.47	0.35	13.85	0.36	1.57	0.54
Annual	2.61	3.63	5.69	***	4.46	7.18	111.57	5.74	115.48	3.80	13.20	5.60

Table 7 Monthly and annual dry deposition amounts of gaseous and particulate substances[*2]

Site: Yusuhara **Country: Japan** Ratio : Forest 89 : Grass 11

	Gases				Particulate matter components							
	SO_2[*4]	HNO_3	NH_3	NO_2[*1]	nss-SO_4^{2-}	NO_3^-	Cl^-	NH_4^+	Na^+	K^+	Mg^{2+}	Ca^{2+}
2025	mmol m^{-2}	mmol m^{-2}	mmol m^{-2}	mmol m^{-2}	mmol m^{-2}	mmol m^{-2}	mmol m^{-2}	mmol m^{-2}	mmol m^{-2}	mmol m^{-2}	mmol m^{-2}	mmol m^{-2}
Jan	0.01	0.00	0.00	***	0.02	0.02	0.01	0.01	0.02	0.00	0.00	0.01
Feb	0.01	0.01	0.00	***	0.03	0.02	0.01	0.01	0.02	0.00	0.00	0.01
Mar	0.01	0.01	0.02	***	0.02	0.02	0.01	0.01	0.01	0.00	0.00	0.02
Apr	***	***	***	***	***	***	***	***	***	***	***	***
May	***	***	***	***	***	***	***	***	***	***	***	***
June	***	***	***	***	***	***	***	***	***	***	***	***
July	***	***	***	***	***	***	***	***	***	***	***	***
Aug	***	***	***	***	***	***	***	***	***	***	***	***
Sept	***	***	***	***	***	***	***	***	***	***	***	***
Oct	***	***	***	***	***	***	***	***	***	***	***	***
Nov	***	***	***	***	***	***	***	***	***	***	***	***
Dec	***	***	***	***	***	***	***	***	***	***	***	***
Annual	0.02	0.02	0.03	0.00	0.07	0.06	0.03	0.02	0.05	0.01	0.01	0.04

Table 8 Monthly and annual dry deposition amounts of gaseous and particulate substances[*2]

Site: Ogasawara **Country: Japan** Ratio : Forest 60 : Grass 40

	Gases				Particulate matter components							
	SO_2[*4]	HNO_3	NH_3	NO_2[*1]	nss-SO_4^{2-}	NO_3^-	Cl^-	NH_4^+	Na^+	K^+	Mg^{2+}	Ca^{2+}
2025	mmol m^{-2}	mmol m^{-2}	mmol m^{-2}	mmol m^{-2}	mmol m^{-2}	mmol m^{-2}	mmol m^{-2}	mmol m^{-2}	mmol m^{-2}	mmol m^{-2}	mmol m^{-2}	mmol m^{-2}
Jan	0.02	0.02	0.10	***	0.05	0.06	2.81	0.06	2.89	0.08	0.30	0.09
Feb	0.04	0.03	0.09	***	0.09	0.08	3.39	0.06	3.47	0.08	0.37	0.12
Mar	0.06	0.05	0.36	***	0.13	0.12	2.77	0.08	3.03	0.08	0.34	0.15
Apr	0.07	0.03	0.43	***	0.13	0.16	2.43	0.07	2.64	0.08	0.35	0.31
May	0.06	0.02	0.45	***	0.07	0.07	1.79	0.03	2.02	0.06	0.22	0.12
June	0.04	0.02	0.37	***	0.07	0.04	1.32	0.04	1.61	0.05	0.16	0.05
July	0.06	0.01	0.38	***	0.04	0.03	6.53	0.04	5.70	0.15	0.63	0.15
Aug	0.03	0.01	0.32	***	0.03	0.02	2.24	0.04	2.15	0.06	0.24	0.07
Sept	0.02	0.01	0.27	***	0.03	0.03	2.15	0.02	2.00	0.05	0.21	0.06
Oct	0.04	0.02	0.16	***	0.05	0.06	4.86	0.03	4.42	0.10	0.47	0.14
Nov	0.02	0.02	0.12	***	0.05	0.06	3.20	0.03	3.17	0.08	0.34	0.12
Dec	0.03	0.02	0.09	***	0.04	0.05	3.98	0.03	3.70	0.08	0.39	0.12
Annual	0.49	0.25	3.15	***	0.77	0.75	37.48	0.54	36.81	0.96	4.02	1.51

Table 9 Monthly and annual dry deposition amounts of gaseous and particulate substances[*2]

Site: Tsushima[*3] **Country: Japan** Ratio : Forest 0 : Grass 100

	Gases				Particulate matter components							
	SO_2[*4]	HNO_3	NH_3	NO_2[*1]	nss-SO_4^{2-}	NO_3^-	Cl^-	NH_4^+	Na^+	K^+	Mg^{2+}	Ca^{2+}
2025	mmol m^{-2}	mmol m^{-2}	mmol m^{-2}	mmol m^{-2}	mmol m^{-2}	mmol m^{-2}	mmol m^{-2}	mmol m^{-2}	mmol m^{-2}	mmol m^{-2}	mmol m^{-2}	mmol m^{-2}
Jan	0.30	0.16	0.15	***	0.11	0.31	0.08	0.37	0.12	0.02	0.02	0.03
Feb	0.27	0.12	0.13	***	0.07	0.19	0.09	0.23	0.11	0.01	0.02	0.03
Mar	0.28	0.25	0.44	***	0.13	0.31	0.10	0.30	0.20	0.02	0.03	0.05
Apr	0.20	0.21	0.48	***	0.12	0.20	0.08	0.17	0.21	0.01	0.03	0.05
May	0.29	0.48	0.57	***	0.10	0.08	0.02	0.14	0.10	0.01	0.01	0.02
June	0.15	0.59	0.69	***	0.11	0.02	0.00	0.12	0.05	0.01	0.01	0.01
July	0.23	0.49	0.70	***	0.18	0.06	0.03	0.15	0.18	0.01	0.02	0.01
Aug	0.25	0.27	0.35	***	0.13	0.03	0.01	0.12	0.11	0.01	0.01	0.01
Sept	0.06	0.07	0.26	***	0.04	0.03	0.03	0.05	0.07	0.00	0.01	0.00
Oct	0.09	0.09	0.20	***	0.06	0.06	0.14	0.06	0.20	0.01	0.02	0.01
Nov	0.17	0.19	0.16	***	0.08	0.19	0.07	0.20	0.14	0.01	0.02	0.03
Dec	0.27	0.20	0.18	***	0.08	0.19	0.07	0.22	0.12	0.01	0.02	0.03
Annual	2.58	3.12	4.30	***	1.21	1.66	0.71	2.14	1.60	0.12	0.21	0.26

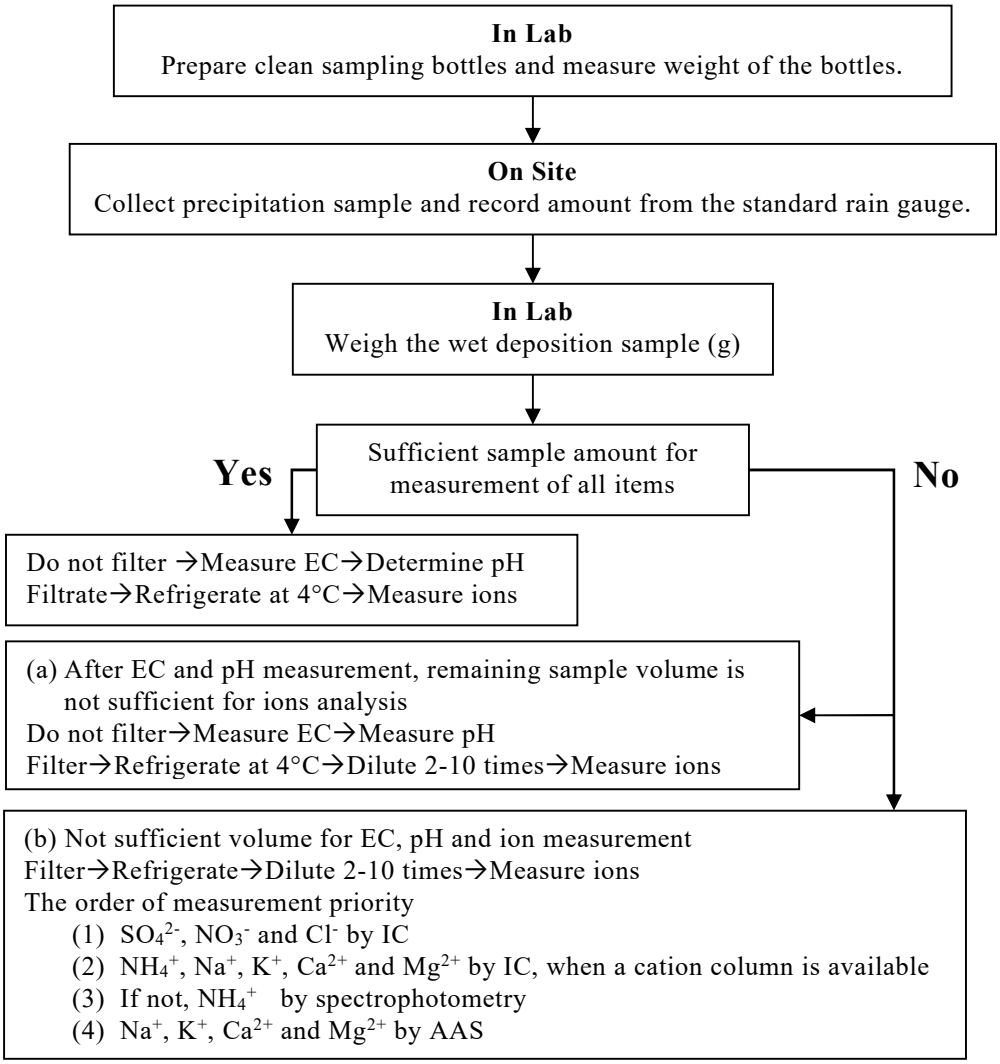
CHAPTER 4

Wet Deposition Monitoring

4. Wet Deposition Monitoring

4.1 Method

Each participating country is required to carry out acid deposition monitoring using common methodologies as specified in "*Guidelines for Acid Deposition Monitoring in East Asia*, *Technical Manual for Wet Deposition Monitoring in East Asia -2010"*, which was issued by the Network Center for EANET in November 2010 to obtain comparable, high quality monitoring data. Figure 4.1 shows the flow chart that summarizes the procedures for sampling and chemical analysis by the participating countries.



* EC: Electric conductivity, IC: Ion chromatography

Figure 4.1 Flow chart of sampling and chemical analysis of Wet Deposition

4.1.1 Field Operation

The wet-only sampler is recommended for the collection of the precipitation samples. This instrument is designed to collect precipitation samples during the period of rainfall which is detected by an equipped rain sensor that opens the lid on the collecting bucket or funnel. The lid of this instrument closes to avoid any collection into the collecting bucket or funnel, when no rainfall is detected by the sensor.
On the other hand, when a manual sampler is used to collect the precipitation since an automatic instrument is not available, the sampling shall be done by ensuring the sample collection only during rainfall period.

Precipitation chemistry samples are always at risk of degradation. Refrigeration is recommended to prevent the degradation. If refrigeration cannot be used, biocides such as thymol should be used to prevent microbial uptake and conversion of organic acids, especially in tropical region.
On the other hand, the special care for the sampling of wet deposition in the higher latitude region during winter seasons should be done. The collection of the wet deposition samples may encounter difficulties due to low ambient temperature particularly when the temperature falls below -10 to -20°C.

4.1.2 Laboratory Operation

Procedures for the analysis of major constituent in wet deposition sample according to the *"Technical Manual for Wet Deposition Monitoring in East Asia -2010"* are shown in Table 4.1. Ion chromatography is recommended as the major analytical method which has been adopted by the participating countries for chemical analysis of both anions and cations contained in precipitation samples. Atomic absorption/emission spectrometry for Na^+, K^+, Ca^{2+}, and Mg^{2+}, and spectrophotometry for NH_4^+ are the secondary methods for the determination of these ions. Laboratories that use other non-recommended methods with insufficient analytical sensitivity, such as titration method, will encounter problems of unsatisfactory detection limit.
The EANET Data quality objective (DQO) values are defined in the *"Technical Documents for Wet Deposition Monitoring in East Asia -2010."* And DQO values about Detection limits are shown in Table 4.2.

4.1.3 Data Management

Each laboratory has to submit the analyzed data of the precipitation samples to the National Center. Each National Center is expected to submit the compiled data in the required format to the Network Center for EANET (NC) by the end of June in the following year. All the data have to be checked by calculating values of ion balance (R_1) and conductivity agreement (R_2). If a sample or individual datum has problems including "insufficient sample volume" or "low precision", the flags corresponding to the problems should be recorded onto the data sheet. Participating countries can refer to QA/QC part of the EANET document on *"Technical Manual for Wet Deposition Monitoring in East Asia -2010."*

4.1.4 Meteorological Measurements

It is recommended that monitoring sites incorporate collocated meteorological measurements including wind direction/speed, temperature, humidity, precipitation amount and solar radiation. Meteorological data can also be acquired from the nearest standard meteorological station (meeting the requirements of the national weather service). Local meteorological data are very useful when dealing with the interpretation of unusual precipitation events.

Meteorological statistics at the monitoring sites are shown in Appendix 2 at the end of the report.

Table 4.1 Recommended analytical method for the measurement of major constituent in wet deposition samples

Analytical items	Method
Electric conductivity (EC)	Conductivity cell method*1
pH	Glass electrode*1
Cl^-, NO_3^-, SO_4^{2-}, NO_2^-, F^-, PO_4^{3-}	Ion chromatography, Spectrophotometry
NH_4^+	Ion chromatography, Spectrophotometry (Indophenol Blue)*2
Na^+, K^+, Ca^{2+}, Mg^{2+}	Ion chromatography Atomic absorption/emission spectrometry
HCO_3^-	Ion chromatography, Alkalinity method, HPLC
Organic acids	Ion chromatography

*1 Measuring at constant 25°C with a temperature-controlled bath is recommended.

*2 An alternative analysis method should be used if thymol is used as a biocide during sample collection.

Table 4.2 DQO values about Detection limits

Items	Detection limits (μmol L^{-1})
SO_4^{2-}	0.3
NO_3^-	0.5
Cl^-	0.5
NH_4^+	0.8
Na^+	0.3
K^+	0.3
Ca^{2+}	0.2
Mg^{2+}	0.3

4.1.5 Overview of the Statistics and Definition

An overview of the statistics and definitions used is given below.

Weighted average: the precipitation amount weighted average concentration (μmol L^{-1}) over the summary period.

Calculated as:

$$\hat{C} = \Sigma(C_i P_i) / \Sigma P_i$$

where $\hat{C}$: precipitation amount weighted average concentration (μmol L^{-1})

C_i : measured valid concentration for sample i (μmol L^{-1})

P_i : precipitation amount for the same sample i with valid concentration (mm)

Deposition amount: the wet deposition amount (mmol m^{-2}) for the summary period.

Calculated as:

Deposition amount = $\hat{C} \times$ (total precipitation amount for the summary period)/1000

The concentrations for the sampling periods with missing data have consequently been assumed to be equal to the weighted average of the summary period.

Non-sea-salt sulfate and non-sea-salt calcium (μmol L^{-1}): Equal to the measured sulfate (calcium) in the sample minus the sulfate (calcium) contributed by sea salt. Sea salt sulfate (calcium) is estimated from the concentration of sodium and the component ratio of sea water.

$$[nss\text{-}SO_4^{2-}] = [SO_4^{2-}] - 0.06028\,[Na^+]$$
$$[nss\text{-}Ca^{2+}] = [Ca^{2+}] - 0.02161\,[Na^+]$$

(Na^+ : 468.3 mmol L^{-1}, SO_4^{2-} : 28.23 mmol L^{-1}, Ca^{2+} : 10.12 mmol L^{-1}; Ref.: *Guide to maritime observation*, *Oceanographic Society of Japan*)

Data completeness:

(i) Percent precipitation coverage length (%PCL): Percentage of days with measured precipitation plus no precipitation days in the summary period. Calculated as:

%PCL = [(Number of days in the summary period)−(Number of days with missing or unknown precipitation)] / (Number of days in the summary period) × 100

(ii) Percent total precipitation (%TP): Percentage of total precipitation amount over the summary period represented by valid component measurements. Calculated as:

%TP = (Sum of precipitation amounts for samples with valid sample component measurements) / (Sum of precipitation amounts for all samples) × 100

(iii) Data completeness criteria for monthly and annual summaries:

%PCL > 80% and %TP > 80%

The low values on data completeness were caused by some trouble, such as contamination of sample and malfunction of the wet-only sampler or the rain gauge.

Ion balance (R_1):

Calculated as:

$$R_1 = (C - A) / (C + A) \times 100 \ (\%)$$

where C: total cation equivalent concentration (μeq L^{-1})

A: total anion equivalent concentration (μeq L^{-1})

$$C = 10^{(6-pH)} + \Sigma(C_{Ci}V_i)$$

where C_{Ci} : the concentration of i-th cation (μmol L^{-1})

V_i : the valence of the given ion

$$A = \Sigma(C_{Ai}V_i)$$

where C_{Ai} : the concentration of i-th anion (μmol L^{-1})

Required criteria for R_1 :

The required ion balances of precipitation analyses are given in Table 4.3.

Table 4.3 Required criteria for R_1

(C+A) (μeq L^{-1})	R_1 (%)
<50	±30
50 – 100	±15
>100	±8

Conductivity agreement (R_2) :

Calculated as:

$$R_2 = (\Lambda_{calc} - \Lambda_{meas}) / (\Lambda_{calc} + \Lambda_{meas}) \times 100\ (\%)$$

where Λ_{calc} : the calculated conductivity (mS m^{-1})

Λ_{meas} : the measured conductivity (mS m^{-1})

$$\Lambda_{calc} = \Sigma(C_i\ \Lambda_i^0) \times 10^{-4}$$

where C_i : the ionic concentration of i-th ion (μmol L^{-1})

Λ_i^0 : the molar conductivity at infinite dilution and 25°C ($Scm^2\ mol^{-1}$)

$$\Lambda_{calc} = \{349.7 \times 10^{(6-pH)} + 80.0 \times 2c(SO_4^{2-}) + 71.4c(NO_3^-) + 76.3c(Cl^-) + 73.5c(NH_4^+) + 50.1c(Na^+) + 73.5c(K^+) + 59.5 \times 2c(Ca^{2+}) + 53.0 \times 2c(Mg^{2+})\}/10000$$

where c( ) : the ionic concentrations (μmol L^{-1})

Required criteria for R_2:

The required conductivity comparison criteria are given in Table 4.4.

Table 4.4 Required criteria for R_2

Λ_{meas} (mS m^{-1})	R_2 (%)
<0.5	±20
0.5 – 3	±13
>3	±9

4.1.6 Terms and Abbreviations

Terms and abbreviations are given in Table 4.5.

Table 4.5 Terms and abbreviations

	Terms and abbreviations	Definition
For all data	Data in hatched cell ( )	Rejected monthly (annual) value by the criteria. [%PCL≤80% and/or %TP≤80%]
	[--]	Precipitation was 0 mm.
	[*]	The constituent was rejected or not measured although precipitation was not 0 mm. [%TP=0%]
	[**]	Precipitation was not measured. [%PCL=0%]
	[***]	No data or no measurement
	Black cell ( )	Monitoring was not carried out.
For precipitation amount weighted average concentrations	Max	Maximum monitoring data for a year.
	Min	Minimum monitoring data for a year.
For concentration of ions except H^+	[<0.2] [<0.3] [<0.5] [<0.8]	The values were lower than each DQO value about Detection limit ([<0.2]: Ca^{2+}, [<0.3]: SO_4^{2-}, Na^+, K^+ and Mg^{2+}, [<0.5]: NO_3^- and Cl^-, [<0.8]: NH_4^+). nss-SO_4^{2-} and nss-Ca^{2+} refer to Detection limit of SO_4^{2-} and Ca^{2+} respectively.
For deposition	[0.00]	Deposition amount was zero. (Precipitation was 0 mm.)
	[<0.01]	Calculated deposition amount was lower than 0.01mmol m^{-2}.
For results of ion balance (R_1) and conductivity agreement check (R_2)	Sample (N)	Number of samples.
	R_1 (N)	Number of samples measured and calculated ion balance (R_1).
	R_1 (AA)	Number of samples within allowable ranges for R_1.
	R_2 (N)	Number of samples measured and calculated conductivity agreement (R_2).
	R_2 (AA)	Number of samples within allowable ranges for R_2.
	R_1&R_2 (N)	Number of samples measured and calculated both R_1 and R_2.
	R_1&R_2 (AA)	Number of samples within allowable ranges of both R_1 and R_2.

4.1.7 Monitoring Sites

Precipitation samples were collected on a daily basis at 24 out of 56 sites as of the end of 2025, while weekly and biweekly collection were performed at 22 and 10 sites, respectively, as presented in Table 4.6. The analytical methods used in the laboratories for measuring the precipitation samples are presented in Table 4.7.

Moreover, Table 4.7 shows also additional items which are analyzed in some sites. R_1 and R_2 were calculated for these sites including the additional items.

Table 4.6 Sampling frequencies for wet deposition monitoring in 2025

Country	Site		Classification	Sampling Interval	Starting Month
Cambodia	Phnom Penh[*1]		Urban	Weekly	April 2004
China	Chongqing	- Haifu	Urban	Daily	January 2008
		- Jinyunshan	Rural	Daily	April 1999
	Xi'an	- Shizhan	Urban	Daily	April 1999
		- Jiwozi	Remote	Daily	April 1999
	Xiamen	- Hongwen	Urban	Daily	April 1999
		- Xiaoping	Remote	Daily	April 1999
	Zhuhai	- Xiang Zhou	Urban	Daily	April 1999
		- Zhuxiandong	Urban	Daily	December 1999
	Wuzhishan	- Wuzhishan	Remote	Daily	January 2019
	Lijiang	- Lijiang	Remote	Daily	January 2019
Indonesia	Jakarta		Urban	Weekly	April 1998
	Kototabang		Remote	Weekly	April 1998
	Maros		Rural	Weekly	January 2008
	Jembrana		Rural	Weekly	January 2019
	Lombok		Rural	Weekly	January 2019
	Bandung 2[*2]		Urban	Daily	May 2025
Japan	Rishiri		Remote	Biweekly	April 1998
	Ochiishi		Remote	Biweekly	January 2003
	Sado-seki		Remote	Biweekly	April 1999
	Happo		Remote	Biweekly	April 1998
	Ijira		Rural	Biweekly	June 1999
	Oki		Remote	Biweekly	April 1998
	Yusuhara[*3]		Remote	Biweekly	December 1999
	Hedo		Remote	Biweekly	December 1999
	Ogasawara		Remote	Biweekly	May 1999
	Tokyo		Urban	Biweekly	April 2007
	Tsushima		Remote	Biweekly	January 2019
Lao PDR	Vientiane		Urban	Daily	October 2003
Malaysia	Petaling Jaya		Urban	Weekly	April 1998
	Tanah Rata		Rural	Weekly	January 1999
	Danum Valley		Remote	Weekly	January 2005
	Kuching		Urban	Weekly	January 2008
	Gunung Brinchang[*1]		Remote	Weekly	September 2020
Mongolia	Khan-Uul		Urban	Daily	June 2020
	Terelj[*3]		Remote	Daily	September 1998
	Terelj2_temp[*3]		Rural	Daily	June 2025
Myanmar	Yangon		Urban	Weekly	January 2007

Table 4.6 Sampling frequencies for wet deposition monitoring in 2025 (continued)

Country	Site	Classification	Sampling Interval	Starting Month
Philippines	Metro Manila - Manila Observatory	Urban	Weekly	April 1999
	Laguna - Los Baños	Rural	Weekly	April 1999
	Benguet - Mt. Sto. Tomas*1	Rural	Weekly	October 2006
Republic of Korea	Ganghwa	Rural	Daily	March 1999
	Jeju	Remote	Daily	April 1999
	Imsil	Rural	Daily	January 2001
Russia	Listvyanka	Rural	Daily	January 2000
	Irkutsk	Urban	Daily	January 2000
	Primorskaya	Rural	Daily	February 2002
Thailand	Bangkok	Urban	Daily	April 1999
	Samutprakarn*1	Urban	Daily	January 2004
	Pathumthani	Rural	Daily	March 1999
	Khanchanaburi*1	Remote	Daily	April 1999
Vietnam	Hanoi	Urban	Weekly	August 1999
	Hoa Binh	Rural	Weekly	August 1999
	Cuc Phuong	Remote	Weekly	January 2009
	Da Nang	Urban	Weekly	January 2009
	Can Tho	Rural	Weekly	January 2014
	Ho Chi Minh	Urban	Weekly	January 2014
	Yen Bai	Rural	Weekly	May 2015

*1 Wet deposition monitoring data of Phnom Penh, Gunung Brinchang, Mt. Sto. Tomas, Samutprakarn and Khanchanaburi were not submitted.
*2 Bandung 2 (IDA008) has started sampling since May 2025.
*3 Yusuhara has been abolished since April 2025 (see Cpt. 2).
*4 The wet sampler has been transferred from Terelj (MNA002) to *Terelj2_temp* (MNA005) since June 2025 (see Cpt. 2).

Table 4.7 Analytical methods and additional items in 2025

Country	Site	Analytical methods			Additional items (Analytical methods)
		Anions	NH_4^+	Other Cations	
China	Chongqing - Haifu	IC, TI	IC	IC	HCO_3^- (TI), F^- (IC)
	- Jinyunshan	IC, TI	IC	IC	HCO_3^- (TI), F^- (IC)
	Xi'an - Shizhan	IC, TI	IC	IC	HCO_3^- (TI), F^- (IC)
	- Jiwozi	IC, TI	IC	IC	HCO_3^- (TI), F^- (IC)
	Xiamen - Hongwen	IC	IC	IC	F^- (IC)
	- Xiaoping	IC	IC	IC	F^- (IC)
	Zhuhai - Xiang Zhou	IC	IC	IC	F^- (IC)
	- Zhuxiandong	IC	IC	IC	F^- (IC)
	Wuzhishan	IC	IC	IC	
	Lijiang	IC	IC	IC	F^- (IC)
Indonesia	Jakarta	IC	IC	IC	
	Kototabang	IC	IC	IC	
	Maros	IC	IC	IC	
	Jembrana	IC	IC	IC	
	Lombok	IC	IC	IC	
	Bandung 2	IC	IC	IC	

Table 4.7 Analytical methods and additional items in 2025 (continued)

Country	Site	Analytical methods			Additional items (Analytical methods)
		Anions	NH_4^+	Other Cations	
Japan	Rishiri	IC	IC	IC	
	Ochiishi	IC	IC	IC	
	Sado-seki	IC	IC	IC	F^-, Br^-, NO_2^-, PO_4^{3-} (IC)
	Happo	IC	IC	IC	
	Ijira	IC	IC	IC	
	Oki	IC	IC	IC	
	Yusuhara	IC	IC	IC	
	Hedo	IC	IC	IC	
	Ogasawara	IC	IC	IC	NO_2^- (IC)
	Tokyo	IC	IC	IC	F^-, NO_2^- (IC)
	Tsushima	IC	IC	IC	
Lao PDR	Vientiane	IC	IC	IC	F^-, Br^-, NO_2^-, PO_4^{3-} (IC)
Malaysia	Petaling Jaya	IC	IC	IC	F^-, $HCOO^-$, CH_3COO^-, $(COO^-)_2$ (IC)
	Tanah Rata	IC	IC	IC	F^-, $HCOO^-$, CH_3COO^-, $(COO^-)_2$ (IC)
	Danum Valley	IC	IC	IC	HCO_3^-, F^-, $HCOO^-$, CH_3COO^-, $(COO^-)_2$ (IC)
	Kuching	IC	IC	IC	F^-, $HCOO^-$, CH_3COO^-, $(COO^-)_2$ (IC)
Mongolia	Khan-Uul	IC	IC	IC	
	Terelj	IC	IC	IC	
	Terelj2_temp	IC	IC	IC	
Myanmar	Yangon	IC	IC	IC	
Philippines	Metro Manila	IC, TI	IC	AAS,	HCO_3^- (TI)
	- Manila Observatory			AES	F^-, Br^-, NO_2^-, PO_4^{3-} (IC)
	Laguna - Los Baños	IC, TI	IC	AAS,	HCO_3^- (TI)
				AES	F^-, Br^-, NO_2^-, PO_4^{3-} (IC)
Republic of Korea	Ganghwa	IC	IC	IC	
	Jeju	IC	IC	IC	
	Imsil	IC	IC	IC	
Russia	Listvyanka	IC, SP, TI	SP	AAS	HCO_3^- (TI), F^-, Br^- (IC), NO_2^- (SP), PO_4^{3-} (SP)
	Irkutsk	IC, SP, TI	SP	AAS	HCO_3^- (TI), F^-, Br^- (IC), NO_2^- (SP), PO_4^{3-} (SP)
	Primorskaya	SP, TI	SP	AAS	HCO_3^- (TI)
Thailand	Bangkok	IC	IC	IC	
	Pathumthani	IC	IC	IC	NO_2^-, PO_4^{3-}, $HCOO^-$, CH_3COO^- (IC)

Table 4.7 Analytical methods and additional items in 2025 (continued)

Country	Site	Analytical methods			Additional items (Analytical methods)
		Anions	NH_4^+	Other Cations	
Vietnam	Hanoi	IC	IC	IC	F^- (IC)
	Hoa Binh	IC	IC	IC	F^- (IC)
	Cuc Phuong	IC, TI	IC	IC	HCO_3^- (TI), F^- (IC)
	Da Nang	IC, TI	IC	IC	HCO_3^- (TI), F^- (IC)
	Can Tho	SP, TI	SP	AES	F^- (SP)
	Ho Chi Minh	SP, TI	SP	AES	F^- (SP)
	Yen Bai	IC	IC	IC	F^- (IC)

AAS: Atomic absorption spectrometry, AES: Atomic emission spectrometry,
IC: Ion chromatography, SP: Spectrophotometry, TI: Titration

4.2 Results of Monitoring

The monthly summaries of each monitoring site in 2025 are shown in Table 4.8 through Table 4.65. The annual summaries of wet deposition monitoring in 2025 are shown in Table 4.66 through Table 4.68. The summaries contain the precipitation amount weighted average, data completeness (%PCL, %TP) and the wet deposition amount.

Results of ion balance (R_1) and the conductivity agreement (R_2) of each monitoring site are shown in Table 4.69. The summaries of annual data from 2011 to 2025 are shown in Table 4.70 through Table 4.94. Figure 4.2 to Figure 4.57 are plots of R_1 and R_2 for each site. The following information is provided to describe the figures:

(1) Ion Balance (R_1)
- (C + A) is logarithmic scale
- Horizontal bar : The allowable range of R_1 in each concentration range

(2) Conductivity Agreement (R_2)
- (Λ_{meas}) is logarithmic scale
- Horizontal bar : The allowable range of R_2 in each conductivity range

Results of the additional items are shown in Table 4.95 through Table 4.102.
Note that the annual data before 2011 are disclosed in EANET homepage and the data in 2000 were obtained during the preparatory-phase activities of EANET.

EANET homepage URL https://monitoring.eanet.asia/document/public/index

In this report, numerical values are generally presented with three significant figures; however, it is recommended to refer to the original files when greater precision is required.

Table 4.8 Monthly results **Site: Phnom Penh** **Country: Cambodia**

Code: KHA001

Precipitation amount-weighted average concentration/ Precipitation amount

2025	SO_4^{2-} µmol L^{-1}	nss-SO_4^{2-} µmol L^{-1}	NO_3^- µmol L^{-1}	Cl^- µmol L^{-1}	NH_4^+ µmol L^{-1}	Na^+ µmol L^{-1}	K^+ µmol L^{-1}	Ca^{2+} µmol L^{-1}	nss-Ca^{2+} µmol L^{-1}	Mg^{2+} µmol L^{-1}	H^+ µmol L^{-1}	pH	EC mS m^{-1}	Precip. mm $month^{-1}$ or mm $year^{-1}$
Jan	***	***	***	***	***	***	***	***	***	***	***	***	***	***
Feb	***	***	***	***	***	***	***	***	***	***	***	***	***	***
Mar	***	***	***	***	***	***	***	***	***	***	***	***	***	***
Apr	***	***	***	***	***	***	***	***	***	***	***	***	***	***
May	***	***	***	***	***	***	***	***	***	***	***	***	***	***
June	***	***	***	***	***	***	***	***	***	***	***	***	***	***
July	***	***	***	***	***	***	***	***	***	***	***	***	***	***
Aug	***	***	***	***	***	***	***	***	***	***	***	***	***	***
Sept	***	***	***	***	***	***	***	***	***	***	***	***	***	***
Oct	***	***	***	***	***	***	***	***	***	***	***	***	***	***
Nov	***	***	***	***	***	***	***	***	***	***	***	***	***	***
Dec	***	***	***	***	***	***	***	***	***	***	***	***	***	***
Annual	***	***	***	***	***	***	***	***	***	***	***	***	***	***
Max.	***	***	***	***	***	***	***	***	***	***	***	***	***	
Min.	***	***	***	***	***	***	***	***	***	***	***	***	***	

Wet deposition amount

2025	SO_4^{2-} mmol m^{-2}	nss-SO_4^{2-} mmol m^{-2}	NO_3^- mmol m^{-2}	Cl^- mmol m^{-2}	NH_4^+ mmol m^{-2}	Na^+ mmol m^{-2}	K^+ mmol m^{-2}	Ca^{2+} mmol m^{-2}	nss-Ca^{2+} mmol m^{-2}	Mg^{2+} mmol m^{-2}	H^+ mmol m^{-2}
Jan	***	***	***	***	***	***	***	***	***	***	***
Feb	***	***	***	***	***	***	***	***	***	***	***
Mar	***	***	***	***	***	***	***	***	***	***	***
Apr	***	***	***	***	***	***	***	***	***	***	***
May	***	***	***	***	***	***	***	***	***	***	***
June	***	***	***	***	***	***	***	***	***	***	***
July	***	***	***	***	***	***	***	***	***	***	***
Aug	***	***	***	***	***	***	***	***	***	***	***
Sept	***	***	***	***	***	***	***	***	***	***	***
Oct	***	***	***	***	***	***	***	***	***	***	***
Nov	***	***	***	***	***	***	***	***	***	***	***
Dec	***	***	***	***	***	***	***	***	***	***	***
Annual	***	***	***	***	***	***	***	***	***	***	***

Data completeness

2025	SO_4^{2-} %TP	nss-SO_4^{2-} %TP	NO_3^- %TP	Cl^- %TP	NH_4^+ %TP	Na^+ %TP	K^+ %TP	Ca^{2+} %TP	nss-Ca^{2+} %TP	Mg^{2+} %TP	H^+ %TP	pH %TP	EC %TP	Precip. %PCL
Jan	***	***	***	***	***	***	***	***	***	***	***	***	***	***
Feb	***	***	***	***	***	***	***	***	***	***	***	***	***	***
Mar	***	***	***	***	***	***	***	***	***	***	***	***	***	***
Apr	***	***	***	***	***	***	***	***	***	***	***	***	***	***
May	***	***	***	***	***	***	***	***	***	***	***	***	***	***
June	***	***	***	***	***	***	***	***	***	***	***	***	***	***
July	***	***	***	***	***	***	***	***	***	***	***	***	***	***
Aug	***	***	***	***	***	***	***	***	***	***	***	***	***	***
Sept	***	***	***	***	***	***	***	***	***	***	***	***	***	***
Oct	***	***	***	***	***	***	***	***	***	***	***	***	***	***
Nov	***	***	***	***	***	***	***	***	***	***	***	***	***	***
Dec	***	***	***	***	***	***	***	***	***	***	***	***	***	***
Annual	***	***	***	***	***	***	***	***	***	***	***	***	***	***

Terms and abbreviations are given in Table 4.5.

Table 4.9 Monthly results **Site: Haifu** **Country: China**

Code: CNA003

Precipitation amount-weighted average concentration/ Precipitation amount

2025	SO_4^{2-} µmol L^{-1}	nss-SO_4^{2-} µmol L^{-1}	NO_3^- µmol L^{-1}	Cl^- µmol L^{-1}	NH_4^+ µmol L^{-1}	Na^+ µmol L^{-1}	K^+ µmol L^{-1}	Ca^{2+} µmol L^{-1}	nss-Ca^{2+} µmol L^{-1}	Mg^{2+} µmol L^{-1}	H^+ µmol L^{-1}	pH	EC mS m^{-1}	Precip. mm $month^{-1}$ or mm $year^{-1}$
Jan	72.9	72.3	149	25.1	241	8.99	18.8	90.1	89.9	8.05	0.489	6.31	6.19	39.3
Feb	99.2	98.6	142	23.7	283	10.5	23.5	65.3	65.1	8.71	0.673	6.17	6.35	17.2
Mar	64.3	63.6	99.2	14.0	160	11.9	10.2	122	122	8.48	0.517	6.29	5.24	58.3
Apr	50.9	49.8	54.0	13.9	129	18.3	11.0	106	106	8.76	0.443	6.35	4.55	93.4
May	23.8	23.4	45.8	7.95	90.8	6.53	8.06	85.1	84.9	4.91	0.369	6.43	3.02	76.5
June	16.2	16.1	42.0	4.31	101	2.59	2.38	52.0	51.9	2.18	0.329	6.48	2.52	83.6
July	6.34	6.19	14.3	3.28	33.8	2.42	1.34	13.2	13.2	0.989	0.725	6.14	0.757	119
Aug	10.3	10.2	24.4	3.78	44.9	2.68	2.79	46.8	46.8	1.87	0.388	6.41	1.65	56.7
Sept	9.66	9.51	20.0	3.67	34.2	2.49	2.45	22.7	22.7	1.94	0.890	6.05	1.05	200
Oct	16.3	16.0	30.7	4.82	64.3	6.05	4.99	29.1	28.9	1.95	1.01	6.00	1.61	107
Nov	27.6	27.2	59.3	6.47	110	7.23	2.59	25.0	24.8	2.10	1.72	5.76	2.36	40.7
Dec	57.9	57.2	133	15.9	266	10.9	8.30	44.6	44.4	4.37	1.17	5.93	4.88	35.1
Annual	26.3	26.0	47.0	7.71	92.0	6.38	5.74	50.7	50.6	3.66	0.716	6.15	2.54	928
Max.	475	470	767	163	848	90.9	116	848	847	52.2	8.13	7.35	33.8	
Min.	2.19	2.08	6.45	1.13	8.31	0.870	0.767	4.49	4.45	0.823	0.0447	5.09	0.289	

Wet deposition amount

2025	SO_4^{2-} mmol m^{-2}	nss-SO_4^{2-} mmol m^{-2}	NO_3^- mmol m^{-2}	Cl^- mmol m^{-2}	NH_4^+ mmol m^{-2}	Na^+ mmol m^{-2}	K^+ mmol m^{-2}	Ca^{2+} mmol m^{-2}	nss-Ca^{2+} mmol m^{-2}	Mg^{2+} mmol m^{-2}	H^+ mmol m^{-2}
Jan	2.86	2.84	5.84	0.987	9.46	0.353	0.738	3.54	3.53	0.316	0.0192
Feb	1.71	1.70	2.44	0.408	4.87	0.181	0.403	1.12	1.12	0.150	0.0116
Mar	3.75	3.71	5.79	0.815	9.35	0.694	0.595	7.14	7.12	0.494	0.0301
Apr	4.76	4.66	5.05	1.30	12.1	1.71	1.03	9.91	9.87	0.818	0.0414
May	1.82	1.79	3.51	0.608	6.95	0.499	0.617	6.51	6.50	0.375	0.0282
June	1.36	1.34	3.51	0.361	8.47	0.217	0.199	4.35	4.34	0.182	0.0275
July	0.755	0.737	1.70	0.391	4.03	0.288	0.159	1.57	1.57	0.118	0.0864
Aug	0.585	0.576	1.38	0.215	2.55	0.152	0.158	2.65	2.65	0.106	0.0220
Sept	1.94	1.91	4.00	0.735	6.86	0.498	0.491	4.55	4.54	0.389	0.178
Oct	1.75	1.72	3.30	0.518	6.90	0.650	0.536	3.12	3.11	0.209	0.108
Nov	1.12	1.11	2.42	0.263	4.50	0.294	0.105	1.02	1.01	0.0856	0.0701
Dec	2.03	2.01	4.66	0.557	9.35	0.384	0.291	1.57	1.56	0.153	0.0409
Annual	24.4	24.1	43.6	7.15	85.4	5.92	5.32	47.0	46.9	3.40	0.664

Data completeness

2025	SO_4^{2-} %TP	nss-SO_4^{2-} %TP	NO_3^- %TP	Cl^- %TP	NH_4^+ %TP	Na^+ %TP	K^+ %TP	Ca^{2+} %TP	nss-Ca^{2+} %TP	Mg^{2+} %TP	H^+ %TP	pH %TP	EC %TP	Precip. %PCL
Jan	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Feb	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Mar	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Apr	100	100	100	100	100	100	100	100	100	100	100	100	100	100
May	100	100	100	100	100	100	100	100	100	100	100	100	100	100
June	100	100	100	100	100	100	100	100	100	100	100	100	100	100
July	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Aug	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Sept	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Oct	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Nov	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Dec	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Annual	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**

Terms and abbreviations are given in Table 4.5.

Table 4.10 Monthly results **Site: Jinyunshan** **Country: China**

Code: CNA004

Precipitation amount-weighted average concentration/ Precipitation amount

2025	SO_4^{2-} µmol L^{-1}	nss-SO_4^{2-} µmol L^{-1}	NO_3^- µmol L^{-1}	Cl^- µmol L^{-1}	NH_4^+ µmol L^{-1}	Na^+ µmol L^{-1}	K^+ µmol L^{-1}	Ca^{2+} µmol L^{-1}	nss-Ca^{2+} µmol L^{-1}	Mg^{2+} µmol L^{-1}	H^+ µmol L^{-1}	pH	EC mS m^{-1}	Precip. mm $month^{-1}$ or mm $year^{-1}$
Jan	68.1	67.8	129	16.0	188	4.26	16.0	32.0	31.9	5.93	33.5	4.47	5.40	36.0
Feb	69.9	69.6	98.9	15.1	166	4.19	13.0	42.4	42.3	5.79	22.7	4.64	5.03	22.9
Mar	40.2	39.6	64.0	10.5	114	10.4	4.43	54.7	54.4	6.85	3.40	5.47	3.23	55.3
Apr	33.4	33.1	44.6	5.99	105	4.49	4.21	42.5	42.4	5.35	1.07	5.97	2.68	86.7
May	18.7	18.5	31.7	5.66	77.4	3.39	3.03	32.4	32.3	2.96	0.781	6.11	1.86	78.5
June	9.82	9.76	20.4	2.40	53.0	1.06	1.02	10.9	10.8	1.06	1.23	5.91	0.975	149
July	8.49	8.43	19.8	2.10	40.0	1.05	0.837	8.74	8.72	0.899	1.13	5.95	0.886	120
Aug	4.86	4.81	11.0	1.27	17.6	0.954	0.834	5.46	5.44	0.916	0.945	6.02	0.495	152
Sept	7.84	7.75	13.5	1.89	23.3	1.48	0.915	5.94	5.91	0.937	2.83	5.55	0.611	324
Oct	13.0	13.0	20.0	2.34	35.8	1.06	1.18	6.27	6.25	0.888	6.70	5.17	1.02	161
Nov	30.4	30.2	70.5	7.27	102	2.73	2.82	16.9	16.8	2.17	9.77	5.01	2.34	62.7
Dec	46.7	46.4	112	11.2	179	4.44	5.36	26.8	26.7	3.38	10.5	4.98	3.78	39.4
Annual	17.3	17.1	31.3	4.00	57.6	2.26	2.31	15.5	15.4	1.97	4.32	5.37	1.44	1287
Max.	340	338	619	70.8	808	83.9	61.9	294	292	27.1	126	7.20	19.0	
Min.	2.19	2.13	6.13	0.800	2.22	0.870	0.767	2.25	2.23	0.800	0.0631	3.90	0.284	

Wet deposition amount

2025	SO_4^{2-} mmol m^{-2}	nss-SO_4^{2-} mmol m^{-2}	NO_3^- mmol m^{-2}	Cl^- mmol m^{-2}	NH_4^+ mmol m^{-2}	Na^+ mmol m^{-2}	K^+ mmol m^{-2}	Ca^{2+} mmol m^{-2}	nss-Ca^{2+} mmol m^{-2}	Mg^{2+} mmol m^{-2}	H^+ mmol m^{-2}
Jan	2.45	2.44	4.65	0.578	6.78	0.153	0.577	1.15	1.15	0.213	1.21
Feb	1.60	1.59	2.26	0.345	3.80	0.0959	0.298	0.972	0.970	0.132	0.520
Mar	2.23	2.19	3.54	0.581	6.31	0.573	0.245	3.02	3.01	0.379	0.188
Apr	2.89	2.87	3.87	0.519	9.07	0.390	0.365	3.68	3.67	0.464	0.0929
May	1.47	1.45	2.49	0.444	6.08	0.266	0.238	2.54	2.54	0.232	0.0613
June	1.46	1.45	3.03	0.357	7.89	0.157	0.152	1.62	1.62	0.157	0.184
July	1.02	1.01	2.37	0.251	4.79	0.126	0.100	1.05	1.04	0.108	0.135
Aug	0.739	0.730	1.67	0.193	2.68	0.145	0.127	0.830	0.827	0.139	0.144
Sept	2.54	2.51	4.37	0.611	7.55	0.481	0.296	1.92	1.91	0.303	0.916
Oct	2.10	2.09	3.22	0.376	5.75	0.170	0.189	1.01	1.00	0.143	1.08
Nov	1.90	1.89	4.42	0.456	6.39	0.171	0.177	1.06	1.05	0.136	0.613
Dec	1.84	1.83	4.43	0.441	7.06	0.175	0.211	1.06	1.05	0.133	0.415
Annual	22.2	22.1	40.3	5.15	74.1	2.90	2.97	19.9	19.8	2.54	5.55

Data completeness

2025	SO_4^{2-} %TP	nss-SO_4^{2-} %TP	NO_3^- %TP	Cl^- %TP	NH_4^+ %TP	Na^+ %TP	K^+ %TP	Ca^{2+} %TP	nss-Ca^{2+} %TP	Mg^{2+} %TP	H^+ %TP	pH %TP	EC %TP	Precip. %PCL
Jan	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Feb	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Mar	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Apr	100	100	100	100	100	100	100	100	100	100	100	100	100	100
May	100	100	100	100	100	100	100	100	100	100	100	100	100	100
June	100	100	100	100	100	100	100	100	100	100	100	100	100	100
July	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Aug	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Sept	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Oct	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Nov	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Dec	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Annual	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**

Terms and abbreviations are given in Table 4.5.

Table 4.11 Monthly results **Site: Shizhan** **Country: China**

Code: CNA005

Precipitation amount-weighted average concentration/ Precipitation amount

2025	SO_4^{2-} µmol L^{-1}	nss-SO_4^{2-} µmol L^{-1}	NO_3^- µmol L^{-1}	Cl^- µmol L^{-1}	NH_4^+ µmol L^{-1}	Na^+ µmol L^{-1}	K^+ µmol L^{-1}	Ca^{2+} µmol L^{-1}	nss-Ca^{2+} µmol L^{-1}	Mg^{2+} µmol L^{-1}	H^+ µmol L^{-1}	pH	EC mS m^{-1}	Precip. mm $month^{-1}$ or mm $year^{-1}$
Jan	44.8	44.1	68.8	19.8	137	10.9	4.05	49.1	48.9	12.2	0.169	6.77	3.12	30.8
Feb	--	--	--	--	--	--	--	--	--	--	--	--	--	0
Mar	44.1	43.4	100	15.9	139	11.6	5.46	51.5	51.3	14.4	0.161	6.79	3.76	46.6
Apr	168	163	98.8	100	162	84.2	36.9	170	168	57.2	0.110	6.96	9.71	12.7
May	74.4	73.4	85.7	43.1	44.1	16.1	36.1	152	152	33.0	0.0730	7.14	6.24	44.4
June	14.6	14.3	35.5	16.7	102	5.35	16.7	131	131	16.5	0.0823	7.08	3.84	51.5
July	18.9	18.8	32.0	11.8	133	1.74	3.32	44.5	44.5	13.2	0.0693	7.16	2.56	54.6
Aug	19.7	19.6	33.4	19.1	96.2	2.47	2.30	64.6	64.5	12.1	0.134	6.87	2.82	68.0
Sept	11.4	11.4	21.8	12.2	50.8	0.876	0.751	22.5	22.5	12.1	0.430	6.37	1.45	260
Oct	20.4	20.3	36.3	13.5	55.0	1.46	1.11	15.3	15.2	12.3	1.36	5.87	1.58	177
Nov	22.4	22.3	31.5	13.6	10.4	1.05	0.856	38.5	38.5	10.9	0.410	6.39	1.60	14.8
Dec	77.4	74.5	117	62.3	220	48.3	13.0	103	102	12.8	0.0407	7.39	6.40	4.2
Annual	25.2	24.8	40.2	17.5	75.6	5.11	5.37	47.0	46.9	14.6	0.514	6.29	2.50	765
Max.	168	163	117	100	220	84.2	73.3	275	275	57.2	2.40	7.58	9.71	
Min.	2.23	2.17	5.13	4.17	1.33	<0.3	<0.3	5.70	5.67	5.60	0.0263	5.62	0.597	

Wet deposition amount

2025	SO_4^{2-} mmol m^{-2}	nss-SO_4^{2-} mmol m^{-2}	NO_3^- mmol m^{-2}	Cl^- mmol m^{-2}	NH_4^+ mmol m^{-2}	Na^+ mmol m^{-2}	K^+ mmol m^{-2}	Ca^{2+} mmol m^{-2}	nss-Ca^{2+} mmol m^{-2}	Mg^{2+} mmol m^{-2}	H^+ mmol m^{-2}
Jan	1.38	1.36	2.12	0.609	4.22	0.336	0.125	1.51	1.51	0.376	<0.01
Feb	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Mar	2.06	2.02	4.68	0.741	6.47	0.540	0.255	2.40	2.39	0.673	<0.01
Apr	2.14	2.07	1.26	1.27	2.06	1.07	0.468	2.16	2.14	0.727	<0.01
May	3.30	3.26	3.80	1.91	1.96	0.716	1.60	6.76	6.75	1.46	<0.01
June	0.751	0.734	1.83	0.859	5.25	0.276	0.859	6.75	6.74	0.851	<0.01
July	1.03	1.03	1.75	0.643	7.27	0.0952	0.181	2.43	2.43	0.721	<0.01
Aug	1.34	1.33	2.27	1.30	6.54	0.168	0.156	4.39	4.39	0.822	<0.01
Sept	2.97	2.96	5.67	3.19	13.2	0.228	0.195	5.85	5.85	3.16	0.112
Oct	3.60	3.59	6.42	2.39	9.72	0.258	0.196	2.70	2.69	2.17	0.241
Nov	0.332	0.331	0.466	0.201	0.154	0.0156	0.0127	0.570	0.570	0.162	<0.01
Dec	0.325	0.313	0.493	0.262	0.923	0.203	0.0547	0.432	0.427	0.0536	<0.01
Annual	19.2	19.0	30.8	13.4	57.8	3.91	4.10	36.0	35.9	11.2	0.393

Data completeness

2025	SO_4^{2-} %TP	nss-SO_4^{2-} %TP	NO_3^- %TP	Cl^- %TP	NH_4^+ %TP	Na^+ %TP	K^+ %TP	Ca^{2+} %TP	nss-Ca^{2+} %TP	Mg^{2+} %TP	H^+ %TP	pH %TP	EC %TP	Precip. %PCL
Jan	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Feb	--	--	--	--	--	--	--	--	--	--	--	--	--	100
Mar	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Apr	100	100	100	100	100	100	100	100	100	100	100	100	100	100
May	100	100	100	100	100	100	100	100	100	100	100	100	100	100
June	100	100	100	100	100	100	100	100	100	100	100	100	100	100
July	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Aug	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Sept	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Oct	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Nov	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Dec	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Annual	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**

Terms and abbreviations are given in Table 4.5.

Table 4.12 Monthly results **Site: Jiwozi** **Country: China**

Code: CNA007

Precipitation amount-weighted average concentration/ Precipitation amount

2025	SO_4^{2-} µmol L^{-1}	nss-SO_4^{2-} µmol L^{-1}	NO_3^- µmol L^{-1}	Cl^- µmol L^{-1}	NH_4^+ µmol L^{-1}	Na^+ µmol L^{-1}	K^+ µmol L^{-1}	Ca^{2+} µmol L^{-1}	nss-Ca^{2+} µmol L^{-1}	Mg^{2+} µmol L^{-1}	H^+ µmol L^{-1}	pH	EC mS m^{-1}	Precip. mm $month^{-1}$ or mm $year^{-1}$
Jan	11.4	11.1	12.8	14.3	29.4	5.26	2.10	10.5	10.4	10.9	0.436	6.36	0.976	28.3
Feb	11.4	10.5	11.9	8.36	22.3	14.3	3.95	25.3	25.0	14.4	0.0977	7.01	1.17	2.2
Mar	22.9	21.5	36.4	17.3	39.2	24.0	8.01	48.5	48.0	16.1	0.0830	7.08	2.27	37.8
Apr	36.0	34.0	58.8	13.6	0.832	32.9	12.9	116	115	14.1	0.0380	7.42	3.56	4.3
May	63.1	62.0	70.6	38.8	<0.8	18.8	13.5	122	121	19.9	0.0835	7.08	3.70	50.8
June	43.6	42.9	76.4	27.3	2.42	11.5	9.85	98.8	98.5	19.1	0.0804	7.09	2.98	96.5
July	27.7	26.7	40.1	26.6	4.10	16.8	12.9	71.6	71.2	14.0	0.308	6.51	2.35	119
Aug	46.1	45.6	67.1	29.6	30.4	9.14	7.03	89.9	89.7	17.0	0.272	6.56	3.03	72.6
Sept	42.5	41.5	61.6	23.8	7.44	16.0	12.6	86.1	85.7	16.9	0.302	6.52	2.71	198
Oct	27.0	26.6	37.0	23.1	<0.8	6.60	35.8	74.8	74.7	14.0	0.183	6.74	2.39	111
Nov	15.1	14.7	23.0	5.20	3.69	6.09	6.22	76.4	76.3	10.7	0.0567	7.25	2.03	14.0
Dec	--	--	--	--	--	--	--	--	--	--	--	--	--	0
Annual	36.8	36.0	53.4	25.1	9.40	13.6	14.5	81.5	81.2	16.1	0.225	6.65	2.64	735
Max.	82.1	80.7	120	55.7	141	40.3	90.2	145	145	28.3	1.82	7.50	4.07	
Min.	5.56	5.42	4.71	4.85	<0.8	0.378	0.409	6.94	6.89	10.2	0.0316	5.74	0.689	

Wet deposition amount

2025	SO_4^{2-} mmol m^{-2}	nss-SO_4^{2-} mmol m^{-2}	NO_3^- mmol m^{-2}	Cl^- mmol m^{-2}	NH_4^+ mmol m^{-2}	Na^+ mmol m^{-2}	K^+ mmol m^{-2}	Ca^{2+} mmol m^{-2}	nss-Ca^{2+} mmol m^{-2}	Mg^{2+} mmol m^{-2}	H^+ mmol m^{-2}
Jan	0.323	0.314	0.363	0.405	0.832	0.149	0.0595	0.297	0.294	0.308	0.0123
Feb	0.0250	0.0231	0.0261	0.0184	0.0491	0.0316	<0.01	0.0557	0.0550	0.0317	<0.01
Mar	0.866	0.812	1.38	0.655	1.48	0.908	0.303	1.83	1.81	0.609	<0.01
Apr	0.155	0.146	0.253	0.0585	<0.01	0.141	0.0555	0.498	0.495	0.0605	<0.01
May	3.21	3.15	3.59	1.97	<0.01	0.956	0.684	6.19	6.17	1.01	<0.01
June	4.21	4.14	7.38	2.63	0.233	1.11	0.951	9.53	9.51	1.84	<0.01
July	3.28	3.16	4.75	3.16	0.486	1.99	1.53	8.49	8.44	1.65	0.0365
Aug	3.35	3.31	4.87	2.15	2.20	0.663	0.511	6.53	6.51	1.23	0.0198
Sept	8.42	8.23	12.2	4.72	1.47	3.18	2.51	17.1	17.0	3.35	0.0599
Oct	3.01	2.96	4.12	2.57	0.0849	0.735	3.99	8.34	8.32	1.56	0.0204
Nov	0.211	0.206	0.322	0.0727	0.0516	0.0853	0.0871	1.07	1.07	0.150	<0.01
Dec	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Annual	27.1	26.5	39.3	18.4	6.90	9.95	10.7	59.9	59.7	11.8	0.165

Data completeness

2025	SO_4^{2-} %TP	nss-SO_4^{2-} %TP	NO_3^- %TP	Cl^- %TP	NH_4^+ %TP	Na^+ %TP	K^+ %TP	Ca^{2+} %TP	nss-Ca^{2+} %TP	Mg^{2+} %TP	H^+ %TP	pH %TP	EC %TP	Precip. %PCL
Jan	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Feb	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Mar	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Apr	100	100	100	100	100	100	100	100	100	100	100	100	100	100
May	100	100	100	100	100	100	100	100	100	100	100	100	100	100
June	100	100	100	100	100	100	100	100	100	100	100	100	100	100
July	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Aug	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Sept	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Oct	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Nov	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Dec	--	--	--	--	--	--	--	--	--	--	--	--	--	100
Annual	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**

Terms and abbreviations are given in Table 4.5.

Table 4.13 Monthly results **Site: Hongwen** **Country: China**

Code: CNA008

Precipitation amount-weighted average concentration/ Precipitation amount

2025	SO_4^{2-} µmol L^{-1}	nss-SO_4^{2-} µmol L^{-1}	NO_3^- µmol L^{-1}	Cl^- µmol L^{-1}	NH_4^+ µmol L^{-1}	Na^+ µmol L^{-1}	K^+ µmol L^{-1}	Ca^{2+} µmol L^{-1}	nss-Ca^{2+} µmol L^{-1}	Mg^{2+} µmol L^{-1}	H^+ µmol L^{-1}	pH	EC mS m^{-1}	Precip. mm $month^{-1}$ or mm $year^{-1}$
Jan	--	--	--	--	--	--	--	--	--	--	--	--	--	0
Feb	11.1	10.3	30.3	19.9	37.5	13.1	2.66	14.5	14.2	3.34	0.900	6.05	1.18	31.9
Mar	10.1	9.50	27.0	15.8	38.3	9.92	1.94	10.3	10.1	2.96	1.91	5.72	0.973	89.4
Apr	23.1	22.2	58.4	23.1	93.7	15.4	2.62	15.1	14.8	3.47	2.48	5.61	2.13	45.0
May	7.20	6.87	16.8	10.5	21.2	5.45	1.04	3.96	3.84	1.46	2.36	5.63	0.696	170
June	6.92	6.13	12.6	17.9	19.7	13.2	1.76	5.83	5.55	2.90	0.957	6.02	0.697	67.5
July	6.99	6.02	11.5	17.4	6.15	16.1	0.900	3.58	3.23	2.16	2.72	5.57	0.665	445
Aug	14.3	5.57	11.8	161	3.90	145	4.31	19.2	16.1	16.7	1.02	5.99	2.88	43.9
Sept	7.63	6.41	9.38	21.8	3.06	20.4	0.855	5.90	5.46	2.80	1.83	5.74	0.682	184
Oct	9.48	8.46	22.6	22.5	40.0	17.0	2.82	4.75	4.38	5.00	0.302	6.52	1.13	2.1
Nov	6.19	5.69	15.3	13.6	22.1	8.22	1.31	14.9	14.7	4.81	0.257	6.59	0.872	8.9
Dec	20.1	18.8	70.6	32.9	70.7	20.8	2.64	29.1	28.7	4.99	1.87	5.73	2.31	4.7
Annual	8.52	7.34	16.1	23.1	16.3	19.5	1.33	6.35	5.93	2.98	2.18	5.66	0.874	1093
Max.	53.8	51.9	202	165	244	149	8.72	64.8	63.5	17.1	17.8	6.68	5.21	
Min.	4.06	3.86	5.48	2.17	1.11	2.22	0.769	2.28	2.17	1.08	0.209	4.75	0.280	

Wet deposition amount

2025	SO_4^{2-} mmol m^{-2}	nss-SO_4^{2-} mmol m^{-2}	NO_3^- mmol m^{-2}	Cl^- mmol m^{-2}	NH_4^+ mmol m^{-2}	Na^+ mmol m^{-2}	K^+ mmol m^{-2}	Ca^{2+} mmol m^{-2}	nss-Ca^{2+} mmol m^{-2}	Mg^{2+} mmol m^{-2}	H^+ mmol m^{-2}
Jan	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Feb	0.355	0.330	0.966	0.633	1.20	0.417	0.0847	0.461	0.452	0.106	0.0287
Mar	0.903	0.849	2.42	1.41	3.42	0.887	0.174	0.922	0.903	0.264	0.171
Apr	1.04	0.999	2.63	1.04	4.22	0.695	0.118	0.681	0.666	0.156	0.112
May	1.22	1.17	2.86	1.78	3.61	0.926	0.178	0.673	0.653	0.248	0.401
June	0.467	0.413	0.852	1.21	1.33	0.891	0.119	0.394	0.374	0.196	0.0646
July	3.11	2.68	5.12	7.75	2.74	7.17	0.401	1.59	1.44	0.963	1.21
Aug	0.628	0.245	0.519	7.05	0.171	6.35	0.189	0.844	0.707	0.733	0.0448
Sept	1.41	1.18	1.73	4.01	0.564	3.75	0.158	1.09	1.01	0.516	0.337
Oct	0.0199	0.0178	0.0474	0.0473	0.0840	0.0356	<0.01	<0.01	<0.01	0.0105	<0.01
Nov	0.0551	0.0506	0.136	0.121	0.196	0.0732	0.0116	0.133	0.131	0.0428	<0.01
Dec	0.0944	0.0885	0.332	0.155	0.332	0.0977	0.0124	0.137	0.135	0.0235	<0.01
Annual	9.31	8.02	17.6	25.2	17.9	21.3	1.45	6.94	6.48	3.26	2.38

Data completeness

2025	SO_4^{2-} %TP	nss-SO_4^{2-} %TP	NO_3^- %TP	Cl^- %TP	NH_4^+ %TP	Na^+ %TP	K^+ %TP	Ca^{2+} %TP	nss-Ca^{2+} %TP	Mg^{2+} %TP	H^+ %TP	pH %TP	EC %TP	Precip. %PCL
Jan	--	--	--	--	--	--	--	--	--	--	--	--	--	100
Feb	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Mar	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Apr	100	100	100	100	100	100	100	100	100	100	100	100	100	100
May	100	100	100	100	100	100	100	100	100	100	100	100	100	100
June	100	100	100	100	100	100	100	100	100	100	100	100	100	100
July	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Aug	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Sept	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Oct	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Nov	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Dec	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Annual	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**

Terms and abbreviations are given in Table 4.5.

Table 4.14 Monthly results **Site: Xiaoping** **Country: China**

Code: CNA009

Precipitation amount-weighted average concentration/ Precipitation amount

2025	SO_4^{2-} µmol L^{-1}	nss-SO_4^{2-} µmol L^{-1}	NO_3^- µmol L^{-1}	Cl^- µmol L^{-1}	NH_4^+ µmol L^{-1}	Na^+ µmol L^{-1}	K^+ µmol L^{-1}	Ca^{2+} µmol L^{-1}	nss-Ca^{2+} µmol L^{-1}	Mg^{2+} µmol L^{-1}	H^+ µmol L^{-1}	pH	EC mS m^{-1}	Precip. mm $month^{-1}$ or mm $year^{-1}$
Jan	9.90	9.69	24.4	20.3	40.6	3.48	3.08	9.00	8.92	2.29	0.661	6.18	1.15	6.4
Feb	23.9	23.4	52.0	19.0	94.4	7.38	9.82	13.1	12.9	2.93	0.741	6.13	2.23	25.0
Mar	13.1	12.7	37.6	13.6	47.0	7.00	3.88	12.3	12.2	3.08	1.56	5.81	1.40	42.2
Apr	18.6	18.1	55.5	15.5	70.5	8.48	3.86	14.0	13.8	2.69	1.30	5.89	1.90	72.6
May	12.3	11.9	31.2	12.5	40.0	7.26	1.73	10.1	9.94	2.20	1.27	5.90	1.21	71.0
June	8.27	7.54	18.1	15.7	13.0	12.1	2.00	8.72	8.46	2.92	1.94	5.71	0.897	101
July	8.27	7.85	16.0	6.66	8.97	7.00	0.859	5.73	5.58	1.57	1.48	5.83	0.692	131
Aug	13.9	12.1	38.0	30.4	38.0	30.1	2.71	8.89	8.24	3.51	1.38	5.86	1.57	63.8
Sept	8.52	7.98	19.3	9.13	11.6	9.03	1.09	6.55	6.35	2.36	2.23	5.65	0.772	112
Oct	--	--	--	--	--	--	--	--	--	--	--	--	--	0
Nov	--	--	--	--	--	--	--	--	--	--	--	--	--	0
Dec	15.5	15.1	47.2	14.7	46.6	6.53	3.14	13.2	13.0	2.73	0.837	6.08	1.60	21.4
Annual	11.7	11.0	29.1	13.8	30.6	10.6	2.33	9.05	8.82	2.50	1.58	5.80	1.16	646
Max.	29.0	28.3	117	66.8	143	62.2	10.3	24.8	24.5	5.00	3.39	6.47	3.18	
Min.	6.15	5.99	7.74	1.46	1.11	1.52	0.769	4.25	4.11	1.21	0.339	5.47	0.380	

Wet deposition amount

2025	SO_4^{2-} mmol m^{-2}	nss-SO_4^{2-} mmol m^{-2}	NO_3^- mmol m^{-2}	Cl^- mmol m^{-2}	NH_4^+ mmol m^{-2}	Na^+ mmol m^{-2}	K^+ mmol m^{-2}	Ca^{2+} mmol m^{-2}	nss-Ca^{2+} mmol m^{-2}	Mg^{2+} mmol m^{-2}	H^+ mmol m^{-2}
Jan	0.0633	0.0620	0.156	0.130	0.260	0.0223	0.0197	0.0576	0.0571	0.0147	<0.01
Feb	0.597	0.586	1.30	0.475	2.36	0.184	0.245	0.327	0.323	0.0734	0.0185
Mar	0.555	0.537	1.59	0.573	1.98	0.295	0.164	0.520	0.514	0.130	0.0660
Apr	1.35	1.31	4.03	1.12	5.12	0.616	0.281	1.01	1.00	0.195	0.0943
May	0.876	0.845	2.21	0.888	2.84	0.515	0.122	0.717	0.706	0.156	0.0902
June	0.833	0.760	1.82	1.58	1.31	1.22	0.201	0.878	0.852	0.294	0.195
July	1.08	1.03	2.09	0.871	1.17	0.915	0.112	0.749	0.729	0.205	0.193
Aug	0.887	0.771	2.43	1.94	2.43	1.92	0.173	0.567	0.525	0.224	0.0880
Sept	0.953	0.892	2.15	1.02	1.30	1.01	0.122	0.732	0.710	0.264	0.250
Oct	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Nov	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Dec	0.331	0.323	1.01	0.315	0.996	0.140	0.0671	0.282	0.279	0.0583	0.0179
Annual	7.53	7.11	18.8	8.91	19.8	6.84	1.51	5.84	5.70	1.62	1.02

Data completeness

2025	SO_4^{2-} %TP	nss-SO_4^{2-} %TP	NO_3^- %TP	Cl^- %TP	NH_4^+ %TP	Na^+ %TP	K^+ %TP	Ca^{2+} %TP	nss-Ca^{2+} %TP	Mg^{2+} %TP	H^+ %TP	pH %TP	EC %TP	Precip. %PCL
Jan	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Feb	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Mar	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Apr	100	100	100	100	100	100	100	100	100	100	100	100	100	100
May	100	100	100	100	100	100	100	100	100	100	100	100	100	100
June	100	100	100	100	100	100	100	100	100	100	100	100	100	100
July	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Aug	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Sept	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Oct	--	--	--	--	--	--	--	--	--	--	--	--	--	100
Nov	--	--	--	--	--	--	--	--	--	--	--	--	--	100
Dec	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Annual	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**

Terms and abbreviations are given in Table 4.5.

Table 4.15 Monthly results **Site: Xiang Zhou** **Country: China**

Code: CNA010

Precipitation amount-weighted average concentration/ Precipitation amount

2025	SO_4^{2-} µmol L^{-1}	nss-SO_4^{2-} µmol L^{-1}	NO_3^- µmol L^{-1}	Cl^- µmol L^{-1}	NH_4^+ µmol L^{-1}	Na^+ µmol L^{-1}	K^+ µmol L^{-1}	Ca^{2+} µmol L^{-1}	nss-Ca^{2+} µmol L^{-1}	Mg^{2+} µmol L^{-1}	H^+ µmol L^{-1}	pH	EC mS m^{-1}	Precip. mm $month^{-1}$ or mm $year^{-1}$
Jan	24.7	21.9	62.3	59.3	103	46.0	0.850	13.4	12.4	6.13	1.33	5.88	2.72	6.5
Feb	--	--	--	--	--	--	--	--	--	--	--	--	--	0
Mar	17.4	16.9	34.1	11.2	60.5	8.33	1.64	11.9	11.7	1.23	1.45	5.84	1.43	44.3
Apr	17.5	16.0	46.2	30.2	59.0	24.8	3.46	9.26	8.73	4.18	11.3	4.95	2.29	40.9
May	7.91	6.81	29.9	21.1	26.9	18.2	1.20	7.03	6.64	2.87	6.65	5.18	1.34	132
June	4.89	3.56	12.0	24.9	12.0	22.0	0.580	2.84	2.36	2.74	2.87	5.54	0.856	335
July	6.53	4.95	13.0	31.6	24.0	26.1	0.915	3.69	3.12	3.01	0.856	6.07	0.983	504
Aug	6.23	5.03	13.1	22.4	18.9	19.9	0.784	3.64	3.21	2.46	1.13	5.95	0.807	357
Sept	11.9	2.11	7.13	188	9.03	162	3.73	9.41	5.92	16.8	0.678	6.17	2.82	300
Oct	5.81	3.41	9.30	48.8	9.98	39.7	1.06	8.36	7.50	4.61	1.08	5.96	1.20	92.8
Nov	33.1	21.7	122	213	92.3	189	4.47	32.9	28.8	22.6	0.936	6.03	5.29	8.9
Dec	39.9	34.2	110	142	72.1	94.4	6.14	94.8	92.8	26.3	0.0871	7.06	5.25	2.3
Annual	7.85	5.02	15.0	55.0	20.2	47.1	1.42	5.56	4.54	5.32	1.93	5.71	1.34	1824
Max.	43.4	37.1	166	821	137	705	15.1	94.8	92.8	73.2	22.9	7.06	10.8	
Min.	2.39	0.934	2.74	4.80	3.88	0.870	<0.3	0.749	0.702	0.411	0.0871	4.64	0.332	

Wet deposition amount

2025	SO_4^{2-} mmol m^{-2}	nss-SO_4^{2-} mmol m^{-2}	NO_3^- mmol m^{-2}	Cl^- mmol m^{-2}	NH_4^+ mmol m^{-2}	Na^+ mmol m^{-2}	K^+ mmol m^{-2}	Ca^{2+} mmol m^{-2}	nss-Ca^{2+} mmol m^{-2}	Mg^{2+} mmol m^{-2}	H^+ mmol m^{-2}
Jan	0.160	0.142	0.405	0.385	0.667	0.299	<0.01	0.0871	0.0806	0.0398	<0.01
Feb	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Mar	0.773	0.751	1.51	0.498	2.68	0.369	0.0728	0.527	0.519	0.0547	0.0644
Apr	0.716	0.654	1.89	1.24	2.41	1.02	0.141	0.379	0.357	0.171	0.461
May	1.04	0.897	3.93	2.78	3.54	2.40	0.157	0.926	0.874	0.378	0.876
June	1.64	1.19	4.01	8.35	4.02	7.38	0.194	0.951	0.791	0.918	0.963
July	3.29	2.50	6.58	15.9	12.1	13.2	0.462	1.86	1.58	1.52	0.432
Aug	2.22	1.79	4.66	7.98	6.75	7.09	0.280	1.30	1.15	0.876	0.405
Sept	3.56	0.632	2.14	56.3	2.71	48.5	1.12	2.82	1.78	5.06	0.204
Oct	0.539	0.316	0.863	4.53	0.926	3.69	0.0981	0.776	0.696	0.428	0.101
Nov	0.294	0.193	1.09	1.90	0.821	1.68	0.0398	0.293	0.257	0.201	<0.01
Dec	0.0917	0.0786	0.252	0.326	0.166	0.217	0.0141	0.218	0.213	0.0606	<0.01
Annual	14.3	9.15	27.3	100	36.8	85.8	2.59	10.1	8.29	9.70	3.52

Data completeness

2025	SO_4^{2-} %TP	nss-SO_4^{2-} %TP	NO_3^- %TP	Cl^- %TP	NH_4^+ %TP	Na^+ %TP	K^+ %TP	Ca^{2+} %TP	nss-Ca^{2+} %TP	Mg^{2+} %TP	H^+ %TP	pH %TP	EC %TP	Precip. %PCL
Jan	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Feb	--	--	--	--	--	--	--	--	--	--	--	--	--	100
Mar	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Apr	100	100	100	100	100	100	100	100	100	100	100	100	100	100
May	100	100	100	100	100	100	100	100	100	100	100	100	100	100
June	100	100	100	100	100	100	100	100	100	100	100	100	100	100
July	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Aug	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Sept	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Oct	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Nov	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Dec	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Annual	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**

Terms and abbreviations are given in Table 4.5.

Table 4.16 Monthly results **Site: Zhuxiandong** **Country: China**

Code: CNA011

Precipitation amount-weighted average concentration/ Precipitation amount

2025	SO_4^{2-} µmol L^{-1}	nss-SO_4^{2-} µmol L^{-1}	NO_3^- µmol L^{-1}	Cl^- µmol L^{-1}	NH_4^+ µmol L^{-1}	Na^+ µmol L^{-1}	K^+ µmol L^{-1}	Ca^{2+} µmol L^{-1}	nss-Ca^{2+} µmol L^{-1}	Mg^{2+} µmol L^{-1}	H^+ µmol L^{-1}	pH	EC mS m^{-1}	Precip. mm $month^{-1}$ or mm $year^{-1}$
Jan	--	--	--	--	--	--	--	--	--	--	--	--	--	0
Feb	19.2	17.3	104	26.0	83.7	30.0	4.86	17.0	16.3	5.76	1.17	5.93	2.55	2.5
Mar	18.9	18.3	34.7	13.0	56.8	10.1	1.93	11.8	11.6	2.14	4.72	5.33	1.64	58.4
Apr	20.5	17.9	69.3	46.9	58.3	42.0	4.24	16.2	15.3	7.47	7.91	5.10	2.85	35.1
May	9.54	8.23	32.1	23.1	26.6	21.8	1.03	4.52	4.05	3.06	9.22	5.04	1.52	170
June	5.42	3.67	11.8	32.6	11.2	29.0	0.760	2.45	1.82	3.55	2.89	5.54	0.996	262
July	7.89	4.56	12.7	64.0	17.8	55.3	1.45	4.47	3.27	6.27	1.19	5.92	1.36	302
Aug	5.02	4.12	10.3	17.3	16.4	14.8	0.531	2.05	1.73	2.11	1.03	5.99	0.669	257
Sept	6.14	2.59	7.99	71.6	14.7	58.8	0.897	2.85	1.58	5.89	0.704	6.15	1.24	286
Oct	7.50	3.70	13.1	72.7	19.2	63.1	1.84	6.07	4.71	7.02	0.733	6.13	1.46	102
Nov	28.9	19.0	90.0	175	63.5	165	2.79	20.0	16.4	19.5	1.90	5.72	4.29	12.1
Dec	--	--	--	--	--	--	--	--	--	--	--	--	--	0
Annual	7.70	5.30	16.5	46.2	19.9	39.8	1.14	4.21	3.35	4.66	2.56	5.59	1.25	1487
Max.	62.4	36.0	198	1190	160	966	8.70	69.1	67.7	97.9	18.2	6.74	14.4	
Min.	2.71	0.960	3.06	6.21	2.22	1.74	<0.3	0.250	<0.2	0.411	0.182	4.74	0.314	

Wet deposition amount

2025	SO_4^{2-} mmol m^{-2}	nss-SO_4^{2-} mmol m^{-2}	NO_3^- mmol m^{-2}	Cl^- mmol m^{-2}	NH_4^+ mmol m^{-2}	Na^+ mmol m^{-2}	K^+ mmol m^{-2}	Ca^{2+} mmol m^{-2}	nss-Ca^{2+} mmol m^{-2}	Mg^{2+} mmol m^{-2}	H^+ mmol m^{-2}
Jan	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Feb	0.0479	0.0434	0.261	0.0649	0.209	0.0750	0.0121	0.0424	0.0408	0.0144	<0.01
Mar	1.11	1.07	2.03	0.761	3.32	0.587	0.113	0.689	0.677	0.125	0.276
Apr	0.719	0.630	2.43	1.65	2.04	1.47	0.149	0.570	0.538	0.262	0.278
May	1.62	1.40	5.46	3.92	4.52	3.70	0.176	0.768	0.688	0.521	1.57
June	1.42	0.962	3.09	8.56	2.94	7.61	0.199	0.642	0.478	0.931	0.759
July	2.39	1.38	3.85	19.3	5.39	16.7	0.439	1.35	0.988	1.89	0.360
Aug	1.29	1.06	2.65	4.44	4.21	3.81	0.136	0.527	0.445	0.541	0.265
Sept	1.76	0.741	2.29	20.5	4.22	16.8	0.257	0.816	0.452	1.68	0.201
Oct	0.762	0.376	1.33	7.39	1.95	6.41	0.187	0.617	0.478	0.713	0.0745
Nov	0.350	0.230	1.09	2.11	0.769	1.99	0.0337	0.242	0.198	0.236	0.0230
Dec	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Annual	11.5	7.89	24.5	68.7	29.6	59.2	1.70	6.26	4.98	6.92	3.81

Data completeness

2025	SO_4^{2-} %TP	nss-SO_4^{2-} %TP	NO_3^- %TP	Cl^- %TP	NH_4^+ %TP	Na^+ %TP	K^+ %TP	Ca^{2+} %TP	nss-Ca^{2+} %TP	Mg^{2+} %TP	H^+ %TP	pH %TP	EC %TP	Precip. %PCL
Jan	--	--	--	--	--	--	--	--	--	--	--	--	--	100
Feb	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Mar	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Apr	100	100	100	100	100	100	100	100	100	100	100	100	100	100
May	100	100	100	100	100	100	100	100	100	100	100	100	100	100
June	100	100	100	100	100	100	100	100	100	100	100	100	100	100
July	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Aug	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Sept	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Oct	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Nov	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Dec	--	--	--	--	--	--	--	--	--	--	--	--	--	100
Annual	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**

Terms and abbreviations are given in Table 4.5.

Table 4.17 Monthly results **Site: Wuzhishan** **Country: China**

Code: CNA013

Precipitation amount-weighted average concentration/ Precipitation amount

2025	SO_4^{2-} µmol L^{-1}	nss-SO_4^{2-} µmol L^{-1}	NO_3^- µmol L^{-1}	Cl^- µmol L^{-1}	NH_4^+ µmol L^{-1}	Na^+ µmol L^{-1}	K^+ µmol L^{-1}	Ca^{2+} µmol L^{-1}	nss-Ca^{2+} µmol L^{-1}	Mg^{2+} µmol L^{-1}	H^+ µmol L^{-1}	pH	EC mS m^{-1}	Precip. mm $month^{-1}$ or mm $year^{-1}$
Jan	--	--	--	--	--	--	--	--	--	--	--	--	--	0
Feb	--	--	--	--	--	--	--	--	--	--	--	--	--	0
Mar	--	--	--	--	--	--	--	--	--	--	--	--	--	0
Apr	--	--	--	--	--	--	--	--	--	--	--	--	--	0
May	*	*	*	*	*	*	*	*	*	*	0.603	6.22	0.617	181
June	*	*	*	*	*	*	*	*	*	*	0.346	6.46	0.432	308
July	*	*	*	*	*	*	*	*	*	*	0.616	6.21	0.835	182
Aug	*	*	*	*	*	*	*	*	*	*	0.339	6.47	0.799	366
Sept	*	*	*	*	*	*	*	*	*	*	0.722	6.14	1.44	22.3
Oct	*	*	*	*	*	*	*	*	*	*	0.111	6.96	0.847	10.2
Nov	--	--	--	--	--	--	--	--	--	--	--	--	--	0
Dec	--	--	--	--	--	--	--	--	--	--	--	--	--	0
Annual	*	*	*	*	*	*	*	*	*	*	0.439	6.36	0.682	1069
Max.	*	*	*	*	*	*	*	*	*	*	2.04	7.65	2.80	
Min.	*	*	*	*	*	*	*	*	*	*	0.0224	5.69	0.300	

Wet deposition amount

2025	SO_4^{2-} mmol m^{-2}	nss-SO_4^{2-} mmol m^{-2}	NO_3^- mmol m^{-2}	Cl^- mmol m^{-2}	NH_4^+ mmol m^{-2}	Na^+ mmol m^{-2}	K^+ mmol m^{-2}	Ca^{2+} mmol m^{-2}	nss-Ca^{2+} mmol m^{-2}	Mg^{2+} mmol m^{-2}	H^+ mmol m^{-2}
Jan	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Feb	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Mar	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Apr	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
May	*	*	*	*	*	*	*	*	*	*	0.109
June	*	*	*	*	*	*	*	*	*	*	0.107
July	*	*	*	*	*	*	*	*	*	*	0.112
Aug	*	*	*	*	*	*	*	*	*	*	0.124
Sept	*	*	*	*	*	*	*	*	*	*	0.0161
Oct	*	*	*	*	*	*	*	*	*	*	<0.01
Nov	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Dec	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Annual	*	*	*	*	*	*	*	*	*	*	0.469

Data completeness

2025	SO_4^{2-} %TP	nss-SO_4^{2-} %TP	NO_3^- %TP	Cl^- %TP	NH_4^+ %TP	Na^+ %TP	K^+ %TP	Ca^{2+} %TP	nss-Ca^{2+} %TP	Mg^{2+} %TP	H^+ %TP	pH %TP	EC %TP	Precip. %PCL
Jan	--	--	--	--	--	--	--	--	--	--	--	--	--	100
Feb	--	--	--	--	--	--	--	--	--	--	--	--	--	100
Mar	--	--	--	--	--	--	--	--	--	--	--	--	--	100
Apr	--	--	--	--	--	--	--	--	--	--	--	--	--	100
May	0	0	0	0	0	0	0	0	0	0	100	100	100	100
June	0	0	0	0	0	0	0	0	0	0	100	100	100	100
July	0	0	0	0	0	0	0	0	0	0	100	100	100	100
Aug	0	0	0	0	0	0	0	0	0	0	100	100	100	100
Sept	0	0	0	0	0	0	0	0	0	0	100	100	100	100
Oct	0	0	0	0	0	0	0	0	0	0	100	100	100	100
Nov	--	--	--	--	--	--	--	--	--	--	--	--	--	100
Dec	--	--	--	--	--	--	--	--	--	--	--	--	--	100
Annual	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**100**	**100**	**100**	**100**

Terms and abbreviations are given in Table 4.5.

Table 4.18 Monthly results **Site: Lijiang** **Country: China**

Code: CNA014

Precipitation amount-weighted average concentration/ Precipitation amount

2025	SO_4^{2-} µmol L^{-1}	nss-SO_4^{2-} µmol L^{-1}	NO_3^- µmol L^{-1}	Cl^- µmol L^{-1}	NH_4^+ µmol L^{-1}	Na^+ µmol L^{-1}	K^+ µmol L^{-1}	Ca^{2+} µmol L^{-1}	nss-Ca^{2+} µmol L^{-1}	Mg^{2+} µmol L^{-1}	H^+ µmol L^{-1}	pH	EC mS m^{-1}	Precip. mm $month^{-1}$ or mm $year^{-1}$
Jan	--	--	--	--	--	--	--	--	--	--	--	--	--	0
Feb	--	--	--	--	--	--	--	--	--	--	--	--	--	0
Mar	37.5	37.2	25.5	103	68.9	4.30	91.3	65.5	65.4	3.30	0.178	6.75	3.72	3.2
Apr	14.3	14.1	23.9	10.4	52.2	2.60	2.30	37.3	37.2	12.9	0.0115	7.94	2.12	3.7
May	9.30	9.25	9.80	5.20	29.4	0.900	0.400	16.3	16.3	9.20	0.0389	7.41	0.870	3.0
June	5.09	4.68	7.65	10.7	22.7	6.89	3.19	31.0	30.8	0.848	0.0828	7.08	2.45	35.5
July	3.49	3.34	7.47	10.9	15.0	2.50	7.35	12.9	12.8	4.16	0.515	6.29	0.610	38.9
Aug	6.29	6.10	12.9	27.4	22.9	3.29	24.0	12.4	12.4	1.40	0.228	6.64	1.06	24.4
Sept	1.95	1.90	4.69	50.3	11.7	0.821	46.0	10.3	10.2	3.75	0.139	6.86	0.695	52.7
Oct	2.96	2.93	3.60	6.66	8.49	0.400	4.73	22.6	22.6	3.97	0.0165	7.78	0.932	17.0
Nov	1.58	1.50	22.1	4.28	10.2	1.35	2.13	9.18	9.15	3.30	0.0877	7.06	0.343	13.2
Dec	--	--	--	--	--	--	--	--	--	--	--	--	--	0
Annual	4.41	4.25	8.75	24.4	17.5	2.69	19.9	17.5	17.4	3.24	0.199	6.70	1.13	192
Max.	37.5	37.2	30.9	628	68.9	12.2	605	65.5	65.4	12.9	0.692	8.72	4.73	
Min.	0.500	0.319	1.60	<0.5	1.70	0.400	0.400	4.00	3.99	0.400	0.0019	6.16	0.190	

Wet deposition amount

2025	SO_4^{2-} mmol m^{-2}	nss-SO_4^{2-} mmol m^{-2}	NO_3^- mmol m^{-2}	Cl^- mmol m^{-2}	NH_4^+ mmol m^{-2}	Na^+ mmol m^{-2}	K^+ mmol m^{-2}	Ca^{2+} mmol m^{-2}	nss-Ca^{2+} mmol m^{-2}	Mg^{2+} mmol m^{-2}	H^+ mmol m^{-2}
Jan	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Feb	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Mar	0.120	0.119	0.0816	0.330	0.220	0.0138	0.292	0.210	0.209	0.0106	<0.01
Apr	0.0529	0.0523	0.0884	0.0385	0.193	<0.01	<0.01	0.138	0.138	0.0477	<0.01
May	0.0279	0.0277	0.0294	0.0156	0.0882	<0.01	<0.01	0.0489	0.0488	0.0276	<0.01
June	0.181	0.166	0.272	0.381	0.806	0.245	0.113	1.10	1.09	0.0301	<0.01
July	0.136	0.130	0.291	0.424	0.582	0.0971	0.286	0.500	0.498	0.162	0.0200
Aug	0.154	0.149	0.315	0.668	0.559	0.0803	0.585	0.303	0.301	0.0341	<0.01
Sept	0.103	0.100	0.247	2.65	0.617	0.0433	2.42	0.541	0.540	0.198	<0.01
Oct	0.0503	0.0499	0.0613	0.113	0.144	<0.01	0.0804	0.384	0.384	0.0675	<0.01
Nov	0.0209	0.0198	0.292	0.0565	0.135	0.0178	0.0281	0.121	0.121	0.0436	<0.01
Dec	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Annual	0.845	0.814	1.68	4.68	3.35	0.516	3.82	3.35	3.34	0.621	0.0381

Data completeness

2025	SO_4^{2-} %TP	nss-SO_4^{2-} %TP	NO_3^- %TP	Cl^- %TP	NH_4^+ %TP	Na^+ %TP	K^+ %TP	Ca^{2+} %TP	nss-Ca^{2+} %TP	Mg^{2+} %TP	H^+ %TP	pH %TP	EC %TP	Precip. %PCL
Jan	--	--	--	--	--	--	--	--	--	--	--	--	--	100
Feb	--	--	--	--	--	--	--	--	--	--	--	--	--	100
Mar	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Apr	100	100	100	100	100	100	100	100	100	100	100	100	100	100
May	100	100	100	100	100	100	100	100	100	100	100	100	100	100
June	100	100	100	100	100	100	100	100	100	100	100	100	100	100
July	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Aug	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Sept	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Oct	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Nov	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Dec	--	--	--	--	--	--	--	--	--	--	--	--	--	100
Annual	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**

Terms and abbreviations are given in Table 4.5.

Table 4.19 Monthly results **Site: Jakarta** **Country: Indonesia**

Code: IDA001

Precipitation amount-weighted average concentration/ Precipitation amount

2025	SO_4^{2-} µmol L^{-1}	nss-SO_4^{2-} µmol L^{-1}	NO_3^- µmol L^{-1}	Cl^- µmol L^{-1}	NH_4^+ µmol L^{-1}	Na^+ µmol L^{-1}	K^+ µmol L^{-1}	Ca^{2+} µmol L^{-1}	nss-Ca^{2+} µmol L^{-1}	Mg^{2+} µmol L^{-1}	H^+ µmol L^{-1}	pH	EC mS m^{-1}	Precip. mm $month^{-1}$ or mm $year^{-1}$
Jan	11.1	10.2	8.36	16.8	17.6	15.9	3.24	9.85	9.51	3.65	5.63	5.25	0.815	516
Feb	12.1	11.2	12.5	16.1	22.7	14.8	1.19	10.8	10.4	2.73	4.42	5.35	0.906	257
Mar	16.7	16.0	17.3	16.6	21.1	12.1	4.70	19.7	19.5	3.47	10.3	4.99	1.26	76.1
Apr	20.5	20.0	27.8	12.3	39.2	7.87	7.59	12.3	12.2	3.40	19.1	4.72	1.63	168
May	24.7	24.3	38.1	11.9	52.4	7.42	1.60	12.0	11.8	2.04	26.4	4.58	2.07	398
June	26.6	25.6	35.0	22.7	89.7	16.8	5.43	19.6	19.2	3.10	2.84	5.55	1.83	131
July	23.1	22.4	28.5	14.9	43.5	11.8	13.6	9.29	9.03	2.47	12.4	4.91	1.90	301
Aug	35.0	34.5	52.7	16.3	53.1	8.71	3.82	19.4	19.2	3.30	31.4	4.50	2.78	121
Sept	31.0	30.0	56.1	23.3	82.0	16.5	7.89	24.8	24.4	4.21	9.08	5.04	2.34	135
Oct	20.8	20.3	32.1	13.5	36.5	8.74	2.56	13.0	12.9	2.87	19.5	4.71	1.76	256
Nov	9.44	8.54	9.73	15.8	35.3	15.2	2.46	14.3	14.0	2.91	6.20	5.21	1.17	110
Dec	15.9	15.4	21.5	11.4	31.1	8.29	1.85	10.5	10.3	1.94	12.0	4.92	1.40	226
Annual	19.4	18.7	25.9	15.3	39.5	11.9	4.43	12.8	12.5	2.91	13.4	4.87	1.56	2694
Max.	76.9	72.6	105	112	169	94.4	44.1	67.1	66.8	14.5	39.4	6.35	5.20	
Min.	1.18	<0.3	0.564	<0.5	9.27	3.41	0.922	4.75	4.56	1.34	0.447	4.40	0.700	

Wet deposition amount

2025	SO_4^{2-} mmol m^{-2}	nss-SO_4^{2-} mmol m^{-2}	NO_3^- mmol m^{-2}	Cl^- mmol m^{-2}	NH_4^+ mmol m^{-2}	Na^+ mmol m^{-2}	K^+ mmol m^{-2}	Ca^{2+} mmol m^{-2}	nss-Ca^{2+} mmol m^{-2}	Mg^{2+} mmol m^{-2}	H^+ mmol m^{-2}
Jan	5.74	5.24	4.31	8.66	9.07	8.21	1.67	5.08	4.90	1.88	2.90
Feb	3.11	2.88	3.22	4.14	5.83	3.79	0.304	2.76	2.68	0.701	1.14
Mar	1.27	1.22	1.32	1.27	1.60	0.919	0.358	1.50	1.48	0.264	0.786
Apr	3.43	3.35	4.67	2.07	6.57	1.32	1.27	2.07	2.04	0.571	3.20
May	9.85	9.67	15.2	4.73	20.9	2.96	0.636	4.77	4.71	0.814	10.5
June	3.49	3.36	4.59	2.97	11.7	2.20	0.711	2.56	2.51	0.407	0.372
July	6.96	6.74	8.58	4.50	13.1	3.56	4.11	2.80	2.72	0.745	3.74
Aug	4.22	4.16	6.35	1.96	6.40	1.05	0.461	2.33	2.31	0.398	3.79
Sept	4.17	4.04	7.54	3.14	11.0	2.21	1.06	3.34	3.29	0.567	1.22
Oct	5.31	5.17	8.21	3.46	9.32	2.23	0.654	3.33	3.29	0.733	4.99
Nov	1.04	0.942	1.07	1.75	3.89	1.67	0.271	1.57	1.54	0.321	0.684
Dec	3.59	3.48	4.86	2.58	7.03	1.87	0.418	2.37	2.33	0.438	2.71
Annual	52.2	50.3	69.9	41.2	106	32.0	11.9	34.5	33.8	7.84	36.1

Data completeness

2025	SO_4^{2-} %TP	nss-SO_4^{2-} %TP	NO_3^- %TP	Cl^- %TP	NH_4^+ %TP	Na^+ %TP	K^+ %TP	Ca^{2+} %TP	nss-Ca^{2+} %TP	Mg^{2+} %TP	H^+ %TP	pH %TP	EC %TP	Precip. %PCL
Jan	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Feb	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Mar	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Apr	100	100	100	100	100	100	100	100	100	100	100	100	100	100
May	100	100	100	100	100	100	100	100	100	100	100	100	100	100
June	100	100	100	100	100	100	100	100	100	100	100	100	100	100
July	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Aug	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Sept	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Oct	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Nov	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Dec	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Annual	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**

Terms and abbreviations are given in Table 4.5.

Table 4.20 Monthly results **Site: Kototabang** **Country: Indonesia**

Code: IDA003

Precipitation amount-weighted average concentration/ Precipitation amount

2025	SO_4^{2-} µmol L^{-1}	nss-SO_4^{2-} µmol L^{-1}	NO_3^- µmol L^{-1}	Cl^- µmol L^{-1}	NH_4^+ µmol L^{-1}	Na^+ µmol L^{-1}	K^+ µmol L^{-1}	Ca^{2+} µmol L^{-1}	nss-Ca^{2+} µmol L^{-1}	Mg^{2+} µmol L^{-1}	H^+ µmol L^{-1}	pH	EC mS m^{-1}	Precip. mm $month^{-1}$ or mm $year^{-1}$
Jan	7.08	6.89	3.56	3.59	5.23	3.08	2.46	3.87	3.81	1.54	12.7	4.90	0.676	251
Feb	3.06	2.96	3.47	2.19	4.71	1.63	1.30	2.50	2.47	0.605	4.46	5.35	0.296	202
Mar	3.92	3.83	5.17	2.62	4.07	1.51	1.06	2.25	2.22	0.366	10.3	4.99	0.541	151
Apr	4.30	4.24	5.25	10.2	12.6	0.993	1.44	2.52	2.50	0.383	3.55	5.45	0.300	35.3
May	5.83	5.40	1.20	4.39	4.81	7.05	2.61	3.54	3.39	0.849	9.65	5.02	0.636	138
June	3.48	3.36	4.08	4.96	0.800	2.04	1.19	3.23	3.18	0.525	8.51	5.07	0.400	48.8
July	9.17	8.85	7.20	8.02	35.1	5.35	7.57	9.29	9.18	1.29	4.77	5.32	0.786	51.9
Aug	4.72	4.43	9.61	6.66	12.8	4.82	2.55	4.96	4.86	1.28	5.06	5.30	0.494	94.6
Sept	5.65	5.49	1.93	3.81	0.800	2.68	2.30	2.92	2.86	1.03	14.9	4.83	0.680	212
Oct	6.98	6.77	3.87	5.68	11.5	3.38	1.82	4.08	4.01	0.805	9.99	5.00	0.591	104
Nov	1.65	1.30	0.709	6.48	1.29	5.79	3.38	15.6	15.5	0.998	2.14	5.67	0.500	509
Dec	2.05	1.94	0.782	1.71	0.800	1.72	1.08	3.49	3.46	0.641	3.70	5.43	0.492	276
Annual	4.03	3.81	2.70	4.42	4.48	3.62	2.34	6.50	6.42	0.914	7.01	5.15	0.537	2074
Max.	15.9	15.7	19.6	25.6	55.4	24.9	12.9	18.5	18.4	3.33	42.7	6.11	2.00	
Min.	0.626	0.579	<0.5	0.532	0.800	0.786	0.725	1.53	1.49	0.342	0.776	4.37	0.200	

Wet deposition amount

2025	SO_4^{2-} mmol m^{-2}	nss-SO_4^{2-} mmol m^{-2}	NO_3^- mmol m^{-2}	Cl^- mmol m^{-2}	NH_4^+ mmol m^{-2}	Na^+ mmol m^{-2}	K^+ mmol m^{-2}	Ca^{2+} mmol m^{-2}	nss-Ca^{2+} mmol m^{-2}	Mg^{2+} mmol m^{-2}	H^+ mmol m^{-2}
Jan	1.78	1.73	0.896	0.904	1.31	0.775	0.618	0.973	0.957	0.387	3.18
Feb	0.618	0.598	0.702	0.443	0.952	0.328	0.263	0.506	0.499	0.122	0.901
Mar	0.590	0.576	0.778	0.394	0.613	0.227	0.159	0.339	0.334	0.0552	1.54
Apr	0.152	0.150	0.185	0.361	0.446	0.0351	0.0509	0.0891	0.0883	0.0135	0.125
May	0.805	0.746	0.166	0.606	0.664	0.973	0.361	0.489	0.468	0.117	1.33
June	0.170	0.164	0.199	0.242	0.0390	0.0998	0.0579	0.157	0.155	0.0256	0.415
July	0.476	0.459	0.374	0.416	1.82	0.278	0.393	0.482	0.476	0.0669	0.248
Aug	0.447	0.419	0.909	0.630	1.21	0.456	0.242	0.469	0.460	0.121	0.479
Sept	1.20	1.16	0.408	0.807	0.170	0.569	0.487	0.618	0.606	0.218	3.16
Oct	0.725	0.704	0.403	0.590	1.19	0.352	0.190	0.425	0.417	0.0837	1.04
Nov	0.841	0.663	0.361	3.30	0.658	2.95	1.72	7.96	7.90	0.508	1.09
Dec	0.565	0.537	0.216	0.472	0.221	0.476	0.299	0.966	0.955	0.177	1.02
Annual	8.36	7.91	5.60	9.16	9.30	7.52	4.84	13.5	13.3	1.90	14.5

Data completeness

2025	SO_4^{2-} %TP	nss-SO_4^{2-} %TP	NO_3^- %TP	Cl^- %TP	NH_4^+ %TP	Na^+ %TP	K^+ %TP	Ca^{2+} %TP	nss-Ca^{2+} %TP	Mg^{2+} %TP	H^+ %TP	pH %TP	EC %TP	Precip. %PCL
Jan	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Feb	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Mar	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Apr	100	100	100	100	100	100	100	100	100	100	100	100	100	100
May	100	100	100	100	100	100	100	100	100	100	100	100	100	100
June	100	100	100	100	100	100	100	100	100	100	100	100	100	100
July	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Aug	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Sept	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Oct	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Nov	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Dec	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Annual	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**

Terms and abbreviations are given in Table 4.5.

Table 4.21 Monthly results **Site: Maros** **Country: Indonesia**

Code: IDA005

Precipitation amount-weighted average concentration/ Precipitation amount

2025	SO_4^{2-} µmol L^{-1}	nss-SO_4^{2-} µmol L^{-1}	NO_3^- µmol L^{-1}	Cl^- µmol L^{-1}	NH_4^+ µmol L^{-1}	Na^+ µmol L^{-1}	K^+ µmol L^{-1}	Ca^{2+} µmol L^{-1}	nss-Ca^{2+} µmol L^{-1}	Mg^{2+} µmol L^{-1}	H^+ µmol L^{-1}	pH	EC mS m^{-1}	Precip. mm $month^{-1}$ or mm $year^{-1}$
Jan	4.09	3.78	4.69	7.24	5.94	5.03	0.932	3.30	3.19	1.26	3.16	5.50	0.299	692
Feb	6.96	5.46	5.85	27.6	8.22	24.8	1.42	5.13	4.59	3.44	7.95	5.10	0.974	573
Mar	3.97	3.50	3.42	8.37	4.54	7.77	1.09	3.41	3.24	1.41	4.51	5.35	0.484	504
Apr	4.46	3.80	4.86	13.2	3.20	10.9	1.46	5.39	5.15	2.09	5.11	5.29	0.495	191
May	6.39	6.03	8.15	10.4	29.8	5.99	4.30	13.1	13.0	1.51	1.30	5.89	0.756	130
June	4.37	4.11	5.78	6.19	15.8	4.20	2.76	7.90	7.81	1.06	1.41	5.85	0.526	96.5
July	15.7	15.3	11.5	9.69	10.0	5.70	2.90	8.96	8.84	1.37	11.9	4.92	0.973	155
Aug	--	--	--	--	--	--	--	--	--	--	--	--	--	0
Sept	9.56	8.96	19.5	14.3	28.3	9.94	3.13	26.2	26.0	3.05	1.78	5.75	1.00	13.7
Oct	8.19	7.59	11.7	12.1	19.2	10.0	1.58	11.6	11.4	1.51	3.85	5.41	0.790	247
Nov	5.90	5.11	7.27	10.7	7.48	13.2	1.40	9.77	9.48	1.93	4.32	5.36	0.591	372
Dec	4.05	3.25	5.18	15.7	15.4	13.2	1.06	6.10	5.81	2.41	3.27	5.49	0.575	321
Annual	5.77	5.08	6.13	13.1	9.56	11.4	1.47	6.26	6.01	1.93	4.79	5.32	0.612	3294
Max.	62.7	58.9	53.7	139	75.8	61.9	74.0	108	107	8.09	19.1	6.10	4.10	
Min.	2.06	1.51	0.777	3.86	0.800	2.14	0.729	1.98	1.87	0.636	0.794	4.72	0.200	

Wet deposition amount

2025	SO_4^{2-} mmol m^{-2}	nss-SO_4^{2-} mmol m^{-2}	NO_3^- mmol m^{-2}	Cl^- mmol m^{-2}	NH_4^+ mmol m^{-2}	Na^+ mmol m^{-2}	K^+ mmol m^{-2}	Ca^{2+} mmol m^{-2}	nss-Ca^{2+} mmol m^{-2}	Mg^{2+} mmol m^{-2}	H^+ mmol m^{-2}
Jan	2.83	2.62	3.25	5.01	4.11	3.48	0.645	2.28	2.21	0.871	2.19
Feb	3.98	3.13	3.35	15.8	4.71	14.2	0.811	2.94	2.63	1.97	4.55
Mar	2.00	1.77	1.73	4.22	2.29	3.92	0.548	1.72	1.63	0.712	2.27
Apr	0.850	0.724	0.927	2.51	0.610	2.08	0.278	1.03	0.982	0.397	0.974
May	0.830	0.783	1.06	1.35	3.87	0.778	0.559	1.70	1.68	0.197	0.169
June	0.421	0.397	0.558	0.598	1.52	0.406	0.266	0.762	0.753	0.102	0.136
July	2.43	2.38	1.79	1.50	1.55	0.884	0.450	1.39	1.37	0.212	1.85
Aug	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Sept	0.131	0.123	0.267	0.196	0.388	0.136	0.0428	0.359	0.356	0.0417	0.0244
Oct	2.02	1.87	2.90	2.98	4.73	2.47	0.390	2.86	2.81	0.373	0.950
Nov	2.19	1.90	2.70	3.97	2.78	4.90	0.519	3.63	3.52	0.716	1.60
Dec	1.30	1.04	1.66	5.04	4.93	4.24	0.341	1.96	1.86	0.772	1.05
Annual	19.0	16.7	20.2	43.2	31.5	37.5	4.85	20.6	19.8	6.36	15.8

Data completeness

2025	SO_4^{2-} %TP	nss-SO_4^{2-} %TP	NO_3^- %TP	Cl^- %TP	NH_4^+ %TP	Na^+ %TP	K^+ %TP	Ca^{2+} %TP	nss-Ca^{2+} %TP	Mg^{2+} %TP	H^+ %TP	pH %TP	EC %TP	Precip. %PCL
Jan	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Feb	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Mar	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Apr	100	100	100	100	100	100	100	100	100	100	100	100	100	100
May	100	100	100	100	100	100	100	100	100	100	100	100	100	100
June	100	100	100	100	100	100	100	100	100	100	100	100	100	100
July	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Aug	--	--	--	--	--	--	--	--	--	--	--	--	--	100
Sept	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Oct	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Nov	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Dec	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Annual	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**

Terms and abbreviations are given in Table 4.5.

Table 4.22 Monthly results **Site: Jembrana** **Country: Indonesia**

Code: IDA006

Precipitation amount-weighted average concentration/ Precipitation amount

2025	SO_4^{2-} µmol L^{-1}	nss-SO_4^{2-} µmol L^{-1}	NO_3^- µmol L^{-1}	Cl^- µmol L^{-1}	NH_4^+ µmol L^{-1}	Na^+ µmol L^{-1}	K^+ µmol L^{-1}	Ca^{2+} µmol L^{-1}	nss-Ca^{2+} µmol L^{-1}	Mg^{2+} µmol L^{-1}	H^+ µmol L^{-1}	pH	EC mS m^{-1}	Precip. mm $month^{-1}$ or mm $year^{-1}$
Jan	8.99	8.44	27.8	28.5	21.9	9.17	14.0	8.73	8.53	2.82	17.1	4.77	1.46	284
Feb	19.1	17.6	45.7	37.8	40.9	25.3	12.8	12.7	12.2	2.84	23.6	4.63	2.18	193
Mar	15.9	13.8	8.04	72.6	6.07	34.4	16.5	17.3	16.6	8.28	21.1	4.68	1.94	119
Apr	12.4	11.7	12.2	23.0	1.87	11.3	5.64	11.2	10.9	4.47	30.1	4.52	1.62	169
May	9.13	7.88	9.59	32.8	2.36	20.7	12.8	15.5	15.1	5.55	14.1	4.85	1.22	391
June	5.92	3.19	17.5	47.8	2.30	45.2	10.4	9.70	8.72	6.62	12.4	4.91	1.26	118
July	3.20	1.74	9.80	23.5	0.800	24.1	5.49	6.39	5.87	4.11	14.1	4.85	0.900	198
Aug	--	--	--	--	--	--	--	--	--	--	--	--	--	0
Sept	6.41	4.54	1.93	38.0	1.18	31.0	5.60	15.2	14.5	6.20	2.87	5.54	0.871	521
Oct	7.39	5.65	4.99	33.9	1.08	28.9	2.69	10.9	10.3	4.71	7.20	5.14	1.05	253
Nov	7.79	6.08	7.18	33.9	10.7	28.4	4.10	9.97	9.35	4.91	14.9	4.83	1.21	125
Dec	7.21	5.56	4.42	74.7	3.84	27.4	20.5	7.39	6.80	3.90	14.2	4.85	1.27	249
Annual	8.83	7.32	12.1	39.0	7.51	25.0	9.88	11.9	11.3	4.91	13.6	4.87	1.27	2619
Max.	35.0	31.0	120	161	152	131	36.1	36.5	33.7	16.9	85.1	5.92	4.60	
Min.	3.20	1.74	0.500	11.6	0.800	6.63	0.629	4.34	4.02	1.62	1.20	4.07	0.700	

Wet deposition amount

2025	SO_4^{2-} mmol m^{-2}	nss-SO_4^{2-} mmol m^{-2}	NO_3^- mmol m^{-2}	Cl^- mmol m^{-2}	NH_4^+ mmol m^{-2}	Na^+ mmol m^{-2}	K^+ mmol m^{-2}	Ca^{2+} mmol m^{-2}	nss-Ca^{2+} mmol m^{-2}	Mg^{2+} mmol m^{-2}	H^+ mmol m^{-2}
Jan	2.55	2.40	7.88	8.09	6.22	2.60	3.96	2.48	2.42	0.801	4.86
Feb	3.69	3.39	8.80	7.28	7.88	4.88	2.46	2.45	2.34	0.547	4.55
Mar	1.90	1.65	0.960	8.67	0.725	4.11	1.97	2.07	1.98	0.989	2.52
Apr	2.10	1.99	2.07	3.90	0.317	1.92	0.955	1.89	1.85	0.758	5.09
May	3.57	3.08	3.74	12.8	0.924	8.10	4.99	6.07	5.89	2.17	5.52
June	0.696	0.375	2.06	5.62	0.271	5.32	1.23	1.14	1.03	0.779	1.46
July	0.632	0.344	1.94	4.64	0.158	4.77	1.09	1.26	1.16	0.813	2.79
Aug	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Sept	3.34	2.37	1.00	19.8	0.614	16.2	2.92	7.92	7.57	3.24	1.50
Oct	1.87	1.43	1.26	8.57	0.273	7.32	0.679	2.77	2.61	1.19	1.82
Nov	0.977	0.762	0.900	4.25	1.34	3.56	0.514	1.25	1.17	0.615	1.87
Dec	1.79	1.38	1.10	18.6	0.955	6.80	5.11	1.84	1.69	0.970	3.53
Annual	23.1	19.2	31.7	102	19.7	65.6	25.9	31.1	29.7	12.9	35.5

Data completeness

2025	SO_4^{2-} %TP	nss-SO_4^{2-} %TP	NO_3^- %TP	Cl^- %TP	NH_4^+ %TP	Na^+ %TP	K^+ %TP	Ca^{2+} %TP	nss-Ca^{2+} %TP	Mg^{2+} %TP	H^+ %TP	pH %TP	EC %TP	Precip. %PCL
Jan	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Feb	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Mar	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Apr	100	100	100	100	100	100	100	100	100	100	100	100	100	100
May	100	100	100	100	100	100	100	100	100	100	100	100	100	100
June	100	100	100	100	100	100	100	100	100	100	100	100	100	100
July	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Aug	--	--	--	--	--	--	--	--	--	--	--	--	--	100
Sept	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Oct	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Nov	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Dec	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Annual	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**

Terms and abbreviations are given in Table 4.5.

Table 4.23 Monthly results **Site: Lombok** **Country: Indonesia**

Code: IDA007

Precipitation amount-weighted average concentration/ Precipitation amount

2025	SO_4^{2-} µmol L^{-1}	nss-SO_4^{2-} µmol L^{-1}	NO_3^- µmol L^{-1}	Cl^- µmol L^{-1}	NH_4^+ µmol L^{-1}	Na^+ µmol L^{-1}	K^+ µmol L^{-1}	Ca^{2+} µmol L^{-1}	nss-Ca^{2+} µmol L^{-1}	Mg^{2+} µmol L^{-1}	H^+ µmol L^{-1}	pH	EC mS m^{-1}	Precip. mm $month^{-1}$ or mm $year^{-1}$
Jan	8.41	7.85	11.3	10.2	2.27	9.27	2.64	3.85	3.65	3.60	17.1	4.77	0.981	185
Feb	11.0	7.84	14.5	69.1	2.08	52.3	4.44	4.26	3.13	6.53	13.5	4.87	1.35	375
Mar	9.05	7.34	1.70	22.9	6.66	28.5	3.99	8.24	7.62	5.16	1.91	5.72	0.848	276
Apr	6.51	5.01	43.3	34.4	0.800	24.8	10.8	13.6	13.1	7.65	35.2	4.45	1.69	8.1
May	9.39	8.11	35.6	23.2	9.21	21.1	3.82	6.13	5.67	4.33	26.5	4.58	1.61	189
June	12.8	10.7	57.1	25.3	84.4	33.5	16.2	16.0	15.3	10.1	4.92	5.31	2.10	47.9
July	12.6	10.0	52.0	37.3	16.2	41.9	9.57	15.1	14.2	10.4	11.9	4.92	1.99	151
Aug	--	--	--	--	--	--	--	--	--	--	--	--	--	0
Sept	9.67	7.26	33.8	38.0	2.28	39.8	6.36	12.9	12.0	8.80	5.85	5.23	1.22	114
Oct	6.75	5.85	11.0	17.0	1.88	14.8	10.8	37.2	36.8	5.44	8.36	5.08	0.900	105
Nov	5.41	4.64	4.40	11.9	0.800	12.9	2.69	5.02	4.75	4.91	19.0	4.72	1.10	312
Dec	6.89	5.62	17.5	18.3	3.39	21.1	5.41	6.17	5.71	5.66	11.9	4.93	1.01	110
Annual	8.95	7.22	18.1	30.7	6.59	28.7	5.11	8.82	8.20	5.98	13.3	4.88	1.24	1873
Max.	21.0	18.0	194	84.7	171	60.6	41.3	52.6	52.3	19.8	74.1	5.91	4.20	
Min.	3.49	3.00	0.500	5.24	0.800	5.40	2.01	2.77	1.63	2.63	1.23	4.13	0.500	

Wet deposition amount

2025	SO_4^{2-} mmol m^{-2}	nss-SO_4^{2-} mmol m^{-2}	NO_3^- mmol m^{-2}	Cl^- mmol m^{-2}	NH_4^+ mmol m^{-2}	Na^+ mmol m^{-2}	K^+ mmol m^{-2}	Ca^{2+} mmol m^{-2}	nss-Ca^{2+} mmol m^{-2}	Mg^{2+} mmol m^{-2}	H^+ mmol m^{-2}
Jan	1.56	1.45	2.09	1.89	0.421	1.72	0.488	0.712	0.675	0.666	3.16
Feb	4.13	2.94	5.43	25.9	0.781	19.6	1.67	1.60	1.17	2.45	5.08
Mar	2.50	2.03	0.471	6.33	1.84	7.87	1.10	2.28	2.11	1.42	0.528
Apr	0.0527	0.0406	0.351	0.279	<0.01	0.201	0.0878	0.110	0.106	0.0620	0.285
May	1.78	1.54	6.74	4.38	1.74	4.00	0.723	1.16	1.07	0.820	5.02
June	0.611	0.515	2.74	1.21	4.04	1.60	0.778	0.767	0.732	0.483	0.235
July	1.89	1.51	7.83	5.61	2.43	6.30	1.44	2.27	2.13	1.56	1.79
Aug	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Sept	1.10	0.825	3.84	4.31	0.259	4.53	0.722	1.46	1.37	0.999	0.665
Oct	0.711	0.617	1.16	1.79	0.198	1.56	1.14	3.92	3.88	0.573	0.881
Nov	1.69	1.45	1.37	3.72	0.250	4.01	0.839	1.57	1.48	1.53	5.93
Dec	0.756	0.616	1.92	2.01	0.372	2.31	0.593	0.677	0.627	0.621	1.30
Annual	16.8	13.5	33.9	57.5	12.3	53.7	9.58	16.5	15.4	11.2	24.9

Data completeness

2025	SO_4^{2-} %TP	nss-SO_4^{2-} %TP	NO_3^- %TP	Cl^- %TP	NH_4^+ %TP	Na^+ %TP	K^+ %TP	Ca^{2+} %TP	nss-Ca^{2+} %TP	Mg^{2+} %TP	H^+ %TP	pH %TP	EC %TP	Precip. %PCL
Jan	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Feb	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Mar	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Apr	100	100	100	100	100	100	100	100	100	100	100	100	100	100
May	100	100	100	100	100	100	100	100	100	100	100	100	100	100
June	100	100	100	100	100	100	100	100	100	100	100	100	100	100
July	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Aug	--	--	--	--	--	--	--	--	--	--	--	--	--	100
Sept	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Oct	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Nov	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Dec	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Annual	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**

Terms and abbreviations are given in Table 4.5.

Table 4.24 Monthly results **Site: Bandung 2** **Country: Indonesia**

Code: IDA008

Precipitation amount-weighted average concentration/ Precipitation amount

2025	SO_4^{2-} µmol L^{-1}	nss-SO_4^{2-} µmol L^{-1}	NO_3^- µmol L^{-1}	Cl^- µmol L^{-1}	NH_4^+ µmol L^{-1}	Na^+ µmol L^{-1}	K^+ µmol L^{-1}	Ca^{2+} µmol L^{-1}	nss-Ca^{2+} µmol L^{-1}	Mg^{2+} µmol L^{-1}	H^+ µmol L^{-1}	pH	EC mS m^{-1}	Precip. mm $month^{-1}$ or mm $year^{-1}$
Jan	**	**	**	**	**	**	**	**	**	**	**	**	**	**
Feb	**	**	**	**	**	**	**	**	**	**	**	**	**	**
Mar	**	**	**	**	**	**	**	**	**	**	**	**	**	**
Apr	**	**	**	**	**	**	**	**	**	**	**	**	**	**
May	18.2	18.1	15.9	4.55	48.8	1.61	0.838	7.29	7.26	0.959	3.81	5.42	1.13	207
June	31.5	31.2	21.0	8.62	75.7	4.85	1.10	11.8	11.7	1.61	1.01	6.00	1.65	50.4
July	22.7	22.4	19.1	9.06	65.3	4.70	1.01	10.1	10.0	1.78	0.670	6.17	1.36	105
Aug	26.0	25.8	20.1	8.53	66.9	3.71	0.717	14.3	14.3	2.16	0.348	6.46	1.43	154
Sept	23.2	22.8	23.1	11.4	66.1	6.67	1.17	14.4	14.3	2.10	0.300	6.52	1.43	159
Oct	87.2	83.4	115	66.4	254	63.2	10.6	48.9	47.5	11.5	0.178	6.75	5.74	4.1
Nov	12.7	12.6	14.3	4.88	48.7	1.80	0.357	10.4	10.4	1.11	0.311	6.51	0.885	179
Dec	30.4	29.5	31.5	9.41	61.8	14.8	0.802	19.7	19.4	1.80	1.81	5.74	1.72	139
Annual	22.3	22.0	20.6	7.92	60.1	5.34	0.853	12.5	12.4	1.64	1.32	5.88	1.33	997
Max.	129	128	115	66.4	254	63.2	10.6	60.5	60.2	11.5	7.94	7.20	6.04	
Min.	3.01	2.93	4.13	2.83	5.71	0.739	<0.3	1.41	1.38	0.301	0.0631	5.10	0.340	

Wet deposition amount

2025	SO_4^{2-} mmol m^{-2}	nss-SO_4^{2-} mmol m^{-2}	NO_3^- mmol m^{-2}	Cl^- mmol m^{-2}	NH_4^+ mmol m^{-2}	Na^+ mmol m^{-2}	K^+ mmol m^{-2}	Ca^{2+} mmol m^{-2}	nss-Ca^{2+} mmol m^{-2}	Mg^{2+} mmol m^{-2}	H^+ mmol m^{-2}
Jan	**	**	**	**	**	**	**	**	**	**	**
Feb	**	**	**	**	**	**	**	**	**	**	**
Mar	**	**	**	**	**	**	**	**	**	**	**
Apr	**	**	**	**	**	**	**	**	**	**	**
May	3.77	3.75	3.28	0.941	10.1	0.333	0.173	1.51	1.50	0.199	0.788
June	1.59	1.57	1.06	0.434	3.81	0.244	0.0554	0.593	0.587	0.0811	0.0507
July	2.38	2.35	2.00	0.949	6.84	0.492	0.106	1.06	1.05	0.187	0.0703
Aug	4.01	3.98	3.11	1.32	10.3	0.572	0.111	2.21	2.20	0.333	0.0538
Sept	3.70	3.64	3.68	1.81	10.5	1.06	0.187	2.30	2.27	0.335	0.0478
Oct	0.356	0.341	0.472	0.271	1.04	0.258	0.0434	0.200	0.194	0.0471	<0.01
Nov	2.27	2.25	2.56	0.873	8.72	0.322	0.0640	1.86	1.86	0.200	0.0556
Dec	4.22	4.09	4.36	1.30	8.56	2.04	0.111	2.73	2.68	0.249	0.250
Annual	22.3	22.0	20.5	7.90	59.9	5.33	0.851	12.5	12.3	1.63	1.32

Data completeness

2025	SO_4^{2-} %TP	nss-SO_4^{2-} %TP	NO_3^- %TP	Cl^- %TP	NH_4^+ %TP	Na^+ %TP	K^+ %TP	Ca^{2+} %TP	nss-Ca^{2+} %TP	Mg^{2+} %TP	H^+ %TP	pH %TP	EC %TP	Precip. %PCL
Jan	**	**	**	**	**	**	**	**	**	**	**	**	**	0
Feb	**	**	**	**	**	**	**	**	**	**	**	**	**	0
Mar	**	**	**	**	**	**	**	**	**	**	**	**	**	0
Apr	**	**	**	**	**	**	**	**	**	**	**	**	**	0
May	100	100	100	100	100	100	100	100	100	100	100	100	100	100
June	100	100	100	100	100	100	100	100	100	100	100	100	100	100
July	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Aug	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Sept	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Oct	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Nov	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Dec	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Annual	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**67.1**

Terms and abbreviations are given in Table 4.5.

Table 4.25 Monthly results **Site: Rishiri** **Country: Japan**

Code: JPA001

Precipitation amount-weighted average concentration/ Precipitation amount

2025	SO_4^{2-} µmol L^{-1}	nss-SO_4^{2-} µmol L^{-1}	NO_3^- µmol L^{-1}	Cl^- µmol L^{-1}	NH_4^+ µmol L^{-1}	Na^+ µmol L^{-1}	K^+ µmol L^{-1}	Ca^{2+} µmol L^{-1}	nss-Ca^{2+} µmol L^{-1}	Mg^{2+} µmol L^{-1}	H^+ µmol L^{-1}	pH	EC mS m^{-1}	Precip. mm $month^{-1}$ or mm $year^{-1}$
Jan	21.1	8.98	11.4	230	11.6	201	4.99	6.21	1.88	22.5	14.3	4.84	4.10	151
Feb	23.2	6.42	11.3	317	10.1	278	6.30	8.26	2.26	31.3	10.8	4.97	5.00	67.5
Mar	33.7	15.5	21.9	357	36.0	303	8.31	11.8	5.24	35.6	8.89	5.05	6.29	99.5
Apr	8.48	5.93	7.82	49.5	12.3	42.2	1.43	4.36	3.45	5.18	2.77	5.56	1.21	124
May	9.37	7.00	16.4	45.3	17.8	39.4	2.88	7.71	6.86	5.45	3.35	5.48	1.25	46.0
June	20.3	16.1	31.4	87.6	44.9	70.4	3.07	6.50	4.98	8.92	9.17	5.04	2.42	68.5
July	17.5	15.0	32.4	49.3	43.0	41.6	1.94	2.48	1.58	5.06	11.4	4.94	2.04	106
Aug	6.58	3.37	5.42	59.0	5.08	53.2	1.07	1.96	0.808	5.76	6.20	5.21	1.29	312
Sept	9.68	4.54	7.26	102	11.6	85.3	3.07	3.64	1.79	9.92	3.56	5.45	1.87	136
Oct	28.0	8.27	14.0	377	15.2	327	8.92	11.7	4.64	37.8	14.7	4.83	6.22	64.0
Nov	30.6	7.41	15.4	438	20.1	384	10.8	12.2	3.88	43.9	13.1	4.88	6.97	151
Dec	44.7	18.7	40.3	498	42.8	430	12.8	18.8	9.50	50.3	17.9	4.75	8.38	118
Annual	19.4	8.50	15.1	208	18.7	181	5.09	7.23	3.33	20.8	9.32	5.03	3.71	1442
Max.	56.8	20.5	49.0	853	69.5	738	18.5	29.0	16.0	84.6	22.9	5.77	12.6	
Min.	5.07	2.22	3.78	15.2	2.35	14.0	0.677	1.49	0.463	2.88	1.70	4.64	0.969	

Wet deposition amount

2025	SO_4^{2-} mmol m^{-2}	nss-SO_4^{2-} mmol m^{-2}	NO_3^- mmol m^{-2}	Cl^- mmol m^{-2}	NH_4^+ mmol m^{-2}	Na^+ mmol m^{-2}	K^+ mmol m^{-2}	Ca^{2+} mmol m^{-2}	nss-Ca^{2+} mmol m^{-2}	Mg^{2+} mmol m^{-2}	H^+ mmol m^{-2}
Jan	3.18	1.36	1.73	34.7	1.75	30.3	0.753	0.938	0.284	3.40	2.16
Feb	1.56	0.433	0.766	21.4	0.685	18.8	0.425	0.558	0.152	2.12	0.731
Mar	3.36	1.54	2.18	35.6	3.58	30.2	0.827	1.17	0.521	3.54	0.884
Apr	1.05	0.733	0.966	6.12	1.52	5.21	0.177	0.539	0.426	0.640	0.342
May	0.431	0.322	0.755	2.08	0.820	1.81	0.133	0.355	0.316	0.251	0.154
June	1.39	1.10	2.15	6.00	3.07	4.82	0.210	0.445	0.341	0.611	0.628
July	1.84	1.58	3.42	5.20	4.54	4.39	0.204	0.261	0.166	0.533	1.20
Aug	2.05	1.05	1.69	18.4	1.59	16.6	0.333	0.611	0.252	1.80	1.93
Sept	1.32	0.617	0.988	13.9	1.58	11.6	0.417	0.495	0.244	1.35	0.484
Oct	1.79	0.529	0.897	24.1	0.970	20.9	0.571	0.750	0.297	2.42	0.941
Nov	4.60	1.12	2.32	66.0	3.02	57.9	1.63	1.83	0.584	6.60	1.96
Dec	5.28	2.21	4.77	58.9	5.06	50.9	1.51	2.22	1.12	5.95	2.12
Annual	28.0	12.3	21.7	300	26.9	260	7.35	10.4	4.80	30.0	13.4

Data completeness

2025	SO_4^{2-} %TP	nss-SO_4^{2-} %TP	NO_3^- %TP	Cl^- %TP	NH_4^+ %TP	Na^+ %TP	K^+ %TP	Ca^{2+} %TP	nss-Ca^{2+} %TP	Mg^{2+} %TP	H^+ %TP	pH %TP	EC %TP	Precip. %PCL
Jan	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Feb	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Mar	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Apr	100	100	100	100	100	100	100	100	100	100	100	100	100	100
May	100	100	100	100	100	100	100	100	100	100	100	100	100	100
June	100	100	100	100	100	100	100	100	100	100	100	100	100	100
July	51.2	51.2	51.2	51.2	51.2	51.2	51.2	51.2	51.2	51.2	51.2	51.2	51.2	100
Aug	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Sept	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Oct	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Nov	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Dec	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Annual	**96.4**	**96.4**	**96.4**	**96.4**	**96.4**	**96.4**	**96.4**	**96.4**	**96.4**	**96.4**	**96.4**	**96.4**	**96.4**	**100**

Terms and abbreviations are given in Table 4.5.

Table 4.26 Monthly results **Site: Ochiishi** **Country: Japan**

Code: JPA002

Precipitation amount-weighted average concentration/ Precipitation amount

2025	SO_4^{2-} µmol L^{-1}	nss-SO_4^{2-} µmol L^{-1}	NO_3^- µmol L^{-1}	Cl^- µmol L^{-1}	NH_4^+ µmol L^{-1}	Na^+ µmol L^{-1}	K^+ µmol L^{-1}	Ca^{2+} µmol L^{-1}	nss-Ca^{2+} µmol L^{-1}	Mg^{2+} µmol L^{-1}	H^+ µmol L^{-1}	pH	EC mS m^{-1}	Precip.* mm $month^{-1}$ or mm $year^{-1}$
Jan	*	*	*	*	*	*	*	*	*	*	*	*	*	57.5
Feb	*	*	*	*	*	*	*	*	*	*	*	*	*	13.0
Mar	*	*	*	*	*	*	*	*	*	*	*	*	*	69.5
Apr	*	*	*	*	*	*	*	*	*	*	*	*	*	87.0
May	*	*	*	*	*	*	*	*	*	*	*	*	*	117
June	*	*	*	*	*	*	*	*	*	*	*	*	*	82.5
July	*	*	*	*	*	*	*	*	*	*	*	*	*	34.5
Aug	*	*	*	*	*	*	*	*	*	*	*	*	*	71.0
Sept	*	*	*	*	*	*	*	*	*	*	*	*	*	39.0
Oct	*	*	*	*	*	*	*	*	*	*	*	*	*	32.5
Nov	*	*	*	*	*	*	*	*	*	*	*	*	*	197
Dec	*	*	*	*	*	*	*	*	*	*	*	*	*	93.0
Annual	*	*	*	*	*	*	*	*	*	*	*	*	*	893
Max.	*	*	*	*	*	*	*	*	*	*	*	*	*	
Min.	*	*	*	*	*	*	*	*	*	*	*	*	*	

Wet deposition amount

2025	SO_4^{2-} mmol m^{-2}	nss-SO_4^{2-} mmol m^{-2}	NO_3^- mmol m^{-2}	Cl^- mmol m^{-2}	NH_4^+ mmol m^{-2}	Na^+ mmol m^{-2}	K^+ mmol m^{-2}	Ca^{2+} mmol m^{-2}	nss-Ca^{2+} mmol m^{-2}	Mg^{2+} mmol m^{-2}	H^+ mmol m^{-2}
Jan	*	*	*	*	*	*	*	*	*	*	*
Feb	*	*	*	*	*	*	*	*	*	*	*
Mar	*	*	*	*	*	*	*	*	*	*	*
Apr	*	*	*	*	*	*	*	*	*	*	*
May	*	*	*	*	*	*	*	*	*	*	*
June	*	*	*	*	*	*	*	*	*	*	*
July	*	*	*	*	*	*	*	*	*	*	*
Aug	*	*	*	*	*	*	*	*	*	*	*
Sept	*	*	*	*	*	*	*	*	*	*	*
Oct	*	*	*	*	*	*	*	*	*	*	*
Nov	*	*	*	*	*	*	*	*	*	*	*
Dec	*	*	*	*	*	*	*	*	*	*	*
Annual	*	*	*	*	*	*	*	*	*	*	*

Data completeness

2025	SO_4^{2-} %TP	nss-SO_4^{2-} %TP	NO_3^- %TP	Cl^- %TP	NH_4^+ %TP	Na^+ %TP	K^+ %TP	Ca^{2+} %TP	nss-Ca^{2+} %TP	Mg^{2+} %TP	H^+ %TP	pH %TP	EC %TP	Precip. %PCL
Jan	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Feb	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Mar	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Apr	0	0	0	0	0	0	0	0	0	0	0	0	0	0
May	0	0	0	0	0	0	0	0	0	0	0	0	0	0
June	0	0	0	0	0	0	0	0	0	0	0	0	0	0
July	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Aug	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Sept	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Oct	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Nov	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Dec	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Annual	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**

Terms and abbreviations are given in Table 4.5.

*Due to the lack of original precipitation data, those of the nearest meteorological station are alternatively put for the reference.

Table 4.27 Monthly results **Site: Sado-seki** **Country: Japan**

Code: JPA004

Precipitation amount-weighted average concentration/ Precipitation amount

2025	SO_4^{2-} µmol L^{-1}	nss-SO_4^{2-} µmol L^{-1}	NO_3^- µmol L^{-1}	Cl^- µmol L^{-1}	NH_4^+ µmol L^{-1}	Na^+ µmol L^{-1}	K^+ µmol L^{-1}	Ca^{2+} µmol L^{-1}	nss-Ca^{2+} µmol L^{-1}	Mg^{2+} µmol L^{-1}	H^+ µmol L^{-1}	pH	EC mS m^{-1}	Precip. mm $month^{-1}$ or mm $year^{-1}$
Jan	28.8	8.96	15.7	390	14.8	329	7.61	8.36	1.26	37.2	11.0	4.96	6.17	170
Feb	90.2	20.7	54.9	1355	54.3	1153	26.2	36.8	11.8	132	6.98	5.16	19.8	22.0
Mar	17.4	13.2	21.6	82.6	28.3	70.0	2.69	6.66	5.15	8.51	14.2	4.85	2.45	98.5
Apr	18.4	12.7	23.7	109	19.7	94.8	2.77	22.3	20.3	12.7	1.34	5.87	2.40	55.0
May	18.3	11.9	23.3	125	24.8	107	3.12	11.8	9.48	13.0	5.55	5.26	2.66	96.5
June	3.35	2.71	4.95	12.5	3.42	10.5	0.665	0.961	0.733	1.30	5.74	5.24	0.559	168
July	*	*	*	*	*	*	*	*	*	*	*	*	*	0.1
Aug	5.01	2.86	8.78	42.5	6.38	35.7	1.72	2.27	1.50	4.54	5.03	5.30	1.08	163
Sept	8.97	5.18	11.9	73.4	7.95	62.9	1.55	2.21	0.854	7.02	12.2	4.91	1.77	154
Oct	8.40	4.48	11.9	74.5	8.32	65.2	1.98	3.17	1.76	7.47	6.92	5.16	1.63	107
Nov	20.8	5.47	16.8	292	12.7	254	6.15	7.41	1.92	28.6	10.1	4.99	4.86	121
Dec	31.9	10.7	19.8	408	19.3	351	7.99	10.7	3.15	39.8	12.7	4.90	6.64	216
Annual	17.8	7.51	15.5	200	14.2	171	4.30	7.06	3.37	19.6	9.06	5.04	3.54	1370
Max.	92.9	21.1	75.8	1406	71.5	1203	27.2	37.1	21.8	136	22.9	5.88	20.8	
Min.	2.38	2.02	3.33	7.21	1.26	6.08	0.618	0.641	0.510	0.735	1.32	4.64	0.394	

Wet deposition amount

2025	SO_4^{2-} mmol m^{-2}	nss-SO_4^{2-} mmol m^{-2}	NO_3^- mmol m^{-2}	Cl^- mmol m^{-2}	NH_4^+ mmol m^{-2}	Na^+ mmol m^{-2}	K^+ mmol m^{-2}	Ca^{2+} mmol m^{-2}	nss-Ca^{2+} mmol m^{-2}	Mg^{2+} mmol m^{-2}	H^+ mmol m^{-2}
Jan	4.89	1.52	2.67	66.3	2.51	55.8	1.29	1.42	0.214	6.32	1.87
Feb	1.98	0.456	1.21	29.8	1.19	25.4	0.575	0.809	0.261	2.90	0.154
Mar	1.71	1.30	2.13	8.14	2.79	6.89	0.265	0.656	0.507	0.838	1.40
Apr	1.01	0.697	1.31	5.98	1.09	5.21	0.152	1.23	1.12	0.700	0.0735
May	1.77	1.15	2.24	12.1	2.39	10.3	0.301	1.14	0.914	1.25	0.535
June	0.562	0.455	0.831	2.10	0.574	1.77	0.112	0.161	0.123	0.219	0.964
July	*	*	*	*	*	*	*	*	*	*	*
Aug	0.817	0.467	1.43	6.93	1.04	5.81	0.280	0.370	0.244	0.739	0.821
Sept	1.38	0.797	1.84	11.3	1.22	9.69	0.238	0.341	0.132	1.08	1.88
Oct	0.895	0.477	1.27	7.93	0.886	6.94	0.211	0.338	0.188	0.795	0.737
Nov	2.50	0.659	2.02	35.2	1.53	30.6	0.741	0.892	0.231	3.44	1.22
Dec	6.89	2.32	4.28	88.3	4.19	75.9	1.73	2.32	0.681	8.60	2.75
Annual	24.4	10.3	21.2	274	19.4	234	5.90	9.67	4.61	26.9	12.4

Data completeness

2025	SO_4^{2-} %TP	nss-SO_4^{2-} %TP	NO_3^- %TP	Cl^- %TP	NH_4^+ %TP	Na^+ %TP	K^+ %TP	Ca^{2+} %TP	nss-Ca^{2+} %TP	Mg^{2+} %TP	H^+ %TP	pH %TP	EC %TP	Precip. %PCL
Jan	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Feb	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Mar	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Apr	100	100	100	100	100	100	100	100	100	100	100	100	100	100
May	100	100	100	100	100	100	100	100	100	100	100	100	100	100
June	100	100	100	100	100	100	100	100	100	100	100	100	100	100
July	0	0	0	0	0	0	0	0	0	0	0	0	0	100
Aug	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Sept	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Oct	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Nov	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Dec	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Annual	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**

Terms and abbreviations are given in Table 4.5.

Table 4.28 Monthly results **Site: Happo** **Country: Japan**

Code: JPA005

Precipitation amount-weighted average concentration/ Precipitation amount

2025	SO_4^{2-} µmol L^{-1}	nss-SO_4^{2-} µmol L^{-1}	NO_3^- µmol L^{-1}	Cl^- µmol L^{-1}	NH_4^+ µmol L^{-1}	Na^+ µmol L^{-1}	K^+ µmol L^{-1}	Ca^{2+} µmol L^{-1}	nss-Ca^{2+} µmol L^{-1}	Mg^{2+} µmol L^{-1}	H^+ µmol L^{-1}	pH	EC mS m^{-1}	Precip. mm $month^{-1}$ or mm $year^{-1}$
Jan	6.50	5.96	10.7	10.6	13.1	9.00	0.700	2.50	2.31	1.30	8.13	5.09	0.810	223
Feb	6.79	5.64	7.45	21.7	10.2	19.0	0.779	2.52	2.11	2.41	5.61	5.25	0.846	165
Mar	5.23	5.09	7.98	2.83	9.60	2.18	0.509	5.15	5.10	1.07	3.50	5.46	0.503	81.5
Apr	9.77	9.36	14.7	6.28	21.9	6.84	0.690	16.7	16.6	2.73	1.11	5.96	0.853	110
May	3.74	3.65	5.54	2.47	4.96	1.36	<0.3	2.53	2.51	0.665	5.13	5.29	0.435	198
June	1.89	1.87	3.33	0.689	3.36	0.352	<0.3	0.303	0.296	<0.3	6.59	5.18	0.371	213
July	9.73	9.66	6.01	1.68	14.1	1.15	<0.3	0.664	0.639	0.397	12.6	4.90	0.839	118
Aug	2.83	2.77	3.57	1.51	3.49	0.936	<0.3	0.361	0.341	<0.3	7.28	5.14	0.424	362
Sept	2.38	2.34	3.53	1.24	1.53	0.735	<0.3	0.445	0.429	<0.3	10.3	4.99	0.478	414
Oct	5.01	4.90	7.45	3.37	8.47	1.88	0.356	1.00	0.964	0.457	10.7	4.97	0.699	206
Nov	*	*	*	*	*	*	*	*	*	*	*	*	*	145
Dec	6.26	5.56	9.42	14.0	10.1	11.6	0.486	2.62	2.37	1.47	9.91	5.00	0.852	270
Annual	4.57	4.30	6.12	5.52	7.01	4.53	0.327	2.24	2.14	0.836	7.77	5.11	0.594	2504
Max.	13.0	12.5	18.5	26.2	30.2	23.1	0.900	25.4	25.2	3.65	17.4	5.98	1.13	
Min.	1.13	1.11	1.82	0.509	1.08	0.345	<0.3	0.296	0.289	<0.3	1.05	4.76	0.307	

Wet deposition amount

2025	SO_4^{2-} mmol m^{-2}	nss-SO_4^{2-} mmol m^{-2}	NO_3^- mmol m^{-2}	Cl^- mmol m^{-2}	NH_4^+ mmol m^{-2}	Na^+ mmol m^{-2}	K^+ mmol m^{-2}	Ca^{2+} mmol m^{-2}	nss-Ca^{2+} mmol m^{-2}	Mg^{2+} mmol m^{-2}	H^+ mmol m^{-2}
Jan	1.45	1.33	2.39	2.36	2.92	2.01	0.156	0.558	0.514	0.290	1.81
Feb	1.12	0.931	1.23	3.57	1.68	3.13	0.128	0.415	0.348	0.397	0.925
Mar	0.426	0.415	0.650	0.230	0.783	0.177	0.0415	0.420	0.416	0.0870	0.286
Apr	1.08	1.03	1.62	0.690	2.41	0.753	0.0759	1.84	1.82	0.301	0.122
May	0.740	0.723	1.10	0.489	0.983	0.269	0.0479	0.502	0.496	0.132	1.02
June	0.402	0.398	0.708	0.146	0.713	0.0748	0.0240	0.0644	0.0628	0.0344	1.40
July	1.15	1.14	0.709	0.198	1.67	0.135	0.0203	0.0783	0.0754	0.0468	1.49
Aug	1.02	1.00	1.29	0.547	1.26	0.339	0.0522	0.131	0.123	0.0919	2.64
Sept	0.986	0.968	1.46	0.512	0.631	0.304	0.0709	0.184	0.178	0.0910	4.27
Oct	1.03	1.01	1.53	0.695	1.74	0.387	0.0734	0.207	0.199	0.0941	2.21
Nov	*	*	*	*	*	*	*	*	*	*	*
Dec	1.69	1.50	2.54	3.79	2.74	3.14	0.131	0.708	0.640	0.397	2.67
Annual	11.5	10.8	15.3	13.8	17.6	11.3	0.819	5.60	5.36	2.09	19.5

Data completeness

2025	SO_4^{2-} %TP	nss-SO_4^{2-} %TP	NO_3^- %TP	Cl^- %TP	NH_4^+ %TP	Na^+ %TP	K^+ %TP	Ca^{2+} %TP	nss-Ca^{2+} %TP	Mg^{2+} %TP	H^+ %TP	pH %TP	EC %TP	Precip. %PCL
Jan	43.3	43.3	43.3	43.3	43.3	43.3	43.3	43.3	43.3	43.3	43.3	43.3	43.3	100
Feb	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Mar	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Apr	100	100	100	100	100	100	100	100	100	100	100	100	100	100
May	88.6	88.6	88.6	88.6	88.6	88.6	88.6	88.6	88.6	88.6	88.6	88.6	88.6	100
June	100	100	100	100	100	100	100	100	100	100	100	100	100	48.3
July	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Aug	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Sept	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Oct	15.8	15.8	15.8	15.8	15.8	15.8	15.8	15.8	15.8	15.8	15.8	15.8	15.8	100
Nov	0	0	0	0	0	0	0	0	0	0	0	0	0	100
Dec	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Annual	**81.4**	**81.4**	**81.4**	**81.4**	**81.4**	**81.4**	**81.4**	**81.4**	**81.4**	**81.4**	**81.4**	**81.4**	**81.4**	**95.9**

Terms and abbreviations are given in Table 4.5.

Table 4.29 Monthly results **Site: Ijira** **Country: Japan**

Code: JPA006

Precipitation amount-weighted average concentration/ Precipitation amount

2025	SO_4^{2-} µmol L^{-1}	nss-SO_4^{2-} µmol L^{-1}	NO_3^- µmol L^{-1}	Cl^- µmol L^{-1}	NH_4^+ µmol L^{-1}	Na^+ µmol L^{-1}	K^+ µmol L^{-1}	Ca^{2+} µmol L^{-1}	nss-Ca^{2+} µmol L^{-1}	Mg^{2+} µmol L^{-1}	H^+ µmol L^{-1}	pH	EC mS m^{-1}	Precip. mm $month^{-1}$ or mm $year^{-1}$
Jan	6.92	5.22	8.74	39.8	8.56	28.2	1.02	2.46	1.85	3.90	9.93	5.00	1.13	164
Feb	*	*	*	*	*	*	*	*	*	*	*	*	*	239
Mar	*	*	*	*	*	*	*	*	*	*	*	*	*	103
Apr	*	*	*	*	*	*	*	*	*	*	*	*	*	227
May	*	*	*	*	*	*	*	*	*	*	*	*	*	306
June	*	*	*	*	*	*	*	*	*	*	*	*	*	463
July	*	*	*	*	*	*	*	*	*	*	*	*	*	485
Aug	*	*	*	*	*	*	*	*	*	*	*	*	*	345
Sept	*	*	*	*	*	*	*	*	*	*	*	*	*	224
Oct	*	*	*	*	*	*	*	*	*	*	*	*	*	215
Nov	*	*	*	*	*	*	*	*	*	*	*	*	*	45.0
Dec	*	*	*	*	*	*	*	*	*	*	*	*	*	145
Annual	6.92	5.22	8.74	39.8	8.56	28.2	1.02	2.46	1.85	3.90	9.93	5.00	1.13	2960
Max.	9.50	8.20	14.9	50.2	14.0	33.6	1.20	3.50	3.04	4.80	14.7	5.22	1.27	
Min.	4.80	2.77	3.70	27.2	4.10	21.5	0.800	1.60	0.874	2.80	6.05	4.83	1.03	

Wet deposition amount

2025	SO_4^{2-} mmol m^{-2}	nss-SO_4^{2-} mmol m^{-2}	NO_3^- mmol m^{-2}	Cl^- mmol m^{-2}	NH_4^+ mmol m^{-2}	Na^+ mmol m^{-2}	K^+ mmol m^{-2}	Ca^{2+} mmol m^{-2}	nss-Ca^{2+} mmol m^{-2}	Mg^{2+} mmol m^{-2}	H^+ mmol m^{-2}
Jan	1.13	0.853	1.43	6.51	1.40	4.60	0.167	0.401	0.302	0.638	1.62
Feb	*	*	*	*	*	*	*	*	*	*	*
Mar	*	*	*	*	*	*	*	*	*	*	*
Apr	*	*	*	*	*	*	*	*	*	*	*
May	*	*	*	*	*	*	*	*	*	*	*
June	*	*	*	*	*	*	*	*	*	*	*
July	*	*	*	*	*	*	*	*	*	*	*
Aug	*	*	*	*	*	*	*	*	*	*	*
Sept	*	*	*	*	*	*	*	*	*	*	*
Oct	*	*	*	*	*	*	*	*	*	*	*
Nov	*	*	*	*	*	*	*	*	*	*	*
Dec	*	*	*	*	*	*	*	*	*	*	*
Annual	20.5	15.4	25.9	118	25.3	83.3	3.02	7.27	5.47	11.5	29.4

Data completeness

2025	SO_4^{2-} %TP	nss-SO_4^{2-} %TP	NO_3^- %TP	Cl^- %TP	NH_4^+ %TP	Na^+ %TP	K^+ %TP	Ca^{2+} %TP	nss-Ca^{2+} %TP	Mg^{2+} %TP	H^+ %TP	pH %TP	EC %TP	Precip. %PCL
Jan	92.4	92.4	92.4	92.4	92.4	92.4	92.4	92.4	92.4	92.4	92.4	92.4	92.4	100
Feb	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Mar	0	0	0	0	0	0	0	0	0	0	0	0	0	100
Apr	0	0	0	0	0	0	0	0	0	0	0	0	0	100
May	0	0	0	0	0	0	0	0	0	0	0	0	0	100
June	0	0	0	0	0	0	0	0	0	0	0	0	0	100
July	0	0	0	0	0	0	0	0	0	0	0	0	0	100
Aug	0	0	0	0	0	0	0	0	0	0	0	0	0	100
Sept	0	0	0	0	0	0	0	0	0	0	0	0	0	100
Oct	0	0	0	0	0	0	0	0	0	0	0	0	0	100
Nov	0	0	0	0	0	0	0	0	0	0	0	0	0	100
Dec	0	0	0	0	0	0	0	0	0	0	0	0	0	100
Annual	**5.1**	**5.1**	**5.1**	**5.1**	**5.1**	**5.1**	**5.1**	**5.1**	**5.1**	**5.1**	**5.1**	**5.1**	**5.1**	**92.5**

Terms and abbreviations are given in Table 4.5.

Table 4.30 Monthly results **Site: Oki** **Country: Japan**

Code: JPA007

Precipitation amount-weighted average concentration/ Precipitation amount

2025	SO_4^{2-} µmol L^{-1}	nss-SO_4^{2-} µmol L^{-1}	NO_3^- µmol L^{-1}	Cl^- µmol L^{-1}	NH_4^+ µmol L^{-1}	Na^+ µmol L^{-1}	K^+ µmol L^{-1}	Ca^{2+} µmol L^{-1}	nss-Ca^{2+} µmol L^{-1}	Mg^{2+} µmol L^{-1}	H^+ µmol L^{-1}	pH	EC mS m^{-1}	Precip. mm $month^{-1}$ or mm $year^{-1}$
Jan	*	*	*	*	*	*	*	*	*	*	*	*	*	88.3
Feb	*	*	*	*	*	*	*	*	*	*	*	*	*	63.9
Mar	*	*	*	*	*	*	*	*	*	*	*	*	*	67.4
Apr	*	*	*	*	*	*	*	*	*	*	*	*	*	86.2
May	*	*	*	*	*	*	*	*	*	*	*	*	*	124
June	*	*	*	*	*	*	*	*	*	*	*	*	*	206
July	*	*	*	*	*	*	*	*	*	*	*	*	*	27.7
Aug	*	*	*	*	*	*	*	*	*	*	*	*	*	153
Sept	*	*	*	*	*	*	*	*	*	*	*	*	*	229
Oct	*	*	*	*	*	*	*	*	*	*	*	*	*	162
Nov	*	*	*	*	*	*	*	*	*	*	*	*	*	55.2
Dec	*	*	*	*	*	*	*	*	*	*	*	*	*	162
Annual	*	*	*	*	*	*	*	*	*	*	*	*	*	1425
Max.	*	*	*	*	*	*	*	*	*	*	*	*	*	
Min.	*	*	*	*	*	*	*	*	*	*	*	*	*	

Wet deposition amount

2025	SO_4^{2-} mmol m^{-2}	nss-SO_4^{2-} mmol m^{-2}	NO_3^- mmol m^{-2}	Cl^- mmol m^{-2}	NH_4^+ mmol m^{-2}	Na^+ mmol m^{-2}	K^+ mmol m^{-2}	Ca^{2+} mmol m^{-2}	nss-Ca^{2+} mmol m^{-2}	Mg^{2+} mmol m^{-2}	H^+ mmol m^{-2}
Jan	*	*	*	*	*	*	*	*	*	*	*
Feb	*	*	*	*	*	*	*	*	*	*	*
Mar	*	*	*	*	*	*	*	*	*	*	*
Apr	*	*	*	*	*	*	*	*	*	*	*
May	*	*	*	*	*	*	*	*	*	*	*
June	*	*	*	*	*	*	*	*	*	*	*
July	*	*	*	*	*	*	*	*	*	*	*
Aug	*	*	*	*	*	*	*	*	*	*	*
Sept	*	*	*	*	*	*	*	*	*	*	*
Oct	*	*	*	*	*	*	*	*	*	*	*
Nov	*	*	*	*	*	*	*	*	*	*	*
Dec	*	*	*	*	*	*	*	*	*	*	*
Annual	*	*	*	*	*	*	*	*	*	*	*

Data completeness

2025	SO_4^{2-} %TP	nss-SO_4^{2-} %TP	NO_3^- %TP	Cl^- %TP	NH_4^+ %TP	Na^+ %TP	K^+ %TP	Ca^{2+} %TP	nss-Ca^{2+} %TP	Mg^{2+} %TP	H^+ %TP	pH %TP	EC %TP	Precip. %PCL
Jan	0	0	0	0	0	0	0	0	0	0	0	0	0	100
Feb	0	0	0	0	0	0	0	0	0	0	0	0	0	100
Mar	0	0	0	0	0	0	0	0	0	0	0	0	0	100
Apr	0	0	0	0	0	0	0	0	0	0	0	0	0	100
May	0	0	0	0	0	0	0	0	0	0	0	0	0	100
June	0	0	0	0	0	0	0	0	0	0	0	0	0	100
July	0	0	0	0	0	0	0	0	0	0	0	0	0	100
Aug	0	0	0	0	0	0	0	0	0	0	0	0	0	100
Sept	0	0	0	0	0	0	0	0	0	0	0	0	0	100
Oct	0	0	0	0	0	0	0	0	0	0	0	0	0	100
Nov	0	0	0	0	0	0	0	0	0	0	0	0	0	100
Dec	0	0	0	0	0	0	0	0	0	0	0	0	0	100
Annual	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**100**

Terms and abbreviations are given in Table 4.5.

Table 4.31 Monthly results **Site: Yusuhara** **Country: Japan**

Code: JPA009

Precipitation amount-weighted average concentration/ Precipitation amount

2025	SO_4^{2-} µmol L^{-1}	nss-SO_4^{2-} µmol L^{-1}	NO_3^- µmol L^{-1}	Cl^- µmol L^{-1}	NH_4^+ µmol L^{-1}	Na^+ µmol L^{-1}	K^+ µmol L^{-1}	Ca^{2+} µmol L^{-1}	nss-Ca^{2+} µmol L^{-1}	Mg^{2+} µmol L^{-1}	H^+ µmol L^{-1}	pH	EC mS m^{-1}	Precip. mm $month^{-1}$ or mm $year^{-1}$
Jan	15.8	11.9	24.4	79.3	20.2	65.7	2.18	4.90	3.48	7.72	17.0	4.77	2.38	98.2
Feb	21.3	17.6	22.4	74.5	19.9	60.4	1.97	4.87	3.56	7.31	29.8	4.53	2.83	110
Mar	11.8	9.84	15.5	40.1	22.5	33.2	2.03	3.20	2.48	4.06	10.4	4.98	1.53	152
Apr	**	**	**	**	**	**	**	**	**	**	**	**	**	**
May	**	**	**	**	**	**	**	**	**	**	**	**	**	**
June	**	**	**	**	**	**	**	**	**	**	**	**	**	**
July	**	**	**	**	**	**	**	**	**	**	**	**	**	**
Aug	**	**	**	**	**	**	**	**	**	**	**	**	**	**
Sept	**	**	**	**	**	**	**	**	**	**	**	**	**	**
Oct	**	**	**	**	**	**	**	**	**	**	**	**	**	**
Nov	**	**	**	**	**	**	**	**	**	**	**	**	**	**
Dec	**	**	**	**	**	**	**	**	**	**	**	**	**	**
Annual	15.8	12.8	20.0	61.3	21.1	50.4	2.05	4.17	3.08	6.05	18.1	4.74	2.16	360
Max.	24.9	23.9	33.6	115	26.9	94.7	2.67	6.92	4.87	11.2	39.1	5.10	3.00	
Min.	9.61	7.19	12.0	24.5	14.3	17.7	1.11	2.32	1.94	2.41	8.04	4.41	1.41	

Wet deposition amount

2025	SO_4^{2-} mmol m^{-2}	nss-SO_4^{2-} mmol m^{-2}	NO_3^- mmol m^{-2}	Cl^- mmol m^{-2}	NH_4^+ mmol m^{-2}	Na^+ mmol m^{-2}	K^+ mmol m^{-2}	Ca^{2+} mmol m^{-2}	nss-Ca^{2+} mmol m^{-2}	Mg^{2+} mmol m^{-2}	H^+ mmol m^{-2}
Jan	1.56	1.17	2.40	7.78	1.98	6.46	0.214	0.481	0.341	0.758	1.67
Feb	2.34	1.94	2.46	8.20	2.19	6.64	0.217	0.536	0.392	0.804	3.28
Mar	1.80	1.50	2.35	6.09	3.43	5.04	0.309	0.486	0.378	0.617	1.58
Apr	**	**	**	**	**	**	**	**	**	**	**
May	**	**	**	**	**	**	**	**	**	**	**
June	**	**	**	**	**	**	**	**	**	**	**
July	**	**	**	**	**	**	**	**	**	**	**
Aug	**	**	**	**	**	**	**	**	**	**	**
Sept	**	**	**	**	**	**	**	**	**	**	**
Oct	**	**	**	**	**	**	**	**	**	**	**
Nov	**	**	**	**	**	**	**	**	**	**	**
Dec	**	**	**	**	**	**	**	**	**	**	**
Annual	5.70	4.60	7.21	22.1	7.60	18.1	0.740	1.50	1.11	2.18	6.53

Data completeness

2025	SO_4^{2-} %TP	nss-SO_4^{2-} %TP	NO_3^- %TP	Cl^- %TP	NH_4^+ %TP	Na^+ %TP	K^+ %TP	Ca^{2+} %TP	nss-Ca^{2+} %TP	Mg^{2+} %TP	H^+ %TP	pH %TP	EC %TP	Precip. %PCL
Jan	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Feb	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Mar	100	100	100	100	100	100	100	100	100	100	100	100	100	96.6
Apr	**	**	**	**	**	**	**	**	**	**	**	**	**	0
May	**	**	**	**	**	**	**	**	**	**	**	**	**	0
June	**	**	**	**	**	**	**	**	**	**	**	**	**	0
July	**	**	**	**	**	**	**	**	**	**	**	**	**	0
Aug	**	**	**	**	**	**	**	**	**	**	**	**	**	0
Sept	**	**	**	**	**	**	**	**	**	**	**	**	**	0
Oct	**	**	**	**	**	**	**	**	**	**	**	**	**	0
Nov	**	**	**	**	**	**	**	**	**	**	**	**	**	0
Dec	**	**	**	**	**	**	**	**	**	**	**	**	**	0
Annual	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**25.4**

Terms and abbreviations are given in Table 4.5.

Table 4.32 Monthly results **Site: Hedo** **Country: Japan**

Code: JPA010

Precipitation amount-weighted average concentration/ Precipitation amount

2025	SO_4^{2-} µmol L^{-1}	nss-SO_4^{2-} µmol L^{-1}	NO_3^- µmol L^{-1}	Cl^- µmol L^{-1}	NH_4^+ µmol L^{-1}	Na^+ µmol L^{-1}	K^+ µmol L^{-1}	Ca^{2+} µmol L^{-1}	nss-Ca^{2+} µmol L^{-1}	Mg^{2+} µmol L^{-1}	H^+ µmol L^{-1}	pH	EC mS m^{-1}	Precip.* mm $month^{-1}$ or mm $year^{-1}$
Jan	*	*	*	*	*	*	*	*	*	*	*	*	*	220
Feb	*	*	*	*	*	*	*	*	*	*	*	*	*	90.5
Mar	*	*	*	*	*	*	*	*	*	*	*	*	*	120
Apr	*	*	*	*	*	*	*	*	*	*	*	*	*	222
May	*	*	*	*	*	*	*	*	*	*	*	*	*	74.0
June	*	*	*	*	*	*	*	*	*	*	*	*	*	178
July	*	*	*	*	*	*	*	*	*	*	*	*	*	440
Aug	*	*	*	*	*	*	*	*	*	*	*	*	*	126
Sept	*	*	*	*	*	*	*	*	*	*	*	*	*	37.5
Oct	*	*	*	*	*	*	*	*	*	*	*	*	*	117
Nov	*	*	*	*	*	*	*	*	*	*	*	*	*	444
Dec	*	*	*	*	*	*	*	*	*	*	*	*	*	166
Annual	*	*	*	*	*	*	*	*	*	*	*	*	*	2234
Max.	*	*	*	*	*	*	*	*	*	*	*	*	*	
Min.	*	*	*	*	*	*	*	*	*	*	*	*	*	

Wet deposition amount

2025	SO_4^{2-} mmol m^{-2}	nss-SO_4^{2-} mmol m^{-2}	NO_3^- mmol m^{-2}	Cl^- mmol m^{-2}	NH_4^+ mmol m^{-2}	Na^+ mmol m^{-2}	K^+ mmol m^{-2}	Ca^{2+} mmol m^{-2}	nss-Ca^{2+} mmol m^{-2}	Mg^{2+} mmol m^{-2}	H^+ mmol m^{-2}
Jan	*	*	*	*	*	*	*	*	*	*	*
Feb	*	*	*	*	*	*	*	*	*	*	*
Mar	*	*	*	*	*	*	*	*	*	*	*
Apr	*	*	*	*	*	*	*	*	*	*	*
May	*	*	*	*	*	*	*	*	*	*	*
June	*	*	*	*	*	*	*	*	*	*	*
July	*	*	*	*	*	*	*	*	*	*	*
Aug	*	*	*	*	*	*	*	*	*	*	*
Sept	*	*	*	*	*	*	*	*	*	*	*
Oct	*	*	*	*	*	*	*	*	*	*	*
Nov	*	*	*	*	*	*	*	*	*	*	*
Dec	*	*	*	*	*	*	*	*	*	*	*
Annual	*	*	*	*	*	*	*	*	*	*	*

Data completeness

2025	SO_4^{2-} %TP	nss-SO_4^{2-} %TP	NO_3^- %TP	Cl^- %TP	NH_4^+ %TP	Na^+ %TP	K^+ %TP	Ca^{2+} %TP	nss-Ca^{2+} %TP	Mg^{2+} %TP	H^+ %TP	pH %TP	EC %TP	Precip. %PCL
Jan	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Feb	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Mar	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Apr	0	0	0	0	0	0	0	0	0	0	0	0	0	0
May	0	0	0	0	0	0	0	0	0	0	0	0	0	0
June	0	0	0	0	0	0	0	0	0	0	0	0	0	0
July	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Aug	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Sept	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Oct	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Nov	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Dec	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Annual	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**

Terms and abbreviations are given in Table 4.5.

*Due to the lack of original precipitation data, those of the nearest meteorological station are alternatively put for the reference.

Table 4.33 Monthly results **Site: Ogasawara** **Country: Japan**

Code: JPA011

Precipitation amount-weighted average concentration/ Precipitation amount

2025	SO_4^{2-} µmol L^{-1}	nss-SO_4^{2-} µmol L^{-1}	NO_3^- µmol L^{-1}	Cl^- µmol L^{-1}	NH_4^+ µmol L^{-1}	Na^+ µmol L^{-1}	K^+ µmol L^{-1}	Ca^{2+} µmol L^{-1}	nss-Ca^{2+} µmol L^{-1}	Mg^{2+} µmol L^{-1}	H^+ µmol L^{-1}	pH	EC mS m^{-1}	Precip. mm $month^{-1}$ or mm $year^{-1}$
Jan	5.27	1.23	2.48	76.2	<0.8	66.9	1.51	2.10	0.652	7.46	5.34	5.27	1.41	141
Feb	41.3	12.8	10.7	560	9.14	472	11.0	14.9	4.73	53.8	16.5	4.78	8.64	23.5
Mar	7.32	3.96	6.06	66.6	5.47	55.7	1.32	2.09	0.885	6.45	8.98	5.05	1.45	36.0
Apr	8.22	4.88	6.19	64.7	7.20	55.4	1.59	3.71	2.51	6.73	5.19	5.29	1.34	285
May	2.98	0.788	3.33	40.9	0.879	36.4	0.924	1.25	0.466	4.45	6.22	5.21	0.894	70.5
June	4.40	2.65	1.86	32.2	0.948	29.1	0.956	1.34	0.712	3.47	7.59	5.12	0.858	203
July	9.29	1.23	<0.5	159	<0.8	134	3.50	3.62	0.727	14.9	4.07	5.39	2.31	229
Aug	2.26	1.25	1.29	17.6	1.26	16.7	0.716	0.906	0.546	2.00	4.56	5.34	0.539	40.0
Sept	4.64	2.55	3.76	40.7	1.21	34.7	0.859	1.84	1.09	3.95	8.84	5.05	1.04	27.0
Oct	9.22	0.938	1.25	167	<0.8	137	4.36	3.99	1.02	15.8	4.79	5.32	2.60	87.0
Nov	6.00	1.03	1.61	97.3	<0.8	82.5	1.81	2.36	0.574	9.20	5.29	5.28	1.66	311
Dec	5.62	0.855	1.95	93.3	<0.8	79.1	1.86	2.28	0.574	9.59	5.84	5.23	1.59	269
Annual	6.94	2.11	2.63	94.2	1.90	80.1	2.05	2.76	1.03	9.22	5.75	5.24	1.64	1722
Max.	50.8	15.8	17.8	696	16.8	580	13.3	16.2	5.99	66.3	24.5	5.42	10.8	
Min.	1.90	0.418	<0.5	11.5	<0.8	11.4	0.400	0.700	0.384	1.50	3.80	4.61	0.450	

Wet deposition amount

2025	SO_4^{2-} mmol m^{-2}	nss-SO_4^{2-} mmol m^{-2}	NO_3^- mmol m^{-2}	Cl^- mmol m^{-2}	NH_4^+ mmol m^{-2}	Na^+ mmol m^{-2}	K^+ mmol m^{-2}	Ca^{2+} mmol m^{-2}	nss-Ca^{2+} mmol m^{-2}	Mg^{2+} mmol m^{-2}	H^+ mmol m^{-2}
Jan	0.743	0.174	0.349	10.7	0.0735	9.43	0.213	0.296	0.0919	1.05	0.754
Feb	0.970	0.302	0.250	13.2	0.215	11.1	0.259	0.351	0.111	1.26	0.389
Mar	0.263	0.142	0.218	2.40	0.197	2.01	0.0476	0.0752	0.0319	0.232	0.323
Apr	2.35	1.39	1.77	18.5	2.06	15.8	0.453	1.06	0.718	1.92	1.48
May	0.210	0.0556	0.235	2.89	0.0620	2.57	0.0652	0.0884	0.0328	0.314	0.439
June	0.893	0.538	0.378	6.55	0.192	5.90	0.194	0.272	0.145	0.705	1.54
July	2.13	0.281	0.0503	36.4	0.0458	30.6	0.801	0.828	0.166	3.40	0.932
Aug	0.0903	0.0501	0.0515	0.703	0.0505	0.667	0.0287	0.0363	0.0218	0.0798	0.182
Sept	0.125	0.0689	0.102	1.10	0.0326	0.936	0.0232	0.0497	0.0294	0.107	0.239
Oct	0.802	0.0816	0.108	14.5	0.0237	12.0	0.379	0.347	0.0889	1.37	0.416
Nov	1.86	0.319	0.501	30.2	0.217	25.6	0.561	0.732	0.178	2.86	1.64
Dec	1.51	0.230	0.524	25.1	0.107	21.3	0.500	0.614	0.154	2.58	1.57
Annual	11.9	3.63	4.54	162	3.27	138	3.52	4.75	1.77	15.9	9.91

Data completeness

2025	SO_4^{2-} %TP	nss-SO_4^{2-} %TP	NO_3^- %TP	Cl^- %TP	NH_4^+ %TP	Na^+ %TP	K^+ %TP	Ca^{2+} %TP	nss-Ca^{2+} %TP	Mg^{2+} %TP	H^+ %TP	pH %TP	EC %TP	Precip. %PCL
Jan	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Feb	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Mar	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Apr	100	100	100	100	100	100	100	100	100	100	100	100	100	100
May	100	100	100	100	100	100	100	100	100	100	100	100	100	100
June	100	100	100	100	100	100	100	100	100	100	100	100	100	100
July	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Aug	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Sept	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Oct	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Nov	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Dec	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Annual	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**

Terms and abbreviations are given in Table 4.5.

Table 4.34 Monthly results **Site: Tokyo** **Country: Japan**

Code: JPA012

Precipitation amount-weighted average concentration/ Precipitation amount

2025	SO_4^{2-} µmol L^{-1}	nss-SO_4^{2-} µmol L^{-1}	NO_3^- µmol L^{-1}	Cl^- µmol L^{-1}	NH_4^+ µmol L^{-1}	Na^+ µmol L^{-1}	K^+ µmol L^{-1}	Ca^{2+} µmol L^{-1}	nss-Ca^{2+} µmol L^{-1}	Mg^{2+} µmol L^{-1}	H^+ µmol L^{-1}	pH	EC mS m^{-1}	Precip. mm $month^{-1}$ or mm $year^{-1}$
Jan	8.24	7.54	20.2	14.1	23.3	11.7	0.607	4.43	4.17	1.81	8.62	5.06	1.05	27.5
Feb	11.5	11.0	22.0	9.70	33.9	7.70	0.700	3.20	3.03	1.40	12.9	4.89	1.26	28.5
Mar	9.46	8.50	15.5	19.2	24.1	15.9	0.589	4.37	4.03	2.08	6.28	5.20	1.01	112
Apr	11.3	10.1	14.2	23.3	20.4	20.5	0.728	7.47	7.03	4.13	3.84	5.42	1.05	124
May	6.65	5.66	8.39	18.8	12.5	16.3	0.478	2.47	2.12	2.52	7.48	5.13	0.853	154
June	10.2	9.52	17.8	12.7	26.1	10.9	0.431	3.10	2.87	2.02	9.15	5.04	1.05	124
July	7.87	6.04	5.95	35.8	16.1	30.4	0.721	3.13	2.48	4.32	3.77	5.42	0.948	80.0
Aug	8.60	7.29	15.4	24.4	10.2	21.7	0.600	4.70	4.23	3.60	12.6	4.90	1.29	33.6
Sept	4.13	3.63	9.37	9.21	11.0	8.33	<0.3	2.25	2.07	1.53	6.68	5.17	0.678	179
Oct	16.0	13.0	31.6	61.9	37.7	49.3	1.40	8.32	7.25	6.90	9.07	5.04	2.04	57.5
Nov	5.06	4.01	9.27	19.8	13.5	17.5	0.611	2.24	1.87	3.13	5.75	5.24	0.790	44.5
Dec	6.90	5.89	13.7	19.8	22.0	16.8	0.500	3.00	2.64	2.50	6.76	5.17	1.00	38.6
Annual	8.37	7.31	13.6	20.7	19.1	17.6	0.577	3.90	3.52	2.84	7.01	5.15	0.998	1002
Max.	63.3	62.3	68.2	64.1	62.8	51.3	1.60	23.7	23.3	7.40	15.8	5.78	2.31	
Min.	1.70	1.43	2.90	3.50	10.2	2.80	<0.3	1.20	1.10	0.900	1.66	4.80	0.360	

Wet deposition amount

2025	SO_4^{2-} mmol m^{-2}	nss-SO_4^{2-} mmol m^{-2}	NO_3^- mmol m^{-2}	Cl^- mmol m^{-2}	NH_4^+ mmol m^{-2}	Na^+ mmol m^{-2}	K^+ mmol m^{-2}	Ca^{2+} mmol m^{-2}	nss-Ca^{2+} mmol m^{-2}	Mg^{2+} mmol m^{-2}	H^+ mmol m^{-2}
Jan	0.227	0.207	0.556	0.389	0.640	0.322	0.0167	0.122	0.115	0.0498	0.237
Feb	0.328	0.315	0.627	0.276	0.966	0.219	0.0200	0.0912	0.0865	0.0399	0.367
Mar	1.06	0.948	1.73	2.14	2.69	1.78	0.0657	0.488	0.449	0.232	0.700
Apr	1.40	1.25	1.75	2.87	2.52	2.53	0.0899	0.923	0.868	0.509	0.475
May	1.02	0.869	1.29	2.88	1.92	2.50	0.0733	0.379	0.325	0.387	1.15
June	1.26	1.18	2.21	1.57	3.24	1.36	0.0535	0.385	0.355	0.250	1.14
July	0.630	0.483	0.476	2.87	1.29	2.43	0.0577	0.251	0.198	0.346	0.301
Aug	0.289	0.245	0.517	0.820	0.343	0.729	0.0202	0.158	0.142	0.121	0.423
Sept	0.739	0.649	1.68	1.65	1.97	1.49	0.0528	0.402	0.370	0.274	1.20
Oct	0.921	0.750	1.82	3.56	2.17	2.84	0.0805	0.478	0.417	0.397	0.522
Nov	0.225	0.178	0.413	0.882	0.603	0.779	0.0272	0.0999	0.0830	0.140	0.256
Dec	0.267	0.227	0.529	0.765	0.850	0.649	0.0193	0.116	0.102	0.0966	0.261
Annual	8.39	7.33	13.6	20.7	19.2	17.6	0.578	3.91	3.53	2.85	7.03

Data completeness

2025	SO_4^{2-} %TP	nss-SO_4^{2-} %TP	NO_3^- %TP	Cl^- %TP	NH_4^+ %TP	Na^+ %TP	K^+ %TP	Ca^{2+} %TP	nss-Ca^{2+} %TP	Mg^{2+} %TP	H^+ %TP	pH %TP	EC %TP	Precip. %PCL
Jan	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Feb	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Mar	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Apr	100	100	100	100	100	100	100	100	100	100	100	100	100	100
May	100	100	100	100	100	100	100	100	100	100	100	100	100	100
June	100	100	100	100	100	100	100	100	100	100	100	100	100	100
July	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Aug	99.7	99.7	99.7	99.7	99.7	99.7	99.7	99.7	99.7	99.7	99.7	99.7	99.7	100
Sept	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Oct	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Nov	100	100	100	100	100	100	100	100	100	100	98.9	98.9	98.9	100
Dec	54.4	54.4	54.4	54.4	54.4	54.4	54.4	54.4	54.4	54.4	54.4	54.4	54.4	100
Annual	**98.2**	**98.2**	**98.2**	**98.2**	**98.2**	**98.2**	**98.2**	**98.2**	**98.2**	**98.2**	**98.2**	**98.2**	**98.2**	**100**

Terms and abbreviations are given in Table 4.5.

Table 4.35 Monthly results **Site: Tsushima** **Country: Japan**

Code: JPA014

Precipitation amount-weighted average concentration/ Precipitation amount

2025	SO_4^{2-} µmol L^{-1}	nss-SO_4^{2-} µmol L^{-1}	NO_3^- µmol L^{-1}	Cl^- µmol L^{-1}	NH_4^+ µmol L^{-1}	Na^+ µmol L^{-1}	K^+ µmol L^{-1}	Ca^{2+} µmol L^{-1}	nss-Ca^{2+} µmol L^{-1}	Mg^{2+} µmol L^{-1}	H^+ µmol L^{-1}	pH	EC mS m^{-1}	Precip. mm $month^{-1}$ or mm $year^{-1}$
Jan	23.2	14.8	14.7	161	18.1	140	5.20	8.70	5.68	16.9	10.2	4.99	3.32	26.0
Feb	14.2	10.6	17.0	68.3	23.9	59.9	2.36	4.25	2.96	6.67	12.2	4.91	2.08	74.5
Mar	22.3	15.7	31.1	124	40.3	109	4.94	13.7	11.4	13.8	3.56	5.45	2.92	46.5
Apr	19.4	15.9	19.9	70.3	31.0	59.0	4.25	11.6	10.3	7.45	6.63	5.18	2.11	93.5
May	15.2	14.5	10.9	15.9	14.9	11.3	0.859	3.76	3.51	1.76	17.9	4.75	1.42	203
June	4.86	4.53	6.57	7.34	4.59	5.49	0.402	0.413	0.295	0.604	8.99	5.05	0.636	281
July	8.51	7.15	6.75	27.4	6.06	22.5	0.560	0.787	0.300	2.24	12.7	4.90	1.13	127
Aug	4.20	3.10	10.5	21.2	5.80	18.3	0.600	0.700	0.305	1.90	6.17	5.21	0.890	461
Sept	*	*	*	*	*	*	*	*	*	*	*	*	*	450
Oct	12.6	11.8	12.4	16.2	14.7	12.7	0.500	1.00	0.726	1.30	20.2	4.70	1.42	201
Nov	23.8	21.2	21.0	48.9	21.5	42.7	1.50	2.50	1.58	4.50	31.7	4.50	2.69	24.5
Dec	19.2	15.8	19.9	69.1	12.4	56.7	3.80	9.44	8.21	7.52	15.8	4.80	2.27	89.0
Annual	12.5	10.7	12.5	35.1	14.1	29.2	1.51	3.69	3.06	3.53	13.3	4.87	1.47	2075
Max.	38.3	35.2	76.3	225	101	197	7.40	25.3	24.2	23.5	31.7	5.49	4.37	
Min.	2.90	2.80	5.70	2.90	3.70	1.70	<0.3	0.200	<0.2	<0.3	3.24	4.50	0.430	

Wet deposition amount

2025	SO_4^{2-} mmol m^{-2}	nss-SO_4^{2-} mmol m^{-2}	NO_3^- mmol m^{-2}	Cl^- mmol m^{-2}	NH_4^+ mmol m^{-2}	Na^+ mmol m^{-2}	K^+ mmol m^{-2}	Ca^{2+} mmol m^{-2}	nss-Ca^{2+} mmol m^{-2}	Mg^{2+} mmol m^{-2}	H^+ mmol m^{-2}
Jan	0.603	0.384	0.382	4.20	0.471	3.63	0.135	0.226	0.148	0.439	0.265
Feb	1.06	0.787	1.27	5.09	1.78	4.46	0.176	0.317	0.220	0.497	0.908
Mar	1.04	0.731	1.45	5.78	1.88	5.05	0.230	0.639	0.530	0.640	0.165
Apr	1.82	1.48	1.86	6.57	2.90	5.52	0.397	1.09	0.967	0.697	0.620
May	3.08	2.94	2.22	3.22	3.03	2.30	0.174	0.761	0.711	0.356	3.62
June	1.36	1.27	1.84	2.06	1.29	1.54	0.113	0.116	0.0827	0.170	2.52
July	1.08	0.904	0.854	3.46	0.767	2.85	0.0709	0.0996	0.0380	0.284	1.61
Aug	1.93	1.43	4.84	9.77	2.67	8.43	0.276	0.322	0.140	0.875	2.84
Sept	*	*	*	*	*	*	*	*	*	*	*
Oct	2.53	2.38	2.49	3.26	2.96	2.55	0.101	0.201	0.146	0.261	4.06
Nov	0.583	0.520	0.515	1.20	0.527	1.05	0.0368	0.0613	0.0386	0.110	0.777
Dec	1.71	1.41	1.77	6.15	1.10	5.04	0.338	0.840	0.731	0.669	1.40
Annual	25.9	22.3	26.0	72.9	29.2	60.5	3.14	7.66	6.35	7.33	27.7

Data completeness

2025	SO_4^{2-} %TP	nss-SO_4^{2-} %TP	NO_3^- %TP	Cl^- %TP	NH_4^+ %TP	Na^+ %TP	K^+ %TP	Ca^{2+} %TP	nss-Ca^{2+} %TP	Mg^{2+} %TP	H^+ %TP	pH %TP	EC %TP	Precip. %PCL
Jan	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Feb	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Mar	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Apr	100	100	100	100	100	100	100	100	100	100	100	100	100	100
May	100	100	100	100	100	100	100	100	100	100	100	100	100	100
June	100	100	100	100	100	100	100	100	100	100	100	100	100	100
July	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Aug	7.9	7.9	7.9	7.9	7.9	7.9	7.9	7.9	7.9	7.9	7.9	7.9	7.9	50.0
Sept	0	0	0	0	0	0	0	0	0	0	0	0	0	46.4
Oct	89.2	89.2	89.2	89.2	89.2	89.2	89.2	89.2	89.2	89.2	89.2	89.2	89.2	100
Nov	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Dec	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Annual	**56.8**	**56.8**	**56.8**	**56.8**	**56.8**	**56.8**	**56.8**	**56.8**	**56.8**	**56.8**	**56.8**	**56.8**	**56.8**	**92.0**

Terms and abbreviations are given in Table 4.5.

Table 4.36 Monthly results **Site: Vientiane** **Country: Lao PDR**

Code: LAA001

Precipitation amount-weighted average concentration/ Precipitation amount

2025	SO_4^{2-} µmol L^{-1}	nss-SO_4^{2-} µmol L^{-1}	NO_3^- µmol L^{-1}	Cl^- µmol L^{-1}	NH_4^+ µmol L^{-1}	Na^+ µmol L^{-1}	K^+ µmol L^{-1}	Ca^{2+} µmol L^{-1}	nss-Ca^{2+} µmol L^{-1}	Mg^{2+} µmol L^{-1}	H^+ µmol L^{-1}	pH	EC mS m^{-1}	Precip. mm $month^{-1}$ or mm $year^{-1}$
Jan	--	--	--	--	--	--	--	--	--	--	--	--	--	0
Feb	--	--	--	--	--	--	--	--	--	--	--	--	--	0
Mar	--	--	--	--	--	--	--	--	--	--	--	--	--	0
Apr	21.6	*	<0.5	11.5	*	*	*	*	*	*	0.0254	7.60	12.7	192
May	5.61	*	5.09	5.13	*	*	*	*	*	*	1.32	5.88	4.59	387
June	6.82	*	27.7	8.25	*	*	*	*	*	*	0.781	6.11	6.60	422
July	2.90	*	8.61	8.45	*	*	*	*	*	*	0.832	6.08	3.41	660
Aug	*	*	*	*	*	*	*	*	*	*	3.35	5.47	4.79	460
Sept	*	*	*	*	*	*	*	*	*	*	1.01	5.99	4.37	602
Oct	*	*	*	*	*	*	*	*	*	*	0.701	6.15	6.40	115
Nov	--	--	--	--	--	--	--	--	--	--	--	--	--	0
Dec	--	--	--	--	--	--	--	--	--	--	--	--	--	0
Annual	8.52	*	13.1	7.75	*	*	*	*	*	*	1.28	5.89	5.22	2836
Max.	33.8	*	41.8	47.1	*	*	*	*	*	*	6.82	7.60	17.1	
Min.	<0.3	*	<0.5	3.05	*	*	*	*	*	*	0.0254	5.17	1.90	

Wet deposition amount

2025	SO_4^{2-} mmol m^{-2}	nss-SO_4^{2-} mmol m^{-2}	NO_3^- mmol m^{-2}	Cl^- mmol m^{-2}	NH_4^+ mmol m^{-2}	Na^+ mmol m^{-2}	K^+ mmol m^{-2}	Ca^{2+} mmol m^{-2}	nss-Ca^{2+} mmol m^{-2}	Mg^{2+} mmol m^{-2}	H^+ mmol m^{-2}
Jan	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Feb	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Mar	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Apr	4.14	*	<0.01	2.21	*	*	*	*	*	*	<0.01
May	2.17	*	1.97	1.98	*	*	*	*	*	*	0.510
June	2.87	*	11.7	3.48	*	*	*	*	*	*	0.329
July	1.91	*	5.68	5.58	*	*	*	*	*	*	0.549
Aug	*	*	*	*	*	*	*	*	*	*	1.54
Sept	*	*	*	*	*	*	*	*	*	*	0.610
Oct	*	*	*	*	*	*	*	*	*	*	0.0808
Nov	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Dec	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Annual	24.2	*	37.2	22.0	*	*	*	*	*	*	3.62

Data completeness

2025	SO_4^{2-} %TP	nss-SO_4^{2-} %TP	NO_3^- %TP	Cl^- %TP	NH_4^+ %TP	Na^+ %TP	K^+ %TP	Ca^{2+} %TP	nss-Ca^{2+} %TP	Mg^{2+} %TP	H^+ %TP	pH %TP	EC %TP	Precip. %PCL
Jan	--	--	--	--	--	--	--	--	--	--	--	--	--	100
Feb	--	--	--	--	--	--	--	--	--	--	--	--	--	100
Mar	--	--	--	--	--	--	--	--	--	--	--	--	--	100
Apr	100	0	100	100	0	0	0	0	0	0	100	100	100	100
May	100	0	100	100	0	0	0	0	0	0	100	100	100	100
June	100	0	100	100	0	0	0	0	0	0	100	100	100	100
July	17.9	0	17.9	17.9	0	0	0	0	0	0	100	100	100	100
Aug	0	0	0	0	0	0	0	0	0	0	100	100	100	100
Sept	0	0	0	0	0	0	0	0	0	0	100	100	100	100
Oct	0	0	0	0	0	0	0	0	0	0	100	100	100	100
Nov	--	--	--	--	--	--	--	--	--	--	--	--	--	100
Dec	--	--	--	--	--	--	--	--	--	--	--	--	--	100
Annual	**39.4**	**0**	**39.4**	**39.4**	**0**	**0**	**0**	**0**	**0**	**0**	**100**	**100**	**100**	**100**

Terms and abbreviations are given in Table 4.5.

Table 4.37 Monthly results **Site: Petaling Jaya** **Country: Malaysia**

Code: MYA001

Precipitation amount-weighted average concentration/ Precipitation amount

2025	SO_4^{2-} µmol L^{-1}	nss-SO_4^{2-} µmol L^{-1}	NO_3^- µmol L^{-1}	Cl^- µmol L^{-1}	NH_4^+ µmol L^{-1}	Na^+ µmol L^{-1}	K^+ µmol L^{-1}	Ca^{2+} µmol L^{-1}	nss-Ca^{2+} µmol L^{-1}	Mg^{2+} µmol L^{-1}	H^+ µmol L^{-1}	pH	EC mS m^{-1}	Precip. mm $month^{-1}$ or mm $year^{-1}$
Jan	5.37	5.19	28.3	6.07	17.6	2.91	0.940	2.20	2.14	0.375	18.1	4.74	1.12	234
Feb	14.8	14.1	47.0	11.3	29.7	10.5	4.05	5.03	4.80	0.857	25.6	4.59	2.10	279
Mar	11.6	11.3	24.5	7.39	26.3	5.23	1.31	1.96	1.85	0.480	19.7	4.71	1.38	222
Apr	4.47	4.29	19.9	3.08	16.7	3.00	1.72	1.52	1.45	<0.3	12.3	4.91	0.963	532
May	29.3	28.9	63.0	15.1	36.7	5.64	3.63	6.77	6.64	0.957	55.6	4.26	3.76	103
June	17.6	17.3	36.3	8.46	23.1	4.93	1.89	4.83	4.72	0.628	32.0	4.49	2.37	170
July	15.2	14.8	37.0	18.8	34.7	6.09	1.62	5.29	5.15	0.779	23.9	4.62	2.20	71.2
Aug	20.9	20.5	38.1	11.9	25.9	6.61	1.77	6.95	6.80	1.00	32.7	4.49	2.49	169
Sept	15.1	14.7	34.7	10.4	22.6	7.46	1.71	4.15	3.99	0.670	30.7	4.51	2.13	193
Oct	14.1	13.8	28.4	6.66	20.9	4.86	1.64	3.45	3.35	0.333	28.1	4.55	1.90	266
Nov	7.22	6.63	11.4	11.2	9.78	9.79	1.28	1.67	1.46	0.519	15.3	4.82	0.957	534
Dec	21.5	21.3	49.0	10.8	24.7	2.88	0.727	4.28	4.22	0.589	52.7	4.28	3.18	257
Annual	12.0	11.6	29.4	8.71	20.6	5.94	1.73	3.22	3.09	0.500	24.6	4.61	1.71	3031
Max.	41.2	40.9	85.3	21.0	57.3	26.1	10.2	10.8	10.5	2.15	89.1	5.81	5.25	
Min.	0.990	0.837	3.44	1.03	6.49	<0.3	<0.3	0.600	0.531	<0.3	1.55	4.05	0.230	

Wet deposition amount

2025	SO_4^{2-} mmol m^{-2}	nss-SO_4^{2-} mmol m^{-2}	NO_3^- mmol m^{-2}	Cl^- mmol m^{-2}	NH_4^+ mmol m^{-2}	Na^+ mmol m^{-2}	K^+ mmol m^{-2}	Ca^{2+} mmol m^{-2}	nss-Ca^{2+} mmol m^{-2}	Mg^{2+} mmol m^{-2}	H^+ mmol m^{-2}
Jan	1.26	1.21	6.62	1.42	4.12	0.680	0.220	0.515	0.501	0.0876	4.23
Feb	4.12	3.94	13.1	3.15	8.28	2.92	1.13	1.40	1.34	0.239	7.15
Mar	2.58	2.51	5.43	1.64	5.85	1.16	0.291	0.435	0.410	0.107	4.37
Apr	2.38	2.29	10.6	1.64	8.88	1.60	0.918	0.807	0.772	0.0325	6.56
May	3.03	2.99	6.52	1.56	3.80	0.584	0.375	0.700	0.687	0.0989	5.75
June	3.00	2.95	6.19	1.44	3.94	0.840	0.321	0.823	0.805	0.107	5.46
July	1.08	1.06	2.63	1.34	2.47	0.434	0.116	0.376	0.367	0.0555	1.70
Aug	3.54	3.47	6.46	2.01	4.38	1.12	0.300	1.18	1.15	0.170	5.54
Sept	2.92	2.83	6.69	2.00	4.36	1.44	0.329	0.801	0.769	0.129	5.92
Oct	3.74	3.66	7.54	1.77	5.55	1.29	0.435	0.918	0.890	0.0885	7.45
Nov	3.85	3.54	6.08	5.97	5.23	5.23	0.685	0.894	0.781	0.277	8.16
Dec	5.51	5.47	12.6	2.78	6.33	0.738	0.186	1.10	1.08	0.151	13.5
Annual	36.2	35.2	89.2	26.4	62.5	18.0	5.24	9.77	9.38	1.52	74.6

Data completeness

2025	SO_4^{2-} %TP	nss-SO_4^{2-} %TP	NO_3^- %TP	Cl^- %TP	NH_4^+ %TP	Na^+ %TP	K^+ %TP	Ca^{2+} %TP	nss-Ca^{2+} %TP	Mg^{2+} %TP	H^+ %TP	pH %TP	EC %TP	Precip. %PCL
Jan	98.8	98.8	98.8	98.8	98.8	98.8	98.8	98.8	98.8	98.8	98.8	98.8	98.8	100
Feb	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Mar	96.3	96.3	96.3	96.3	96.3	96.3	96.3	96.3	96.3	96.3	96.3	96.3	96.3	100
Apr	100	100	100	100	100	100	100	100	100	100	100	100	100	100
May	64.0	64.0	64.0	64.0	64.0	64.0	64.0	64.0	64.0	64.0	64.0	64.0	64.0	100
June	100	100	100	100	100	100	100	100	100	100	100	100	100	100
July	97.2	97.2	97.2	97.2	97.2	97.2	97.2	97.2	97.2	97.2	97.2	97.2	97.2	100
Aug	90.9	90.9	90.9	90.9	90.9	90.9	90.9	90.9	90.9	90.9	90.9	90.9	90.9	100
Sept	93.9	93.9	93.9	93.9	93.9	93.9	93.9	93.9	93.9	93.9	93.9	93.9	93.9	100
Oct	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Nov	98.5	98.5	98.5	98.5	98.5	98.5	98.5	98.5	98.5	98.5	98.5	98.5	98.5	100
Dec	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Annual	**97.2**	**97.2**	**97.2**	**97.2**	**97.2**	**97.2**	**97.2**	**97.2**	**97.2**	**97.2**	**97.2**	**97.2**	**97.2**	**100**

Terms and abbreviations are given in Table 4.5.

Table 4.38 Monthly results **Site: Tanah Rata** **Country: Malaysia**

Code: MYA002

Precipitation amount-weighted average concentration/ Precipitation amount

2025	SO_4^{2-} µmol L^{-1}	nss-SO_4^{2-} µmol L^{-1}	NO_3^- µmol L^{-1}	Cl^- µmol L^{-1}	NH_4^+ µmol L^{-1}	Na^+ µmol L^{-1}	K^+ µmol L^{-1}	Ca^{2+} µmol L^{-1}	nss-Ca^{2+} µmol L^{-1}	Mg^{2+} µmol L^{-1}	H^+ µmol L^{-1}	pH	EC mS m^{-1}	Precip. mm $month^{-1}$ or mm $year^{-1}$
Jan	2.50	2.24	3.31	5.74	8.95	4.34	2.25	0.531	0.438	0.540	2.54	5.60	0.368	307
Feb	6.93	6.53	10.8	5.86	11.7	6.69	3.71	2.65	2.51	0.368	10.2	4.99	0.700	242
Mar	7.61	7.24	11.8	7.17	13.0	6.09	5.51	5.99	5.86	0.685	7.34	5.13	0.832	172
Apr	2.59	2.45	3.92	3.75	3.94	2.39	2.59	1.94	1.89	<0.3	11.4	4.94	0.606	323
May	6.96	6.70	10.5	4.03	28.5	4.24	3.90	4.49	4.40	<0.3	8.63	5.06	0.822	282
June	6.90	6.48	11.2	7.18	3.42	7.04	5.44	6.69	6.54	0.746	16.3	4.79	1.20	138
July	25.1	23.7	4.85	22.3	54.0	22.3	29.5	24.7	24.2	3.66	9.90	5.00	1.54	85.0
Aug	7.83	7.57	17.2	6.25	10.4	4.37	2.47	5.98	5.88	0.334	10.3	4.99	0.711	195
Sept	10.6	10.3	21.8	7.87	27.1	5.76	3.16	11.2	11.0	0.379	8.89	5.05	1.23	228
Oct	2.71	2.38	5.67	5.95	4.49	5.32	2.51	3.64	3.52	0.322	4.69	5.33	0.491	448
Nov	2.72	2.47	4.54	3.70	11.2	4.28	2.53	2.27	2.18	<0.3	4.27	5.37	0.494	364
Dec	2.44	2.08	4.82	6.02	6.99	5.83	2.08	2.79	2.66	0.365	3.62	5.44	0.400	170
Annual	5.52	5.20	8.34	5.94	12.9	5.39	3.94	4.41	4.29	0.435	7.60	5.12	0.687	2954
Max.	34.0	32.0	66.9	61.4	255	45.1	33.9	48.3	47.3	6.20	33.1	7.02	3.30	
Min.	0.640	0.364	<0.5	0.900	<0.8	<0.3	<0.3	<0.2	<0.2	<0.3	0.0955	4.48	0.150	

Wet deposition amount

2025	SO_4^{2-} mmol m^{-2}	nss-SO_4^{2-} mmol m^{-2}	NO_3^- mmol m^{-2}	Cl^- mmol m^{-2}	NH_4^+ mmol m^{-2}	Na^+ mmol m^{-2}	K^+ mmol m^{-2}	Ca^{2+} mmol m^{-2}	nss-Ca^{2+} mmol m^{-2}	Mg^{2+} mmol m^{-2}	H^+ mmol m^{-2}
Jan	0.767	0.687	1.02	1.76	2.75	1.33	0.691	0.163	0.134	0.166	0.778
Feb	1.68	1.58	2.62	1.42	2.82	1.62	0.899	0.641	0.606	0.0891	2.48
Mar	1.31	1.24	2.02	1.23	2.24	1.05	0.947	1.03	1.01	0.118	1.26
Apr	0.837	0.791	1.27	1.21	1.27	0.773	0.835	0.627	0.610	0.0215	3.69
May	1.96	1.89	2.95	1.13	8.03	1.20	1.10	1.27	1.24	0.0634	2.43
June	0.955	0.896	1.55	0.994	0.473	0.974	0.753	0.926	0.905	0.103	2.26
July	2.13	2.02	0.412	1.89	4.59	1.89	2.51	2.10	2.06	0.311	0.842
Aug	1.53	1.47	3.35	1.22	2.02	0.850	0.481	1.16	1.15	0.0650	2.00
Sept	2.43	2.35	4.98	1.80	6.18	1.31	0.721	2.55	2.52	0.0864	2.03
Oct	1.21	1.07	2.54	2.67	2.01	2.38	1.12	1.63	1.58	0.144	2.10
Nov	0.993	0.899	1.65	1.35	4.09	1.56	0.922	0.827	0.793	0.0326	1.56
Dec	0.414	0.355	0.820	1.03	1.19	0.992	0.355	0.474	0.453	0.0621	0.615
Annual	16.3	15.4	24.6	17.5	38.0	15.9	11.6	13.0	12.7	1.29	22.4

Data completeness

2025	SO_4^{2-} %TP	nss-SO_4^{2-} %TP	NO_3^- %TP	Cl^- %TP	NH_4^+ %TP	Na^+ %TP	K^+ %TP	Ca^{2+} %TP	nss-Ca^{2+} %TP	Mg^{2+} %TP	H^+ %TP	pH %TP	EC %TP	Precip. %PCL
Jan	99.9	99.9	99.9	99.9	99.9	99.9	99.9	99.9	99.9	99.9	99.9	99.9	99.9	100
Feb	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Mar	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Apr	100	100	100	100	100	100	100	100	100	100	100	100	100	100
May	100	100	100	100	100	100	100	100	100	100	100	100	100	100
June	100	100	100	100	100	100	100	100	100	100	100	100	100	100
July	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Aug	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Sept	67.4	67.4	67.4	67.4	67.4	67.4	67.4	67.4	67.4	67.4	67.4	67.4	67.4	100
Oct	61.9	61.9	61.9	61.9	61.9	61.9	61.9	61.9	61.9	61.9	61.9	61.9	61.9	100
Nov	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Dec	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Annual	**91.7**	**91.7**	**91.7**	**91.7**	**91.7**	**91.7**	**91.7**	**91.7**	**91.7**	**91.7**	**91.7**	**91.7**	**91.7**	**100**

Terms and abbreviations are given in Table 4.5.

Table 4.39 Monthly results **Site: Danum Valley** **Country: Malaysia**

Code: MYA003

Precipitation amount-weighted average concentration/ Precipitation amount

2025	SO_4^{2-} µmol L^{-1}	nss-SO_4^{2-} µmol L^{-1}	NO_3^- µmol L^{-1}	Cl^- µmol L^{-1}	NH_4^+ µmol L^{-1}	Na^+ µmol L^{-1}	K^+ µmol L^{-1}	Ca^{2+} µmol L^{-1}	nss-Ca^{2+} µmol L^{-1}	Mg^{2+} µmol L^{-1}	H^+ µmol L^{-1}	pH	EC mS m^{-1}	Precip. mm $month^{-1}$ or mm $year^{-1}$
Jan	1.04	0.851	<0.5	4.25	<0.8	3.10	1.56	0.752	0.685	<0.3	5.14	5.29	0.343	568
Feb	1.03	0.521	<0.5	11.6	0.835	9.99	3.99	1.73	1.51	0.829	4.12	5.38	0.398	265
Mar	0.370	<0.3	<0.5	5.80	5.01	3.04	1.62	1.13	1.07	0.487	2.52	5.60	0.278	273
Apr	0.934	0.533	<0.5	3.72	2.34	6.65	6.95	2.52	2.37	0.811	1.21	5.92	0.394	287
May	0.968	0.791	<0.5	1.94	<0.8	2.94	1.16	0.885	0.821	<0.3	7.96	5.10	0.472	347
June	0.890	0.762	<0.5	1.90	1.86	2.13	1.51	0.370	0.324	<0.3	5.50	5.26	0.350	229
July	7.32	6.89	<0.5	11.0	<0.8	7.12	4.41	2.17	2.02	0.780	18.6	4.73	0.770	104
Aug	1.47	1.39	1.05	2.45	1.09	1.25	1.02	1.02	0.992	0.338	3.65	5.44	0.299	291
Sept	2.17	2.08	0.556	2.76	<0.8	1.49	1.82	1.18	1.15	0.470	6.27	5.20	0.438	348
Oct	1.30	1.04	1.01	2.24	1.80	4.68	2.93	1.68	1.58	0.687	3.76	5.42	0.360	326
Nov	1.46	1.05	2.63	3.45	1.87	6.81	3.94	1.85	1.70	0.688	1.99	5.70	0.340	148
Dec	0.778	0.769	<0.5	5.46	<0.8	<0.3	<0.3	1.34	1.34	0.467	4.63	5.33	0.327	296
Annual	1.18	0.980	<0.5	4.27	1.15	3.56	2.10	1.26	1.18	0.457	4.61	5.34	0.366	3482
Max.	7.32	6.89	5.16	21.7	8.88	19.2	9.21	4.51	4.09	1.99	18.6	6.40	0.770	
Min.	<0.3	<0.3	<0.5	0.550	<0.8	<0.3	<0.3	<0.2	<0.2	<0.3	0.398	4.73	0.200	

Wet deposition amount

2025	SO_4^{2-} mmol m^{-2}	nss-SO_4^{2-} mmol m^{-2}	NO_3^- mmol m^{-2}	Cl^- mmol m^{-2}	NH_4^+ mmol m^{-2}	Na^+ mmol m^{-2}	K^+ mmol m^{-2}	Ca^{2+} mmol m^{-2}	nss-Ca^{2+} mmol m^{-2}	Mg^{2+} mmol m^{-2}	H^+ mmol m^{-2}
Jan	0.589	0.483	<0.01	2.41	0.0800	1.76	0.888	0.427	0.389	0.160	2.92
Feb	0.274	0.138	0.0327	3.09	0.221	2.65	1.06	0.458	0.400	0.220	1.09
Mar	0.101	0.0512	<0.01	1.58	1.37	0.830	0.444	0.309	0.291	0.133	0.687
Apr	0.268	0.153	0.139	1.07	0.673	1.91	1.99	0.722	0.681	0.233	0.347
May	0.336	0.275	<0.01	0.673	<0.01	1.02	0.404	0.307	0.285	0.0158	2.76
June	0.204	0.174	<0.01	0.435	0.426	0.488	0.346	0.0847	0.0742	<0.01	1.26
July	0.762	0.718	<0.01	1.15	<0.01	0.741	0.459	0.226	0.210	0.0812	1.94
Aug	0.427	0.405	0.306	0.712	0.316	0.365	0.296	0.297	0.289	0.0984	1.06
Sept	0.756	0.724	0.193	0.960	0.197	0.519	0.633	0.411	0.399	0.164	2.18
Oct	0.423	0.339	0.330	0.729	0.587	1.53	0.955	0.548	0.515	0.224	1.23
Nov	0.217	0.156	0.391	0.512	0.277	1.01	0.585	0.274	0.253	0.102	0.294
Dec	0.230	0.227	0.0784	1.61	0.178	0.0455	<0.01	0.397	0.396	0.138	1.37
Annual	4.12	3.41	1.65	14.9	3.99	12.4	7.30	4.37	4.10	1.59	16.0

Data completeness

2025	SO_4^{2-} %TP	nss-SO_4^{2-} %TP	NO_3^- %TP	Cl^- %TP	NH_4^+ %TP	Na^+ %TP	K^+ %TP	Ca^{2+} %TP	nss-Ca^{2+} %TP	Mg^{2+} %TP	H^+ %TP	pH %TP	EC %TP	Precip. %PCL
Jan	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Feb	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Mar	81.2	81.2	81.2	81.2	81.2	81.2	81.2	81.2	81.2	81.2	81.2	81.2	81.2	100
Apr	46.7	46.7	46.7	46.7	46.7	46.7	46.7	46.7	46.7	46.7	46.7	46.7	46.7	100
May	82.6	82.6	82.6	82.6	82.6	82.6	82.6	82.6	82.6	82.6	82.6	82.6	82.6	100
June	20.4	20.4	20.4	20.4	20.4	20.4	20.4	20.4	20.4	20.4	20.4	20.4	20.4	100
July	5.4	5.4	5.4	5.4	5.4	5.4	5.4	5.4	5.4	5.4	5.4	5.4	5.4	100
Aug	92.9	92.9	92.9	92.9	92.9	92.9	92.9	92.9	92.9	92.9	92.9	92.9	92.9	100
Sept	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Oct	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Nov	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Dec	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Annual	**83.7**	**83.7**	**83.7**	**83.7**	**83.7**	**83.7**	**83.7**	**83.7**	**83.7**	**83.7**	**83.7**	**83.7**	**83.7**	**100**

Terms and abbreviations are given in Table 4.5.

Table 4.40 Monthly results **Site: Kuching** **Country: Malaysia**

Code: MYA004

Precipitation amount-weighted average concentration/ Precipitation amount

2025	SO_4^{2-} µmol L^{-1}	nss-SO_4^{2-} µmol L^{-1}	NO_3^- µmol L^{-1}	Cl^- µmol L^{-1}	NH_4^+ µmol L^{-1}	Na^+ µmol L^{-1}	K^+ µmol L^{-1}	Ca^{2+} µmol L^{-1}	nss-Ca^{2+} µmol L^{-1}	Mg^{2+} µmol L^{-1}	H^+ µmol L^{-1}	pH	EC mS m^{-1}	Precip. mm $month^{-1}$ or mm $year^{-1}$
Jan	*	*	*	*	*	*	*	*	*	*	*	*	*	1057
Feb	*	*	*	*	*	*	*	*	*	*	*	*	*	310
Mar	*	*	*	*	*	*	*	*	*	*	*	*	*	398
Apr	1.51	1.16	1.18	3.74	1.20	5.87	3.95	4.84	4.71	0.322	2.95	5.53	0.350	335
May	3.76	3.53	8.61	3.37	1.72	3.82	1.29	6.49	6.41	0.321	5.34	5.27	0.509	284
June	4.22	4.04	15.5	4.71	19.4	3.03	2.66	2.69	2.63	<0.3	5.21	5.28	0.748	399
July	*	*	*	*	*	*	*	*	*	*	*	*	*	131
Aug	5.28	5.04	11.7	5.76	9.05	3.93	1.75	6.04	5.96	0.409	4.19	5.38	0.512	302
Sept	*	*	*	*	*	*	*	*	*	*	*	*	*	257
Oct	6.09	5.38	16.8	13.9	30.9	11.8	5.01	8.95	8.70	1.38	3.65	5.44	0.880	305
Nov	4.12	3.38	20.7	11.2	13.0	12.3	4.79	13.3	13.0	0.978	3.92	5.41	0.513	433
Dec	*	*	*	*	*	*	*	*	*	*	*	*	*	510
Annual	4.37	3.96	13.2	7.41	13.8	6.86	3.21	7.11	6.96	0.612	4.34	5.36	0.620	4723
Max.	25.4	24.1	124	32.8	232	22.2	23.2	22.0	21.5	3.44	7.59	6.99	3.85	
Min.	1.47	1.08	<0.5	1.51	<0.8	1.13	<0.3	1.67	1.65	<0.3	0.102	5.12	0.350	

Wet deposition amount

2025	SO_4^{2-} mmol m^{-2}	nss-SO_4^{2-} mmol m^{-2}	NO_3^- mmol m^{-2}	Cl^- mmol m^{-2}	NH_4^+ mmol m^{-2}	Na^+ mmol m^{-2}	K^+ mmol m^{-2}	Ca^{2+} mmol m^{-2}	nss-Ca^{2+} mmol m^{-2}	Mg^{2+} mmol m^{-2}	H^+ mmol m^{-2}
Jan	*	*	*	*	*	*	*	*	*	*	*
Feb	*	*	*	*	*	*	*	*	*	*	*
Mar	*	*	*	*	*	*	*	*	*	*	*
Apr	0.506	0.388	0.395	1.25	0.401	1.97	1.32	1.62	1.58	0.108	0.987
May	1.07	1.00	2.45	0.959	0.488	1.08	0.366	1.84	1.82	0.0911	1.52
June	1.68	1.61	6.17	1.88	7.74	1.21	1.06	1.08	1.05	0.0437	2.08
July	*	*	*	*	*	*	*	*	*	*	*
Aug	1.60	1.52	3.55	1.74	2.74	1.19	0.528	1.83	1.80	0.124	1.27
Sept	*	*	*	*	*	*	*	*	*	*	*
Oct	1.86	1.64	5.13	4.26	9.44	3.60	1.53	2.73	2.66	0.422	1.11
Nov	1.78	1.46	8.96	4.85	5.65	5.34	2.07	5.76	5.65	0.423	1.70
Dec	*	*	*	*	*	*	*	*	*	*	*
Annual	20.7	18.7	62.3	35.0	65.2	32.4	15.2	33.6	32.9	2.89	20.5

Data completeness

2025	SO_4^{2-} %TP	nss-SO_4^{2-} %TP	NO_3^- %TP	Cl^- %TP	NH_4^+ %TP	Na^+ %TP	K^+ %TP	Ca^{2+} %TP	nss-Ca^{2+} %TP	Mg^{2+} %TP	H^+ %TP	pH %TP	EC %TP	Precip. %PCL
Jan	0	0	0	0	0	0	0	0	0	0	0	0	0	100
Feb	0	0	0	0	0	0	0	0	0	0	0	0	0	100
Mar	0	0	0	0	0	0	0	0	0	0	0	0	0	100
Apr	49.8	49.8	49.8	49.8	49.8	49.8	49.8	49.8	49.8	49.8	49.8	49.8	49.8	100
May	97.3	97.3	97.3	97.3	97.3	97.3	97.3	97.3	97.3	97.3	97.3	97.3	97.3	100
June	72.7	72.7	72.7	72.7	72.7	72.7	72.7	72.7	72.7	72.7	72.7	72.7	72.7	100
July	0	0	0	0	0	0	0	0	0	0	0	0	0	100
Aug	84.6	84.6	84.6	84.6	84.6	84.6	84.6	84.6	84.6	84.6	84.6	84.6	84.6	100
Sept	0	0	0	0	0	0	0	0	0	0	0	0	0	100
Oct	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Nov	57.6	57.6	57.6	57.6	57.6	57.6	57.6	57.6	57.6	57.6	29.6	29.6	29.6	100
Dec	0	0	0	0	0	0	0	0	0	0	0	0	0	100
Annual	**32.7**	**32.7**	**32.7**	**32.7**	**32.7**	**32.7**	**32.7**	**32.7**	**32.7**	**32.7**	**30.1**	**30.1**	**30.1**	**100**

Terms and abbreviations are given in Table 4.5.

Table 4.41 Monthly results **Site: Gunung Brinchang** **Country: Malaysia**
Code: MYA005

Precipitation amount-weighted average concentration/ Precipitation amount

2025	SO_4^{2-} µmol L^{-1}	nss-SO_4^{2-} µmol L^{-1}	NO_3^- µmol L^{-1}	Cl^- µmol L^{-1}	NH_4^+ µmol L^{-1}	Na^+ µmol L^{-1}	K^+ µmol L^{-1}	Ca^{2+} µmol L^{-1}	nss-Ca^{2+} µmol L^{-1}	Mg^{2+} µmol L^{-1}	H^+ µmol L^{-1}	pH	EC mS m^{-1}	Precip. mm $month^{-1}$ or mm $year^{-1}$
Jan	***	***	***	***	***	***	***	***	***	***	***	***	***	***
Feb	***	***	***	***	***	***	***	***	***	***	***	***	***	***
Mar	***	***	***	***	***	***	***	***	***	***	***	***	***	***
Apr	***	***	***	***	***	***	***	***	***	***	***	***	***	***
May	***	***	***	***	***	***	***	***	***	***	***	***	***	***
June	***	***	***	***	***	***	***	***	***	***	***	***	***	***
July	***	***	***	***	***	***	***	***	***	***	***	***	***	***
Aug	***	***	***	***	***	***	***	***	***	***	***	***	***	***
Sept	***	***	***	***	***	***	***	***	***	***	***	***	***	***
Oct	***	***	***	***	***	***	***	***	***	***	***	***	***	***
Nov	***	***	***	***	***	***	***	***	***	***	***	***	***	***
Dec	***	***	***	***	***	***	***	***	***	***	***	***	***	***
Annual	***	***	***	***	***	***	***	***	***	***	***	***	***	***
Max.	***	***	***	***	***	***	***	***	***	***	***	***	***	
Min.	***	***	***	***	***	***	***	***	***	***	***	***	***	

Wet deposition amount

2025	SO_4^{2-} mmol m^{-2}	nss-SO_4^{2-} mmol m^{-2}	NO_3^- mmol m^{-2}	Cl^- mmol m^{-2}	NH_4^+ mmol m^{-2}	Na^+ mmol m^{-2}	K^+ mmol m^{-2}	Ca^{2+} mmol m^{-2}	nss-Ca^{2+} mmol m^{-2}	Mg^{2+} mmol m^{-2}	H^+ mmol m^{-2}
Jan	***	***	***	***	***	***	***	***	***	***	***
Feb	***	***	***	***	***	***	***	***	***	***	***
Mar	***	***	***	***	***	***	***	***	***	***	***
Apr	***	***	***	***	***	***	***	***	***	***	***
May	***	***	***	***	***	***	***	***	***	***	***
June	***	***	***	***	***	***	***	***	***	***	***
July	***	***	***	***	***	***	***	***	***	***	***
Aug	***	***	***	***	***	***	***	***	***	***	***
Sept	***	***	***	***	***	***	***	***	***	***	***
Oct	***	***	***	***	***	***	***	***	***	***	***
Nov	***	***	***	***	***	***	***	***	***	***	***
Dec	***	***	***	***	***	***	***	***	***	***	***
Annual	***	***	***	***	***	***	***	***	***	***	***

Data completeness

2025	SO_4^{2-} %TP	nss-SO_4^{2-} %TP	NO_3^- %TP	Cl^- %TP	NH_4^+ %TP	Na^+ %TP	K^+ %TP	Ca^{2+} %TP	nss-Ca^{2+} %TP	Mg^{2+} %TP	H^+ %TP	pH %TP	EC %TP	Precip. %PCL
Jan	***	***	***	***	***	***	***	***	***	***	***	***	***	***
Feb	***	***	***	***	***	***	***	***	***	***	***	***	***	***
Mar	***	***	***	***	***	***	***	***	***	***	***	***	***	***
Apr	***	***	***	***	***	***	***	***	***	***	***	***	***	***
May	***	***	***	***	***	***	***	***	***	***	***	***	***	***
June	***	***	***	***	***	***	***	***	***	***	***	***	***	***
July	***	***	***	***	***	***	***	***	***	***	***	***	***	***
Aug	***	***	***	***	***	***	***	***	***	***	***	***	***	***
Sept	***	***	***	***	***	***	***	***	***	***	***	***	***	***
Oct	***	***	***	***	***	***	***	***	***	***	***	***	***	***
Nov	***	***	***	***	***	***	***	***	***	***	***	***	***	***
Dec	***	***	***	***	***	***	***	***	***	***	***	***	***	***
Annual	***	***	***	***	***	***	***	***	***	***	***	***	***	***

Terms and abbreviations are given in Table 4.5.

Table 4.42 Monthly results **Site: Khan-Uul** **Country: Mongolia**

Code: MNA004

Precipitation amount-weighted average concentration/ Precipitation amount

2025	SO_4^{2-} µmol L^{-1}	nss-SO_4^{2-} µmol L^{-1}	NO_3^- µmol L^{-1}	Cl^- µmol L^{-1}	NH_4^+ µmol L^{-1}	Na^+ µmol L^{-1}	K^+ µmol L^{-1}	Ca^{2+} µmol L^{-1}	nss-Ca^{2+} µmol L^{-1}	Mg^{2+} µmol L^{-1}	H^+ µmol L^{-1}	pH	EC mS m^{-1}	Precip. mm $month^{-1}$ or mm $year^{-1}$
Jan	--	--	--	--	--	--	--	--	--	--	--	--	--	0
Feb	--	--	--	--	--	--	--	--	--	--	--	--	--	0
Mar	--	--	--	--	--	--	--	--	--	--	--	--	--	0
Apr	--	--	--	--	--	--	--	--	--	--	--	--	--	0
May	35.1	33.7	31.2	18.6	19.3	23.7	5.43	75.7	75.2	6.66	0.549	6.26	2.39	11.3
June	42.8	41.9	68.1	10.8	42.2	15.4	9.08	118	118	8.04	0.0971	7.01	4.26	13.6
July	24.4	23.2	24.1	5.48	45.1	20.0	2.00	48.1	47.7	5.14	0.142	6.85	1.91	56.7
Aug	23.9	23.0	16.6	3.70	41.4	14.9	1.47	32.1	31.8	2.86	0.380	6.42	1.42	44.5
Sept	38.5	37.2	20.7	8.55	26.5	20.9	2.67	53.4	53.0	4.34	0.447	6.35	1.98	9.4
Oct	--	--	--	--	--	--	--	--	--	--	--	--	--	0
Nov	--	--	--	--	--	--	--	--	--	--	--	--	--	0
Dec	--	--	--	--	--	--	--	--	--	--	--	--	--	0
Annual	28.0	26.9	26.4	6.74	40.2	18.2	2.87	52.6	52.2	4.75	0.271	6.57	2.03	136
Max.	160	152	271	133	184	131	46.4	535	532	38.2	1.86	7.25	12.6	
Min.	12.1	11.9	9.00	1.10	<0.8	1.30	0.500	16.0	16.0	1.60	0.0562	5.73	0.795	

Wet deposition amount

2025	SO_4^{2-} mmol m^{-2}	nss-SO_4^{2-} mmol m^{-2}	NO_3^- mmol m^{-2}	Cl^- mmol m^{-2}	NH_4^+ mmol m^{-2}	Na^+ mmol m^{-2}	K^+ mmol m^{-2}	Ca^{2+} mmol m^{-2}	nss-Ca^{2+} mmol m^{-2}	Mg^{2+} mmol m^{-2}	H^+ mmol m^{-2}
Jan	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Feb	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Mar	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Apr	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
May	0.397	0.381	0.353	0.210	0.219	0.268	0.0614	0.856	0.850	0.0754	<0.01
June	0.583	0.570	0.927	0.146	0.574	0.210	0.124	1.61	1.61	0.109	<0.01
July	1.39	1.32	1.37	0.311	2.56	1.13	0.114	2.73	2.71	0.292	<0.01
Aug	1.06	1.02	0.738	0.165	1.84	0.665	0.0653	1.43	1.42	0.127	0.0169
Sept	0.363	0.352	0.196	0.0808	0.250	0.197	0.0252	0.505	0.501	0.0410	<0.01
Oct	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Nov	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Dec	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Annual	3.79	3.64	3.58	0.914	5.45	2.47	0.389	7.13	7.08	0.645	0.0367

Data completeness

2025	SO_4^{2-} %TP	nss-SO_4^{2-} %TP	NO_3^- %TP	Cl^- %TP	NH_4^+ %TP	Na^+ %TP	K^+ %TP	Ca^{2+} %TP	nss-Ca^{2+} %TP	Mg^{2+} %TP	H^+ %TP	pH %TP	EC %TP	Precip. %PCL
Jan	--	--	--	--	--	--	--	--	--	--	--	--	--	100
Feb	--	--	--	--	--	--	--	--	--	--	--	--	--	100
Mar	--	--	--	--	--	--	--	--	--	--	--	--	--	100
Apr	--	--	--	--	--	--	--	--	--	--	--	--	--	100
May	100	100	100	100	100	100	100	100	100	100	100	100	100	100
June	100	100	100	100	100	100	100	100	100	100	100	100	100	100
July	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Aug	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Sept	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Oct	--	--	--	--	--	--	--	--	--	--	--	--	--	100
Nov	--	--	--	--	--	--	--	--	--	--	--	--	--	100
Dec	--	--	--	--	--	--	--	--	--	--	--	--	--	100
Annual	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**

Terms and abbreviations are given in Table 4.5.

Table 4.43 Monthly results **Site: Terelj** **Country: Mongolia**

Code: MNA002

Precipitation amount-weighted average concentration/ Precipitation amount

2025	SO_4^{2-} µmol L^{-1}	nss-SO_4^{2-} µmol L^{-1}	NO_3^- µmol L^{-1}	Cl^- µmol L^{-1}	NH_4^+ µmol L^{-1}	Na^+ µmol L^{-1}	K^+ µmol L^{-1}	Ca^{2+} µmol L^{-1}	nss-Ca^{2+} µmol L^{-1}	Mg^{2+} µmol L^{-1}	H^+ µmol L^{-1}	pH	EC mS m^{-1}	Precip. mm $month^{-1}$ or mm $year^{-1}$
Jan	--	--	--	--	--	--	--	--	--	--	--	--	--	0
Feb	--	--	--	--	--	--	--	--	--	--	--	--	--	0
Mar	--	--	--	--	--	--	--	--	--	--	--	--	--	0
Apr	--	--	--	--	--	--	--	--	--	--	--	--	--	0
May	--	--	--	--	--	--	--	--	--	--	--	--	--	0
June	20.9	20.6	20.8	5.59	30.9	5.30	4.87	23.0	22.9	3.20	1.04	5.98	1.14	15.9
July	**	**	**	**	**	**	**	**	**	**	**	**	**	**
Aug	**	**	**	**	**	**	**	**	**	**	**	**	**	**
Sept	**	**	**	**	**	**	**	**	**	**	**	**	**	**
Oct	**	**	**	**	**	**	**	**	**	**	**	**	**	**
Nov	**	**	**	**	**	**	**	**	**	**	**	**	**	**
Dec	**	**	**	**	**	**	**	**	**	**	**	**	**	**
Annual	20.9	20.6	20.8	5.59	30.9	5.30	4.87	23.0	22.9	3.20	1.04	5.98	1.14	15.9
Max.	25.2	24.9	23.9	7.10	53.2	6.50	5.60	24.0	23.9	3.30	1.12	6.11	1.31	
Min.	18.4	18.0	18.7	4.50	23.3	3.90	3.10	22.5	22.4	2.90	0.776	5.95	1.04	

Wet deposition amount

2025	SO_4^{2-} mmol m^{-2}	nss-SO_4^{2-} mmol m^{-2}	NO_3^- mmol m^{-2}	Cl^- mmol m^{-2}	NH_4^+ mmol m^{-2}	Na^+ mmol m^{-2}	K^+ mmol m^{-2}	Ca^{2+} mmol m^{-2}	nss-Ca^{2+} mmol m^{-2}	Mg^{2+} mmol m^{-2}	H^+ mmol m^{-2}
Jan	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Feb	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Mar	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Apr	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
May	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
June	0.333	0.328	0.330	0.0889	0.491	0.0843	0.0774	0.366	0.364	0.0510	0.0166
July	**	**	**	**	**	**	**	**	**	**	**
Aug	**	**	**	**	**	**	**	**	**	**	**
Sept	**	**	**	**	**	**	**	**	**	**	**
Oct	**	**	**	**	**	**	**	**	**	**	**
Nov	**	**	**	**	**	**	**	**	**	**	**
Dec	**	**	**	**	**	**	**	**	**	**	**
Annual	0.333	0.328	0.330	0.0889	0.491	0.0843	0.0774	0.366	0.364	0.0510	0.0166

Data completeness

2025	SO_4^{2-} %TP	nss-SO_4^{2-} %TP	NO_3^- %TP	Cl^- %TP	NH_4^+ %TP	Na^+ %TP	K^+ %TP	Ca^{2+} %TP	nss-Ca^{2+} %TP	Mg^{2+} %TP	H^+ %TP	pH %TP	EC %TP	Precip. %PCL
Jan	--	--	--	--	--	--	--	--	--	--	--	--	--	100
Feb	--	--	--	--	--	--	--	--	--	--	--	--	--	100
Mar	--	--	--	--	--	--	--	--	--	--	--	--	--	100
Apr	--	--	--	--	--	--	--	--	--	--	--	--	--	100
May	--	--	--	--	--	--	--	--	--	--	--	--	--	100
June	100	100	100	100	100	100	100	100	100	100	100	100	100	56.7
July	**	**	**	**	**	**	**	**	**	**	**	**	**	0
Aug	**	**	**	**	**	**	**	**	**	**	**	**	**	0
Sept	**	**	**	**	**	**	**	**	**	**	**	**	**	0
Oct	**	**	**	**	**	**	**	**	**	**	**	**	**	0
Nov	**	**	**	**	**	**	**	**	**	**	**	**	**	0
Dec	**	**	**	**	**	**	**	**	**	**	**	**	**	0
Annual	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**46.0**

Terms and abbreviations are given in Table 4.5.

Table 4.44 Monthly results **Site: Terelj2_temp** **Country: Mongolia**
Code: MNA005

Precipitation amount-weighted average concentration/ Precipitation amount

2025	SO_4^{2-} µmol L^{-1}	nss-SO_4^{2-} µmol L^{-1}	NO_3^- µmol L^{-1}	Cl^- µmol L^{-1}	NH_4^+ µmol L^{-1}	Na^+ µmol L^{-1}	K^+ µmol L^{-1}	Ca^{2+} µmol L^{-1}	nss-Ca^{2+} µmol L^{-1}	Mg^{2+} µmol L^{-1}	H^+ µmol L^{-1}	pH	EC mS m^{-1}	Precip. mm $month^{-1}$ or mm $year^{-1}$
Jan	**	**	**	**	**	**	**	**	**	**	**	**	**	**
Feb	**	**	**	**	**	**	**	**	**	**	**	**	**	**
Mar	**	**	**	**	**	**	**	**	**	**	**	**	**	**
Apr	**	**	**	**	**	**	**	**	**	**	**	**	**	**
May	**	**	**	**	**	**	**	**	**	**	**	**	**	**
June	37.7	36.2	33.0	25.1	515	26.0	39.0	42.0	41.4	10.9	0.393	6.41	5.36	7.0
July	19.9	18.2	30.9	10.7	128	27.1	10.1	19.9	19.3	2.81	0.295	6.53	2.17	42.8
Aug	17.0	15.9	18.4	3.36	34.2	19.1	0.887	24.8	24.4	2.01	1.45	5.84	1.25	56.3
Sept	34.7	31.3	21.7	9.51	31.8	55.8	1.58	32.2	31.0	3.52	0.520	6.28	1.97	16.6
Oct	--	--	--	--	--	--	--	--	--	--	--	--	--	0
Nov	--	--	--	--	--	--	--	--	--	--	--	--	--	0
Dec	--	--	--	--	--	--	--	--	--	--	--	--	--	0
Annual	21.6	19.9	24.0	7.99	94.3	27.3	6.39	25.1	24.5	3.00	0.862	6.06	1.90	123
Max.	164	147	299	49.1	766	288	65.6	213	212	26.3	5.50	7.46	9.46	
Min.	2.70	2.65	<0.5	1.10	7.20	0.900	0.300	7.00	5.82	0.800	0.0347	5.26	0.360	

Wet deposition amount

2025	SO_4^{2-} mmol m^{-2}	nss-SO_4^{2-} mmol m^{-2}	NO_3^- mmol m^{-2}	Cl^- mmol m^{-2}	NH_4^+ mmol m^{-2}	Na^+ mmol m^{-2}	K^+ mmol m^{-2}	Ca^{2+} mmol m^{-2}	nss-Ca^{2+} mmol m^{-2}	Mg^{2+} mmol m^{-2}	H^+ mmol m^{-2}
Jan	**	**	**	**	**	**	**	**	**	**	**
Feb	**	**	**	**	**	**	**	**	**	**	**
Mar	**	**	**	**	**	**	**	**	**	**	**
Apr	**	**	**	**	**	**	**	**	**	**	**
May	**	**	**	**	**	**	**	**	**	**	**
June	0.266	0.255	0.232	0.176	3.63	0.183	0.274	0.296	0.292	0.0768	<0.01
July	0.851	0.781	1.32	0.458	5.50	1.16	0.434	0.851	0.826	0.120	0.0126
Aug	0.958	0.893	1.03	0.190	1.92	1.08	0.0499	1.40	1.37	0.113	0.0818
Sept	0.577	0.521	0.360	0.158	0.528	0.927	0.0262	0.535	0.515	0.0585	<0.01
Oct	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Nov	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Dec	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Annual	2.65	2.45	2.95	0.982	11.6	3.35	0.785	3.08	3.01	0.368	0.106

Data completeness

2025	SO_4^{2-} %TP	nss-SO_4^{2-} %TP	NO_3^- %TP	Cl^- %TP	NH_4^+ %TP	Na^+ %TP	K^+ %TP	Ca^{2+} %TP	nss-Ca^{2+} %TP	Mg^{2+} %TP	H^+ %TP	pH %TP	EC %TP	Precip. %PCL
Jan	**	**	**	**	**	**	**	**	**	**	**	**	**	0
Feb	**	**	**	**	**	**	**	**	**	**	**	**	**	0
Mar	**	**	**	**	**	**	**	**	**	**	**	**	**	0
Apr	**	**	**	**	**	**	**	**	**	**	**	**	**	0
May	**	**	**	**	**	**	**	**	**	**	**	**	**	0
June	100	100	100	100	100	100	100	100	100	100	100	100	100	43.3
July	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Aug	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Sept	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Oct	--	--	--	--	--	--	--	--	--	--	--	--	--	100
Nov	--	--	--	--	--	--	--	--	--	--	--	--	--	100
Dec	--	--	--	--	--	--	--	--	--	--	--	--	--	100
Annual	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**54.0**

Terms and abbreviations are given in Table 4.5.

Table 4.45 Monthly results **Site: Yangon** **Country: Myanmar**

Code: MMA001

Precipitation amount-weighted average concentration/ Precipitation amount

2025	SO_4^{2-} µmol L^{-1}	nss-SO_4^{2-} µmol L^{-1}	NO_3^- µmol L^{-1}	Cl^- µmol L^{-1}	NH_4^+ µmol L^{-1}	Na^+ µmol L^{-1}	K^+ µmol L^{-1}	Ca^{2+} µmol L^{-1}	nss-Ca^{2+} µmol L^{-1}	Mg^{2+} µmol L^{-1}	H^+ µmol L^{-1}	pH	EC mS m^{-1}	Precip. mm $month^{-1}$ or mm $year^{-1}$
Jan	--	--	--	--	--	--	--	--	--	--	--	--	--	0
Feb	15.9	14.9	<0.5	36.4	20.1	15.8	33.4	19.3	18.9	22.0	0.200	6.70	4.60	17.8
Mar	--	--	--	--	--	--	--	--	--	--	--	--	--	0
Apr	14.0	13.3	<0.5	16.3	29.8	11.1	7.37	13.5	13.2	5.42	0.228	6.64	1.50	231
May	7.02	6.40	<0.5	14.5	15.0	10.3	4.43	7.80	7.57	3.11	0.165	6.78	1.47	334
June	7.39	6.39	<0.5	22.3	18.4	16.5	5.21	11.3	11.0	4.75	0.180	6.75	0.662	634
July	6.22	4.69	4.91	32.8	12.1	25.4	5.58	14.8	14.2	4.18	0.206	6.69	0.618	382
Aug	3.88	2.77	8.33	17.1	7.38	18.4	11.6	5.50	5.11	4.51	0.203	6.69	0.843	404
Sept	3.82	2.97	12.3	16.7	10.6	14.1	7.14	6.59	6.28	2.06	0.172	6.76	0.471	342
Oct	6.54	5.59	21.3	26.0	13.1	15.8	14.9	7.37	7.03	3.24	0.290	6.54	0.634	194
Nov	2.34	2.05	6.61	7.61	8.46	4.79	6.77	4.33	4.22	1.36	0.154	6.81	0.416	345
Dec	--	--	--	--	--	--	--	--	--	--	--	--	--	0
Annual	6.20	5.29	5.53	19.5	14.1	15.1	7.48	9.11	8.78	3.78	0.192	6.72	0.813	2884
Max.	32.0	31.6	25.4	52.7	36.8	45.4	33.4	24.0	23.6	22.0	0.316	6.90	4.60	
Min.	1.56	0.424	<0.5	5.22	2.77	3.31	2.53	0.898	0.681	1.32	0.126	6.50	0.320	

Wet deposition amount

2025	SO_4^{2-} mmol m^{-2}	nss-SO_4^{2-} mmol m^{-2}	NO_3^- mmol m^{-2}	Cl^- mmol m^{-2}	NH_4^+ mmol m^{-2}	Na^+ mmol m^{-2}	K^+ mmol m^{-2}	Ca^{2+} mmol m^{-2}	nss-Ca^{2+} mmol m^{-2}	Mg^{2+} mmol m^{-2}	H^+ mmol m^{-2}
Jan	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Feb	0.282	0.265	<0.01	0.647	0.357	0.281	0.593	0.342	0.336	0.390	<0.01
Mar	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Apr	3.23	3.08	<0.01	3.76	6.87	2.56	1.70	3.11	3.05	1.25	0.0525
May	2.35	2.14	<0.01	4.84	5.02	3.46	1.48	2.61	2.53	1.04	0.0551
June	4.68	4.05	0.0516	14.2	11.7	10.5	3.30	7.17	6.95	3.01	0.114
July	2.38	1.79	1.88	12.6	4.61	9.71	2.13	5.64	5.43	1.60	0.0789
Aug	1.57	1.12	3.37	6.92	2.98	7.43	4.70	2.22	2.06	1.82	0.0823
Sept	1.31	1.02	4.22	5.72	3.61	4.84	2.45	2.26	2.15	0.705	0.0590
Oct	1.27	1.08	4.13	5.05	2.53	3.06	2.89	1.43	1.36	0.628	0.0562
Nov	0.805	0.706	2.28	2.62	2.92	1.65	2.34	1.49	1.46	0.470	0.0531
Dec	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Annual	17.9	15.3	15.9	56.3	40.6	43.5	21.6	26.3	25.3	10.9	0.554

Data completeness

2025	SO_4^{2-} %TP	nss-SO_4^{2-} %TP	NO_3^- %TP	Cl^- %TP	NH_4^+ %TP	Na^+ %TP	K^+ %TP	Ca^{2+} %TP	nss-Ca^{2+} %TP	Mg^{2+} %TP	H^+ %TP	pH %TP	EC %TP	Precip. %PCL
Jan	--	--	--	--	--	--	--	--	--	--	--	--	--	100
Feb	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Mar	--	--	--	--	--	--	--	--	--	--	--	--	--	100
Apr	100	100	100	100	100	100	100	100	100	100	100	100	100	100
May	100	100	100	100	100	100	100	100	100	100	100	100	100	100
June	100	100	100	100	100	100	100	100	100	100	100	100	100	100
July	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Aug	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Sept	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Oct	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Nov	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Dec	--	--	--	--	--	--	--	--	--	--	--	--	--	100
Annual	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**

Terms and abbreviations are given in Table 4.5.

Table 4.46 Monthly results **Site: Manila Observatory** **Country: Philippines**
Code: PHA001

Precipitation amount-weighted average concentration/ Precipitation amount

2025	SO_4^{2-} µmol L^{-1}	nss-SO_4^{2-} µmol L^{-1}	NO_3^- µmol L^{-1}	Cl^- µmol L^{-1}	NH_4^+ µmol L^{-1}	Na^+ µmol L^{-1}	K^+ µmol L^{-1}	Ca^{2+} µmol L^{-1}	nss-Ca^{2+} µmol L^{-1}	Mg^{2+} µmol L^{-1}	H^+ µmol L^{-1}	pH	EC mS m^{-1}	Precip. mm $month^{-1}$ or mm $year^{-1}$
Jan	6.03	5.67	9.10	6.94	38.0	5.96	2.26	8.13	8.01	1.62	1.35	5.87	0.640	40.3
Feb	13.3	12.7	19.1	11.7	70.9	9.19	1.12	17.9	17.7	2.29	0.337	6.47	1.51	52.8
Mar	2.55	2.44	3.20	4.94	17.7	1.92	1.06	5.22	5.18	0.975	0.945	6.02	0.402	47.6
Apr	11.7	11.3	15.8	7.87	40.4	6.95	56.9	16.3	16.1	1.19	0.765	6.12	0.797	49.6
May	24.8	23.3	13.4	14.6	38.7	25.2	1.46	9.87	9.33	1.57	16.9	4.77	1.74	153
June	11.4	11.3	14.8	7.68	39.6	2.83	<0.3	3.66	3.59	0.790	5.51	5.26	0.905	407
July	11.3	10.0	7.20	28.9	19.2	22.1	1.45	4.73	4.25	3.08	3.22	5.49	0.853	336
Aug	15.4	15.2	27.0	5.17	30.3	3.00	0.986	6.13	6.06	0.725	14.5	4.84	1.18	370
Sept	7.75	6.85	9.16	11.3	13.8	14.9	2.35	4.98	4.66	1.80	2.38	5.62	0.597	399
Oct	9.11	9.00	16.4	8.50	29.3	1.81	0.502	9.92	9.88	0.996	0.777	6.11	0.844	160
Nov	14.6	14.3	30.5	8.12	65.6	4.59	0.850	8.03	7.93	1.26	2.66	5.58	1.49	107
Dec	4.03	3.80	5.59	6.39	24.5	3.92	0.443	4.60	4.52	0.771	1.23	5.91	0.540	91.5
Annual	11.8	11.2	14.8	11.7	30.4	10.2	2.53	6.48	6.26	1.50	5.85	5.23	0.951	2214
Max.	136	133	105	58.2	250	65.9	99.0	58.7	57.8	10.4	37.2	6.80	3.25	
Min.	1.30	1.20	1.95	2.50	6.61	<0.3	<0.3	<0.2	<0.2	<0.3	0.158	4.43	0.346	

Wet deposition amount

2025	SO_4^{2-} mmol m^{-2}	nss-SO_4^{2-} mmol m^{-2}	NO_3^- mmol m^{-2}	Cl^- mmol m^{-2}	NH_4^+ mmol m^{-2}	Na^+ mmol m^{-2}	K^+ mmol m^{-2}	Ca^{2+} mmol m^{-2}	nss-Ca^{2+} mmol m^{-2}	Mg^{2+} mmol m^{-2}	H^+ mmol m^{-2}
Jan	0.243	0.228	0.366	0.279	1.53	0.240	0.0908	0.327	0.322	0.0650	0.0543
Feb	0.701	0.672	1.01	0.616	3.74	0.485	0.0589	0.947	0.936	0.121	0.0178
Mar	0.122	0.116	0.152	0.235	0.842	0.0915	0.0503	0.249	0.247	0.0464	0.0450
Apr	0.581	0.560	0.785	0.390	2.01	0.345	2.82	0.806	0.799	0.0592	0.0380
May	3.80	3.57	2.05	2.24	5.93	3.87	0.224	1.51	1.43	0.240	2.60
June	4.66	4.61	6.02	3.13	16.1	1.15	0.108	1.49	1.46	0.322	2.25
July	3.81	3.36	2.42	9.73	6.45	7.42	0.487	1.59	1.43	1.04	1.08
Aug	5.68	5.62	9.99	1.91	11.2	1.11	0.364	2.27	2.24	0.268	5.37
Sept	3.09	2.73	3.65	4.50	5.51	5.95	0.936	1.99	1.86	0.717	0.948
Oct	1.46	1.44	2.62	1.36	4.69	0.289	0.0803	1.59	1.58	0.159	0.124
Nov	1.57	1.54	3.27	0.871	7.04	0.492	0.0912	0.862	0.851	0.135	0.285
Dec	0.369	0.348	0.512	0.585	2.24	0.359	0.0405	0.421	0.413	0.0706	0.112
Annual	26.1	24.8	32.8	25.8	67.3	22.6	5.59	14.3	13.9	3.32	12.9

Data completeness

2025	SO_4^{2-} %TP	nss-SO_4^{2-} %TP	NO_3^- %TP	Cl^- %TP	NH_4^+ %TP	Na^+ %TP	K^+ %TP	Ca^{2+} %TP	nss-Ca^{2+} %TP	Mg^{2+} %TP	H^+ %TP	pH %TP	EC %TP	Precip. %PCL
Jan	100	100	100	100	100	100	100	100	100	100	94.0	94.0	94.0	100
Feb	100	100	100	100	100	100	100	100	100	100	96.5	96.5	96.5	100
Mar	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Apr	100	100	100	100	100	100	100	100	100	100	97.1	97.1	97.1	100
May	100	100	100	100	100	100	100	100	100	100	100	100	100	100
June	100	73.8	100	100	100	73.8	73.8	73.8	73.8	73.8	100	100	100	100
July	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Aug	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Sept	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Oct	100	100	100	100	100	100	100	100	100	100	100	100	100	90.5
Nov	100	100	100	100	100	100	100	100	100	100	100	100	100	40.8
Dec	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Annual	**100**	**95.2**	**100**	**100**	**100**	**95.2**	**95.2**	**95.2**	**95.2**	**95.2**	**99.7**	**99.7**	**99.7**	**93.9**

Terms and abbreviations are given in Table 4.5.

Table 4.47 Monthly results **Site: Los Baños** **Country: Philippines**

Code: PHA002

Precipitation amount-weighted average concentration/ Precipitation amount

2025	SO_4^{2-} µmol L^{-1}	nss-SO_4^{2-} µmol L^{-1}	NO_3^- µmol L^{-1}	Cl^- µmol L^{-1}	NH_4^+ µmol L^{-1}	Na^+ µmol L^{-1}	K^+ µmol L^{-1}	Ca^{2+} µmol L^{-1}	nss-Ca^{2+} µmol L^{-1}	Mg^{2+} µmol L^{-1}	H^+ µmol L^{-1}	pH	EC mS m^{-1}	Precip. mm $month^{-1}$ or mm $year^{-1}$
Jan	4.22	3.76	9.61	25.4	21.4	7.74	1.74	4.99	4.82	3.04	1.02	5.99	0.619	77.6
Feb	6.36	5.27	4.40	28.4	19.9	18.1	2.41	5.97	5.58	3.65	2.86	5.54	0.864	36.0
Mar	5.79	3.83	15.6	57.5	26.6	32.5	2.91	5.03	4.33	5.56	1.35	5.87	0.716	39.4
Apr	6.41	5.79	9.91	16.8	19.3	10.2	1.86	3.89	3.67	1.02	1.58	5.80	0.571	11.8
May	6.45	5.75	4.96	11.3	29.9	11.6	1.40	4.55	4.30	2.31	4.23	5.37	0.763	141
June	15.5	15.2	13.7	7.66	22.3	5.29	1.09	4.55	4.43	1.10	15.2	4.82	0.963	211
July	22.1	21.2	8.37	22.9	16.7	15.2	0.862	4.01	3.68	2.60	21.9	4.66	2.15	257
Aug	17.7	17.2	14.4	8.99	19.7	9.48	1.66	3.94	3.73	0.964	14.7	4.83	1.19	206
Sept	11.4	10.7	5.89	9.54	9.96	12.0	1.17	2.41	2.15	1.06	13.5	4.87	0.949	164
Oct	7.12	6.81	9.25	12.7	10.7	5.19	0.621	2.07	1.96	1.17	5.80	5.24	0.669	182
Nov	4.64	2.81	6.65	31.4	7.40	30.2	1.10	3.31	2.65	3.24	2.48	5.61	0.655	252
Dec	3.48	2.40	14.0	26.5	22.5	17.9	0.908	2.96	2.57	2.89	1.43	5.85	0.604	100
Annual	11.4	10.5	9.58	18.4	17.1	14.1	1.21	3.69	3.39	2.10	10.0	5.00	1.03	1677
Max.	150	145	42.3	151	102	142	9.99	30.6	28.7	18.9	77.6	6.24	5.18	
Min.	2.30	1.04	<0.5	3.28	3.01	<0.3	<0.3	1.25	1.21	0.329	0.575	4.11	0.357	

Wet deposition amount

2025	SO_4^{2-} mmol m^{-2}	nss-SO_4^{2-} mmol m^{-2}	NO_3^- mmol m^{-2}	Cl^- mmol m^{-2}	NH_4^+ mmol m^{-2}	Na^+ mmol m^{-2}	K^+ mmol m^{-2}	Ca^{2+} mmol m^{-2}	nss-Ca^{2+} mmol m^{-2}	Mg^{2+} mmol m^{-2}	H^+ mmol m^{-2}
Jan	0.328	0.291	0.745	1.97	1.66	0.601	0.135	0.387	0.374	0.236	0.0794
Feb	0.229	0.190	0.158	1.02	0.718	0.652	0.0868	0.215	0.201	0.131	0.103
Mar	0.228	0.151	0.615	2.27	1.05	1.28	0.115	0.198	0.170	0.219	0.0530
Apr	0.0757	0.0684	0.117	0.199	0.228	0.121	0.0220	0.0459	0.0433	0.0120	0.0187
May	0.906	0.808	0.697	1.59	4.20	1.63	0.197	0.640	0.605	0.325	0.594
June	3.28	3.21	2.89	1.62	4.72	1.12	0.231	0.960	0.936	0.233	3.21
July	5.67	5.44	2.15	5.88	4.29	3.90	0.221	1.03	0.944	0.668	5.63
Aug	3.65	3.53	2.96	1.85	4.05	1.95	0.341	0.810	0.768	0.198	3.03
Sept	1.87	1.75	0.967	1.56	1.63	1.97	0.193	0.396	0.354	0.174	2.22
Oct	1.29	1.24	1.68	2.31	1.94	0.942	0.113	0.376	0.356	0.212	1.05
Nov	1.17	0.708	1.67	7.89	1.86	7.61	0.276	0.833	0.668	0.817	0.624
Dec	0.349	0.240	1.40	2.65	2.26	1.80	0.0910	0.296	0.258	0.289	0.143
Annual	19.0	17.6	16.1	30.8	28.6	23.6	2.02	6.19	5.68	3.51	16.8

Data completeness

2025	SO_4^{2-} %TP	nss-SO_4^{2-} %TP	NO_3^- %TP	Cl^- %TP	NH_4^+ %TP	Na^+ %TP	K^+ %TP	Ca^{2+} %TP	nss-Ca^{2+} %TP	Mg^{2+} %TP	H^+ %TP	pH %TP	EC %TP	Precip. %PCL
Jan	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Feb	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Mar	100	100	100	100	100	100	100	100	100	100	87.3	87.3	87.3	100
Apr	100	100	100	100	100	100	100	100	100	100	86.9	86.9	86.9	100
May	100	100	100	100	100	100	100	100	100	100	100	100	100	100
June	100	100	100	100	100	100	100	100	100	100	98.6	98.6	98.6	100
July	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Aug	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Sept	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Oct	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Nov	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Dec	100	100	100	100	100	100	100	100	100	100	96.6	96.6	96.6	100
Annual	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**99.2**	**99.2**	**99.2**	**100**

Terms and abbreviations are given in Table 4.5.

Table 4.48 Monthly results **Site: Mt. Sto. Tomas** **Country: Philippines**
Code: PHA003

Precipitation amount-weighted average concentration/ Precipitation amount

2025	SO_4^{2-} µmol L^{-1}	nss-SO_4^{2-} µmol L^{-1}	NO_3^- µmol L^{-1}	Cl^- µmol L^{-1}	NH_4^+ µmol L^{-1}	Na^+ µmol L^{-1}	K^+ µmol L^{-1}	Ca^{2+} µmol L^{-1}	nss-Ca^{2+} µmol L^{-1}	Mg^{2+} µmol L^{-1}	H^+ µmol L^{-1}	pH	EC mS m^{-1}	Precip. mm $month^{-1}$ or mm $year^{-1}$
Jan	***	***	***	***	***	***	***	***	***	***	***	***	***	***
Feb	***	***	***	***	***	***	***	***	***	***	***	***	***	***
Mar	***	***	***	***	***	***	***	***	***	***	***	***	***	***
Apr	***	***	***	***	***	***	***	***	***	***	***	***	***	***
May	***	***	***	***	***	***	***	***	***	***	***	***	***	***
June	***	***	***	***	***	***	***	***	***	***	***	***	***	***
July	***	***	***	***	***	***	***	***	***	***	***	***	***	***
Aug	***	***	***	***	***	***	***	***	***	***	***	***	***	***
Sept	***	***	***	***	***	***	***	***	***	***	***	***	***	***
Oct	***	***	***	***	***	***	***	***	***	***	***	***	***	***
Nov	***	***	***	***	***	***	***	***	***	***	***	***	***	***
Dec	***	***	***	***	***	***	***	***	***	***	***	***	***	***
Annual	***	***	***	***	***	***	***	***	***	***	***	***	***	***
Max.	***	***	***	***	***	***	***	***	***	***	***	***	***	
Min.	***	***	***	***	***	***	***	***	***	***	***	***	***	

Wet deposition amount

2025	SO_4^{2-} mmol m^{-2}	nss-SO_4^{2-} mmol m^{-2}	NO_3^- mmol m^{-2}	Cl^- mmol m^{-2}	NH_4^+ mmol m^{-2}	Na^+ mmol m^{-2}	K^+ mmol m^{-2}	Ca^{2+} mmol m^{-2}	nss-Ca^{2+} mmol m^{-2}	Mg^{2+} mmol m^{-2}	H^+ mmol m^{-2}
Jan	***	***	***	***	***	***	***	***	***	***	***
Feb	***	***	***	***	***	***	***	***	***	***	***
Mar	***	***	***	***	***	***	***	***	***	***	***
Apr	***	***	***	***	***	***	***	***	***	***	***
May	***	***	***	***	***	***	***	***	***	***	***
June	***	***	***	***	***	***	***	***	***	***	***
July	***	***	***	***	***	***	***	***	***	***	***
Aug	***	***	***	***	***	***	***	***	***	***	***
Sept	***	***	***	***	***	***	***	***	***	***	***
Oct	***	***	***	***	***	***	***	***	***	***	***
Nov	***	***	***	***	***	***	***	***	***	***	***
Dec	***	***	***	***	***	***	***	***	***	***	***
Annual	***	***	***	***	***	***	***	***	***	***	***

Data completeness

2025	SO_4^{2-} %TP	nss-SO_4^{2-} %TP	NO_3^- %TP	Cl^- %TP	NH_4^+ %TP	Na^+ %TP	K^+ %TP	Ca^{2+} %TP	nss-Ca^{2+} %TP	Mg^{2+} %TP	H^+ %TP	pH %TP	EC %TP	Precip. %PCL
Jan	***	***	***	***	***	***	***	***	***	***	***	***	***	***
Feb	***	***	***	***	***	***	***	***	***	***	***	***	***	***
Mar	***	***	***	***	***	***	***	***	***	***	***	***	***	***
Apr	***	***	***	***	***	***	***	***	***	***	***	***	***	***
May	***	***	***	***	***	***	***	***	***	***	***	***	***	***
June	***	***	***	***	***	***	***	***	***	***	***	***	***	***
July	***	***	***	***	***	***	***	***	***	***	***	***	***	***
Aug	***	***	***	***	***	***	***	***	***	***	***	***	***	***
Sept	***	***	***	***	***	***	***	***	***	***	***	***	***	***
Oct	***	***	***	***	***	***	***	***	***	***	***	***	***	***
Nov	***	***	***	***	***	***	***	***	***	***	***	***	***	***
Dec	***	***	***	***	***	***	***	***	***	***	***	***	***	***
Annual	***	***	***	***	***	***	***	***	***	***	***	***	***	***

Terms and abbreviations are given in Table 4.5.

Table 4.49 Monthly results **Site: Ganghwa** **Country: R of Korea**

Code: KRA001

Precipitation amount-weighted average concentration/ Precipitation amount

2025	SO_4^{2-} µmol L^{-1}	nss-SO_4^{2-} µmol L^{-1}	NO_3^- µmol L^{-1}	Cl^- µmol L^{-1}	NH_4^+ µmol L^{-1}	Na^+ µmol L^{-1}	K^+ µmol L^{-1}	Ca^{2+} µmol L^{-1}	nss-Ca^{2+} µmol L^{-1}	Mg^{2+} µmol L^{-1}	H^+ µmol L^{-1}	pH	EC mS m^{-1}	Precip. mm $month^{-1}$ or mm $year^{-1}$
Jan	38.5	33.3	138	111	118	85.8	7.19	20.8	19.0	14.5	61.2	4.21	5.91	27.4
Feb	--	--	--	--	--	--	--	--	--	--	--	--	--	0
Mar	26.9	23.7	42.7	66.9	75.5	52.7	4.67	22.2	21.1	9.98	0.682	6.17	2.78	25.8
Apr	18.2	15.8	37.7	46.8	50.5	40.5	3.49	28.2	27.3	7.85	3.81	5.42	2.43	87.4
May	15.9	14.5	37.0	30.5	58.5	23.7	3.27	14.2	13.7	5.12	4.17	5.38	1.80	71.0
June	10.9	9.02	29.8	41.3	31.6	31.1	8.14	10.4	9.69	7.04	6.53	5.19	1.60	58.9
July	7.66	6.64	19.0	22.0	22.9	17.0	2.06	3.98	3.61	3.07	3.37	5.47	1.00	101
Aug	8.41	5.43	14.6	64.4	11.9	49.5	3.66	3.53	2.46	6.61	12.2	4.91	1.54	63.9
Sept	5.08	4.07	13.2	21.6	11.0	16.8	11.2	4.02	3.65	2.64	3.04	5.52	0.953	209
Oct	6.71	5.97	18.5	16.6	18.5	12.2	7.76	4.80	4.54	2.74	10.2	4.99	0.924	147
Nov	33.9	28.4	112	125	110	91.8	14.7	30.1	28.2	15.4	2.16	5.66	4.61	26.0
Dec	16.0	12.9	33.6	63.5	23.3	51.9	2.90	16.2	15.1	8.82	7.47	5.13	2.01	21.7
Annual	11.6	9.80	29.2	37.4	32.2	29.1	6.81	10.2	9.53	5.24	7.37	5.13	1.63	840
Max.	69.7	58.0	229	242	232	195	60.7	61.9	57.7	30.7	79.4	6.74	7.94	
Min.	0.751	0.583	1.33	3.29	<0.8	2.40	0.508	1.16	1.09	0.839	0.182	4.10	0.290	

Wet deposition amount

2025	SO_4^{2-} mmol m^{-2}	nss-SO_4^{2-} mmol m^{-2}	NO_3^- mmol m^{-2}	Cl^- mmol m^{-2}	NH_4^+ mmol m^{-2}	Na^+ mmol m^{-2}	K^+ mmol m^{-2}	Ca^{2+} mmol m^{-2}	nss-Ca^{2+} mmol m^{-2}	Mg^{2+} mmol m^{-2}	H^+ mmol m^{-2}
Jan	1.05	0.910	3.76	3.03	3.22	2.35	0.197	0.569	0.519	0.397	1.68
Feb	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Mar	0.694	0.612	1.10	1.73	1.95	1.36	0.120	0.573	0.544	0.257	0.0176
Apr	1.59	1.38	3.29	4.09	4.42	3.54	0.305	2.46	2.39	0.686	0.333
May	1.13	1.03	2.63	2.16	4.15	1.68	0.232	1.01	0.972	0.364	0.297
June	0.641	0.531	1.75	2.43	1.86	1.83	0.479	0.610	0.570	0.414	0.384
July	0.776	0.673	1.93	2.22	2.32	1.72	0.209	0.403	0.366	0.311	0.341
Aug	0.538	0.347	0.932	4.12	0.758	3.16	0.234	0.226	0.157	0.422	0.780
Sept	1.06	0.852	2.75	4.53	2.29	3.52	2.35	0.840	0.764	0.552	0.636
Oct	0.987	0.878	2.72	2.44	2.72	1.80	1.14	0.706	0.667	0.404	1.51
Nov	0.880	0.736	2.92	3.23	2.86	2.38	0.380	0.782	0.731	0.399	0.0562
Dec	0.347	0.279	0.727	1.38	0.505	1.12	0.0628	0.351	0.327	0.191	0.162
Annual	9.70	8.23	24.5	31.4	27.1	24.5	5.71	8.53	8.00	4.40	6.19

Data completeness

2025	SO_4^{2-} %TP	nss-SO_4^{2-} %TP	NO_3^- %TP	Cl^- %TP	NH_4^+ %TP	Na^+ %TP	K^+ %TP	Ca^{2+} %TP	nss-Ca^{2+} %TP	Mg^{2+} %TP	H^+ %TP	pH %TP	EC %TP	Precip. %PCL
Jan	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Feb	--	--	--	--	--	--	--	--	--	--	--	--	--	100
Mar	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Apr	100	100	100	100	100	100	100	100	100	100	100	100	100	100
May	100	100	100	100	100	100	100	100	100	100	100	100	100	100
June	100	100	100	100	100	100	100	100	100	100	100	100	100	100
July	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Aug	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Sept	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Oct	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Nov	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Dec	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Annual	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**

Terms and abbreviations are given in Table 4.5.

Table 4.50 Monthly results **Site: Jeju** **Country: R of Korea**

Code: KRA002

Precipitation amount-weighted average concentration/ Precipitation amount

2025	SO_4^{2-} µmol L^{-1}	nss-SO_4^{2-} µmol L^{-1}	NO_3^- µmol L^{-1}	Cl^- µmol L^{-1}	NH_4^+ µmol L^{-1}	Na^+ µmol L^{-1}	K^+ µmol L^{-1}	Ca^{2+} µmol L^{-1}	nss-Ca^{2+} µmol L^{-1}	Mg^{2+} µmol L^{-1}	H^+ µmol L^{-1}	pH	EC mS m^{-1}	Precip. mm $month^{-1}$ or mm $year^{-1}$
Jan	56.0	27.3	14.1	538	12.0	476	14.5	13.8	3.55	64.7	2.00	5.70	9.19	5.0
Feb	--	--	--	--	--	--	--	--	--	--	--	--	--	0
Mar	36.6	29.8	13.9	99.1	20.5	112	2.02	6.68	4.27	17.2	1.45	5.84	2.84	7.6
Apr	57.5	35.2	20.2	369	29.1	371	13.7	19.4	11.4	44.0	1.32	5.88	6.93	25.8
May	22.4	14.6	24.0	232	30.0	130	133	9.23	6.42	11.8	0.428	6.37	4.66	66.2
June	14.4	10.9	11.0	29.5	25.4	59.4	0.885	2.20	0.911	3.10	0.953	6.02	1.26	33.4
July	16.0	6.97	21.2	122	25.7	150	2.66	4.28	1.18	10.4	0.622	6.21	2.68	12.7
Aug	18.9	9.92	39.1	132	33.2	149	3.06	5.54	2.56	11.2	2.36	5.63	2.69	50.9
Sept	18.0	11.0	36.2	81.3	28.0	117	2.25	3.23	1.10	6.32	3.42	5.47	2.07	36.6
Oct	19.3	13.4	15.2	83.5	25.8	98.0	1.64	2.89	0.776	8.14	0.832	6.08	1.87	20.8
Nov	64.4	23.6	84.4	783	35.3	677	26.4	27.9	13.3	81.2	13.2	4.88	11.7	5.0
Dec	--	--	--	--	--	--	--	--	--	--	--	--	--	0
Annual	24.8	15.1	26.4	175	28.6	161	36.8	7.42	4.04	15.1	1.71	5.77	3.56	264
Max.	72.9	48.5	86.1	783	80.9	677	415	27.9	13.4	81.2	13.2	6.95	11.7	
Min.	9.42	1.26	8.51	13.2	8.20	41.7	0.373	0.661	<0.2	0.983	0.112	4.88	0.960	

Wet deposition amount

2025	SO_4^{2-} mmol m^{-2}	nss-SO_4^{2-} mmol m^{-2}	NO_3^- mmol m^{-2}	Cl^- mmol m^{-2}	NH_4^+ mmol m^{-2}	Na^+ mmol m^{-2}	K^+ mmol m^{-2}	Ca^{2+} mmol m^{-2}	nss-Ca^{2+} mmol m^{-2}	Mg^{2+} mmol m^{-2}	H^+ mmol m^{-2}
Jan	0.280	0.137	0.0703	2.69	0.0602	2.38	0.0727	0.0692	0.0178	0.323	<0.01
Feb	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Mar	0.278	0.227	0.105	0.753	0.155	0.850	0.0153	0.0508	0.0324	0.131	0.0110
Apr	1.48	0.907	0.521	9.53	0.751	9.57	0.353	0.501	0.294	1.14	0.0342
May	1.49	0.966	1.59	15.4	1.99	8.63	8.81	0.612	0.425	0.782	0.0283
June	0.482	0.363	0.367	0.986	0.848	1.99	0.0296	0.0733	0.0304	0.104	0.0318
July	0.203	0.0886	0.269	1.56	0.327	1.91	0.0338	0.0543	0.0150	0.132	<0.01
Aug	0.961	0.505	1.99	6.73	1.69	7.57	0.156	0.282	0.130	0.571	0.120
Sept	0.660	0.403	1.33	2.98	1.02	4.27	0.0825	0.118	0.0402	0.232	0.125
Oct	0.402	0.279	0.317	1.74	0.536	2.04	0.0341	0.0602	0.0161	0.169	0.0173
Nov	0.322	0.118	0.422	3.92	0.176	3.39	0.132	0.139	0.0663	0.406	0.0659
Dec	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Annual	6.56	3.99	6.98	46.2	7.56	42.6	9.72	1.96	1.07	3.99	0.452

Data completeness

2025	SO_4^{2-} %TP	nss-SO_4^{2-} %TP	NO_3^- %TP	Cl^- %TP	NH_4^+ %TP	Na^+ %TP	K^+ %TP	Ca^{2+} %TP	nss-Ca^{2+} %TP	Mg^{2+} %TP	H^+ %TP	pH %TP	EC %TP	Precip. %PCL
Jan	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Feb	--	--	--	--	--	--	--	--	--	--	--	--	--	100
Mar	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Apr	100	100	100	100	100	100	100	100	100	100	100	100	100	100
May	100	100	100	100	100	100	100	100	100	100	100	100	100	100
June	100	100	100	100	100	100	100	100	100	100	100	100	100	100
July	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Aug	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Sept	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Oct	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Nov	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Dec	--	--	--	--	--	--	--	--	--	--	--	--	--	100
Annual	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**

Terms and abbreviations are given in Table 4.5.

Table 4.51 Monthly results **Site: Imsil** **Country: R of Korea**

Code: KRA003

Precipitation amount-weighted average concentration/ Precipitation amount

2025	SO_4^{2-} µmol L^{-1}	nss-SO_4^{2-} µmol L^{-1}	NO_3^- µmol L^{-1}	Cl^- µmol L^{-1}	NH_4^+ µmol L^{-1}	Na^+ µmol L^{-1}	K^+ µmol L^{-1}	Ca^{2+} µmol L^{-1}	nss-Ca^{2+} µmol L^{-1}	Mg^{2+} µmol L^{-1}	H^+ µmol L^{-1}	pH	EC mS m^{-1}	Precip. mm $month^{-1}$ or mm $year^{-1}$
Jan	50.2	42.0	174	168	128	137	10.1	34.1	31.1	19.0	0.520	6.28	4.86	15.8
Feb	15.5	12.8	32.6	36.8	30.9	45.2	5.40	10.5	9.50	3.98	0.881	6.06	1.36	20.5
Mar	27.9	21.3	40.6	147	56.5	109	4.08	11.5	9.13	13.7	0.143	6.85	2.79	14.7
Apr	14.1	10.4	28.7	46.8	33.8	60.4	1.79	21.3	20.0	5.65	0.125	6.90	1.52	25.6
May	--	--	--	--	--	--	--	--	--	--	--	--	--	0
June	3.40	2.20	14.9	5.73	30.7	19.9	0.547	2.60	2.17	0.761	0.661	6.18	0.620	7.4
July	--	--	--	--	--	--	--	--	--	--	--	--	--	0
Aug	15.9	14.0	9.04	5.17	11.5	31.0	<0.3	0.287	<0.2	<0.3	1.23	5.91	0.520	8.0
Sept	5.98	4.21	18.6	7.41	15.3	29.5	0.421	0.474	<0.2	<0.3	0.939	6.03	0.512	115
Oct	11.4	9.16	30.4	11.0	33.1	37.6	1.30	1.68	0.988	1.32	0.243	6.61	0.784	56.8
Nov	32.5	24.8	94.0	160	84.9	128	9.49	26.4	23.7	16.7	0.600	6.22	3.23	28.2
Dec	15.2	11.2	41.1	60.0	29.6	65.1	3.26	13.2	11.7	6.79	0.498	6.30	1.74	37.0
Annual	14.7	11.4	39.4	45.7	35.8	55.2	2.71	8.72	7.64	4.72	0.618	6.21	1.37	329
Max.	170	164	503	810	381	591	82.3	97.3	84.5	83.5	20.9	6.99	11.3	
Min.	1.69	<0.3	9.04	2.62	6.83	18.5	<0.3	<0.2	<0.2	<0.3	0.102	4.68	0.350	

Wet deposition amount

2025	SO_4^{2-} mmol m^{-2}	nss-SO_4^{2-} mmol m^{-2}	NO_3^- mmol m^{-2}	Cl^- mmol m^{-2}	NH_4^+ mmol m^{-2}	Na^+ mmol m^{-2}	K^+ mmol m^{-2}	Ca^{2+} mmol m^{-2}	nss-Ca^{2+} mmol m^{-2}	Mg^{2+} mmol m^{-2}	H^+ mmol m^{-2}
Jan	0.793	0.663	2.75	2.65	2.01	2.16	0.160	0.538	0.492	0.300	<0.01
Feb	0.318	0.262	0.667	0.754	0.632	0.927	0.111	0.215	0.195	0.0815	0.0180
Mar	0.410	0.314	0.596	2.15	0.831	1.60	0.0600	0.169	0.134	0.201	<0.01
Apr	0.360	0.267	0.734	1.20	0.864	1.55	0.0457	0.546	0.513	0.145	<0.01
May	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
June	0.0252	0.0163	0.110	0.0424	0.227	0.147	<0.01	0.0192	0.0160	<0.01	<0.01
July	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Aug	0.127	0.112	0.0723	0.0414	0.0924	0.248	<0.01	<0.01	<0.01	<0.01	<0.01
Sept	0.689	0.484	2.14	0.854	1.76	3.40	0.0485	0.0546	<0.01	0.0228	0.108
Oct	0.649	0.520	1.73	0.622	1.88	2.13	0.0738	0.0954	0.0561	0.0748	0.0138
Nov	0.915	0.699	2.65	4.50	2.39	3.61	0.268	0.745	0.667	0.471	0.0169
Dec	0.561	0.416	1.52	2.22	1.09	2.41	0.121	0.487	0.435	0.251	0.0184
Annual	4.85	3.75	13.0	15.0	11.8	18.2	0.892	2.87	2.52	1.55	0.204

Data completeness

2025	SO_4^{2-} %TP	nss-SO_4^{2-} %TP	NO_3^- %TP	Cl^- %TP	NH_4^+ %TP	Na^+ %TP	K^+ %TP	Ca^{2+} %TP	nss-Ca^{2+} %TP	Mg^{2+} %TP	H^+ %TP	pH %TP	EC %TP	Precip. %PCL
Jan	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Feb	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Mar	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Apr	100	100	100	100	100	100	100	100	100	100	100	100	100	100
May	--	--	--	--	--	--	--	--	--	--	--	--	--	100
June	100	100	100	100	100	100	100	100	100	100	100	100	100	100
July	--	--	--	--	--	--	--	--	--	--	--	--	--	100
Aug	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Sept	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Oct	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Nov	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Dec	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Annual	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**

Terms and abbreviations are given in Table 4.5.

Table 4.52 Monthly results **Site: Listvyanka** **Country: Russia**

Code: RUA002

Precipitation amount-weighted average concentration/ Precipitation amount

2025	SO_4^{2-} µmol L^{-1}	nss-SO_4^{2-} µmol L^{-1}	NO_3^- µmol L^{-1}	Cl^- µmol L^{-1}	NH_4^+ µmol L^{-1}	Na^+ µmol L^{-1}	K^+ µmol L^{-1}	Ca^{2+} µmol L^{-1}	nss-Ca^{2+} µmol L^{-1}	Mg^{2+} µmol L^{-1}	H^+ µmol L^{-1}	pH	EC mS m^{-1}	Precip. mm $month^{-1}$ or mm $year^{-1}$
Jan	21.3	20.9	48.6	4.50	4.88	5.96	2.42	33.7	33.6	6.59	4.86	5.31	1.60	7.7
Feb	32.8	32.4	69.1	2.46	8.33	7.23	3.22	48.2	48.1	12.0	2.63	5.58	2.32	2.2
Mar	36.9	36.4	75.2	1.63	23.5	8.13	4.40	47.8	47.6	10.3	4.61	5.34	2.37	12.5
Apr	27.8	27.5	32.1	1.97	33.8	4.37	7.23	21.7	21.6	6.63	7.94	5.10	1.86	17.8
May	23.4	23.3	16.3	3.89	26.8	2.79	8.08	26.2	26.1	8.78	6.17	5.21	1.57	37.7
June	24.1	24.0	15.1	4.40	30.0	2.11	7.24	20.3	20.2	6.00	8.59	5.07	1.49	26.5
July	10.4	10.3	11.0	2.75	16.2	1.27	1.26	7.09	7.07	1.95	12.0	4.92	0.961	69.0
Aug	7.14	7.11	8.25	2.29	5.65	0.563	0.399	3.40	3.39	1.13	20.9	4.68	0.893	155
Sept	10.2	10.1	7.87	3.19	4.80	1.49	2.93	9.10	9.07	2.73	13.7	4.86	0.988	38.0
Oct	49.1	48.3	30.1	41.9	13.1	13.2	73.7	41.0	40.7	24.8	2.64	5.58	3.28	6.8
Nov	40.9	40.6	5.46	14.6	26.2	4.35	53.2	40.1	40.0	22.9	0.782	6.11	2.55	7.8
Dec	10.3	10.1	30.0	4.50	16.0	4.44	7.45	22.5	22.4	4.51	1.97	5.70	1.10	7.0
Annual	14.5	14.4	15.1	3.75	13.7	2.03	4.98	12.8	12.8	4.14	13.7	4.86	1.21	387
Max.	70.8	69.7	119	53.0	202	23.9	110	92.3	92.2	38.6	51.3	6.58	6.39	
Min.	2.98	2.95	1.61	0.510	<0.8	0.435	<0.3	0.499	0.490	0.400	0.263	4.29	0.495	

Wet deposition amount

2025	SO_4^{2-} mmol m^{-2}	nss-SO_4^{2-} mmol m^{-2}	NO_3^- mmol m^{-2}	Cl^- mmol m^{-2}	NH_4^+ mmol m^{-2}	Na^+ mmol m^{-2}	K^+ mmol m^{-2}	Ca^{2+} mmol m^{-2}	nss-Ca^{2+} mmol m^{-2}	Mg^{2+} mmol m^{-2}	H^+ mmol m^{-2}
Jan	0.164	0.161	0.375	0.0346	0.0376	0.0459	0.0186	0.260	0.259	0.0508	0.0374
Feb	0.0722	0.0712	0.152	<0.01	0.0183	0.0159	<0.01	0.106	0.106	0.0265	<0.01
Mar	0.461	0.455	0.940	0.0204	0.294	0.102	0.0550	0.597	0.595	0.129	0.0576
Apr	0.495	0.490	0.571	0.0350	0.602	0.0777	0.129	0.387	0.385	0.118	0.141
May	0.883	0.877	0.616	0.146	1.01	0.105	0.305	0.987	0.985	0.331	0.233
June	0.640	0.636	0.400	0.117	0.794	0.0559	0.192	0.537	0.536	0.159	0.228
July	0.715	0.710	0.759	0.190	1.12	0.0876	0.0869	0.489	0.488	0.134	0.829
Aug	1.10	1.10	1.28	0.353	0.873	0.0870	0.0617	0.525	0.523	0.174	3.23
Sept	0.388	0.384	0.299	0.121	0.182	0.0565	0.111	0.346	0.345	0.104	0.522
Oct	0.332	0.327	0.203	0.283	0.0885	0.0895	0.498	0.277	0.275	0.167	0.0178
Nov	0.319	0.317	0.0426	0.114	0.204	0.0339	0.415	0.312	0.312	0.179	<0.01
Dec	0.0724	0.0705	0.210	0.0315	0.112	0.0310	0.0521	0.157	0.157	0.0316	0.0138
Annual	5.64	5.59	5.83	1.45	5.33	0.787	1.93	4.98	4.96	1.60	5.32

Data completeness

2025	SO_4^{2-} %TP	nss-SO_4^{2-} %TP	NO_3^- %TP	Cl^- %TP	NH_4^+ %TP	Na^+ %TP	K^+ %TP	Ca^{2+} %TP	nss-Ca^{2+} %TP	Mg^{2+} %TP	H^+ %TP	pH %TP	EC %TP	Precip. %PCL
Jan	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Feb	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Mar	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Apr	97.2	97.2	97.2	97.2	97.2	97.2	97.2	97.2	97.2	97.2	100	100	100	100
May	100	100	100	100	100	100	100	100	100	100	100	100	100	100
June	100	100	100	100	100	100	100	100	100	100	100	100	100	100
July	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Aug	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Sept	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Oct	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Nov	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Dec	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Annual	**99.9**	**99.9**	**99.9**	**99.9**	**99.9**	**99.9**	**99.9**	**99.9**	**99.9**	**99.9**	**100**	**100**	**100**	**100**

Terms and abbreviations are given in Table 4.5.

Table 4.53 Monthly results **Site: Irkutsk** **Country: Russia**

Code: RUA003

Precipitation amount-weighted average concentration/ Precipitation amount

2025	SO_4^{2-} µmol L^{-1}	nss-SO_4^{2-} µmol L^{-1}	NO_3^- µmol L^{-1}	Cl^- µmol L^{-1}	NH_4^+ µmol L^{-1}	Na^+ µmol L^{-1}	K^+ µmol L^{-1}	Ca^{2+} µmol L^{-1}	nss-Ca^{2+} µmol L^{-1}	Mg^{2+} µmol L^{-1}	H^+ µmol L^{-1}	pH	EC mS m^{-1}	Precip. mm $month^{-1}$ or mm $year^{-1}$
Jan	33.2	32.3	37.1	14.6	34.7	15.0	5.01	54.9	54.6	9.45	1.03	5.99	2.44	8.7
Feb	94.0	88.8	59.9	132	61.2	85.9	11.3	183	181	21.6	0.106	6.98	6.74	6.4
Mar	51.0	49.2	38.6	34.6	39.4	29.4	5.93	63.3	62.6	16.3	1.54	5.81	3.39	16.1
Apr	38.9	38.2	25.5	14.7	40.8	11.2	3.97	39.7	39.5	13.1	0.685	6.16	2.40	19.6
May	30.2	30.0	19.7	7.27	37.7	3.82	13.1	23.1	23.0	11.4	4.52	5.35	1.78	30.5
June	23.3	23.5	13.8	4.41	32.7	1.35	1.03	15.0	14.9	4.39	13.1	4.88	1.44	29.8
July	21.5	21.4	12.1	2.09	26.0	1.08	1.90	11.0	11.0	3.41	14.0	4.85	1.45	63.5
Aug	14.7	14.7	11.7	2.22	14.5	0.872	0.629	8.64	8.62	2.10	21.0	4.68	1.32	102
Sept	15.4	15.3	12.1	2.24	12.0	0.737	3.01	8.69	8.68	3.57	15.4	4.81	1.07	38.2
Oct	27.7	27.3	10.7	9.39	22.3	6.58	16.0	26.0	25.9	11.0	2.33	5.63	1.60	35.8
Nov	25.4	24.7	17.3	11.2	27.2	11.3	19.2	28.1	27.8	11.5	1.76	5.75	1.80	23.4
Dec	25.3	24.4	25.6	17.5	33.7	15.3	15.4	41.3	41.0	10.0	0.526	6.28	2.05	17.7
Annual	24.5	24.1	16.6	8.99	25.2	6.36	5.92	22.6	22.4	6.72	11.1	4.96	1.70	391
Max.	322	317	95.0	208	178	123	238	297	295	189	38.9	7.94	16.9	
Min.	2.55	2.52	<0.5	0.663	2.60	0.435	<0.3	2.74	2.74	0.411	0.0115	4.41	0.462	

Wet deposition amount

2025	SO_4^{2-} mmol m^{-2}	nss-SO_4^{2-} mmol m^{-2}	NO_3^- mmol m^{-2}	Cl^- mmol m^{-2}	NH_4^+ mmol m^{-2}	Na^+ mmol m^{-2}	K^+ mmol m^{-2}	Ca^{2+} mmol m^{-2}	nss-Ca^{2+} mmol m^{-2}	Mg^{2+} mmol m^{-2}	H^+ mmol m^{-2}
Jan	0.289	0.281	0.323	0.127	0.302	0.130	0.0436	0.478	0.475	0.0822	<0.01
Feb	0.602	0.568	0.383	0.845	0.391	0.550	0.0721	1.17	1.16	0.138	<0.01
Mar	0.820	0.791	0.620	0.556	0.634	0.472	0.0953	1.02	1.01	0.263	0.0247
Apr	0.762	0.749	0.499	0.288	0.801	0.219	0.0778	0.778	0.774	0.257	0.0134
May	0.922	0.915	0.600	0.222	1.15	0.116	0.400	0.705	0.702	0.348	0.138
June	0.694	0.702	0.412	0.131	0.974	0.0402	0.0308	0.446	0.445	0.131	0.392
July	1.37	1.36	0.767	0.133	1.65	0.0688	0.120	0.697	0.695	0.216	0.887
Aug	1.50	1.49	1.19	0.226	1.48	0.0888	0.0640	0.880	0.878	0.214	2.14
Sept	0.588	0.587	0.463	0.0855	0.458	0.0282	0.115	0.332	0.332	0.137	0.589
Oct	0.989	0.975	0.382	0.336	0.799	0.235	0.571	0.931	0.925	0.393	0.0833
Nov	0.594	0.578	0.404	0.262	0.637	0.265	0.448	0.657	0.651	0.270	0.0413
Dec	0.446	0.430	0.452	0.309	0.594	0.269	0.273	0.729	0.723	0.177	<0.01
Annual	9.57	9.43	6.49	3.52	9.87	2.49	2.32	8.83	8.78	2.63	4.33

Data completeness

2025	SO_4^{2-} %TP	nss-SO_4^{2-} %TP	NO_3^- %TP	Cl^- %TP	NH_4^+ %TP	Na^+ %TP	K^+ %TP	Ca^{2+} %TP	nss-Ca^{2+} %TP	Mg^{2+} %TP	H^+ %TP	pH %TP	EC %TP	Precip. %PCL
Jan	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Feb	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Mar	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Apr	100	100	100	100	100	100	100	100	100	100	100	100	100	100
May	100	100	100	100	100	100	100	100	100	100	100	100	100	100
June	100	95.6	100	100	100	95.6	95.6	95.6	95.6	95.6	100	100	100	100
July	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Aug	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Sept	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Oct	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Nov	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Dec	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Annual	**100**	**99.7**	**100**	**100**	**100**	**99.7**	**99.7**	**99.7**	**99.7**	**99.7**	**100**	**100**	**100**	**100**

Terms and abbreviations are given in Table 4.5.

Table 4.54 Monthly results **Site: Primorskaya** **Country: Russia**

Code: RUA004

Precipitation amount-weighted average concentration/ Precipitation amount

2025	SO_4^{2-} µmol L^{-1}	nss-SO_4^{2-} µmol L^{-1}	NO_3^- µmol L^{-1}	Cl^- µmol L^{-1}	NH_4^+ µmol L^{-1}	Na^+ µmol L^{-1}	K^+ µmol L^{-1}	Ca^{2+} µmol L^{-1}	nss-Ca^{2+} µmol L^{-1}	Mg^{2+} µmol L^{-1}	H^+ µmol L^{-1}	pH	EC mS m^{-1}	Precip. mm $month^{-1}$ or mm $year^{-1}$
Jan	*	*	*	*	*	*	*	*	*	*	0.668	6.18	*	1.7
Feb	*	*	*	*	*	*	*	*	*	*	0.926	6.03	*	1.8
Mar	24.6	23.5	18.5	40.4	133	19.7	9.84	8.33	7.91	7.49	0.709	6.15	2.26	21.8
Apr	15.3	13.6	13.0	40.7	88.6	27.4	13.0	7.69	7.09	2.86	2.96	5.53	1.70	74.8
May	11.6	10.2	12.9	15.7	79.1	23.4	13.7	9.64	9.14	8.19	0.623	6.21	1.56	106
June	25.3	24.1	18.7	22.9	40.8	19.5	17.6	21.0	20.6	6.13	1.38	5.86	1.74	149
July	17.9	17.2	10.3	19.9	31.4	10.4	7.93	6.20	5.98	2.91	2.58	5.59	1.17	71.1
Aug	18.2	17.2	12.1	19.2	37.6	17.3	9.25	10.0	9.66	6.05	2.45	5.61	1.62	165
Sept	16.4	15.7	6.80	17.8	17.7	11.7	8.70	5.20	4.95	4.10	2.01	5.70	1.10	59.2
Oct	23.5	21.4	10.8	18.2	71.4	35.2	17.8	15.8	15.0	4.71	1.57	5.80	1.96	44.4
Nov	21.4	17.8	8.37	25.2	87.3	60.2	18.4	40.7	39.4	30.1	1.40	5.85	2.50	21.4
Dec	9.50	7.22	12.4	13.5	56.5	37.8	14.1	23.0	22.2	8.60	1.26	5.90	1.60	5.6
Annual	19.0	17.7	13.5	21.1	56.9	22.1	13.3	13.6	13.1	6.90	1.83	5.74	1.66	722
Max.	66.8	66.5	34.2	88.0	216	104	53.5	73.1	72.3	57.6	7.08	6.90	4.70	
Min.	6.90	4.86	5.60	9.00	12.1	1.70	1.50	1.70	1.56	0.800	0.126	5.15	0.800	

Wet deposition amount

2025	SO_4^{2-} mmol m^{-2}	nss-SO_4^{2-} mmol m^{-2}	NO_3^- mmol m^{-2}	Cl^- mmol m^{-2}	NH_4^+ mmol m^{-2}	Na^+ mmol m^{-2}	K^+ mmol m^{-2}	Ca^{2+} mmol m^{-2}	nss-Ca^{2+} mmol m^{-2}	Mg^{2+} mmol m^{-2}	H^+ mmol m^{-2}
Jan	*	*	*	*	*	*	*	*	*	*	<0.01
Feb	*	*	*	*	*	*	*	*	*	*	<0.01
Mar	0.537	0.511	0.402	0.880	2.90	0.429	0.215	0.182	0.172	0.163	0.0155
Apr	1.14	1.02	0.969	3.05	6.62	2.05	0.969	0.575	0.531	0.214	0.221
May	1.23	1.08	1.37	1.67	8.40	2.49	1.46	1.02	0.971	0.871	0.0662
June	3.77	3.60	2.79	3.41	6.09	2.90	2.62	3.13	3.07	0.914	0.206
July	1.27	1.23	0.733	1.42	2.23	0.742	0.564	0.441	0.425	0.207	0.184
Aug	3.00	2.83	1.99	3.17	6.21	2.86	1.53	1.66	1.59	0.998	0.403
Sept	0.971	0.929	0.403	1.05	1.05	0.693	0.515	0.308	0.293	0.243	0.119
Oct	1.05	0.951	0.479	0.807	3.17	1.56	0.791	0.700	0.666	0.209	0.0699
Nov	0.459	0.381	0.179	0.539	1.87	1.29	0.393	0.870	0.842	0.645	0.0301
Dec	0.0532	0.0404	0.0694	0.0756	0.316	0.212	0.0790	0.129	0.124	0.0482	<0.01
Annual	13.7	12.8	9.76	15.2	41.1	15.9	9.57	9.81	9.47	4.98	1.32

Data completeness

2025	SO_4^{2-} %TP	nss-SO_4^{2-} %TP	NO_3^- %TP	Cl^- %TP	NH_4^+ %TP	Na^+ %TP	K^+ %TP	Ca^{2+} %TP	nss-Ca^{2+} %TP	Mg^{2+} %TP	H^+ %TP	pH %TP	EC %TP	Precip. %PCL
Jan	0	0	0	0	0	0	0	0	0	0	100	100	0	100
Feb	0	0	0	0	0	0	0	0	0	0	100	100	0	100
Mar	86.7	86.7	86.7	86.7	86.7	86.7	86.7	86.7	86.7	86.7	100	100	86.7	100
Apr	23.8	23.8	23.8	23.8	23.8	23.8	23.8	23.8	23.8	23.8	100	100	23.8	100
May	97.1	97.1	97.1	97.1	97.1	97.1	97.1	97.1	97.1	97.1	100	100	97.1	100
June	74.2	74.2	74.2	74.2	74.2	74.2	74.2	74.2	74.2	74.2	100	100	74.2	100
July	84.8	84.8	84.8	84.8	84.8	84.8	84.8	84.8	84.8	84.8	100	100	84.8	100
Aug	59.0	59.0	59.0	59.0	59.0	59.0	59.0	59.0	59.0	59.0	100	100	59.0	100
Sept	13.0	13.0	13.0	13.0	13.0	13.0	13.0	13.0	13.0	13.0	100	100	13.0	100
Oct	94.4	94.4	94.4	94.4	94.4	94.4	94.4	94.4	94.4	94.4	100	100	94.4	100
Nov	88.8	88.8	88.8	88.8	88.8	88.8	88.8	88.8	88.8	88.8	100	100	88.8	100
Dec	82.1	82.1	82.1	82.1	82.1	82.1	82.1	82.1	82.1	82.1	100	100	82.1	100
Annual	**66.7**	**66.7**	**66.7**	**66.7**	**66.7**	**66.7**	**66.7**	**66.7**	**66.7**	**66.7**	**100**	**100**	**66.7**	**100**

Terms and abbreviations are given in Table 4.5.

Table 4.55 Monthly results **Site: Bangkok** **Country: Thailand**

Code: THA001

Precipitation amount-weighted average concentration/ Precipitation amount

2025	SO_4^{2-} µmol L^{-1}	nss-SO_4^{2-} µmol L^{-1}	NO_3^- µmol L^{-1}	Cl^- µmol L^{-1}	NH_4^+ µmol L^{-1}	Na^+ µmol L^{-1}	K^+ µmol L^{-1}	Ca^{2+} µmol L^{-1}	nss-Ca^{2+} µmol L^{-1}	Mg^{2+} µmol L^{-1}	H^+ µmol L^{-1}	pH	EC mS m^{-1}	Precip. mm $month^{-1}$ or mm $year^{-1}$
Jan	--	--	--	--	--	--	--	--	--	--	--	--	--	0
Feb	*	*	*	*	*	*	*	*	*	*	17.5	4.76	2.47	66.5
Mar	--	--	--	--	--	--	--	--	--	--	--	--	--	0
Apr	*	*	*	*	*	*	*	*	*	*	1.86	5.73	1.49	167
May	*	*	*	*	*	*	*	*	*	*	1.03	5.99	0.798	195
June	*	*	*	*	*	*	*	*	*	*	0.448	6.35	0.694	169
July	*	*	*	*	*	*	*	*	*	*	0.554	6.26	0.852	63.5
Aug	*	*	*	*	*	*	*	*	*	*	0.506	6.30	0.917	127
Sept	*	*	*	*	*	*	*	*	*	*	2.93	5.53	0.773	253
Oct	*	*	*	*	*	*	*	*	*	*	8.20	5.09	1.28	192
Nov	*	*	*	*	*	*	*	*	*	*	5.69	5.24	0.981	336
Dec	--	--	--	--	--	--	--	--	--	--	--	--	--	0
Annual	*	*	*	*	*	*	*	*	*	*	3.87	5.41	1.04	1568
Max.	*	*	*	*	*	*	*	*	*	*	25.1	7.05	5.31	
Min.	*	*	*	*	*	*	*	*	*	*	0.0891	4.60	0.220	

Wet deposition amount

2025	SO_4^{2-} mmol m^{-2}	nss-SO_4^{2-} mmol m^{-2}	NO_3^- mmol m^{-2}	Cl^- mmol m^{-2}	NH_4^+ mmol m^{-2}	Na^+ mmol m^{-2}	K^+ mmol m^{-2}	Ca^{2+} mmol m^{-2}	nss-Ca^{2+} mmol m^{-2}	Mg^{2+} mmol m^{-2}	H^+ mmol m^{-2}
Jan	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Feb	*	*	*	*	*	*	*	*	*	*	1.16
Mar	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Apr	*	*	*	*	*	*	*	*	*	*	0.310
May	*	*	*	*	*	*	*	*	*	*	0.200
June	*	*	*	*	*	*	*	*	*	*	0.0758
July	*	*	*	*	*	*	*	*	*	*	0.0352
Aug	*	*	*	*	*	*	*	*	*	*	0.0640
Sept	*	*	*	*	*	*	*	*	*	*	0.741
Oct	*	*	*	*	*	*	*	*	*	*	1.57
Nov	*	*	*	*	*	*	*	*	*	*	1.91
Dec	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Annual	*	*	*	*	*	*	*	*	*	*	6.07

Data completeness

2025	SO_4^{2-} %TP	nss-SO_4^{2-} %TP	NO_3^- %TP	Cl^- %TP	NH_4^+ %TP	Na^+ %TP	K^+ %TP	Ca^{2+} %TP	nss-Ca^{2+} %TP	Mg^{2+} %TP	H^+ %TP	pH %TP	EC %TP	Precip. %PCL
Jan	--	--	--	--	--	--	--	--	--	--	--	--	--	100
Feb	0	0	0	0	0	0	0	0	0	0	100	100	100	100
Mar	--	--	--	--	--	--	--	--	--	--	--	--	--	100
Apr	0	0	0	0	0	0	0	0	0	0	100	100	100	100
May	0	0	0	0	0	0	0	0	0	0	100	100	100	100
June	0	0	0	0	0	0	0	0	0	0	100	100	100	100
July	0	0	0	0	0	0	0	0	0	0	100	100	100	100
Aug	0	0	0	0	0	0	0	0	0	0	100	100	100	100
Sept	0	0	0	0	0	0	0	0	0	0	100	100	100	100
Oct	0	0	0	0	0	0	0	0	0	0	100	100	100	100
Nov	0	0	0	0	0	0	0	0	0	0	100	100	100	100
Dec	--	--	--	--	--	--	--	--	--	--	--	--	--	100
Annual	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**100**	**100**	**100**	**100**

Terms and abbreviations are given in Table 4.5.

Table 4.56 Monthly results **Site: Samutprakarn** **Country: Thailand**

Code: THA002

Precipitation amount-weighted average concentration/ Precipitation amount

2025	SO_4^{2-} µmol L^{-1}	nss-SO_4^{2-} µmol L^{-1}	NO_3^- µmol L^{-1}	Cl^- µmol L^{-1}	NH_4^+ µmol L^{-1}	Na^+ µmol L^{-1}	K^+ µmol L^{-1}	Ca^{2+} µmol L^{-1}	nss-Ca^{2+} µmol L^{-1}	Mg^{2+} µmol L^{-1}	H^+ µmol L^{-1}	pH	EC mS m^{-1}	Precip. mm $month^{-1}$ or mm $year^{-1}$
Jan	***	***	***	***	***	***	***	***	***	***	***	***	***	***
Feb	***	***	***	***	***	***	***	***	***	***	***	***	***	***
Mar	***	***	***	***	***	***	***	***	***	***	***	***	***	***
Apr	***	***	***	***	***	***	***	***	***	***	***	***	***	***
May	***	***	***	***	***	***	***	***	***	***	***	***	***	***
June	***	***	***	***	***	***	***	***	***	***	***	***	***	***
July	***	***	***	***	***	***	***	***	***	***	***	***	***	***
Aug	***	***	***	***	***	***	***	***	***	***	***	***	***	***
Sept	***	***	***	***	***	***	***	***	***	***	***	***	***	***
Oct	***	***	***	***	***	***	***	***	***	***	***	***	***	***
Nov	***	***	***	***	***	***	***	***	***	***	***	***	***	***
Dec	***	***	***	***	***	***	***	***	***	***	***	***	***	***
Annual	***	***	***	***	***	***	***	***	***	***	***	***	***	***
Max.	***	***	***	***	***	***	***	***	***	***	***	***	***	
Min.	***	***	***	***	***	***	***	***	***	***	***	***	***	

Wet deposition amount

2025	SO_4^{2-} mmol m^{-2}	nss-SO_4^{2-} mmol m^{-2}	NO_3^- mmol m^{-2}	Cl^- mmol m^{-2}	NH_4^+ mmol m^{-2}	Na^+ mmol m^{-2}	K^+ mmol m^{-2}	Ca^{2+} mmol m^{-2}	nss-Ca^{2+} mmol m^{-2}	Mg^{2+} mmol m^{-2}	H^+ mmol m^{-2}
Jan	***	***	***	***	***	***	***	***	***	***	***
Feb	***	***	***	***	***	***	***	***	***	***	***
Mar	***	***	***	***	***	***	***	***	***	***	***
Apr	***	***	***	***	***	***	***	***	***	***	***
May	***	***	***	***	***	***	***	***	***	***	***
June	***	***	***	***	***	***	***	***	***	***	***
July	***	***	***	***	***	***	***	***	***	***	***
Aug	***	***	***	***	***	***	***	***	***	***	***
Sept	***	***	***	***	***	***	***	***	***	***	***
Oct	***	***	***	***	***	***	***	***	***	***	***
Nov	***	***	***	***	***	***	***	***	***	***	***
Dec	***	***	***	***	***	***	***	***	***	***	***
Annual	***	***	***	***	***	***	***	***	***	***	***

Data completeness

2025	SO_4^{2-} %TP	nss-SO_4^{2-} %TP	NO_3^- %TP	Cl^- %TP	NH_4^+ %TP	Na^+ %TP	K^+ %TP	Ca^{2+} %TP	nss-Ca^{2+} %TP	Mg^{2+} %TP	H^+ %TP	pH %TP	EC %TP	Precip. %PCL
Jan	***	***	***	***	***	***	***	***	***	***	***	***	***	***
Feb	***	***	***	***	***	***	***	***	***	***	***	***	***	***
Mar	***	***	***	***	***	***	***	***	***	***	***	***	***	***
Apr	***	***	***	***	***	***	***	***	***	***	***	***	***	***
May	***	***	***	***	***	***	***	***	***	***	***	***	***	***
June	***	***	***	***	***	***	***	***	***	***	***	***	***	***
July	***	***	***	***	***	***	***	***	***	***	***	***	***	***
Aug	***	***	***	***	***	***	***	***	***	***	***	***	***	***
Sept	***	***	***	***	***	***	***	***	***	***	***	***	***	***
Oct	***	***	***	***	***	***	***	***	***	***	***	***	***	***
Nov	***	***	***	***	***	***	***	***	***	***	***	***	***	***
Dec	***	***	***	***	***	***	***	***	***	***	***	***	***	***
Annual	***	***	***	***	***	***	***	***	***	***	***	***	***	***

Terms and abbreviations are given in Table 4.5.

Table 4.57 Monthly results **Site: Pathumthani** **Country: Thailand**

Code: THA003

Precipitation amount-weighted average concentration/ Precipitation amount

2025	SO_4^{2-} µmol L^{-1}	nss-SO_4^{2-} µmol L^{-1}	NO_3^- µmol L^{-1}	Cl^- µmol L^{-1}	NH_4^+ µmol L^{-1}	Na^+ µmol L^{-1}	K^+ µmol L^{-1}	Ca^{2+} µmol L^{-1}	nss-Ca^{2+} µmol L^{-1}	Mg^{2+} µmol L^{-1}	H^+ µmol L^{-1}	pH	EC mS m^{-1}	Precip. mm $month^{-1}$ or mm $year^{-1}$
Jan	--	--	--	--	--	--	--	--	--	--	--	--	--	0
Feb	34.0	31.6	110	50.7	158	40.1	10.9	21.4	20.5	6.71	5.71	5.24	3.27	3.3
Mar	21.8	21.0	50.0	15.5	73.3	13.3	4.17	10.5	10.2	2.36	11.3	4.95	2.07	113
Apr	16.4	15.4	62.0	19.0	79.8	16.6	2.86	19.2	18.8	3.02	1.34	5.87	2.22	98.4
May	6.42	5.74	25.8	13.8	34.2	11.3	1.32	4.49	4.24	1.29	4.01	5.40	1.01	307
June	5.55	5.08	16.3	11.8	36.5	7.87	1.52	10.2	9.99	1.79	0.526	6.28	1.12	169
July	8.47	7.61	15.2	14.3	38.8	14.3	1.85	10.9	10.5	2.01	0.727	6.14	2.42	240
Aug	7.07	6.69	22.1	9.63	32.2	6.35	1.95	8.62	8.49	1.32	0.703	6.15	1.16	268
Sept	--	--	--	--	--	--	--	--	--	--	--	--	--	0
Oct	--	--	--	--	--	--	--	--	--	--	--	--	--	0
Nov	--	--	--	--	--	--	--	--	--	--	--	--	--	0
Dec	--	--	--	--	--	--	--	--	--	--	--	--	--	0
Annual	9.20	8.53	27.0	13.4	42.8	11.0	2.02	9.30	9.07	1.77	2.59	5.59	1.55	1198
Max.	43.0	41.4	120	59.6	166	61.6	12.2	57.9	56.6	9.77	45.7	7.56	9.74	
Min.	1.68	1.41	4.91	1.38	10.2	1.19	0.365	1.04	1.00	<0.3	0.0275	4.34	0.293	

Wet deposition amount

2025	SO_4^{2-} mmol m^{-2}	nss-SO_4^{2-} mmol m^{-2}	NO_3^- mmol m^{-2}	Cl^- mmol m^{-2}	NH_4^+ mmol m^{-2}	Na^+ mmol m^{-2}	K^+ mmol m^{-2}	Ca^{2+} mmol m^{-2}	nss-Ca^{2+} mmol m^{-2}	Mg^{2+} mmol m^{-2}	H^+ mmol m^{-2}
Jan	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Feb	0.111	0.103	0.360	0.166	0.515	0.131	0.0357	0.0699	0.0671	0.0219	0.0187
Mar	2.46	2.37	5.63	1.74	8.26	1.50	0.470	1.18	1.15	0.266	1.27
Apr	1.61	1.52	6.10	1.87	7.85	1.63	0.282	1.89	1.85	0.297	0.131
May	1.97	1.76	7.90	4.23	10.5	3.47	0.405	1.38	1.30	0.397	1.23
June	0.935	0.856	2.75	1.99	6.16	1.33	0.257	1.71	1.68	0.302	0.0886
July	2.03	1.83	3.66	3.44	9.31	3.43	0.444	2.61	2.53	0.482	0.175
Aug	1.89	1.79	5.91	2.58	8.64	1.70	0.522	2.31	2.27	0.353	0.188
Sept	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Oct	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Nov	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Dec	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Annual	11.0	10.2	32.3	16.0	51.2	13.2	2.42	11.1	10.9	2.12	3.10

Data completeness

2025	SO_4^{2-} %TP	nss-SO_4^{2-} %TP	NO_3^- %TP	Cl^- %TP	NH_4^+ %TP	Na^+ %TP	K^+ %TP	Ca^{2+} %TP	nss-Ca^{2+} %TP	Mg^{2+} %TP	H^+ %TP	pH %TP	EC %TP	Precip. %PCL
Jan	--	--	--	--	--	--	--	--	--	--	--	--	--	100
Feb	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Mar	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Apr	100	100	100	100	100	100	100	100	100	100	100	100	100	100
May	100	100	100	100	100	100	100	100	100	100	100	100	100	100
June	100	100	100	100	100	100	100	100	100	100	100	100	100	100
July	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Aug	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Sept	--	--	--	--	--	--	--	--	--	--	--	--	--	100
Oct	--	--	--	--	--	--	--	--	--	--	--	--	--	100
Nov	--	--	--	--	--	--	--	--	--	--	--	--	--	100
Dec	--	--	--	--	--	--	--	--	--	--	--	--	--	100
Annual	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**

Terms and abbreviations are given in Table 4.5.

Table 4.58 Monthly results **Site: Khanchanaburi** **Country: Thailand**

Code: THA004

Precipitation amount-weighted average concentration/ Precipitation amount

2025	SO_4^{2-} µmol L^{-1}	nss-SO_4^{2-} µmol L^{-1}	NO_3^- µmol L^{-1}	Cl^- µmol L^{-1}	NH_4^+ µmol L^{-1}	Na^+ µmol L^{-1}	K^+ µmol L^{-1}	Ca^{2+} µmol L^{-1}	nss-Ca^{2+} µmol L^{-1}	Mg^{2+} µmol L^{-1}	H^+ µmol L^{-1}	pH	EC mS m^{-1}	Precip. mm $month^{-1}$ or mm $year^{-1}$
Jan	***	***	***	***	***	***	***	***	***	***	***	***	***	***
Feb	***	***	***	***	***	***	***	***	***	***	***	***	***	***
Mar	***	***	***	***	***	***	***	***	***	***	***	***	***	***
Apr	***	***	***	***	***	***	***	***	***	***	***	***	***	***
May	***	***	***	***	***	***	***	***	***	***	***	***	***	***
June	***	***	***	***	***	***	***	***	***	***	***	***	***	***
July	***	***	***	***	***	***	***	***	***	***	***	***	***	***
Aug	***	***	***	***	***	***	***	***	***	***	***	***	***	***
Sept	***	***	***	***	***	***	***	***	***	***	***	***	***	***
Oct	***	***	***	***	***	***	***	***	***	***	***	***	***	***
Nov	***	***	***	***	***	***	***	***	***	***	***	***	***	***
Dec	***	***	***	***	***	***	***	***	***	***	***	***	***	***
Annual	***	***	***	***	***	***	***	***	***	***	***	***	***	***
Max.	***	***	***	***	***	***	***	***	***	***	***	***	***	
Min.	***	***	***	***	***	***	***	***	***	***	***	***	***	

Wet deposition amount

2025	SO_4^{2-} mmol m^{-2}	nss-SO_4^{2-} mmol m^{-2}	NO_3^- mmol m^{-2}	Cl^- mmol m^{-2}	NH_4^+ mmol m^{-2}	Na^+ mmol m^{-2}	K^+ mmol m^{-2}	Ca^{2+} mmol m^{-2}	nss-Ca^{2+} mmol m^{-2}	Mg^{2+} mmol m^{-2}	H^+ mmol m^{-2}
Jan	***	***	***	***	***	***	***	***	***	***	***
Feb	***	***	***	***	***	***	***	***	***	***	***
Mar	***	***	***	***	***	***	***	***	***	***	***
Apr	***	***	***	***	***	***	***	***	***	***	***
May	***	***	***	***	***	***	***	***	***	***	***
June	***	***	***	***	***	***	***	***	***	***	***
July	***	***	***	***	***	***	***	***	***	***	***
Aug	***	***	***	***	***	***	***	***	***	***	***
Sept	***	***	***	***	***	***	***	***	***	***	***
Oct	***	***	***	***	***	***	***	***	***	***	***
Nov	***	***	***	***	***	***	***	***	***	***	***
Dec	***	***	***	***	***	***	***	***	***	***	***
Annual	***	***	***	***	***	***	***	***	***	***	***

Data completeness

2025	SO_4^{2-} %TP	nss-SO_4^{2-} %TP	NO_3^- %TP	Cl^- %TP	NH_4^+ %TP	Na^+ %TP	K^+ %TP	Ca^{2+} %TP	nss-Ca^{2+} %TP	Mg^{2+} %TP	H^+ %TP	pH %TP	EC %TP	Precip. %PCL
Jan	***	***	***	***	***	***	***	***	***	***	***	***	***	***
Feb	***	***	***	***	***	***	***	***	***	***	***	***	***	***
Mar	***	***	***	***	***	***	***	***	***	***	***	***	***	***
Apr	***	***	***	***	***	***	***	***	***	***	***	***	***	***
May	***	***	***	***	***	***	***	***	***	***	***	***	***	***
June	***	***	***	***	***	***	***	***	***	***	***	***	***	***
July	***	***	***	***	***	***	***	***	***	***	***	***	***	***
Aug	***	***	***	***	***	***	***	***	***	***	***	***	***	***
Sept	***	***	***	***	***	***	***	***	***	***	***	***	***	***
Oct	***	***	***	***	***	***	***	***	***	***	***	***	***	***
Nov	***	***	***	***	***	***	***	***	***	***	***	***	***	***
Dec	***	***	***	***	***	***	***	***	***	***	***	***	***	***
Annual	***	***	***	***	***	***	***	***	***	***	***	***	***	***

Terms and abbreviations are given in Table 4.5.

Table 4.59 Monthly results **Site: Hanoi** **Country: Vietnam**

Code: VNA001

Precipitation amount-weighted average concentration/ Precipitation amount

2025	SO_4^{2-} µmol L^{-1}	nss-SO_4^{2-} µmol L^{-1}	NO_3^- µmol L^{-1}	Cl^- µmol L^{-1}	NH_4^+ µmol L^{-1}	Na^+ µmol L^{-1}	K^+ µmol L^{-1}	Ca^{2+} µmol L^{-1}	nss-Ca^{2+} µmol L^{-1}	Mg^{2+} µmol L^{-1}	H^+ µmol L^{-1}	pH	EC mS m^{-1}	Precip. mm $month^{-1}$ or mm $year^{-1}$
Jan	*	*	*	*	*	*	*	*	*	*	*	*	*	4.2
Feb	458	452	312	277	911	101	91.7	187	185	14.0	2.90	5.54	23.3	26.9
Mar	370	357	298	253	172	208	68.9	418	413	41.3	0.562	6.25	19.4	10.1
Apr	123	121	92.9	99.3	72.1	32.1	124	115	114	11.5	1.52	5.82	6.66	48.5
May	30.2	29.4	53.8	36.2	7.89	12.7	25.4	47.5	47.2	3.81	15.1	4.82	2.66	216
June	16.0	15.7	26.1	16.4	1.87	5.39	17.1	26.2	26.1	2.03	1.75	5.76	1.18	232
July	26.4	25.6	36.2	22.8	12.0	12.4	6.99	37.1	36.8	2.33	14.2	4.85	2.04	270
Aug	20.7	20.3	21.1	11.3	25.8	6.70	4.39	20.1	20.0	1.77	1.39	5.86	1.19	604
Sept	25.3	24.6	22.8	16.4	16.9	11.5	4.62	30.2	30.0	2.42	1.01	6.00	1.40	119
Oct	10.5	9.94	29.6	16.5	5.61	8.57	1.94	23.6	23.4	1.16	6.15	5.21	1.13	584
Nov	53.1	52.5	36.6	24.6	116	9.69	19.8	18.8	18.6	2.82	0.986	6.01	2.62	110
Dec	212	207	225	103	249	84.2	50.7	161	159	24.9	1.49	5.83	11.2	12.5
Annual	29.9	29.2	36.3	23.9	30.4	11.3	12.2	32.7	32.5	2.58	5.54	5.26	1.96	2236
Max.	466	459	319	296	946	208	637	418	413	41.3	67.6	6.91	23.5	
Min.	4.82	4.33	11.4	3.64	<0.8	1.09	1.20	12.1	12.1	1.07	0.123	4.17	0.610	

Wet deposition amount

2025	SO_4^{2-} mmol m^{-2}	nss-SO_4^{2-} mmol m^{-2}	NO_3^- mmol m^{-2}	Cl^- mmol m^{-2}	NH_4^+ mmol m^{-2}	Na^+ mmol m^{-2}	K^+ mmol m^{-2}	Ca^{2+} mmol m^{-2}	nss-Ca^{2+} mmol m^{-2}	Mg^{2+} mmol m^{-2}	H^+ mmol m^{-2}
Jan	*	*	*	*	*	*	*	*	*	*	*
Feb	12.3	12.2	8.40	7.46	24.5	2.70	2.47	5.04	4.98	0.377	0.0780
Mar	3.73	3.61	3.01	2.55	1.74	2.10	0.696	4.22	4.18	0.417	<0.01
Apr	5.98	5.88	4.51	4.82	3.50	1.56	6.00	5.57	5.54	0.558	0.0736
May	6.52	6.35	11.6	7.81	1.70	2.74	5.49	10.3	10.2	0.823	3.26
June	3.71	3.63	6.05	3.80	0.433	1.25	3.97	6.08	6.06	0.471	0.406
July	7.11	6.91	9.77	6.15	3.24	3.35	1.88	10.0	9.92	0.627	3.82
Aug	12.5	12.3	12.7	6.83	15.6	4.05	2.65	12.2	12.1	1.07	0.840
Sept	2.99	2.91	2.70	1.94	2.00	1.36	0.548	3.58	3.55	0.287	0.120
Oct	6.11	5.80	17.3	9.65	3.27	5.00	1.13	13.8	13.7	0.677	3.59
Nov	5.84	5.77	4.03	2.70	12.8	1.07	2.18	2.07	2.05	0.310	0.108
Dec	2.65	2.59	2.81	1.29	3.11	1.05	0.634	2.01	1.98	0.312	0.0186
Annual	66.9	65.4	81.3	53.4	68.0	25.3	27.2	73.2	72.6	5.78	12.4

Data completeness

2025	SO_4^{2-} %TP	nss-SO_4^{2-} %TP	NO_3^- %TP	Cl^- %TP	NH_4^+ %TP	Na^+ %TP	K^+ %TP	Ca^{2+} %TP	nss-Ca^{2+} %TP	Mg^{2+} %TP	H^+ %TP	pH %TP	EC %TP	Precip. %PCL
Jan	0	0	0	0	0	0	0	0	0	0	0	0	0	100
Feb	86.2	86.2	86.2	86.2	86.2	86.2	86.2	86.2	86.2	86.2	86.2	86.2	86.2	100
Mar	68.3	68.3	68.3	68.3	68.3	68.3	68.3	68.3	68.3	68.3	68.3	68.3	68.3	100
Apr	100	100	100	100	100	100	100	100	100	100	100	100	100	100
May	100	100	100	100	100	100	100	100	100	100	100	100	100	100
June	100	100	100	100	100	100	100	100	100	100	100	100	100	100
July	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Aug	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Sept	98.8	98.8	98.8	98.8	98.8	98.8	98.8	98.8	98.8	98.8	98.8	98.8	98.8	100
Oct	99.8	99.8	99.8	99.8	99.8	99.8	99.8	99.8	99.8	99.8	99.8	99.8	99.8	100
Nov	97.3	97.3	97.3	97.3	97.3	97.3	97.3	97.3	97.3	97.3	97.3	97.3	97.3	100
Dec	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Annual	**99.3**	**99.3**	**99.3**	**99.3**	**99.3**	**99.3**	**99.3**	**99.3**	**99.3**	**99.3**	**99.3**	**99.3**	**99.3**	**100**

Terms and abbreviations are given in Table 4.5.

Table 4.60 Monthly results **Site: Hoa Binh** **Country: Vietnam**

Code: VNA002

Precipitation amount-weighted average concentration/ Precipitation amount

2025	SO_4^{2-} µmol L^{-1}	nss-SO_4^{2-} µmol L^{-1}	NO_3^- µmol L^{-1}	Cl^- µmol L^{-1}	NH_4^+ µmol L^{-1}	Na^+ µmol L^{-1}	K^+ µmol L^{-1}	Ca^{2+} µmol L^{-1}	nss-Ca^{2+} µmol L^{-1}	Mg^{2+} µmol L^{-1}	H^+ µmol L^{-1}	pH	EC mS m^{-1}	Precip. mm $month^{-1}$ or mm $year^{-1}$
Jan	22.4	22.0	85.4	15.7	4.71	6.60	3.58	39.6	39.5	7.36	38.9	4.41	3.21	8.6
Feb	37.2	36.9	106	16.0	10.2	5.06	7.74	37.6	37.5	3.97	90.5	4.04	5.47	18.6
Mar	149	148	134	38.3	3.47	14.2	14.6	121	121	22.8	174	3.76	12.1	6.4
Apr	37.0	36.8	111	12.5	1.31	3.42	5.04	70.0	69.9	7.28	34.7	4.46	3.71	43.5
May	13.5	13.4	51.7	5.01	<0.8	1.42	1.38	15.7	15.6	3.22	42.3	4.37	2.33	319
June	7.43	7.35	47.6	5.26	<0.8	1.39	1.37	9.76	9.73	1.64	44.1	4.36	2.19	405
July	5.12	4.98	4.54	2.87	11.6	2.37	1.02	7.91	7.86	1.12	0.496	6.30	0.444	336
Aug	3.23	2.98	5.69	4.33	4.78	4.12	1.75	12.2	12.1	0.900	0.304	6.52	0.455	498
Sept	3.86	3.66	6.90	4.32	3.88	3.26	1.16	11.3	11.3	1.16	0.455	6.34	0.424	150
Oct	6.23	5.97	12.0	9.08	30.8	4.31	2.27	12.5	12.4	1.86	0.181	6.74	0.876	443
Nov	8.73	8.43	11.5	6.15	18.8	5.05	2.28	15.1	15.0	1.55	0.264	6.58	0.781	110
Dec	34.4	33.5	45.7	16.9	31.9	15.1	12.0	35.7	35.4	4.69	0.550	6.26	1.97	12.4
Annual	8.00	7.81	24.1	5.80	10.1	3.15	1.82	13.6	13.5	1.85	15.5	4.81	1.25	2351
Max.	266	264	186	67.6	38.3	30.1	23.5	156	155	30.6	275	6.84	18.1	
Min.	2.33	2.11	3.10	2.40	<0.8	0.739	0.639	3.92	3.89	0.740	0.145	3.56	0.310	

Wet deposition amount

2025	SO_4^{2-} mmol m^{-2}	nss-SO_4^{2-} mmol m^{-2}	NO_3^- mmol m^{-2}	Cl^- mmol m^{-2}	NH_4^+ mmol m^{-2}	Na^+ mmol m^{-2}	K^+ mmol m^{-2}	Ca^{2+} mmol m^{-2}	nss-Ca^{2+} mmol m^{-2}	Mg^{2+} mmol m^{-2}	H^+ mmol m^{-2}
Jan	0.193	0.189	0.734	0.135	0.0405	0.0568	0.0308	0.341	0.340	0.0633	0.335
Feb	0.692	0.686	1.97	0.298	0.189	0.0942	0.144	0.699	0.697	0.0738	1.68
Mar	0.953	0.948	0.860	0.245	0.0222	0.0908	0.0935	0.775	0.773	0.146	1.11
Apr	1.61	1.60	4.83	0.542	0.0569	0.149	0.219	3.04	3.04	0.317	1.51
May	4.30	4.27	16.5	1.60	0.254	0.454	0.441	5.00	4.99	1.03	13.5
June	3.01	2.97	19.3	2.13	0.311	0.561	0.555	3.95	3.94	0.662	17.8
July	1.72	1.67	1.53	0.965	3.89	0.796	0.341	2.66	2.64	0.375	0.166
Aug	1.61	1.49	2.84	2.16	2.38	2.06	0.870	6.08	6.04	0.449	0.151
Sept	0.580	0.550	1.04	0.648	0.583	0.490	0.174	1.70	1.69	0.174	0.0684
Oct	2.76	2.65	5.31	4.03	13.6	1.91	1.01	5.55	5.50	0.823	0.0800
Nov	0.960	0.926	1.26	0.675	2.07	0.555	0.250	1.66	1.65	0.170	0.0290
Dec	0.427	0.415	0.567	0.210	0.396	0.187	0.149	0.443	0.439	0.0581	<0.01
Annual	18.8	18.4	56.7	13.6	23.8	7.40	4.28	31.9	31.7	4.34	36.5

Data completeness

2025	SO_4^{2-} %TP	nss-SO_4^{2-} %TP	NO_3^- %TP	Cl^- %TP	NH_4^+ %TP	Na^+ %TP	K^+ %TP	Ca^{2+} %TP	nss-Ca^{2+} %TP	Mg^{2+} %TP	H^+ %TP	pH %TP	EC %TP	Precip. %PCL
Jan	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Feb	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Mar	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Apr	100	100	100	100	100	100	100	100	100	100	100	100	100	100
May	100	100	100	100	100	100	100	100	100	100	100	100	100	100
June	100	100	100	100	100	100	100	100	100	100	100	100	100	100
July	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Aug	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Sept	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Oct	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Nov	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Dec	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Annual	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**

Terms and abbreviations are given in Table 4.5.

Table 4.61 Monthly results **Site: Cuc Phuong** **Country: Vietnam**

Code: VNA003

Precipitation amount-weighted average concentration/ Precipitation amount

2025	SO_4^{2-} µmol L^{-1}	nss-SO_4^{2-} µmol L^{-1}	NO_3^- µmol L^{-1}	Cl^- µmol L^{-1}	NH_4^+ µmol L^{-1}	Na^+ µmol L^{-1}	K^+ µmol L^{-1}	Ca^{2+} µmol L^{-1}	nss-Ca^{2+} µmol L^{-1}	Mg^{2+} µmol L^{-1}	H^+ µmol L^{-1}	pH	EC mS m^{-1}	Precip. mm $month^{-1}$ or mm $year^{-1}$
Jan	213	201	309	245	251	201	60.1	379	374	73.0	1.14	5.94	16.0	9.7
Feb	72.9	71.2	119	51.2	142	27.5	20.0	240	239	21.3	1.00	6.00	7.99	8.7
Mar	--	--	--	--	--	--	--	--	--	--	--	--	--	0
Apr	20.5	13.4	66.6	176	44.6	118	17.1	117	115	16.7	1.58	5.80	5.34	25.8
May	20.3	18.9	42.3	43.2	88.1	23.0	6.22	72.5	72.0	8.88	1.17	5.93	2.95	290
June	13.2	11.7	49.1	34.7	52.7	24.6	17.5	62.8	62.3	9.05	1.37	5.86	2.79	179
July	6.07	5.84	20.4	10.4	49.3	3.73	0.910	30.5	30.4	8.22	1.70	5.77	1.49	380
Aug	7.56	6.27	21.6	25.1	8.33	21.4	0.640	18.0	17.5	7.23	1.64	5.79	1.11	688
Sept	9.02	7.80	20.5	30.5	2.18	20.3	0.833	23.8	23.4	4.15	5.42	5.27	1.12	466
Oct	7.99	6.50	26.8	40.6	44.7	24.9	7.84	26.2	25.7	6.94	2.09	5.68	1.84	417
Nov	19.3	18.2	36.6	28.5	50.9	17.8	3.12	24.7	24.3	5.54	2.00	5.70	1.61	123
Dec	28.6	26.5	50.2	43.5	72.5	34.4	3.64	16.1	15.4	5.91	2.00	5.70	2.05	61.6
Annual	11.6	10.3	29.3	31.8	35.7	21.2	4.22	34.4	33.9	7.35	2.34	5.63	1.76	2649
Max.	278	267	371	564	297	209	81.2	535	531	98.1	6.31	6.40	19.6	
Min.	4.18	3.10	13.7	7.79	1.72	0.913	0.563	8.83	8.81	2.63	0.398	5.20	0.800	

Wet deposition amount

2025	SO_4^{2-} mmol m^{-2}	nss-SO_4^{2-} mmol m^{-2}	NO_3^- mmol m^{-2}	Cl^- mmol m^{-2}	NH_4^+ mmol m^{-2}	Na^+ mmol m^{-2}	K^+ mmol m^{-2}	Ca^{2+} mmol m^{-2}	nss-Ca^{2+} mmol m^{-2}	Mg^{2+} mmol m^{-2}	H^+ mmol m^{-2}
Jan	2.06	1.95	3.00	2.38	2.44	1.95	0.583	3.67	3.63	0.708	0.0111
Feb	0.634	0.620	1.03	0.445	1.24	0.240	0.174	2.09	2.08	0.186	<0.01
Mar	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Apr	0.530	0.346	1.72	4.55	1.15	3.05	0.442	3.03	2.96	0.431	0.0409
May	5.89	5.49	12.3	12.5	25.6	6.67	1.81	21.0	20.9	2.58	0.339
June	2.35	2.09	8.78	6.19	9.41	4.40	3.13	11.2	11.1	1.62	0.244
July	2.30	2.22	7.75	3.96	18.7	1.41	0.345	11.6	11.5	3.12	0.645
Aug	5.21	4.32	14.9	17.3	5.73	14.7	0.440	12.4	12.1	4.98	1.13
Sept	4.21	3.64	9.56	14.2	1.02	9.48	0.388	11.1	10.9	1.94	2.53
Oct	3.33	2.71	11.2	16.9	18.6	10.4	3.27	10.9	10.7	2.89	0.871
Nov	2.38	2.25	4.52	3.51	6.28	2.20	0.385	3.04	3.00	0.684	0.246
Dec	1.76	1.63	3.09	2.68	4.46	2.12	0.224	0.994	0.949	0.364	0.123
Annual	30.6	27.2	77.7	84.2	94.7	56.3	11.2	91.0	89.8	19.5	6.19

Data completeness

2025	SO_4^{2-} %TP	nss-SO_4^{2-} %TP	NO_3^- %TP	Cl^- %TP	NH_4^+ %TP	Na^+ %TP	K^+ %TP	Ca^{2+} %TP	nss-Ca^{2+} %TP	Mg^{2+} %TP	H^+ %TP	pH %TP	EC %TP	Precip. %PCL
Jan	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Feb	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Mar	--	--	--	--	--	--	--	--	--	--	--	--	--	100
Apr	88.0	88.0	88.0	88.0	88.0	88.0	88.0	88.0	88.0	88.0	88.0	88.0	88.0	100
May	100	100	100	100	100	100	100	100	100	100	100	100	100	100
June	100	100	100	100	100	100	100	100	100	100	100	100	100	100
July	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Aug	98.9	98.9	98.9	98.9	98.9	98.9	98.9	98.9	98.9	98.9	98.9	98.9	98.9	100
Sept	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Oct	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Nov	98.9	98.9	98.9	98.9	98.9	98.9	98.9	98.9	98.9	98.9	98.9	98.9	98.9	100
Dec	94.8	94.8	94.8	94.8	94.8	94.8	94.8	94.8	94.8	94.8	94.8	94.8	94.8	100
Annual	**99.4**	**99.4**	**99.4**	**99.4**	**99.4**	**99.4**	**99.4**	**99.4**	**99.4**	**99.4**	**99.4**	**99.4**	**99.4**	**100**

Terms and abbreviations are given in Table 4.5.

Table 4.62 Monthly results **Site: Da Nang** **Country: Vietnam**

Code: VNA004

Precipitation amount-weighted average concentration/ Precipitation amount

2025	SO_4^{2-} µmol L^{-1}	nss-SO_4^{2-} µmol L^{-1}	NO_3^- µmol L^{-1}	Cl^- µmol L^{-1}	NH_4^+ µmol L^{-1}	Na^+ µmol L^{-1}	K^+ µmol L^{-1}	Ca^{2+} µmol L^{-1}	nss-Ca^{2+} µmol L^{-1}	Mg^{2+} µmol L^{-1}	H^+ µmol L^{-1}	pH	EC mS m^{-1}	Precip. mm $month^{-1}$ or mm $year^{-1}$
Jan	28.4	18.8	12.2	225	56.5	160	10.4	27.3	23.9	33.2	1.67	5.78	5.05	89.0
Feb	22.2	14.5	5.58	151	59.2	129	13.7	15.2	12.4	26.6	1.28	5.89	3.67	137
Mar	*	*	*	*	*	*	*	*	*	*	*	*	*	1.1
Apr	185	173	116	420	458	201	93.1	183	178	107	0.552	6.26	16.7	17.8
May	57.7	53.0	25.8	134	87.5	77.6	26.9	62.8	61.1	27.0	1.33	5.88	4.99	48.4
June	11.0	7.57	2.91	91.8	13.2	56.4	6.01	29.3	28.0	15.6	1.78	5.75	1.83	626
July	23.3	22.0	14.3	37.4	32.3	21.8	8.30	22.3	21.9	20.6	1.40	5.86	1.75	222
Aug	12.7	11.3	7.91	30.6	12.5	23.5	8.63	19.7	19.2	16.9	1.30	5.88	1.31	246
Sept	10.9	7.79	7.18	38.9	21.5	51.7	12.2	26.8	25.7	19.9	0.780	6.11	1.75	525
Oct	19.9	17.3	12.9	57.7	11.8	44.0	16.7	43.1	42.2	21.1	0.765	6.12	2.15	1249
Nov	20.0	14.7	8.53	117	25.1	87.6	23.1	21.1	19.2	21.3	1.19	5.92	2.56	281
Dec	14.6	10.7	5.86	81.7	16.5	65.0	11.3	86.4	85.0	36.2	0.468	6.33	3.79	248
Annual	18.0	14.6	9.70	73.9	21.8	56.2	13.5	36.4	35.2	21.7	1.07	5.97	2.33	3688
Max.	291	276	212	586	557	347	120	224	218	152	2.00	6.85	20.8	
Min.	8.21	6.43	1.60	19.5	5.10	8.26	5.14	12.4	11.3	13.9	0.141	5.70	1.15	

Wet deposition amount

2025	SO_4^{2-} mmol m^{-2}	nss-SO_4^{2-} mmol m^{-2}	NO_3^- mmol m^{-2}	Cl^- mmol m^{-2}	NH_4^+ mmol m^{-2}	Na^+ mmol m^{-2}	K^+ mmol m^{-2}	Ca^{2+} mmol m^{-2}	nss-Ca^{2+} mmol m^{-2}	Mg^{2+} mmol m^{-2}	H^+ mmol m^{-2}
Jan	2.53	1.67	1.09	20.0	5.03	14.2	0.923	2.43	2.12	2.96	0.149
Feb	3.04	1.98	0.762	20.6	8.08	17.6	1.87	2.08	1.70	3.63	0.175
Mar	*	*	*	*	*	*	*	*	*	*	*
Apr	3.29	3.07	2.07	7.48	8.15	3.58	1.66	3.25	3.17	1.90	<0.01
May	2.79	2.57	1.25	6.47	4.23	3.76	1.30	3.04	2.96	1.31	0.0642
June	6.87	4.74	1.83	57.5	8.24	35.4	3.77	18.3	17.6	9.80	1.12
July	5.16	4.87	3.18	8.28	7.15	4.84	1.84	4.95	4.84	4.56	0.309
Aug	3.12	2.77	1.94	7.51	3.08	5.76	2.12	4.84	4.71	4.15	0.320
Sept	5.72	4.09	3.77	20.4	11.3	27.1	6.38	14.1	13.5	10.5	0.409
Oct	24.9	21.6	16.2	72.1	14.8	55.0	20.9	53.9	52.7	26.4	0.956
Nov	5.61	4.12	2.40	33.0	7.06	24.6	6.50	5.92	5.39	5.98	0.335
Dec	3.62	2.65	1.45	20.2	4.10	16.1	2.79	21.4	21.0	8.96	0.116
Annual	66.4	53.9	35.8	272	80.4	207	50.0	134	130	80.0	3.95

Data completeness

2025	SO_4^{2-} %TP	nss-SO_4^{2-} %TP	NO_3^- %TP	Cl^- %TP	NH_4^+ %TP	Na^+ %TP	K^+ %TP	Ca^{2+} %TP	nss-Ca^{2+} %TP	Mg^{2+} %TP	H^+ %TP	pH %TP	EC %TP	Precip. %PCL
Jan	96.3	96.3	96.3	96.3	96.3	96.3	96.3	96.3	96.3	96.3	96.3	96.3	96.3	100
Feb	97.8	97.8	97.8	97.8	97.8	97.8	97.8	97.8	97.8	97.8	97.8	97.8	97.8	100
Mar	0	0	0	0	0	0	0	0	0	0	0	0	0	100
Apr	92.1	92.1	92.1	92.1	92.1	92.1	92.1	92.1	92.1	92.1	92.1	92.1	92.1	100
May	100	100	100	100	100	100	100	100	100	100	100	100	100	100
June	99.6	99.6	99.6	99.6	99.6	99.6	99.6	99.6	99.6	99.6	99.6	99.6	99.6	100
July	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Aug	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Sept	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Oct	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Nov	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Dec	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Annual	**99.7**	**99.7**	**99.7**	**99.7**	**99.7**	**99.7**	**99.7**	**99.7**	**99.7**	**99.7**	**99.7**	**99.7**	**99.7**	**100**

Terms and abbreviations are given in Table 4.5.

Table 4.63 Monthly results **Site: Can Tho** **Country: Vietnam**

Code: VNA005

Precipitation amount-weighted average concentration/ Precipitation amount

2025	SO_4^{2-} µmol L^{-1}	nss-SO_4^{2-} µmol L^{-1}	NO_3^- µmol L^{-1}	Cl^- µmol L^{-1}	NH_4^+ µmol L^{-1}	Na^+ µmol L^{-1}	K^+ µmol L^{-1}	Ca^{2+} µmol L^{-1}	nss-Ca^{2+} µmol L^{-1}	Mg^{2+} µmol L^{-1}	H^+ µmol L^{-1}	pH	EC mS m^{-1}	Precip. mm $month^{-1}$ or mm $year^{-1}$
Jan	--	--	--	--	--	--	--	--	--	--	--	--	--	0
Feb	26.0	25.1	3.87	30.6	21.2	16.1	7.08	15.0	14.6	8.04	2.57	5.59	1.37	58.3
Mar	--	--	--	--	--	--	--	--	--	--	--	--	--	0
Apr	26.9	25.9	3.68	29.9	21.0	15.8	7.54	14.2	13.9	7.38	1.96	5.71	1.29	60.0
May	28.7	27.7	3.28	28.4	20.1	16.4	7.72	15.0	14.6	7.80	1.14	5.94	1.33	333
June	29.3	28.3	3.62	24.8	20.5	16.2	7.52	14.7	14.3	7.43	0.819	6.09	1.26	317
July	26.2	25.3	4.07	25.5	20.0	16.2	6.28	13.9	13.5	7.60	0.929	6.03	1.27	243
Aug	25.8	24.8	4.16	27.9	21.7	16.1	6.66	13.9	13.5	7.43	1.13	5.95	1.26	203
Sept	26.9	26.0	3.75	28.9	19.8	16.1	7.62	14.9	14.6	8.29	1.15	5.94	1.31	233
Oct	26.8	25.9	3.86	30.3	19.6	15.6	7.32	14.5	14.1	8.56	1.12	5.95	1.29	589
Nov	26.6	25.8	4.28	26.9	21.5	13.8	7.98	14.2	13.9	8.62	1.42	5.85	1.31	146
Dec	25.9	25.1	3.41	24.4	19.9	14.3	6.79	15.4	15.1	9.19	1.18	5.93	1.28	39.7
Annual	27.3	26.3	3.79	28.0	20.3	15.9	7.30	14.5	14.2	8.02	1.15	5.94	1.29	2223
Max.	32.2	31.2	4.63	32.4	23.7	18.4	9.41	17.5	17.2	9.27	2.57	6.20	1.41	
Min.	22.2	21.3	2.82	22.8	17.2	10.8	4.81	12.4	12.0	6.71	0.638	5.59	1.18	

Wet deposition amount

2025	SO_4^{2-} mmol m^{-2}	nss-SO_4^{2-} mmol m^{-2}	NO_3^- mmol m^{-2}	Cl^- mmol m^{-2}	NH_4^+ mmol m^{-2}	Na^+ mmol m^{-2}	K^+ mmol m^{-2}	Ca^{2+} mmol m^{-2}	nss-Ca^{2+} mmol m^{-2}	Mg^{2+} mmol m^{-2}	H^+ mmol m^{-2}
Jan	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Feb	1.52	1.46	0.226	1.78	1.23	0.936	0.413	0.872	0.851	0.469	0.150
Mar	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Apr	1.61	1.56	0.221	1.79	1.26	0.947	0.453	0.852	0.832	0.443	0.118
May	9.56	9.23	1.09	9.46	6.71	5.47	2.57	5.00	4.88	2.60	0.381
June	9.29	8.98	1.15	7.87	6.49	5.14	2.38	4.66	4.54	2.35	0.260
July	6.38	6.15	0.989	6.21	4.86	3.93	1.53	3.38	3.29	1.85	0.226
Aug	5.24	5.04	0.845	5.67	4.42	3.28	1.35	2.82	2.75	1.51	0.229
Sept	6.29	6.06	0.874	6.74	4.61	3.76	1.78	3.48	3.40	1.93	0.269
Oct	15.8	15.3	2.27	17.8	11.5	9.19	4.31	8.51	8.31	5.04	0.659
Nov	3.89	3.77	0.625	3.92	3.14	2.01	1.16	2.07	2.03	1.26	0.207
Dec	1.03	0.995	0.135	0.967	0.789	0.568	0.270	0.610	0.598	0.365	0.0469
Annual	60.6	58.5	8.43	62.2	45.1	35.2	16.2	32.3	31.5	17.8	2.55

Data completeness

2025	SO_4^{2-} %TP	nss-SO_4^{2-} %TP	NO_3^- %TP	Cl^- %TP	NH_4^+ %TP	Na^+ %TP	K^+ %TP	Ca^{2+} %TP	nss-Ca^{2+} %TP	Mg^{2+} %TP	H^+ %TP	pH %TP	EC %TP	Precip. %PCL
Jan	--	--	--	--	--	--	--	--	--	--	--	--	--	100
Feb	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Mar	--	--	--	--	--	--	--	--	--	--	--	--	--	100
Apr	100	100	100	100	100	100	100	100	100	100	100	100	100	100
May	100	100	100	100	100	100	100	100	100	100	100	100	100	100
June	100	100	100	100	100	100	100	100	100	100	100	100	100	100
July	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Aug	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Sept	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Oct	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Nov	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Dec	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Annual	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**

Terms and abbreviations are given in Table 4.5.

Table 4.64 Monthly results **Site: Ho Chi Minh** **Country: Vietnam**

Code: VNA006

Precipitation amount-weighted average concentration/ Precipitation amount

2025	SO_4^{2-} µmol L^{-1}	nss-SO_4^{2-} µmol L^{-1}	NO_3^- µmol L^{-1}	Cl^- µmol L^{-1}	NH_4^+ µmol L^{-1}	Na^+ µmol L^{-1}	K^+ µmol L^{-1}	Ca^{2+} µmol L^{-1}	nss-Ca^{2+} µmol L^{-1}	Mg^{2+} µmol L^{-1}	H^+ µmol L^{-1}	pH	EC mS m^{-1}	Precip. mm $month^{-1}$ or mm $year^{-1}$
Jan	--	--	--	--	--	--	--	--	--	--	--	--	--	0
Feb	31.2	29.8	15.4	38.3	28.8	24.0	10.7	17.9	17.4	10.0	2.88	5.54	1.58	85.3
Mar	--	--	--	--	--	--	--	--	--	--	--	--	--	0
Apr	33.8	32.7	13.9	31.3	30.3	19.6	11.5	18.6	18.2	9.79	1.75	5.76	1.64	70.5
May	30.8	29.5	15.6	44.2	30.0	20.7	10.8	18.2	17.7	10.5	1.97	5.70	1.66	76.0
June	32.6	31.5	12.4	33.8	30.5	18.8	11.1	17.3	16.9	10.8	1.31	5.88	1.54	319
July	27.6	26.4	13.8	38.7	30.7	19.8	11.3	17.0	16.5	11.7	0.601	6.22	1.56	96.5
Aug	32.0	30.7	13.9	36.8	31.4	20.8	10.8	17.5	17.1	10.5	1.07	5.97	1.60	350
Sept	29.4	28.2	16.0	40.6	30.0	19.0	10.9	18.1	17.7	10.4	1.07	5.97	1.55	441
Oct	29.3	28.2	13.6	34.8	31.6	17.7	11.6	18.2	17.8	10.7	0.788	6.10	1.54	341
Nov	29.1	28.0	16.1	40.4	29.0	19.1	10.8	18.0	17.6	10.4	0.835	6.08	1.56	208
Dec	30.1	28.8	12.9	40.3	29.6	20.2	10.8	18.0	17.5	10.3	1.13	5.95	1.61	20.0
Annual	30.5	29.3	14.4	37.5	30.5	19.4	11.1	17.8	17.4	10.6	1.15	5.94	1.56	2006
Max.	37.4	36.0	18.6	50.0	36.0	24.0	13.1	21.6	21.1	13.5	3.80	6.53	1.78	
Min.	25.1	23.9	10.4	25.3	25.5	14.3	10.1	14.8	14.4	9.71	0.295	5.42	1.41	

Wet deposition amount

2025	SO_4^{2-} mmol m^{-2}	nss-SO_4^{2-} mmol m^{-2}	NO_3^- mmol m^{-2}	Cl^- mmol m^{-2}	NH_4^+ mmol m^{-2}	Na^+ mmol m^{-2}	K^+ mmol m^{-2}	Ca^{2+} mmol m^{-2}	nss-Ca^{2+} mmol m^{-2}	Mg^{2+} mmol m^{-2}	H^+ mmol m^{-2}
Jan	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Feb	2.66	2.54	1.31	3.26	2.46	2.04	0.916	1.53	1.48	0.856	0.246
Mar	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Apr	2.39	2.30	0.977	2.21	2.14	1.38	0.812	1.31	1.28	0.690	0.124
May	2.34	2.24	1.18	3.36	2.28	1.57	0.818	1.38	1.35	0.798	0.150
June	10.4	10.0	3.96	10.8	9.74	5.98	3.53	5.52	5.39	3.45	0.418
July	2.66	2.55	1.34	3.74	2.97	1.91	1.09	1.64	1.59	1.13	0.0580
Aug	11.2	10.7	4.87	12.9	11.0	7.28	3.77	6.14	5.98	3.66	0.374
Sept	12.9	12.4	7.04	17.9	13.2	8.37	4.82	7.97	7.79	4.59	0.470
Oct	9.99	9.62	4.63	11.9	10.8	6.03	3.95	6.21	6.08	3.65	0.269
Nov	6.05	5.82	3.36	8.41	6.03	3.97	2.25	3.75	3.66	2.16	0.174
Dec	0.601	0.577	0.259	0.805	0.592	0.404	0.216	0.360	0.351	0.205	0.0225
Annual	61.2	58.9	28.9	75.2	61.2	39.0	22.2	35.8	35.0	21.2	2.31

Data completeness

2025	SO_4^{2-} %TP	nss-SO_4^{2-} %TP	NO_3^- %TP	Cl^- %TP	NH_4^+ %TP	Na^+ %TP	K^+ %TP	Ca^{2+} %TP	nss-Ca^{2+} %TP	Mg^{2+} %TP	H^+ %TP	pH %TP	EC %TP	Precip. %PCL
Jan	--	--	--	--	--	--	--	--	--	--	--	--	--	100
Feb	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Mar	--	--	--	--	--	--	--	--	--	--	--	--	--	100
Apr	100	100	100	100	100	100	100	100	100	100	100	100	100	100
May	100	100	100	100	100	100	100	100	100	100	100	100	100	100
June	100	100	100	100	100	100	100	100	100	100	100	100	100	100
July	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Aug	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Sept	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Oct	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Nov	99.0	99.0	99.0	99.0	99.0	99.0	99.0	99.0	99.0	99.0	99.0	99.0	99.0	100
Dec	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Annual	**99.9**	**99.9**	**99.9**	**99.9**	**99.9**	**99.9**	**99.9**	**99.9**	**99.9**	**99.9**	**99.9**	**99.9**	**99.9**	**100**

Terms and abbreviations are given in Table 4.5.

Table 4.65 Monthly results **Site: Yen Bai** **Country: Vietnam**

Code: VNA007

Precipitation amount-weighted average concentration/ Precipitation amount

2025	SO_4^{2-} µmol L^{-1}	nss-SO_4^{2-} µmol L^{-1}	NO_3^- µmol L^{-1}	Cl^- µmol L^{-1}	NH_4^+ µmol L^{-1}	Na^+ µmol L^{-1}	K^+ µmol L^{-1}	Ca^{2+} µmol L^{-1}	nss-Ca^{2+} µmol L^{-1}	Mg^{2+} µmol L^{-1}	H^+ µmol L^{-1}	pH	EC mS m^{-1}	Precip. mm $month^{-1}$ or mm $year^{-1}$
Jan	57.5	56.6	45.4	19.5	55.2	15.9	12.5	45.6	45.3	3.58	1.62	5.79	2.54	14.5
Feb	70.8	70.1	71.1	32.2	116	11.0	16.7	55.2	55.0	5.31	8.31	5.08	4.03	67.0
Mar	29.7	29.1	16.3	13.5	39.2	9.70	4.25	21.9	21.7	1.56	2.19	5.66	1.51	19.0
Apr	55.1	53.7	64.3	21.7	11.9	22.7	12.3	56.2	55.7	3.67	41.8	4.38	3.92	93.6
May	104	103	169	51.1	183	13.4	13.7	47.3	47.0	4.05	144	3.84	10.2	517
June	21.8	21.5	29.5	13.4	40.9	5.32	2.52	22.1	22.0	1.48	2.25	5.65	1.41	368
July	9.23	9.03	27.7	5.66	6.90	3.32	1.91	13.3	13.2	1.36	15.4	4.81	1.24	358
Aug	11.9	11.3	10.1	5.61	7.85	8.82	1.69	16.6	16.4	1.25	2.53	5.60	0.770	510
Sept	11.7	11.5	7.60	7.29	7.01	4.74	2.26	13.4	13.3	0.781	1.53	5.81	0.610	92.3
Oct	14.5	14.1	10.3	6.94	6.79	6.55	1.75	16.7	16.6	1.25	1.12	5.95	0.699	387
Nov	13.3	13.2	45.1	5.74	44.6	1.36	58.6	2.67	2.64	0.659	0.189	6.72	1.50	185
Dec	3.06	2.99	6.82	9.22	25.2	1.22	38.7	0.998	0.972	<0.3	0.129	6.89	0.830	6.8
Annual	35.0	34.5	52.9	17.4	52.9	8.06	9.08	24.5	24.4	2.00	33.4	4.48	3.04	2619
Max.	132	132	233	59.3	300	43.2	69.0	97.5	96.5	6.83	240	6.89	14.1	
Min.	3.06	2.99	6.80	3.72	2.16	1.17	0.486	0.998	0.972	<0.3	0.129	3.62	0.550	

Wet deposition amount

2025	SO_4^{2-} mmol m^{-2}	nss-SO_4^{2-} mmol m^{-2}	NO_3^- mmol m^{-2}	Cl^- mmol m^{-2}	NH_4^+ mmol m^{-2}	Na^+ mmol m^{-2}	K^+ mmol m^{-2}	Ca^{2+} mmol m^{-2}	nss-Ca^{2+} mmol m^{-2}	Mg^{2+} mmol m^{-2}	H^+ mmol m^{-2}
Jan	0.834	0.820	0.658	0.282	0.801	0.231	0.181	0.661	0.656	0.0519	0.0235
Feb	4.74	4.70	4.76	2.15	7.78	0.734	1.12	3.70	3.69	0.356	0.557
Mar	0.564	0.553	0.310	0.257	0.745	0.184	0.0807	0.416	0.412	0.0297	0.0416
Apr	5.16	5.03	6.02	2.03	1.12	2.12	1.15	5.26	5.22	0.344	3.91
May	53.6	53.2	87.6	26.4	94.9	6.92	7.11	24.5	24.3	2.09	74.4
June	8.03	7.91	10.9	4.92	15.0	1.96	0.926	8.14	8.10	0.546	0.826
July	3.31	3.24	9.94	2.03	2.47	1.19	0.684	4.76	4.73	0.488	5.53
Aug	6.05	5.78	5.16	2.86	4.00	4.50	0.864	8.46	8.36	0.636	1.29
Sept	1.08	1.06	0.702	0.673	0.647	0.438	0.209	1.24	1.23	0.0721	0.141
Oct	5.61	5.46	4.00	2.69	2.63	2.54	0.679	6.48	6.42	0.483	0.432
Nov	2.45	2.44	8.33	1.06	8.23	0.250	10.8	0.493	0.487	0.122	0.0350
Dec	0.0208	0.0203	0.0464	0.0627	0.172	<0.01	0.263	<0.01	<0.01	<0.01	<0.01
Annual	91.6	90.3	138	45.5	139	21.1	23.8	64.2	63.8	5.23	87.4

Data completeness

2025	SO_4^{2-} %TP	nss-SO_4^{2-} %TP	NO_3^- %TP	Cl^- %TP	NH_4^+ %TP	Na^+ %TP	K^+ %TP	Ca^{2+} %TP	nss-Ca^{2+} %TP	Mg^{2+} %TP	H^+ %TP	pH %TP	EC %TP	Precip. %PCL
Jan	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Feb	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Mar	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Apr	100	100	100	100	100	100	100	100	100	100	100	100	100	100
May	100	100	100	100	100	100	100	100	100	100	100	100	100	100
June	100	100	100	100	100	100	100	100	100	100	100	100	100	100
July	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Aug	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Sept	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Oct	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Nov	96.7	96.7	96.7	96.7	96.7	96.7	96.7	96.7	96.7	96.7	96.7	96.7	96.7	100
Dec	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Annual	**99.8**	**99.8**	**99.8**	**99.8**	**99.8**	**99.8**	**99.8**	**99.8**	**99.8**	**99.8**	**99.8**	**99.8**	**99.8**	**100**

Terms and abbreviations are given in Table 4.5.

Table 4.66 Annual precipitation amount and precipitation amount-weighted average concentration in 2025

Country	Name of sites (Codes)	Precip.	SO_4^{2-}	nss-SO_4^{2-}	NO_3^-	Cl^-	NH_4^+	Na^+	K^+	Ca^{2+}	nss-Ca^{2+}	Mg^{2+}	H^+	pH	EC
		mm y^{-1}	μmol L^{-1}	μmol L^{-1}	μmol L^{-1}	μmol L^{-1}	μmol L^{-1}	μmol L^{-1}	μmol L^{-1}	μmol L^{-1}	μmol L^{-1}	μmol L^{-1}	μmol L^{-1}		mS m^{-1}
Cambodia	Phnom Penh (KHA001)	***	***	***	***	***	***	***	***	***	***	***	***	***	***
China	Haifu (CNA003)	928	26.3	26.0	47.0	7.71	92.0	6.38	5.74	50.7	50.6	3.66	0.716	6.15	2.54
	Jinyunshan (CNA004)	1287	17.3	17.1	31.3	4.00	57.6	2.26	2.31	15.5	15.4	1.97	4.32	5.37	1.44
	Shizhan (CNA005)	765	25.2	24.8	40.2	17.5	75.6	5.11	5.37	47.0	46.9	14.6	0.514	6.29	2.50
	Jiwozi (CNA007)	735	36.8	36.0	53.4	25.1	9.40	13.6	14.5	81.5	81.2	16.1	0.225	6.65	2.64
	Hongwen (CNA008)	1093	8.52	7.34	16.1	23.1	16.3	19.5	1.33	6.35	5.93	2.98	2.18	5.66	0.874
	Xiaoping (CNA009)	646	11.7	11.0	29.1	13.8	30.6	10.6	2.33	9.05	8.82	2.50	1.58	5.80	1.16
	Xiang Zhou (CNA010)	1824	7.85	5.02	15.0	55.0	20.2	47.1	1.42	5.56	4.54	5.32	1.93	5.71	1.34
	Zhuxiandong (CNA011)	1487	7.70	5.30	16.5	46.2	19.9	39.8	1.14	4.21	3.35	4.66	2.56	5.59	1.25
	Wuzhishan(CNA013)	1069	*	*	*	*	*	*	*	*	*	*	0.439	6.36	0.682
	Lijiang(CNA014)	192	4.41	4.25	8.75	24.4	17.5	2.69	19.9	17.5	17.4	3.24	0.199	6.70	1.13
Indonesia	Jakarta (IDA001)	2694	19.4	18.7	25.9	15.3	39.5	11.9	4.43	12.8	12.5	2.91	13.4	4.87	1.56
	Kototabang (IDA003)	2074	4.03	3.81	2.70	4.42	4.48	3.62	2.34	6.50	6.42	0.914	7.01	5.15	0.537
	Maros (IDA005)	3294	5.77	5.08	6.13	13.1	9.56	11.4	1.47	6.26	6.01	1.93	4.79	5.32	0.612
	Jembrana(IDA006)	2619	8.83	7.32	12.1	39.0	7.51	25.0	9.88	11.9	11.3	4.91	13.6	4.87	1.27
	Lombok(IDA007)	1873	8.95	7.22	18.1	30.7	6.59	28.7	5.11	8.82	8.20	5.98	13.3	4.88	1.24
	Bandung 2 (IDA008)	997	22.3	22.0	20.6	7.92	60.1	5.34	0.853	12.5	12.4	1.64	1.32	5.88	1.33
Japan	Rishiri (JPA001)	1442	19.4	8.50	15.1	208	18.7	181	5.09	7.23	3.33	20.8	9.32	5.03	3.71
	Ochiishi (JPA002)	893	*	*	*	*	*	*	*	*	*	*	*	*	*
	Sado-seki (JPA004)	1370	17.8	7.51	15.5	200	14.2	171	4.30	7.06	3.37	19.6	9.06	5.04	3.54
	Happo (JPA005)	2504	4.57	4.30	6.12	5.52	7.01	4.53	0.327	2.24	2.14	0.836	7.77	5.11	0.594
	Ijira (JPA006)	2960	6.92	5.22	8.74	39.8	8.56	28.2	1.02	2.46	1.85	3.90	9.93	5.00	1.13
	Oki (JPA007)	1425	*	*	*	*	*	*	*	*	*	*	*	*	*
	Yusuhara (JPA009)	360	15.8	12.8	20.0	61.3	21.1	50.4	2.05	4.17	3.08	6.05	18.1	4.74	2.16
	Hedo (JPA010)	2234	*	*	*	*	*	*	*	*	*	*	*	*	*
	Ogasawara (JPA011)	1722	6.94	2.11	2.63	94.2	1.90	80.1	2.05	2.76	1.03	9.22	5.75	5.24	1.64
	Tokyo (JPA012)	1002	8.37	7.31	13.6	20.7	19.1	17.6	0.577	3.90	3.52	2.84	7.01	5.15	0.998
	Tsushima(JPA014)	2075	12.5	10.7	12.5	35.1	14.1	29.2	1.51	3.69	3.06	3.53	13.3	4.87	1.47
Lao PDR	Vientiane (LAA001)	2836	8.52	*	13.1	7.75	*	*	*	*	*	*	1.28	5.89	5.22
Malaysia	Petaling Jaya (MYA001)	3031	12.0	11.6	29.4	8.71	20.6	5.94	1.73	3.22	3.09	0.500	24.6	4.61	1.71
	Tanah Rata(MYA002)	2954	5.52	5.20	8.34	5.94	12.9	5.39	3.94	4.41	4.29	0.435	7.60	5.12	0.687
	Danum Valley (MYA003)	3482	1.18	0.980	<0.5	4.27	1.15	3.56	2.10	1.26	1.18	0.457	4.61	5.34	0.366
	Kuching (MYA004)	4723	4.37	3.96	13.2	7.41	13.8	6.86	3.21	7.11	6.96	0.612	4.34	5.36	0.620
	Gunung Brinchang(MYA005)	***	***	***	***	***	***	***	***	***	***	***	***	***	***
Mongolia	Khan-Uul (MNA004)	136	28.0	26.9	26.4	6.74	40.2	18.2	2.87	52.6	52.2	4.75	0.271	6.57	2.03
	Terelj (MNA002)	15.9	20.9	20.6	20.8	5.59	30.9	5.30	4.87	23.0	22.9	3.20	1.04	5.98	1.14
	Terelj2_temp (MNA005)	123	21.6	19.9	24.0	7.99	94.3	27.3	6.39	25.1	24.5	3.00	0.862	6.06	1.90
Myanmar	Yangon (MMA001)	2884	6.20	5.29	5.53	19.5	14.1	15.1	7.48	9.11	8.78	3.78	0.192	6.72	0.813
Philippines	Manila Observatory(PHA001)	2214	11.8	11.2	14.8	11.7	30.4	10.2	2.53	6.48	6.26	1.50	5.85	5.23	0.951
	Los Baños (PHA002)	1677	11.4	10.5	9.58	18.4	17.1	14.1	1.21	3.69	3.39	2.10	10.0	5.00	1.03
	Mt. Sto. Tomas (PHA003)	***	***	***	***	***	***	***	***	***	***	***	***	***	***
R of Korea	Ganghwa (KRA001)	840	11.6	9.80	29.2	37.4	32.2	29.1	6.81	10.2	9.53	5.24	7.37	5.13	1.63
	Jeju (KRA002)	264	24.8	15.1	26.4	175	28.6	161	36.8	7.42	4.04	15.1	1.71	5.77	3.56
	Imsil (KRA003)	329	14.7	11.4	39.4	45.7	35.8	55.2	2.71	8.72	7.64	4.72	0.618	6.21	1.37
Russia	Listvyanka (RUA002)	387	14.5	14.4	15.1	3.75	13.7	2.03	4.98	12.8	12.8	4.14	13.7	4.86	1.21
	Irkutsk (RUA003)	391	24.5	24.1	16.6	8.99	25.2	6.36	5.92	22.6	22.4	6.72	11.1	4.96	1.70
	Primorskaya (RUA004)	722	19.0	17.7	13.5	21.1	56.9	22.1	13.3	13.6	13.1	6.90	1.83	5.74	1.66
Thailand	Bangkok (THA001)	1568	*	*	*	*	*	*	*	*	*	*	3.87	5.41	1.04
	Samutprakarn (THA002)	***	***	***	***	***	***	***	***	***	***	***	***	***	***
	Pathumthani (THA003)	1198	9.20	8.53	27.0	13.4	42.8	11.0	2.02	9.30	9.07	1.77	2.59	5.59	1.55
	Khanchanaburi (THA004)	***	***	***	***	***	***	***	***	***	***	***	***	***	***
Vietnam	Hanoi (VNA001)	2236	29.9	29.2	36.3	23.9	30.4	11.3	12.2	32.7	32.5	2.58	5.54	5.26	1.96
	Hoa Binh (VNA002)	2351	8.00	7.81	24.1	5.80	10.1	3.15	1.82	13.6	13.5	1.85	15.5	4.81	1.25
	Cuc Phuong (VNA003)	2649	11.6	10.3	29.3	31.8	35.7	21.2	4.22	34.4	33.9	7.35	2.34	5.63	1.76
	Da Nang (VNA004)	3688	18.0	14.6	9.70	73.9	21.8	56.2	13.5	36.4	35.2	21.7	1.07	5.97	2.33
	Can Tho (VNA005)	2223	27.3	26.3	3.79	28.0	20.3	15.9	7.30	14.5	14.2	8.02	1.15	5.94	1.29
	Ho Chi Minh (VNA006)	2006	30.5	29.3	14.4	37.5	30.5	19.4	11.1	17.8	17.4	10.6	1.15	5.94	1.56
	Yen Bai (VNA007)	2619	35.0	34.5	52.9	17.4	52.9	8.06	9.08	24.5	24.4	2.00	33.4	4.48	3.04

Terms and abbreviations are given in Table 4.5.

Table 4.67 Annual wet depositions in 2025

Country	Name of sites (Codes)	SO_4^{2-}	nss-SO_4^{2-}	NO_3^-	Cl^-	NH_4^+	Na^+	K^+	Ca^{2+}	nss-Ca^{2+}	Mg^{2+}	H^+
		mmol $m^{-2}y^{-1}$	mmol $m^{-2}y^{-1}$	mmol $m^{-2}y^{-1}$	mmol $m^{-2}y^{-1}$	mmol $m^{-2}y^{-1}$	mmol $m^{-2}y^{-1}$	mmol $m^{-2}y^{-1}$	mmol $m^{-2}y^{-1}$	mmol $m^{-2}y^{-1}$	mmol $m^{-2}y^{-1}$	mmol $m^{-2}y^{-1}$
Cambodia	Phnom Penh (KHA001)	***	***	***	***	***	***	***	***	***	***	***
China	Haifu (CNA003)	24.4	24.1	43.6	7.15	85.4	5.92	5.32	47.0	46.9	3.40	0.664
	Jinyunshan (CNA004)	22.2	22.1	40.3	5.15	74.1	2.90	2.97	19.9	19.8	2.54	5.55
	Shizhan (CNA005)	19.2	19.0	30.8	13.4	57.8	3.91	4.10	36.0	35.9	11.2	0.393
	Jiwozi (CNA007)	27.1	26.5	39.3	18.4	6.90	9.95	10.7	59.9	59.7	11.8	0.165
	Hongwen (CNA008)	9.31	8.02	17.6	25.2	17.9	21.3	1.45	6.94	6.48	3.26	2.38
	Xiaoping (CNA009)	7.53	7.11	18.8	8.91	19.8	6.84	1.51	5.84	5.70	1.62	1.02
	Xiang Zhou (CNA010)	14.3	9.15	27.3	100	36.8	85.8	2.59	10.1	8.29	9.70	3.52
	Zhuxiandong (CNA011)	11.5	7.89	24.5	68.7	29.6	59.2	1.70	6.26	4.98	6.92	3.81
	Wuzhishan(CNA013)	*	*	*	*	*	*	*	*	*	*	0.469
	Lijiang(CNA014)	0.845	0.814	1.68	4.68	3.35	0.516	3.82	3.35	3.34	0.621	0.0381
Indonesia	Jakarta (IDA001)	52.2	50.3	69.9	41.2	106	32.0	11.9	34.5	33.8	7.84	36.1
	Kototabang (IDA003)	8.36	7.91	5.60	9.16	9.30	7.52	4.84	13.5	13.3	1.90	14.5
	Maros (IDA005)	19.0	16.7	20.2	43.2	31.5	37.5	4.85	20.6	19.8	6.36	15.8
	Jembrana(IDA006)	23.1	19.2	31.7	102	19.7	65.6	25.9	31.1	29.7	12.9	35.5
	Lombok(IDA007)	16.8	13.5	33.9	57.5	12.3	53.7	9.58	16.5	15.4	11.2	24.9
	Bandung 2 (IDA008)	22.3	22.0	20.5	7.90	59.9	5.33	0.851	12.5	12.3	1.63	1.32
Japan	Rishiri (JPA001)	28.0	12.3	21.7	300	26.9	260	7.35	10.4	4.80	30.0	13.4
	Ochiishi (JPA002)	*	*	*	*	*	*	*	*	*	*	*
	Sado-seki (JPA004)	24.4	10.3	21.2	274	19.4	234	5.90	9.67	4.61	26.9	12.4
	Happo (JPA005)	11.5	10.8	15.3	13.8	17.6	11.3	0.819	5.60	5.36	2.09	19.5
	Ijira (JPA006)	20.5	15.4	25.9	118	25.3	83.3	3.02	7.27	5.47	11.5	29.4
	Oki (JPA007)	*	*	*	*	*	*	*	*	*	*	*
	Yusuhara (JPA009)	5.70	4.60	7.21	22.1	7.60	18.1	0.740	1.50	1.11	2.18	6.53
	Hedo (JPA010)	*	*	*	*	*	*	*	*	*	*	*
	Ogasawara (JPA011)	11.9	3.63	4.54	162	3.27	138	3.52	4.75	1.77	15.9	9.91
	Tokyo (JPA012)	8.39	7.33	13.6	20.7	19.2	17.6	0.578	3.91	3.53	2.85	7.03
	Tsushima(JPA014)	25.9	22.3	26.0	72.9	29.2	60.5	3.14	7.66	6.35	7.33	27.7
Lao PDR	Vientiane (LAA001)	24.2	*	37.2	22.0	*	*	*	*	*	*	3.62
Malaysia	Petaling Jaya (MYA001)	36.2	35.2	89.2	26.4	62.5	18.0	5.24	9.77	9.38	1.52	74.6
	Tanah Rata(MYA002)	16.3	15.4	24.6	17.5	38.0	15.9	11.6	13.0	12.7	1.29	22.4
	Danum Valley (MYA003)	4.12	3.41	1.65	14.9	3.99	12.4	7.30	4.37	4.10	1.59	16.0
	Kuching (MYA004)	20.7	18.7	62.3	35.0	65.2	32.4	15.2	33.6	32.9	2.89	20.5
	Gunung Brinchang(MYA005)	***	***	***	***	***	***	***	***	***	***	***
Mongolia	Khan-Uul (MNA004)	3.79	3.64	3.58	0.914	5.45	2.47	0.389	7.13	7.08	0.645	0
	Terelj (MNA002)	0.333	0.328	0.330	0.0889	0.491	0.0843	0.0774	0.366	0.364	0.0510	0.0166
	Terelj2 temp (MNA005)	2.65	2.45	2.95	0.982	11.6	3.35	0.785	3.08	3.01	0.368	0.106
Myanmar	Yangon (MMA001)	17.9	15.3	15.9	56.3	40.6	43.5	21.6	26.3	25.3	10.9	0.554
Philippines	Manila Observatory(PHA001)	26.1	24.8	32.8	25.8	67.3	22.6	5.59	14.3	13.9	3.32	12.9
	Los Baños (PHA002)	19.0	17.6	16.1	30.8	28.6	23.6	2.02	6.19	5.68	3.51	16.8
	Mt. Sto. Tomas (PHA003)	***	***	***	***	***	***	***	***	***	***	***
R of Korea	Ganghwa (KRA001)	9.70	8.23	24.5	31.4	27.1	24.5	5.71	8.53	8.00	4.40	6.19
	Jeju (KRA002)	6.56	3.99	6.98	46.2	7.56	42.6	9.72	1.96	1.07	3.99	0.452
	Imsil (KRA003)	4.85	3.75	13.0	15.0	11.8	18.2	0.892	2.87	2.52	1.55	0.204
Russia	Listvyanka (RUA002)	5.64	5.59	5.83	1.45	5.33	0.787	1.93	4.98	4.96	1.60	5.32
	Irkutsk (RUA003)	9.57	9.43	6.49	3.52	9.87	2.49	2.32	8.83	8.78	2.63	4.33
	Primorskaya (RUA004)	13.7	12.8	9.76	15.2	41.1	15.9	9.57	9.81	9.47	4.98	1.32
Thailand	Bangkok (THA001)	*	*	*	*	*	*	*	*	*	*	6.07
	Samutprakarn (THA002)	***	***	***	***	***	***	***	***	***	***	***
	Pathumthani (THA003)	11.0	10.2	32.3	16.0	51.2	13.2	2.42	11.1	10.9	2.12	3.10
	Khanchanaburi (THA004)	***	***	***	***	***	***	***	***	***	***	***
Vietnam	Hanoi (VNA001)	66.9	65.4	81.3	53.4	68.0	25.3	27.2	73.2	72.6	5.78	12.4
	Hoa Binh (VNA002)	18.8	18.4	56.7	13.6	23.8	7.40	4.28	31.9	31.7	4.34	36.5
	Cuc Phuong (VNA003)	30.6	27.2	77.7	84.2	94.7	56.3	11.2	91.0	89.8	19.5	6.19
	Da Nang (VNA004)	66.4	53.9	35.8	272	80.4	207	50.0	134	130	80.0	3.95
	Can Tho (VNA005)	60.6	58.5	8.43	62.2	45.1	35.2	16.2	32.3	31.5	17.8	2.55
	Ho Chi Minh (VNA006)	61.2	58.9	28.9	75.2	61.2	39.0	22.2	35.8	35.0	21.2	2.31
	Yen Bai (VNA007)	91.6	90.3	138	45.5	139	21.1	23.8	64.2	63.8	5.23	87.4

Terms and abbreviations are given in Table 4.5.

Table 4.68 Data completeness for annual summaries in 2025 (%PCL, %TP)

Country	Name of sites (Codes)	Precip. %PCL	SO_4^{2-} %TP	nss-SO_4^{2-} %TP	NO_3^- %TP	Cl^- %TP	NH_4^+ %TP	Na^+ %TP	K^+ %TP	Ca^{2+} %TP	nss-Ca^{2+} %TP	Mg^{2+} %TP	H^+ %TP	pH %TP	EC %TP
Cambodia	Phnom Penh (KHA001)	***	***	***	***	***	***	***	***	***	***	***	***	***	***
China	Haifu (CNA003)	100	100	100	100	100	100	100	100	100	100	100	100	100	100
	Jinyunshan (CNA004)	100	100	100	100	100	100	100	100	100	100	100	100	100	100
	Shizhan (CNA005)	100	100	100	100	100	100	100	100	100	100	100	100	100	100
	Jiwozi (CNA007)	100	100	100	100	100	100	100	100	100	100	100	100	100	100
	Hongwen (CNA008)	100	100	100	100	100	100	100	100	100	100	100	100	100	100
	Xiaoping (CNA009)	100	100	100	100	100	100	100	100	100	100	100	100	100	100
	Xiang Zhou (CNA010)	100	100	100	100	100	100	100	100	100	100	100	100	100	100
	Zhuxiandong (CNA011)	100	100	100	100	100	100	100	100	100	100	100	100	100	100
	Wuzhishan(CNA013)	100	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100	100	100
	Lijiang(CNA014)	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Indonesia	Jakarta (IDA001)	100	100	100	100	100	100	100	100	100	100	100	100	100	100
	Kototabang (IDA003)	100	100	100	100	100	100	100	100	100	100	100	100	100	100
	Maros (IDA005)	100	100	100	100	100	100	100	100	100	100	100	100	100	100
	Jembrana(IDA006)	100	100	100	100	100	100	100	100	100	100	100	100	100	100
	Lombok(IDA007)	100	100	100	100	100	100	100	100	100	100	100	100	100	100
	Bandung 2 (IDA008)	67.1	100	100	100	100	100	100	100	100	100	100	100	100	100
Japan	Rishiri (JPA001)	100	96.4	96.4	96.4	96.4	96.4	96.4	96.4	96.4	96.4	96.4	96.4	96.4	96.4
	Ochiishi (JPA002)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Sado-seki (JPA004)	100	100	100	100	100	100	100	100	100	100	100	100	100	100
	Happo (JPA005)	95.9	81.4	81.4	81.4	81.4	81.4	81.4	81.4	81.4	81.4	81.4	81.4	81.4	81.4
	Ijira (JPA006)	92.5	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1
	Oki (JPA007)	100	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Yusuhara (JPA009)	25.4	100	100	100	100	100	100	100	100	100	100	100	100	100
	Hedo (JPA010)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Ogasawara (JPA011)	100	100	100	100	100	100	100	100	100	100	100	100	100	100
	Tokyo (JPA012)	100	98.2	98.2	98.2	98.2	98.2	98.2	98.2	98.2	98.2	98.2	98.2	98.2	98.2
	Tsushima(JPA014)	92.0	56.8	56.8	56.8	56.8	56.8	56.8	56.8	56.8	56.8	56.8	56.8	56.8	56.8
Lao PDR	Vientiane (LAA001)	100	39.4	0.0	39.4	39.4	0.0	0.0	0.0	0.0	0.0	0.0	100	100	100
Malaysia	Petaling Jaya (MYA001)	100	97.2	97.2	97.2	97.2	97.2	97.2	97.2	97.2	97.2	97.2	97.2	97.2	97.2
	Tanah Rata(MYA002)	100	91.7	91.7	91.7	91.7	91.7	91.7	91.7	91.7	91.7	91.7	91.7	91.7	91.7
	Danum Valley (MYA003)	100	83.7	83.7	83.7	83.7	83.7	83.7	83.7	83.7	83.7	83.7	83.7	83.7	83.7
	Kuching (MYA004)	100	32.7	32.7	32.7	32.7	32.7	32.7	32.7	32.7	32.7	32.7	30.1	30.1	30.1
	Gunung Brinchang(MYA005)	***	***	***	***	***	***	***	***	***	***	***	***	***	***
Mongolia	Khan-Uul (MNA004)	100	100	100	100	100	100	100	100	100	100	100	100	100	100
	Terelj (MNA002)	46.0	100	100	100	100	100	100	100	100	100	100	100	100	100
	Terelj2_temp (MNA005)	54.0	100	100	100	100	100	100	100	100	100	100	100	100	100
Myanmar	Yangon (MMA001)	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Philippines	Manila Observatory(PHA001)	93.9	100	95.2	100	100	100	95.2	95.2	95.2	95.2	95.2	99.7	99.7	99.7
	Los Baños (PHA002)	100	100	100	100	100	100	100	100	100	100	100	99.2	99.2	99.2
	Mt. Sto. Tomas (PHA003)	***	***	***	***	***	***	***	***	***	***	***	***	***	***
R of Korea	Ganghwa (KRA001)	100	100	100	100	100	100	100	100	100	100	100	100	100	100
	Jeju (KRA002)	100	100	100	100	100	100	100	100	100	100	100	100	100	100
	Imsil (KRA003)	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Russia	Listvyanka (RUA002)	100	99.9	99.9	99.9	99.9	99.9	99.9	99.9	99.9	99.9	99.9	100	100	100
	Irkutsk (RUA003)	100	100	99.7	100	100	100	99.7	99.7	99.7	99.7	99.7	100	100	100
	Primorskaya (RUA004)	100	66.7	66.7	66.7	66.7	66.7	66.7	66.7	66.7	66.7	66.7	100	100	66.7
Thailand	Bangkok (THA001)	100	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100	100	100
	Samutprakarn (THA002)	***	***	***	***	***	***	***	***	***	***	***	***	***	***
	Pathumthani (THA003)	100	100	100	100	100	100	100	100	100	100	100	100	100	100
	Khanchanaburi (THA004)	***	***	***	***	***	***	***	***	***	***	***	***	***	***
Vietnam	Hanoi (VNA001)	100	99.3	99.3	99.3	99.3	99.3	99.3	99.3	99.3	99.3	99.3	99.3	99.3	99.3
	Hoa Binh (VNA002)	100	100	100	100	100	100	100	100	100	100	100	100	100	100
	Cuc Phuong (VNA003)	100	99.4	99.4	99.4	99.4	99.4	99.4	99.4	99.4	99.4	99.4	99.4	99.4	99.4
	Da Nang (VNA004)	100	99.7	99.7	99.7	99.7	99.7	99.7	99.7	99.7	99.7	99.7	99.7	99.7	99.7
	Can Tho (VNA005)	100	100	100	100	100	100	100	100	100	100	100	100	100	100
	Ho Chi Minh (VNA006)	100	99.9	99.9	99.9	99.9	99.9	99.9	99.9	99.9	99.9	99.9	99.9	99.9	99.9
	Yen Bai (VNA007)	100	99.8	99.8	99.8	99.8	99.8	99.8	99.8	99.8	99.8	99.8	99.8	99.8	99.8

Terms and abbreviations are given in Table 4.5.

Table 4.69 Results of ion balance and conductivity agreement check in 2025

Country	Name of sites (Codes)	Sample (N)	R_1 (N)	R_1 (AA)	%	R_2 (N)	R_2 (AA)	%	R_1&R_2 (N)	R_1&R_2 (AA)	%
Cambodia	Phnom Penh (KHA001)	***	***	***	***	***	***	***	***	***	***
China	Haifu (CNA003)*	113	113	102	90.3	113	113	100	113	102	90.3
	Jinyunshan (CNA004)*	140	140	122	87.1	140	140	100	140	122	87.1
	Shizhan (CNA005)*	50	50	50	100	50	50	100	50	50	100
	Jiwozi (CNA007)*	52	53	53	100	53	53	100	53	53	100
	Hongwen (CNA008)*	60	60	40	66.7	60	60	100	60	40	66.7
	Xiaoping (CNA009)*	69	69	56	81.2	69	67	97.1	69	55	79.7
	Xiang Zhou (CNA010)*	76	76	53	69.7	76	67	88.2	76	48	63.2
	Zhuxiandong (CNA011)*	72	72	60	83.3	72	62	86.1	72	53	73.6
	Wuzhishan(CNA013)	26	0	0	N/A	0	0	N/A	0	0	N/A
	Lijiang(CNA014)*	34	34	3	8.8	34	26	76.5	34	2	5.9
Indonesia	Jakarta (IDA001)	44	44	13	29.5	44	43	97.7	44	13	29.5
	Kototabang (IDA003)	37	37	10	27.0	37	30	81.1	37	8	21.6
	Maros (IDA005)	40	40	16	40.0	40	39	97.5	40	15	37.5
	Jembrana(IDA006)	36	36	14	38.9	36	35	97.2	36	13	36.1
	Lombok(IDA007)	31	31	17	54.8	31	27	87.1	31	16	51.6
	Bandung 2(IDA008)	41	41	15	36.6	41	41	100	41	15	36.6
Japan	Rishiri (JPA001)	26	26	26	100	26	26	100	26	26	100
	Ochiishi (JPA002)	0	0	0	N/A	0	0	N/A	0	0	N/A
	Sado-seki (JPA004)*	26	25	25	100	25	25	100	25	25	100
	Happo (JPA005)	23	19	17	89.5	19	19	100	19	17	89.5
	Ijira (JPA006)	24	2	2	100	2	2	100	2	2	100
	Oki (JPA007)	27	0	0	N/A	0	0	N/A	0	0	N/A
	Yusuhara (JPA009)	7	7	7	100	7	7	100	7	7	100
	Hedo (JPA010)	0	0	0	N/A	0	0	N/A	0	0	N/A
	Ogasawara (JPA011)*	26	26	26	100	26	26	100	26	26	100
	Tokyo (JPA012)*	24	21	20	95.2	21	21	100	21	20	95.2
	Tsushima(JPA014)	25	21	21	100	21	21	100	21	21	100
Lao PDR	Vientiane (LAA001)*	35	0	0	N/A	0	0	N/A	0	0	N/A
Malaysia	Petaling Jaya (MYA001)*	47	44	42	95.5	44	42	95.5	44	40	90.9
	Tanah Rata(MYA002)*	48	48	25	52.1	48	41	85.4	48	24	50.0
	Danum Valley (MYA003)*	41	41	22	53.7	41	35	85.4	41	21	51.2
	Kuching (MYA004)*	20	19	15	78.9	19	19	100	19	15	78.9
	Gunung Brinchang(MYA005)	***	***	***	***	***	***	***	***	***	***
Mongolia	Khan-Uul (MNA004)	29	29	1	3.4	29	27	93.1	29	1	3.4
	Terelj (MNA002)	6	6	0	0	6	6	100	6	0	0
	Terelj2_temp (MNA005)	35	35	3	8.6	35	31	88.6	35	3	8.6
Myanmar	Yangon (MMA001)	33	33	6	18.2	33	16	48.5	33	5	15.2
Philippines	Manila Observatory(PHA001)*	38	34	13	38.2	34	28	82.4	34	11	32.4
	Los Baños (PHA002)*	41	36	20	55.6	36	28	77.8	36	17	47.2
	Mt. Sto. Tomas (PHA003)	***	***	***	***	***	***	***	***	***	***
R of Korea	Ganghwa (KRA001)	53	53	27	50.9	53	45	84.9	53	25	47.2
	Jeju (KRA002)	34	34	19	55.9	34	33	97.1	34	19	55.9
	Imsil (KRA003)	45	45	19	42.2	45	37	82.2	45	16	35.6
Russia	Listvyanka (RUA002)*	56	55	55	100	55	54	98.2	55	54	98.2
	Irkutsk (RUA003)*	85	84	84	100	84	84	100	84	84	100
	Primorskaya (RUA004)*	91	55	13	23.6	55	50	90.9	55	11	20.0
Thailand	Bangkok (THA001)	30	0	0	N/A	0	0	N/A	0	0	N/A
	Samutprakarn (THA002)	***	***	***	***	***	***	***	***	***	***
	Pathumthani (THA003)*	53	53	22	41.5	53	43	81.1	53	21	39.6
	Khanchanaburi (THA004)	***	***	***	***	***	***	***	***	***	***
Vietnam	Hanoi (VNA001)*	44	35	33	94.3	35	35	100	35	33	94.3
	Hoa Binh (VNA002)*	40	40	24	60.0	40	39	97.5	40	24	60.0
	Cuc Phuong (VNA003)*	39	33	33	100	33	33	100	33	33	100
	Da Nang (VNA004)*	46	37	37	100	37	37	100	37	37	100
	Can Tho (VNA005)*	36	36	35	97.2	36	36	100	36	35	97.2
	Ho Chi Minh (VNA006)*	34	33	32	97.0	33	33	100	33	32	97.0
	Yen Bai (VNA007)*	38	37	32	86.5	37	37	100	37	32	86.5

Sites marked with * : R_1 and R_2, calculated including concentrations of additional measured constituents
Terms and abbreviations are given in Table 4.5.

Table 4.70 Annual precipitation from 2011 to 2025

unit: mm y^{-1}

Country	Name of sites	Code	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
Cambodia	Phnom Penh	KHA001	1277	1617	1345	1561	1103	1277	1379	***	***	***	***	***	***	***	***
China	Haifu	CNA003	810	1010	1026	1417	1220	1270	1217	1117	1224	1279	1318	1056	1353	1043	928
	Jinyunshan	CNA004	848	1005	1127	1490	1288	1217	1268	935	1037	1231	1530	967	1347	772	1287
	Shizhan	CNA005	659	393	441	623	594	415	577	471	465	438	827	456	1056	686	765
	Jiwozi	CNA007	971	390	649	568	447	369	508	547	582	450	926	419	847	582	735
	Hongwen	CNA008	843	924	1403	1129	1015	1771	538	978	1027	318	443	857	827	1059	1093
	Xiaoping	CNA009	1531	1291	1979	1364	1557	1851	676	840	1013	795	739	1044	971	1079	646
	Xiang Zhou	CNA010	1259	1518	2421	1673	1431	2344	1905	2067	1988	1783	2472	2124	2109	2311	1824
	Zhuxiandong	CNA011	1146	***	***	***	1598	2356	1817	2109	2105	2115	2398	2104	2133	1797	1487
	Wuzhishan	CNA013									1495	833	1157	1112	664	873	1069
	Lijiang	CNA014									508	998	614	346	480	301	192
Indonesia	Jakarta	IDA001	990	2722	2331	3168	2807	1976	1307	1709	1500	2976	2115	1721	***	1690	2694
	Serpong	IDA002	830	894	2324	2882	1770	2929	3197	2117	2199	3132	2241	2668			
	Kototabang	IDA003	2193	2639	2120	2496	2503	2163	2437	2905	2134	2808	2575	2325	***	2710	2074
	Bandung	IDA004	1530	2084	2346	2033	2012	2699	1921	1747	1689	1320	1775	1954			
	Maros	IDA005	3632	2451	4033	2763	2479	1973	2301	3339	1663	1685	1604	4321	***	1770	3294
	Jembrana	IDA006									1589	2234	2573	2705	***	1963	2619
	Lombok	IDA007									1604	1635	2069	2494	***	1602	1873
	Bandung 2	IDA008															997
Japan	Rishiri	JPA001	1232	1172	1170	1033	1092	1299	938	1087	713	1248	1055	1047	1428	1096	1442
	Ochiishi	JPA002	818	871	1059	838	827	1138	836	1124	830	638	807	846	806	912	893
	Tappi	JPA003	1144	1178	1070	1194	1114	1222	1129	1649							
	Sado-seki	JPA004	1387	1296	1576	1409	867	999	1262	1573	959	1346	1530	1193	1451	1275	1370
	Happo	JPA005	3076	2002	2658	2453	2242	2446	3121	2758	2484	2608	2674	2223	2775	2944	2504
	Ijira	JPA006	3068	2862	2724	3044	3135	3151	2919	3725	2777	3486	4209	4042	4370	4593	2960
	Oki	JPA007	1534	1296	1395	1053	1061	1519	992	1308	1095	1503	1736	1311	1828	1409	1425
	Banryu	JPA008	1432	1208	2024	1516	1458	1829	1471	1662							
	Yusuhara	JPA009	3401	3048	2485	3529	3046	2744	2594	4022	3102	2842	2811	2420	2624	2690	360
	Hedo	JPA010	1766	2837	1612	2442	1762	1822	1623	2632	2566	1943	2740	3029	2081	3361	2234
	Ogasawara	JPA011	1297	1572	1265	1532	1586	1153	1654	960	1868	1662	1880	1953	1520	1233	1722
	Tokyo	JPA012	1388	1635	1609	1807	1641	1609	1280	1296	1641	1401	1839	1464	1297	1730	1002
	Niigata-maki	JPA013									1522	2103	1777	1663	1745	349	
	Tsushima	JPA014									2461	2399	2231	1510	1993	2022	2075
Lao PDR	Vientiane	LAA001	***	1322	***	1273	921	713	1337	829	700	***	***	***	1218	2857	2836
Malaysia	Petaling Jaya	MYA001	3607	3412	3570	3708	3751	3432	3125	3848	***	3722	3772	4180	3631	3731	3031
	Tanah Rata	MYA002	3293	2846	2771	2895	2684	2366	3016	2607	***	2875	***	3194	2902	2999	2954
	Danum Valley	MYA003	3787	2958	3202	2848	2025	2987	2964	2489	***	2290	3659	2936	2167	3212	3482
	Kuching	MYA004	4632	3796	4110	3656	4428	5655	3828	3804	***	4095	4430	3979	4306	4986	4723
	Gunung Brinchang	MYA005											571	***	***	***	***
Mongolia	Ulaanbaatar	MNA001	163	170	154	***	150	160	160	170	33.7						
	Terelj	MNA002	144	117	90.8	***	100	106	105	149	***	117	191	121	130	150	15.9
	Khan-Uul	MNA004										161	178	117	168	218	136
	Terelj2_temp	MNA005															123
Myanmar	Yangon	MMA001	3151	2570	2692	2872	2432	2180	2813	2940	2962	2235	2075	2461	2615	2972	2884
Philippines	Manila Observatory	PHA001	3657	4461	3516	2628	2499	2519	***	***	2367	2519	2556	2833	3560	2053	2214
	Los Baños	PHA002	2384	2102	2394	2073	1559	1756	***	***	***	***	***	2160	2139	1564	1677
	Mt.Sto.Tomas	PHA003	4608	5730	4392	3641	6108	4426	***	***	***	***	***	620	***	2875	***
Republic of Korea	Ganghwa	KRA001	1476	748	898	427	589	837	588	628	502	***	688	848	594	640	840
	Jeju	KRA002	1076	1199	636	1195	1452	1121	714	1035	791	***	1185	234	983	1019	264
	Imsil	KRA003	1493	1400	1220	1101	719	838	761	1171	1096	***	522	711	601	927	329
Russia	Mondy	RUA001	73.5	105	330	123	136	222	191	362	182	58.5	58.6	54.3	***		
	Listvyanka	RUA002	478	343	278	279	335	316	315	225	430	416	563	396	452	440	387
	Irkutsk	RUA003	329	443	277	388	291	481	502	442	402	484	591	365	482	505	391
	Primorskaya	RUA004	621	922	723	643	1157	925	635	1023	880	808	726	783	1121	800	722
Thailand	Bangkok	THA001	2171	1799	1330	1011	1593	1631	1592	1144	630	1427	***	2073	1438	1245	1568
	Samutprakarn	THA002	2103	953	1115	991	1442	1810	1815	1471	899	1086	***	1967	1013	444	***
	Pathumthani	THA003	1562	1563	1181	1059	1071	1069	1365	1322	804	1423	883	1657	1297	1343	1198
	Khanchanaburi	THA004	1941	2390	1501	979	1093	1059	1178	994	652	***	***	***	***	***	***
	Mae Hia	THA005	1614	1111	1433	527	747	743	1234	818	754						
	Sakaerat	THA008	1509	1126	1443	427	1385	1083	1692	1129	1141						
Vietnam	Hanoi	VNA001	1817	1798	1945	1661	1273	1661	2071	1900	1290	1577	1994	2478	2038	2741	2236
	Hoa Binh	VNA002	1760	1915	2008	1303	1616	1438	1895	2799	1529	2163	2189	2055	1961	2532	2351
	Cuc Phuong	VNA003	1853	2018	1898	1702	1461	1937	2236	2521	1571	1953	1915	2768	1870	2244	2649
	Da Nang	VNA004	3639	1682	2315	2219	1891	2723	2244	2597	2142	3065	2584	3042	3946	2606	3688
	Can Tho	VNA005				1840	2205	1670	1907	2608	2370	1654	2536	2311	1866	1760	2223
	Ho Chi Minh	VNA006				1916	1420	2553	3444	2480	2262	2529	2289	2306	2017	2119	2006
	Yen Bai	VNA007					1514	1815	2397	1866	1593	1691	1411	1834	1376	2627	2619

Terms and abbreviations are given in Table 4.5.

Table 4.71 Precipitation amount-weighted annual average concentrations of SO_4^{2-} from 2011 to 2025

unit: μmol L^{-1}

Country	Name of sites	Code	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
Cambodia	Phnom Penh	KHA001	9.04	10.5	7.99	6.27	7.04	5.37	11.3	***	***	***	***	***	***	***	***
China	Haifu	CNA003	142	102	106	84.4	50.3	46.9	41.0	41.2	33.5	25.8	26.4	22.9	24.0	23.1	26.3
	Jinyunshan	CNA004	141	124	81.4	60.4	43.9	40.0	36.5	36.3	35.3	30.9	24.4	24.9	21.6	25.9	17.3
	Shizhan	CNA005	110	109	141	113	82.8	62.5	72.5	47.0	30.3	44.6	34.7	54.7	20.6	20.2	25.2
	Jiwozi	CNA007	62.6	94.5	52.6	69.3	31.6	19.5	35.8	26.6	62.5	15.0	16.9	17.1	18.1	34.6	36.8
	Hongwen	CNA008	31.3	32.2	21.9	27.0	18.5	22.8	31.7	17.7	45.2	30.6	22.0	7.84	8.83	11.5	8.52
	Xiaoping	CNA009	24.9	23.4	22.7	29.6	17.3	13.7	14.6	13.1	12.7	11.7	12.6	6.01	10.9	10.8	11.7
	Xiang Zhou	CNA010	15.5	14.9	19.1	14.3	11.6	16.0	14.1	12.1	10.2	8.70	5.83	6.51	7.81	8.38	7.85
	Zhuxiandong	CNA011	20.4	***	***	***	23.3	18.1	14.1	15.7	11.8	10.6	7.98	7.62	8.29	8.78	7.70
	Wuzhishan	CNA013									6.78	4.21	2.69	3.63	2.38	2.73	*
	Lijiang	CNA014									0.460	37.0	2.18	5.34	3.28	7.42	4.41
Indonesia	Jakarta	IDA001	28.7	20.6	21.9	22.2	17.1	31.1	17.3	34.8	25.4	15.4	27.2	23.4	***	24.4	19.4
	Serpong	IDA002	33.6	29.0	26.5	23.2	31.5	25.9	25.5	33.6	33.8	26.3	30.6	28.7			
	Kototabang	IDA003	7.77	6.04	6.22	8.52	8.30	5.70	4.48	5.59	6.58	4.33	5.55	4.31	***	10.7	4.03
	Bandung	IDA004	30.8	26.5	30.7	38.8	30.1	31.9	35.0	31.8	43.1	33.3	30.6	33.7			
	Maros	IDA005	8.26	8.77	6.44	7.56	6.19	10.4	6.34	5.83	6.99	4.90	5.33	5.21	***	5.34	5.77
	Jembrana	IDA006									9.30	8.99	8.55	8.32	***	14.3	8.83
	Lombok	IDA007									11.6	9.17	9.52	20.3	***	14.1	8.95
	Bandung 2	IDA008															22.3
Japan	Rishiri	JPA001	21.2	27.8	23.2	20.0	18.2	11.8	24.6	22.5	21.8	18.2	22.0	19.2	12.3	14.3	19.4
	Ochiishi	JPA002	15.2	25.3	32.5	13.0	20.3	12.7	18.0	9.68	8.90	13.0	36.0	*	*	*	*
	Tappi	JPA003	27.5	22.3	33.1	26.5	24.7	22.5	22.1	17.4							
	Sado-seki	JPA004	24.5	29.8	33.5	32.0	34.7	21.4	19.6	15.6	23.1	18.8	117	16.6	15.1	13.8	17.8
	Happo	JPA005	7.00	11.6	8.88	8.00	7.06	5.12	4.66	4.74	5.84	4.12	4.65	4.24	3.96	3.03	4.57
	Ijira	JPA006	13.0	13.6	12.3	12.0	11.7	10.8	10.1	7.43	9.90	7.18	6.08	7.75	8.43	5.68	6.92
	Oki	JPA007	45.6	37.9	47.0	47.8	36.4	31.7	40.7	35.1	21.0	23.7	29.4	*	*	*	*
	Banryu	JPA008	21.1	25.9	17.3	21.6	18.3	16.9	16.2	11.6							
	Yusuhara	JPA009	7.02	10.7	9.07	6.92	6.52	7.58	19.8	5.28	6.46	6.75	4.99	8.12	6.94	6.39	15.8
	Hedo	JPA010	20.5	31.2	22.2	14.3	23.9	17.5	28.0	12.8	12.5	19.3	82.6	10.4	26.0	*	*
	Ogasawara	JPA011	15.7	10.2	13.5	12.1	20.8	9.57	12.8	3.99	12.8	7.55	11.8	11.5	12.7	8.61	6.94
	Tokyo	JPA012	15.9	15.6	12.2	13.9	11.7	9.36	11.3	10.6	11.0	8.34	6.96	8.50	7.30	7.30	8.37
	Niigata-maki	JPA013									20.7	14.3	17.9	19.5	17.0	23.2	
	Tsushima	JPA014									10.5	10.5	10.3	12.3	11.0	9.97	12.5
Lao PDR	Vientiane	LAA001	***	2.41	***	***	3.19	3.66	*	*	*	***	***	***	3.11	3.52	8.52
Malaysia	Petaling Jaya	MYA001	22.5	17.0	17.8	21.4	21.4	20.2	13.5	15.5	***	11.0	9.56	10.7	12.6	10.6	12.0
	Tanah Rata	MYA002	5.05	4.59	4.77	6.19	6.86	3.92	3.53	4.23	***	5.10	***	2.72	3.87	3.80	5.52
	Danum Valley	MYA003	1.96	2.28	3.17	2.58	3.54	1.65	2.70	3.22	***	7.38	2.46	1.85	2.53	1.74	1.18
	Kuching	MYA004	4.07	4.67	5.01	7.14	4.68	4.07	4.00	4.28	***	7.52	2.86	2.38	2.56	1.63	4.37
	Gunung Brinchang	MYA005											2.13	***	***	***	***
Mongolia	Ulaanbaatar	MNA001	28.1	***	56.6	***	122	129	34.6	32.1	346						
	Terelj	MNA002	23.6	***	48.5	***	104	142	13.5	26.7	***	47.9	279	*	51.7	20.5	20.9
	Khan-Uul	MNA004										38.8	98.4	*	22.9	21.7	28.0
	Terelj2_temp	MNA005															21.6
Myanmar	Yangon	MMA001	6.63	7.48	7.96	4.55	4.62	9.19	11.6	8.09	8.77	6.24	5.31	7.90	8.18	8.14	6.20
Philippines	Manila Observatory	PHA001	18.7	24.1	15.1	18.0	19.0	21.7	***	***	10.2	11.4	18.0	16.1	14.4	18.7	11.8
	Los Baños	PHA002	8.57	12.6	6.60	9.13	13.4	15.4	***	***	***	***	***	15.3	18.2	15.5	11.4
	Mt.Sto.Tomas	PHA003	4.69	7.26	7.71	4.62	4.02	5.52	***	***	***	***	***	3.82	***	5.09	***
Republic of Korea	Ganghwa	KRA001	27.2	27.2	36.1	29.3	29.4	18.8	23.5	14.2	26.2	***	15.0	12.5	7.53	11.3	11.6
	Jeju	KRA002	25.5	36.7	40.6	17.2	17.3	43.1	31.6	23.4	21.1	***	31.9	83.5	30.6	24.7	24.8
	Imsil	KRA003	20.7	19.4	18.5	15.2	20.2	13.8	18.6	10.6	15.3	***	17.1	18.2	14.9	7.45	14.7
Russia	Mondy	RUA001	4.53	7.16	3.58	5.47	6.45	3.13	6.43	4.37	4.68	3.62	6.11	4.95	***		
	Listvyanka	RUA002	22.1	21.4	18.1	17.4	21.0	15.0	22.5	21.2	19.4	14.2	16.2	14.5	18.1	17.1	14.5
	Irkutsk	RUA003	34.4	37.9	36.6	23.2	42.2	23.6	25.7	31.1	28.2	22.6	26.0	26.5	26.5	22.2	24.5
	Primorskaya	RUA004	14.0	20.8	29.2	32.1	21.4	24.0	34.2	29.9	18.7	26.3	21.8	33.6	27.8	24.4	19.0
Thailand	Bangkok	THA001	10.7	10.7	7.09	8.43	7.53	14.1	17.0	15.1	11.6	9.50	***	5.22	7.24	*	*
	Samutprakarn	THA002	7.67	10.2	7.67	9.61	7.24	11.8	8.90	10.3	10.6	7.43	***	5.35	6.35	*	***
	Pathumthani	THA003	9.45	7.93	9.41	8.23	11.6	10.2	8.91	7.17	10.7	5.61	8.95	7.37	7.04	4.86	9.20
	Khanchanaburi	THA004	5.11	3.72	1.23	3.59	2.34	9.80	3.33	2.66	2.94	***	***	***	***	***	***
	Mae Hia	THA005	3.24	4.76	4.13	8.39	4.12	5.45	6.21	4.17	7.08						
	Sakaerat	THA008	5.30	6.64	7.49	10.8	6.53	6.94	4.93	9.62	7.03						
Vietnam	Hanoi	VNA001	30.7	28.8	25.9	39.3	39.5	35.8	34.6	44.5	67.8	86.0	39.9	69.8	43.1	37.2	29.9
	Hoa Binh	VNA002	18.0	17.1	19.7	25.2	20.0	26.3	18.9	21.9	15.0	39.8	32.4	21.3	37.3	9.12	8.00
	Cuc Phuong	VNA003	37.6	24.3	26.9	18.5	18.8	16.7	16.2	13.5	22.6	19.5	16.3	15.1	17.4	15.0	11.6
	Da Nang	VNA004	21.1	19.6	24.2	15.8	11.4	11.7	16.5	13.9	24.6	11.2	12.2	12.2	11.1	13.5	18.0
	Can Tho	VNA005				8.73	30.7	15.9	16.2	22.7	25.7	24.0	20.3	25.1	25.9	26.6	27.3
	Ho Chi Minh	VNA006				24.2	47.6	19.2	23.4	25.6	31.7	24.0	25.3	26.1	29.6	34.0	30.5
	Yen Bai	VNA007					22.6	43.6	26.2	25.4	24.4	47.7	40.5	25.4	58.7	13.0	35.0

Terms and abbreviations are given in Table 4.5.

Table 4.72 Precipitation amount-weighted annual average concentrations of nss-SO_4^{2-} from 2011 to 2025

unit: μmol L^{-1}

Country	Name of sites	Code	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
Cambodia	Phnom Penh	KHA001	8.83	10.3	7.80	5.81	6.66	5.11	11.0	***	***	***	***	***	***	***	***
China	Haifu	CNA003	142	101	106	84.0	50.1	46.5	40.7	40.9	33.3	25.6	26.2	22.7	23.8	23.0	26.0
	Jinyunshan	CNA004	140	124	81.2	60.1	43.8	39.8	36.4	36.2	35.1	30.8	24.3	24.7	21.5	25.7	17.1
	Shizhan	CNA005	109	109	132	105	75.9	59.2	70.8	45.8	29.6	43.3	33.6	53.2	19.3	19.4	24.8
	Jiwozi	CNA007	62.1	91.8	45.8	61.8	26.0	19.0	33.8	25.1	57.2	13.7	15.6	16.5	17.4	33.5	36.0
	Hongwen	CNA008	30.2	31.2	21.0	25.8	17.4	21.3	29.5	16.3	44.9	27.7	19.3	6.84	7.82	10.7	7.34
	Xiaoping	CNA009	24.2	22.9	22.0	29.0	16.7	13.3	14.2	12.7	12.6	11.0	12.2	5.61	10.2	10.3	11.0
	Xiang Zhou	CNA010	13.5	12.1	15.9	12.5	8.60	14.7	11.0	8.04	8.94	7.28	4.73	5.12	6.58	7.31	5.02
	Zhuxiandong	CNA011	17.7	***	***	***	19.3	16.2	12.6	10.3	10.3	8.35	6.52	5.93	6.82	7.25	5.30
	Wuzhishan	CNA013									6.26	3.80	2.27	3.13	2.06	2.36	*
	Lijiang	CNA014									0.407	36.9	2.13	5.24	3.19	7.32	4.25
Indonesia	Jakarta	IDA001	28.0	19.8	20.9	20.9	16.3	29.8	16.7	33.8	24.8	14.5	26.2	22.8	***	23.1	18.7
	Serpong	IDA002	33.0	28.4	25.6	22.1	30.7	25.1	24.8	32.5	32.8	25.5	29.3	28.2			
	Kototabang	IDA003	7.38	5.47	5.71	8.18	8.63	4.96	4.27	5.39	6.30	4.10	5.33	4.11	***	10.5	3.81
	Bandung	IDA004	30.1	25.8	29.9	38.0	29.6	31.2	33.9	30.4	40.4	32.5	30.1	33.0			
	Maros	IDA005	7.36	7.65	5.28	6.24	5.99	5.58	3.71	5.01	5.86	3.97	4.57	4.53	***	4.52	5.08
	Jembrana	IDA006									8.10	7.18	6.61	6.89	***	12.4	7.32
	Lombok	IDA007									10.2	7.61	8.35	18.9	***	12.7	7.22
	Bandung 2	IDA008															22.0
Japan	Rishiri	JPA001	12.9	10.5	11.3	10.2	9.80	7.61	12.2	12.2	10.9	9.83	8.15	9.16	6.78	7.66	8.50
	Ochiishi	JPA002	6.73	8.81	7.18	7.15	9.53	4.37	4.87	5.01	4.84	5.92	18.9	*	*	*	*
	Tappi	JPA003	18.5	13.8	17.6	17.1	11.5	12.3	10.7	7.83							
	Sado-seki	JPA004	15.3	15.3	13.9	15.0	15.1	10.9	10.6	7.60	9.88	8.30	33.6	4.34	6.68	5.45	7.51
	Happo	JPA005	6.80	11.0	8.63	7.68	6.71	4.83	4.36	4.42	5.63	3.86	4.34	3.98	3.67	2.90	4.30
	Ijira	JPA006	12.1	12.4	11.4	11.1	10.8	10.1	9.20	6.55	9.11	6.36	5.10	6.52	7.71	5.09	5.22
	Oki	JPA007	16.7	16.4	16.5	15.0	11.5	11.7	11.5	10.8	11.2	9.94	6.54	*	*	*	*
	Banryu	JPA008	14.6	20.3	13.1	16.4	12.8	11.9	10.9	8.21							
	Yusuhara	JPA009	6.28	9.66	8.47	6.61	5.28	7.10	16.7	4.40	5.64	6.19	3.90	5.95	5.84	5.52	12.8
	Hedo	JPA010	8.26	6.30	8.58	6.03	5.04	5.47	5.94	3.12	4.66	5.60	14.7	2.40	7.70	*	*
	Ogasawara	JPA011	3.56	3.35	4.99	4.20	2.39	4.09	2.09	1.23	2.10	4.48	1.90	2.51	4.35	1.59	2.11
	Tokyo	JPA012	13.6	13.8	10.8	12.8	10.6	8.49	8.89	8.51	7.50	7.41	5.79	7.38	6.33	6.25	7.31
	Niigata-maki	JPA013									10.1	7.51	6.46	6.86	6.54	10.8	
	Tsushima	JPA014									8.69	8.59	8.16	6.20	8.77	7.22	10.7
Lao PDR	Vientiane	LAA001	***	***	***	***	3.02	3.56	*	*	*	***	***	***	2.92	*	*
Malaysia	Petaling Jaya	MYA001	22.2	16.8	17.5	21.1	21.0	19.9	13.2	15.2	***	10.6	9.27	10.5	12.3	10.3	11.6
	Tanah Rata	MYA002	4.93	4.50	4.64	6.02	6.69	3.77	3.38	4.08	***	4.80	***	2.54	3.68	3.56	5.20
	Danum Valley	MYA003	1.72	2.11	2.86	2.25	3.22	1.46	2.56	2.91	***	6.61	2.05	1.56	2.29	1.44	0.980
	Kuching	MYA004	3.53	4.35	4.56	6.58	3.91	3.33	3.44	3.76	***	6.89	2.41	1.99	2.19	1.40	3.96
	Gunung Brinchang	MYA005											1.89	***	***	***	***
Mongolia	Ulaanbaatar	MNA001	27.7	***	52.0	***	***	119	33.3	29.6	339						
	Terelj	MNA002	23.2	***	47.7	***	***	127	12.7	23.9	***	44.3	272	*	50.7	19.0	20.6
	Khan-Uul	MNA004										35.0	97.3	*	22.7	21.3	26.9
	Terelj2_temp	MNA005															19.9
Myanmar	Yangon	MMA001	5.72	6.15	7.33	3.51	4.09	8.24	10.7	6.77	7.67	5.40	4.37	6.97	7.23	7.40	5.29
Philippines	Manila Observatory	PHA001	17.4	23.1	13.4	16.5	17.6	20.7	***	***	9.10	10.8	16.6	14.6	13.0	17.6	11.2
	Los Baños	PHA002	7.40	11.3	5.22	8.20	12.4	14.0	***	***	***	***	***	14.5	17.0	14.5	10.5
	Mt.Sto.Tomas	PHA003	4.43	6.64	7.31	4.24	3.49	4.62	***	***	***	***	***	3.71	***	4.89	***
Republic of Korea	Ganghwa	KRA001	25.0	24.4	34.3	26.7	26.7	17.1	21.9	12.4	15.4	***	13.2	11.0	6.43	9.57	9.80
	Jeju	KRA002	16.4	14.1	23.2	10.2	11.2	19.3	15.9	7.55	15.5	***	15.0	31.5	9.79	14.0	15.1
	Imsil	KRA003	18.4	16.3	16.7	13.4	17.3	11.8	16.5	8.33	13.0	***	12.3	13.8	12.2	5.92	11.4
Russia	Mondy	RUA001	4.30	6.90	3.49	5.34	6.35	3.05	6.27	4.24	4.56	3.32	5.94	4.85	***		
	Listvyanka	RUA002	21.8	21.1	17.7	17.1	20.9	14.7	22.3	20.8	19.1	14.0	15.9	14.2	17.7	16.9	14.4
	Irkutsk	RUA003	33.4	37.3	35.8	22.7	41.4	23.2	25.2	30.6	27.7	22.0	25.6	26.0	25.6	21.8	24.1
	Primorskaya	RUA004	13.2	19.4	27.6	31.1	19.9	22.5	32.6	28.6	17.4	24.2	19.8	31.5	26.5	23.1	17.7
Thailand	Bangkok	THA001	10.3	10.3	6.36	7.88	7.04	13.5	16.7	14.5	11.0	8.54	***	4.94	6.33	*	*
	Samutprakarn	THA002	7.33	9.74	6.22	8.85	6.68	11.2	8.47	9.69	10.0	6.69	***	5.05	5.16	*	***
	Pathumthani	THA003	9.10	7.10	9.04	7.91	11.2	9.77	8.61	6.87	10.3	5.40	8.75	7.20	6.72	4.64	8.53
	Khanchanaburi	THA004	4.66	3.14	<1.0	3.20	2.00	9.19	3.05	2.17	2.61	***	***	***	***	***	***
	Mae Hia	THA005	3.05	4.53	3.83	8.17	3.85	5.04	5.85	3.74	6.59						
	Sakaerat	THA008	5.05	6.42	7.31	10.3	6.25	6.70	4.80	8.95	6.45						
Vietnam	Hanoi	VNA001	30.3	28.6	25.4	38.9	39.0	35.2	33.6	43.9	66.3	84.5	39.2	68.4	42.3	36.2	29.2
	Hoa Binh	VNA002	17.9	16.9	19.5	25.1	19.8	26.1	18.7	21.8	14.2	39.3	31.8	21.0	36.7	8.95	7.81
	Cuc Phuong	VNA003	36.8	23.1	25.3	17.9	18.3	15.9	15.1	12.7	21.2	18.4	13.9	13.8	15.9	13.8	10.3
	Da Nang	VNA004	16.8	16.1	15.6	10.8	6.65	7.75	11.6	9.85	18.1	7.76	8.04	8.51	8.78	9.71	14.6
	Can Tho	VNA005				7.80	28.9	15.1	15.6	22.1	24.6	22.9	19.5	24.2	24.8	25.5	26.3
	Ho Chi Minh	VNA006				22.7	45.5	18.4	22.3	24.8	30.5	22.9	24.2	24.9	28.5	32.9	29.3
	Yen Bai	VNA007					22.2	43.0	26.0	25.1	23.7	46.7	39.8	25.1	57.8	12.7	34.5

Terms and abbreviations are given in Table 4.5.

Table 4.73 Precipitation amount-weighted annual average concentrations of NO_3^- from 2011 to 2025

unit: μmol L^{-1}

Country	Name of sites	Code	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
Cambodia	Phnom Penh	KHA001	8.85	10.7	7.65	8.51	10.4	7.66	10.9	***	***	***	***	***	***	***	***
China	Haifu	CNA003	83.1	73.9	73.9	64.1	47.4	52.3	51.8	56.8	50.2	42.9	41.0	40.9	41.9	42.6	47.0
	Jinyunshan	CNA004	77.5	70.4	53.1	45.6	36.4	37.5	36.8	44.6	47.0	42.9	35.7	36.8	32.3	45.1	31.3
	Shizhan	CNA005	17.5	49.4	35.6	98.0	71.9	62.8	25.2	38.5	24.7	24.8	12.9	66.2	22.6	31.3	40.2
	Jiwozi	CNA007	8.24	47.4	8.77	13.8	28.6	5.56	2.55	15.1	37.8	4.81	4.41	10.5	17.7	32.8	53.4
	Hongwen	CNA008	23.6	35.2	20.9	26.4	26.2	31.4	43.7	27.1	39.3	50.0	37.9	18.5	19.4	17.8	16.1
	Xiaoping	CNA009	22.6	26.7	20.7	34.0	24.4	19.3	28.1	25.3	31.3	29.1	30.1	20.6	30.4	20.5	29.1
	Xiang Zhou	CNA010	15.7	15.2	20.4	20.9	18.8	18.2	18.1	17.1	21.6	22.6	13.3	13.4	17.6	20.8	15.0
	Zhuxiandong	CNA011	18.8	***	***	***	29.4	22.2	22.8	19.3	24.2	24.3	19.1	15.8	18.3	22.7	16.5
	Wuzhishan	CNA013									9.44	9.77	6.20	7.29	4.93	4.74	*
	Lijiang	CNA014									4.42	29.7	0.882	6.35	5.75	8.91	8.75
Indonesia	Jakarta	IDA001	29.8	16.2	21.8	20.0	15.3	34.2	18.9	44.3	25.6	16.2	24.6	21.9	***	22.2	25.9
	Serpong	IDA002	35.5	31.5	39.5	36.2	48.1	31.7	31.1	48.0	40.1	29.7	33.7	28.1			
	Kototabang	IDA003	5.05	4.65	2.86	7.48	3.60	4.16	3.78	7.47	7.60	4.61	5.57	4.49	***	5.60	2.70
	Bandung	IDA004	28.0	21.6	22.0	27.2	23.6	22.6	25.9	23.9	35.8	27.9	19.7	21.7			
	Maros	IDA005	7.51	9.05	3.65	6.10	6.29	8.79	3.48	7.51	3.16	3.08	5.11	5.90	***	6.52	6.13
	Jembrana	IDA006									9.64	23.8	24.2	7.38	***	13.8	12.1
	Lombok	IDA007									12.5	8.19	5.10	6.42	***	12.1	18.1
	Bandung 2	IDA008															20.6
Japan	Rishiri	JPA001	14.1	13.4	13.4	10.2	10.8	10.2	18.7	19.3	17.1	14.1	12.8	15.3	12.8	15.8	15.1
	Ochiishi	JPA002	9.58	9.80	8.83	8.71	11.5	5.62	6.83	7.04	8.05	9.05	42.1	*	*	*	*
	Tappi	JPA003	19.8	17.4	25.2	24.1	14.3	17.6	19.5	12.2							
	Sado-seki	JPA004	19.7	20.0	19.4	19.3	20.8	18.7	18.6	14.1	18.1	13.2	18.9	9.24	12.3	11.5	15.5
	Happo	JPA005	8.17	11.6	8.32	7.80	6.78	5.79	5.96	6.49	8.06	5.54	6.90	6.03	5.73	4.74	6.12
	Ijira	JPA006	15.1	16.7	14.8	14.7	16.7	16.4	15.4	10.4	13.6	11.1	10.2	12.3	10.7	9.86	8.74
	Oki	JPA007	21.2	21.6	24.2	20.3	15.1	16.4	21.0	16.9	19.1	13.2	12.5	*	*	*	*
	Banryu	JPA008	19.5	27.8	16.2	21.7	18.0	17.9	22.2	13.6							
	Yusuhara	JPA009	5.75	8.57	7.03	4.87	7.55	6.96	26.3	4.37	5.64	5.75	6.04	6.33	7.04	5.66	20.0
	Hedo	JPA010	7.69	7.17	8.58	6.88	7.05	7.40	8.76	4.99	6.62	6.83	20.2	4.45	12.2	*	*
	Ogasawara	JPA011	2.93	2.88	3.82	3.11	2.41	3.87	2.81	2.08	2.27	2.68	2.36	2.48	2.87	2.27	2.63
	Tokyo	JPA012	21.7	18.8	16.1	16.8	16.3	11.8	14.0	15.4	12.7	13.9	11.7	13.6	12.6	12.6	13.6
	Niigata-maki	JPA013									16.9	13.7	13.5	13.6	13.3	21.2	
	Tsushima	JPA014									6.76	11.4	11.3	10.2	12.3	10.9	12.5
Lao PDR	Vientiane	LAA001	***	5.55	***	***	4.12	4.07	*	*	*	***	***	***	7.97	6.35	13.1
Malaysia	Petaling Jaya	MYA001	52.8	43.8	33.5	35.8	43.6	44.1	28.8	36.4	***	25.8	27.8	33.3	32.4	30.8	29.4
	Tanah Rata	MYA002	2.21	3.78	3.78	4.82	7.63	5.97	7.89	5.83	***	6.67	***	5.44	6.77	5.36	8.34
	Danum Valley	MYA003	1.05	0.956	1.97	0.738	1.88	0.888	<0.5	0.945	***	<0.5	1.10	3.76	0.977	<0.5	<0.5
	Kuching	MYA004	5.00	3.82	4.52	5.29	3.61	4.16	4.64	5.25	***	3.30	7.42	1.96	1.30	1.64	13.2
	Gunung Brinchang	MYA005											4.36	***	***	***	***
Mongolia	Ulaanbaatar	MNA001	16.8	***	30.9	***	34.6	36.7	30.4	24.4	56.8						
	Terelj	MNA002	18.0	***	31.8	***	24.0	48.9	43.5	25.5	***	40.0	51.8	*	23.5	11.2	20.8
	Khan-Uul	MNA004										43.5	42.0	*	12.4	23.3	26.4
	Terelj2_temp	MNA005															24.0
Myanmar	Yangon	MMA001	6.30	8.31	6.72	4.80	8.25	14.9	18.3	9.98	22.1	16.5	15.7	7.32	9.13	8.45	5.53
Philippines	Manila Observatory	PHA001	14.4	18.2	13.9	16.0	13.4	36.4	***	***	13.1	11.3	13.2	17.6	13.9	21.0	14.8
	Los Baños	PHA002	8.35	11.9	7.80	8.22	8.81	38.5	***	***	***	***	***	9.22	7.98	10.6	9.58
	Mt.Sto.Tomas	PHA003	2.56	6.10	8.47	5.07	3.49	5.76	***	***	***	***	***	3.71	***	3.66	***
Republic of Korea	Ganghwa	KRA001	27.7	36.4	43.2	36.9	50.5	29.6	41.9	28.6	32.0	***	33.5	23.5	14.2	24.7	29.2
	Jeju	KRA002	27.9	19.3	30.3	18.2	21.6	31.8	39.7	20.5	39.2	***	26.6	76.2	37.3	25.6	26.4
	Imsil	KRA003	27.7	26.2	26.2	28.0	33.8	22.7	34.8	21.1	22.9	***	25.9	47.1	38.3	19.5	39.4
Russia	Mondy	RUA001	4.30	7.99	5.03	4.65	5.29	5.75	9.75	5.30	7.69	3.45	3.31	5.09	***		
	Listvyanka	RUA002	30.6	19.3	15.7	13.2	15.5	15.0	19.3	17.8	16.0	11.4	9.44	18.1	13.3	15.4	15.1
	Irkutsk	RUA003	20.7	18.3	16.3	12.3	20.7	13.4	14.4	13.2	16.2	11.2	9.95	14.7	14.7	15.7	16.6
	Primorskaya	RUA004	37.8	23.4	18.5	7.66	25.4	22.3	35.0	26.4	21.2	18.4	22.2	23.8	13.4	10.2	13.5
Thailand	Bangkok	THA001	20.6	27.6	12.9	15.3	16.2	31.8	20.2	38.0	28.7	28.6	***	25.2	35.2	*	*
	Samutprakarn	THA002	9.81	12.5	5.07	13.0	9.97	18.3	15.7	18.7	19.9	13.9	***	19.0	21.7	*	***
	Pathumthani	THA003	19.2	18.8	18.6	14.8	29.1	26.3	28.4	18.3	28.1	17.8	25.1	19.8	17.5	14.7	27.0
	Khanchanaburi	THA004	7.27	6.86	1.93	4.68	4.28	4.93	4.95	4.03	3.20	***	***	***	***	***	***
	Mae Hia	THA005	7.26	7.91	9.89	11.7	8.36	12.9	10.1	8.86	14.8						
	Sakaerat	THA008	9.97	11.2	10.4	24.5	12.8	13.5	10.6	13.6	13.4						
Vietnam	Hanoi	VNA001	21.7	25.2	26.3	30.6	35.1	28.5	34.8	46.3	77.6	76.4	40.5	77.2	39.6	87.2	36.3
	Hoa Binh	VNA002	14.4	15.4	18.8	25.2	22.3	24.8	22.2	16.4	24.4	42.4	40.3	19.5	39.2	17.7	24.1
	Cuc Phuong	VNA003	27.8	20.1	16.7	10.2	13.4	11.4	14.0	9.19	21.3	18.6	26.4	35.9	46.7	43.5	29.3
	Da Nang	VNA004	15.8	4.79	5.41	5.29	<0.5	2.78	5.39	<0.5	1.88	1.94	3.70	3.87	3.36	4.35	9.70
	Can Tho	VNA005				8.38	11.7	3.31	3.83	3.07	16.7	3.88	3.95	3.71	3.77	3.99	3.79
	Ho Chi Minh	VNA006				17.9	18.0	7.42	10.8	4.90	18.3	8.78	13.7	14.5	12.1	13.3	14.4
	Yen Bai	VNA007					17.8	40.3	24.5	28.9	39.5	74.7	37.8	27.9	48.4	36.0	52.9

Terms and abbreviations are given in Table 4.5.

Table 4.74 Precipitation amount-weighted annual average concentrations of Cl^- from 2011 to 2025

unit: μmol L^{-1}

Country	Name of sites	Code	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
Cambodia	Phnom Penh	KHA001	5.89	6.67	7.53	9.08	9.01	6.45	6.09	***	***	***	***	***	***	***	***
China	Haifu	CNA003	14.3	11.4	12.7	11.1	7.78	8.34	7.80	8.89	6.82	6.35	5.19	5.51	7.04	5.58	7.71
	Jinyunshan	CNA004	11.9	11.6	7.21	5.70	5.09	4.75	5.34	4.47	4.92	4.69	4.28	4.59	3.85	4.97	4.00
	Shizhan	CNA005	10.7	16.0	50.8	21.1	17.8	14.4	8.93	22.1	13.3	19.5	25.8	21.6	16.2	15.3	17.5
	Jiwozi	CNA007	11.1	31.3	33.9	23.0	14.2	0.787	16.7	14.5	23.9	16.1	8.66	16.7	21.9	14.5	25.1
	Hongwen	CNA008	25.4	23.9	19.3	28.6	25.7	31.2	71.7	62.7	72.3	49.1	33.2	18.4	17.5	19.8	23.1
	Xiaoping	CNA009	17.1	14.5	13.0	13.8	18.5	10.6	21.5	22.5	10.0	14.3	12.1	8.34	13.0	13.2	13.8
	Xiang Zhou	CNA010	29.8	43.4	46.1	23.8	60.2	23.6	61.1	73.3	24.4	28.1	20.8	25.5	23.6	20.4	55.0
	Zhuxiandong	CNA011	18.8	***	***	***	72.4	33.5	29.3	102	28.8	44.6	27.7	31.5	27.9	26.6	46.2
	Wuzhishan	CNA013									7.43	8.42	7.41	8.91	5.13	8.42	*
	Lijiang	CNA014									3.38	20.7	2.07	10.4	3.94	13.7	24.4
Indonesia	Jakarta	IDA001	19.4	13.0	19.3	28.8	17.1	31.2	12.4	21.1	14.9	18.1	20.2	13.5	***	38.5	15.3
	Serpong	IDA002	15.1	24.1	22.7	25.5	22.3	16.0	16.4	23.7	29.9	34.9	25.6	17.7			
	Kototabang	IDA003	13.9	9.72	27.3	10.6	8.28	33.4	6.28	4.85	5.89	5.03	5.89	4.50	***	7.20	4.42
	Bandung	IDA004	12.4	10.6	15.6	14.7	9.49	9.63	14.9	13.7	21.5	13.1	7.67	11.0			
	Maros	IDA005	16.1	20.0	36.3	36.2	6.90	154	114	15.5	21.3	28.1	14.3	12.9	***	23.2	13.1
	Jembrana	IDA006									31.4	60.7	61.3	34.5	***	56.7	39.0
	Lombok	IDA007									23.6	23.3	20.2	24.5	***	29.7	30.7
	Bandung 2	IDA008															7.92
Japan	Rishiri	JPA001	156	332	222	184	160	79.8	234	194	209	157	259	187	106	126	208
	Ochiishi	JPA002	180	307	486	112	201	161	258	88.7	77.7	134	323	*	*	*	*
	Tappi	JPA003	167	162	289	176	283	195	215	185							
	Sado-seki	JPA004	182	293	355	317	367	199	170	151	250	196	1527	234	160	160	200
	Happo	JPA005	4.43	11.6	4.89	6.21	7.00	6.42	6.18	6.57	4.42	5.00	6.37	5.29	5.77	2.67	5.52
	Ijira	JPA006	17.2	24.5	19.5	19.7	19.9	15.2	17.7	18.0	15.7	15.8	19.1	24.4	14.4	12.1	39.8
	Oki	JPA007	552	411	579	617	473	384	555	473	189	264	434	*	*	*	*
	Banryu	JPA008	125	103	80.8	102	107	92.1	99.8	65.0							
	Yusuhara	JPA009	14.7	21.8	13.4	6.95	27.4	9.97	60.4	16.6	16.7	11.2	21.2	42.2	21.3	17.3	61.3
	Hedo	JPA010	232	496	263	157	368	236	429	186	153	271	1353	154	353	*	*
	Ogasawara	JPA011	241	134	166	154	370	106	208	52.8	203	60.8	190	172	160	132	94.2
	Tokyo	JPA012	45.9	35.8	27.7	23.1	22.2	17.2	47.5	39.7	65.8	18.4	22.8	21.6	18.2	20.2	20.7
	Niigata-maki	JPA013									210	131	218	248	203	245	
	Tsushima	JPA014									34.7	35.9	40.6	118	43.0	53.4	35.1
Lao PDR	Vientiane	LAA001	***	4.46	***	***	4.97	5.28	*	*	*	***	***	***	3.99	5.15	7.75
Malaysia	Petaling Jaya	MYA001	8.36	7.98	7.66	8.89	10.3	10.3	10.0	9.75	***	9.04	8.76	7.41	7.89	8.21	8.71
	Tanah Rata	MYA002	2.95	3.19	2.96	3.49	3.75	3.30	3.35	4.09	***	4.36	***	3.43	3.58	3.64	5.94
	Danum Valley	MYA003	5.70	4.16	7.52	6.50	7.47	4.90	4.60	7.29	***	14.6	8.74	6.28	5.08	11.1	4.27
	Kuching	MYA004	11.5	6.78	8.82	11.0	14.5	14.5	11.5	10.9	***	14.2	11.0	7.73	6.88	10.4	7.41
	Gunung Brinchang	MYA005											7.04	***	***	***	***
Mongolia	Ulaanbaatar	MNA001	7.46	***	4.08	***	5.15	4.63	3.56	4.41	13.4						
	Terelj	MNA002	9.81	***	6.94	***	7.91	9.71	8.67	5.77	***	5.60	11.5	*	6.50	2.68	5.59
	Khan-Uul	MNA004										4.60	6.71	*	3.38	4.35	6.74
	Terelj2_temp	MNA005															7.99
Myanmar	Yangon	MMA001	15.8	26.6	27.1	19.5	34.4	31.3	35.2	21.8	20.8	22.7	16.8	14.6	17.8	25.2	19.5
Philippines	Manila Observatory	PHA001	29.8	20.2	28.7	26.1	27.3	31.4	***	***	23.3	10.3	30.2	12.1	20.7	21.3	11.7
	Los Baños	PHA002	26.2	21.6	25.8	18.3	92.0	25.2	***	***	***	***	***	14.4	21.1	17.5	18.4
	Mt.Sto.Tomas	PHA003	4.41	6.50	7.11	4.21	7.79	5.46	***	***	***	***	***	7.89	***	12.8	***
Republic of Korea	Ganghwa	KRA001	48.5	67.5	36.3	61.6	161	50.1	55.7	42.3	216	***	36.4	29.1	25.6	39.9	37.4
	Jeju	KRA002	147	455	344	124	109	444	280	293	76.4	***	288	945	391	174	175
	Imsil	KRA003	25.3	88.8	22.8	30.7	46.8	29.9	32.1	27.6	28.4	***	70.9	41.7	23.2	10.1	45.7
Russia	Mondy	RUA001	5.28	5.95	3.69	3.57	3.68	1.66	5.29	2.39	1.95	2.20	2.45	0.866	***		
	Listvyanka	RUA002	6.63	3.28	5.85	3.65	5.45	3.09	4.12	2.93	4.19	3.61	2.27	2.62	4.96	2.34	3.75
	Irkutsk	RUA003	22.0	15.1	19.2	9.86	23.9	9.90	10.2	10.0	10.6	9.05	6.92	7.97	11.4	6.35	8.99
	Primorskaya	RUA004	67.4	29.9	42.7	25.0	25.4	33.4	37.1	21.5	34.6	31.5	59.3	56.1	45.0	44.8	21.1
Thailand	Bangkok	THA001	7.98	8.33	7.24	9.22	7.36	11.1	8.16	14.4	11.8	12.0	***	6.13	9.19	*	*
	Samutprakarn	THA002	7.61	9.92	9.16	11.3	9.66	9.41	8.30	10.9	11.4	13.5	***	6.42	11.7	*	***
	Pathumthani	THA003	6.82	15.9	6.85	7.88	9.96	8.65	7.48	6.98	9.62	6.09	8.72	5.82	7.34	5.25	13.4
	Khanchanaburi	THA004	8.86	11.6	2.89	6.90	5.69	9.04	5.92	7.60	6.88	***	***	***	***	***	***
	Mae Hia	THA005	2.88	4.14	5.94	5.39	3.87	7.39	5.73	7.19	7.55						
	Sakaerat	THA008	4.80	6.36	6.34	11.1	6.99	6.57	4.08	5.08	5.26						
Vietnam	Hanoi	VNA001	8.56	6.58	9.93	10.4	14.8	11.4	14.6	23.0	25.2	48.3	14.1	35.2	20.1	58.4	23.9
	Hoa Binh	VNA002	4.30	4.65	6.18	4.24	5.25	7.94	14.6	9.84	9.31	21.4	15.1	10.2	19.3	3.96	5.80
	Cuc Phuong	VNA003	15.5	20.3	25.2	11.7	21.3	17.1	35.6	30.2	38.8	39.3	37.4	22.4	28.9	21.6	31.8
	Da Nang	VNA004	93.5	83.1	174	92.9	72.8	70.2	80.9	97.8	167	171	116	226	98.4	89.7	73.9
	Can Tho	VNA005				27.4	41.2	36.1	29.2	30.4	23.9	28.9	29.8	29.5	29.7	29.0	28.0
	Ho Chi Minh	VNA006				44.8	52.0	37.3	47.5	36.3	36.9	43.2	43.5	44.7	43.9	33.0	37.5
	Yen Bai	VNA007					7.48	14.3	17.3	12.4	14.0	31.2	14.3	16.0	19.8	6.44	17.4

Terms and abbreviations are given in Table 4.5.

Table 4.75 Precipitation amount-weighted annual average concentrations of NH_4^+ from 2011 to 2025

unit: μmol L^{-1}

Country	Name of sites	Code	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
Cambodia	Phnom Penh	KHA001	21.9	21.6	13.5	13.9	18.1	19.5	22.2	***	***	***	***	***	***	***	***
China	Haifu	CNA003	145	116	142	116	95.2	98.7	96.3	103	91.5	74.5	73.5	80.6	80.8	87.1	92.0
	Jinyunshan	CNA004	117	124	90.1	70.6	62.6	65.8	60.0	79.3	70.6	62.5	55.8	63.7	55.2	75.0	57.6
	Shizhan	CNA005	60.8	109	238	170	194	118	147	127	136	160	69.5	118	123	56.5	75.6
	Jiwozi	CNA007	23.1	26.6	55.5	32.8	65.7	2.87	1.07	15.5	34.2	37.9	31.9	17.0	18.0	9.93	9.40
	Hongwen	CNA008	42.3	43.2	18.3	25.7	29.2	37.2	33.8	25.0	28.3	31.9	46.2	21.9	16.9	29.9	16.3
	Xiaoping	CNA009	38.9	30.4	25.3	38.9	37.8	24.6	29.5	23.5	19.9	25.9	34.8	13.0	35.4	27.9	30.6
	Xiang Zhou	CNA010	20.7	29.1	17.7	23.8	19.1	29.6	24.5	24.2	22.7	23.3	14.0	15.7	21.0	25.3	20.2
	Zhuxiandong	CNA011	24.8	***	***	***	24.3	42.4	25.7	23.6	23.0	21.6	18.4	14.2	19.4	19.8	19.9
	Wuzhishan	CNA013									14.7	20.0	13.2	13.1	8.87	9.68	*
	Lijiang	CNA014									11.0	2.44	12.6	24.9	12.3	42.2	17.5
Indonesia	Jakarta	IDA001	33.7	23.1	17.2	17.6	18.9	37.5	24.0	47.9	29.6	24.5	30.6	27.8	***	26.1	39.5
	Serpong	IDA002	62.2	71.1	83.0	65.5	63.0	55.6	50.5	69.4	67.4	69.6	69.6	64.5			
	Kototabang	IDA003	10.0	8.47	6.93	12.1	1903	4.94	5.59	7.35	7.80	6.87	9.94	4.71	***	12.8	4.48
	Bandung	IDA004	60.8	53.8	47.4	55.4	56.7	58.1	62.4	61.9	73.2	69.1	53.2	65.7			
	Maros	IDA005	9.30	14.1	6.75	7.19	20.7	53.7	5.22	10.9	2.61	1.61	3.52	7.73	***	10.4	9.56
	Jembrana	IDA006									16.8	14.4	12.2	3.72	***	13.3	7.51
	Lombok	IDA007									16.9	20.9	16.6	83.5	***	6.97	6.59
	Bandung 2	IDA008															60.1
Japan	Rishiri	JPA001	14.0	11.4	12.9	12.5	13.3	10.4	22.3	22.3	19.0	19.1	15.0	18.5	15.5	19.8	18.7
	Ochiishi	JPA002	11.0	12.3	9.68	10.8	11.4	5.01	6.26	6.59	7.54	10.6	43.0	*	*	*	*
	Tappi	JPA003	16.9	13.8	19.1	22.7	13.0	15.4	15.9	10.3							
	Sado-seki	JPA004	14.6	15.5	18.1	18.2	19.3	16.0	20.0	10.9	16.2	11.3	14.3	6.72	11.2	10.1	14.2
	Happo	JPA005	6.06	10.7	8.94	8.08	7.84	4.77	4.33	5.57	8.54	5.58	7.25	6.81	6.33	4.81	7.01
	Ijira	JPA006	14.1	14.7	13.4	13.4	13.5	14.3	12.5	9.12	12.7	10.7	9.66	12.6	10.8	9.07	8.56
	Oki	JPA007	18.6	17.0	17.5	14.0	9.63	14.4	17.7	12.1	15.5	10.0	9.83	*	*	*	*
	Banryu	JPA008	15.7	21.5	13.8	17.3	14.9	15.0	16.3	9.62							
	Yusuhara	JPA009	4.83	7.55	7.16	4.91	4.04	6.04	21.9	3.15	5.39	5.94	4.78	6.31	6.56	4.93	21.1
	Hedo	JPA010	9.13	18.8	9.94	8.28	11.0	8.05	7.04	3.19	4.93	8.05	23.8	3.36	12.4	*	*
	Ogasawara	JPA011	4.54	5.18	6.04	3.88	2.64	4.85	2.30	2.02	2.47	3.51	1.68	1.88	3.03	1.11	1.90
	Tokyo	JPA012	25.4	24.3	22.9	23.1	20.1	17.2	18.2	21.7	17.6	21.8	17.6	20.6	18.4	16.6	19.1
	Niigata-maki	JPA013									16.3	12.5	11.9	13.5	12.4	23.0	
	Tsushima	JPA014									8.61	12.8	9.17	9.34	11.5	10.1	14.1
Lao PDR	Vientiane	LAA001	***	***	***	***	7.78	7.50	*	*	*	***	***	***	7.64	*	*
Malaysia	Petaling Jaya	MYA001	4.86	1.29	16.2	27.4	25.5	13.0	17.0	19.8	***	20.2	18.9	15.3	21.7	21.3	20.6
	Tanah Rata	MYA002	14.3	5.67	2.42	3.44	7.54	3.51	3.13	2.04	***	10.9	***	6.52	8.29	8.08	12.9
	Danum Valley	MYA003	1.90	<0.8	<0.8	0.915	4.21	<0.8	<0.8	1.75	***	<0.8	<0.8	1.85	<0.8	2.11	1.15
	Kuching	MYA004	5.03	6.16	2.87	9.38	5.49	2.45	3.48	5.24	***	2.26	4.98	7.40	5.92	1.57	13.8
	Gunung Brinchang	MYA005											2.93	***	***	***	***
Mongolia	Ulaanbaatar	MNA001	45.9	***	62.2	***	***	40.7	48.9	57.4	75.1						
	Terelj	MNA002	39.4	***	5.37	***	***	60.2	41.9	31.0	***	22.5	55.6	*	28.7	25.1	30.9
	Khan-Uul	MNA004										49.6	62.5	*	26.3	33.7	40.2
	Terelj2_temp	MNA005															94.3
Myanmar	Yangon	MMA001	14.9	17.7	17.0	16.6	22.3	17.1	13.6	19.5	17.0	21.0	19.0	22.5	19.0	10.4	14.1
Philippines	Manila Observatory	PHA001	183	273	41.2	61.6	86.1	112	***	***	28.6	21.4	16.5	20.7	32.7	31.7	30.4
	Los Baños	PHA002	29.4	67.8	22.3	55.9	54.9	84.8	***	***	***	***	***	11.6	13.9	17.7	17.1
	Mt.Sto.Tomas	PHA003	0.822	3.42	4.71	13.5	9.57	7.79	***	***	***	***	***	3.04	***	5.91	***
Republic of Korea	Ganghwa	KRA001	43.3	49.4	78.5	60.2	99.0	58.1	84.4	38.6	42.3	***	36.8	33.9	16.4	34.0	32.2
	Jeju	KRA002	28.0	33.4	35.9	25.5	28.2	40.3	38.3	25.7	45.4	***	23.4	36.2	20.0	23.7	28.6
	Imsil	KRA003	37.7	39.5	40.5	33.4	50.6	36.1	51.6	26.8	35.7	***	22.5	43.1	34.0	21.4	35.8
Russia	Mondy	RUA001	9.14	19.0	2.71	3.60	13.5	4.97	10.4	8.38	9.51	5.19	33.1	12.4	***		
	Listvyanka	RUA002	17.2	26.7	9.85	13.7	36.8	14.4	20.6	13.8	18.8	11.8	14.7	13.7	12.1	12.1	13.7
	Irkutsk	RUA003	32.7	34.1	29.5	23.9	73.0	22.2	20.4	21.0	29.8	23.7	25.0	26.7	25.3	13.0	25.2
	Primorskaya	RUA004	54.1	27.0	39.6	42.3	25.7	22.7	46.8	33.0	23.9	22.8	51.4	59.0	44.5	47.1	56.9
Thailand	Bangkok	THA001	40.2	44.1	46.3	52.3	60.7	63.6	54.6	52.9	35.5	44.2	***	28.3	42.1	*	*
	Samutprakarn	THA002	27.8	34.1	37.7	48.6	46.0	43.3	48.5	40.1	31.6	30.6	***	22.1	26.5	*	***
	Pathumthani	THA003	38.1	37.9	44.9	35.3	45.3	53.1	41.3	35.6	49.4	31.3	32.6	28.2	35.0	29.3	42.8
	Khanchanaburi	THA004	13.0	8.95	6.80	14.0	10.7	16.2	14.1	6.33	4.51	***	***	***	***	***	***
	Mae Hia	THA005	13.5	19.6	19.3	26.8	17.6	29.3	26.2	15.1	33.2						
	Sakaerat	THA008	24.3	25.7	23.8	42.3	31.3	34.0	23.3	63.3	68.9						
Vietnam	Hanoi	VNA001	52.8	60.2	53.4	68.0	64.9	61.4	52.6	56.9	29.9	98.6	66.0	63.3	78.8	31.7	30.4
	Hoa Binh	VNA002	27.8	30.0	25.3	45.6	38.3	56.9	20.0	29.0	12.0	41.2	54.1	25.2	79.6	17.7	10.1
	Cuc Phuong	VNA003	19.2	23.9	25.5	20.5	30.0	20.1	8.72	5.39	19.7	16.4	49.1	57.2	51.3	41.7	35.7
	Da Nang	VNA004	21.5	21.3	24.6	14.5	8.73	5.43	20.9	14.1	41.7	21.2	18.6	16.1	14.1	29.6	21.8
	Can Tho	VNA005				18.3	21.3	22.7	21.5	12.3	17.6	16.1	19.2	21.6	21.0	19.9	20.3
	Ho Chi Minh	VNA006				24.3	29.4	28.8	38.4	20.7	22.8	30.1	30.4	30.0	33.7	31.6	30.5
	Yen Bai	VNA007					30.5	91.5	33.6	39.0	18.2	66.2	75.2	33.4	110	28.0	52.9

Terms and abbreviations are given in Table 4.5.

Table 4.76 Precipitation amount-weighted annual average concentrations of Na^+ from 2011 to 2025

unit: μmol L^{-1}

Country	Name of sites	Code	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
Cambodia	Phnom Penh	KHA001	3.55	3.65	3.10	7.60	6.28	4.23	4.45	***	***	***	***	***	***	***	***
China	Haifu	CNA003	9.87	6.04	7.29	6.36	3.61	6.18	4.42	4.98	4.01	3.55	2.47	3.32	4.53	2.87	6.38
	Jinyunshan	CNA004	6.12	6.28	3.92	4.50	2.23	2.55	2.95	1.81	2.00	2.02	1.51	2.01	2.63	2.12	2.26
	Shizhan	CNA005	17.7	5.59	138	126	113	53.6	28.7	20.6	12.1	20.4	17.9	25.6	20.5	14.0	5.11
	Jiwozi	CNA007	7.86	44.5	112	125	92.5	8.39	33.7	24.6	88.3	20.8	20.9	9.93	10.2	18.7	13.6
	Hongwen	CNA008	18.1	16.3	14.3	19.8	18.6	27.2	35.7	24.0	4.99	48.1	45.3	16.6	16.7	13.3	19.5
	Xiaoping	CNA009	10.9	8.45	12.1	8.77	11.0	6.54	6.87	6.55	1.44	10.5	7.52	6.73	10.5	7.84	10.6
	Xiang Zhou	CNA010	32.3	45.9	54.2	30.7	52.9	22.5	52.2	67.2	20.3	23.5	18.3	23.0	20.4	17.8	47.1
	Zhuxiandong	CNA011	45.0	***	***	***	66.9	34.1	26.2	89.3	24.0	38.1	24.2	28.1	24.5	25.3	39.8
	Wuzhishan	CNA013									8.68	7.39	6.83	8.22	5.83	6.07	*
	Lijiang	CNA014									8.65	0.580	1.15	1.65	1.59	1.62	2.69
Indonesia	Jakarta	IDA001	11.7	12.7	16.2	21.4	2.01	21.0	9.76	16.7	9.40	15.5	15.9	9.55	***	22.5	11.9
	Serpong	IDA002	10.1	10.9	14.0	18.8	14.6	14.4	12.1	17.7	17.0	13.1	22.4	8.15			
	Kototabang	IDA003	6.54	9.63	8.51	5.67	0.779	21.1	3.46	3.40	4.75	7.43	3.63	3.37	***	3.69	3.62
	Bandung	IDA004	12.2	10.8	13.6	12.9	8.58	11.2	18.7	23.1	44.8	14.7	7.05	11.6			
	Maros	IDA005	14.9	19.9	19.3	29.1	3.67	118	104	13.5	18.7	15.4	12.6	11.2	***	13.7	11.4
	Jembrana	IDA006									19.9	30.0	32.2	23.9	***	31.2	25.0
	Lombok	IDA007									22.8	25.9	19.5	23.6	***	21.8	28.7
	Bandung 2	IDA008															5.34
Japan	Rishiri	JPA001	139	292	200	162	140	69.7	207	170	182	139	230	167	91.2	110	181
	Ochiishi	JPA002	155	274	421	97.2	178	138	219	77.6	67.4	117	282	*	*	*	*
	Tappi	JPA003	150	141	257	156	237	169	189	159							
	Sado-seki	JPA004	153	246	328	282	327	175	150	134	220	175	1389	204	139	138	171
	Happo	JPA005	3.34	9.57	4.07	5.31	5.84	4.83	4.96	5.41	3.54	4.21	5.25	4.45	4.91	2.04	4.53
	Ijira	JPA006	13.8	19.3	15.1	15.6	15.8	12.4	14.6	14.6	13.1	13.7	16.2	20.3	12.0	9.88	28.2
	Oki	JPA007	480	357	505	545	412	332	486	405	163	229	380	*	*	*	*
	Banryu	JPA008	108	92.2	69.1	86.9	91.1	81.9	87.8	56.7							
	Yusuhara	JPA009	12.3	18.1	9.90	5.19	22.9	7.97	48.7	14.5	13.8	9.34	17.9	36.1	18.3	14.5	50.4
	Hedo	JPA010	204	418	227	137	313	201	368	160	130	228	1125	133	304	*	*
	Ogasawara	JPA011	202	114	141	131	306	90.9	180	46.7	178	51.1	164	149	138	116	80.1
	Tokyo	JPA012	37.7	29.5	22.8	18.9	18.0	14.4	40.3	34.5	57.7	15.3	19.4	18.6	16.1	17.5	17.6
	Niigata-maki	JPA013									176	113	189	210	175	206	
	Tsushima	JPA014									30.0	31.2	35.0	101	36.3	45.6	29.2
Lao PDR	Vientiane	LAA001	***	***	***	***	2.78	1.52	*	*	*	***	***	***	3.41	*	*
Malaysia	Petaling Jaya	MYA001	4.56	3.85	4.29	5.04	6.20	6.14	6.04	5.33	***	5.51	4.88	3.61	5.12	5.30	5.94
	Tanah Rata	MYA002	1.99	1.51	2.17	2.82	2.74	2.72	2.47	2.48	***	5.02	***	2.96	3.17	3.98	5.39
	Danum Valley	MYA003	5.52	2.87	5.14	5.42	5.40	3.30	2.52	5.16	***	12.7	6.84	4.76	4.00	5.03	3.56
	Kuching	MYA004	9.08	5.21	7.54	9.25	12.9	12.7	9.28	8.49	***	10.5	7.50	6.60	6.04	4.01	6.86
	Gunung Brinchang	MYA005											4.66	***	***	***	***
Mongolia	Ulaanbaatar	MNA001	5.65	***	78.8	***	***	172	21.9	41.5	110						
	Terelj	MNA002	6.07	***	17.0	***	***	206	13.5	49.5	***	60.8	111	*	16.8	26.0	5.30
	Khan-Uul	MNA004										77.7	17.4	*	4.11	6.30	18.2
	Terelj2_temp	MNA005															27.3
Myanmar	Yangon	MMA001	15.0	22.1	15.8	17.3	8.77	15.7	15.0	21.9	18.3	14.0	15.7	15.3	15.8	12.2	15.1
Philippines	Manila Observatory	PHA001	21.4	16.7	28.0	24.5	23.4	17.4	***	***	18.0	10.4	22.3	24.1	24.1	18.4	10.2
	Los Baños	PHA002	19.4	22.2	22.8	15.4	17.6	22.4	***	***	***	***	***	12.8	21.5	13.6	14.1
	Mt.Sto.Tomas	PHA003	4.31	10.3	6.70	6.30	8.71	14.8	***	***	***	***	***	1.93	***	4.08	***
Republic of Korea	Ganghwa	KRA001	35.8	50.7	29.6	43.2	45.0	28.5	27.8	30.4	180	***	29.9	24.1	18.2	28.6	29.1
	Jeju	KRA002	152	375	290	116	101	394	261	264	93.4	***	285	879	360	185	161
	Imsil	KRA003	37.4	51.8	30.3	29.8	47.1	33.8	36.2	38.5	38.1	***	80.5	72.3	45.5	25.3	55.2
Russia	Mondy	RUA001	3.86	4.32	1.36	2.25	1.61	1.38	2.58	2.11	1.92	5.00	2.82	1.66	***		
	Listvyanka	RUA002	5.42	4.20	6.68	4.80	2.96	2.80	3.26	3.01	3.06	4.45	4.78	4.39	6.29	2.84	2.03
	Irkutsk	RUA003	16.8	9.96	12.8	8.62	12.7	7.42	7.99	8.80	6.70	9.98	7.00	9.07	11.2	6.08	6.36
	Primorskaya	RUA004	13.7	23.1	25.5	15.8	24.8	25.2	26.0	21.9	20.0	33.8	34.3	36.0	21.0	21.8	22.1
Thailand	Bangkok	THA001	6.46	6.07	12.0	9.17	7.97	11.0	5.83	11.4	8.83	15.9	***	5.12	9.88	*	*
	Samutprakarn	THA002	5.70	7.89	25.3	12.6	9.33	8.87	7.10	9.95	9.65	12.3	***	5.62	9.26	*	***
	Pathumthani	THA003	5.87	14.1	5.96	5.31	6.92	6.41	4.83	5.10	6.57	3.64	3.64	2.83	5.27	3.74	11.0
	Khanchanaburi	THA004	7.45	9.71	5.46	6.41	5.91	10.4	4.70	8.17	5.45	***	***	***	***	***	***
	Mae Hia	THA005	3.21	3.80	5.63	3.65	4.48	7.01	6.14	7.89	8.18						
	Sakaerat	THA008	4.04	3.71	2.96	8.85	4.59	4.02	2.08	11.0	9.64						
Vietnam	Hanoi	VNA001	6.17	4.19	7.69	7.24	9.00	11.4	16.4	11.2	26.4	23.9	11.6	24.0	13.6	16.4	11.3
	Hoa Binh	VNA002	2.46	3.03	4.13	3.16	3.80	4.40	3.99	2.79	12.2	8.27	9.65	4.56	10.2	2.83	3.15
	Cuc Phuong	VNA003	13.6	20.0	26.7	10.7	8.76	12.7	17.6	13.4	23.4	17.5	38.1	20.4	24.0	20.1	21.2
	Da Nang	VNA004	70.2	63.2	144	82.1	79.6	65.7	81.0	68.1	108	57.8	68.8	60.5	38.1	63.6	56.2
	Can Tho	VNA005				15.4	29.4	12.6	9.61	9.73	18.1	17.9	14.0	14.6	17.7	17.2	15.9
	Ho Chi Minh	VNA006				25.0	34.6	13.5	17.4	14.2	20.4	18.4	19.5	18.9	18.6	19.3	19.4
	Yen Bai	VNA007					5.40	8.96	3.68	3.65	11.7	16.0	10.8	5.18	15.4	5.21	8.06

Terms and abbreviations are given in Table 4.5.

Table 4.77 Precipitation amount-weighted annual average concentrations of K^+ from 2011 to 2025

unit: μmol L^{-1}

Country	Name of sites	Code	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
Cambodia	Phnom Penh	KHA001	1.15	0.761	1.06	2.69	1.98	2.11	1.22	***	***	***	***	***	***	***	***
China	Haifu	CNA003	9.38	6.57	12.8	9.28	5.99	4.66	4.80	6.21	3.45	2.71	2.38	2.96	3.50	3.40	5.74
	Jinyunshan	CNA004	10.4	7.64	5.49	4.42	3.40	3.37	3.60	2.75	3.20	2.60	1.78	2.43	1.60	3.12	2.31
	Shizhan	CNA005	13.4	5.69	28.1	251	5.32	3.76	4.60	10.9	7.50	7.55	3.52	13.2	2.67	7.31	5.37
	Jiwozi	CNA007	7.28	9.74	10.2	16.4	6.63	4.58	13.0	19.3	64.1	13.4	5.05	8.23	6.46	12.5	14.5
	Hongwen	CNA008	1.99	2.86	1.90	1.42	5.99	5.34	35.0	37.8	14.3	9.74	10.6	3.37	1.72	1.56	1.33
	Xiaoping	CNA009	2.80	3.47	1.66	1.45	8.40	5.59	12.4	14.4	2.51	2.71	2.55	3.38	2.72	1.83	2.33
	Xiang Zhou	CNA010	3.74	9.20	8.24	6.89	4.41	3.68	2.56	3.05	1.49	1.22	0.901	0.989	1.35	1.09	1.42
	Zhuxiandong	CNA011	5.92	***	***	***	8.30	5.80	2.24	4.65	1.87	2.15	1.63	1.34	1.42	1.83	1.14
	Wuzhishan	CNA013									2.87	2.68	3.40	4.00	2.15	5.09	*
	Lijiang	CNA014									1.53	0.768	0.642	1.74	0.919	19.7	19.9
Indonesia	Jakarta	IDA001	2.28	2.86	2.83	3.62	12.5	10.5	2.38	2.83	1.38	3.53	2.43	3.97	***	10.8	4.43
	Serpong	IDA002	3.15	4.33	4.91	5.64	7.81	4.85	3.78	6.02	11.9	14.5	5.04	2.81			
	Kototabang	IDA003	3.96	5.52	19.3	10.4	4949	11.5	1.86	2.06	2.87	3.86	4.29	2.42	***	6.41	2.34
	Bandung	IDA004	4.77	3.36	7.97	5.63	3.54	2.89	4.22	4.48	4.65	5.06	2.54	3.40			
	Maros	IDA005	1.86	3.50	1.84	19.1	1786	15.1	6.27	2.83	3.00	11.3	1.91	1.44	***	8.73	1.47
	Jembrana	IDA006									3.81	19.7	20.9	3.31	***	17.1	9.88
	Lombok	IDA007									3.28	6.77	6.93	22.6	***	12.5	5.11
	Bandung 2	IDA008															0.853
Japan	Rishiri	JPA001	3.44	6.41	4.61	4.10	3.62	2.07	6.01	4.83	5.24	4.30	6.17	4.40	3.00	3.39	5.09
	Ochiishi	JPA002	3.70	6.76	9.35	2.55	4.84	3.43	5.36	1.86	1.68	3.05	24.7	*	*	*	*
	Tappi	JPA003	4.34	3.96	6.21	3.97	5.56	4.47	4.72	3.87							
	Sado-seki	JPA004	4.45	6.62	7.69	7.51	9.69	7.55	4.71	3.33	5.81	4.27	43.3	4.63	3.42	3.46	4.30
	Happo	JPA005	0.447	0.865	0.581	0.746	0.681	0.457	0.376	0.423	0.558	0.509	0.426	0.401	0.385	<0.3	0.327
	Ijira	JPA006	0.535	0.609	0.589	0.611	0.699	0.498	0.576	0.462	0.523	0.490	0.588	0.593	0.506	0.471	1.02
	Oki	JPA007	12.7	9.16	12.8	13.1	9.87	8.06	11.6	9.86	4.26	5.39	9.38	*	*	*	*
	Banryu	JPA008	3.39	3.26	2.33	2.65	2.54	2.28	2.41	1.66							
	Yusuhara	JPA009	0.465	1.07	0.387	0.701	0.758	0.508	1.83	0.664	0.793	0.719	1.09	1.58	1.26	0.717	2.05
	Hedo	JPA010	4.94	10.6	5.48	3.31	7.24	4.51	8.02	3.52	3.03	5.15	24.4	2.95	7.66	*	*
	Ogasawara	JPA011	4.95	2.71	3.64	3.12	8.10	2.22	4.14	1.10	4.41	1.43	2.99	3.43	3.38	2.60	2.05
	Tokyo	JPA012	1.29	0.888	0.711	0.628	0.641	0.539	1.11	0.842	1.37	0.541	0.502	0.523	0.624	0.568	0.577
	Niigata-maki	JPA013									4.80	2.70	4.55	5.09	4.05	4.82	
	Tsushima	JPA014									0.882	1.10	1.20	3.44	1.37	1.78	1.51
Lao PDR	Vientiane	LAA001	***	***	***	***	1.74	0.958	*	*	*	***	***	***	1.59	*	*
Malaysia	Petaling Jaya	MYA001	1.31	1.33	1.14	1.47	1.70	1.83	1.55	1.90	***	1.97	1.53	1.12	1.48	1.54	1.73
	Tanah Rata	MYA002	2.03	1.68	1.75	1.62	2.37	1.22	1.93	1.36	***	4.70	***	1.93	1.81	2.07	3.94
	Danum Valley	MYA003	1.73	1.21	1.01	2.16	2.39	1.01	1.29	2.64	***	2.95	2.43	2.77	2.83	7.39	2.10
	Kuching	MYA004	0.854	0.924	0.695	3.26	1.44	1.13	1.43	1.54	***	1.92	1.96	2.95	2.11	1.38	3.21
	Gunung Brinchang	MYA005											1.85	***	***	***	***
Mongolia	Ulaanbaatar	MNA001	3.98	***	3.88	***	***	0.620	1.29	1.01	2.01						
	Terelj	MNA002	5.00	***	7.98	***	***	7.09	3.40	3.65	***	3.48	4.22	*	3.49	1.91	4.87
	Khan-Uul	MNA004										1.64	1.57	*	1.71	2.12	2.87
	Terelj2_temp	MNA005															6.39
Myanmar	Yangon	MMA001	1.66	6.78	2.66	4.69	13.3	3.35	10.4	4.38	7.01	4.64	7.66	4.17	3.06	5.47	7.48
Philippines	Manila Observatory	PHA001	23.5	26.3	6.45	9.79	13.1	14.2	***	***	4.13	1.47	1.77	1.69	1.97	1.59	2.53
	Los Baños	PHA002	6.82	8.14	6.37	8.18	73.4	13.8	***	***	***	***	***	1.18	2.15	3.17	1.21
	Mt.Sto.Tomas	PHA003	0.821	0.885	0.752	1.26	1.63	0.889	***	***	***	***	***	0.426	***	4.69	***
Republic of Korea	Ganghwa	KRA001	3.62	6.39	3.27	13.4	106	13.3	16.5	5.01	7.91	***	2.41	3.95	1.88	10.6	6.81
	Jeju	KRA002	6.54	15.7	12.0	11.3	13.8	15.2	7.43	6.53	2.87	***	11.3	17.0	13.8	3.34	36.8
	Imsil	KRA003	3.89	47.5	6.33	9.82	9.19	3.39	8.80	2.18	1.33	***	6.64	2.23	1.58	0.665	2.71
Russia	Mondy	RUA001	4.98	9.05	2.30	2.01	3.40	1.05	1.94	1.27	0.982	0.937	3.64	0.863	***		
	Listvyanka	RUA002	2.42	2.00	4.36	3.11	2.10	1.71	3.64	2.01	3.04	3.53	3.76	5.25	5.89	6.93	4.98
	Irkutsk	RUA003	4.59	4.99	5.19	2.97	4.51	3.10	2.92	3.06	4.06	3.72	5.18	6.02	6.26	5.55	5.92
	Primorskaya	RUA004	6.75	5.09	5.55	5.14	7.79	19.1	10.1	8.36	8.03	9.07	6.69	11.3	8.43	17.9	13.3
Thailand	Bangkok	THA001	1.82	1.52	1.91	1.38	1.75	1.70	1.24	2.26	3.89	3.88	***	1.56	3.17	*	*
	Samutprakarn	THA002	1.11	1.52	5.23	2.33	1.93	1.71	1.36	1.63	1.92	2.13	***	1.48	2.24	*	***
	Pathumthani	THA003	1.96	1.64	2.13	1.87	1.84	2.09	2.13	1.35	2.14	1.51	4.02	0.813	1.09	0.947	2.02
	Khanchanaburi	THA004	2.21	1.57	0.955	1.22	0.838	1.51	1.43	1.72	1.04	***	***	***	***	***	***
	Mae Hia	THA005	1.45	1.26	1.48	1.77	1.24	3.17	2.71	1.90	3.64						
	Sakaerat	THA008	1.20	1.26	0.813	2.63	1.52	1.59	0.512	6.95	6.12						
Vietnam	Hanoi	VNA001	2.27	3.00	2.64	3.75	3.72	3.63	7.09	8.06	8.12	6.51	5.56	11.2	6.41	70.8	12.2
	Hoa Binh	VNA002	2.40	1.50	7.10	2.77	2.87	2.59	2.88	3.89	1.85	2.46	4.44	3.96	5.81	2.64	1.82
	Cuc Phuong	VNA003	3.31	6.06	8.57	4.72	4.68	5.77	3.41	4.00	5.38	4.33	8.16	5.68	11.5	9.06	4.22
	Da Nang	VNA004	14.0	11.5	17.9	13.8	11.9	3.39	9.85	15.6	18.1	89.7	19.2	130	16.5	19.8	13.5
	Can Tho	VNA005				7.45	7.17	6.07	5.44	6.27	12.7	7.05	6.36	11.2	9.33	7.71	7.30
	Ho Chi Minh	VNA006				10.6	12.0	6.62	10.4	8.29	11.0	9.79	10.8	10.3	10.8	11.1	11.1
	Yen Bai	VNA007					4.03	4.98	6.20	3.27	2.59	4.59	4.85	4.15	8.62	2.06	9.08

Terms and abbreviations are given in Table 4.5.

Table 4.78 Precipitation amount-weighted annual average concentrations of Ca^{2+} from 2011 to 2025

unit: μmol L^{-1}

Country	Name of sites	Code	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
Cambodia	Phnom Penh	KHA001	9.30	10.7	9.57	9.47	11.6	14.3	9.74	***	***	***	***	***	***	***	***
China	Haifu	CNA003	68.5	57.9	69.5	54.6	43.0	67.3	53.5	43.0	25.7	22.0	21.6	21.4	27.1	25.3	50.7
	Jinyunshan	CNA004	65.1	59.2	31.2	26.0	21.7	38.0	51.9	34.2	22.8	19.3	15.4	16.0	14.5	19.9	15.5
	Shizhan	CNA005	91.2	128	325	92.7	89.7	35.0	68.3	61.9	50.9	46.1	95.0	177	57.6	43.3	47.0
	Jiwozi	CNA007	91.6	203	133	149	57.7	36.8	95.1	56.3	161	63.8	34.9	25.3	37.0	72.7	81.5
	Hongwen	CNA008	14.1	17.5	21.9	25.5	16.3	13.1	28.3	26.5	60.8	413	35.3	13.3	7.04	7.37	6.35
	Xiaoping	CNA009	11.7	20.0	22.7	42.4	9.17	6.39	15.1	8.12	7.45	4.79	6.93	4.43	6.39	7.74	9.05
	Xiang Zhou	CNA010	17.5	10.8	43.4	17.0	15.9	10.8	10.0	10.6	8.15	7.13	6.29	3.73	13.4	5.69	5.56
	Zhuxiandong	CNA011	19.1	***	***	***	25.2	17.3	13.9	17.7	10.8	12.1	8.47	7.31	7.93	8.73	4.21
	Wuzhishan	CNA013									10.3	3.75	3.37	4.63	3.63	4.63	*
	Lijiang	CNA014									23.1	2.78	4.31	9.98	11.6	18.2	17.5
Indonesia	Jakarta	IDA001	11.1	12.0	14.1	15.0	7.47	25.2	17.6	16.5	10.6	7.50	8.42	8.18	***	30.3	12.8
	Serpong	IDA002	10.9	9.29	14.0	13.0	19.7	13.9	12.1	21.2	17.5	8.52	11.7	7.43			
	Kototabang	IDA003	5.90	7.85	9.55	3.93	1.99	3.83	11.6	8.57	30.9	5.25	9.73	3.80	***	5.46	6.50
	Bandung	IDA004	20.9	13.3	19.6	22.8	17.6	15.2	14.4	18.2	19.6	24.5	17.1	18.1			
	Maros	IDA005	6.49	16.1	10.4	27.9	16.8	13.8	14.4	14.0	20.3	8.08	22.7	15.2	***	9.00	6.26
	Jembrana	IDA006									7.88	20.3	5.43	4.96	***	8.53	11.9
	Lombok	IDA007									15.7	7.98	6.65	17.2	***	7.00	8.82
	Bandung 2	IDA008															12.5
Japan	Rishiri	JPA001	5.63	8.44	7.33	5.78	5.27	3.60	8.15	8.45	7.35	6.66	9.79	7.87	4.81	4.73	7.23
	Ochiishi	JPA002	5.42	7.35	11.5	4.06	6.72	4.27	6.18	3.18	2.87	4.37	15.1	*	*	*	*
	Tappi	JPA003	8.01	8.02	14.1	7.45	7.99	7.45	6.78	6.07							
	Sado-seki	JPA004	8.28	11.4	10.4	9.49	11.3	11.4	6.67	7.86	8.74	5.63	53.1	6.06	5.97	5.23	7.06
	Happo	JPA005	2.57	4.14	2.77	2.31	1.70	0.750	1.77	2.12	2.24	1.92	2.45	1.35	1.94	1.27	2.24
	Ijira	JPA006	1.97	2.50	2.74	1.65	2.00	1.88	2.20	1.86	2.36	1.61	2.03	1.93	2.29	1.59	2.46
	Oki	JPA007	17.1	12.1	17.0	16.4	12.0	10.6	15.1	13.1	6.94	7.56	12.2	*	*	*	*
	Banryu	JPA008	5.85	6.65	3.92	4.75	5.37	5.17	5.13	3.30							
	Yusuhara	JPA009	2.27	2.39	2.16	1.60	1.02	1.14	5.19	0.848	1.32	1.10	1.96	2.16	1.93	1.07	4.17
	Hedo	JPA010	6.04	11.5	6.89	4.25	8.24	5.37	9.70	5.31	3.79	6.38	28.5	4.54	9.45	*	*
	Ogasawara	JPA011	5.56	3.46	4.60	3.98	8.13	2.60	4.54	1.28	4.63	1.59	3.97	3.83	3.53	3.27	2.76
	Tokyo	JPA012	4.84	4.21	4.35	3.81	3.56	2.48	3.34	3.46	4.01	3.20	2.62	3.48	3.56	3.20	3.90
	Niigata-maki	JPA013									7.18	5.36	6.81	7.21	7.28	8.74	
	Tsushima	JPA014									1.35	1.58	1.92	3.54	2.13	2.30	3.69
Lao PDR	Vientiane	LAA001	***	***	***	***	4.00	2.21	*	*	*	***	***	***	11.1	*	*
Malaysia	Petaling Jaya	MYA001	3.97	3.96	6.13	6.02	6.70	6.48	4.18	6.96	***	4.32	4.06	3.40	4.14	4.17	3.22
	Tanah Rata	MYA002	2.08	2.37	2.91	2.68	2.00	2.18	2.25	2.76	***	5.94	***	2.64	2.01	1.97	4.41
	Danum Valley	MYA003	0.887	0.800	1.44	1.41	2.28	0.987	1.48	2.52	***	7.13	1.89	1.70	1.46	3.61	1.26
	Kuching	MYA004	3.15	3.42	4.20	6.12	4.35	3.35	3.86	4.28	***	18.5	2.46	5.59	2.44	3.82	7.11
	Gunung Brinchang	MYA005											2.74	***	***	***	***
Mongolia	Ulaanbaatar	MNA001	33.9	***	95.3	***	***	29.1	41.8	23.5	39.0						
	Terelj	MNA002	20.4	***	69.1	***	***	16.8	15.9	15.3	***	62.5	31.3	*	34.5	11.9	23.0
	Khan-Uul	MNA004										45.9	49.2	*	27.1	27.8	52.6
	Terelj2_temp	MNA005															25.1
Myanmar	Yangon	MMA001	6.89	7.79	1.07	14.1	88.7	5.55	10.5	16.6	14.2	9.86	2.60	17.4	8.97	7.36	9.11
Philippines	Manila Observatory	PHA001	12.9	13.9	11.5	14.5	17.4	20.5	***	***	14.7	16.3	9.22	11.6	3.82	10.5	6.48
	Los Baños	PHA002	6.38	9.40	6.40	6.99	8.77	11.8	***	***	***	***	***	17.8	2.74	3.15	3.69
	Mt.Sto.Tomas	PHA003	7.84	14.0	8.58	8.06	6.85	13.4	***	***	***	***	***	7.26	***	5.21	***
Republic of Korea	Ganghwa	KRA001	4.39	8.64	8.72	8.94	9.52	3.85	6.73	3.20	7.07	***	10.6	5.65	5.84	6.41	10.2
	Jeju	KRA002	6.60	11.2	13.6	4.12	4.64	16.2	12.8	6.64	4.56	***	9.76	34.9	26.7	9.01	7.42
	Imsil	KRA003	6.81	4.31	2.95	3.50	5.16	2.70	3.71	1.64	2.66	***	8.88	5.94	5.49	2.12	8.72
Russia	Mondy	RUA001	9.02	12.1	4.61	7.02	8.36	5.42	8.67	5.35	5.09	3.46	4.50	4.17	***		
	Listvyanka	RUA002	16.1	11.7	11.9	12.8	9.97	7.94	12.2	12.4	8.05	7.30	6.76	11.4	9.75	13.6	12.8
	Irkutsk	RUA003	34.7	31.3	33.0	26.5	30.5	17.0	22.5	27.8	17.6	14.1	15.4	27.4	23.0	20.6	22.6
	Primorskaya	RUA004	13.7	12.2	18.0	18.1	13.1	13.1	20.9	14.7	12.1	18.2	13.8	21.1	20.3	9.34	13.6
Thailand	Bangkok	THA001	10.5	13.5	25.2	14.5	16.9	15.9	11.3	27.1	29.2	18.0	***	12.2	20.2	*	*
	Samutprakarn	THA002	5.95	8.39	19.9	14.6	6.23	9.28	7.96	8.67	10.6	6.70	***	6.18	5.94	*	***
	Pathumthani	THA003	12.1	20.6	27.1	22.5	16.6	13.7	12.3	7.97	10.3	4.37	5.41	5.43	5.92	4.03	9.30
	Khanchanaburi	THA004	4.04	17.5	3.26	4.07	3.63	5.17	3.63	3.54	4.25	***	***	***	***	***	***
	Mae Hia	THA005	2.60	7.77	10.6	9.72	4.11	10.7	8.57	7.01	10.3						
	Sakaerat	THA008	1.88	3.74	1.96	8.73	6.83	8.24	4.60	35.1	55.9						
Vietnam	Hanoi	VNA001	14.6	15.0	16.2	24.8	36.7	22.8	35.3	40.6	80.0	83.0	30.8	79.0	26.9	52.1	32.7
	Hoa Binh	VNA002	12.5	11.1	16.9	13.4	10.1	13.1	23.1	13.7	17.6	43.6	25.5	17.9	23.8	9.65	13.6
	Cuc Phuong	VNA003	32.2	30.6	24.4	23.1	19.4	27.1	24.0	18.0	24.2	20.8	34.1	36.9	60.8	44.6	34.4
	Da Nang	VNA004	10.0	16.9	21.5	27.3	34.4	38.5	33.9	36.5	92.2	93.3	32.2	23.8	27.5	22.4	36.4
	Can Tho	VNA005				12.8	26.8	11.9	10.6	14.4	15.8	14.2	13.0	13.8	15.7	14.8	14.5
	Ho Chi Minh	VNA006				26.0	44.3	12.1	14.8	18.2	26.5	15.7	18.6	17.8	17.7	17.6	17.8
	Yen Bai	VNA007					15.9	20.3	23.1	20.8	27.4	52.9	22.5	21.5	28.9	14.0	24.5

Terms and abbreviations are given in Table 4.5.

Table 4.79 Precipitation amount-weighted annual average concentrations of nss-Ca^{2+} from 2011 to 2025

unit: μmol L^{-1}

Country	Name of sites	Code	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
Cambodia	Phnom Penh	KHA001	9.23	10.7	9.50	9.31	11.5	14.2	9.64	***	***	***	***	***	***	***	***
China	Haifu	CNA003	68.2	57.7	69.3	54.5	43.0	67.1	53.4	42.9	25.6	22.0	21.6	21.3	27.0	25.3	50.6
	Jinyunshan	CNA004	64.9	59.0	31.1	25.9	21.7	38.0	51.9	34.2	22.7	19.2	15.4	16.0	14.4	19.9	15.4
	Shizhan	CNA005	90.8	128	322	90.0	87.2	33.9	67.7	61.4	50.6	45.6	94.6	176	57.2	43.0	46.9
	Jiwozi	CNA007	91.4	202	130	146	55.7	36.6	94.4	55.7	160	63.4	34.4	25.1	36.8	72.3	81.2
	Hongwen	CNA008	13.7	17.1	21.6	25.1	15.9	12.6	27.5	26.0	60.7	412	34.4	13.0	6.67	7.08	5.93
	Xiaoping	CNA009	11.5	19.9	22.4	42.2	8.94	6.24	14.9	7.98	7.41	4.56	6.77	4.28	6.17	7.57	8.82
	Xiang Zhou	CNA010	16.8	9.76	42.2	16.4	14.7	10.4	8.88	9.14	7.71	6.62	5.89	3.23	12.9	5.30	4.54
	Zhuxiandong	CNA011	18.1	***	***	***	23.7	16.6	13.3	15.8	10.3	11.3	7.95	6.71	7.40	8.19	3.35
	Wuzhishan	CNA013									10.2	3.61	3.23	4.45	3.52	4.51	*
	Lijiang	CNA014									22.9	2.77	4.29	9.94	11.5	18.2	17.4
Indonesia	Jakarta	IDA001	10.8	11.7	13.8	14.5	7.43	24.7	17.3	16.1	10.4	7.16	8.08	7.98	***	29.8	12.5
	Serpong	IDA002	10.7	9.05	13.7	12.6	19.4	13.6	11.8	20.8	17.1	8.26	11.3	7.25			
	Kototabang	IDA003	5.76	7.64	9.37	3.81	2.03	3.53	11.6	8.50	30.8	5.09	9.65	3.72	***	5.38	6.42
	Bandung	IDA004	20.6	13.1	19.3	22.6	17.4	15.0	14.0	17.7	18.7	24.2	16.9	17.8			
	Maros	IDA005	6.17	15.7	9.98	27.2	16.7	11.5	12.2	13.7	19.9	7.75	22.4	15.0	***	8.70	6.01
	Jembrana	IDA006									7.45	19.7	4.74	4.44	***	7.86	11.3
	Lombok	IDA007									15.2	7.43	6.23	16.7	***	6.53	8.20
	Bandung 2	IDA008															12.4
Japan	Rishiri	JPA001	2.63	2.20	3.06	2.31	2.29	2.10	3.68	4.78	3.42	3.65	4.83	4.27	2.84	2.34	3.33
	Ochiishi	JPA002	2.11	1.50	2.42	1.96	2.87	1.28	1.46	1.50	1.41	1.84	9.00	*	*	*	*
	Tappi	JPA003	4.87	4.44	8.53	4.17	3.02	3.80	2.71	2.63							
	Sado-seki	JPA004	4.99	6.19	3.83	3.47	4.33	7.67	3.43	4.96	3.98	1.87	23.1	1.66	2.97	2.24	3.37
	Happo	JPA005	2.49	3.93	2.69	2.20	1.58	0.646	1.67	2.01	2.16	1.83	2.34	1.25	1.84	1.23	2.14
	Ijira	JPA006	1.70	2.09	2.43	1.34	1.66	1.61	1.88	1.54	2.08	1.31	1.68	1.49	2.03	1.38	1.85
	Oki	JPA007	6.73	4.40	6.12	4.63	3.15	3.55	4.72	4.35	3.43	2.61	3.99	*	*	*	*
	Banryu	JPA008	3.52	4.66	2.42	2.87	3.49	3.45	3.23	2.08							
	Yusuhara	JPA009	2.04	2.00	1.95	1.49	0.530	0.969	4.14	0.558	1.03	0.909	1.58	1.38	1.54	0.761	3.08
	Hedo	JPA010	1.63	2.44	1.99	1.29	1.48	1.12	2.08	1.90	1.06	1.47	4.16	1.68	2.89	*	*
	Ogasawara	JPA011	1.20	1.01	1.56	1.15	1.51	0.638	0.647	0.302	0.784	0.504	0.485	0.637	0.590	0.765	1.03
	Tokyo	JPA012	4.03	3.57	3.86	3.40	3.17	2.17	2.47	2.72	2.76	2.87	2.20	3.08	3.21	2.82	3.52
	Niigata-maki	JPA013									3.40	2.93	2.72	2.68	3.51	4.28	
	Tsushima	JPA014									0.717	0.912	1.16	1.36	1.34	1.32	3.06
Lao PDR	Vientiane	LAA001	***	***	***	***	3.94	2.18	*	*	*	***	***	***	11.0	*	*
Malaysia	Petaling Jaya	MYA001	3.87	3.88	6.04	5.91	6.56	6.34	4.05	6.84	***	4.20	3.95	3.32	4.03	4.06	3.09
	Tanah Rata	MYA002	2.04	2.33	2.87	2.63	1.94	2.12	2.20	2.71	***	5.83	***	2.58	1.95	1.88	4.29
	Danum Valley	MYA003	0.794	0.750	1.34	1.32	2.18	0.920	1.43	2.41	***	6.86	1.74	1.60	1.38	3.50	1.18
	Kuching	MYA004	2.95	3.32	4.04	5.93	4.07	3.07	3.71	4.10	***	18.2	2.29	5.45	2.31	3.73	6.96
	Gunung Brinchang	MYA005											2.64	***	***	***	***
Mongolia	Ulaanbaatar	MNA001	33.8	***	93.6	***	***	25.4	41.3	22.6	36.6						
	Terelj	MNA002	20.2	***	68.8	***	***	13.7	15.6	14.4	***	61.3	29.1	*	34.2	11.4	22.9
	Khan-Uul	MNA004										44.4	48.8	*	27.0	27.6	52.2
	Terelj2_temp	MNA005															24.5
Myanmar	Yangon	MMA001	6.57	7.32	0.792	13.8	88.5	5.22	10.2	16.1	13.8	9.56	2.26	17.1	8.62	7.10	8.78
Philippines	Manila Observatory	PHA001	12.4	13.5	10.9	14.0	16.9	20.2	***	***	14.3	16.1	8.75	11.1	3.53	10.1	6.26
	Los Baños	PHA002	5.96	8.92	5.94	6.67	8.42	11.3	***	***	***	***	***	17.6	2.63	2.93	3.39
	Mt.Sto.Tomas	PHA003	7.75	13.8	8.43	7.92	6.66	13.1	***	***	***	***	***	7.21	***	5.14	***
Republic of Korea	Ganghwa	KRA001	3.66	7.54	8.09	8.13	8.55	3.24	6.15	2.56	3.19	***	10.00	5.13	5.44	5.85	9.53
	Jeju	KRA002	3.72	3.15	7.33	1.79	2.52	7.72	7.59	2.29	2.88	***	3.78	15.9	18.9	5.25	4.04
	Imsil	KRA003	6.02	3.40	2.29	2.90	4.19	2.01	2.98	1.17	2.07	***	7.24	4.48	4.58	1.60	7.64
Russia	Mondy	RUA001	8.94	12.1	4.58	6.97	8.32	5.39	8.61	5.30	5.05	3.35	4.44	4.14	***		
	Listvyanka	RUA002	16.0	11.7	11.7	12.7	9.91	7.88	12.1	12.4	7.98	7.20	6.66	11.3	9.62	13.5	12.8
	Irkutsk	RUA003	34.4	31.1	32.7	26.3	30.2	16.8	22.4	27.6	17.5	13.9	15.3	27.2	22.8	20.5	22.4
	Primorskaya	RUA004	13.4	11.7	17.4	17.7	12.6	12.6	20.4	14.2	11.6	17.5	13.1	20.3	19.9	8.87	13.1
Thailand	Bangkok	THA001	10.4	13.3	25.0	14.3	16.8	15.7	11.2	26.9	29.0	17.7	***	12.1	20.0	*	*
	Samutprakarn	THA002	5.83	8.22	19.3	14.3	6.02	9.09	7.81	8.46	10.4	6.44	***	6.06	5.74	*	***
	Pathumthani	THA003	12.0	20.3	27.0	22.4	16.5	13.6	12.2	7.86	10.2	4.30	5.33	5.37	5.81	3.95	9.07
	Khanchanaburi	THA004	3.88	17.3	3.14	3.93	3.50	4.95	3.53	3.36	4.13	***	***	***	***	***	***
	Mae Hia	THA005	2.54	7.69	10.4	9.64	4.01	10.6	8.43	6.84	10.1						
	Sakaerat	THA008	1.81	3.66	1.90	8.57	6.73	8.16	4.55	34.9	55.7						
Vietnam	Hanoi	VNA001	14.5	15.0	16.1	24.6	36.5	22.5	35.0	40.3	79.4	82.5	30.5	78.5	26.6	51.8	32.5
	Hoa Binh	VNA002	12.5	11.0	16.9	13.3	10.0	13.0	23.1	13.7	17.3	43.4	25.3	17.8	23.6	9.59	13.5
	Cuc Phuong	VNA003	32.0	30.2	23.8	22.8	19.2	26.8	23.7	17.7	23.7	20.5	33.3	36.5	60.3	44.2	33.9
	Da Nang	VNA004	8.50	15.5	18.4	25.5	32.7	37.1	32.1	35.0	89.8	92.1	30.7	22.5	26.6	21.1	35.2
	Can Tho	VNA005				12.4	26.2	11.6	10.3	14.2	15.4	13.8	12.7	13.5	15.3	14.5	14.2
	Ho Chi Minh	VNA006				25.4	43.5	11.8	14.4	17.9	26.1	15.3	18.2	17.4	17.3	17.1	17.4
	Yen Bai	VNA007					15.8	20.1	23.0	20.7	27.1	52.5	22.3	21.4	28.6	13.9	24.4

Terms and abbreviations are given in Table 4.5.

Table 4.80 Precipitation amount-weighted annual average concentrations of Mg^{2+} from 2011 to 2025

unit: μmol L^{-1}

Country	Name of sites	Code	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
Cambodia	Phnom Penh	KHA001	1.22	1.22	1.12	1.63	2.56	1.44	1.41	***	***	***	***	***	***	***	***
China	Haifu	CNA003	8.61	6.87	8.23	7.00	4.79	5.69	4.08	4.04	3.01	2.22	2.19	2.75	3.43	2.37	3.66
	Jinyunshan	CNA004	6.13	5.82	4.42	4.37	3.24	3.89	4.74	3.34	3.01	2.55	2.12	2.81	2.70	2.58	1.97
	Shizhan	CNA005	9.94	3.47	54.5	11.8	9.25	1.97	11.2	12.9	6.63	9.92	1.25	18.9	3.58	3.67	14.6
	Jiwozi	CNA007	9.65	44.4	22.3	21.6	11.1	12.6	19.7	16.0	22.5	6.32	0.630	5.88	6.83	6.07	16.1
	Hongwen	CNA008	4.22	4.69	3.36	4.27	4.20	4.89	7.19	4.77	4.18	14.5	6.44	3.62	3.03	2.78	2.98
	Xiaoping	CNA009	2.21	3.45	4.03	3.65	2.27	2.14	2.78	2.12	2.04	2.85	2.19	2.34	2.57	2.22	2.50
	Xiang Zhou	CNA010	4.39	6.90	14.0	7.21	7.19	4.02	5.64	6.39	3.56	3.82	2.38	2.53	2.70	2.50	5.32
	Zhuxiandong	CNA011	6.75	***	***	***	8.78	5.17	3.21	10.2	4.12	5.87	3.49	3.74	3.10	3.17	4.66
	Wuzhishan	CNA013									2.30	1.34	1.36	1.31	0.838	0.969	*
	Lijiang	CNA014									4.59	2.62	1.24	2.28	1.30	5.14	3.24
Indonesia	Jakarta	IDA001	3.45	2.96	2.62	3.64	1.81	4.50	2.95	3.37	1.88	2.52	3.06	2.59	***	5.63	2.91
	Serpong	IDA002	3.12	2.01	3.86	3.23	3.86	3.06	2.51	4.42	4.43	1.95	3.54	3.31			
	Kototabang	IDA003	0.950	1.40	2.40	0.908	21.5	1.19	1.08	1.06	0.724	1.22	0.922	0.842	***	1.44	0.914
	Bandung	IDA004	5.78	3.17	6.33	7.51	5.61	3.50	3.80	3.92	4.83	5.09	2.81	2.80			
	Maros	IDA005	2.50	7.03	2.81	13.6	30.0	2.92	2.24	2.51	2.59	2.10	1.65	1.80	***	2.06	1.93
	Jembrana	IDA006									2.63	4.74	4.87	3.06	***	5.31	4.91
	Lombok	IDA007									4.15	6.84	4.14	9.06	***	4.84	5.98
	Bandung 2	IDA008															1.64
Japan	Rishiri	JPA001	15.4	32.3	22.5	18.1	16.2	7.96	24.2	19.9	21.5	15.9	27.7	19.3	10.7	12.9	20.8
	Ochiishi	JPA002	18.5	30.6	48.2	11.1	20.4	15.8	25.4	8.76	7.65	13.6	32.1	*	*	*	*
	Tappi	JPA003	17.4	15.4	30.0	18.1	25.2	19.5	21.7	18.3							
	Sado-seki	JPA004	19.0	29.4	36.9	32.5	37.3	20.8	17.1	15.4	25.3	19.7	188	23.1	16.1	15.7	19.6
	Happo	JPA005	0.896	2.30	1.37	1.27	1.33	0.861	1.23	1.03	0.808	0.853	0.962	0.775	0.913	0.456	0.836
	Ijira	JPA006	1.69	2.54	2.09	1.97	2.04	1.57	1.84	1.92	1.67	1.69	2.17	2.57	1.65	1.36	3.90
	Oki	JPA007	55.5	41.2	56.1	60.6	47.9	38.5	55.2	46.1	18.8	25.9	41.7	*	*	*	*
	Banryu	JPA008	12.8	11.2	8.50	10.8	10.8	9.45	9.94	6.66							
	Yusuhara	JPA009	2.56	2.84	2.40	1.82	2.77	1.21	6.01	1.78	1.72	1.05	2.54	4.55	2.89	1.84	6.05
	Hedo	JPA010	23.2	47.9	25.7	15.6	35.8	23.3	42.6	20.8	17.2	27.2	129	15.7	35.7	*	*
	Ogasawara	JPA011	23.6	13.6	17.0	15.2	34.5	10.5	21.3	5.45	20.3	5.89	17.4	16.5	15.7	13.2	9.22
	Tokyo	JPA012	4.79	3.78	3.04	2.54	2.45	1.85	4.92	4.15	6.71	2.18	2.26	2.35	2.08	2.34	2.84
	Niigata-maki	JPA013									20.4	13.0	21.6	24.2	21.2	24.9	
	Tsushima	JPA014									3.27	3.50	4.11	11.3	4.07	5.14	3.53
Lao PDR	Vientiane	LAA001	***	***	***	***	0.613	<0.3	*	*	*	***	***	***	1.31	*	*
Malaysia	Petaling Jaya	MYA001	0.579	0.497	0.686	1.10	0.922	0.819	0.565	0.724	***	0.889	0.743	0.604	0.795	1.21	0.500
	Tanah Rata	MYA002	<0.3	<0.3	0.301	0.333	<0.3	<0.3	<0.3	<0.3	***	1.16	***	<0.3	<0.3	<0.3	0.435
	Danum Valley	MYA003	0.541	<0.3	0.430	0.552	0.934	0.320	0.379	1.30	***	2.10	0.714	0.930	0.709	2.82	0.457
	Kuching	MYA004	0.745	<0.3	0.588	1.12	1.21	0.949	0.718	0.607	***	1.49	0.596	0.726	0.431	0.353	0.612
	Gunung Brinchang	MYA005											0.332	***	***	***	***
Mongolia	Ulaanbaatar	MNA001	9.23	***	3.74	***	***	6.06	3.06	2.50	3.71						
	Terelj	MNA002	7.35	***	4.97	***	***	2.19	1.32	1.46	***	9.00	3.14	*	3.15	1.56	3.20
	Khan-Uul	MNA004										3.25	3.33	*	2.97	2.98	4.75
	Terelj2_temp	MNA005															3.00
Myanmar	Yangon	MMA001	3.02	6.56	12.3	3.41	5.87	4.58	3.46	4.72	4.00	2.78	29.5	4.53	3.10	2.05	3.78
Philippines	Manila Observatory	PHA001	7.13	6.53	4.54	4.64	6.39	5.29	***	***	3.97	3.26	1.41	13.4	2.08	3.40	1.50
	Los Baños	PHA002	4.76	4.26	3.25	3.32	4.40	4.14	***	***	***	***	***	3.96	2.56	2.04	2.10
	Mt.Sto.Tomas	PHA003	1.61	2.90	1.69	1.35	3.44	2.78	***	***	***	***	***	0.542	***	2.03	***
Republic of Korea	Ganghwa	KRA001	3.18	5.50	3.30	3.27	3.60	1.19	2.33	1.09	16.2	***	5.35	3.74	4.21	4.34	5.24
	Jeju	KRA002	10.5	34.5	25.6	7.85	5.92	37.7	21.5	18.1	3.67	***	25.0	83.3	38.0	15.9	15.1
	Imsil	KRA003	2.02	3.05	1.87	1.77	3.30	1.55	1.91	0.648	0.797	***	5.28	3.74	2.50	1.06	4.72
Russia	Mondy	RUA001	2.60	4.06	0.877	1.18	2.15	0.864	1.75	1.07	0.948	0.549	1.24	0.832	***		
	Listvyanka	RUA002	3.12	2.53	2.92	2.37	2.06	1.91	3.15	2.95	2.27	2.38	2.29	3.29	3.37	4.77	4.14
	Irkutsk	RUA003	7.29	6.49	6.38	3.68	5.51	3.97	4.70	5.32	4.20	3.85	4.63	6.89	7.61	5.03	6.72
	Primorskaya	RUA004	4.29	4.43	4.89	6.21	5.62	5.51	11.9	9.23	8.90	8.73	5.56	7.47	6.41	4.46	6.90
Thailand	Bangkok	THA001	1.25	1.35	2.63	2.37	1.90	2.48	1.57	3.00	2.71	2.81	***	1.58	2.01	*	*
	Samutprakarn	THA002	1.20	1.53	4.46	3.12	1.57	1.79	1.56	2.14	1.91	2.28	***	1.49	1.49	*	***
	Pathumthani	THA003	1.57	3.14	2.59	1.91	1.88	2.10	1.41	1.14	1.98	1.02	1.18	1.43	0.877	0.832	1.77
	Khanchanaburi	THA004	1.27	2.76	1.03	1.32	1.06	1.74	1.15	1.44	0.993	***	***	***	***	***	***
	Mae Hia	THA005	<0.3	0.842	1.50	1.91	1.41	1.54	1.37	0.656	1.41						
	Sakaerat	THA008	<0.3	0.423	<0.3	1.31	2.17	4.25	1.76	8.17	9.26						
Vietnam	Hanoi	VNA001	4.08	2.15	2.79	3.51	4.59	4.38	7.27	6.49	7.57	8.43	5.59	9.88	5.84	1.59	2.58
	Hoa Binh	VNA002	2.39	2.17	2.69	2.72	2.44	2.52	1.97	3.11	2.17	5.14	4.33	2.53	5.29	1.44	1.85
	Cuc Phuong	VNA003	4.78	7.07	12.2	4.88	5.44	8.30	8.30	10.2	13.5	10.8	13.9	9.48	12.0	9.07	7.35
	Da Nang	VNA004	9.42	9.19	18.8	10.8	8.77	9.03	11.3	10.6	28.6	16.7	17.4	21.2	19.7	14.2	21.7
	Can Tho	VNA005				4.45	9.17	6.85	5.35	9.84	10.2	7.83	7.01	8.86	8.31	8.23	8.02
	Ho Chi Minh	VNA006				8.73	17.9	6.90	9.01	10.2	13.2	9.34	11.1	10.1	10.4	10.3	10.6
	Yen Bai	VNA007					2.68	3.24	1.66	3.39	2.33	9.32	3.48	2.74	6.54	0.685	2.00

Terms and abbreviations are given in Table 4.5.

Table 4.81 Precipitation amount-weighted annual average concentrations of H^+ from 2011 to 2025

unit: μmol L^{-1}

Country	Name of sites	Code	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
Cambodia	Phnom Penh	KHA001	1.10	0.694	0.662	0.621	0.717	0.389	0.667	***	***	***	***	***	***	***	***
China	Haifu	CNA003	65.9	57.5	30.1	12.1	3.81	0.655	1.47	5.10	3.73	3.41	2.94	1.69	0.893	0.774	0.716
	Jinyunshan	CNA004	90.9	81.5	63.3	41.2	20.0	10.6	7.07	14.2	17.5	17.5	8.96	7.42	5.99	7.39	4.32
	Shizhan	CNA005	0.535	0.552	0.117	0.247	0.220	0.206	0.256	0.171	0.150	0.120	0.0744	0.0736	0.0746	0.156	0.514
	Jiwozi	CNA007	1.13	0.076	0.635	0.104	0.124	0.237	0.203	0.164	0.175	0.268	0.580	0.831	0.976	0.218	0.225
	Hongwen	CNA008	22.5	30.9	13.2	8.39	12.7	12.1	4.56	2.30	0.853	0.391	4.63	5.57	5.91	5.19	2.18
	Xiaoping	CNA009	15.3	15.7	9.92	19.6	11.3	18.5	1.27	14.6	18.6	17.2	13.6	13.7	10.2	2.62	1.58
	Xiang Zhou	CNA010	8.81	7.73	5.83	9.91	2.77	6.78	10.5	8.66	11.3	8.13	6.03	6.12	3.37	4.93	1.93
	Zhuxiandong	CNA011	16.7	***	***	***	3.29	6.88	8.49	6.98	9.55	6.82	3.56	6.27	5.50	5.50	2.56
	Wuzhishan	CNA013									1.14	1.29	0.623	0.691	0.688	0.629	0.439
	Lijiang	CNA014									0.529	0.374	0.241	0.339	0.749	0.506	0.199
Indonesia	Jakarta	IDA001	28.2	17.4	16.9	19.6	14.4	11.3	12.9	20.4	14.7	6.52	12.6	16.4	***	10.4	13.4
	Serpong	IDA002	19.7	12.4	8.63	7.23	11.4	6.56	6.34	6.10	10.5	7.37	3.39	7.61			
	Kototabang	IDA003	9.22	9.75	10.6	15.2	12.4	5.04	6.29	4.88	4.21	4.75	2.55	2.56	***	16.6	7.01
	Bandung	IDA004	4.00	3.48	4.01	6.14	4.41	8.29	5.63	2.17	0.953	1.06	3.22	4.92			
	Maros	IDA005	4.43	2.41	3.41	5.88	5.77	5.77	4.88	4.21	11.5	4.00	0.568	1.02	***	4.88	4.79
	Jembrana	IDA006									4.32	6.91	12.2	11.8	***	20.0	13.6
	Lombok	IDA007									2.56	4.04	5.15	12.9	***	21.7	13.3
	Bandung 2	IDA008															1.32
Japan	Rishiri	JPA001	20.1	20.2	21.2	18.6	16.8	12.6	17.3	13.6	15.3	10.2	8.77	9.26	7.12	8.08	9.32
	Ochiishi	JPA002	13.1	15.2	9.38	7.82	9.96	6.39	7.42	7.28	7.64	7.77	12.7	*	*	*	*
	Tappi	JPA003	24.6	20.5	16.0	21.9	14.1	15.2	18.0	11.0							
	Sado-seki	JPA004	20.8	18.6	18.2	19.7	21.8	13.9	12.7	10.9	12.6	13.6	18.6	6.91	8.09	5.73	9.06
	Happo	JPA005	9.15	13.3	10.0	9.77	8.14	8.18	7.96	6.31	7.26	5.50	5.53	6.34	5.73	6.39	7.77
	Ijira	JPA006	18.0	20.5	17.9	19.3	20.0	17.5	18.3	12.1	16.4	11.4	8.72	10.4	13.5	11.6	9.93
	Oki	JPA007	18.8	26.4	24.6	22.2	19.1	13.4	14.9	13.6	15.4	14.6	7.38	*	*	*	*
	Banryu	JPA008	21.8	33.5	22.8	27.9	22.2	15.4	17.1	13.5							
	Yusuhara	JPA009	11.7	16.8	16.7	13.2	13.5	14.2	31.1	10.0	10.8	11.4	7.15	10.8	11.2	9.15	18.1
	Hedo	JPA010	12.5	7.49	10.9	9.55	7.17	6.72	9.90	7.96	10.5	8.57	20.8	5.72	11.4	*	*
	Ogasawara	JPA011	4.98	4.63	5.65	8.38	5.89	7.98	6.09	5.96	5.87	10.6	5.17	6.79	10.00	6.44	5.75
	Tokyo	JPA012	14.9	14.4	8.83	14.8	16.3	11.4	12.7	11.8	9.99	7.95	6.71	6.74	7.39	8.74	7.01
	Niigata-maki	JPA013									13.7	11.3	10.1	9.95	9.91	12.8	
	Tsushima	JPA014									10.2	11.9	13.0	7.57	12.4	9.22	13.3
Lao PDR	Vientiane	LAA001	***	0.351	***	0.288	1.15	0.171	*	*	*	***	***	***	0.241	4.11	1.28
Malaysia	Petaling Jaya	MYA001	69.4	61.4	38.0	38.2	40.8	54.9	30.9	31.6	***	22.4	20.8	29.7	28.9	27.9	24.6
	Tanah Rata	MYA002	9.76	10.9	11.2	13.9	19.1	14.1	13.9	13.7	***	12.7	***	7.97	8.41	10.2	7.60
	Danum Valley	MYA003	6.20	6.58	5.33	4.87	6.15	5.56	6.08	4.97	***	6.04	5.78	6.85	5.08	6.23	4.61
	Kuching	MYA004	3.73	4.84	5.17	4.60	4.88	7.14	6.10	5.62	***	2.51	4.52	2.62	3.39	4.36	4.34
	Gunung Brinchang	MYA005											5.59	***	***	***	***
Mongolia	Ulaanbaatar	MNA001	3.64	1.31	1.04	***	0.379	9.54	2.95	1.73	3.25						
	Terelj	MNA002	5.47	1.81	12.3	***	3.14	6.47	9.14	1.56	***	0.564	2.00	6.77	4.45	0.882	1.04
	Khan-Uul	MNA004										1.12	2.08	7.06	4.22	1.25	0.271
	Terelj2_temp	MNA005															0.862
Myanmar	Yangon	MMA001	0.347	0.323	0.352	0.199	0.216	0.178	0.204	0.264	0.294	0.550	0.182	0.126	0.146	0.227	0.192
Philippines	Manila Observatory	PHA001	2.27	6.03	2.85	0.736	0.528	3.05	***	***	3.94	2.50	10.0	11.6	14.6	7.65	5.85
	Los Baños	PHA002	2.70	2.19	1.41	1.61	0.508	19.3	***	***	***	***	***	14.8	30.6	15.2	10.0
	Mt.Sto.Tomas	PHA003	4.46	1.12	5.18	0.724	1.10	0.345	***	***	***	***	***	2.25	***	1.45	***
Republic of Korea	Ganghwa	KRA001	23.0	24.4	26.3	13.4	20.2	16.4	36.4	13.2	20.9	***	5.59	3.75	5.85	8.66	7.37
	Jeju	KRA002	6.80	4.95	4.18	1.61	2.15	7.94	5.27	1.36	2.53	***	2.04	3.27	2.59	2.79	1.71
	Imsil	KRA003	5.42	7.82	6.01	5.17	8.04	3.15	5.04	2.00	4.60	***	0.655	0.261	5.87	0.768	0.618
Russia	Mondy	RUA001	2.90	2.37	4.83	4.65	3.58	4.31	4.86	6.50	3.93	3.97	2.34	4.18	***		
	Listvyanka	RUA002	18.8	16.7	15.9	12.6	14.7	12.5	17.0	17.9	18.6	15.7	14.0	12.7	16.0	7.95	13.7
	Irkutsk	RUA003	9.51	11.6	9.81	8.65	6.15	11.8	11.4	14.0	15.3	14.0	10.9	7.10	5.74	11.6	11.1
	Primorskaya	RUA004	23.4	8.55	8.80	3.41	6.90	3.97	2.07	1.49	3.65	0.990	2.77	1.70	2.11	2.49	1.83
Thailand	Bangkok	THA001	8.97	2.08	2.52	0.0943	5.09	2.91	1.08	0.902	0.863	1.70	***	1.44	2.56	1.95	3.87
	Samutprakarn	THA002	1.27	0.679	1.06	0.310	2.53	3.57	1.37	3.01	1.76	0.880	***	1.73	3.12	2.57	***
	Pathumthani	THA003	9.99	3.60	3.90	3.09	5.12	4.01	4.55	7.57	3.47	1.89	3.26	3.73	1.66	0.902	2.59
	Khanchanaburi	THA004	3.21	0.964	4.72	1.61	3.44	1.04	1.72	1.73	0.835	***	***	***	***	***	***
	Mae Hia	THA005	5.14	0.789	0.909	0.527	2.28	2.49	2.77	3.07	7.04						
	Sakaerat	THA008	9.95	8.58	5.70	15.0	9.26	5.47	3.84	7.28	6.23						
Vietnam	Hanoi	VNA001	5.03	2.39	2.21	1.83	0.649	2.52	0.292	3.04	11.2	0.650	2.28	3.16	2.41	4.51	5.54
	Hoa Binh	VNA002	3.65	2.35	0.911	3.60	5.07	2.31	6.02	5.51	4.94	1.87	3.49	3.77	1.11	3.49	15.5
	Cuc Phuong	VNA003	9.09	3.68	3.77	3.00	4.78	1.57	8.43	3.57	3.51	5.64	0.744	2.18	1.03	1.11	2.34
	Da Nang	VNA004	10.4	3.66	2.62	3.01	1.05	1.10	1.36	1.64	0.709	0.712	1.62	1.72	1.50	1.63	1.07
	Can Tho	VNA005				0.550	1.68	1.43	1.08	1.34	1.18	1.41	1.09	1.15	1.39	1.25	1.15
	Ho Chi Minh	VNA006				1.42	0.775	1.75	0.861	0.773	1.08	1.08	0.835	0.790	1.04	0.876	1.15
	Yen Bai	VNA007					5.90	6.63	6.40	4.48	15.3	1.70	2.60	8.54	1.14	12.8	33.4

Terms and abbreviations are given in Table 4.5.

Table 4.82 Precipitation amount-weighted annual average pH from 2011 to 2025

Country	Name of sites	Code	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
Cambodia	Phnom Penh	KHA001	5.96	6.16	6.18	6.21	6.14	6.41	6.18	***	***	***	***	***	***	***	***
China	Haifu	CNA003	4.18	4.24	4.52	4.92	5.42	6.18	5.83	5.29	5.43	5.47	5.53	5.77	6.05	6.11	6.15
	Jinyunshan	CNA004	4.04	4.09	4.20	4.39	4.70	4.97	5.15	4.85	4.76	4.76	5.05	5.13	5.22	5.13	5.37
	Shizhan	CNA005	6.27	6.26	6.93	6.61	6.66	6.69	6.59	6.77	6.82	6.92	7.13	7.13	7.13	6.81	6.29
	Jiwozi	CNA007	5.95	7.12	6.20	6.98	6.91	6.63	6.69	6.79	6.76	6.57	6.24	6.08	6.01	6.66	6.65
	Hongwen	CNA008	4.65	4.51	4.88	5.08	4.90	4.92	5.34	5.64	6.07	6.41	5.33	5.25	5.23	5.28	5.66
	Xiaoping	CNA009	4.82	4.80	5.00	4.71	4.95	4.73	5.90	4.84	4.73	4.76	4.87	4.86	4.99	5.58	5.80
	Xiang Zhou	CNA010	5.05	5.11	5.23	5.00	5.56	5.17	4.98	5.06	4.95	5.09	5.22	5.21	5.47	5.31	5.71
	Zhuxiandong	CNA011	4.78	***	***	***	5.48	5.16	5.07	5.16	5.02	5.17	5.45	5.20	5.26	5.26	5.59
	Wuzhishan	CNA013									5.94	5.89	6.21	6.16	6.16	6.20	6.36
	Lijiang	CNA014									6.28	6.43	6.62	6.47	6.13	6.30	6.70
Indonesia	Jakarta	IDA001	4.55	4.76	4.77	4.71	4.84	4.95	4.89	4.69	4.83	5.19	4.90	4.79	***	4.98	4.87
	Serpong	IDA002	4.70	4.91	5.06	5.14	4.94	5.18	5.20	5.21	4.98	5.13	5.47	5.12			
	Kototabang	IDA003	5.04	5.01	4.97	4.82	4.91	5.30	5.20	5.31	5.38	5.32	5.59	5.59	***	4.78	5.15
	Bandung	IDA004	5.40	5.46	5.40	5.21	5.36	5.08	5.25	5.66	6.02	5.97	5.49	5.31			
	Maros	IDA005	5.35	5.62	5.47	5.23	5.24	5.24	5.31	5.38	4.94	5.40	6.25	5.99	***	5.31	5.32
	Jembrana	IDA006									5.36	5.16	4.91	4.93	***	4.70	4.87
	Lombok	IDA007									5.59	5.39	5.29	4.89	***	4.66	4.88
	Bandung 2	IDA008															5.88
Japan	Rishiri	JPA001	4.70	4.70	4.67	4.73	4.77	4.90	4.76	4.87	4.82	4.99	5.06	5.03	5.15	5.09	5.03
	Ochiishi	JPA002	4.88	4.82	5.03	5.11	5.00	5.19	5.13	5.14	5.12	5.11	4.90	*	*	*	*
	Tappi	JPA003	4.61	4.69	4.80	4.66	4.85	4.82	4.74	4.96							
	Sado-seki	JPA004	4.68	4.73	4.74	4.70	4.66	4.86	4.90	4.96	4.90	4.87	4.73	5.16	5.09	5.24	5.04
	Happo	JPA005	5.04	4.88	5.00	5.01	5.09	5.09	5.10	5.20	5.14	5.26	5.26	5.20	5.24	5.19	5.11
	Ijira	JPA006	4.75	4.69	4.75	4.71	4.70	4.76	4.74	4.92	4.79	4.94	5.06	4.98	4.87	4.94	5.00
	Oki	JPA007	4.73	4.58	4.61	4.65	4.72	4.87	4.83	4.87	4.81	4.84	5.13	*	*	*	*
	Banryu	JPA008	4.66	4.48	4.64	4.55	4.65	4.81	4.77	4.87							
	Yusuhara	JPA009	4.93	4.77	4.78	4.88	4.87	4.85	4.51	5.00	4.97	4.94	5.15	4.97	4.95	5.04	4.74
	Hedo	JPA010	4.90	5.13	4.96	5.02	5.14	5.17	5.00	5.10	4.98	5.07	4.68	5.24	4.94	*	*
	Ogasawara	JPA011	5.30	5.33	5.25	5.08	5.23	5.10	5.22	5.23	5.23	4.97	5.29	5.17	5.00	5.19	5.24
	Tokyo	JPA012	4.83	4.84	5.05	4.83	4.79	4.94	4.90	4.93	5.00	5.10	5.17	5.17	5.13	5.06	5.15
	Niigata-maki	JPA013									4.86	4.95	5.00	5.00	5.00	4.89	
	Tsushima	JPA014									4.99	4.92	4.89	5.12	4.91	5.04	4.87
Lao PDR	Vientiane	LAA001	***	6.46	***	6.54	5.94	6.77	*	*	*	***	***	***	6.62	5.39	5.89
Malaysia	Petaling Jaya	MYA001	4.16	4.21	4.42	4.42	4.39	4.26	4.51	4.50	***	4.65	4.68	4.53	4.54	4.55	4.61
	Tanah Rata	MYA002	5.01	4.96	4.95	4.86	4.72	4.85	4.86	4.86	***	4.90	***	5.10	5.08	4.99	5.12
	Danum Valley	MYA003	5.21	5.18	5.27	5.31	5.21	5.25	5.22	5.30	***	5.22	5.24	5.16	5.29	5.21	5.34
	Kuching	MYA004	5.43	5.32	5.29	5.34	5.31	5.15	5.21	5.25	***	5.60	5.34	5.58	5.47	5.36	5.36
	Gunung Brinchang	MYA005											5.25	***	***	***	***
Mongolia	Ulaanbaatar	MNA001	5.44	5.88	5.98	***	6.42	5.02	5.53	5.76	5.49						
	Terelj	MNA002	5.26	5.74	4.91	***	5.50	5.19	5.04	5.81	***	6.25	5.70	5.17	5.35	6.05	5.98
	Khan-Uul	MNA004										5.95	5.68	5.15	5.37	5.90	6.57
	Terelj2_temp	MNA005															6.06
Myanmar	Yangon	MMA001	6.46	6.49	6.45	6.70	6.66	6.75	6.69	6.58	6.53	6.26	6.74	6.90	6.83	6.64	6.72
Philippines	Manila Observatory	PHA001	5.64	5.22	5.55	6.13	6.28	5.52	***	***	5.40	5.60	5.00	4.93	4.84	5.12	5.23
	Los Baños	PHA002	5.57	5.66	5.85	5.79	6.29	4.71	***	***	***	***	***	4.83	4.51	4.82	5.00
	Mt.Sto.Tomas	PHA003	5.35	5.95	5.29	6.14	5.96	6.46	***	***	***	***	***	5.65	***	5.84	***
Republic of Korea	Ganghwa	KRA001	4.64	4.61	4.58	4.87	4.69	4.79	4.44	4.88	4.68	***	5.25	5.43	5.23	5.06	5.13
	Jeju	KRA002	5.17	5.31	5.38	5.79	5.67	5.10	5.28	5.87	5.60	***	5.69	5.49	5.59	5.55	5.77
	Imsil	KRA003	5.27	5.11	5.22	5.29	5.09	5.50	5.30	5.70	5.34	***	6.18	6.58	5.23	6.11	6.21
Russia	Mondy	RUA001	5.54	5.62	5.32	5.33	5.45	5.37	5.31	5.19	5.41	5.40	5.63	5.38	***		
	Listvyanka	RUA002	4.73	4.78	4.80	4.90	4.83	4.90	4.77	4.75	4.73	4.80	4.85	4.90	4.80	5.10	4.86
	Irkutsk	RUA003	5.02	4.93	5.01	5.06	5.21	4.93	4.94	4.86	4.82	4.85	4.96	5.15	5.24	4.93	4.96
	Primorskaya	RUA004	4.63	5.07	5.06	5.47	5.16	5.40	5.69	5.83	5.44	6.00	5.56	5.77	5.68	5.60	5.74
Thailand	Bangkok	THA001	5.05	5.68	5.60	7.03	5.29	5.54	5.97	6.04	6.06	5.77	***	5.84	5.59	5.71	5.41
	Samutprakarn	THA002	5.90	6.17	5.98	6.51	5.60	5.45	5.86	5.52	5.75	6.06	***	5.76	5.51	5.59	***
	Pathumthani	THA003	5.00	5.44	5.41	5.51	5.29	5.40	5.34	5.12	5.46	5.72	5.49	5.43	5.78	6.04	5.59
	Khanchanaburi	THA004	5.49	6.02	5.33	5.79	5.46	5.98	5.76	5.76	6.08	***	***	***	***	***	***
	Mae Hia	THA005	5.29	6.10	6.04	6.28	5.64	5.60	5.56	5.51	5.15						
	Sakaerat	THA008	5.00	5.07	5.24	4.82	5.03	5.26	5.42	5.14	5.21						
Vietnam	Hanoi	VNA001	5.30	5.62	5.66	5.74	6.19	5.60	6.53	5.52	4.95	6.19	5.64	5.50	5.62	5.35	5.26
	Hoa Binh	VNA002	5.44	5.63	6.04	5.44	5.29	5.64	5.22	5.26	5.31	5.73	5.46	5.42	5.95	5.46	4.81
	Cuc Phuong	VNA003	5.04	5.43	5.42	5.52	5.32	5.81	5.07	5.45	5.45	5.25	6.13	5.66	5.99	5.96	5.63
	Da Nang	VNA004	4.98	5.44	5.58	5.52	5.98	5.96	5.87	5.78	6.15	6.15	5.79	5.76	5.82	5.79	5.97
	Can Tho	VNA005				6.26	5.77	5.84	5.97	5.87	5.93	5.85	5.96	5.94	5.86	5.90	5.94
	Ho Chi Minh	VNA006				5.85	6.11	5.76	6.06	6.11	5.96	5.96	6.08	6.10	5.98	6.06	5.94
	Yen Bai	VNA007					5.23	5.18	5.19	5.35	4.82	5.77	5.59	5.07	5.94	4.89	4.48

Terms and abbreviations are given in Table 4.5.

Table 4.83 Precipitation amount-weighted annual average EC from 2011 to 2025

unit: mS m^{-1}

Country	Name of sites	Code	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
Cambodia	Phnom Penh	KHA001	0.820	0.704	0.665	0.676	0.691	0.705	0.747	***	***	***	***	***	***	***	***
China	Haifu	CNA003	6.55	5.33	5.26	3.94	2.70	3.00	2.71	2.83	2.27	1.86	1.85	1.83	2.02	2.00	2.54
	Jinyunshan	CNA004	7.09	6.56	4.81	3.65	2.50	2.44	2.38	2.65	2.43	2.20	1.71	1.77	1.53	1.98	1.44
	Shizhan	CNA005	4.31	6.51	6.97	4.37	5.06	3.69	3.53	3.28	3.02	3.43	3.57	6.32	2.89	2.08	2.50
	Jiwozi	CNA007	3.04	5.39	3.61	4.29	2.32	1.05	2.64	2.09	5.58	2.21	1.41	1.21	1.44	2.35	2.64
	Hongwen	CNA008	2.18	2.67	1.63	1.89	1.59	2.33	2.21	2.07	3.18	7.26	2.42	1.15	0.956	1.04	0.874
	Xiaoping	CNA009	1.82	1.67	1.46	2.15	1.43	1.28	0.996	1.29	1.56	1.41	1.35	1.03	1.26	0.956	1.16
	Xiang Zhou	CNA010	1.84	1.76	1.15	1.94	1.65	1.50	1.85	2.09	1.46	1.24	0.905	0.968	1.07	1.08	1.34
	Zhuxiandong	CNA011	1.99	***	***	***	2.29	2.01	1.45	2.38	1.53	1.49	1.02	1.09	1.08	1.21	1.25
	Wuzhishan	CNA013									0.733	0.613	0.525	0.573	0.520	0.560	0.682
	Lijiang	CNA014									1.50	0.418	0.366	0.536	0.414	0.827	1.13
Indonesia	Jakarta	IDA001	2.17	1.39	1.59	1.67	1.26	2.03	1.27	2.52	1.82	1.27	1.81	1.71	***	2.01	1.56
	Serpong	IDA002	2.31	2.05	2.16	1.89	2.26	1.85	1.82	2.30	2.46	2.03	2.00	1.98			
	Kototabang	IDA003	0.742	0.791	0.927	1.10	104	0.790	0.402	0.429	0.671	0.499	0.507	0.348	***	0.987	0.537
	Bandung	IDA004	1.90	1.60	1.86	2.14	1.71	1.79	1.88	1.88	2.37	1.96	1.59	1.81			
	Maros	IDA005	0.576	0.885	0.970	1.00	2.10	3.03	1.65	0.664	1.04	0.692	0.659	0.559	***	0.719	0.612
	Jembrana	IDA006									0.898	1.78	1.79	1.29	***	1.80	1.27
	Lombok	IDA007									1.10	1.03	0.968	3.77	***	1.53	1.24
	Bandung 2	IDA008															1.33
Japan	Rishiri	JPA001	3.50	5.54	4.25	3.56	3.16	1.92	4.47	3.78	4.00	3.13	4.36	3.48	2.17	2.57	3.71
	Ochiishi	JPA002	3.28	4.96	7.10	2.14	3.29	2.42	4.02	1.64	1.58	2.52	4.51	*	*	*	*
	Tappi	JPA003	3.64	3.45	4.76	3.62	3.97	3.32	3.91	3.16							
	Sado-seki	JPA004	3.57	4.88	5.98	5.58	6.15	3.47	3.11	2.86	4.15	3.17	27.9	3.64	2.74	2.76	3.54
	Happo	JPA005	0.666	1.07	0.764	0.744	0.680	0.616	0.569	0.560	0.595	0.494	0.541	0.530	0.499	0.430	0.594
	Ijira	JPA006	1.46	1.65	1.42	1.47	1.49	1.33	1.32	0.959	1.19	1.00	0.866	1.08	1.02	0.798	1.13
	Oki	JPA007	8.76	6.72	9.41	9.58	7.57	6.08	7.96	6.96	3.51	4.37	5.93	*	*	*	*
	Banryu	JPA008	3.13	3.44	2.48	3.11	2.82	2.39	2.46	1.85							
	Yusuhara	JPA009	0.870	1.24	1.06	0.789	1.11	0.972	2.68	0.804	0.870	0.839	0.763	1.21	0.961	0.843	2.16
	Hedo	JPA010	3.87	7.27	4.24	2.68	5.28	3.41	6.15	3.00	2.66	4.16	19.7	2.42	5.49	*	*
	Ogasawara	JPA011	3.70	2.26	2.86	2.62	5.30	1.87	3.25	1.02	3.15	1.39	2.80	2.76	2.73	2.20	1.64
	Tokyo	JPA012	1.88	1.75	1.33	1.46	1.40	1.04	1.60	1.43	1.66	0.997	0.941	1.02	0.959	1.01	0.998
	Niigata-maki	JPA013									3.87	2.58	3.67	4.03	3.49	4.21	
	Tsushima	JPA014									1.23	1.40	1.46	2.29	1.52	1.45	1.47
Lao PDR	Vientiane	LAA001	***	0.411	***	0.867	1.26	0.730	*	*	*	***	***	***	0.530	6.06	5.22
Malaysia	Petaling Jaya	MYA001	3.43	3.10	2.43	2.50	2.61	2.95	1.92	2.17	***	1.58	1.50	1.90	1.93	1.80	1.71
	Tanah Rata	MYA002	0.822	0.780	0.734	0.875	1.10	0.813	0.798	0.808	***	1.01	***	0.569	0.607	0.623	0.687
	Danum Valley	MYA003	0.440	0.416	0.410	0.419	0.513	0.360	0.339	0.433	***	0.707	0.506	0.504	0.418	0.571	0.366
	Kuching	MYA004	0.547	0.489	0.549	1.02	0.635	0.683	0.588	0.612	***	0.730	0.630	0.487	0.406	0.372	0.620
	Gunung Brinchang	MYA005											0.481	***	***	***	***
Mongolia	Ulaanbaatar	MNA001	1.74	1.71	2.54	***	2.86	3.52	1.26	1.40	7.89						
	Terelj	MNA002	1.54	1.33	1.94	***	2.80	3.27	1.38	1.19	***	2.37	4.04	5.11	1.76	0.812	1.14
	Khan-Uul	MNA004										2.09	2.10	4.24	1.15	1.15	2.03
	Terelj2_temp	MNA005															1.90
Myanmar	Yangon	MMA001	0.682	1.30	0.813	0.914	1.46	1.37	0.504	0.644	0.910	1.19	0.807	1.38	1.42	0.519	0.813
Philippines	Manila Observatory	PHA001	3.76	4.81	1.53	1.92	2.53	3.02	***	***	1.20	1.01	1.33	1.25	1.45	1.34	0.951
	Los Baños	PHA002	1.18	1.74	1.02	1.45	3.34	2.25	***	***	***	***	***	1.21	1.80	1.19	1.03
	Mt.Sto.Tomas	PHA003	0.355	0.500	0.558	0.460	0.464	0.527	***	***	***	***	***	0.520	***	0.732	***
Republic of Korea	Ganghwa	KRA001	2.34	2.76	2.66	2.41	4.29	1.80	2.44	1.67	4.74	***	1.62	1.23	0.968	1.64	1.63
	Jeju	KRA002	3.07	7.05	5.55	2.42	2.31	7.07	5.00	4.74	2.37	***	5.13	15.1	6.54	3.68	3.56
	Imsil	KRA003	1.58	2.58	1.47	1.39	1.98	1.23	1.69	1.07	1.31	***	1.96	1.82	1.48	0.745	1.37
Russia	Mondy	RUA001	0.566	0.864	0.420	0.480	0.588	0.409	0.659	0.576	0.469	0.330	0.802	0.441	***		
	Listvyanka	RUA002	1.63	1.51	1.25	1.20	1.50	1.11	1.54	1.43	1.32	1.14	1.14	1.20	1.23	1.10	1.21
	Irkutsk	RUA003	2.16	2.16	2.08	1.59	2.55	1.47	1.62	1.90	1.65	1.54	1.51	1.68	1.55	1.47	1.70
	Primorskaya	RUA004	2.64	1.56	1.89	1.63	1.75	1.58	2.06	1.53	1.36	1.56	1.85	2.02	1.82	1.66	1.66
Thailand	Bangkok	THA001	1.24	1.26	1.35	1.10	1.35	1.34	0.821	1.64	1.36	0.891	***	0.958	1.26	0.929	1.04
	Samutprakarn	THA002	0.667	0.902	1.20	1.00	0.921	0.880	0.799	1.05	1.01	0.845	***	0.681	0.938	1.07	***
	Pathumthani	THA003	1.27	1.17	1.08	0.998	1.34	1.38	1.19	1.24	1.24	0.798	1.03	0.944	0.916	0.694	1.55
	Khanchanaburi	THA004	0.585	0.817	0.326	0.506	0.438	0.379	0.421	0.382	0.421	***	***	***	***	***	***
	Mae Hia	THA005	0.442	0.512	0.682	0.803	0.561	0.825	0.736	0.526	0.939						
	Sakaerat	THA008	0.796	0.756	0.789	1.46	0.856	0.848	0.566	0.870	0.800						
Vietnam	Hanoi	VNA001	1.60	1.56	1.52	1.99	2.21	1.93	2.08	2.47	3.68	4.28	2.21	3.87	2.35	3.36	1.96
	Hoa Binh	VNA002	1.02	0.940	1.10	1.35	1.22	1.45	1.27	1.22	1.06	2.11	1.90	1.17	2.16	0.751	1.25
	Cuc Phuong	VNA003	1.98	1.73	1.80	1.28	1.42	1.37	1.52	1.10	1.69	1.51	2.22	2.10	2.72	2.15	1.76
	Da Nang	VNA004	2.37	2.10	3.46	1.85	1.82	1.74	2.47	2.41	5.02	4.72	2.63	4.03	2.11	2.33	2.33
	Can Tho	VNA005				1.10	1.92	1.20	1.06	1.27	1.35	1.34	1.21	1.28	1.36	1.22	1.29
	Ho Chi Minh	VNA006				2.00	2.85	1.33	1.68	1.35	1.78	1.64	1.61	1.65	1.70	1.67	1.56
	Yen Bai	VNA007					1.31	2.47	1.55	1.49	1.90	2.90	2.10	1.59	2.97	1.43	3.04

Terms and abbreviations are given in Table 4.5.

Table 4.84 Annual SO_4^{2-} deposition amount from 2011 to 2025

unit: mmol $m^{-2}y^{-1}$

Country	Name of sites	Code	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
Cambodia	Phnom Penh	KHA001	11.5	17.0	10.7	9.78	7.76	6.85	15.6	***	***	***	***	***	***	***	***
China	Haifu	CNA003	115	103	109	120	61.3	59.5	49.8	46.1	41.0	33.0	34.7	24.1	32.5	24.1	24.4
	Jinyunshan	CNA004	119	125	91.7	90.0	56.5	48.6	46.3	33.9	36.6	38.0	37.3	24.0	29.1	19.9	22.2
	Shizhan	CNA005	72.5	42.9	62.0	70.1	49.1	25.9	41.8	22.1	14.1	19.5	28.7	25.0	21.7	13.9	19.2
	Jiwozi	CNA007	60.7	36.9	34.1	39.4	14.1	7.18	18.2	14.5	36.4	6.75	15.6	7.17	15.3	20.1	27.1
	Hongwen	CNA008	26.4	29.7	30.7	30.4	18.8	40.4	17.1	17.3	46.4	9.74	9.75	6.72	7.30	12.2	9.31
	Xiaoping	CNA009	38.1	30.2	44.9	40.3	27.0	25.4	9.85	11.0	12.9	9.26	9.34	6.28	10.5	11.6	7.53
	Xiang Zhou	CNA010	19.5	22.6	46.3	23.9	16.6	37.6	26.9	25.0	20.2	15.5	14.4	13.8	16.5	19.4	14.3
	Zhuxiandong	CNA011	23.4	***	***	***	37.2	42.6	25.7	33.1	24.8	22.5	19.1	16.0	17.7	15.8	11.5
	Wuzhishan	CNA013									10.1	3.50	3.11	4.04	1.58	2.38	*
	Lijiang	CNA014									0.234	36.9	1.34	1.85	1.57	2.23	0.845
Indonesia	Jakarta	IDA001	28.4	56.0	51.0	70.4	48.0	61.4	22.6	59.4	38.1	45.8	57.4	40.2	***	41.2	52.2
	Serpong	IDA002	27.9	26.0	61.6	66.9	55.8	76.0	81.5	71.0	74.3	82.4	68.6	76.5			
	Kototabang	IDA003	17.1	16.0	13.2	21.3	20.8	12.3	10.9	16.2	14.0	12.2	14.3	10.0	***	29.0	8.36
	Bandung	IDA004	47.1	55.2	72.1	78.8	60.6	86.1	67.3	55.6	72.8	44.0	54.3	65.9			
	Maros	IDA005	30.0	21.5	26.0	20.9	15.3	20.6	14.6	19.4	11.6	8.26	8.55	22.5	***	9.46	19.0
	Jembrana	IDA006									14.8	20.1	22.0	22.5	***	28.1	23.1
	Lombok	IDA007									18.6	15.0	19.7	50.7	***	22.5	16.8
	Bandung 2	IDA008															22.3
Japan	Rishiri	JPA001	26.1	32.6	27.1	20.7	19.9	15.3	23.1	24.4	15.6	22.7	23.2	20.1	17.5	15.7	28.0
	Ochiishi	JPA002	12.4	22.0	34.4	10.9	16.8	14.5	15.1	10.9	7.39	8.29	29.0	*	*	*	*
	Tappi	JPA003	31.5	26.2	35.4	31.7	27.5	27.5	24.9	28.8							
	Sado-seki	JPA004	34.0	38.6	52.7	45.1	30.1	21.4	24.7	24.6	22.2	25.3	179	19.8	21.8	17.6	24.4
	Happo	JPA005	21.5	23.2	23.6	19.6	15.8	12.5	14.5	13.1	14.5	10.7	12.4	9.43	11.0	8.91	11.5
	Ijira	JPA006	39.8	38.9	33.6	36.6	36.8	34.1	29.4	27.7	27.5	25.0	25.6	31.3	36.9	26.1	20.5
	Oki	JPA007	70.0	49.1	65.6	50.4	38.6	48.2	40.4	45.9	23.0	35.6	51.1	*	*	*	*
	Banryu	JPA008	30.1	31.2	35.0	32.7	26.7	30.9	23.8	19.3							
	Yusuhara	JPA009	23.9	32.8	22.5	24.4	19.9	20.8	51.3	21.2	20.1	19.2	14.0	19.7	18.2	17.2	5.70
	Hedo	JPA010	36.3	88.5	35.8	34.9	42.1	31.9	45.5	33.6	32.0	37.5	226	31.5	54.1	*	*
	Ogasawara	JPA011	20.4	16.0	17.1	18.5	32.9	11.0	21.1	3.83	23.9	12.6	22.1	22.4	19.3	10.6	11.9
	Tokyo	JPA012	22.0	25.5	19.7	25.1	19.2	15.1	14.5	13.7	18.0	11.7	12.8	12.4	9.46	12.6	8.39
	Niigata-maki	JPA013									31.6	30.1	31.7	32.4	29.7	8.09	
	Tsushima	JPA014									25.8	25.1	22.9	18.5	21.9	20.2	25.9
Lao PDR	Vientiane	LAA001	***	3.19	***	***	2.94	2.61	*	*	*	***	***	***	3.79	10.1	24.2
Malaysia	Petaling Jaya	MYA001	81.2	58.0	63.6	79.2	80.3	69.4	42.2	59.6	***	40.9	36.1	44.8	45.7	39.7	36.2
	Tanah Rata	MYA002	16.6	13.1	13.2	17.9	18.4	9.28	10.7	11.0	***	14.7	***	8.69	11.2	11.4	16.3
	Danum Valley	MYA003	7.42	6.75	10.1	7.35	7.17	4.92	7.99	8.01	***	16.9	9.00	5.43	5.49	5.59	4.12
	Kuching	MYA004	18.9	17.7	20.6	26.1	20.7	23.0	15.3	16.3	***	30.8	12.7	9.49	11.0	8.12	20.7
	Gunung Brinchang	MYA005											1.22	***	***	***	***
Mongolia	Ulaanbaatar	MNA001	4.59	***	8.71	***	18.3	20.7	5.54	5.48	11.7						
	Terelj	MNA002	3.40	***	4.40	***	10.4	15.1	1.42	3.98	***	5.60	53.2	*	6.72	3.09	0.333
	Khan-Uul	MNA004										6.27	17.5	*	3.86	4.72	3.79
	Terelj2_temp	MNA005															2.65
Myanmar	Yangon	MMA001	20.9	19.2	21.4	13.1	11.2	20.0	32.6	23.8	26.0	14.0	11.0	19.4	21.4	24.2	17.9
Philippines	Manila Observatory	PHA001	68.3	108	52.9	47.3	47.4	54.7	***	***	24.1	28.8	45.9	45.5	51.2	38.4	26.1
	Los Baños	PHA002	20.4	26.5	15.8	18.9	21.0	27.0	***	***	***	***	***	33.0	39.0	24.2	19.0
	Mt.Sto.Tomas	PHA003	21.6	41.6	33.8	16.8	24.5	24.4	***	***	***	***	***	2.37	***	14.6	***
Republic of Korea	Ganghwa	KRA001	40.1	20.3	32.4	12.5	17.3	15.8	13.8	8.93	13.2	***	10.3	10.6	4.47	7.23	9.70
	Jeju	KRA002	27.4	43.9	25.9	20.5	25.1	48.3	22.6	24.3	16.7	***	37.8	19.5	30.1	25.1	6.56
	Imsil	KRA003	30.9	27.2	22.6	16.7	14.5	11.6	14.2	12.4	16.8	***	8.94	12.9	8.97	6.90	4.85
Russia	Mondy	RUA001	0.333	0.753	1.18	0.675	0.877	0.696	1.23	1.58	0.853	0.212	0.358	0.269	***		
	Listvyanka	RUA002	10.6	7.33	5.02	4.85	7.04	4.74	7.09	4.77	8.32	5.92	9.12	5.73	8.16	7.51	5.64
	Irkutsk	RUA003	11.3	16.8	10.1	9.02	12.3	11.4	12.9	13.7	11.3	10.9	15.4	9.69	12.8	11.2	9.57
	Primorskaya	RUA004	8.70	19.1	21.1	20.6	24.7	22.2	21.7	30.6	16.4	21.2	15.9	26.3	31.2	19.5	13.7
Thailand	Bangkok	THA001	23.2	19.3	9.42	8.52	12.0	23.1	27.1	17.3	7.29	13.5	***	10.8	10.4	*	*
	Samutprakarn	THA002	16.1	9.73	8.55	9.52	10.4	21.3	16.2	15.1	9.55	8.07	***	10.5	6.43	*	***
	Pathumthani	THA003	14.8	12.4	11.1	8.71	12.4	10.9	12.2	9.47	8.64	7.98	7.90	12.2	9.12	6.53	11.0
	Khanchanaburi	THA004	9.93	8.89	1.84	3.51	2.56	10.4	3.92	2.65	1.91	***	***	***	***	***	***
	Mae Hia	THA005	5.23	5.28	5.92	4.42	3.07	4.06	7.67	3.41	5.34						
	Sakaerat	THA008	7.99	7.48	10.8	4.61	9.04	7.51	8.34	10.9	8.02						
Vietnam	Hanoi	VNA001	55.7	51.8	50.4	65.3	50.3	59.5	71.7	84.6	87.5	136	79.5	173	87.8	102	66.9
	Hoa Binh	VNA002	31.7	32.7	39.6	32.9	32.3	37.9	35.9	61.4	22.9	86.1	70.8	43.7	73.1	23.1	18.8
	Cuc Phuong	VNA003	69.7	49.0	51.1	31.5	27.5	32.3	36.1	34.0	35.5	38.0	31.1	41.7	32.5	33.7	30.6
	Da Nang	VNA004	76.7	32.9	56.1	35.0	21.6	31.9	37.0	36.2	52.7	34.5	31.5	37.0	43.7	35.3	66.4
	Can Tho	VNA005				16.1	67.7	26.5	30.9	59.1	61.0	39.7	51.6	58.1	48.2	46.8	60.6
	Ho Chi Minh	VNA006				46.3	67.6	49.0	80.5	63.5	71.8	60.7	58.0	60.1	59.7	72.1	61.2
	Yen Bai	VNA007					34.2	79.1	62.9	47.3	38.9	80.6	57.1	46.6	80.8	34.2	91.6

Terms and abbreviations are given in Table 4.5.

Table 4.85 Annual nss-SO_4^{2-} deposition amount from 2011 to 2025

unit: mmol $m^{-2}y^{-1}$

Country	Name of sites	Code	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
Cambodia	Phnom Penh	KHA001	11.3	16.6	10.5	9.07	7.35	6.53	15.2	***	***	***	***	***	***	***	***
China	Haifu	CNA003	115	102	108	119	61.1	59.1	49.5	45.7	40.7	32.7	34.6	23.9	32.1	24.0	24.1
	Jinyunshan	CNA004	119	125	91.5	89.6	56.4	48.5	46.1	33.8	36.5	37.9	37.2	23.9	28.9	19.9	22.1
	Shizhan	CNA005	71.8	42.8	58.3	65.4	45.1	24.6	40.8	21.5	13.7	19.0	27.8	24.3	20.4	13.3	19.0
	Jiwozi	CNA007	60.3	35.8	29.7	35.1	11.6	6.99	17.1	13.7	33.3	6.18	14.4	6.91	14.8	19.5	26.5
	Hongwen	CNA008	25.5	28.8	29.5	29.1	17.7	37.7	15.9	15.9	46.1	8.82	8.54	5.86	6.47	11.4	8.02
	Xiaoping	CNA009	37.1	29.5	43.5	39.6	25.9	24.7	9.57	10.7	12.8	8.76	9.01	5.86	9.93	11.1	7.11
	Xiang Zhou	CNA010	17.0	18.4	38.4	20.9	12.3	34.4	20.9	16.6	17.8	13.0	11.7	10.9	13.9	16.9	9.15
	Zhuxiandong	CNA011	20.3	***	***	***	30.8	38.3	22.8	21.8	21.7	17.7	15.6	12.5	14.5	13.0	7.89
	Wuzhishan	CNA013									9.35	3.17	2.63	3.49	1.37	2.06	*
	Lijiang	CNA014									0.207	36.9	1.31	1.81	1.53	2.20	0.814
Indonesia	Jakarta	IDA001	27.7	53.9	48.8	66.3	45.7	58.9	21.8	57.7	37.2	43.0	55.4	39.2	***	39.0	50.3
	Serpong	IDA002	27.4	25.4	59.6	63.7	54.3	73.5	79.2	68.8	72.1	80.0	65.6	75.1			
	Kototabang	IDA003	16.2	14.4	12.1	20.4	21.6	10.7	10.4	15.7	13.4	11.5	13.7	9.56	***	28.4	7.91
	Bandung	IDA004	46.0	53.8	70.2	77.2	59.5	84.3	65.1	53.2	68.2	42.9	53.5	64.6			
	Maros	IDA005	26.7	18.7	21.3	17.2	14.9	11.0	8.53	16.7	9.75	6.69	7.33	19.6	***	8.00	16.7
	Jembrana	IDA006									12.9	16.0	17.0	18.6	***	24.4	19.2
	Lombok	IDA007									16.4	12.4	17.3	47.1	***	20.4	13.5
	Bandung 2	IDA008															22.0
Japan	Rishiri	JPA001	15.8	12.3	13.2	10.6	10.7	9.89	11.4	13.3	7.76	12.3	8.60	9.59	9.69	8.40	12.3
	Ochiishi	JPA002	5.51	7.68	7.60	5.99	7.88	4.98	4.07	5.63	4.02	3.77	15.3	*	*	*	*
	Tappi	JPA003	21.2	16.3	18.9	20.4	12.9	15.1	12.1	12.9							
	Sado-seki	JPA004	21.2	19.9	22.0	21.2	13.1	10.9	13.3	12.0	9.48	11.2	51.4	5.18	9.69	6.94	10.3
	Happo	JPA005	20.9	22.0	22.9	18.8	15.0	11.8	13.6	12.2	14.0	10.1	11.6	8.84	10.2	8.55	10.8
	Ijira	JPA006	37.2	35.5	31.1	33.8	33.8	31.8	26.8	24.4	25.3	22.2	21.5	26.4	33.7	23.4	15.4
	Oki	JPA007	25.6	21.2	23.1	15.8	12.3	17.8	11.4	14.1	12.2	14.9	11.3	*	*	*	*
	Banryu	JPA008	20.8	24.5	26.5	24.8	18.6	21.8	16.0	13.7							
	Yusuhara	JPA009	21.3	29.4	21.1	23.3	16.1	19.5	43.4	17.7	17.5	17.6	11.0	14.4	15.3	14.8	4.60
	Hedo	JPA010	14.6	17.9	13.8	14.7	8.88	9.97	9.63	8.21	11.9	10.9	40.4	7.26	16.0	*	*
	Ogasawara	JPA011	4.62	5.27	6.31	6.44	3.79	4.72	3.45	1.18	3.92	7.45	3.57	4.91	6.62	1.96	3.63
	Tokyo	JPA012	18.9	22.6	17.4	23.1	17.4	13.7	11.4	11.0	12.3	10.4	10.6	10.8	8.20	10.8	7.33
	Niigata-maki	JPA013									15.4	15.8	11.5	11.4	11.4	3.75	
	Tsushima	JPA014									21.4	20.6	18.2	9.36	17.5	14.6	22.3
Lao PDR	Vientiane	LAA001	***	***	***	***	2.79	2.54	*	*	*	***	***	***	3.55	*	*
Malaysia	Petaling Jaya	MYA001	80.2	57.3	62.6	78.1	78.9	68.1	41.1	58.4	***	39.6	35.0	43.9	44.5	38.5	35.2
	Tanah Rata	MYA002	16.2	12.8	12.8	17.4	18.0	8.93	10.2	10.6	***	13.8	***	8.12	10.7	10.7	15.4
	Danum Valley	MYA003	6.51	6.24	9.15	6.42	6.52	4.36	7.58	7.24	***	15.1	7.50	4.59	4.97	4.62	3.41
	Kuching	MYA004	16.3	16.5	18.7	24.1	17.3	18.8	13.2	14.3	***	28.2	10.7	7.91	9.45	7.00	18.7
	Gunung Brinchang	MYA005											1.08	***	***	***	***
Mongolia	Ulaanbaatar	MNA001	4.53	***	8.00	***	***	19.0	5.32	5.05	11.4						
	Terelj	MNA002	3.34	***	4.33	***	***	13.5	1.34	3.56	***	5.17	51.9	*	6.59	2.85	0.328
	Khan-Uul	MNA004										5.65	17.3	*	3.82	4.64	3.64
	Terelj2_temp	MNA005															2.45
Myanmar	Yangon	MMA001	18.0	15.8	19.7	10.1	9.94	18.0	30.0	19.9	22.7	12.1	9.06	17.2	18.9	22.0	15.3
Philippines	Manila Observatory	PHA001	63.6	103	47.0	43.5	43.9	52.0	***	***	21.5	27.3	42.5	41.4	46.3	36.1	24.8
	Los Baños	PHA002	17.6	23.7	12.5	17.0	19.3	24.7	***	***	***	***	***	31.3	36.4	22.6	17.6
	Mt.Sto.Tomas	PHA003	20.4	38.1	32.1	15.4	21.3	20.5	***	***	***	***	***	2.30	***	14.0	***
Republic of Korea	Ganghwa	KRA001	36.9	18.3	30.8	11.4	15.7	14.3	12.9	7.77	7.71	***	9.04	9.33	3.82	6.12	8.23
	Jeju	KRA002	17.6	16.9	14.8	12.1	16.2	21.7	11.3	7.82	12.3	***	17.8	7.37	9.63	14.2	3.99
	Imsil	KRA003	27.5	22.8	20.4	14.7	12.5	9.88	12.5	9.75	14.2	***	6.41	9.83	7.32	5.49	3.75
Russia	Mondy	RUA001	0.316	0.726	1.15	0.658	0.863	0.678	1.20	1.54	0.832	0.194	0.348	0.263	***		
	Listvyanka	RUA002	10.4	7.25	4.91	4.77	6.98	4.63	7.03	4.68	8.22	5.81	8.96	5.63	7.99	7.43	5.59
	Irkutsk	RUA003	11.0	16.5	9.90	8.82	12.1	11.1	12.7	13.5	11.1	10.7	15.1	9.49	12.3	11.0	9.43
	Primorskaya	RUA004	8.19	17.9	20.0	20.0	23.0	20.8	20.7	29.3	15.4	19.6	14.4	24.6	29.7	18.5	12.8
Thailand	Bangkok	THA001	22.4	18.6	8.46	7.96	11.2	22.0	26.6	16.5	6.95	12.2	***	10.2	9.10	*	*
	Samutprakarn	THA002	15.4	9.28	6.94	8.77	9.63	20.3	15.4	14.3	9.03	7.27	***	9.93	5.23	*	***
	Pathumthani	THA003	14.2	11.1	10.7	8.37	12.0	10.4	11.8	9.09	8.32	7.68	7.72	11.9	8.72	6.23	10.2
	Khanchanaburi	THA004	9.06	7.49	1.40	3.13	2.19	9.73	3.59	2.16	1.70	***	***	***	***	***	***
	Mae Hia	THA005	4.93	5.04	5.49	4.31	2.87	3.74	7.23	3.06	4.97						
	Sakaerat	THA008	7.63	7.23	10.5	4.39	8.66	7.25	8.13	10.1	7.36						
Vietnam	Hanoi	VNA001	55.0	51.4	49.5	64.6	49.6	58.4	69.6	83.3	85.5	133	78.1	169	86.2	99.1	65.4
	Hoa Binh	VNA002	31.5	32.4	39.1	32.7	31.9	37.5	35.4	61.0	21.8	85.0	69.6	43.1	71.9	22.7	18.4
	Cuc Phuong	VNA003	68.2	46.5	48.0	30.4	26.8	30.8	33.7	31.9	33.3	35.9	26.6	38.3	29.8	31.0	27.2
	Da Nang	VNA004	61.3	27.1	36.0	24.0	12.6	21.1	26.1	25.6	38.8	23.8	20.8	25.9	34.7	25.3	53.9
	Can Tho	VNA005				14.4	63.8	25.2	29.8	57.5	58.4	37.9	49.4	56.0	46.3	45.0	58.5
	Ho Chi Minh	VNA006				43.5	64.6	46.9	76.9	61.4	69.0	57.9	55.3	57.5	57.4	69.6	58.9
	Yen Bai	VNA007					33.7	78.1	62.4	46.9	37.7	79.0	56.2	46.0	79.5	33.3	90.3

Terms and abbreviations are given in Table 4.5.

Table 4.86 Annual NO_3^- deposition amount from 2011 to 2025

unit: mmol $m^{-2}y^{-1}$

Country	Name of sites	Code	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
Cambodia	Phnom Penh	KHA001	11.3	17.4	10.3	13.3	11.4	9.78	15.1	***	***	***	***	***	***	***	***
China	Haifu	CNA003	67.4	74.6	75.8	90.8	57.8	66.4	63.1	63.5	61.4	54.9	54.1	43.2	56.7	44.5	43.6
	Jinyunshan	CNA004	65.8	70.8	59.9	68.0	46.9	45.6	46.7	41.7	48.8	52.8	54.6	35.6	43.5	34.8	40.3
	Shizhan	CNA005	11.5	19.4	15.7	61.0	42.7	26.1	14.6	18.1	11.5	10.8	10.7	30.2	23.9	21.4	30.8
	Jiwozi	CNA007	8.01	18.5	5.69	7.84	12.8	2.05	1.30	8.25	22.0	2.16	4.08	4.42	15.0	19.1	39.3
	Hongwen	CNA008	19.9	32.5	29.3	29.8	26.6	55.6	23.5	26.5	40.4	15.9	16.8	15.9	16.1	18.8	17.6
	Xiaoping	CNA009	34.6	34.4	40.9	46.3	38.0	35.7	19.0	21.3	31.7	23.2	22.3	21.5	29.5	22.1	18.8
	Xiang Zhou	CNA010	19.8	23.1	49.3	34.9	26.9	42.6	34.5	35.3	43.0	40.3	32.9	28.4	37.0	48.1	27.3
	Zhuxiandong	CNA011	21.5	***	***	***	47.0	52.2	41.5	40.7	51.0	51.4	45.9	33.1	39.1	40.8	24.5
	Wuzhishan	CNA013									14.1	8.14	7.17	8.10	3.27	4.14	*
	Lijiang	CNA014									2.25	29.6	0.542	2.19	2.76	2.68	1.68
Indonesia	Jakarta	IDA001	29.5	44.2	50.8	63.4	42.9	67.5	24.7	75.8	38.3	48.3	52.0	37.8	***	37.5	69.9
	Serpong	IDA002	29.5	28.2	91.9	104	85.1	92.8	99.6	102	88.3	93.1	75.4	75.0			
	Kototabang	IDA003	11.1	12.3	6.06	18.7	9.00	8.99	9.21	21.7	16.2	12.9	14.3	10.4	***	15.2	5.60
	Bandung	IDA004	42.8	45.0	51.7	55.3	47.5	61.0	49.7	41.8	60.4	36.9	34.9	42.5			
	Maros	IDA005	27.3	22.2	14.7	16.8	15.6	17.3	8.00	25.1	5.26	5.20	8.19	25.5	***	11.5	20.2
	Jembrana	IDA006									15.3	53.1	62.2	20.0	***	27.0	31.7
	Lombok	IDA007									20.0	13.4	10.6	16.0	***	19.4	33.9
	Bandung 2	IDA008															20.5
Japan	Rishiri	JPA001	17.4	15.7	15.7	10.6	11.8	13.3	17.5	20.9	12.2	17.6	13.5	16.1	18.3	17.3	21.7
	Ochiishi	JPA002	7.83	8.54	9.36	7.29	9.54	6.40	5.71	7.92	6.68	5.77	34.0	*	*	*	*
	Tappi	JPA003	22.7	20.4	27.0	28.8	15.9	21.5	22.0	20.1							
	Sado-seki	JPA004	27.3	26.0	30.6	27.1	18.0	18.7	23.5	22.2	17.4	17.7	28.9	11.0	17.8	14.6	21.2
	Happo	JPA005	25.1	23.3	22.1	19.1	15.2	14.2	18.6	17.9	20.0	14.4	18.5	13.4	15.9	14.0	15.3
	Ijira	JPA006	46.4	47.7	40.2	44.7	52.5	51.6	44.9	38.6	37.9	38.8	42.9	49.8	46.6	45.3	25.9
	Oki	JPA007	32.6	28.0	33.7	21.4	16.1	24.9	20.8	22.0	20.9	19.9	21.7	*	*	*	*
	Banryu	JPA008	27.9	33.6	32.8	32.9	26.3	32.8	32.6	22.6							
	Yusuhara	JPA009	19.6	26.1	17.5	17.2	23.0	19.1	68.2	17.6	17.5	16.4	17.0	15.3	18.5	15.2	7.21
	Hedo	JPA010	13.6	20.3	13.8	16.8	12.4	13.5	14.2	13.1	17.0	13.3	55.4	13.5	25.4	*	*
	Ogasawara	JPA011	3.80	4.53	4.83	4.76	3.82	4.47	4.65	2.00	4.25	4.46	4.43	4.84	4.37	2.81	4.54
	Tokyo	JPA012	30.1	30.7	25.9	30.4	26.7	19.0	17.9	20.0	20.9	19.4	21.5	19.9	16.4	21.9	13.6
	Niigata-maki	JPA013									25.7	28.7	23.9	22.7	23.3	7.39	
	Tsushima	JPA014									16.6	27.3	25.1	15.4	24.6	22.0	26.0
Lao PDR	Vientiane	LAA001	***	7.34	***	***	3.79	2.90	*	*	*	***	***	***	9.71	18.1	37.2
Malaysia	Petaling Jaya	MYA001	190	150	119	133	164	151	90.1	140	***	96.1	105	139	118	115	89.2
	Tanah Rata	MYA002	7.29	10.8	10.5	13.9	20.5	14.1	23.8	15.2	***	19.2	***	17.4	19.6	16.1	24.6
	Danum Valley	MYA003	3.99	2.83	6.32	2.10	3.81	2.65	0.545	2.35	***	<0.01	4.01	11.1	2.12	1.11	1.65
	Kuching	MYA004	23.1	14.5	18.6	19.4	16.0	23.5	17.8	20.0	***	13.5	32.8	7.81	5.61	8.18	62.3
	Gunung Brinchang	MYA005											2.49	***	***	***	***
Mongolia	Ulaanbaatar	MNA001	2.75	***	4.76	***	5.20	5.87	4.86	4.16	1.92						
	Terelj	MNA002	2.59	***	2.89	***	2.41	5.20	4.58	3.81	***	4.68	9.88	*	3.05	1.68	0.330
	Khan-Uul	MNA004										7.03	7.45	*	2.09	5.08	3.58
	Terelj2_temp	MNA005															2.95
Myanmar	Yangon	MMA001	19.8	21.4	18.1	13.8	20.1	32.5	51.4	29.3	65.5	36.8	32.6	18.0	23.9	25.1	15.9
Philippines	Manila Observatory	PHA001	52.7	81.4	49.0	42.0	33.5	91.8	***	***	31.0	28.5	33.9	49.9	49.3	43.2	32.8
	Los Baños	PHA002	19.9	25.0	18.7	17.0	13.7	67.7	***	***	***	***	***	19.9	17.1	16.6	16.1
	Mt.Sto.Tomas	PHA003	11.8	34.9	37.2	18.5	21.3	25.5	***	***	***	***	***	2.30	***	10.5	***
Republic of Korea	Ganghwa	KRA001	40.9	27.2	38.8	15.7	29.7	24.7	24.6	17.9	16.0	***	23.0	19.9	8.46	15.8	24.5
	Jeju	KRA002	30.0	23.1	19.3	21.8	31.4	35.6	28.4	21.2	31.0	***	31.6	17.8	36.7	26.1	6.98
	Imsil	KRA003	41.3	36.7	32.0	30.8	24.3	19.0	26.5	24.6	25.1	***	13.5	33.5	23.0	18.1	13.0
Russia	Mondy	RUA001	0.316	0.841	1.66	0.573	0.718	1.28	1.86	1.92	1.40	0.202	0.194	0.276	***		
	Listvyanka	RUA002	14.6	6.64	4.37	3.68	5.18	4.73	6.08	3.99	6.88	4.75	5.32	7.17	6.02	6.75	5.83
	Irkutsk	RUA003	6.81	8.09	4.52	4.77	6.02	6.46	7.22	5.82	6.53	5.44	5.89	5.36	7.09	7.95	6.49
	Primorskaya	RUA004	23.5	21.6	13.4	4.93	29.4	20.6	22.3	27.0	18.6	14.9	16.1	18.6	15.1	8.19	9.76
Thailand	Bangkok	THA001	44.7	49.7	17.2	15.5	25.7	51.8	32.2	43.4	18.0	40.8	***	52.2	50.7	*	*
	Samutprakarn	THA002	20.6	11.9	5.65	12.9	14.4	33.2	28.5	27.5	17.8	15.2	***	37.4	22.0	*	***
	Pathumthani	THA003	30.0	29.3	22.0	15.6	31.2	28.1	38.8	24.2	22.6	25.4	22.2	32.7	22.7	19.8	32.3
	Khanchanaburi	THA004	14.1	16.4	2.90	4.58	4.68	5.22	5.83	4.00	2.09	***	***	***	***	***	***
	Mae Hia	THA005	11.7	8.78	14.2	6.19	6.24	9.59	12.5	7.25	11.2						
	Sakaerat	THA008	15.0	12.6	15.0	10.5	17.8	14.6	17.9	15.4	15.2						
Vietnam	Hanoi	VNA001	39.5	45.3	51.2	50.9	44.7	47.3	72.1	88.0	100	120	80.8	191	80.6	239	81.3
	Hoa Binh	VNA002	25.4	29.5	37.7	32.8	36.0	35.7	42.1	45.9	37.3	91.8	88.2	40.1	76.8	44.9	56.7
	Cuc Phuong	VNA003	51.5	40.5	31.6	17.4	19.6	22.1	31.4	23.2	33.4	36.3	50.5	99.4	87.4	97.6	77.7
	Da Nang	VNA004	57.5	8.06	12.5	11.7	0.941	7.58	12.1	1.12	4.03	5.94	9.56	11.8	13.3	11.3	35.8
	Can Tho	VNA005				15.4	25.8	5.52	7.30	8.01	39.7	6.42	10.0	8.57	7.03	7.03	8.43
	Ho Chi Minh	VNA006				34.2	25.5	18.9	37.2	12.2	41.4	22.2	31.4	33.3	24.3	28.2	28.9
	Yen Bai	VNA007					27.0	73.2	58.6	54.0	63.0	126	53.4	51.1	66.6	94.6	138

Terms and abbreviations are given in Table 4.5.

Table 4.87 Annual Cl⁻ deposition amount from 2011 to 2025

unit: mmol $m^{-2}y^{-1}$

Country	Name of sites	Code	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
Cambodia	Phnom Penh	KHA001	7.52	10.8	10.1	14.2	9.94	8.23	8.40	***	***	***	***	***	***	***	***
China	Haifu	CNA003	11.6	11.5	13.1	15.7	9.48	10.6	9.49	9.93	8.35	8.12	6.84	5.82	9.52	5.82	7.15
	Jinyunshan	CNA004	10.1	11.7	8.13	8.50	6.56	5.78	6.77	4.18	5.10	5.77	6.55	4.44	5.18	3.83	5.15
	Shizhan	CNA005	7.07	6.28	22.4	13.1	10.6	5.96	5.15	10.4	6.20	8.54	21.3	9.87	17.1	10.5	13.4
	Jiwozi	CNA007	10.8	12.2	22.0	13.1	6.35	0.290	8.49	7.94	13.9	7.25	8.02	6.99	18.6	8.44	18.4
	Hongwen	CNA008	21.5	22.1	27.1	32.3	26.1	55.3	38.6	61.3	74.3	15.6	14.7	15.8	14.5	20.9	25.2
	Xiaoping	CNA009	26.1	18.8	25.7	18.8	28.8	19.7	14.5	18.9	10.2	11.4	8.94	8.71	12.6	14.2	8.91
	Xiang Zhou	CNA010	37.5	65.8	112	39.8	86.1	55.3	116	152	48.5	50.1	51.5	54.0	49.7	47.1	100
	Zhuxiandong	CNA011	21.5	***	***	***	116	78.9	53.3	214	60.5	94.3	66.4	66.2	59.5	47.9	68.7
	Wuzhishan	CNA013									11.1	7.02	8.57	9.91	3.40	7.35	*
	Lijiang	CNA014									1.72	20.7	1.27	3.60	1.89	4.12	4.68
Indonesia	Jakarta	IDA001	19.2	35.3	45.1	91.1	48.0	61.6	16.2	36.1	22.3	53.9	42.7	23.3	***	65.0	41.2
	Serpong	IDA002	12.5	21.6	52.8	73.3	39.4	46.8	52.6	50.2	65.7	109	57.4	47.2			
	Kototabang	IDA003	30.5	25.7	57.8	26.4	20.7	72.3	15.3	14.1	12.6	14.1	15.2	10.5	***	19.5	9.16
	Bandung	IDA004	18.9	22.1	36.5	29.8	19.1	26.0	28.7	24.0	36.3	17.3	13.6	21.5			
	Maros	IDA005	58.4	48.9	146	99.9	17.1	304	262	51.8	35.5	47.4	23.0	55.6	***	41.0	43.2
	Jembrana	IDA006									49.8	136	158	93.2	***	111	102
	Lombok	IDA007									37.9	38.2	41.7	61.1	***	47.6	57.5
	Bandung 2	IDA008															7.90
Japan	Rishiri	JPA001	192	389	260	190	175	104	219	211	149	196	273	196	151	138	300
	Ochiishi	JPA002	147	267	514	93.8	166	184	216	99.6	64.6	85.6	260	*	*	*	*
	Tappi	JPA003	191	191	309	210	315	238	242	305							
	Sado-seki	JPA004	252	380	559	447	318	199	214	237	240	264	2335	279	232	204	274
	Happo	JPA005	13.6	23.3	13.0	15.2	15.7	15.7	19.3	18.1	11.0	13.0	17.0	11.8	16.0	7.87	13.8
	Ijira	JPA006	52.8	70.2	53.2	59.8	62.3	48.0	51.7	66.9	43.6	55.1	80.3	98.5	63.1	55.7	118
	Oki	JPA007	847	532	807	649	502	583	551	619	207	397	754	*	*	*	*
	Banryu	JPA008	179	125	164	155	157	168	147	108							
	Yusuhara	JPA009	49.8	66.5	33.4	24.5	83.4	27.4	157	66.8	51.7	31.7	59.7	102	55.9	46.4	22.1
	Hedo	JPA010	410	1407	424	383	648	429	696	490	391	527	3707	466	734	*	*
	Ogasawara	JPA011	313	210	210	236	587	122	344	50.7	379	101	358	336	242	163	162
	Tokyo	JPA012	63.8	58.5	44.5	41.8	36.4	27.6	60.8	51.5	108	25.8	41.9	31.6	23.6	35.0	20.7
	Niigata-maki	JPA013									320	276	387	413	355	85.4	
	Tsushima	JPA014									85.5	86.1	90.5	178	85.6	108	72.9
Lao PDR	Vientiane	LAA001	***	5.89	***	***	4.58	3.76	*	*	*	***	***	***	4.86	14.7	22.0
Malaysia	Petaling Jaya	MYA001	30.2	27.2	27.3	33.0	38.7	35.3	31.3	37.5	***	33.6	33.0	31.0	28.7	30.6	26.4
	Tanah Rata	MYA002	9.70	9.07	8.19	10.1	10.1	7.82	10.1	10.7	***	12.5	***	10.9	10.4	10.9	17.5
	Danum Valley	MYA003	21.6	12.3	24.1	18.5	15.1	14.6	13.6	18.1	***	33.3	32.0	18.4	11.0	35.8	14.9
	Kuching	MYA004	53.2	25.7	36.2	40.4	64.1	81.8	44.0	41.3	***	58.2	48.8	30.8	29.6	52.1	35.0
	Gunung Brinchang	MYA005											4.02	***	***	***	***
Mongolia	Ulaanbaatar	MNA001	1.22	***	0.628	***	0.774	0.740	0.569	0.752	0.452						
	Terelj	MNA002	1.41	***	0.630	***	0.793	1.03	0.913	0.860	***	0.655	2.19	*	0.845	0.403	0.0889
	Khan-Uul	MNA004										0.743	1.19	*	0.569	0.947	0.914
	Terelj2_temp	MNA005															0.982
Myanmar	Yangon	MMA001	49.6	68.3	72.9	56.0	83.6	68.2	99.1	64.1	61.6	50.8	34.9	36.0	46.7	74.9	56.3
Philippines	Manila Observatory	PHA001	109	90.1	101	68.6	68.2	79.0	***	***	55.1	25.9	77.3	34.2	73.7	43.7	25.8
	Los Baños	PHA002	62.5	45.4	61.7	38.0	143	44.3	***	***	***	***	***	31.1	45.2	27.4	30.8
	Mt.Sto.Tomas	PHA003	20.3	37.2	31.2	15.3	47.6	24.1	***	***	***	***	***	4.89	***	36.8	***
Republic of Korea	Ganghwa	KRA001	71.6	50.5	32.6	26.3	95.0	41.9	32.8	26.6	108	***	25.0	24.6	15.2	25.5	31.4
	Jeju	KRA002	158	545	219	148	159	498	200	303	60.4	***	341	221	385	178	46.2
	Imsil	KRA003	37.9	124	27.8	33.8	33.7	25.1	24.4	32.4	31.2	***	37.0	29.6	14.0	9.37	15.0
Russia	Mondy	RUA001	0.388	0.626	1.22	0.440	0.501	0.369	1.01	0.864	0.355	0.128	0.143	0.0470	***		
	Listvyanka	RUA002	3.17	1.13	1.62	1.02	1.82	0.975	1.30	0.658	1.80	1.50	1.28	1.04	2.24	1.03	1.45
	Irkutsk	RUA003	7.23	6.69	5.30	3.82	6.96	4.76	5.13	4.43	4.27	4.38	4.09	2.91	5.51	3.20	3.52
	Primorskaya	RUA004	41.9	27.5	30.9	16.1	29.4	30.9	23.6	22.0	30.4	25.4	43.1	43.9	50.4	35.8	15.2
Thailand	Bangkok	THA001	17.3	15.0	9.63	9.32	11.7	18.1	13.0	16.5	7.46	17.1	***	12.7	16.7	*	*
	Samutprakarn	THA002	16.0	9.45	10.2	11.2	13.9	17.0	15.1	16.0	10.3	14.6	***	12.6	57.9	*	***
	Pathumthani	THA003	10.6	24.9	8.08	8.34	10.7	9.24	10.2	9.23	7.74	8.66	7.69	9.63	9.51	7.06	16.0
	Khanchanaburi	THA004	17.2	27.8	4.34	6.75	6.22	9.58	6.97	7.55	4.48	***	***	***	***	***	***
	Mae Hia	THA005	4.65	4.59	8.51	2.84	2.89	5.49	7.07	5.89	5.70						
	Sakaerat	THA008	7.24	7.17	9.14	4.76	9.68	7.12	6.90	5.74	6.00						
Vietnam	Hanoi	VNA001	15.6	11.8	19.3	17.2	18.8	18.9	30.3	43.7	32.5	76.1	28.1	87.2	40.9	160	53.4
	Hoa Binh	VNA002	7.58	8.91	12.4	5.53	8.49	11.4	27.6	27.5	14.2	46.3	33.0	20.9	37.8	10.0	13.6
	Cuc Phuong	VNA003	28.7	41.0	47.9	19.8	31.1	33.1	79.6	76.1	60.9	76.7	71.6	61.9	54.0	48.4	84.2
	Da Nang	VNA004	340	140	403	206	138	191	182	254	359	524	300	689	388	234	272
	Can Tho	VNA005				50.4	90.8	60.3	55.6	79.4	56.6	47.8	75.5	68.2	55.4	51.0	62.2
	Ho Chi Minh	VNA006				85.8	73.9	95.2	164	89.9	83.6	109	99.7	103	88.6	70.0	75.2
	Yen Bai	VNA007					11.3	25.9	41.4	23.2	22.3	52.8	20.2	29.3	27.3	16.9	45.5

Terms and abbreviations are given in Table 4.5.

Table 4.88 Annual NH_4^+ deposition amount from 2011 to 2025

unit: mmol $m^{-2}y^{-1}$

Country	Name of sites	Code	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
Cambodia	Phnom Penh	KHA001	28.0	34.9	18.1	21.7	19.9	24.9	30.7	***	***	***	***	***	***	***	***
China	Haifu	CNA003	117	118	145	164	116	125	117	115	112	95.3	96.8	85.1	109	90.8	85.4
	Jinyunshan	CNA004	98.8	125	102	105	80.6	80.1	76.1	74.2	73.2	77.0	85.4	61.6	74.4	57.9	74.1
	Shizhan	CNA005	40.0	42.7	105	106	115	49.0	85.0	59.8	63.3	70.1	57.5	54.1	130	38.8	57.8
	Jiwozi	CNA007	22.5	10.4	36.0	18.6	29.4	1.06	0.544	8.50	19.9	17.1	29.5	7.13	15.3	5.78	6.90
	Hongwen	CNA008	35.7	39.9	25.7	29.1	29.6	65.9	18.2	24.4	29.1	10.1	20.5	18.8	14.0	31.7	17.9
	Xiaoping	CNA009	59.6	39.2	50.0	53.0	58.8	45.5	20.0	19.8	20.1	20.6	25.8	13.6	34.4	30.1	19.8
	Xiang Zhou	CNA010	26.1	44.2	42.9	39.9	27.3	69.4	46.6	50.0	45.1	41.6	34.5	33.4	44.4	58.4	36.8
	Zhuxiandong	CNA011	28.4	***	***	***	38.9	99.8	46.7	49.8	48.4	45.7	44.1	30.0	41.4	35.6	29.6
	Wuzhishan	CNA013									22.0	16.6	15.2	14.6	5.89	8.45	*
	Lijiang	CNA014									5.58	2.44	7.75	8.59	5.91	12.7	3.35
Indonesia	Jakarta	IDA001	33.4	62.9	40.0	55.7	53.2	74.1	31.4	81.9	44.3	73.0	64.8	47.8	***	44.1	106
	Serpong	IDA002	51.6	63.6	193	189	112	163	161	147	148	218	156	172			
	Kototabang	IDA003	21.9	22.4	14.7	30.2	4764	10.7	13.6	21.4	16.6	19.3	25.6	11.0	***	34.8	9.30
	Bandung	IDA004	93.0	112	111	113	114	157	120	108	124	91.2	94.4	128			
	Maros	IDA005	33.8	34.5	27.2	19.9	51.4	106	12.0	36.5	4.33	2.71	5.64	33.4	***	18.5	31.5
	Jembrana	IDA006									26.7	32.2	31.4	10.1	***	26.2	19.7
	Lombok	IDA007									27.0	34.3	34.4	208	***	11.2	12.3
	Bandung 2	IDA008															59.9
Japan	Rishiri	JPA001	17.3	13.3	15.1	12.9	14.5	13.5	20.9	24.2	13.6	23.8	15.8	19.3	22.2	21.7	26.9
	Ochiishi	JPA002	8.98	10.7	10.3	9.05	9.45	5.70	5.24	7.40	6.26	6.77	34.7	*	*	*	*
	Tappi	JPA003	19.4	16.3	20.4	27.2	14.5	18.8	17.9	16.9							
	Sado-seki	JPA004	20.2	20.1	28.6	25.6	16.7	16.0	25.2	17.2	15.5	15.2	21.8	8.02	16.3	12.8	19.4
	Happo	JPA005	18.6	21.5	23.8	19.8	17.6	11.7	13.5	15.4	21.2	14.5	19.4	15.1	17.6	14.2	17.6
	Ijira	JPA006	43.4	42.2	36.6	40.8	42.3	45.1	36.4	34.0	35.2	37.4	40.7	50.8	47.4	41.7	25.3
	Oki	JPA007	28.6	22.0	24.4	14.7	10.2	21.9	17.6	15.8	16.9	15.0	17.1	*	*	*	*
	Banryu	JPA008	22.5	25.9	27.9	26.2	21.8	27.4	24.0	16.0							
	Yusuhara	JPA009	16.4	23.0	17.8	17.3	12.3	16.6	56.9	12.7	16.7	16.9	13.4	15.3	17.2	13.3	7.60
	Hedo	JPA010	16.1	53.5	16.0	20.2	19.4	14.7	11.4	8.39	12.6	15.6	65.3	10.2	25.9	*	*
	Ogasawara	JPA011	5.88	8.14	7.64	5.94	4.19	5.59	3.80	1.94	4.61	5.84	3.15	3.68	4.60	1.37	3.27
	Tokyo	JPA012	35.3	39.8	36.9	41.8	33.0	27.7	23.3	28.1	28.8	30.6	32.4	30.2	23.8	28.8	19.2
	Niigata-maki	JPA013									24.8	26.3	21.2	22.4	21.6	8.04	
	Tsushima	JPA014									21.2	30.8	20.4	14.1	22.9	20.4	29.2
Lao PDR	Vientiane	LAA001	***	***	***	***	7.17	5.35	*	*	*	***	***	***	9.30	*	*
Malaysia	Petaling Jaya	MYA001	17.5	4.40	57.8	102	95.5	44.6	53.3	76.0	***	75.3	71.4	64.0	78.7	79.5	62.5
	Tanah Rata	MYA002	47.2	16.1	6.69	9.97	20.2	8.31	9.45	5.33	***	31.3	***	20.8	24.1	24.2	38.0
	Danum Valley	MYA003	7.19	1.90	2.48	2.60	8.53	0.827	0.590	4.34	***	0.0532	1.61	5.42	0.869	6.77	3.99
	Kuching	MYA004	23.3	23.4	11.8	34.3	24.3	13.9	13.3	19.9	***	9.25	22.0	29.4	25.5	7.84	65.2
	Gunung Brinchang	MYA005											1.67	***	***	***	***
Mongolia	Ulaanbaatar	MNA001	7.50	***	9.58	***	***	6.50	7.81	9.78	2.53						
	Terelj	MNA002	5.66	***	0.487	***	***	6.41	4.40	4.62	***	2.63	10.6	*	3.73	3.77	0.491
	Khan-Uul	MNA004										8.00	11.1	*	4.43	7.35	5.45
	Terelj2_temp	MNA005															11.6
Myanmar	Yangon	MMA001	46.9	45.6	45.8	47.6	54.3	37.4	38.2	57.4	50.3	47.0	39.3	55.4	49.7	31.1	40.6
Philippines	Manila Observatory	PHA001	667	1218	145	162	215	283	***	***	67.6	53.8	42.1	58.5	116	65.0	67.3
	Los Baños	PHA002	70.1	142	53.3	116	85.6	149	***	***	***	***	***	25.0	29.6	27.7	28.6
	Mt.Sto.Tomas	PHA003	3.79	19.6	20.7	49.0	58.4	34.5	***	***	***	***	***	1.88	***	17.0	***
Republic of Korea	Ganghwa	KRA001	63.8	36.9	70.5	25.7	58.3	48.6	49.6	24.2	21.2	***	25.3	28.8	9.76	21.8	27.1
	Jeju	KRA002	30.2	40.1	22.9	30.4	40.9	45.2	27.3	26.6	35.9	***	27.7	8.45	19.6	24.2	7.56
	Imsil	KRA003	56.3	55.4	49.4	36.7	36.4	30.2	39.2	31.4	39.1	***	11.8	30.7	20.4	19.8	11.8
Russia	Mondy	RUA001	0.672	2.00	0.894	0.444	1.84	1.10	1.99	3.03	1.73	0.304	1.94	0.675	***		
	Listvyanka	RUA002	8.22	9.17	2.74	3.83	12.3	4.56	6.50	3.11	8.06	4.91	8.28	5.41	5.45	5.31	5.33
	Irkutsk	RUA003	10.8	15.1	8.15	9.28	21.3	10.7	10.3	9.29	12.0	11.5	14.8	9.76	12.2	6.54	9.87
	Primorskaya	RUA004	33.6	24.9	28.6	27.2	29.8	21.0	29.7	33.8	21.0	18.5	37.3	46.2	49.9	37.7	41.1
Thailand	Bangkok	THA001	87.3	79.4	61.6	52.9	96.7	104	87.0	60.5	22.4	63.1	***	58.7	60.6	*	*
	Samutprakarn	THA002	58.5	32.5	42.1	48.2	66.3	78.4	88.1	58.9	28.4	33.3	***	43.5	26.9	*	***
	Pathumthani	THA003	59.5	59.2	53.1	37.4	48.6	56.7	56.3	47.0	39.7	44.5	28.7	46.7	45.4	39.3	51.2
	Khanchanaburi	THA004	25.2	21.4	10.2	13.7	11.7	17.2	16.6	6.29	2.94	***	***	***	***	***	***
	Mae Hia	THA005	21.9	21.8	27.7	14.1	13.1	21.8	32.3	12.3	25.0						
	Sakaerat	THA008	36.7	29.0	34.4	18.0	43.3	36.8	39.4	71.5	78.6						
Vietnam	Hanoi	VNA001	95.9	108	104	113	82.6	102	109	108	38.6	155	132	157	161	86.9	68.0
	Hoa Binh	VNA002	48.9	57.4	50.7	59.5	62.0	81.8	37.8	81.1	18.3	89.1	118	51.7	156	44.8	23.8
	Cuc Phuong	VNA003	35.5	48.3	48.5	34.9	43.8	38.9	19.5	13.6	31.0	32.0	94.0	158	96.0	93.6	94.7
	Da Nang	VNA004	78.3	35.8	57.0	32.2	16.5	14.8	46.8	36.6	89.4	65.0	48.1	49.0	55.7	77.0	80.4
	Can Tho	VNA005				33.7	46.9	38.0	41.0	32.0	41.8	26.6	48.6	50.0	39.2	35.1	45.1
	Ho Chi Minh	VNA006				46.6	41.8	73.6	132	51.3	51.5	76.2	69.5	69.1	68.0	67.0	61.2
	Yen Bai	VNA007					46.1	166	80.5	72.8	29.0	112	106	61.2	151	73.5	139

Terms and abbreviations are given in Table 4.5.

Table 4.89 Annual Na^+ deposition amount from 2011 to 2025

unit: mmol $m^{-2}y^{-1}$

Country	Name of sites	Code	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
Cambodia	Phnom Penh	KHA001	4.54	5.90	4.16	11.9	6.92	5.40	6.14	***	***	***	***	***	***	***	***
China	Haifu	CNA003	7.99	6.10	7.48	9.01	4.40	7.85	5.38	5.56	4.90	4.54	3.26	3.51	6.13	2.99	5.92
	Jinyunshan	CNA004	5.19	6.32	4.41	6.70	2.87	3.10	3.74	1.69	2.08	2.49	2.31	1.95	3.54	1.64	2.90
	Shizhan	CNA005	11.7	2.20	60.9	78.1	67.3	22.2	16.6	9.72	5.62	8.94	14.8	11.7	21.7	9.58	3.91
	Jiwozi	CNA007	7.63	17.3	72.8	70.9	41.3	3.09	17.1	13.4	51.3	9.35	19.3	4.16	8.68	10.9	9.95
	Hongwen	CNA008	15.2	15.0	20.1	22.3	18.8	48.2	19.2	23.4	5.12	15.3	20.1	14.2	13.8	14.1	21.3
	Xiaoping	CNA009	16.6	10.9	23.9	12.0	17.0	12.1	4.64	5.50	1.46	8.37	5.56	7.03	10.2	8.45	6.84
	Xiang Zhou	CNA010	40.7	69.7	131	51.4	75.7	52.8	99.5	139	40.4	41.9	45.3	48.8	43.1	41.2	85.8
	Zhuxiandong	CNA011	51.5	***	***	***	107	80.4	47.7	188	50.5	80.5	58.0	59.0	52.2	45.5	59.2
	Wuzhishan	CNA013									13.0	6.16	7.90	9.14	3.87	5.30	*
	Lijiang	CNA014									4.40	0.579	0.705	0.571	0.763	0.488	0.516
Indonesia	Jakarta	IDA001	11.6	34.5	37.7	67.8	5.65	41.5	12.8	28.5	14.1	46.2	33.5	16.4	***	38.0	32.0
	Serpong	IDA002	8.36	9.71	32.5	54.1	25.9	42.1	38.7	37.4	37.5	40.9	50.2	21.8			
	Kototabang	IDA003	14.3	25.4	18.0	14.2	1.95	45.7	8.43	9.88	10.1	20.9	9.35	7.84	***	10.0	7.52
	Bandung	IDA004	18.7	22.5	31.9	26.3	17.3	30.3	35.9	40.4	75.7	19.4	12.5	22.7			
	Maros	IDA005	54.1	48.8	77.7	80.5	9.10	233	240	45.2	31.1	26.0	20.3	48.5	***	24.2	37.5
	Jembrana	IDA006									31.6	67.0	82.7	64.5	***	61.1	65.6
	Lombok	IDA007									36.6	42.3	40.4	58.8	***	34.9	53.7
	Bandung 2	IDA008															5.33
Japan	Rishiri	JPA001	171	343	234	168	153	90.6	194	185	130	174	243	175	130	121	260
	Ochiishi	JPA002	126	239	446	81.5	147	158	183	87.2	56.0	74.9	228	*	*	*	*
	Tappi	JPA003	171	166	275	187	264	206	213	263							
	Sado-seki	JPA004	213	319	517	397	283	175	189	211	211	235	2124	243	202	176	234
	Happo	JPA005	10.3	19.2	10.8	13.0	13.1	11.8	15.5	14.9	8.80	11.0	14.1	9.89	13.6	6.00	11.3
	Ijira	JPA006	42.3	55.2	41.3	47.5	49.6	39.1	42.7	54.4	36.3	47.8	68.1	82.0	52.5	45.4	83.3
	Oki	JPA007	737	462	705	574	437	505	482	530	178	344	659	*	*	*	*
	Banryu	JPA008	155	111	140	132	133	150	129	94.3							
	Yusuhara	JPA009	41.8	55.1	24.6	18.3	69.8	21.9	126	58.3	42.7	26.5	50.2	87.4	47.9	39.0	18.1
	Hedo	JPA010	360	1186	366	335	552	365	597	421	333	442	3083	402	632	*	*
	Ogasawara	JPA011	262	179	178	201	486	105	298	44.8	333	85.0	308	291	210	144	138
	Tokyo	JPA012	52.3	48.2	36.7	34.2	29.6	23.2	51.5	44.7	94.7	21.5	35.7	27.2	20.8	30.2	17.6
	Niigata-maki	JPA013									269	237	336	349	305	71.9	
	Tsushima	JPA014									73.8	74.9	78.1	152	72.5	92.2	60.5
Lao PDR	Vientiane	LAA001	***	***	***	***	2.56	1.08	*	*	*	***	***	***	4.16	*	*
Malaysia	Petaling Jaya	MYA001	16.5	13.1	15.3	18.7	23.3	21.1	18.9	20.5	***	20.5	18.4	15.1	18.6	19.8	18.0
	Tanah Rata	MYA002	6.56	4.29	6.02	8.17	7.36	6.44	7.45	6.46	***	14.4	***	9.44	9.21	11.9	15.9
	Danum Valley	MYA003	20.9	8.49	16.5	15.4	10.9	9.87	7.47	12.8	***	29.1	25.0	14.0	8.68	16.2	12.4
	Kuching	MYA004	42.1	19.8	31.0	33.8	56.9	71.7	35.5	32.3	***	43.1	33.2	26.3	26.0	20.0	32.4
	Gunung Brinchang	MYA005											2.66	***	***	***	***
Mongolia	Ulaanbaatar	MNA001	0.924	***	12.1	***	***	27.6	3.50	7.07	3.72						
	Terelj	MNA002	0.873	***	1.54	***	***	21.9	1.42	7.38	***	7.11	21.2	*	2.19	3.91	0.0843
	Khan-Uul	MNA004										12.5	3.10	*	0.692	1.37	2.47
	Terelj2_temp	MNA005															3.35
Myanmar	Yangon	MMA001	47.2	56.7	42.6	49.6	21.3	34.3	42.2	64.3	54.2	31.2	32.5	37.7	41.4	36.3	43.5
Philippines	Manila Observatory	PHA001	78.2	74.6	98.3	64.4	58.5	43.7	***	***	42.7	26.3	57.0	68.2	85.9	37.8	22.6
	Los Baños	PHA002	46.3	46.7	54.5	32.0	27.4	39.3	***	***	***	***	***	27.6	46.1	21.3	23.6
	Mt.Sto.Tomas	PHA003	19.9	58.9	29.4	23.0	53.2	65.7	***	***	***	***	***	1.20	***	11.7	***
Republic of Korea	Ganghwa	KRA001	52.8	37.9	26.6	18.4	26.5	23.8	16.3	19.1	90.3	***	20.6	20.4	10.8	18.3	24.5
	Jeju	KRA002	163	449	184	139	147	442	187	273	73.8	***	338	205	354	189	42.6
	Imsil	KRA003	55.9	72.6	36.9	32.8	33.9	28.4	27.5	45.1	41.8	***	42.0	51.4	27.3	23.5	18.2
Russia	Mondy	RUA001	0.283	0.455	0.449	0.277	0.219	0.306	0.493	0.764	0.350	0.293	0.166	0.0902	***		
	Listvyanka	RUA002	2.59	1.44	1.86	1.34	0.989	0.883	1.03	0.677	1.32	1.85	2.70	1.74	2.84	1.25	0.787
	Irkutsk	RUA003	5.52	4.41	3.55	3.35	3.71	3.57	4.01	3.89	2.69	4.83	4.14	3.31	5.41	3.07	2.49
	Primorskaya	RUA004	8.48	21.3	18.4	10.1	28.7	23.3	16.5	22.4	17.6	27.3	24.9	28.2	23.5	17.4	15.9
Thailand	Bangkok	THA001	14.0	10.9	16.0	9.26	12.7	17.9	9.28	13.0	5.56	22.7	***	10.6	14.2	*	*
	Samutprakarn	THA002	12.0	7.51	28.2	12.5	13.5	16.1	12.9	14.6	8.68	13.4	***	11.1	9.38	*	***
	Pathumthani	THA003	9.16	22.0	7.04	5.62	7.42	6.85	6.60	6.74	5.28	5.17	3.21	4.68	6.84	5.02	13.2
	Khanchanaburi	THA004	14.5	23.2	8.19	6.28	6.46	11.0	5.54	8.12	3.55	***	***	***	***	***	***
	Mae Hia	THA005	5.17	4.22	8.07	1.93	3.34	5.21	7.58	6.45	6.17						
	Sakaerat	THA008	6.10	4.18	4.27	3.78	6.36	4.36	3.53	12.5	11.0						
Vietnam	Hanoi	VNA001	11.2	7.54	15.0	12.0	11.5	18.9	33.9	21.2	34.1	37.7	23.1	59.6	27.7	45.0	25.3
	Hoa Binh	VNA002	4.32	5.81	8.29	4.12	6.14	6.33	7.56	7.80	18.6	17.9	21.1	9.37	19.9	7.17	7.40
	Cuc Phuong	VNA003	25.2	40.4	50.7	18.2	12.8	24.6	39.3	33.9	36.7	34.2	72.9	56.6	44.9	45.0	56.3
	Da Nang	VNA004	255	106	333	182	151	179	182	177	231	177	178	184	150	166	207
	Can Tho	VNA005				28.4	64.8	21.0	18.3	25.4	42.8	29.7	35.5	33.6	33.1	30.2	35.2
	Ho Chi Minh	VNA006				47.9	49.1	34.4	59.8	35.1	46.1	46.5	44.7	43.7	37.6	40.8	39.0
	Yen Bai	VNA007					8.18	16.3	8.81	6.81	18.7	27.1	15.2	9.50	21.2	13.7	21.1

Terms and abbreviations are given in Table 4.5.

Table 4.90 Annual K^+ deposition amount from 2011 to 2025

unit: mmol $m^{-2}y^{-1}$

Country	Name of sites	Code	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
Cambodia	Phnom Penh	KHA001	1.47	1.23	1.42	4.20	2.18	2.70	1.68	***	***	***	***	***	***	***	***
China	Haifu	CNA003	7.60	6.64	13.1	13.2	7.30	5.91	5.84	6.94	4.22	3.46	3.14	3.12	4.73	3.55	5.32
	Jinyunshan	CNA004	8.80	7.69	6.19	6.59	4.38	4.10	4.56	2.57	3.32	3.20	2.72	2.35	2.16	2.41	2.97
	Shizhan	CNA005	8.83	2.23	12.4	156	3.16	1.56	2.65	5.13	3.49	3.31	2.91	6.01	2.82	5.01	4.10
	Jiwozi	CNA007	7.07	3.80	6.64	9.33	2.96	1.69	6.59	10.6	37.3	6.02	4.67	3.45	5.47	7.26	10.7
	Hongwen	CNA008	1.68	2.64	2.67	1.60	6.08	9.45	18.8	37.0	14.7	3.09	4.69	2.89	1.42	1.65	1.45
	Xiaoping	CNA009	4.29	4.48	3.29	1.98	13.1	10.3	8.37	12.1	2.54	2.16	1.89	3.53	2.64	1.97	1.51
	Xiang Zhou	CNA010	4.71	14.0	20.0	11.5	6.31	8.63	4.87	6.30	2.97	2.17	2.23	2.10	2.86	2.53	2.59
	Zhuxiandong	CNA011	6.78	***	***	***	13.3	13.7	4.08	9.80	3.93	4.54	3.91	2.81	3.03	3.29	1.70
	Wuzhishan	CNA013									4.29	2.23	3.93	4.45	1.43	4.45	*
	Lijiang	CNA014									0.778	0.767	0.394	0.601	0.441	5.93	3.82
Indonesia	Jakarta	IDA001	2.26	7.79	6.61	11.5	35.2	20.7	3.10	4.83	2.08	10.5	5.14	6.83	***	18.3	11.9
	Serpong	IDA002	2.61	3.87	11.4	16.3	13.8	14.2	12.1	12.8	26.2	45.5	11.3	7.50			
	Kototabang	IDA003	8.69	14.6	40.9	25.8	12387	24.9	4.54	5.98	6.13	10.8	11.0	5.62	***	17.4	4.84
	Bandung	IDA004	7.30	7.01	18.7	11.4	7.11	7.79	8.10	7.82	7.85	6.68	4.51	6.65			
	Maros	IDA005	6.74	8.57	7.41	52.7	4427	29.7	14.4	9.44	4.98	19.0	3.06	6.24	***	15.5	4.85
	Jembrana	IDA006									6.05	43.9	53.8	8.95	***	33.5	25.9
	Lombok	IDA007									5.26	11.1	14.3	56.3	***	20.0	9.58
	Bandung 2	IDA008															0.851
Japan	Rishiri	JPA001	4.24	7.51	5.40	4.23	3.95	2.69	5.63	5.25	3.74	5.37	6.52	4.61	4.29	3.72	7.35
	Ochiishi	JPA002	3.02	5.89	9.91	2.14	4.00	3.91	4.48	2.09	1.40	1.94	20.0	*	*	*	*
	Tappi	JPA003	4.96	4.66	6.65	4.74	6.20	5.46	5.33	6.38							
	Sado-seki	JPA004	6.18	8.58	12.1	10.6	8.40	7.54	5.95	5.23	5.57	5.74	66.2	5.52	4.96	4.41	5.90
	Happo	JPA005	1.38	1.73	1.54	1.83	1.53	1.12	1.17	1.17	1.39	1.33	1.14	0.891	1.07	0.607	0.819
	Ijira	JPA006	1.64	1.74	1.60	1.86	2.19	1.57	1.68	1.72	1.45	1.71	2.47	2.40	2.21	2.16	3.02
	Oki	JPA007	19.5	11.9	17.8	13.8	10.5	12.2	11.5	12.9	4.67	8.09	16.3	*	*	*	*
	Banryu	JPA008	4.85	3.93	4.71	4.02	3.70	4.17	3.54	2.76							
	Yusuhara	JPA009	1.58	3.25	0.962	2.47	2.31	1.39	4.74	2.67	2.46	2.04	3.06	3.83	3.30	1.93	0.740
	Hedo	JPA010	8.73	30.2	8.82	8.08	12.8	8.22	13.0	9.26	7.78	10.0	66.9	8.94	15.9	*	*
	Ogasawara	JPA011	6.42	4.26	4.60	4.79	12.8	2.56	6.84	1.06	8.23	2.37	5.62	6.69	5.13	3.21	3.52
	Tokyo	JPA012	1.79	1.45	1.14	1.13	1.05	0.868	1.42	1.09	2.25	0.758	0.922	0.766	0.810	0.983	0.578
	Niigata-maki	JPA013									7.31	5.67	8.08	8.46	7.07	1.68	
	Tsushima	JPA014									2.17	2.65	2.67	5.20	2.74	3.61	3.14
Lao PDR	Vientiane	LAA001	***	***	***	***	1.61	0.683	*	*	*	***	***	***	1.94	*	*
Malaysia	Petaling Jaya	MYA001	4.71	4.53	4.07	5.46	6.39	6.27	4.83	7.33	***	7.34	5.78	4.67	5.39	5.74	5.24
	Tanah Rata	MYA002	6.70	4.78	4.85	4.69	6.35	2.88	5.82	3.54	***	13.5	***	6.15	5.25	6.19	11.6
	Danum Valley	MYA003	6.56	3.59	3.22	6.15	4.83	3.02	3.83	6.58	***	6.77	8.88	8.12	6.14	23.7	7.30
	Kuching	MYA004	3.95	3.51	2.85	11.9	6.37	6.40	5.48	5.84	***	7.88	8.66	11.7	9.10	6.87	15.2
	Gunung Brinchang	MYA005											1.06	***	***	***	***
Mongolia	Ulaanbaatar	MNA001	0.650	***	0.598	***	***	0.0990	0.207	0.172	0.0677						
	Terelj	MNA002	0.719	***	0.725	***	***	0.754	0.358	0.544	***	0.407	0.805	*	0.454	0.287	0.0774
	Khan-Uul	MNA004										0.264	0.278	*	0.289	0.462	0.389
	Terelj2_temp	MNA005															0.785
Myanmar	Yangon	MMA001	5.21	17.4	7.17	13.5	32.2	7.30	29.4	12.9	20.8	10.4	15.9	10.3	8.02	16.2	21.6
Philippines	Manila Observatory	PHA001	85.9	117	22.7	25.7	32.7	35.8	***	***	9.78	3.69	4.54	4.79	7.00	3.27	5.59
	Los Baños	PHA002	16.3	17.1	15.3	17.0	114	24.3	***	***	***	***	***	2.55	4.60	4.95	2.02
	Mt.Sto.Tomas	PHA003	3.78	5.07	3.30	4.57	9.93	3.93	***	***	***	***	***	0.264	***	13.5	***
Republic of Korea	Ganghwa	KRA001	5.34	4.78	2.94	5.73	62.7	11.2	9.72	3.14	3.97	***	1.66	3.35	1.12	6.81	5.71
	Jeju	KRA002	7.04	18.8	7.65	13.5	20.1	17.0	5.31	6.76	2.27	***	13.4	3.96	13.5	3.40	9.72
	Imsil	KRA003	5.81	66.5	7.72	10.8	6.61	2.84	6.70	2.55	1.46	***	3.47	1.58	0.951	0.617	0.892
Russia	Mondy	RUA001	0.366	0.952	0.759	0.248	0.462	0.233	0.371	0.461	0.179	0.0548	0.213	0.0469	***		
	Listvyanka	RUA002	1.16	0.686	1.21	0.868	0.702	0.540	1.15	0.452	1.31	1.47	2.12	2.08	2.66	3.05	1.93
	Irkutsk	RUA003	1.51	2.21	1.44	1.15	1.31	1.49	1.47	1.35	1.63	1.80	3.06	2.20	3.02	2.80	2.32
	Primorskaya	RUA004	4.19	4.69	4.01	3.30	9.01	17.6	6.41	8.56	7.07	7.32	4.86	8.87	9.45	14.3	9.57
Thailand	Bangkok	THA001	3.95	2.74	2.54	1.40	2.78	2.77	1.97	2.58	2.45	5.53	***	3.24	8.76	*	*
	Samutprakarn	THA002	2.33	1.45	5.83	2.30	2.79	3.10	2.48	2.40	1.72	2.31	***	2.91	52.2	*	***
	Pathumthani	THA003	3.06	2.57	2.51	1.98	1.97	2.24	2.90	1.78	1.72	2.15	3.55	1.35	1.41	1.27	2.42
	Khanchanaburi	THA004	4.30	3.75	1.43	1.19	0.916	1.60	1.69	1.71	0.679	***	***	***	***	***	***
	Mae Hia	THA005	2.33	1.40	2.12	0.935	0.924	2.35	3.35	1.55	2.74						
	Sakaerat	THA008	1.81	1.42	1.17	1.12	2.10	1.73	0.866	7.85	6.99						
Vietnam	Hanoi	VNA001	4.12	5.39	5.13	6.23	4.73	6.03	14.7	15.3	10.5	10.3	11.1	27.8	13.1	194	27.2
	Hoa Binh	VNA002	4.23	2.88	14.3	3.61	4.63	3.73	5.46	10.9	2.83	5.31	9.72	8.14	11.4	6.68	4.28
	Cuc Phuong	VNA003	6.14	12.2	16.3	8.04	6.83	11.2	7.63	10.1	8.45	8.46	15.6	15.7	21.5	20.3	11.2
	Da Nang	VNA004	50.9	19.3	41.5	30.5	22.6	9.24	22.1	40.5	38.7	275	49.6	396	65.2	51.5	50.0
	Can Tho	VNA005				13.7	15.8	10.1	10.4	16.4	30.0	11.7	16.1	26.0	17.4	13.6	16.2
	Ho Chi Minh	VNA006				20.3	17.1	16.9	35.7	20.6	24.9	24.8	24.8	23.7	21.8	23.5	22.2
	Yen Bai	VNA007					6.09	9.03	14.9	6.10	4.12	7.76	6.84	7.61	11.9	5.42	23.8

Terms and abbreviations are given in Table 4.5.

Table 4.91 Annual Ca^{2+} deposition amount from 2011 to 2025

unit: mmol $m^{-2}y^{-1}$

Country	Name of sites	Code	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
Cambodia	Phnom Penh	KHA001	11.9	17.4	12.9	14.8	12.8	18.2	13.4	***	***	***	***	***	***	***	***
China	Haifu	CNA003	55.5	58.5	71.2	77.4	52.5	85.4	65.1	48.0	31.5	28.2	28.5	22.5	36.7	26.4	47.0
	Jinyunshan	CNA004	55.2	59.5	35.1	38.8	28.0	46.3	65.8	32.0	23.6	23.7	23.6	15.5	19.5	15.4	19.9
	Shizhan	CNA005	60.1	50.1	143	57.7	53.2	14.5	39.4	29.1	23.6	20.2	78.6	80.8	60.9	29.7	36.0
	Jiwozi	CNA007	88.9	79.3	86.2	84.4	25.8	13.6	48.3	30.7	93.9	28.7	32.3	10.6	31.3	42.3	59.9
	Hongwen	CNA008	11.9	16.1	30.8	28.8	16.6	23.3	15.2	26.0	62.4	131	15.7	11.4	5.82	7.81	6.94
	Xiaoping	CNA009	17.9	25.9	44.9	57.8	14.3	11.8	10.2	6.83	7.54	3.81	5.13	4.63	6.21	8.34	5.84
	Xiang Zhou	CNA010	22.1	16.3	105	28.5	22.7	25.4	19.1	21.9	16.2	12.7	15.5	7.92	28.2	13.1	10.1
	Zhuxiandong	CNA011	21.8	***	***	***	40.2	40.9	25.2	37.4	22.7	25.6	20.3	15.4	16.9	15.7	6.26
	Wuzhishan	CNA013									15.5	3.12	3.89	5.15	2.41	4.05	*
	Lijiang	CNA014									11.8	2.78	2.65	3.45	5.55	5.48	3.35
Indonesia	Jakarta	IDA001	11.0	32.6	33.0	47.4	21.0	49.8	22.9	28.2	15.8	22.3	17.8	14.1	***	51.1	34.5
	Serpong	IDA002	9.08	8.31	32.5	37.4	34.9	40.7	38.6	44.9	38.5	26.7	26.3	19.8			
	Kototabang	IDA003	12.9	20.7	20.2	9.82	4.98	8.28	28.4	24.9	66.0	14.7	25.0	8.83	***	14.8	13.5
	Bandung	IDA004	32.0	27.8	45.9	46.4	35.4	41.0	27.7	31.8	33.2	32.3	30.3	35.3			
	Maros	IDA005	23.6	39.4	41.9	77.0	41.5	27.2	33.0	46.8	33.8	13.6	36.4	65.8	***	15.9	20.6
	Jembrana	IDA006									12.5	45.4	14.0	13.4	***	16.8	31.1
	Lombok	IDA007									25.3	13.1	13.8	43.0	***	11.2	16.5
	Bandung 2	IDA008															12.5
Japan	Rishiri	JPA001	6.93	9.89	8.58	5.97	5.75	4.68	7.64	9.19	5.24	8.31	10.3	8.24	6.86	5.18	10.4
	Ochiishi	JPA002	4.44	6.41	12.2	3.40	5.56	4.86	5.17	3.57	2.38	2.79	12.2	*	*	*	*
	Tappi	JPA003	9.17	9.45	15.0	8.89	8.90	9.10	7.66	10.0							
	Sado-seki	JPA004	11.5	14.8	16.4	13.4	9.83	11.4	8.41	12.4	8.39	7.58	81.2	7.23	8.66	6.67	9.67
	Happo	JPA005	7.89	8.29	7.37	5.67	3.82	1.84	5.54	5.86	5.57	5.00	6.55	2.99	5.39	3.75	5.60
	Ijira	JPA006	6.05	7.16	7.45	5.02	6.26	5.92	6.41	6.92	6.55	5.61	8.54	7.79	10.0	7.31	7.27
	Oki	JPA007	26.2	15.7	23.8	17.3	12.8	16.2	15.0	17.1	7.60	11.4	21.2	*	*	*	*
	Banryu	JPA008	8.38	8.03	7.92	7.20	7.83	9.45	7.55	5.49							
	Yusuhara	JPA009	7.71	7.28	5.37	5.64	3.11	3.13	13.5	3.41	4.10	3.12	5.51	5.24	5.06	2.89	1.50
	Hedo	JPA010	10.7	32.6	11.1	10.4	14.5	9.79	15.7	14.0	9.72	12.4	78.0	13.7	19.7	*	*
	Ogasawara	JPA011	7.21	5.44	5.82	6.10	12.9	3.00	7.51	1.23	8.65	2.64	7.46	7.48	5.37	4.03	4.75
	Tokyo	JPA012	6.72	6.88	7.00	6.88	5.84	3.99	4.27	4.49	6.58	4.48	4.82	5.10	4.62	5.54	3.91
	Niigata-maki	JPA013									10.9	11.3	12.1	12.0	12.7	3.05	
	Tsushima	JPA014									3.31	3.79	4.27	5.35	4.24	4.65	7.66
Lao PDR	Vientiane	LAA001	***	***	***	***	3.68	1.57	*	*	*	***	***	***	13.5	*	*
Malaysia	Petaling Jaya	MYA001	14.3	13.5	21.9	22.3	25.1	22.2	13.1	26.8	***	16.1	15.3	14.2	15.0	15.6	9.77
	Tanah Rata	MYA002	6.84	6.73	8.06	7.75	5.36	5.15	6.80	7.19	***	17.1	***	8.43	5.84	5.90	13.0
	Danum Valley	MYA003	3.36	2.37	4.59	4.02	4.62	2.95	4.38	6.27	***	16.3	6.92	4.99	3.17	11.6	4.37
	Kuching	MYA004	14.6	13.0	17.2	22.4	19.2	18.9	14.8	16.3	***	75.6	10.9	22.3	10.5	19.1	33.6
	Gunung Brinchang	MYA005											1.56	***	***	***	***
Mongolia	Ulaanbaatar	MNA001	5.54	***	14.7	***	***	4.65	6.68	4.00	1.31						
	Terelj	MNA002	2.93	***	6.28	***	***	1.78	1.67	2.29	***	7.31	5.98	*	4.49	1.80	0.366
	Khan-Uul	MNA004										7.40	8.73	*	4.57	6.05	7.13
	Terelj2_temp	MNA005															3.08
Myanmar	Yangon	MMA001	21.7	20.0	2.87	40.6	216	12.1	29.5	48.8	41.9	22.0	5.40	42.9	23.4	21.9	26.3
Philippines	Manila Observatory	PHA001	47.0	61.8	40.5	38.2	43.6	51.6	***	***	34.8	41.0	23.6	32.9	13.6	21.5	14.3
	Los Baños	PHA002	15.2	19.8	15.3	14.5	13.7	20.7	***	***	***	***	***	38.5	5.86	4.92	6.19
	Mt.Sto.Tomas	PHA003	36.1	80.4	37.7	29.3	41.8	59.5	***	***	***	***	***	4.50	***	15.0	***
Republic of Korea	Ganghwa	KRA001	6.48	6.46	7.83	3.81	5.61	3.22	3.96	2.01	3.54	***	7.32	4.79	3.47	4.10	8.53
	Jeju	KRA002	7.10	13.4	8.64	4.92	6.74	18.1	9.15	6.87	3.61	***	11.6	8.15	26.2	9.18	1.96
	Imsil	KRA003	10.2	6.03	3.59	3.85	3.71	2.26	2.82	1.92	2.92	***	4.63	4.22	3.30	1.96	2.87
Russia	Mondy	RUA001	0.663	1.28	1.52	0.866	1.14	1.20	1.66	1.94	0.928	0.202	0.264	0.227	***		
	Listvyanka	RUA002	7.72	4.03	3.30	3.56	3.34	2.51	3.86	2.80	3.46	3.04	3.81	4.50	4.41	5.97	4.98
	Irkutsk	RUA003	11.4	13.9	9.12	10.3	8.88	8.18	11.3	12.3	7.09	6.82	9.12	10.0	11.1	10.4	8.83
	Primorskaya	RUA004	8.52	11.2	13.0	11.6	15.2	12.1	13.3	15.0	10.6	14.7	10.0	16.5	22.8	7.48	9.81
Thailand	Bangkok	THA001	22.9	24.2	33.5	14.6	27.0	26.0	18.0	31.0	18.4	25.7	***	25.3	29.1	*	*
	Samutprakarn	THA002	12.5	7.99	22.2	14.5	8.98	16.8	14.4	12.8	9.57	7.28	***	12.2	6.01	*	***
	Pathumthani	THA003	18.9	32.2	32.0	23.8	17.8	14.7	16.8	10.5	8.30	6.22	4.77	9.00	7.68	5.41	11.1
	Khanchanaburi	THA004	7.84	41.7	4.90	3.98	3.97	5.48	4.28	3.52	2.77	***	***	***	***	***	***
	Mae Hia	THA005	4.20	8.64	15.1	5.13	3.07	7.99	10.6	5.74	7.75						
	Sakaerat	THA008	2.83	4.21	2.83	3.73	9.46	8.93	7.78	39.7	63.7						
Vietnam	Hanoi	VNA001	26.6	27.0	31.6	41.2	46.8	37.8	73.2	77.1	103	131	61.4	196	54.8	143	73.2
	Hoa Binh	VNA002	22.1	21.2	34.0	17.4	16.3	18.9	43.8	38.4	26.9	94.2	55.9	36.8	46.7	24.4	31.9
	Cuc Phuong	VNA003	59.8	61.8	46.2	39.2	28.3	52.4	53.7	45.4	38.0	40.7	65.4	102	114	100	91.0
	Da Nang	VNA004	36.4	28.4	49.7	60.6	65.0	105	76.0	94.8	197	286	83.2	72.3	108	58.5	134
	Can Tho	VNA005				23.5	59.1	19.8	20.1	37.5	37.4	23.5	32.9	31.9	29.3	26.1	32.3
	Ho Chi Minh	VNA006				49.7	62.8	30.8	51.0	45.1	60.0	39.8	42.6	41.0	35.6	37.2	35.8
	Yen Bai	VNA007					24.1	36.9	55.4	38.8	43.6	89.4	31.8	39.5	39.8	36.9	64.2

Terms and abbreviations are given in Table 4.5.

Table 4.92 Annual nss-Ca^{2+} deposition amount from 2011 to 2025

unit: mmol $m^{-2}y^{-1}$

Country	Name of sites	Code	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
Cambodia	Phnom Penh	KHA001	11.8	17.3	12.8	14.5	12.6	18.1	13.3	***	***	***	***	***	***	***	***
China	Haifu	CNA003	55.3	58.3	71.1	77.2	52.4	85.2	65.0	47.9	31.4	28.1	28.4	22.5	36.6	26.3	46.9
	Jinyunshan	CNA004	55.1	59.4	35.0	38.6	27.9	46.2	65.7	32.0	23.6	23.7	23.6	15.5	19.4	15.3	19.8
	Shizhan	CNA005	59.8	50.1	142	56.0	51.8	14.1	39.0	28.9	23.5	20.0	78.3	80.5	60.4	29.5	35.9
	Jiwozi	CNA007	88.8	78.9	84.6	82.9	24.9	13.5	47.9	30.5	92.8	28.5	31.9	10.5	31.2	42.1	59.7
	Hongwen	CNA008	11.5	15.8	30.3	28.4	16.2	22.2	14.8	25.4	62.3	131	15.2	11.1	5.52	7.50	6.48
	Xiaoping	CNA009	17.6	25.6	44.4	57.6	13.9	11.6	10.1	6.71	7.51	3.63	5.01	4.47	5.99	8.16	5.70
	Xiang Zhou	CNA010	21.2	14.8	102	27.4	21.1	24.4	16.9	18.9	15.3	11.8	14.6	6.87	27.2	12.3	8.29
	Zhuxiandong	CNA011	20.7	***	***	***	37.9	39.1	24.2	33.3	21.6	23.8	19.1	14.1	15.8	14.7	4.98
	Wuzhishan	CNA013									15.2	3.01	3.73	4.95	2.34	3.93	*
	Lijiang	CNA014									11.7	2.77	2.63	3.43	5.53	5.47	3.34
Indonesia	Jakarta	IDA001	10.7	31.9	32.2	46.0	20.8	48.9	22.7	27.6	15.5	21.3	17.1	13.7	***	50.3	33.8
	Serpong	IDA002	8.91	8.10	31.8	36.2	34.3	39.8	37.8	44.1	37.7	25.9	25.2	19.4			
	Kototabang	IDA003	12.6	20.2	19.9	9.51	5.09	7.64	28.2	24.7	65.8	14.3	24.8	8.66	***	14.6	13.3
	Bandung	IDA004	31.6	27.4	45.2	45.9	35.1	40.4	27.0	31.0	31.5	31.9	30.1	34.8			
	Maros	IDA005	22.4	38.4	40.3	75.2	41.4	22.8	28.1	45.8	33.1	13.1	35.9	64.7	***	15.4	19.8
	Jembrana	IDA006									11.8	44.0	12.2	12.0	***	15.4	29.7
	Lombok	IDA007									24.5	12.1	12.9	41.7	***	10.5	15.4
	Bandung 2	IDA008															12.3
Japan	Rishiri	JPA001	3.24	2.58	3.58	2.39	2.51	2.72	3.45	5.20	2.44	4.56	5.09	4.47	4.05	2.57	4.80
	Ochiishi	JPA002	1.73	1.31	2.57	1.64	2.38	1.45	1.22	1.69	1.17	1.17	7.26	*	*	*	*
	Tappi	JPA003	5.57	5.23	9.14	4.98	3.36	4.65	3.06	4.35							
	Sado-seki	JPA004	6.92	8.03	6.04	4.88	3.76	7.66	4.33	7.80	3.82	2.52	35.3	1.98	4.31	2.86	4.61
	Happo	JPA005	7.67	7.87	7.14	5.39	3.54	1.58	5.20	5.53	5.38	4.76	6.25	2.78	5.10	3.62	5.36
	Ijira	JPA006	5.23	5.99	6.61	4.07	5.20	5.08	5.49	5.74	5.77	4.58	7.07	6.02	8.87	6.33	5.47
	Oki	JPA007	10.3	5.71	8.53	4.88	3.34	5.39	4.68	5.69	3.75	3.92	6.92	*	*	*	*
	Banryu	JPA008	5.04	5.62	4.90	4.35	5.09	6.31	4.75	3.46							
	Yusuhara	JPA009	6.94	6.09	4.84	5.25	1.61	2.66	10.7	2.24	3.19	2.58	4.43	3.35	4.04	2.05	1.11
	Hedo	JPA010	2.88	6.93	3.21	3.14	2.60	2.05	3.38	5.01	2.73	2.86	11.4	5.09	6.01	*	*
	Ogasawara	JPA011	1.56	1.58	1.97	1.76	2.40	0.736	1.07	0.290	1.47	0.838	0.911	1.24	0.898	0.944	1.77
	Tokyo	JPA012	5.59	5.84	6.21	6.14	5.20	3.49	3.16	3.52	4.53	4.02	4.04	4.51	4.17	4.88	3.53
	Niigata-maki	JPA013									5.17	6.16	4.83	4.46	6.12	1.50	
	Tsushima	JPA014									1.76	2.19	2.58	2.06	2.68	2.67	6.35
Lao PDR	Vientiane	LAA001	***	***	***	***	3.63	1.55	*	*	*	***	***	***	13.4	*	*
Malaysia	Petaling Jaya	MYA001	14.0	13.2	21.6	21.9	24.6	21.8	12.7	26.3	***	15.6	14.9	13.9	14.6	15.1	9.38
	Tanah Rata	MYA002	6.71	6.64	7.95	7.60	5.22	5.01	6.64	7.05	***	16.8	***	8.23	5.64	5.64	12.7
	Danum Valley	MYA003	3.01	2.22	4.30	3.76	4.40	2.75	4.24	5.99	***	15.7	6.38	4.69	2.99	11.2	4.10
	Kuching	MYA004	13.7	12.6	16.6	21.7	18.0	17.4	14.2	15.6	***	74.7	10.2	21.7	9.93	18.6	32.9
	Gunung Brinchang	MYA005											1.51	***	***	***	***
Mongolia	Ulaanbaatar	MNA001	5.53	***	14.4	***	***	4.05	6.60	3.85	1.23						
	Terelj	MNA002	2.91	***	6.25	***	***	1.46	1.64	2.14	***	7.16	5.55	*	4.44	1.71	0.364
	Khan-Uul	MNA004										7.17	8.66	*	4.55	6.02	7.08
	Terelj2_temp	MNA005															3.01
Myanmar	Yangon	MMA001	20.7	18.8	2.13	39.6	215	11.4	28.6	47.4	40.8	21.4	4.70	42.1	22.6	21.1	25.3
Philippines	Manila Observatory	PHA001	45.4	60.2	38.4	36.8	42.3	50.8	***	***	33.9	40.7	22.4	31.4	12.6	20.6	13.9
	Los Baños	PHA002	14.2	18.7	14.2	13.8	13.1	19.9	***	***	***	***	***	37.9	5.63	4.59	5.68
	Mt.Sto.Tomas	PHA003	35.7	79.1	37.0	28.8	40.7	58.0	***	***	***	***	***	4.47	***	14.8	***
Republic of Korea	Ganghwa	KRA001	5.40	5.64	7.26	3.47	5.04	2.71	3.61	1.61	1.60	***	6.87	4.35	3.23	3.74	8.00
	Jeju	KRA002	4.00	3.78	4.66	2.13	3.66	8.65	5.42	2.37	2.28	***	4.48	3.71	18.6	5.34	1.07
	Imsil	KRA003	8.99	4.76	2.80	3.19	3.01	1.68	2.26	1.37	2.27	***	3.78	3.18	2.75	1.48	2.52
Russia	Mondy	RUA001	0.657	1.27	1.51	0.860	1.13	1.20	1.65	1.92	0.921	0.196	0.260	0.225	***		
	Listvyanka	RUA002	7.67	4.00	3.26	3.53	3.31	2.49	3.83	2.78	3.43	3.00	3.75	4.46	4.34	5.94	4.96
	Irkutsk	RUA003	11.3	13.8	9.04	10.2	8.80	8.10	11.2	12.2	7.03	6.72	9.03	9.93	11.0	10.3	8.78
	Primorskaya	RUA004	8.34	10.8	12.6	11.4	14.5	11.6	12.9	14.5	10.2	14.1	9.49	15.9	22.3	7.10	9.47
Thailand	Bangkok	THA001	22.6	24.0	33.2	14.4	26.7	25.6	17.8	30.7	18.3	25.3	***	25.0	28.7	*	*
	Samutprakarn	THA002	12.3	7.83	21.6	14.2	8.69	16.5	14.2	12.4	9.38	6.99	***	11.9	5.81	*	***
	Pathumthani	THA003	18.7	31.8	31.9	23.7	17.7	14.5	16.6	10.4	8.19	6.11	4.70	8.90	7.53	5.30	10.9
	Khanchanaburi	THA004	7.53	41.2	4.72	3.85	3.83	5.24	4.16	3.34	2.69	***	***	***	***	***	***
	Mae Hia	THA005	4.10	8.54	15.0	5.09	3.00	7.87	10.4	5.60	7.62						
	Sakaerat	THA008	2.73	4.13	2.75	3.66	9.32	8.83	7.70	39.4	63.5						
Vietnam	Hanoi	VNA001	26.3	26.9	31.2	40.9	46.5	37.4	72.5	76.6	102	130	60.9	194	54.2	142	72.6
	Hoa Binh	VNA002	22.0	21.0	33.8	17.3	16.2	18.7	43.7	38.2	26.5	93.8	55.5	36.6	46.2	24.3	31.7
	Cuc Phuong	VNA003	59.2	60.9	45.2	38.8	28.0	51.9	52.9	44.7	37.2	39.9	63.8	101	113	99.1	89.8
	Da Nang	VNA004	30.9	26.1	42.5	56.7	61.8	101	72.1	91.0	192	282	79.4	68.4	105	54.9	130
	Can Tho	VNA005				22.9	57.7	19.4	19.7	37.0	36.5	22.9	32.1	31.2	28.6	25.4	31.5
	Ho Chi Minh	VNA006				48.7	61.8	30.1	49.7	44.3	59.0	38.8	41.6	40.1	34.8	36.3	35.0
	Yen Bai	VNA007					23.9	36.5	55.2	38.6	43.2	88.8	31.4	39.3	39.3	36.6	63.8

Terms and abbreviations are given in Table 4.5.

Table 4.93 Annual Mg^{2+} deposition amount from 2011 to 2025

unit: mmol $m^{-2}y^{-1}$

Country	Name of sites	Code	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
Cambodia	Phnom Penh	KHA001	1.55	1.98	1.50	2.54	2.82	1.84	1.94	***	***	***	***	***	***	***	***
China	Haifu	CNA003	6.98	6.94	8.44	9.92	5.85	7.22	4.96	4.52	3.68	2.84	2.89	2.90	4.64	2.48	3.40
	Jinyunshan	CNA004	5.20	5.85	4.99	6.52	4.17	4.73	6.01	3.13	3.12	3.14	3.25	2.72	3.63	1.99	2.54
	Shizhan	CNA005	6.55	1.36	24.0	7.34	5.49	0.819	6.45	6.06	3.08	4.35	1.03	8.63	3.79	2.52	11.2
	Jiwozi	CNA007	9.37	17.3	14.5	12.3	4.97	4.66	10.0	8.74	13.1	2.84	0.583	2.46	5.79	3.53	11.8
	Hongwen	CNA008	3.56	4.34	4.71	4.82	4.26	8.65	3.87	4.66	4.29	4.60	2.85	3.10	2.51	2.94	3.26
	Xiaoping	CNA009	3.39	4.46	7.97	4.98	3.54	3.96	1.88	1.78	2.06	2.27	1.62	2.44	2.49	2.39	1.62
	Xiang Zhou	CNA010	5.53	10.5	33.9	12.1	10.3	9.42	10.7	13.2	7.08	6.81	5.87	5.36	5.69	5.79	9.70
	Zhuxiandong	CNA011	7.74	***	***	***	14.0	12.2	5.82	21.5	8.67	12.4	8.36	7.88	6.62	5.70	6.92
	Wuzhishan	CNA013									3.44	1.12	1.57	1.45	0.556	0.846	*
	Lijiang	CNA014									2.33	2.62	0.759	0.786	0.622	1.55	0.621
Indonesia	Jakarta	IDA001	3.42	8.06	6.11	11.5	5.07	8.90	3.86	5.76	2.83	7.50	6.47	4.46	***	9.52	7.84
	Serpong	IDA002	2.59	1.80	8.97	9.31	6.84	8.96	8.01	9.36	9.74	6.11	7.93	8.84			
	Kototabang	IDA003	2.08	3.69	5.09	2.27	53.7	2.57	2.63	3.08	1.55	3.44	2.37	1.96	***	3.89	1.90
	Bandung	IDA004	8.85	6.61	14.8	15.3	11.3	9.45	7.30	6.86	8.16	6.71	4.99	5.47			
	Maros	IDA005	9.07	17.2	11.3	37.7	74.5	5.76	5.16	8.39	4.30	3.55	2.64	7.78	***	3.64	6.36
	Jembrana	IDA006									4.19	10.6	12.5	8.29	***	10.4	12.9
	Lombok	IDA007									6.65	11.2	8.56	22.6	***	7.75	11.2
	Bandung 2	IDA008															1.63
Japan	Rishiri	JPA001	18.9	37.8	26.3	18.7	17.7	10.3	22.7	21.7	15.3	19.9	29.2	20.2	15.3	14.2	30.0
	Ochiishi	JPA002	15.1	26.6	51.0	9.28	16.9	18.0	21.3	9.84	6.35	8.65	25.9	*	*	*	*
	Tappi	JPA003	19.9	18.2	32.1	21.6	28.0	23.8	24.5	30.2							
	Sado-seki	JPA004	26.4	38.1	58.2	45.8	32.3	20.8	21.6	24.3	24.3	26.5	288	27.5	23.4	20.0	26.9
	Happo	JPA005	2.76	4.60	3.63	3.11	2.98	2.11	3.83	2.84	2.01	2.22	2.57	1.72	2.53	1.34	2.09
	Ijira	JPA006	5.19	7.27	5.70	6.00	6.40	4.94	5.38	7.17	4.64	5.89	9.11	10.4	7.20	6.26	11.5
	Oki	JPA007	85.2	53.4	78.3	63.9	50.8	58.5	54.8	60.4	20.6	38.9	72.3	*	*	*	*
	Banryu	JPA008	18.3	13.5	17.2	16.4	15.7	17.3	14.6	11.1							
	Yusuhara	JPA009	8.71	8.65	5.98	6.43	8.45	3.33	15.6	7.18	5.35	2.98	7.14	11.0	7.58	4.94	2.18
	Hedo	JPA010	40.9	136	41.5	38.2	63.0	42.5	69.2	54.7	44.2	52.9	354	47.4	74.2	*	*
	Ogasawara	JPA011	30.5	21.3	21.5	23.2	54.8	12.1	35.2	5.23	38.0	9.80	32.7	32.3	23.9	16.3	15.9
	Tokyo	JPA012	6.65	6.18	4.89	4.58	4.02	2.97	6.30	5.38	11.0	3.05	4.16	3.45	2.69	4.05	2.85
	Niigata-maki	JPA013									31.0	27.4	38.4	40.3	36.9	8.70	
	Tsushima	JPA014									8.05	8.39	9.18	17.1	8.11	10.4	7.33
Lao PDR	Vientiane	LAA001	***	***	***	***	0.564	0.198	*	*	*	***	***	***	1.60	*	*
Malaysia	Petaling Jaya	MYA001	2.09	1.69	2.45	4.07	3.46	2.81	1.77	2.79	***	3.31	2.80	2.53	2.89	4.53	1.52
	Tanah Rata	MYA002	0.869	0.528	0.835	0.964	0.636	0.647	0.327	0.673	***	3.34	***	0.703	0.702	0.855	1.29
	Danum Valley	MYA003	2.05	0.830	1.38	1.57	1.89	0.956	1.12	3.25	***	4.80	2.61	2.73	1.54	9.07	1.59
	Kuching	MYA004	3.45	1.04	2.42	4.10	5.35	5.37	2.75	2.31	***	6.09	2.64	2.89	1.86	1.76	2.89
	Gunung Brinchang	MYA005											0.189	***	***	***	***
Mongolia	Ulaanbaatar	MNA001	1.51	***	0.576	***	***	0.968	0.489	0.426	0.125						
	Terelj	MNA002	1.06	***	0.451	***	***	0.233	0.139	0.218	***	1.05	0.600	*	0.409	0.235	0.0510
	Khan-Uul	MNA004										0.524	0.591	*	0.500	0.650	0.645
	Terelj2_temp	MNA005															0.368
Myanmar	Yangon	MMA001	9.52	16.9	33.1	9.79	14.3	9.98	9.75	13.9	11.8	6.20	61.3	11.1	8.10	6.09	10.9
Philippines	Manila Observatory	PHA001	26.1	29.1	16.0	12.2	16.0	13.3	***	***	9.41	8.21	3.59	37.9	7.42	6.99	3.32
	Los Baños	PHA002	11.3	8.96	7.77	6.88	6.86	7.28	***	***	***	***	***	8.55	5.48	3.20	3.51
	Mt.Sto.Tomas	PHA003	7.41	16.6	7.41	4.92	21.0	12.3	***	***	***	***	***	0.336	***	5.83	***
Republic of Korea	Ganghwa	KRA001	4.70	4.11	2.96	1.39	2.12	0.994	1.37	0.683	8.13	***	3.68	3.17	2.50	2.77	4.40
	Jeju	KRA002	11.3	41.4	16.3	9.38	8.60	42.2	15.3	18.7	2.90	***	29.6	19.5	37.4	16.2	3.99
	Imsil	KRA003	3.02	4.27	2.28	1.95	2.38	1.30	1.45	0.759	0.874	***	2.76	2.66	1.50	0.978	1.55
Russia	Mondy	RUA001	0.191	0.427	0.290	0.146	0.292	0.192	0.334	0.386	0.173	0.0321	0.0725	0.0452	***		
	Listvyanka	RUA002	1.49	0.867	0.810	0.662	0.689	0.604	0.993	0.663	0.974	0.992	1.29	1.30	1.52	2.10	1.60
	Irkutsk	RUA003	2.40	2.88	1.77	1.43	1.60	1.91	2.36	2.35	1.69	1.86	2.74	2.52	3.67	2.54	2.63
	Primorskaya	RUA004	2.66	4.08	3.53	3.99	6.49	5.09	7.57	9.44	7.83	7.05	4.04	5.85	7.19	3.57	4.98
Thailand	Bangkok	THA001	2.72	2.43	3.50	2.40	3.02	4.04	2.50	3.43	1.70	4.01	***	3.29	2.89	*	*
	Samutprakarn	THA002	2.52	1.46	4.97	3.09	2.26	3.24	2.83	3.14	1.71	2.48	***	2.94	1.51	*	***
	Pathumthani	THA003	2.46	4.91	3.06	2.03	2.02	2.25	1.92	1.51	1.59	1.45	1.04	2.36	1.14	1.12	2.12
	Khanchanaburi	THA004	2.47	6.59	1.55	1.30	1.16	1.84	1.35	1.43	0.647	***	***	***	***	***	***
	Mae Hia	THA005	0.367	0.936	2.15	1.01	1.05	1.15	1.69	0.537	1.07						
	Sakaerat	THA008	0.410	0.477	0.289	0.557	3.01	4.60	2.97	9.23	10.6						
Vietnam	Hanoi	VNA001	7.41	3.87	5.42	5.83	5.85	7.28	15.1	12.3	9.77	13.3	11.1	24.5	11.9	4.35	5.78
	Hoa Binh	VNA002	4.21	4.15	5.40	3.54	3.95	3.63	3.73	8.70	3.32	11.1	9.47	5.21	10.4	3.64	4.34
	Cuc Phuong	VNA003	8.86	14.3	23.1	8.30	7.94	16.1	18.6	25.6	21.2	21.1	26.6	26.2	22.5	20.4	19.5
	Da Nang	VNA004	34.3	15.4	43.4	23.9	16.6	24.6	25.4	27.6	61.3	51.1	44.8	64.6	77.9	37.0	80.0
	Can Tho	VNA005				8.19	20.2	11.4	10.2	25.7	24.1	13.0	17.8	20.5	15.5	14.5	17.8
	Ho Chi Minh	VNA006				16.7	25.4	17.6	31.0	25.2	29.9	23.6	25.4	23.2	21.0	21.8	21.2
	Yen Bai	VNA007					4.06	5.88	3.99	6.32	3.71	15.8	4.92	5.02	9.01	1.80	5.23

Terms and abbreviations are given in Table 4.5.

Table 4.94 Annual H^+ deposition amount from 2011 to 2025

unit: mmol $m^{-2}y^{-1}$

Country	Name of sites	Code	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
Cambodia	Phnom Penh	KHA001	1.41	1.12	0.890	0.969	0.791	0.496	0.920	***	***	***	***	***	***	***	***
China	Haifu	CNA003	53.4	58.1	30.8	17.1	4.65	0.832	1.79	5.70	4.56	4.36	3.88	1.78	1.21	0.807	0.664
	Jinyunshan	CNA004	77.1	82.0	71.4	61.3	25.7	12.9	8.96	13.2	18.2	21.5	13.7	7.17	8.07	5.70	5.55
	Shizhan	CNA005	0.352	0.217	0.0514	0.154	0.131	0.0852	0.148	0.0803	0.0697	0.0528	0.0616	0.0336	0.0787	0.107	0.393
	Jiwozi	CNA007	1.10	0.0295	0.412	0.0591	0.0556	0.0875	0.103	0.0895	0.102	0.121	0.537	0.348	0.826	0.127	0.165
	Hongwen	CNA008	19.0	28.6	18.5	9.48	12.9	21.5	2.46	2.25	0.877	0.124	2.05	4.78	4.89	5.50	2.38
	Xiaoping	CNA009	23.4	20.3	19.6	26.7	17.6	34.2	0.856	12.2	18.9	13.7	10.1	14.3	9.90	2.82	1.02
	Xiang Zhou	CNA010	11.1	11.7	14.1	16.6	3.96	15.9	20.0	17.9	22.4	14.5	14.9	13.0	7.10	11.4	3.52
	Zhuxiandong	CNA011	19.1	***	***	***	5.25	16.2	15.4	14.7	20.1	14.4	8.55	13.2	11.7	9.88	3.81
	Wuzhishan	CNA013									1.71	1.07	0.720	0.768	0.457	0.549	0.469
	Lijiang	CNA014									0.269	0.374	0.148	0.117	0.359	0.152	0.0381
Indonesia	Jakarta	IDA001	27.9	47.4	39.3	62.2	40.5	22.3	16.8	34.8	22.1	19.4	26.7	28.2	***	17.5	36.1
	Serpong	IDA002	16.4	11.1	20.1	20.8	20.1	19.2	20.3	12.9	23.1	23.1	7.59	20.3			
	Kototabang	IDA003	20.2	25.7	22.5	38.0	30.9	10.9	15.3	14.2	8.99	13.3	6.58	5.96	***	45.1	14.5
	Bandung	IDA004	6.12	7.25	9.42	12.5	8.87	22.4	10.8	3.79	1.61	1.40	5.72	9.61			
	Maros	IDA005	16.1	5.90	13.7	16.2	14.3	11.4	11.2	14.1	19.1	6.75	0.910	4.41	***	8.63	15.8
	Jembrana	IDA006									6.86	15.4	31.4	31.9	***	39.2	35.5
	Lombok	IDA007									4.11	6.61	10.7	32.3	***	34.7	24.9
	Bandung 2	IDA008															1.32
Japan	Rishiri	JPA001	24.8	23.6	24.8	19.2	18.4	16.4	16.2	14.8	10.9	12.7	9.26	9.70	10.2	8.86	13.4
	Ochiishi	JPA002	10.7	13.3	9.94	6.55	8.23	7.28	6.21	8.18	6.34	4.95	10.3	*	*	*	*
	Tappi	JPA003	28.2	24.1	17.1	26.1	15.7	18.5	20.4	18.1							
	Sado-seki	JPA004	28.8	24.1	28.7	27.8	18.9	13.9	16.0	17.1	12.1	18.3	28.4	8.24	11.7	7.30	12.4
	Happo	JPA005	28.2	26.6	26.7	24.0	18.3	20.0	24.9	17.4	18.0	14.3	14.8	14.1	15.9	18.8	19.5
	Ijira	JPA006	55.2	58.7	48.8	58.8	62.7	55.2	53.5	45.1	45.4	39.7	36.7	42.1	59.1	53.1	29.4
	Oki	JPA007	28.8	34.2	34.3	23.4	20.3	20.3	14.8	17.8	16.8	21.9	12.8	*	*	*	*
	Banryu	JPA008	31.3	40.5	46.2	42.3	32.4	28.2	25.2	22.5							
	Yusuhara	JPA009	39.7	51.3	41.4	46.5	41.2	38.9	80.7	40.3	33.6	32.5	20.1	26.1	29.5	24.6	6.53
	Hedo	JPA010	22.1	21.3	17.6	23.3	12.6	12.2	16.1	21.0	27.0	16.6	56.9	17.3	23.8	*	*
	Ogasawara	JPA011	6.46	7.28	7.15	12.8	9.35	9.21	10.1	5.72	11.0	17.7	9.72	13.3	15.2	7.94	9.91
	Tokyo	JPA012	20.7	23.5	14.2	26.7	26.8	18.4	16.3	15.3	16.4	11.1	12.3	9.86	9.59	15.1	7.03
	Niigata-maki	JPA013									20.8	23.8	17.9	16.5	17.3	4.48	
	Tsushima	JPA014									25.1	28.6	28.9	11.4	24.7	18.6	27.7
Lao PDR	Vientiane	LAA001	***	0.463	***	0.366	1.06	0.122	*	*	*	***	***	***	0.294	11.7	3.62
Malaysia	Petaling Jaya	MYA001	250	210	136	142	153	189	96.6	122	***	83.4	78.3	124	105	104	74.6
	Tanah Rata	MYA002	32.1	31.0	31.1	40.3	51.4	33.3	41.9	35.7	***	36.4	***	25.4	24.4	30.5	22.4
	Danum Valley	MYA003	23.5	19.5	17.1	13.9	12.4	16.6	18.0	12.4	***	13.8	21.2	20.1	11.0	20.0	16.0
	Kuching	MYA004	17.3	18.4	21.2	16.8	21.6	40.4	23.4	21.4	***	10.3	20.0	10.4	14.6	21.7	20.5
	Gunung Brinchang	MYA005											3.20	***	***	***	***
Mongolia	Ulaanbaatar	MNA001	0.595	0.224	0.161	***	0.0569	1.52	0.471	0.295	0.110						
	Terelj	MNA002	0.786	0.211	1.11	***	0.315	0.689	0.962	0.233	***	0.0659	0.381	0.820	0.578	0.133	0.0166
	Khan-Uul	MNA004										0.182	0.369	0.829	0.711	0.272	0.0367
	Terelj2_temp	MNA005															0.106
Myanmar	Yangon	MMA001	1.09	0.831	0.948	0.571	0.526	0.387	0.575	0.777	0.871	1.23	0.378	0.310	0.383	0.675	0.554
Philippines	Manila Observatory	PHA001	8.29	26.9	10.0	1.93	1.32	7.68	***	***	9.33	6.31	25.6	33.0	52.0	15.7	12.9
	Los Baños	PHA002	6.43	4.61	3.37	3.34	0.791	33.9	***	***	***	***	***	32.0	65.5	23.8	16.8
	Mt.Sto.Tomas	PHA003	20.6	6.41	22.7	2.64	6.72	1.52	***	***	***	***	***	1.39	***	4.18	***
Republic of Korea	Ganghwa	KRA001	33.9	18.3	23.6	5.72	11.9	13.7	21.4	8.27	10.5	***	3.85	3.18	3.47	5.54	6.19
	Jeju	KRA002	7.32	5.93	2.66	1.93	3.12	8.90	3.76	1.41	2.00	***	2.42	0.765	2.54	2.84	0.452
	Imsil	KRA003	8.09	10.9	7.33	5.69	5.78	2.64	3.83	2.34	5.04	***	0.342	0.185	3.53	0.711	0.204
Russia	Mondy	RUA001	0.213	0.250	1.60	0.573	0.487	0.957	0.928	2.35	0.717	0.232	0.137	0.227	***		
	Listvyanka	RUA002	9.00	5.73	4.41	3.53	4.91	3.94	5.38	4.03	8.00	6.52	7.88	5.03	7.24	3.49	5.32
	Irkutsk	RUA003	3.13	5.15	2.71	3.35	1.79	5.68	5.73	6.17	6.14	6.77	6.44	2.59	2.77	5.88	4.33
	Primorskaya	RUA004	14.6	7.88	6.36	2.19	7.98	3.68	1.31	1.53	3.21	0.800	2.01	1.33	2.36	1.99	1.32
Thailand	Bangkok	THA001	19.5	3.74	3.35	0.0953	8.10	4.75	1.72	1.03	0.543	2.43	***	2.98	3.68	2.43	6.07
	Samutprakarn	THA002	2.66	0.647	1.18	0.307	3.66	6.46	2.49	4.43	1.58	0.956	***	3.41	3.17	1.14	***
	Pathumthani	THA003	15.6	5.62	4.60	3.27	5.48	4.29	6.21	10.0	2.79	2.69	2.87	6.18	2.15	1.21	3.10
	Khanchanaburi	THA004	6.24	2.30	7.08	1.58	3.76	1.10	2.02	1.72	0.544	***	***	***	***	***	***
	Mae Hia	THA005	8.29	0.876	1.30	0.278	1.70	1.85	3.42	2.51	5.31						
	Sakaerat	THA008	15.0	9.66	8.23	6.42	12.8	5.92	6.50	8.21	7.11						
Vietnam	Hanoi	VNA001	9.13	4.29	4.29	3.04	0.826	4.19	0.604	5.77	14.5	1.02	4.55	7.82	4.91	12.4	12.4
	Hoa Binh	VNA002	6.42	4.50	1.83	4.69	8.20	3.32	11.4	15.4	7.55	4.04	7.65	7.75	2.18	8.83	36.5
	Cuc Phuong	VNA003	16.8	7.42	7.16	5.10	6.99	3.03	18.8	8.99	5.52	11.0	1.42	6.05	1.93	2.48	6.19
	Da Nang	VNA004	38.0	6.16	6.07	6.69	1.98	2.99	3.06	4.27	1.52	2.18	4.19	5.23	5.92	4.25	3.95
	Can Tho	VNA005				1.01	3.71	2.39	2.05	3.50	2.79	2.34	2.77	2.65	2.60	2.20	2.55
	Ho Chi Minh	VNA006				2.72	1.10	4.46	2.97	1.92	2.45	2.74	1.91	1.82	2.10	1.86	2.31
	Yen Bai	VNA007					8.93	12.0	15.3	8.36	24.4	2.87	3.66	15.7	1.57	33.6	87.4

Terms and abbreviations are given in Table 4.5.

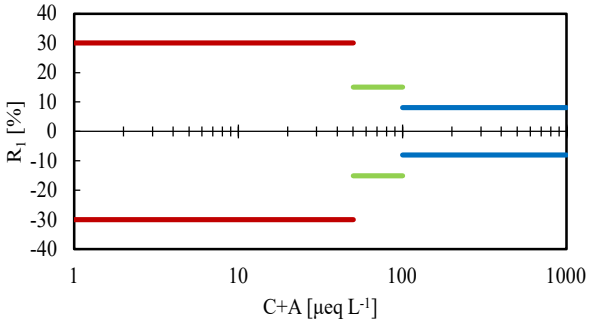


Fig. 4.2 a) Phnom Penh Ion Balance (R_1)

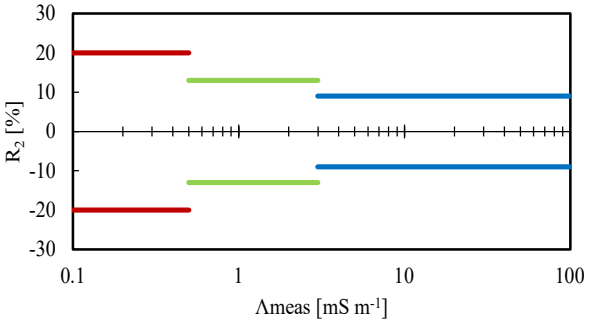


Fig. 4.2 b) Phnom Penh Conductivity Agreement (R_2)

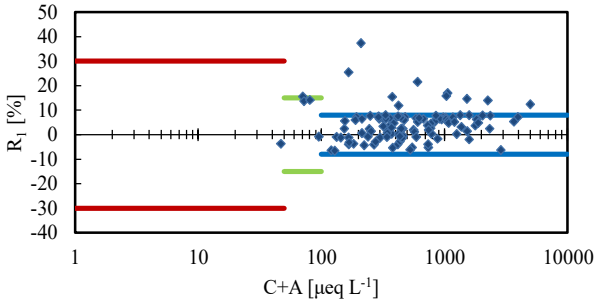


Fig. 4.3 a) Haifu Ion Balance (R_1)

All of R_1 plots were calculated including HCO_3^- and F^-

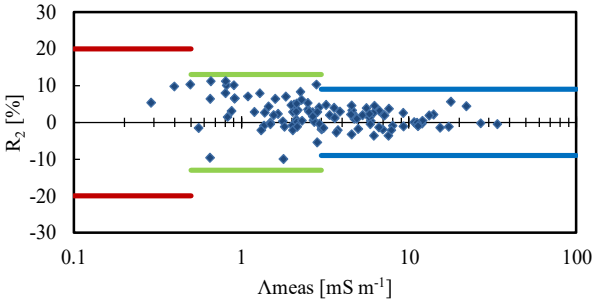


Fig. 4.3 b) Haifu Conductivity Agreement (R_2)

All of R_2 plots were calculated including HCO_3^- and F^-

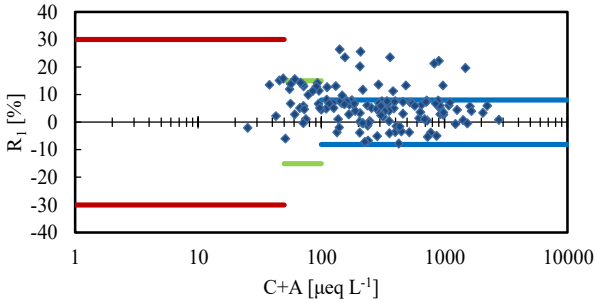


Fig. 4.4 a) Jinyunshan Ion Balance (R_1)

All of R_1 plots were calculated including HCO_3^- and F^-

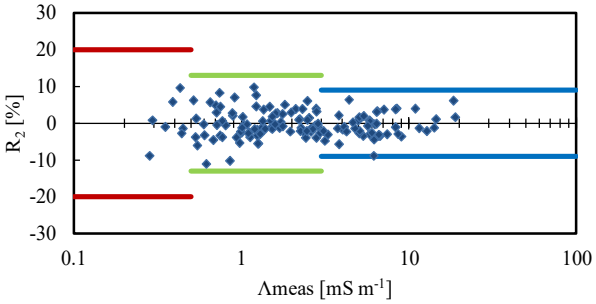


Fig. 4.4 b) Jinyunshan Conductivity Agreement (R_2)

All of R_2 plots were calculated including HCO_3^- and F^-

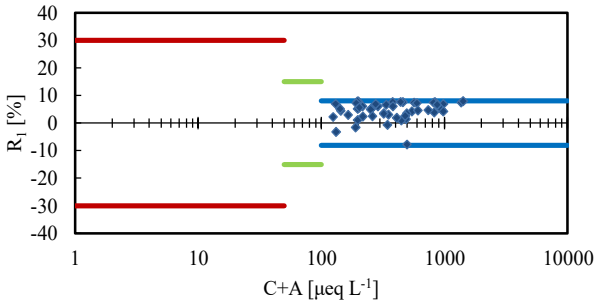


Fig. 4.5 a) Shizhan Ion Balance (R_1)

All of R_1 plots were calculated including HCO_3^- and F^-

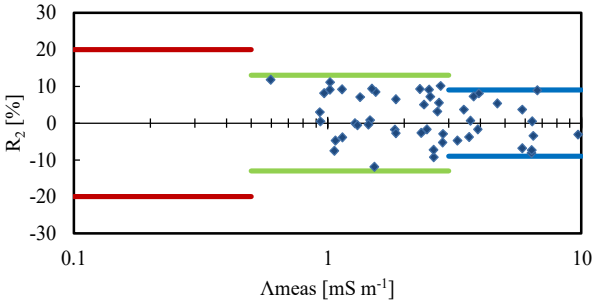


Fig. 4.5 b) Shizhan Conductivity Agreement (R_2)

All of R_2 plots were calculated including HCO_3^- and F^-

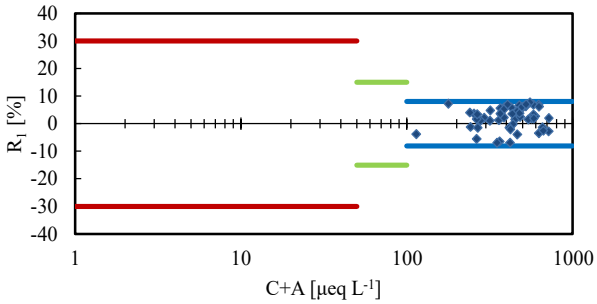


Fig. 4.6 a) Jiwozi Ion Balance (R_1)

All of R_1 plots were calculated including HCO_3^- and F^-

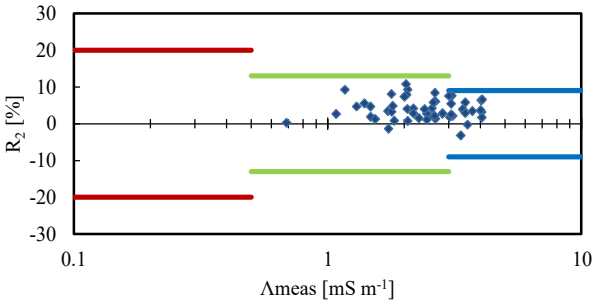


Fig. 4.6 b) Jiwozi Conductivity Agreement (R_2)

All of R_2 plots were calculated including HCO_3^- and F^-

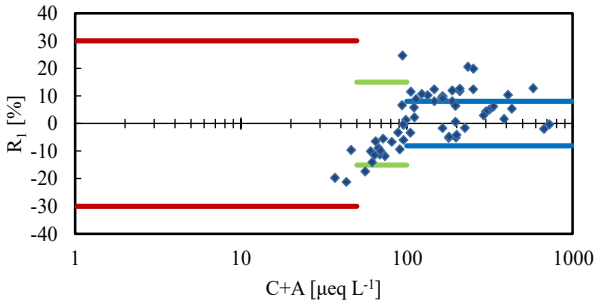


Fig. 4.7 a) Hongwen Ion Balance (R_1)

All of R_1 plots were calculated including F^-

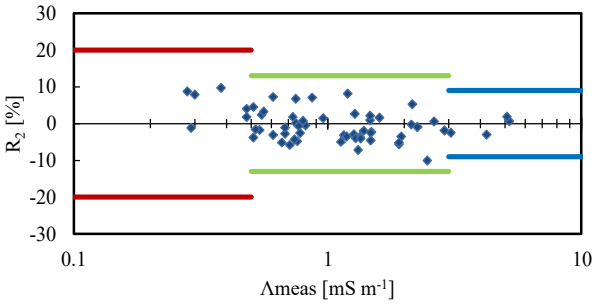


Fig. 4.7 b) Hongwen Conductivity Agreement (R_2)

All of R_2 plots were calculated including F^-

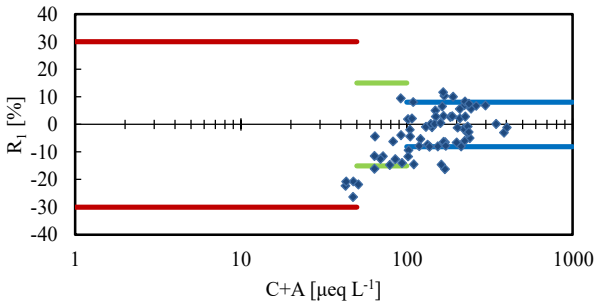


Fig. 4.8 a) Xiaoping Ion Balance (R_1)

All of R_1 plots were calculated including F^-

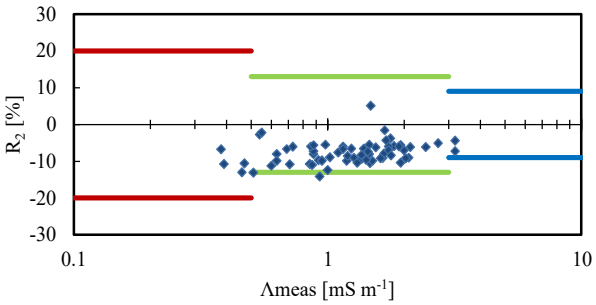


Fig. 4.8 b) Xiaoping Conductivity Agreement (R_2)

All of R_2 plots were calculated including F^-

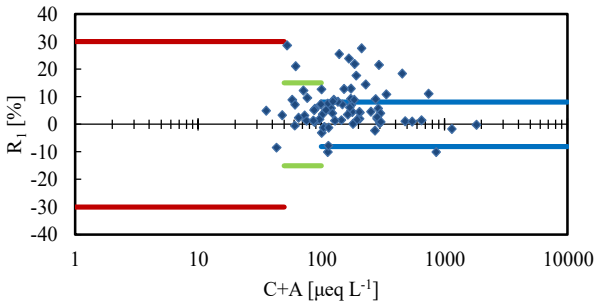


Fig. 4.9 a) Xiang Zhou Ion Balance (R_1)

All of R_1 plots were calculated including F^-

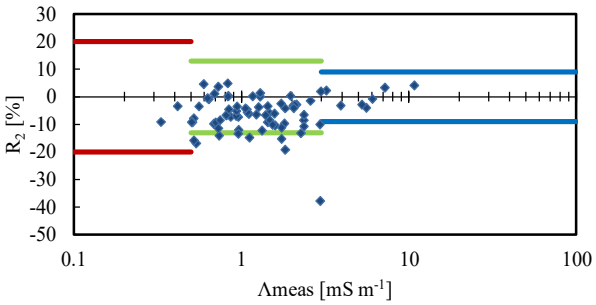


Fig. 4.9 b) Xiang Zhou Conductivity Agreement (R_2)

All of R_2 plots were calculated including F^-

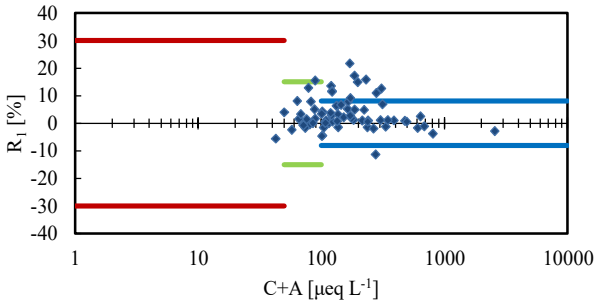


Fig. 4.10 a) Zhuxiandong Ion Balance (R_1)

All of R_1 plots were calculated including F^-

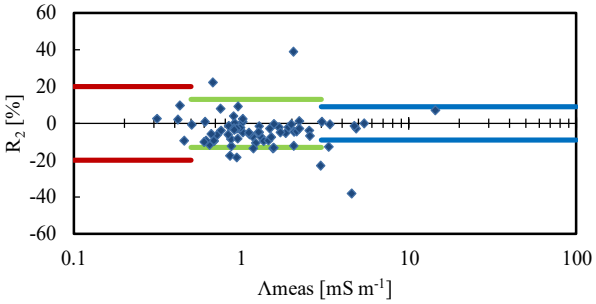


Fig. 4.10 b) Zhuxiandong Conductivity Agreement (R_2)

All of R_2 plots were calculated including F^-

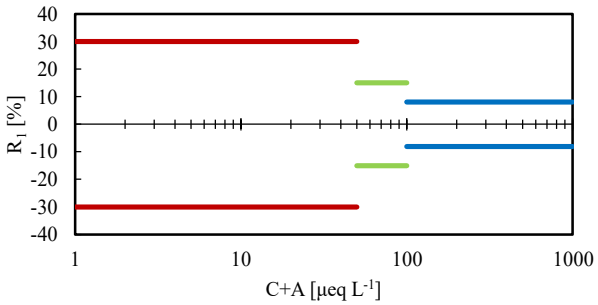


Fig. 4.11 a) Wuzhishan Ion Balance (R_1)

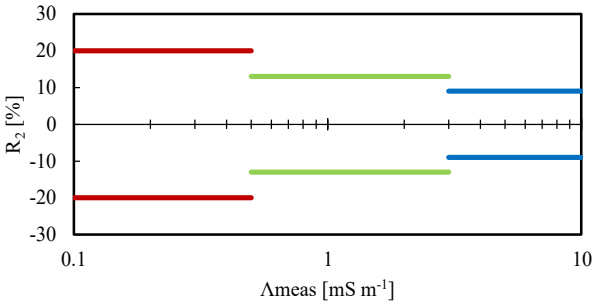


Fig. 4.11 b) Wuzhishan Conductivity Agreement (R_2)

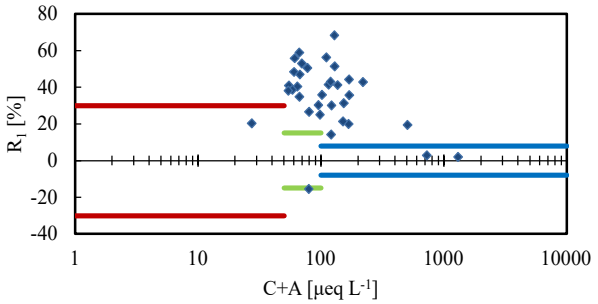


Fig. 4.12 a) Lijiang Ion Balance (R_1)

All of R_1 plots were calculated including F^-

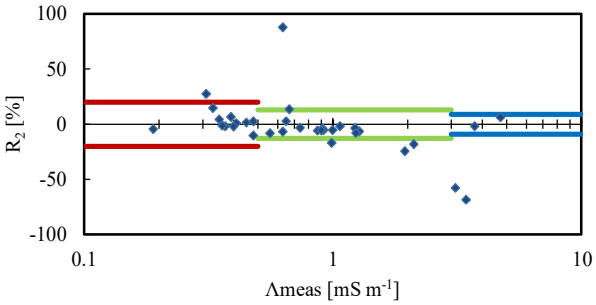


Fig. 4.12 b) Lijiang Conductivity Agreement (R_2)

All of R_2 plots were calculated including F^-

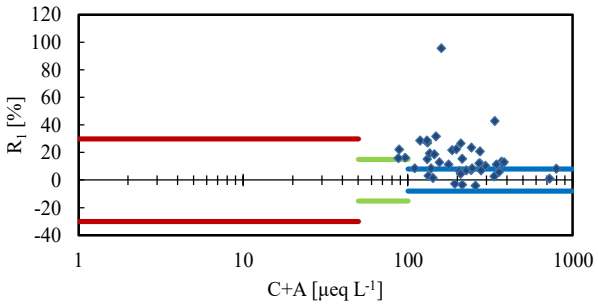


Fig. 4.13 a) Jakarta Ion Balance (R_1)

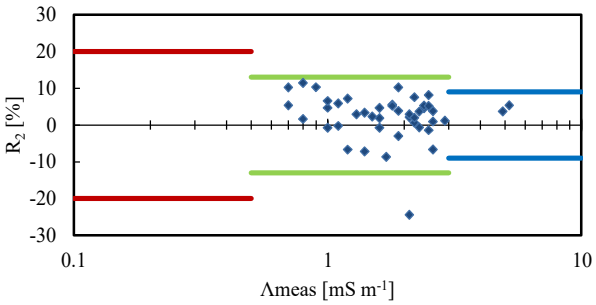


Fig. 4.13 b) Jakarta Conductivity Agreement (R_2)

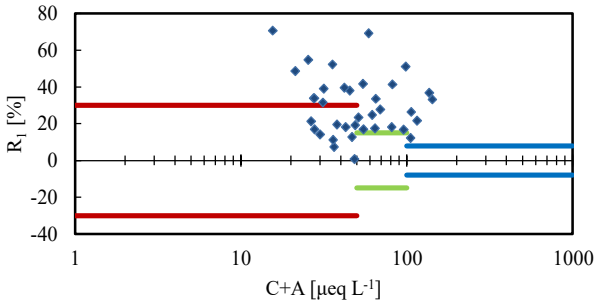


Fig. 4.14 a) Kototabang Ion Balance (R_1)

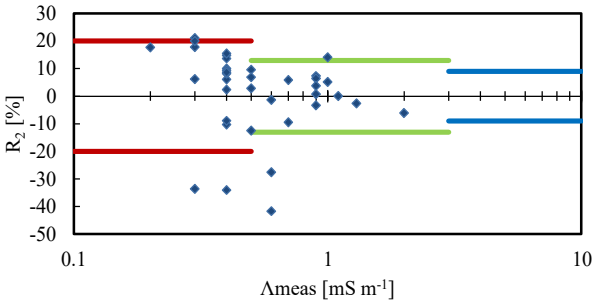


Fig. 4.14 b) Kototabang Conductivity Agreement (R_2)

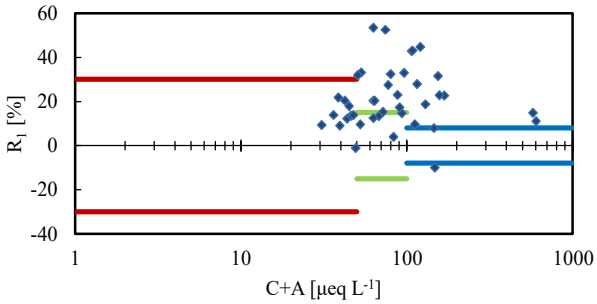


Fig. 4.15 a) Maros Ion Balance (R_1)

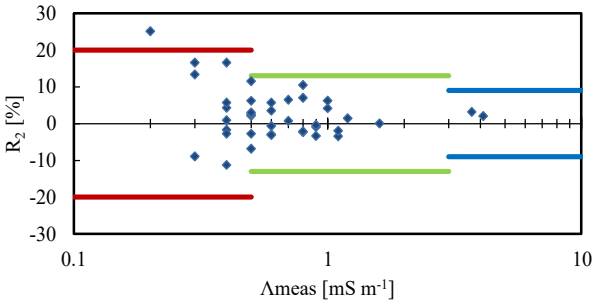


Fig. 4.15 b) Maros Conductivity Agreement (R_2)

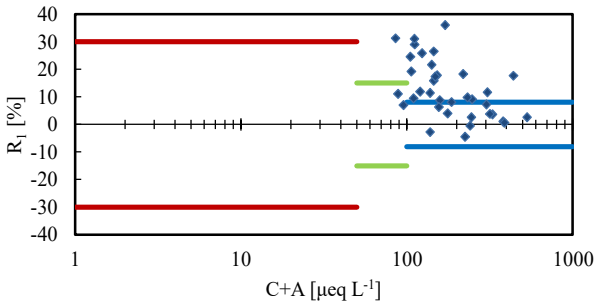


Fig. 4.16 a) Jembrana Ion Balance (R_1)

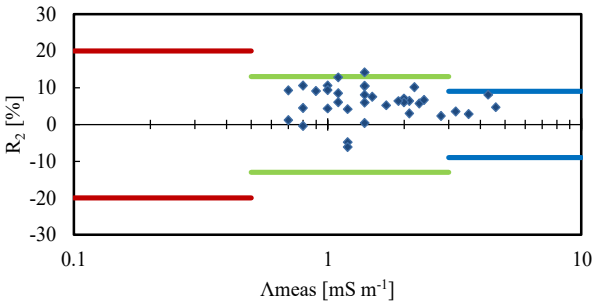


Fig. 4.16 b) Jembrana Conductivity Agreement (R_2)

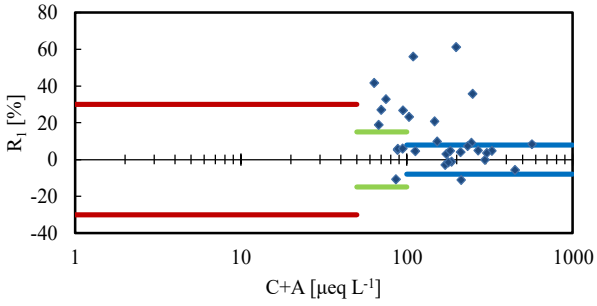


Fig. 4.17 a) Lombok Ion Balance (R_1)

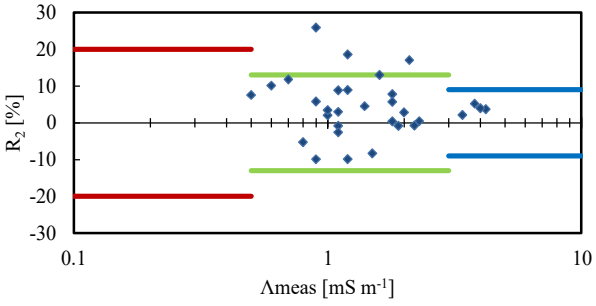


Fig. 4.17 b) Lombok Conductivity Agreement (R_2)

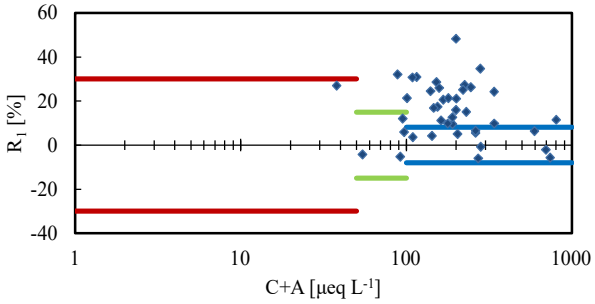


Fig. 4.18 a) Bandung 2 Ion Balance (R_1)

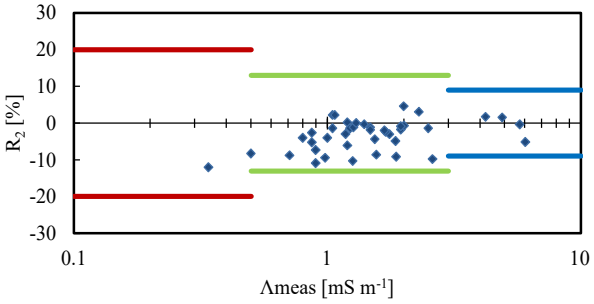


Fig. 4.18 b) Bandung 2_temp Conductivity Agreement (R_2)

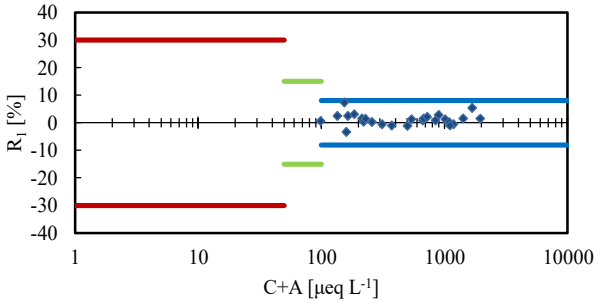


Fig. 4.19 a) Rishiri Ion Balance (R_1)

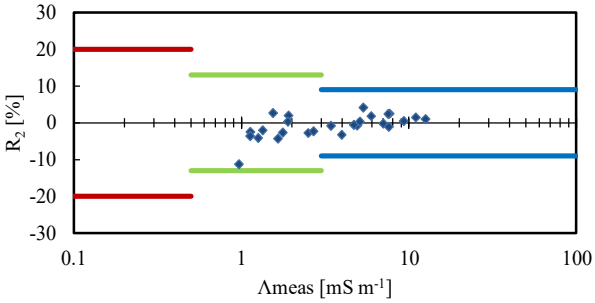


Fig. 4.19 b) Rishiri Conductivity Agreement (R_2)

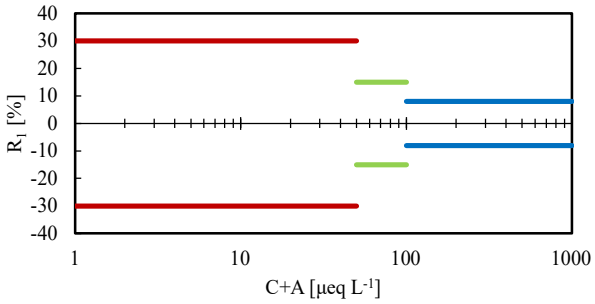


Fig. 4.20 a) Ochiishi Ion Balance (R_1)

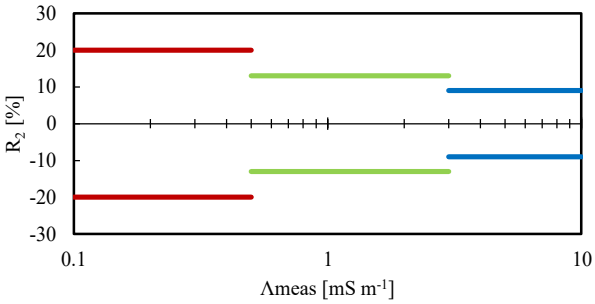


Fig. 4.20 b) Ochiishi Conductivity Agreement (R_2)

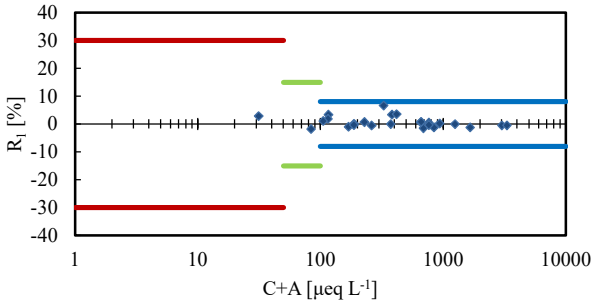


Fig. 4.21 a) Sado-seki Ion Balance (R_1)

All of R_1 plots were calculated including F^-, Br^-, NO_2^-, PO_4^{3-}

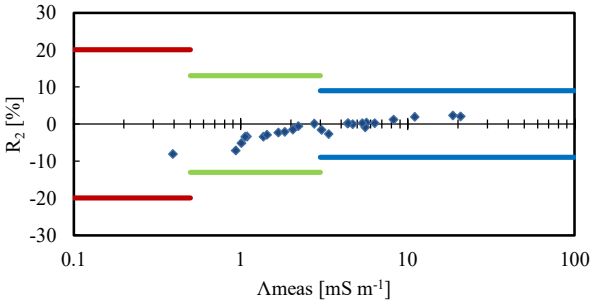


Fig. 4.21 b) Sado-seki Conductivity Agreement (R_2)

All of R_2 plots were calculated including F^-, Br^-, NO_2^-, PO_4^{3-}

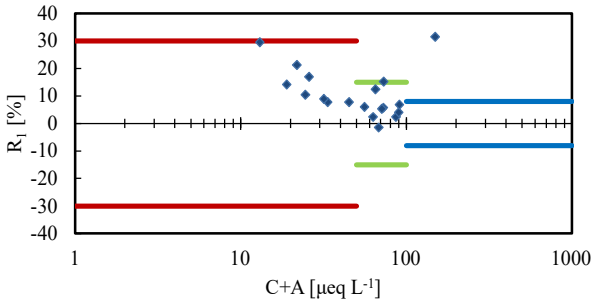


Fig. 4.22 a) Happo Ion Balance (R_1)

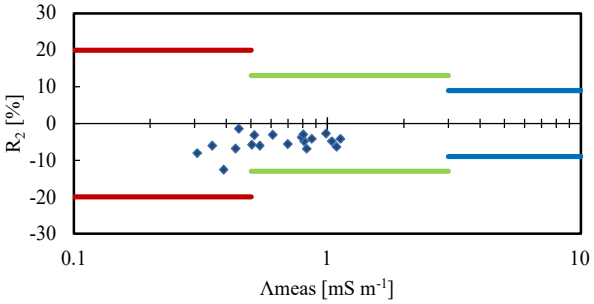


Fig. 4.22 b) Happo Conductivity Agreement (R_2)

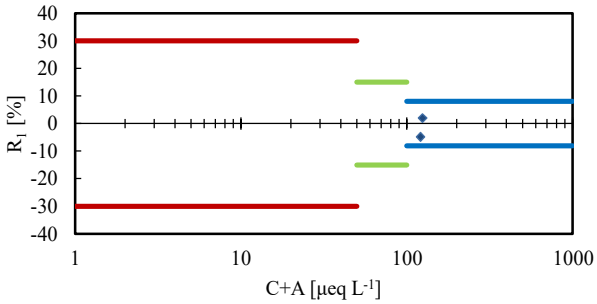


Fig. 4.23 a) Ijira Ion Balance (R_1)

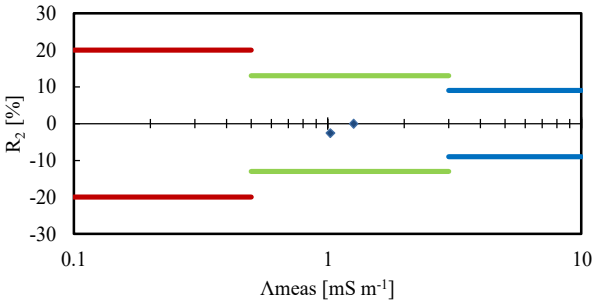


Fig. 4.23 b) Ijira Conductivity Agreement (R_2)

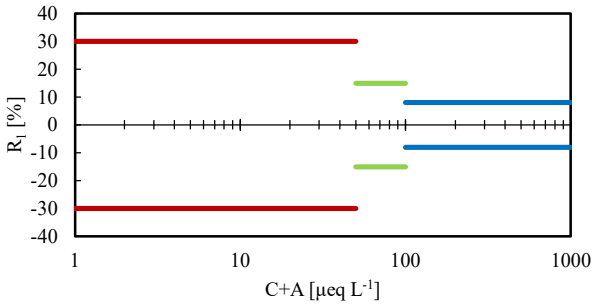


Fig. 4.24 a) Oki Ion Balance (R_1)

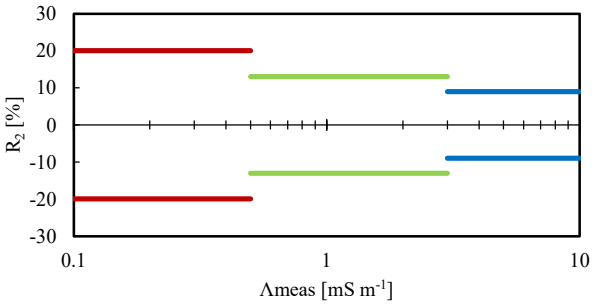


Fig. 4.24 b) Oki Conductivity Agreement (R_2)

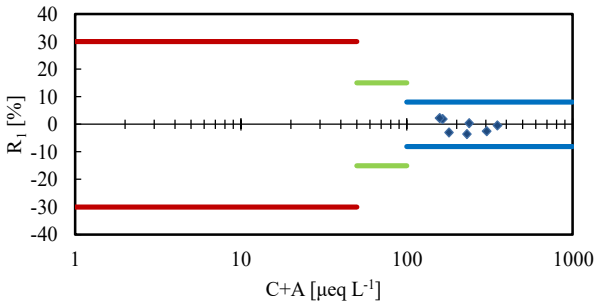


Fig. 4.25 a) Yusuhara Ion Balance (R_1)

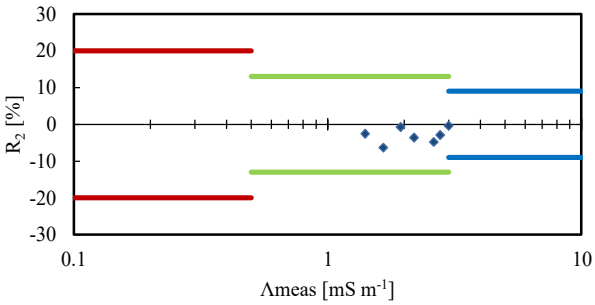


Fig. 4.25 b) Yusuhara Conductivity Agreement (R_2)

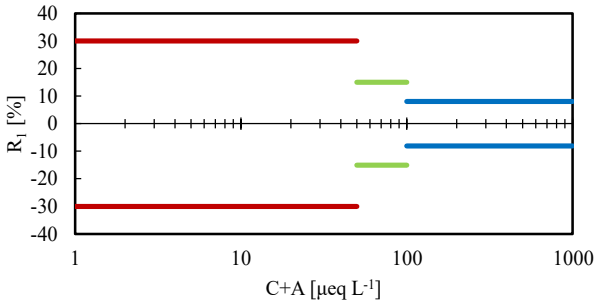


Fig. 4.26 a) Hedo Ion Balance (R_1)

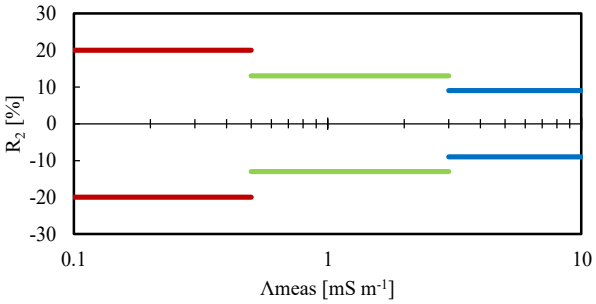


Fig. 4.26 b) Hedo Conductivity Agreement (R_2)

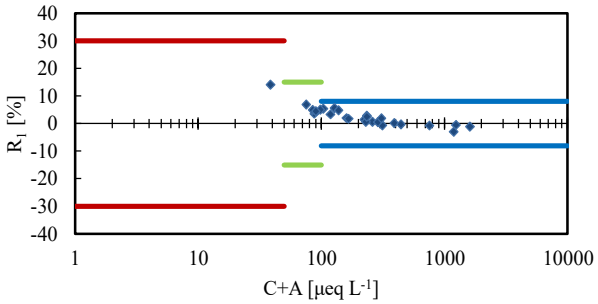


Fig. 4.27 a) Ogasawara Ion Balance (R_1)

All of R_1 plots were calculated including NO_2^-

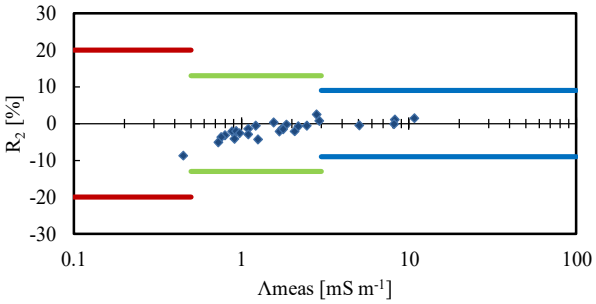


Fig. 4.27 b) Ogasawara Conductivity Agreement (R_2)

All of R_2 plots were calculated including NO_2^-

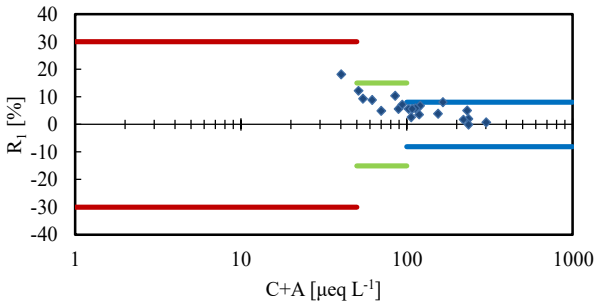


Fig. 4.28 a) Tokyo Ion Balance (R_1)

All of R_1 plots were calculated including F^- and NO_2^-

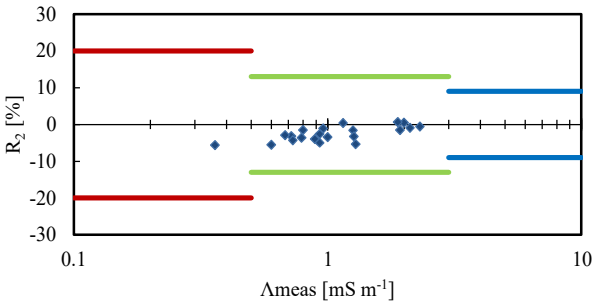


Fig. 4.28 b) Tokyo Conductivity Agreement (R_2)

All of R_2 plots were calculated including F^- and NO_2^-

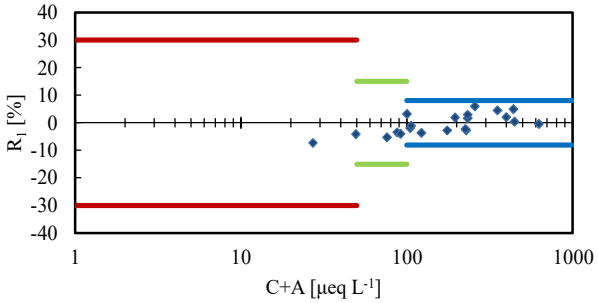


Fig. 4.29 a) Tsushima Ion Balance (R_1)

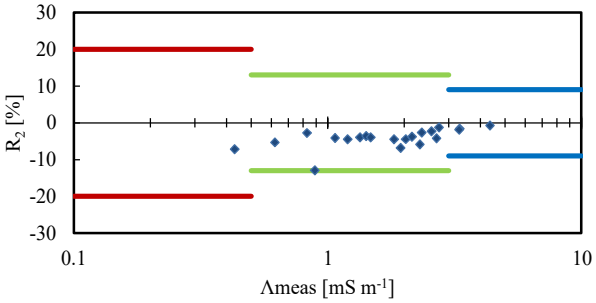


Fig. 4.29 b) Tsushima Conductivity Agreement (R_2)

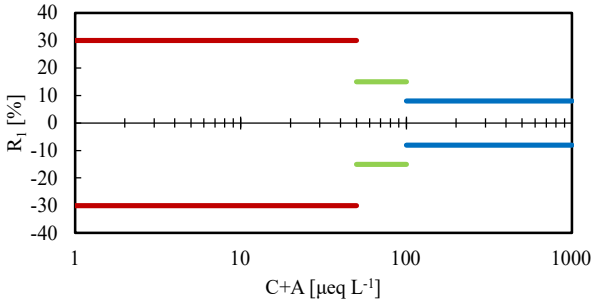


Fig. 4.30 a) Vientiane Ion Balance (R_1)

All of R_1 plots were calculated including F^-, Br^-, NO_2^-, and PO_4^{3-}

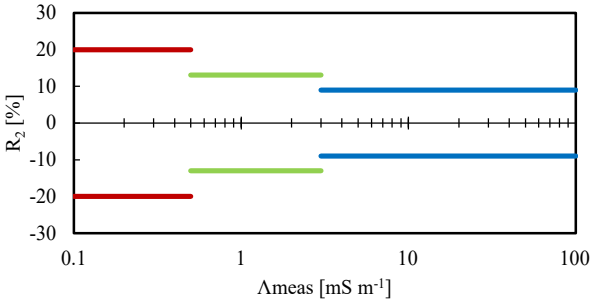


Fig. 4.30 b) Vientiane Conductivity Agreement (R_2)

Conductivity Agreement (R_2)

All of R_2 plots were calculated including F^-, Br^-, NO_2^-, and PO_4^{3-}

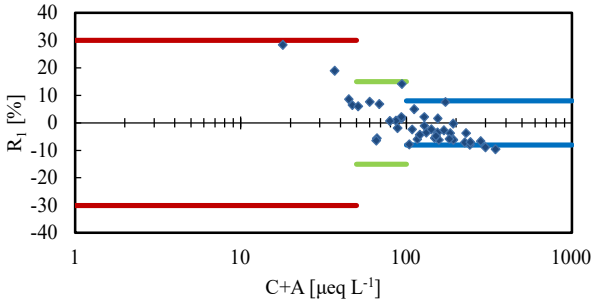


Fig. 4.31 a) Petaling Jaya Ion Balance (R_1)

All of R_1 plots were calculated including HCO_3^-, F^-, Formic, Acetic and Oxalic acid

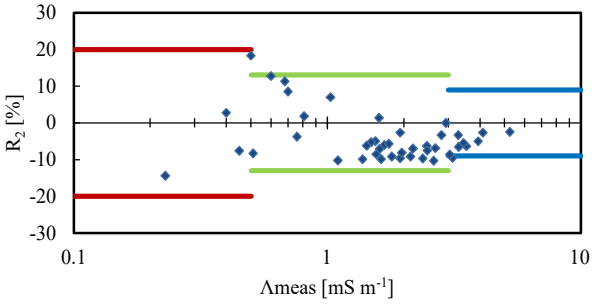


Fig. 4.31 b) Petaling Jaya

Conductivity Agreement (R_2)

All of R_2 plots were calculated including HCO_3^-, F^-, Formic, Acetic and Oxalic acid

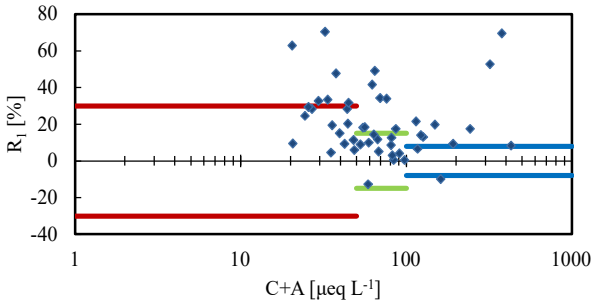


Fig. 4.32 a) Tanah Rata Ion Balance (R_1)

All of R_1 plots were calculated including F^-, Formic, Acetic and Oxalic acid

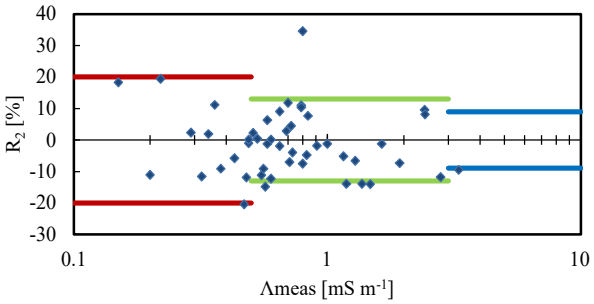


Fig. 4.32 b) Tanah Rata Conductivity Agreement (R_2)

All of R_2 plots were calculated including F^-, Formic, Acetic and Oxalic acid

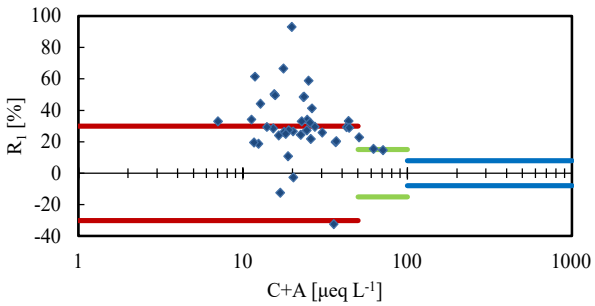


Fig. 4.33 a) Danum Valley Ion Balance (R_1)

All of R_1 plots were calculated including HCO_3^-, F^-, Formic, Acetic and Oxalic acid

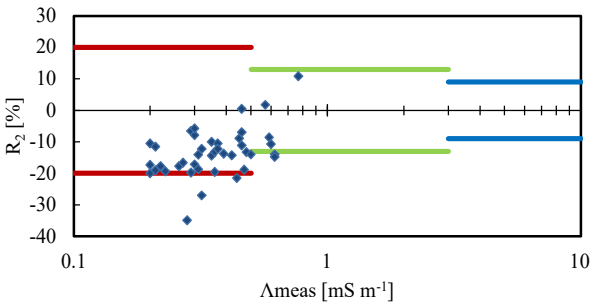


Fig. 4.33 b) Danum Valley

Conductivity Agreement (R_2)

All of R_2 plots were calculated including HCO_3^-, F^-, Formic, Acetic and Oxalic acid

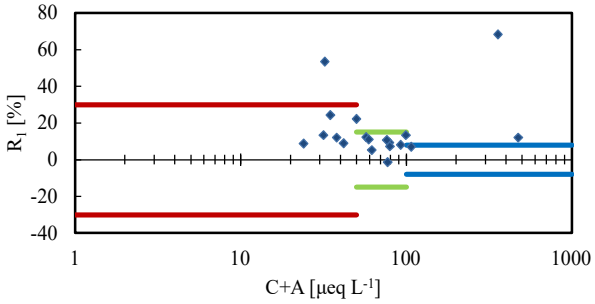


Fig. 4.34 a) Kuching Ion Balance (R_1)

All of R_1 plots were calculated including F^-, Formic, Acetic and Oxalic acid

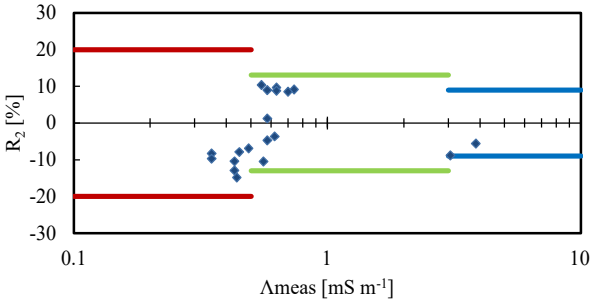


Fig. 4.34 b) Kuching Conductivity Agreement (R_2)

All of R_2 plots were calculated including F^-, Formic, Acetic and Oxalic acid

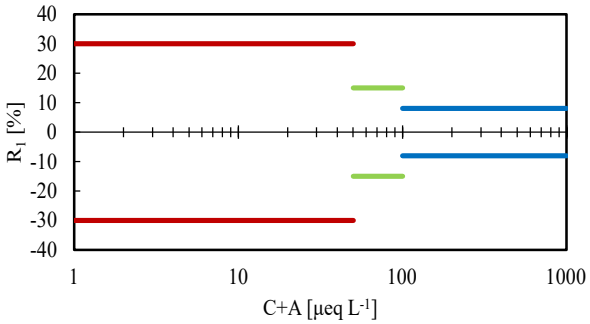


Fig. 4.35 a) Gunung Brinchang Ion Balance (R_1)

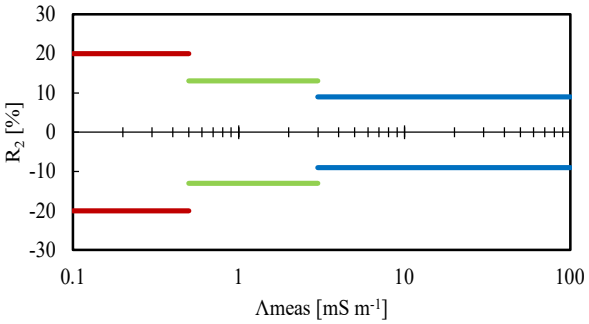


Fig. 4.35 b) Gunung Brinchang Conductivity Agreement (R_2)

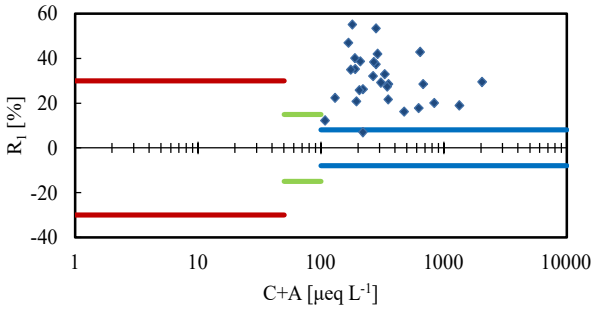


Fig. 4.36 a) Khan-Uul Ion Balance (R_1)

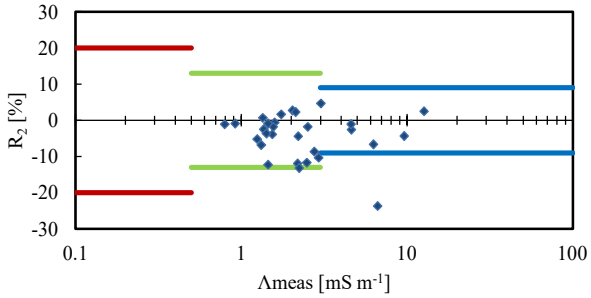


Fig. 4.36 b) Khan-Uul Conductivity Agreement (R_2)

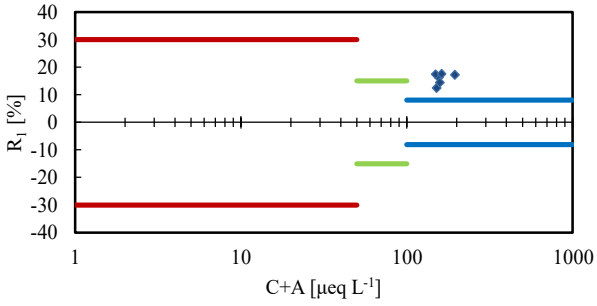


Fig. 4.37 a) Terelj Ion Balance (R_1)

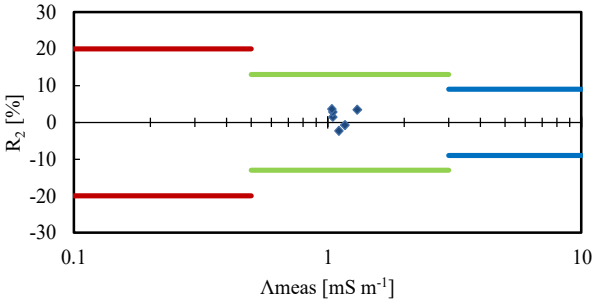


Fig. 4.37 b) Terelj Conductivity Agreement (R_2)

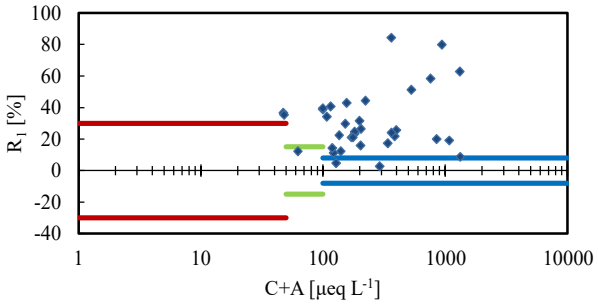


Fig. 4.38 a) Terelj2_temp Ion Balance (R_1)

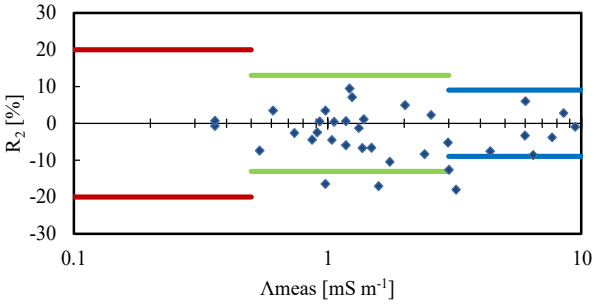


Fig. 4.38 b) Terelj2_temp Conductivity Agreement (R_2)

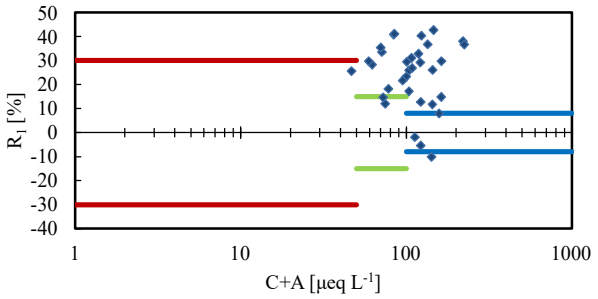


Fig. 4.39 a) Yangon Ion Balance (R_1)

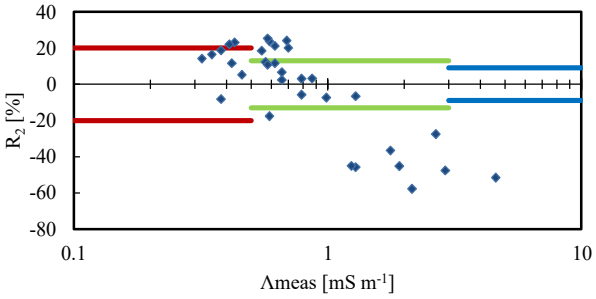


Fig. 4.39 b) Yangon Conductivity Agreement (R_2)

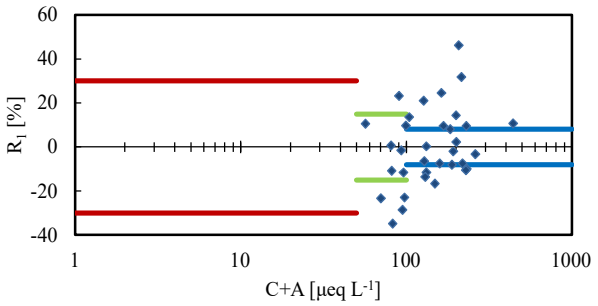


Fig. 4.40 a) Manila Observatory Ion Balance (R_1)

All of R_1 plots were calculated including HCO_3^-, F^-, Br^-, NO_2^-, PO_4^{3-}

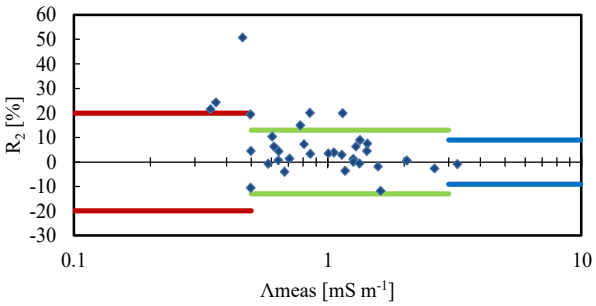


Fig. 4.40 b) Manila Observatory Conductivity Agreement (R_2)

All of R_1 plots were calculated including HCO_3^-, F^-, Br^-, NO_2^-, PO_4^{3-}

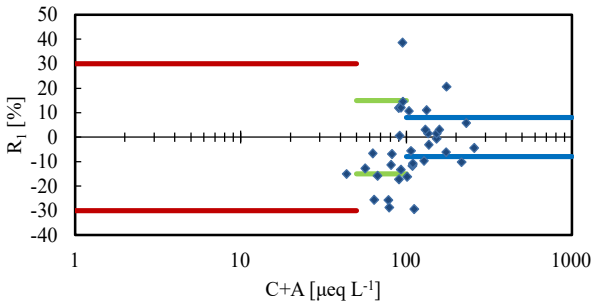


Fig. 4.41 a) Los Baños Ion Balance (R_1)

All of R_1 plots were calculated including HCO_3^-, F^-, Br^-, NO_2^-, PO_4^{3-}

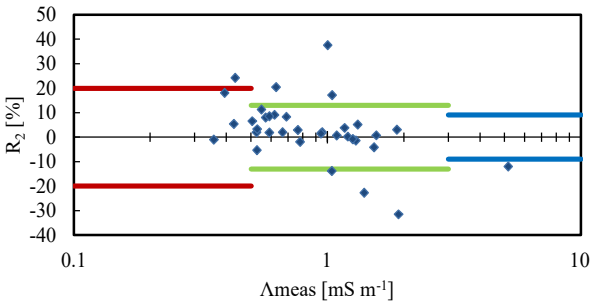


Fig. 4.41 b) Los Baños Conductivity Agreement (R_2)

All of R_1 plots were calculated including HCO_3^-, F^-, Br^-, NO_2^-, PO_4^{3-}

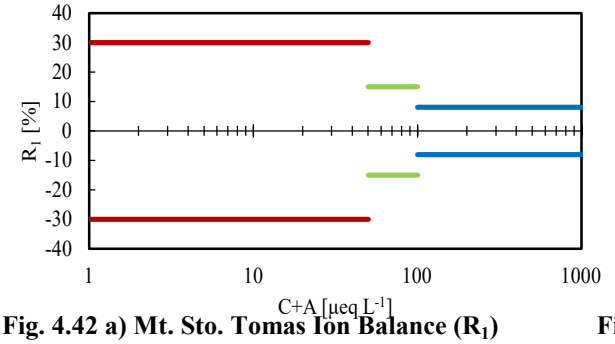


Fig. 4.42 a) Mt. Sto. Tomas Ion Balance (R_1)

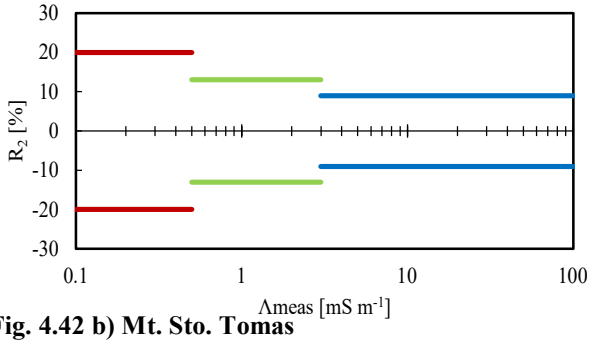


Fig. 4.42 b) Mt. Sto. Tomas Conductivity Agreement (R_2)

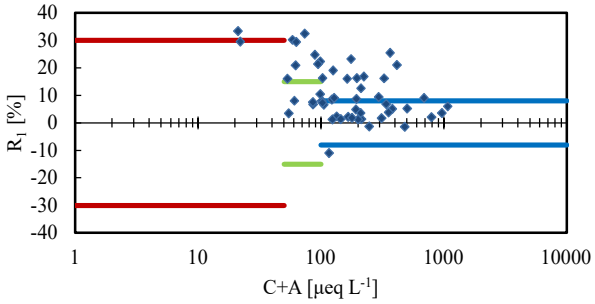


Fig. 4.43 a) Ganghwa Ion Balance (R_1)

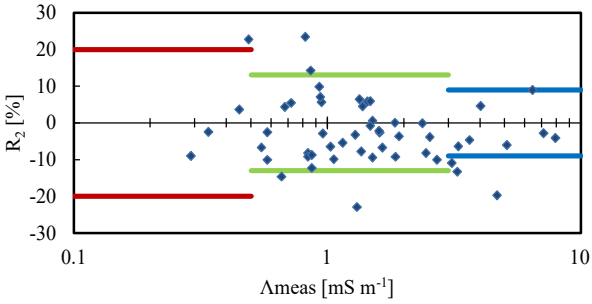


Fig. 4.43 b) Ganghwa Conductivity Agreement (R_2)

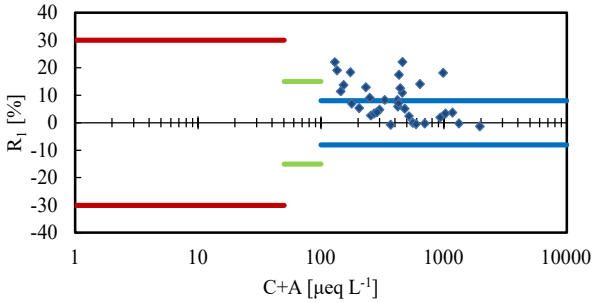


Fig. 4.44 a) Jeju Ion Balance (R_1)

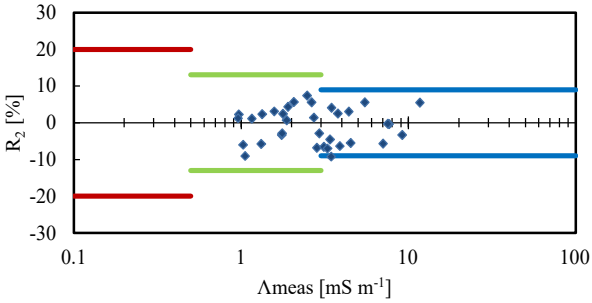


Fig. 4.44 b) Jeju Conductivity Agreement (R_2)

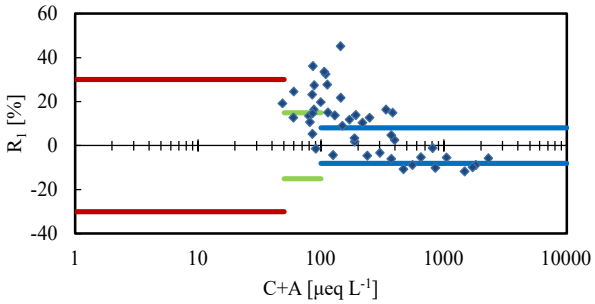


Fig. 4.45 a) Imsil Ion Balance (R_1)

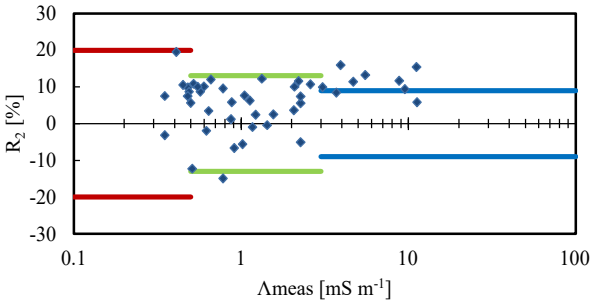


Fig. 4.45 b) Imsil Conductivity Agreement (R_2)

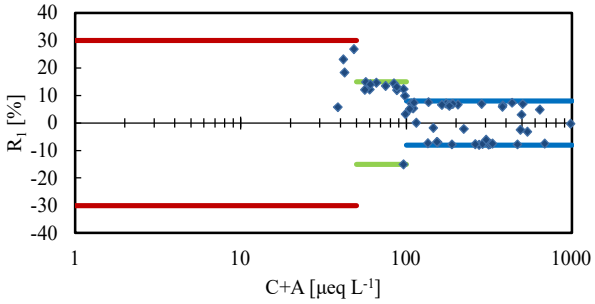


Fig. 4.46 a) Listvyanka Ion Balance (R_1)

All of R_1 plots were calculated including HCO_3^-, F^-, Br^-, NO_2^-, PO_4^{3-}

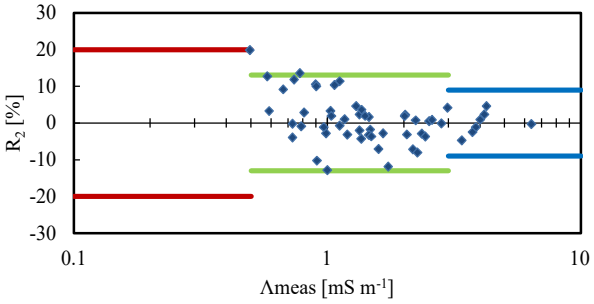


Fig. 4.46 b) Listvyanka Conductivity Agreement (R_2)

All of R_2 plots were calculated including HCO_3^-, F^-, Br^-, NO_2^-, PO_4^{3-}

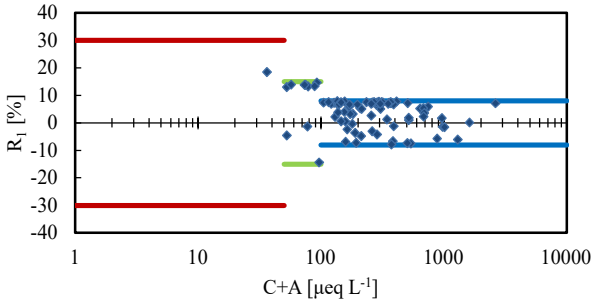


Fig. 4.47 a) Irkutsk Ion Balance (R_1)

All of R_1 plots were calculated including HCO_3^-, F^-, Br^-, NO_2^-, PO_4^{3-}

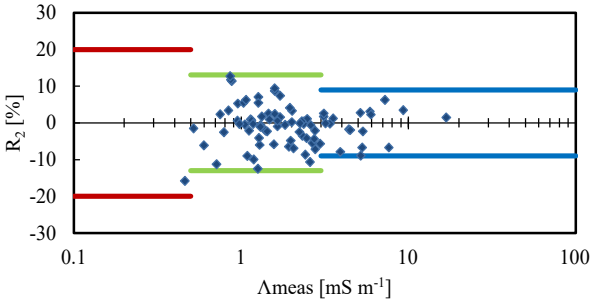


Fig. 4.47 b) Irkutsk Conductivity Agreement (R_2)

Conductivity Agreement (R_2)

All of R_2 plots were calculated including HCO_3^-, F^-, Br^-, NO_2^-, PO_4^{3-}

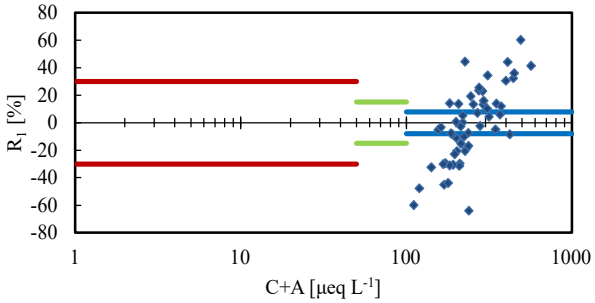


Fig. 4.48 a) Primorskaya Ion Balance (R_1)

All of R_1 plots were calculated including HCO_3^-

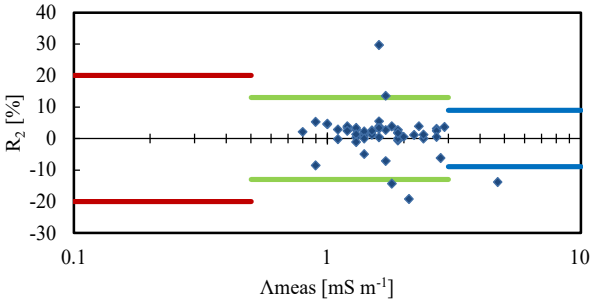


Fig. 4.48 b) Primorskaya

Conductivity Agreement (R_2)

All of R_2 plots were calculated including HCO_3^-

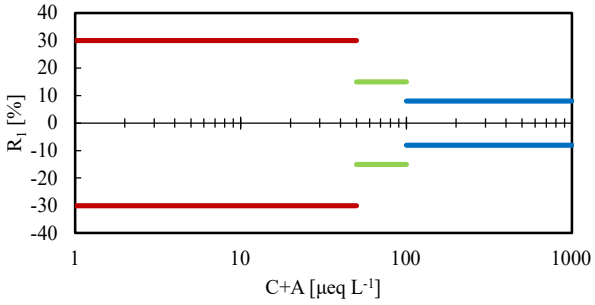


Fig. 4.49 a) Bangkok Ion Balance (R_1)

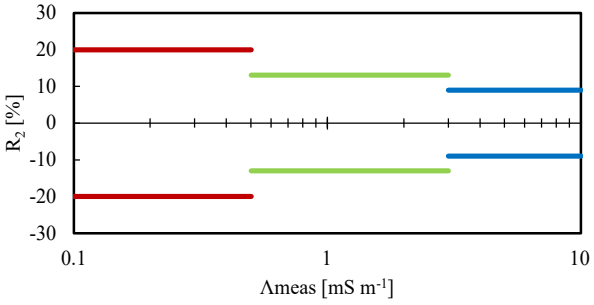


Fig. 4.49 b) Bangkok Conductivity Agreement (R_2)

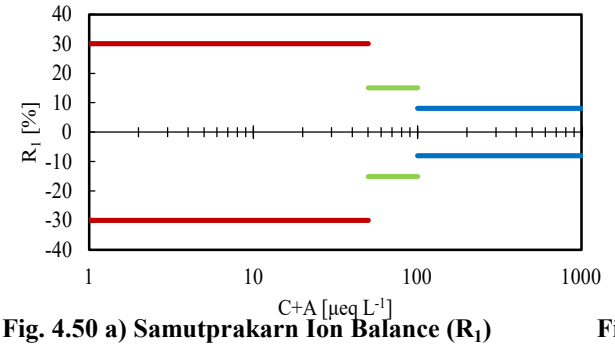


Fig. 4.50 a) Samutprakarn Ion Balance (R_1)

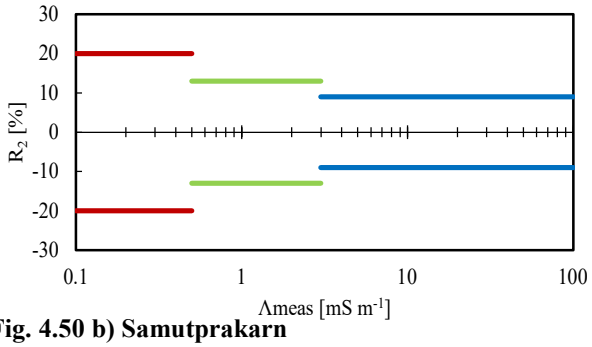


Fig. 4.50 b) Samutprakarn Conductivity Agreement (R_2)

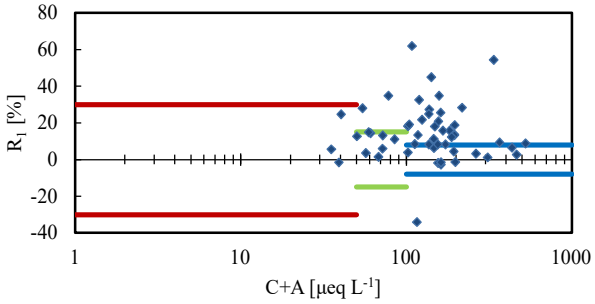


Fig. 4.51 a) Pathumthani Ion Balance (R_1)

All of R_1 plots were calculated including NO_2^-, PO_4^{3-}, Formic and Acetic acid

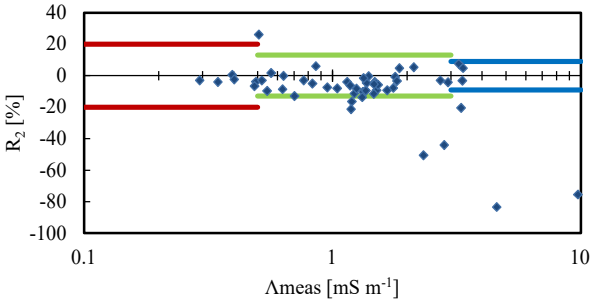


Fig. 4.51 b) Pathumthani Conductivity Agreement (R_2)

All of R_2 plots were calculated including NO_2^-, PO_4^{3-}, Formic and Acetic acid

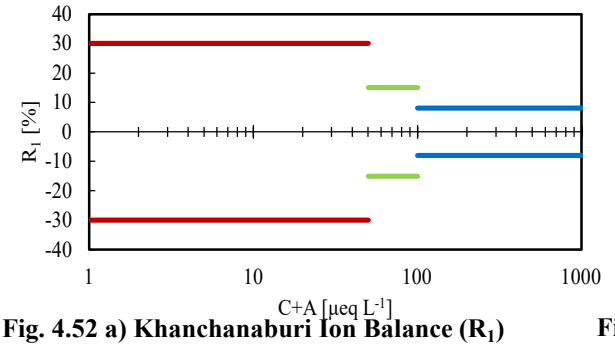


Fig. 4.52 a) Khanchanaburi Ion Balance (R_1)

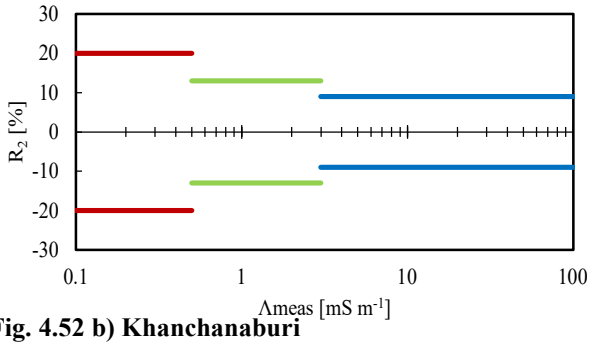


Fig. 4.52 b) Khanchanaburi Conductivity Agreement (R_2)

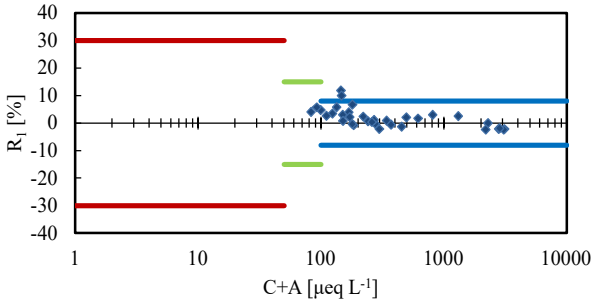


Fig. 4.53 a) Hanoi Ion Balance (R_1)

All of R_1 plots were calculated including F^-

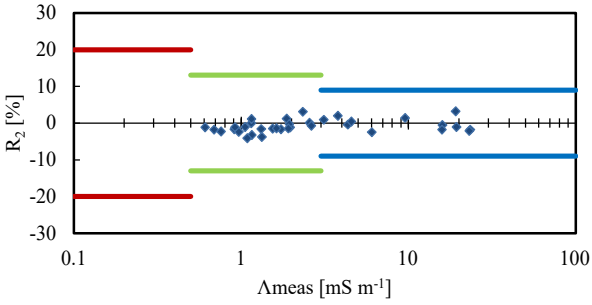


Fig. 4.53 b) Hanoi Conductivity Agreement (R_2)

All of R_2 plots were calculated including F^-

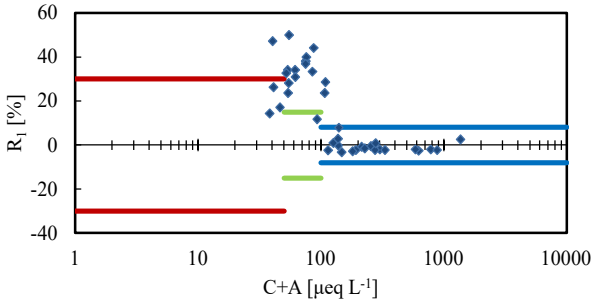


Fig. 4.54 a) Hoa Binh Ion Balance (R_1)

All of R_1 plots were calculated including F^-

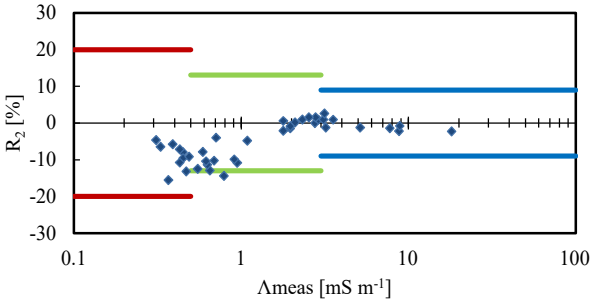


Fig. 4.54 b) Hoa Binh Conductivity Agreement (R_2)

All of R_2 plots were calculated including F^-

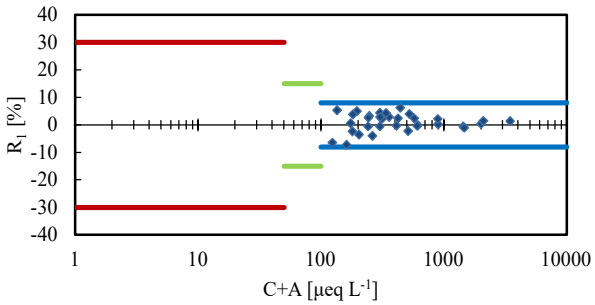


Fig. 4.55 a) Cuc Phuong Ion Balance (R_1)

All of R_1 plots were calculated including HCO_3^- and F^-

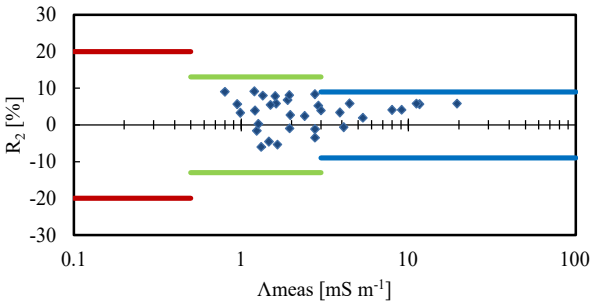


Fig. 4.55 b) Cuc Phuong Conductivity Agreement (R_2)

All of R_2 plots were calculated including HCO_3^- and F-

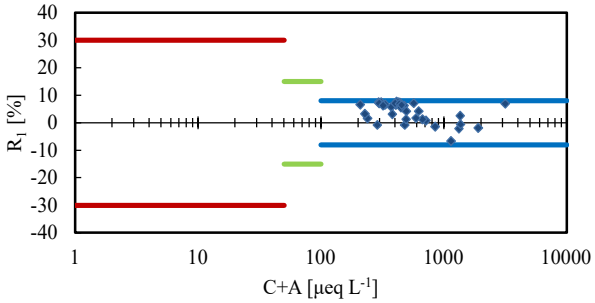


Fig. 4.56 a) Da Nang Ion Balance (R_1)

All of R_1 plots were calculated including HCO_3^- and F^-

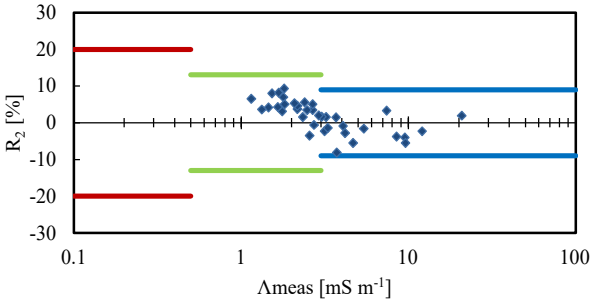


Fig. 4.56 b) Da Nang Conductivity Agreement (R_2)

All of R_2 plots were calculated including HCO_3^- and F-

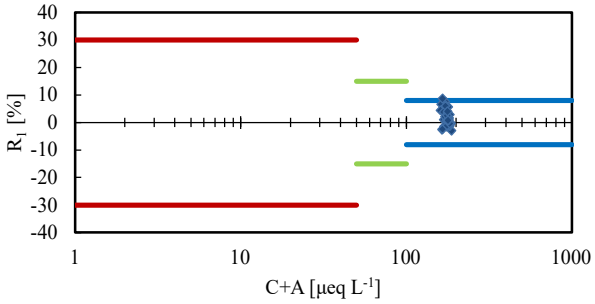


Fig. 4.57 a) Can Tho Ion Balance (R_1)

All of R_1 plots were calculated including F^-

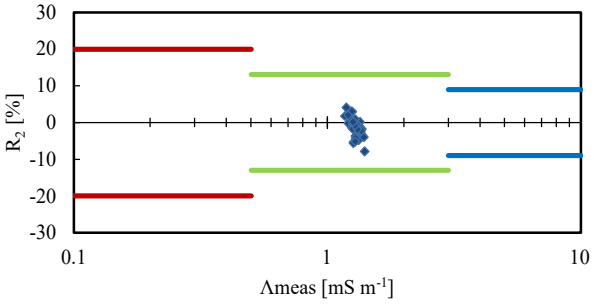


Fig. 4.57 b) Can Tho Conductivity Agreement (R_2)

All of R_2 plots were calculated including F^-

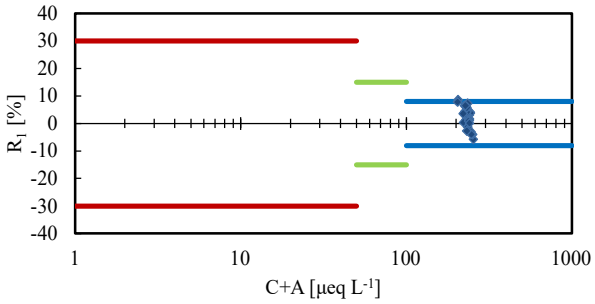


Fig. 4.58 a) Ho Chi Minh Ion Balance (R_1)

All of R_1 plots were calculated including F^-

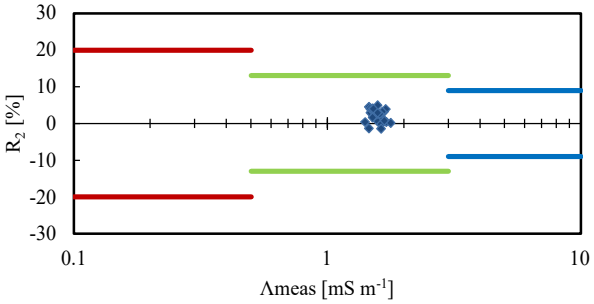


Fig. 4.58 b) Ho Chi Minh Conductivity Agreement (R_2)

All of R_2 plots were calculated including F^-

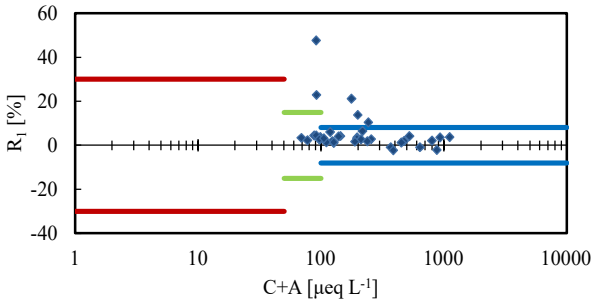


Fig. 4.59 a) Yen Bai Ion Balance (R_1)

All of R_1 plots were calculated including F^-

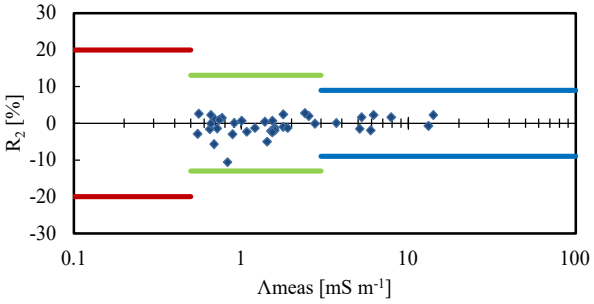


Fig. 4.59 b) Yen Bai Conductivity Agreement (R_2)

All of R_2 plots were calculated including F^-

Table 4.95 Concentration, deposition and data completeness of HCO_3^-

Precipitation amount-weighted average concentration/ Precipitation amount												**unit : µmol L^{-1}**		
Country	Name of sites	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	**Annual**
China	Haifu	111	75.1	143	203	158	125	36.4	81.7	48.4	69.2	41.3	79.2	97.1
	Jinyunshan	*	118	106	119	69.3	34.9	25.9	11.5	15.4	33.9	38.8	48.9	48.7
	Shizhan	58.8	--	54.4	100	144	284	142	144	56.9	13.4	19.0	136	81.4
	Jiwozi	26.7	80.0	83.0	146	70.1	77.3	80.8	56.8	48.5	90.6	115	--	69.1
Malaysia	Danum Valley	*	6.97	*	8.78	*	*	*	*	*	*	*	*	8.02
Philippines	Manila Observatory	8.30	41.7	36.9	36.8	11.2	8.47	24.1	5.17	7.51	22.6	11.3	17.0	13.8
	Los Baños	17.4	11.8	13.5	9.94	7.13	2.52	5.08	1.50	7.54	5.41	9.87	14.0	6.94
Russia	Listvyanka	1.05	10.9	3.67	18.8	24.3	13.7	<1	<1	2.07	44.2	66.2	15.5	6.93
	Irkutsk	60.0	181	77.7	31.7	2.58	6.08	2.36	<1	2.41	22.9	29.7	36.3	16.1
	Primorskaya	*	*	49.9	30.4	54.9	44.6	36.6	38.4	51.5	52.4	64.2	57.7	45.9
Vietnam	Cuc Phuong	393	400	--	160	137	120	91.6	27.1	8.30	51.0	24.9	8.08	58.5
	Da Nang	39.0	61.1	*	318	85.0	19.8	32.0	37.6	79.7	52.3	27.5	201	58.2
Wet deposition amount												**unit: mmol $m^{-2}month^{-1}$ or mmol $m^{-2}year^{-1}$**		
Country	Name of sites	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	**Annual**
China	Haifu	4.36	1.29	8.33	19.0	12.1	10.4	4.33	4.63	9.69	7.43	1.68	2.78	90.1
	Jinyunshan	*	2.70	5.88	10.3	5.44	5.19	3.10	1.75	4.98	5.45	2.44	1.93	62.6
	Shizhan	1.81	0.00	2.54	1.27	6.38	14.6	7.76	9.79	14.8	2.38	0.281	0.571	62.2
	Jiwozi	0.757	0.176	3.14	0.627	3.56	7.46	9.57	4.12	9.62	10.1	1.61	0.00	50.7
Malaysia	Danum Valley	*	1.85	*	2.52	*	*	*	*	*	*	*	*	27.9
Philippines	Manila Observatory	0.334	2.20	1.76	1.83	1.72	3.45	8.09	1.91	2.99	3.62	1.22	1.56	30.6
	Los Baños	1.35	0.426	0.533	0.117	1.00	0.532	1.30	0.309	1.24	0.983	2.48	1.40	11.6
Russia	Listvyanka	<0.01	0.0239	0.0459	0.334	0.914	0.364	<0.01	<0.01	0.0786	0.299	0.516	0.109	2.69
	Irkutsk	0.522	1.16	1.25	0.622	0.0785	0.181	0.150	0.0826	0.0920	0.820	0.694	0.641	6.31
	Primorskaya	*	*	1.09	2.27	5.84	6.64	2.60	6.34	3.05	2.33	1.37	0.323	33.2
Vietnam	Cuc Phuong	3.81	3.48	0.00	4.13	39.9	21.4	34.8	18.7	3.87	21.2	3.08	0.498	155
	Da Nang	3.47	8.34	*	5.66	4.11	12.4	7.09	9.23	41.8	65.3	7.73	49.8	215
Data completeness												**%TP**		
Country	Name of sites	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	**Annual**
China	Haifu	100	90.7	100	100	100	100	100	100	66.1	87.9	87.0	86.6	90.0
	Jinyunshan	0.0	7.0	51.4	76.1	100	67.8	68.0	70.9	6.4	1.5	7.8	28.9	39.2
	Shizhan	100	--	100	100	100	100	100	100	100	100	100	100	100
	Jiwozi	100	100	100	100	100	100	100	100	100	100	100	--	100
Malaysia	Danum Valley	0.0	25.6	0.0	32.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4.6
Philippines	Manila Observatory	94.0	96.5	100	97.1	100	100	100	100	100	100	100	100	99.7
	Los Baños	100	100	87.3	86.9	100	98.6	100	100	100	100	100	96.6	99.2
Russia	Listvyanka	100	100	100	97.2	100	100	100	100	100	100	100	100	99.9
	Irkutsk	100	100	100	100	100	93.0	100	100	100	100	100	100	99.5
	Primorskaya	0.0	0.0	86.7	23.8	97.1	74.2	84.8	59.0	13.0	94.4	88.8	82.1	66.7
Vietnam	Cuc Phuong	100	100	--	88.0	100	100	100	98.9	100	100	98.9	94.8	99.4
	Da Nang	96.3	97.8	0.0	92.1	100	99.6	100	100	100	100	100	100	99.7

Terms and abbreviations are given in Table 4.5.

Table 4.96 Concentration, deposition and data completeness of F^-

Precipitation amount-weighted average concentration/ Precipitation amount											unit : μmol L^{-1}			
Country	Name of sites	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual
China	Haifu	5.63	5.73	4.66	3.91	2.38	2.49	1.64	1.94	2.17	2.26	2.86	4.19	2.79
	Jinyunshan	4.02	3.60	2.60	2.79	1.68	1.76	1.68	1.62	1.76	1.77	3.06	2.72	2.02
	Shizhan	<1	--	<1	<1	<1	3.67	13.5	<1	<1	<1	<1	<1	1.53
	Jiwozi	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	--	<1
	Hongwen	--	2.19	1.89	3.94	2.90	2.36	1.65	2.60	2.45	3.47	3.06	5.53	2.22
	Xiaoping	7.37	7.35	4.69	7.44	5.02	3.19	2.98	3.74	2.79	--	--	5.52	4.19
	Xiang Zhou	1.80	--	<1	<1	<1	<1	<1	<1	<1	<1	1.18	<1	<1
	Zhuxiandong	--	<1	<1	1.32	<1	<1	<1	<1	<1	<1	1.17	--	<1
	Lijiang	--	--	<1	<1	<1	6.04	1.72	1.38	5.04	4.25	4.60	--	3.73
Japan	Sado-seki	1.40	<1	<1	*	*	*	*	*	*	*	*	*	<1
	Tokyo	*	*	*	*	*	*	4.30	*	*	*	*	*	4.30
Lao PDR	Vientiane	--	--	--	6.04	4.69	<1	<1	*	*	*	--	--	2.77
Malaysia	Petaling Jaya	<1	<1	<1	<1	1.04	<1	<1	<1	<1	<1	<1	<1	<1
	Tanah Rata	<1	<1	<1	<1	<1	<1	1.25	<1	<1	<1	<1	<1	<1
	Danum Valley	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
	Kuching	*	*	*	<1	<1	<1	*	<1	*	<1	<1	*	<1
Philippines	Manila Observatory	<1	<1	<1	<1	1.87	1.23	<1	1.74	<1	<1	<1	<1	<1
	Los Baños	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Russia	Listvyanka	17.8	16.8	20.3	7.07	5.63	5.41	3.42	2.87	3.89	11.1	12.9	7.56	5.07
	Irkutsk	20.6	25.3	11.1	4.08	9.06	4.36	4.48	4.69	3.67	4.74	7.55	15.6	6.46
Vietnam	Hanoi	*	71.7	137	40.8	9.60	4.44	9.85	1.94	4.45	2.25	4.36	18.7	6.33
	Hoa Binh	7.79	8.20	20.8	9.99	2.63	2.15	1.53	1.75	<1	1.60	2.39	6.84	2.16
	Cuc Phuong	14.4	7.11	--	3.26	2.22	1.40	1.54	2.05	1.77	2.01	3.11	3.13	2.04
	Da Nang	7.16	7.64	*	9.78	9.04	7.72	7.69	9.18	8.21	15.1	8.69	11.6	10.7
	Can Tho	--	1.00	--	1.30	1.43	1.13	1.06	1.35	1.32	1.54	1.94	1.00	1.37
	Ho Chi Minh	--	2.00	--	1.65	1.46	1.18	1.00	1.20	1.24	1.19	1.18	1.40	1.25
	Yen Bai	6.68	11.9	5.84	6.89	11.0	3.84	2.31	2.53	2.52	3.17	2.97	1.74	4.93
Wet deposition amount											unit: mmol $m^{-2}month^{-1}$ or mmol $m^{-2}year^{-1}$			
Country	Name of sites	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual
China	Haifu	0.221	0.0985	0.271	0.366	0.182	0.208	0.195	0.110	0.434	0.243	0.116	0.147	2.59
	Jinyunshan	0.145	0.0824	0.144	0.241	0.131	0.262	0.202	0.246	0.569	0.284	0.192	0.107	2.60
	Shizhan	<0.01	0.00	<0.01	<0.01	<0.01	0.189	0.736	0.0426	0.0924	0.109	<0.01	<0.01	1.17
	Jiwozi	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.0406	<0.01	0.00	0.0406
	Hongwen	0.00	0.0698	0.169	0.177	0.492	0.159	0.732	0.114	0.452	<0.01	0.0272	0.0260	2.43
	Xiaoping	0.0472	0.184	0.198	0.540	0.356	0.321	0.389	0.239	0.312	0.00	0.00	0.118	2.70
	Xiang Zhou	0.0117	0.00	<0.01	<0.01	0.0639	0.0120	0.171	0.0392	0.144	<0.01	0.0105	<0.01	0.479
	Zhuxiandong	0.00	<0.01	0.0307	0.0462	0.0598	0.0126	0.270	<0.01	<0.01	0.0512	0.0142	0.00	0.488
	Wuzhishan	0.00	0.00	0.00	0.00	*	*	*	*	*	*	0.00	0.00	*
	Lijiang	0.00	0.00	<0.01	<0.01	<0.01	0.214	0.0667	0.0337	0.265	0.0723	0.0607	0.00	0.715
Japan	Sado-seki	0.238	0.0154	0.0296	*	*	*	*	*	*	*	*	*	0.896
	Tokyo	*	*	*	*	*	*	0.344	*	*	*	*	*	4.31
Lao PDR	Vientiane	0.00	0.00	0.00	1.16	1.81	0.126	<0.01	*	*	*	0.00	0.00	7.86
Malaysia	Petaling Jaya	0.0445	0.159	0.0699	0.126	0.108	0.0889	0.0280	0.163	0.0755	0.147	0.182	0.167	1.33
	Tanah Rata	0.0665	0.0147	0.0536	0.0637	0.0619	0.0250	0.106	0.0524	0.124	0.0390	0.0646	0.0186	0.693
	Danum Valley	0.0144	<0.01	<0.01	0.0147	0.0229	<0.01	0.0466	0.0345	0.0392	0.0371	<0.01	<0.01	0.207
	Kuching	*	*	*	0.0531	0.0490	0.0615	*	0.0842	*	0.0798	0.126	*	1.05
Philippines	Manila Observatory	<0.01	<0.01	0.0305	0.0168	0.287	0.501	0.253	0.643	0.313	0.111	<0.01	<0.01	2.16
	Los Baños	<0.01	<0.01	<0.01	<0.01	0.0691	0.0187	<0.01	0.190	<0.01	0.0687	<0.01	<0.01	0.346
Russia	Listvyanka	0.137	0.0370	0.253	0.126	0.212	0.143	0.236	0.444	0.148	0.0750	0.100	0.0530	1.96
	Irkutsk	0.179	0.162	0.179	0.0800	0.276	0.130	0.285	0.477	0.140	0.169	0.177	0.275	2.53
Vietnam	Hanoi	*	1.93	1.38	1.98	2.07	1.03	2.66	1.17	0.528	1.32	0.479	0.233	14.2
	Hoa Binh	0.0670	0.153	0.133	0.434	0.839	0.870	0.515	0.875	0.144	0.708	0.263	0.0848	5.09
	Cuc Phuong	0.140	0.0618	0.00	0.0842	0.643	0.250	0.585	1.41	0.826	0.839	0.384	0.193	5.41
	Da Nang	0.637	1.04	*	0.174	0.438	4.83	1.71	2.25	4.31	18.9	2.44	2.88	39.6
	Can Tho	0.00	0.0583	0.00	0.0782	0.478	0.358	0.257	0.274	0.307	0.908	0.283	0.0397	3.04
	Ho Chi Minh	0.00	0.171	0.00	0.117	0.111	0.375	0.0965	0.421	0.547	0.406	0.246	0.0280	2.52
	Yen Bai	0.0969	0.796	0.111	0.645	5.70	1.41	0.828	1.29	0.233	1.23	0.547	0.0118	12.9
Data completeness											%TP			
Country	Name of sites	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual
China	Haifu	100	100	100	100	100	100	100	100	100	100	100	100	100
	Jinyunshan	100	100	100	100	100	100	100	100	100	100	100	100	100
	Shizhan	100	--	100	100	100	100	100	100	100	100	100	100	100
	Jiwozi	100	100	100	100	100	100	100	100	100	100	100	--	100
	Hongwen	--	100	100	100	100	100	100	100	100	100	100	100	100
	Xiaoping	100	100	100	100	100	100	100	100	100	--	--	100	100
	Xiang Zhou	100	--	100	100	100	100	100	100	100	100	100	100	100
	Zhuxiandong	--	100	100	100	100	100	100	100	100	100	100	--	100
	Wuzhishan	--	--	--	--	0.0	0.0	0.0	0.0	0.0	0.0	--	--	0.0
	Lijiang	--	--	100	100	100	100	100	100	100	100	100	--	100
Japan	Sado-seki	14.0	100	53.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	7.2
	Tokyo	0.0	0.0	0.0	0.0	0.0	0.0	25.6	0.0	0.0	0.0	0.0	0.0	2.0
Lao PDR	Vientiane	--	--	--	100	100	100	17.9	0.0	0.0	0.0	--	--	39.4
Malaysia	Petaling Jaya	98.8	100	96.3	100	64.0	100	97.2	90.9	93.9	100	98.5	100	97.2
	Tanah Rata	99.9	100	100	100	100	100	100	100	67.4	61.9	100	100	91.7
	Danum Valley	100	100	81.2	46.7	82.6	20.4	5.4	92.9	100	100	100	100	83.7
	Kuching	0.0	0.0	0.0	49.8	97.3	72.7	0.0	84.6	0.0	100	57.6	0.0	32.7
Philippines	Manila Observatory	100	100	100	100	100	100	100	100	100	100	100	100	100
	Los Baños	100	100	100	100	100	100	100	100	100	100	100	100	100
Russia	Listvyanka	100	100	100	97.2	100	100	100	100	100	100	100	100	99.9
	Irkutsk	100	100	100	100	100	100	100	100	100	100	100	100	100
Vietnam	Hanoi	0.0	86.2	68.3	100	100	100	100	100	98.8	99.8	97.3	100	99.3
	Hoa Binh	100	100	100	100	100	100	100	100	100	100	100	100	100
	Cuc Phuong	100	100	--	88.0	100	100	100	98.9	100	100	98.9	94.8	99.4
	Da Nang	96.3	97.8	0.0	92.1	100	99.6	100	100	100	100	100	100	99.7
	Can Tho	--	100	--	100	100	100	100	100	100	100	100	100	100
	Ho Chi Minh	--	100	--	100	100	100	100	100	100	100	99.0	100	99.9
	Yen Bai	100	100	100	100	100	100	100	100	100	100	96.7	100	99.8

Terms and abbreviations are given in Table 4.5.

Table 4.97 Concentration, deposition and data completeness of Br^-

Precipitation amount-weighted average concentration/ Precipitation amount												**unit : µmol L^{-1}**		
Country	Name of sites	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	**Annual**
Japan	Sado-seki	<1	1.85	<1	*	*	*	*	*	*	*	*	*	<1
Lao PDR	Vientiane	--	--	--	<1	<1	<1	<1	*	*	*	--	--	<1
Philippines	Manila Observatory	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
	Los Baños	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Russia	Listvyanka	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
	Irkutsk	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Wet deposition amount												**unit: mmol $m^{-2}month^{-1}$ or mmol $m^{-2}year^{-1}$**		
Country	Name of sites	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	**Annual**
Japan	Sado-seki	0.092	0.041	<0.01	*	*	*	*	*	*	*	*	*	0.773
Lao PDR	Vientiane	0.00	0.00	0.00	<0.01	<0.01	<0.01	<0.01	*	*	*	0.00	0.00	<0.01
Philippines	Manila Observatory	<0.01	<0.01	<0.01	<0.01	<0.01	0.019	0.016	<0.01	0.031	<0.01	<0.01	<0.01	0.078
	Los Baños	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Russia	Listvyanka	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
	Irkutsk	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Data completeness												**%TP**		
Country	Name of sites	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	**Annual**
Japan	Sado-seki	100	100	53.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	17.9
Lao PDR	Vientiane	--	--	--	100	100	100	17.9	0.0	0.0	0.0	--	--	39.4
Philippines	Manila Observatory	100	100	100	100	100	100	100	100	100	100	100	100	100
	Los Baños	100	100	100	100	100	100	100	100	100	100	100	100	100
Russia	Listvyanka	100	100	100	97.2	100	100	100	100	100	100	100	100	99.9
	Irkutsk	100	100	100	100	100	100	100	100	100	100	100	100	100

Terms and abbreviations are given in Table 4.5.

Table 4.98 Concentration, deposition and data completeness of NO_2^-

Precipitation amount-weighted average concentration/ Precipitation amount														**unit : µmol L^{-1}**
Country	Name of sites	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	**Annual**
Japan	Sado-seki	<1	*	<1	*	*	*	*	*	*	*	*	*	<1
	Ogasawara	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
	Tokyo	2.01	1.40	1.83	1.11	<1	1.04	<1	<1	<1	1.59	1.10	3.70	1.11
Lao PDR	Vientiane	--	--	--	<1	<1	<1	<1	*	*	*	--	--	<1
Philippines	Manila Observatory	2.14	2.08	1.00	<1	<1	1.11	<1	<1	<1	1.25	<1	1.18	<1
	Los Baños	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Russia	Listvyanka	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
	Irkutsk	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Thailand	Pathumthani	--	1.20	<1	1.10	<1	<1	2.22	<1	--	--	--	--	1.08
Wet deposition amount														**unit: mmol $m^{-2}month^{-1}$ or mmol $m^{-2}year^{-1}$**
Country	Name of sites	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	**Annual**
Japan	Sado-seki	0.0170	*	<0.01	*	*	*	*	*	*	*	*	*	0.137
	Ogasawara	<0.01	0.0109	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.0123
	Tokyo	0.0552	0.0399	0.204	0.138	0.103	0.129	0.0700	0.0134	0.121	0.0913	0.0491	0.143	1.11
Lao PDR	Vientiane	0.00	0.00	0.00	<0.01	<0.01	0.120	<0.01	*	*	*	0.00	0.00	0.304
Philippines	Manila Observatory	0.0863	0.110	0.0478	0.0357	0.0984	0.451	0.119	0.290	0.244	0.199	0.0384	0.108	1.83
	Los Baños	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.0161
Russia	Listvyanka	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.0130	0.0123	<0.01	<0.01	<0.01	<0.01	0.0493
	Irkutsk	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.0161	<0.01	<0.01	0.0714
Thailand	Pathumthani	0.00	<0.01	0.0520	0.108	0.224	0.148	0.532	0.222	0.00	0.00	0.00	0.00	1.29
Data completeness														**%TP**
Country	Name of sites	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	**Annual**
Japan	Sado-seki	14.0	0.0	53.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	5.6
	Ogasawara	100	100	100	100	100	100	100	100	100	100	100	100	100
	Tokyo	100	100	100	100	100	100	100	99.7	100	100	100	54.4	98.2
Lao PDR	Vientiane	--	--	--	100	100	100	17.9	0.0	0.0	0.0	--	--	39.4
Philippines	Manila Observatory	100	100	100	100	100	100	100	100	100	100	100	100	100
	Los Baños	100	100	100	100	100	100	100	100	100	100	100	100	100
Russia	Listvyanka	100	100	100	97.2	100	100	100	100	100	100	100	100	99.9
	Irkutsk	100	100	100	100	100	100	100	100	100	100	100	100	100
Thailand	Pathumthani	--	100	100	100	100	100	100	100	--	--	--	--	100

Terms and abbreviations are given in Table 4.5.

Table 4.99 Concentration, deposition and data completeness of PO_4^{3-}

Precipitation amount-weighted average concentration/ Precipitation amount												**unit : µmol L^{-1}**		
Country	Name of sites	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	**Annual**
Japan	Sado-seki	<1	*	*	*	*	*	*	*	*	*	*	*	<1
Lao PDR	Vientiane	--	--	--	7.30	14.2	<1	<1	*	*	*	--	--	6.18
Philippines	Manila Observatory	<1	<1	3.21	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
	Los Baños	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Russia	Listvyanka	<1	<1	<1	<1	1.63	2.14	<1	<1	<1	<1	<1	<1	<1
	Irkutsk	<1	<1	<1	<1	4.45	<1	<1	<1	<1	2.40	1.65	<1	<1
Thailand	Pathumthani	--	1.31	<1	<1	<1	1.21	<1	1.49	--	--	--	--	<1
Wet deposition amount												**unit: mmol $m^{-2}month^{-1}$ or mmol $m^{-2}year^{-1}$**		
Country	Name of sites	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	**Annual**
Japan	Sado-seki	0.0509	*	*	*	*	*	*	*	*	*	*	*	0.411
Lao PDR	Vientiane	0.00	0.00	0.00	1.40	5.51	<0.01	<0.01	*	*	*	0.00	0.00	17.5
Philippines	Manila Observatory	<0.01	<0.01	0.153	<0.01	0.0167	0.0407	<0.01	0.0898	<0.01	<0.01	<0.01	<0.01	0.300
	Los Baños	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Russia	Listvyanka	<0.01	<0.01	<0.01	0.0164	0.0616	0.0567	0.0229	0.0276	0.0107	<0.01	<0.01	<0.01	0.210
	Irkutsk	<0.01	<0.01	<0.01	0.0103	0.136	0.0109	0.0220	0.0130	0.0238	0.0860	0.0387	0.0104	0.358
Thailand	Pathumthani	0.00	<0.01	0.0328	0.0872	0.171	0.204	0.111	0.400	0.00	0.00	0.00	0.00	1.01
Data completeness												**%TP**		
Country	Name of sites	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	**Annual**
Japan	Sado-seki	14.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.7
Lao PDR	Vientiane	--	--	--	100	100	100	17.9	0.0	0.0	0.0	--	--	39.4
Philippines	Manila Observatory	100	100	100	100	100	100	100	100	100	100	100	100	100
	Los Baños	100	100	100	100	100	100	100	100	100	100	100	100	100
Russia	Listvyanka	100	100	100	97.2	100	100	100	100	100	100	100	100	99.9
	Irkutsk	100	100	100	100	100	100	100	100	100	100	100	100	100
Thailand	Pathumthani	--	100	100	100	100	100	100	100	--	--	--	--	100

Terms and abbreviations are given in Table 4.5.

Table 4.100 Concentration, deposition and data completeness of Formic Acid

Precipitation amount-weighted average concentration/ Precipitation amount											**unit : µmol L^{-1}**			
Country	Name of sites	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	**Annual**
Malaysia	Petaling Jaya	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
	Tanah Rata	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
	Danum Valley	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
	Kuching	*	*	*	<1	<1	<1	*	<1	*	<1	<1	*	<1
Thailand	Pathumthani	--	<1	<1	<1	<1	<1	<1	<1	--	--	--	--	<1
Wet deposition amount											**unit: mmol $m^{-2}month^{-1}$ or mmol $m^{-2}year^{-1}$**			
Country	Name of sites	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	**Annual**
Malaysia	Petaling Jaya	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
	Tanah Rata	<0.01	0.0838	0.0452	0.0324	0.0254	0.0791	<0.01	<0.01	<0.01	<0.01	0.0119	<0.01	0.322
	Danum Valley	0.0449	<0.01	0.0198	<0.01	0.0649	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.137
	Kuching	*	*	*	<0.01	<0.01	<0.01	*	<0.01	*	<0.01	<0.01	*	<0.01
Thailand	Pathumthani	0.00	<0.01	0.0455	0.0380	0.0443	0.0153	0.0235	0.0255	0.00	0.00	0.00	0.00	0.194
Data completeness											**%TP**			
Country	Name of sites	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	**Annual**
Malaysia	Petaling Jaya	98.8	100	96.3	100	64.0	100	97.2	90.9	93.9	100	98.5	100	97.2
	Tanah Rata	99.9	100	100	100	100	100	100	100	67.4	61.9	100	100	91.7
	Danum Valley	100	100	81.2	46.7	82.6	20.4	5.4	92.9	100	100	100	100	83.7
	Kuching	0.0	0.0	0.0	49.8	97.3	72.7	0.0	84.6	0.0	100	29.6	0.0	30.1
Thailand	Pathumthani	--	100	100	100	100	100	100	100	--	--	--	--	100

Terms and abbreviations are given in Table 4.5.

Table 4.101 Concentration, deposition and data completeness of Acetic Acid

Precipitation amount-weighted average concentration/ Precipitation amount											**unit : µmol L^{-1}**			
Country	Name of sites	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	**Annual**
Malaysia	Petaling Jaya	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
	Tanah Rata	<1	<1	<1	1.68	<1	<1	<1	<1	<1	<1	<1	<1	<1
	Danum Valley	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
	Kuching	*	*	*	<1	<1	<1	*	<1	*	<1	<1	*	<1
Thailand	Pathumthani	--	<1	<1	<1	<1	<1	<1	<1	--	--	--	--	<1
Wet deposition amount											**unit: mmol $m^{-2}month^{-1}$ or mmol $m^{-2}year^{-1}$**			
Country	Name of sites	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	**Annual**
Malaysia	Petaling Jaya	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
	Tanah Rata	<0.01	0.0321	0.0321	0.544	0.0370	<0.01	<0.01	<0.01	<0.01	<0.01	0.0248	<0.01	0.753
	Danum Valley	0.0548	0.0345	0.0182	0.0171	0.210	0.0210	0.0130	<0.01	0.257	<0.01	<0.01	<0.01	0.654
	Kuching	*	*	*	<0.01	<0.01	<0.01	*	<0.01	*	<0.01	<0.01	*	0.0106
Thailand	Pathumthani	0.00	<0.01	0.0469	0.0843	0.117	0.0567	0.0704	0.0564	0.00	0.00	0.00	0.00	0.434
Data completeness											**%TP**			
Country	Name of sites	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	**Annual**
Malaysia	Petaling Jaya	98.8	100	96.3	100	64.0	100	97.2	90.9	93.9	100	98.5	100	97.2
	Tanah Rata	99.9	100	100	100	100	100	100	100	67.4	61.9	100	100	91.7
	Danum Valley	100	100	81.2	46.7	82.6	20.4	5.4	92.9	100	100	100	100	83.7
	Kuching	0.0	0.0	0.0	49.8	97.3	72.7	0.0	84.6	0.0	100	29.6	0.0	30.1
Thailand	Pathumthani	--	100	100	100	100	100	100	100	--	--	--	--	100

Terms and abbreviations are given in Table 4.5.

Table 4.102 Concentration, deposition and data completeness of Oxalic Acid

Precipitation amount-weighted average concentration/ Precipitation amount											**unit : µmol L^{-1}**			
Country	Name of sites	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	**Annual**
Malaysia	Petaling Jaya	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
	Tanah Rata	<1	<1	<1	<1	<1	<1	3.54	<1	<1	<1	<1	<1	<1
	Danum Valley	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
	Kuching	*	*	*	<1	<1	<1	*	<1	*	<1	<1	*	<1
Wet deposition amount											**unit: mmol $m^{-2}month^{-1}$ or mmol $m^{-2}year^{-1}$**			
Country	Name of sites	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	**Annual**
Malaysia	Petaling Jaya	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
	Tanah Rata	<0.01	<0.01	<0.01	0.0205	<0.01	0.0397	0.301	<0.01	<0.01	<0.01	<0.01	<0.01	0.427
	Danum Valley	<0.01	0.0105	<0.01	<0.01	0.0343	0.0199	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.0631
	Kuching	*	*	*	0.0418	0.0130	<0.01	*	<0.01	*	<0.01	<0.01	*	0.111
Data completeness											**%TP**			
Country	Name of sites	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	**Annual**
Malaysia	Petaling Jaya	98.8	100	96.3	100	64.0	100	63.5	90.9	93.9	100	98.5	100	96.4
	Tanah Rata	99.9	100	100	100	100	100	100	100	67.4	61.9	100	100	91.7
	Danum Valley	100	100	81.2	46.7	82.6	20.4	5.4	92.9	100	100	100	100	83.7
	Kuching	0.0	0.0	0.0	49.8	97.3	72.7	0.0	84.6	0.0	100	29.6	0.0	30.1

Terms and abbreviations are given in Table 4.5.

CHAPTER 5

Soil and Vegetation Monitoring

5. Soil and Vegetation Monitoring

5.1 Method

The basic survey was primarily carried out to achieve the initial objectives (namely, establishment of baseline data and early detection of possible impacts) in the participating countries, in accordance with the *Technical Documents for Soil and Vegetation Monitoring in East Asia (2000)*. General items are described in Table 5.1, but the actual implementation of item sets depended on respective site.

Table 5.1 Basic survey for soil and forest

Item	Parameters
Soil	- pH(H_2O), pH(KCl), Exchangeable base cations (Na^+, K^+, Ca^{2+}, and Mg^{2+}), Exchangeable acidity, Effective cation exchange capacity (ECEC), Carbonate content (if pH > 7) - Exchangeable Al and H, Total C content, Total N content (optional) - Available P, Sulfate (voluntary) - Physical properties (Fine earth bulk density, and Penetration resistance) (optional)
Forest	- General description of the forest (Description of trees, and Understory vegetation) - Observation of tree decline - Photographic record of tree decline, Estimation of decline causes (optional)

5.1.1 Field Operation

Basically, two forest areas with soils of different sensitivities to acid deposition are recommended to be selected in an area. Several plots (at least two) ranging from 5 m x 5 m to 10 m x 10 m should be chosen randomly in each forest area (each soil type). Five subplots, each measuring 1 m x 1 m, should be set up for soil sampling at the center and along the diagonal lines of the plot (Figure 5.1).

Three coaxial circular plots are established for the general description of trees, with areas of 1000, 400 and 200 square meters respectively (Figure 5.2). Observation of tree decline is carried out primarily for twenty selected dominant trees in four directions. The Sub-Manual on Forest Vegetation Monitoring, which was endorsed in 2006, recommends that the observation should be done at least once a year to detect possible effects of meteorological events. Decline symptoms of the observed trees were recorded according to the decline scale shown in Table 5.2.

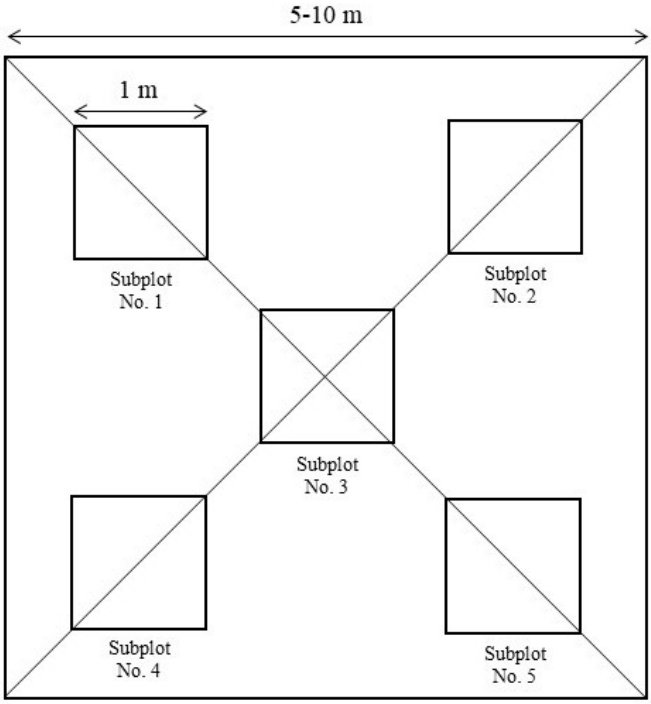


Figure 5.1 Plot for soil sampling

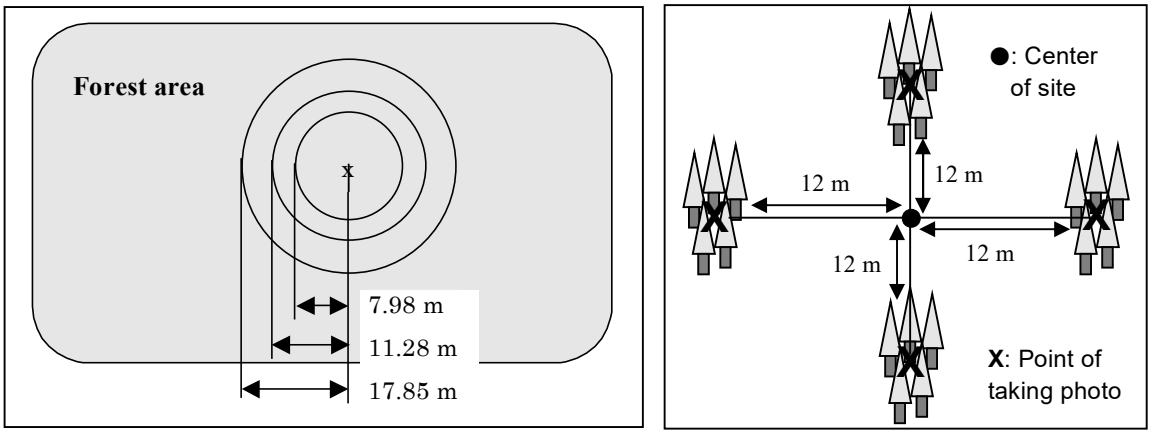


Figure 5.2 Plots for description of trees (Left) and selection of observation trees (Right)

Table 5.2 Observation items and decline scale

Items	Decline scale and observations
Vitality of tree	0. No damage, 1. Slightly damaged, 2. Evidently damaged, 3. Severely damaged, 4. Dead
Form of tree	0. Normal, 1. Some branches lacking, 2. Evidently wanting, 3. Severely wanting, 4. Dead or almost dead
Branch growth	0. Normal growth, 1. Somewhat reduced, 2. Short and slender, 3. Extremely short
Dieback of stem	0. Not found, 1. Slightly dieback, 2. Evidently dieback, 3. Severe dieback if found, 4. Completely dead
Defoliation of crown[*1]	0. Not defoliated (0–10%), 1.Slightly defoliated (>10–25%), 2. Moderately defoliated (>25–60%), 3.Severely defoliated (>60%), 4. Dead
Deformation of leaves	0. Normal, 1. Slightly deformed, 2. Evidently deformed, 3. Completely deformed
Size of leaves	0. Normal, 1. Somewhat small, 2. Evidently small, 3. Very small
Discoloration of leaves[*1]	0. None (0–10%), 1. Slight (>10–25%), 2. Moderate (>25–60%), 3. Severe (>60%)
Injury of leaves	0. No symptoms, 1. Slightly injured, 2. Evidently injured, 3. Severely injured

[*1.] Definition of the scale was updated in the Sub-Manual on Forest Vegetation Monitoring (2006).

5.1.2 Laboratory Operation

Analytical methods recommended in the manual are presented in Table 5.3.

Table 5.3 Analytical equipment and methods for soil monitoring

Parameters	Equipment/methods
Chemical Properties of Soil	
a) Moisture Content	Drying oven, Balance
b) pH(H_2O) and pH(KCl)	Glass electrode
c) Exchangeable Base Cations (Ca^{2+}, Mg^{2+}, K^+ and Na^+)	AAS or ICP-AES (CH_3COONH_4-Extraction)
d) Exchangeable Acidity	Titration (KCl-Extraction)
e) Exchangeable Al, H	ibid.
f) Effective Cation Exchange Capacity (ECEC)	Calculation (as sum of exchangeable cations)
g) Carbonate Content (for calcareous soil)	Volumetric calcimeter
h) Total Carbon Content	Titration (Walkley-Black method) or CN-analyzer
i) Total Nitrogen Content	Titration (Kjeldahl method) or CN-analyzer
j) Available Phosphate	Spectrophotometry (Bray-1 test)
k) Sulfate	Turbidimetry, IC or ICP-AES
Physical Properties of Soil	
a) Fine Earth Bulk Density	Metal sampling cylinder, Drying oven, Balance
b) Penetration Resistance (in the fieldwork)	Pocket penetrometer

5.1.3 Monitoring Sites

Soil and vegetation monitoring data were submitted from eight regions across three countries this year. The list of monitoring sites and the items reported for 2025 is presented in Table 5.4.1. Soil analysis was conducted at two sites in Mongolia, and tree decline observations were carried out at seven sites. None of the sites conducted tree census and understory vegetation surveys. Table 5.4.2 shows the number of soil and vegetation plots at each monitoring site, along with the number of surveys conducted up to 2025.

Table 5.4.1 Outline of the Monitoring Sites in 2025

Country	Nearest air concentration / acid deposition monitoring site	Site name EANET site code	Soil type	Items[*1]
China	**Jinyunshan (Chongqing)**	**Jinyunshan CNS004**	**Acidic-Udic Argosol**	**S, F_1, and F_2**
	Jiwozi (Xi'an)	**Dabagou CNS007**	**Brown soil**	**S, F_1, and F_2**
	Xiaoping (Xiamen)	**Xiaoping CNS009**	**Red soil**	**S, F_1, and F_2**
	Zhuxiandong (Zhuhai)	**Zhuxiandong CNS011**	**Red soil**	**S, F_1, and F_2**
Japan	**Happo**	**Sekido-san JPS005**	**Cambisols**	**S, F_1, and F_2**
	Ijira	**Ijira JPS006**	**Cambisols**	**F_1**
		Yamato JPS106	**Andosols**	**F_1**

[*1] S, Soil chemical analysis; F_1, Observation of tree decline; F_2, Description of trees and understory vegetation survey

Table 5.4.2 Site locations, number of plots, and surveys conducted up to 2025

Country	Area (Nearest air concentration / acid deposition monitoring site)	Soil and vegetation monitoring site	EANET site code	Number of plots		Start year	Latest survey	Number of surveys until 2025			
				Forest plot	Soil plot			Tree decline	Forest survey	Understory survey	Soil survey
China	Jinyunshan (Chongqing)	**Jinyunshan**	**CNS004**	2	2	2000	**2025**	**20**	**7**	**7**	**8**
	Jiwozi (Xi'an)	**Dabagou**	**CNS007**	1	2	2001	**2025**	**20**	**7**	**7**	**8**
	Xiaoping (Xiamen)	**Xiaoping**	**CNS009**	1	1	2000	**2025**	**19**	**6**	**5**	**6**
	Zhuxiandong (Zhuhai)	**Zhuxiandong**	**CNS011**	3	3	2001	**2025**	**12**	**9**	**9**	**8**
Indonesia	Serpong	Bogor Research Forest (Dramaga Experimental Forest)	IDS002	1	1	2001	2019	7	1	1	5
Japan	Happo	**Sekido-san**	**JPS005**	1	2	2001	**2025**	**23**	**6**	**6**	**6**
		Horyu-zan *1	JPS105	1	2	2001	2023	21	5	5	5
	Ijira	**Ijira**	**JPS006**	1	2	2000	**2025**	**23**	5	5	5
		Yamato	**JPS106**	1	2	2003	**2025**	**23**	4	4	4
Malaysia	Petaling Jaya	Pasoh Reserve Forest 1	MYS001	0	1	2000	2018				3
		Pasoh Reserve Forest 2	MYS101	0	1	2014	2018				2
	Petaling Jaya	Pasoh TEAM Plot 1	MYS201	1	1	2022	2023	0	0	0	1
		Pasoh TEAM Plot 8	MYS202	1	1	2022	2023	0	0	0	1
	(Bintulu)	UPMKB Rehabilitated Forest Planted in 1991	MYS005	0	2	2009	2012				2
		UPMKB Rehabilitated Forest Planted in 2008	MYS105	0	2	2009	2012				2
Mongolia	Ulaanbaatar	Bogdkhan Mountain	MNS001	1	2	2005	2024	1	1	0	3
	Terelj	Terelj Mountain	MNS002	0	2	2014	2024				3
Philippines	Los Baños	Mt. Makiling	PHS002	1	2	2000	2023	3	4	4	4
		UP Quezon, Land Grant	PHS102	1	2	2000	2023	4	3	4	5
	Metro Manila	La Mesa Watershed	PHS001	1	2	2007	2010	2	2	2	2
	Mt. Sto Tomas	Boneco Long Term Ecological Research Site	PHS003	1	2	2008	2008	1	1	1	1
Republic of Korea	Imsil	Mt. Naejang	KRS003	1	2	2001	2004	2	2	2	2
Russia	Irkutsk	Irkutsk	RUS003	1	1	2001	2013	2	2	2	2
	Listvyanka	Bolshie Koty	RUS002	1	2	2000	2013	1	1	1	2
		Pereemnaya river catchment	RUS102	1	2	2005	2005	1	1	1	1
	Mondy	Ilchir Lake	RUS001	0	2	1999	1999				1
		Okinskoe Lake	RUS101	0	1	1999	1999				1
		Solar Observatory	RUS201	1	2	1999	2014	1	1	1	2
	Primorskaya	Primorskaya	RUS004	1	1	2006	2013	1	1	1	2
Thailand	Vajiralongkorn Dam (old name: Kao Lam Dam)	Vajiralongkorn Dam	THS004	1	2	2000	2012	2	4	3	6
		Vajiralongkorn Puye	THS104	1	1	2002	2012	2	5	4	4
Vietnam	Hoa Binh	Cave of Heaven	VNS002	0	2	1999	1999				1
		Thang Ranh	VNS102	0	2	1999	1999				1

*1, Tree decline survey at Horyu-zan was not conducted due to road damage from the 2024 earthquake. Bold text indicates that soil and/or vegetation monitoring was conducted in 2025. Gray cells indicate sites where only soil monitoring was conducted.

5.2 Results of Monitoring

The results of the soil analysis and tree decline surveys are presented in the following tables:

- **Table 5.5: Soil chemical analysis**

  Table 5.5.1 Jinyunshan-1 (Area: Jinyunshan, China) CNS004
  Table 5.5.2 Dabagou (Area: Jiwozi, China) CNS007
  Table 5.5.3 Xiaoping (Area: Xiaoping, China) CNS009
  Table 5.5.4 Zhuxiandong (Area: Zhuxiandong, China) CNS011
  Table 5.5.5 Sekido-san (Area: Happo, Japan) JPS005

- **Table 5.6: Observation of tree decline**

  Table 5.6.1 Jinyunshan-1 (Area: Jinyunshan, China) CNS004
  Table 5.6.2 Jinyunshan-2 (Area: Jinyunshan, China) CNS004
  Table 5.6.3 Dabagou (Area: Jiwozi, China) CNS007
  Table 5.6.4 Xiaoping (Area: Xiaoping, China) CNS009
  Table 5.6.5 Zhuxiandong-1 (Area: Zhuxiandong, China) CNS011
  Table 5.6.6 Zhuxiandong-2 (Area: Zhuxiandong, China) CNS011
  Table 5.6.7 Zhuxiandong-3 (Area: Zhuxiandong, China) CNS011
  Table 5.6.8 Sekido-san (Area: Happo, Japan) JPS005
  Table 5.6.9 Ijira (Area: Ijira, Japan) JPS006
  Table 5.6.10 Yamato (Area: Ijira, Japan) JPS106

- **Table 5.7 Description of trees**

  Table 5.7.1 Jinyunshan-1 (Area: Jinyunshan, China) CNS004
  Table 5.7.2 Jinyunshan-2 (Area: Jinyunshan, China) CNS004
  Table 5.7.3 Dabagou (Area: Jiwozi, China) CNS007
  Table 5.7.4 Xiaoping (Area: Xiaoping, China) CNS009
  Table 5.7.5 Zhuxiandong-1 (Area: Zhuxiandong, China) CNS011
  Table 5.7.6 Zhuxiandong-2 (Area: Zhuxiandong, China) CNS011
  Table 5.7.7 Zhuxiandong-3 (Area: Zhuxiandong, China) CNS011
  Table 5.7.8 Sekido-san (Area: Happo, Japan) JPS005

- **Table 5.8 Understory vegetation survey**

  Table 5.8.1 Jinyunshan-1 (Area: Jinyunshan, China) CNS004
  Table 5.8.2 Jinyunshan-2 (Area: Jinyunshan, China) CNS004
  Table 5.8.3 Dabagou (Area: Jiwozi, China) CNS007
  Table 5.8.4 Xiaoping (Area: Xiaoping, China) CNS009
  Table 5.8.5 Zhuxiandong-1 (Area: Zhuxiandong, China) CNS011

Table 5.8.6 Zhuxiandong-2 (Area: Zhuxiandong, China) CNS011
Table 5.8.7 Zhuxiandong-3 (Area: Zhuxiandong, China) CNS011
Table 5.8.8 Sekido-san (Area: Happo, Japan) JPS005

Table 5.5.1 Soil chemical analysis: Jinyunshan-1 (Area: Jinyunshan, China) CNS004

Soil sampling date: 1 December 2025

Name of analysis laboratory: Chongqing Ecological and Environmental Monitoring Center

Location	Soil type	Plot No.	Subplot No.	Layer analyzed (cm)	Repeat analysis	Moisture content (%)	pH		Exchangeable base cations (B)				Ex-acidity (A)	Ex-acid cations		ECEC (A) + (B)
							H_2O	KCl	Ca	Mg	K	Na		Al	H	
									(cmolc kg^{-1})							
Jinyunshan	Acidi-Udic Argosols	1#	1	0-10		1.76	4.0	3.3	0.52	0.11	0.1	0.02	11.0	9.24	1.73	11.7
			2			1.60	3.9	3.3	0.14	0.09	0.1	0.02	11.4	9.57	1.78	11.7
			3			1.72	3.8	3.2	0.78	0.17	0.13	0.02	10.2	8.45	1.78	11.3
			4			1.61	4.0	3.3	0.18	0.07	0.07	0.02	10.7	9.00	1.73	11.1
			5			1.61	4.0	3.3	0.15	0.12	0.11	0.02	9.6	8.04	1.56	10.0
			1	10-20		1.24	4.0	3.3	0.26	0.07	0.08	0.02	9.54	7.90	1.64	10.0
			2			1.41	4.1	3.5	0.06	0.04	0.07	0.01	8.25	6.99	1.26	8.4
			3			1.20	4.2	3.4	0.15	0.05	0.08	0.01	8.08	6.74	1.34	8.4
			4			1.35	4.1	3.4	0.07	0.03	0.06	0.01	8.1	6.84	1.26	8.3
			5			1.23	4.3	3.5	0.05	0.06	0.07	0.01	6.67	5.69	0.98	6.9
	Acidi-Udic Argosols	2#	1	0-10		1.99	4.0	3.2	0.3	0.04	0.05	0.01	10.61	8.81	1.8	11.0
			2			1.49	4.1	3.4	0.19	0.06	0.08	0.02	7.68	6.58	1.1	8.0
			3			1.66	4.0	3.3	0.62	0.13	0.12	0.02	8.8	7.43	1.37	9.7
			4			1.82	4.1	3.4	0.25	0.08	0.1	0.02	8.55	7.43	1.12	9.0
			5			1.13	4.4	3.6	1.12	0.16	0.15	0.02	4.86	4.20	0.66	6.3
			1	10-20		1.23	4.1	3.4	0.1	0.05	0.08	0.02	7.94	6.8	1.14	8.2
			2			1.26	4.2	3.6	0.1	0.03	0.06	0.01	5.95	5.04	0.91	6.2
			3			1.18	4.2	3.5	0.21	0.06	0.08	0.02	5.76	4.92	0.84	6.1
			4			1.37	4.2	3.5	0.08	0.03	0.06	0.01	6.17	5.28	0.89	6.4
			5			0.77	4.3	3.5	0.43	0.06	0.13	0.01	4.9	4.16	0.74	5.5

Note. Results of repeat analyses were not reported.

Table 5.5.2 Soil chemical analysis: Dabagou (Area: Jiwozi, China) CNS007

Soil sampling date: 3 December 2025

Name of analysis laboratory: Chongqing Ecological and Environmental Monitoring Center

Location	Soil type	Plot No.	Subplot No.	Layer analyzed (cm)	Repeat analysis	Moisture content (%)	pH		Exchangeable base cations (B)				Ex-acidity (A)	Ex-acid cations		ECEC (A) + (B)
							H_2O	KCl	Ca	Mg	K	Na		Al	H	
									(cmolc kg^{-1})							
Ji WoZi	Brown soil	1	1	0-10		5.58	5.1	4.0	21.5	2.00	0.48	0.12	0.05	0.05	0.00	24.1
			2			4.67	4.9	3.9	16.5	1.50	0.29	0.11	0.05	0.05	0.00	18.5
			3			5.22	5.2	4.2	16.3	2.25	0.36	0.11	0.35	0.25	0.10	19.4
			4			1.71	5.3	4.2	16.0	1.25	0.23	0.17	0.15	0.15	0.00	17.8
			5			3.13	4.8	3.9	18.3	1.25	0.28	0.11	0.20	0.10	0.10	20.1
			1	10-20		4.80	5.0	4.0	14.0	1.25	0.27	0.07	0.30	0.15	0.15	15.9
			2			4.61	5.3	4.2	12.5	1.00	0.20	0.10	0.15	0.15	0.00	14.0
			3			3.18	5.5	4.4	12.3	1.50	0.29	0.10	0.35	0.20	0.15	14.5
			4			2.33	5.2	4.3	14.5	1.25	0.23	0.18	0.55	0.15	0.40	16.7
			5			2.38	5.2	4.1	18.3	0.75	0.19	0.09	0.30	0.15	0.15	19.6
		2	1	0-10		5.24	5.5	4.5	16.8	2.00	0.48	0.52	0.50	0.15	0.35	20.3
			2			3.19	5.5	4.2	7.3	1.00	0.33	0.16	1.00	0.50	0.50	9.8
			3			5.56	5.4	4.4	15.8	2.25	0.38	0.30	1.05	0.55	0.50	19.8
			4			5.08	5.3	4.2	12.0	1.25	0.36	0.18	1.10	0.70	0.40	14.9
			5			4.87	5.3	4.4	25.8	1.75	0.50	0.35	0.90	0.45	0.45	29.3
			1	10-20		3.32	5.8	4.5	12.8	1.50	0.28	0.72	0.45	0.35	0.10	15.7
			2			2.74	5.7	4.3	9.5	1.00	0.25	1.40	1.45	1.00	0.45	13.6
			3			4.03	5.6	4.4	11.8	1.50	0.32	0.13	0.85	0.50	0.35	14.6
			4			4.48	5.5	4.4	33.0	1.50	0.29	0.17	0.80	0.50	0.30	35.8
			5			3.76	5.1	4.6	22.5	1.25	0.25	0.07	0.20	0.15	0.05	24.3

Note. Results of repeat analyses were not reported.

Table 5.5.3 Soil chemical analysis: Xiaoping (Area: Xiaoping, China) CNS009
Soil sampling date: 11 December 2025
Name of analysis laboratory: Fujian Xiamen environmental monitoring central station

Location	Soil type	Plot No.	Subplot No.	Layer analyzed (cm)	Repeat analysis	Moisture content (%)	pH		Exchangeable base cations (B)				Ex-acidity	Ex-acid cations		ECEC	T-C
									Ca	Mg	K	Na	(A)	Al	H	(A) + (B)	
							H_2O	KCl	(cmolc kg^{-1})								(g kg^{-1})
Xiaoping	Red soil	XPT-01	1	0-10		2.75	4.30	3.67	0.05	0.08	0.19	0.07	4.75	4.11	0.64	5.14	39.7
			2			2.42	4.50	3.77	0.04	0.04	0.13	0.04	4.67	4.08	0.59	4.92	22.7
			3			2.71	4.58	3.91	0.05	0.07	0.20	0.05	4.55	4.03	0.52	4.92	36.4
			4			2.78	4.47	3.81	0.04	0.06	0.15	0.04	4.77	3.89	0.88	5.07	36.9
			5			2.68	4.33	3.73	0.04	0.06	0.15	0.04	4.52	3.91	0.61	4.82	38.1
			1	10-20		2.35	4.61	3.94	0.03	0.04	0.15	0.03	3.77	3.36	0.41	4.02	23.3
			2			2.41	4.64	3.92	0.02	0.04	0.14	0.04	3.46	3.11	0.35	3.69	19.3
			3			2.5	4.68	3.98	0.03	0.05	0.16	0.05	3.66	3.02	0.64	3.96	24.2
			4			2.43	4.55	3.91	0.03	0.04	0.13	0.03	3.51	3.06	0.45	3.74	22.4
			5			2.4	4.62	3.94	0.02	0.03	0.11	0.03	3.48	3.07	0.41	3.68	21.7

Note. Results of repeat analyses were not reported.

Table 5.5.4 Soil chemical analysis: Zhuxiandong (Area: Zhuxiandong, China) CNS011
Soil sampling date: 30 December 2025
Name of analysis laboratory: College of Natural Resources and Environment, South China Agric. Univ.

Location	Soil type	Plot No.	Subplot No.	Layer analyzed (cm)	Repeat analysis	Moisture content (%)	pH		Exchangeable base cations (B)				Ex-acidity	Ex-acid cations		ECEC
									Ca	Mg	K	Na	(A)	Al	H	(A) + (B)
							H_2O	KCl	(cmolc kg^{-1})							
Zhuxiandong 22°12'37"N 113°30'36" E	Lateritic red soil	1	1	0-10		2.54	4.35	3.75	0.49	0.14	0.17	0.26	2.41	1.43	0.98	3.47
			2			2.75	4.43	3.56	0.53	0.14	0.10	0.14	2.61	1.93	0.69	3.53
			3			3.74	4.47	3.57	0.56	0.15	0.10	0.15	2.63	2.27	0.36	3.58
			4			3.95	4.48	3.62	0.56	0.15	0.10	0.14	2.48	1.95	0.53	3.43
			5			3.99	4.33	3.59	0.55	0.14	0.10	0.14	2.07	1.91	0.16	3.00
			1	10-20		3.17	4.38	3.35	0.70	0.19	0.41	0.68	2.42	1.73	0.69	4.40
			2			1.79	4.38	3.59	0.69	0.19	0.20	0.31	2.58	1.90	0.68	3.98
			3			3.12	4.36	3.52	0.68	0.18	0.19	0.30	2.22	1.57	0.66	3.57
			4			3.05	4.48	3.57	0.67	0.18	0.19	0.30	2.22	1.57	0.66	3.57
			5			1.88	4.46	3.51	0.67	0.18	0.18	0.29	2.00	1.55	0.45	3.32
Zhuxiandong 22°12'00″N 113°31'00″E		2	1	0-10		5.05	4.66	3.83	0.56	0.18	0.11	0.16	2.96	2.44	0.53	3.97
			2			3.84	4.69	3.68	0.72	0.19	0.12	0.17	3.05	2.57	0.48	4.24
			3			3.65	4.61	3.73	0.70	0.19	0.12	0.17	3.45	3.23	0.22	4.63
			4			4.97	4.61	3.70	0.71	0.19	0.11	0.17	2.87	2.80	0.07	4.06
			5			5.02	4.67	3.67	0.72	0.19	0.12	0.17	3.08	2.77	0.31	4.29
			1	10-20		4.90	4.58	3.86	0.71	0.20	0.13	0.19	3.17	3.02	0.15	4.38
			2			4.88	4.52	3.71	0.71	0.20	0.12	0.18	3.49	2.94	0.56	4.70
			3			3.61	4.66	3.73	0.70	0.19	0.12	0.18	3.45	2.98	0.47	4.64
			4			3.47	4.67	3.67	0.69	0.19	0.12	0.18	3.43	2.76	0.67	4.61
			5			4.86	4.69	3.68	0.72	0.20	0.12	0.18	3.36	3.27	0.10	4.59
22°12'20"N 113°31'02"E		3	1	0-10		5.77	4.60	3.83	0.74	0.19	0.13	0.20	2.89	2.62	0.28	4.17
			2			4.28	4.56	3.68	0.72	0.19	0.12	0.18	2.86	2.79	0.07	4.07
			3			4.62	4.54	3.73	0.74	0.19	0.13	0.19	2.87	2.59	0.28	4.12
			4			6.90	4.49	3.70	0.74	0.19	0.12	0.19	2.81	2.22	0.58	4.05
			5			5.71	4.61	3.67	0.73	0.19	0.12	0.18	3.02	2.20	0.83	4.25
			1	10-20		7.11	4.62	3.86	0.68	0.17	0.13	0.19	3.36	2.44	0.92	4.53
			2			5.93	4.57	3.71	0.64	0.16	0.12	0.17	3.03	2.20	0.83	4.12
			3			4.18	4.49	3.73	0.66	0.16	0.12	0.17	5.04	0.00	5.04	6.16
			4			4.36	4.58	3.67	0.65	0.16	0.12	0.17	3.07	1.96	1.11	4.16
			5			4.26	4.63	3.68	0.64	0.16	0.12	0.17	2.65	2.58	0.07	3.75

Note. Results of repeat analyses were not reported.

Table 5.5.5 Soil chemical analysis: Sekido-san (Area: Happo, Japan) JPS005
Soil sampling date : 29 October 2025
Name of analysis laboratory: Ishikawa Prefectural Institute of Public Health and Environmental Sciences

Location	Soil type	Plot No.	Subplot No.	Layer analyzed (cm)	Repeat analysis	Moisture content (%)	pH		Exchangeable base cations (B)				Ex-acidity (A)	Ex-acid cations		ECEC (A) + (B)	T-C	T-N	Avilable P	Sulfate-S
									Ca	Mg	K	Na		Al	H					
							H_2O	KCl	(cmolc kg^{-1})								(g kg^{-1})		(mg kg^{-1})	
Sekido-san	Cambisols	1	1	0-10	1	9.3	4.4	3.6	0.16	0.49	0.28	0.16	15	14	1.6	17	103.0	7.2	2.6	22
			2			9.1	4.6	3.7	0.15	0.35	0.20	0.18	13	12	1.5	14	92.2	5.9	2.1	33
			3			8.3	4.7	3.7	0.60	0.67	0.42	0.14	12	10	1.5	14	104.4	7.5	3.1	18
			4			7.5	4.5	3.6	0.12	0.41	0.23	0.18	15	13	1.5	16	88.8	6.1	2.3	27
			5			7.7	4.6	3.9	0.16	0.40	0.20	0.18	13	12	1.3	14	89.6	6.1	2.2	27
			1	10-20		9.1	4.8	3.8	0.13	0.33	0.19	0.12	13	12	1.2	14	67.8	4.5	1.1	30
			2			7.8	4.9	3.9	0.11	0.25	0.14	0.16	11	9.7	1.1	11	61.6	4.5	1.1	47
			3			7.6	4.9	3.9	0.32	0.35	0.29	0.11	10	9.5	0.98	12	70.6	5.2	1.5	22
			4			7.1	4.8	3.9	0.099	0.29	0.13	0.13	12	11	1.3	13	55.3	3.8	1.3	45
			5			6.8	4.9	3.7	0.11	0.20	0.18	0.11	9.7	8.5	1.2	10	64.4	4.1	0.92	68
		2	1	0-10	1	6.1	4.8	3.7	0.63	0.63	0.25	0.085	11	10	0.93	13	29.9	2.4	1.9	26
			2			7.4	4.6	3.7	0.46	0.48	0.19	0.10	17	16	1.0	18	40.6	3.3	1.4	38
			3			7.6	4.1	3.5	0.25	0.55	0.19	0.14	15	14	1.4	16	65.5	5.1	2.7	28
			4			5.2	4.7	3.8	0.27	0.43	0.13	0.12	12	11	0.87	13	26.8	2.1	2.0	40
			5			5.3	4.7	3.8	0.22	0.27	0.090	0.11	12	11	1.0	12	25.4	2.1	1.6	33
			1	10-20		5.8	4.8	3.8	0.31	0.30	0.23	0.069	11	11	0.75	12	17.1	1.4	1.6	46
			2			7.3	4.7	3.8	0.32	0.36	0.14	0.10	15	14	1.3	16	31.4	2.7	1.1	55
			3			6.1	4.4	3.7	0.23	0.39	0.13	0.12	13	12	1.1	14	32.4	2.8	1.7	39
			4			4.7	4.9	3.9	0.12	0.24	0.069	0.099	11	10	0.81	11	9.6	0.9	2.2	64
			5			5.5	5.0	3.9	0.30	0.35	0.094	0.12	11	10	0.70	12	17.7	1.5	1.6	45

Note. Moisture content values are means of three replicate measurements.

Location	Soil type	Plot No.	Subplot No.	Layer analyzed (cm)	Repeat analysis	Moisture content (%)	pH		Exchangeable base cations (B)				Ex-acidity (A)	Ex-acid cations		ECEC (A) + (B)	T-C	T-N	Avilable P	Sulfate-S
									Ca	Mg	K	Na		Al	H					
							H_2O	KCl	(cmolc kg^{-1})								(g kg^{-1})		(mg kg^{-1})	
Sekido-san	Cambisols	1	1	0-10	2	9.3	4.4	3.6	0.15	0.50	0.29	0.17	15	14	1.2	16	102.5	7.2	2.5	21
			2			9.1	4.6	3.7	0.15	0.35	0.20	0.17	13	12	1.3	14	92.3	5.9	1.9	34
			3			8.3	4.6	3.7	0.58	0.67	0.39	0.14	12	10	1.2	13	103.6	7.5	3.5	18
			4			7.5	4.5	3.6	0.13	0.42	0.24	0.18	15	13	1.3	16	89.1	6.2	2.4	29
			5			7.7	4.6	3.7	0.15	0.38	0.19	0.18	13	12	1.1	14	89.9	6.2	2.4	27
			1	10-20		9.1	4.8	3.8	0.14	0.34	0.20	0.12	13	12	0.98	14	67.3	4.5	1.3	30
			2			7.8	4.9	3.9	0.10	0.24	0.14	0.16	11	10	0.76	11	61.1	4.4	1.2	50
			3			7.6	4.8	3.9	0.35	0.36	0.31	0.11	10.0	9.0	0.95	11	71.6	5.3	1.5	23
			4			7.1	4.7	3.8	0.099	0.30	0.14	0.13	13	12	1.0	14	55.8	3.9	1.6	47
			5			6.8	4.9	3.9	0.12	0.21	0.19	0.12	9.6	8.7	0.88	10	64.6	4.1	0.85	66
		2	1	0-10	2	6.1	4.7	3.7	0.64	0.64	0.29	0.084	12	11	0.99	14	30.2	2.4	1.8	27
			2			7.4	4.6	3.7	0.43	0.47	0.18	0.098	17	16	1.1	18	40.7	3.4	1.4	40
			3			7.6	4.2	3.4	0.26	0.59	0.21	0.15	15	14	1.6	16	63.9	5.0	2.5	25
			4			5.2	4.7	3.7	0.27	0.42	0.12	0.11	12	11	1.1	13	27.1	2.2	2.3	39
			5			5.3	4.9	3.8	0.25	0.29	0.10	0.12	12	11	1.1	13	25.6	2.1	1.5	34
			1	10-20		5.8	4.9	3.8	0.30	0.30	0.23	0.072	12	11	1.0	13	17.2	1.4	1.8	44
			2			7.3	4.8	3.8	0.32	0.36	0.14	0.100	16	15	1.4	17	31.6	2.7	1.1	52
			3			6.1	4.6	3.7	0.24	0.39	0.13	0.12	13	12	1.4	14	32.4	2.8	1.6	41
			4			4.7	4.7	3.9	0.12	0.24	0.069	0.10	11	9.8	1.1	11	9.8	0.9	2.2	64
			5			5.5	5.0	3.8	0.30	0.35	0.091	0.12	11	9.5	1.2	12	17.7	1.5	1.6	45

Note. Moisture content values are means of three replicate measurements.

Table 5.6.1 Observation of tree decline: Jinyunshan-1 (Area: Jinyunshan, China) CNS004

Plot name: Junyunshan-1, Forest type: Secondary, Stand age: 82 years old in 2025

Date: 1 December 2025

Surveyor: Yujie

Individual No.	1 (3)	2 (2)	3 (58)	4 (101)	5 (105)	6 (70)	8 (72)	9 (103)	10 (104)	7 (102)	11 (31)	12 (109)	13 (88)	14 (111)
Direction (E, W, S, or N)	E	E	E	S	S	W	W	N	N	S	W	N	S	S
Plant Name	*Cunninghamia lanceolata*	*Symplocos lucida*	*Symplocos lucida*	*Symplocos lucida*	*Symplocos lucida*	*Symplocos lucida*	*Symplocos lucida*	*Symplocos lucida*	*Symplocos lucida*	*Symplocos lucida*	*Elaeocarpus duclouxii*	*Polyspora speciosa*	*Castanopsis hupehensis* var. *sphinulosa*	*Symplocos lucida*
Relative height				Dead			Null			Null				
Tree height (m)	21.3	12.8	11.5		15.8	12.5		15.3	15.1		18.6	15.8	23.7	11.5
DBH (cm)	19.8	17.2	14.3		16.3	11.9		15.3	11.4		26.1	13.7	33.6	15.5
Vitality of tree	1			Dead in 2024			Dead in 2023			Dead in 2016				
Form of tree	1													
Branch growth		1							1					
Dieback of stem														
Defoliation of crown	1		1		1	1			1					
Deformation of leaves									1					
Size of leaves														
Discoloration of leaves														
Injury of leaves														
Damage class*1														

Estimated cause of decline:

Note: *Symplocos lucida* was previously reported as *Symplocos setchuenensis*.

Blank cells indicate "0" (no damage).

*1, The damage class is determined by a combination of defoliation and discoloration classes.

Table 5.6.2 Observation of tree decline: Jinyunshan-2 (Area: Jinyunshan, China) CNS004

Plot name: Jinyunshan-2, Forest type: Secondary, Stand age: 82 years old in 2020

Date: 1 December 2025

Surveyor: Yujie

Individual No.	1 (67)	2 (68)	3 (74)	4 (76)	6 (41)	8 (71)	9 (70)	10 (69)	11 (53)	12 (77)	13 (54)	14 (59)
Direction (E, W, S, or N)	E	E	S	S	W	N	N	N	W	W	W	E
Plant Name	*Symplocos lucida*	*Symplocos lucida*	*Adinandra bockiana*	*Symplocos lucida*	*Adinandra bockiana*	*Symplocos lancifolia*	*Elaeocarpus japonicas*	*Machilus nanmu*	*Machilus nanmu*	*Symplocos lancifolia*	*Machilus nanmu*	*Castanopsis fargesii*
Relative height					Dead			Null				
Tree height (m)	14.1	12.8	18.6	19.7		17.2	20.8		30.9	16.4	31.0	29.3
DBH (cm)	15.2	19.3	21.4	27.7		18.9	42.2		37.2	16.2	31.0	61.0
Vitality of tree					Dead in 2024			Dead in 2016				
Form of tree				1					1			1
Branch growth												
Dieback of stem		1	3	1			1		1			1
Defoliation of crown			2				2				1	1
Deformation of leaves												
Size of leaves									1			
Discoloration of leaves										1	1	
Injury of leaves		1				1				2		
Damage class*1												

Estimated cause of decline: Insect pest (termite)

Note: *Symplocos lucida* and *Machilus nanmu* were previously reported as *Symplocos setchuenensis* and *Machilus pingii* , respectively.

Blank cells indicate "0" (no damage).

*1, The damage class is determined by a combination of defoliation and discoloration classes.

Table 5.6.3 Observation of tree decline: Dabagou (Area: Jiwozi, China) CNS007

Plot name: Dabagou, Forest type: Man-made, Stand age: 45-47 years old in 2025

Date: 14 October 2025

Surveyor: Zhu Jian, Yang Naiwang, Song XueJuan

Individual No.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
Direction (E, W, S, or N)	E	E	E	E	E	S	S	S	S	S	W	W	W	W	W	N	N	N	N	N
Plant Name	*Pinus armandii*	*Pinus armandii*	*Pinus armandii*	*Pinus armandii*	*Pinus armandii*	*Pinus armandii*	*Pinus armandii*	*Pinus armandii*	*Pinus armandii*	*Pinus armandii*	*Pinus armandii*	*Pinus armandii*	*Pinus armandii*	*Pinus armandii*	*Pinus armandii*	*Pinus armandii*	*Pinus armandii*	*Pinus armandii*	*Pinus armandii*	*Pinus armandii*
Relative height																				
Tree height (m)	17.2	14.4	12.2	14.8	12.5	12.0	9.8	9.0	10.9	14.8	14.6	12.6	10.9	15.5	11.2	13.3	11.9	13.7	11.5	8.8
DBH (cm)	25.9	25.8	17.0	21.6	25.1	17.8	12.7	19.0	15.9	19.3	28.9	24.1	15.1	24.3	16.6	24.6	16.6	24.4	16.2	9.8
Vitality of tree																				
Form of tree																				
Branch growth																				
Dieback of stem																				
Defoliation of crown																				
Deformation of leaves																				
Size of leaves																				
Discoloration of leaves																				
Injury of leaves																				
Damage class*1																				

Estimated cause of decline: Tees are too much.

Blank cells indicate "0" (no damage).

*1, The damage class is determined by a combination of defoliation and discoloration classes.

Table 5.6.4 Observation of tree decline: Xiaoping (Area: Xiaoping, China) CNS009

Plot name: XPZ-01, Forest type: Man-made, Stand age: 41 years old in 2025

Date: 11 December 2025

Surveyor: Zhang Yashuang

Individual No.	120	210	211	116	203	225	227	301	220	221	337	334	333	313	314	310	309	308
Direction (E, W, S, or N)	E	E	E	E	S	S	S	S	W	W	W	W	W	N	N	N	N	N
Plant Name	*Michelia macclurei*	*Michelia macclurei*	*Michelia macclurei*	*Michelia macclurei*	*Michelia macclurei*	*Michelia macclurei*	*Michelia macclurei*	*Michelia macclurei*	*Michelia macclurei*	*Michelia macclurei*	*Michelia macclurei*	*Michelia macclurei*	*Michelia macclurei*	*Michelia macclurei*	*Michelia macclurei*	*Michelia macclurei*	*Michelia macclurei*	*Michelia macclurei*
Relative height																		
Tree height (m)	17.1	17.8	18.8	17.8	17.6	18.1	18.8	18.4	17.9	18.9	18.4	18.0	18.8	17.7	17.2	17.2	17.6	19.7
DBH (cm)	17.9	21.3	20.1	20.5	22.1	24.9	21.9	20.6	18.8	23.0	20.8	20.7	19.1	21.9	20.9	20.8	21.9	30.3
Vitality of tree																		
Form of tree																		
Branch growth																		
Dieback of stem																		
Defoliation of crown																		
Deformation of leaves																		
Size of leaves																		
Discoloration of leaves																		
Injury of leaves																		
Damage class*1																		

Estimated cause of decline:

Blank cells indicate "0" (no damage).

*1, The damage class is determined by a combination of defoliation and discoloration classes.

Table 5.6.5 Observation of tree decline: Zhuxiandong-1 (Area: Zhuxiandong, China) CNS011

Plot name: Zhuxiandong-1, Forest type: Man-made, Stand age: Approx. 31 years old in 2025

Date: 30 December 2025

Surveyor: Zheng Mingxuan

Individual No.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
Direction (E, W, S, or N)	E	E	E	E	E	S	S	S	S	S	W	W	W	W	W	N	N	N	N	N
Plant Name	*Triadica cochinchinensis*	*Pinus elliottii*	*Triadica cochinchinensis*	*Acacia confusa*	*Pinus elliottii*	*Pinus elliottii*	*Pinus elliottii*	*Pinus elliottii*	*Heptapleurum heptaphyllum*	*Mangifera indica*	*Pinus elliottii*	*Cratoxylum cochinchinense*	*Pinus elliottii*	*Litsea rotundifolia var. oblongifolia*	*Pinus elliottii*	*Mallotus paniculatus*	*Litsea rotundifolia var. oblongifolia*	*Pinus elliottii*	*Cratoxylum cochinchinense*	*Cratoxylum cochinchinense*
Relative height																				
Tree height (m)	6.3	6.0	7.2	7.5	15.2	16.0	13.8	14.5	3.9	8.6	14.1	7.8	15.0	5.3	16.0	4.6	3.9	6	7.3	6.5
DBH (cm)	15.1	18.3	15.3	13.3	27.4	22.6	21.5	31.7	5.9	15.7	26.2	7.8	19.3	9.4	25.5	8.3	8.0	33	10.2	8.6
Vitality of tree					1	1	1	1	1		2		1	1		1	1	1		
Form of tree	1	1	1		1	1	1	1	1		1	1	1		2			1		
Branch growth																		1		
Dieback of stem						1												1		
Defoliation of crown	1		1			1												1		
Deformation of leaves																		1		
Size of leaves																		1		
Discoloration of leaves						1												1		
Injury of leaves																		1		
Damage class[*1]	1		1			1												1		

Estimated cause of decline: The reason for the decline of *Triadica cochinchinensis* and *Pinus elliottii* may be tree aging and typhoon impact.

Blank cells indicate "0" (no damage).

*1, The damage class is determined by a combination of defoliation and discoloration classes.

Table 5.6.6 Observation of tree decline: Zhuxiandong-2 (Area: Zhuxiandong, China) CNS011

Plot name: Zhuxiandong-2, Forest type: Man-made, Stand age: Approx. 28 years old in 2025

Date: 30 December 2025

Surveyor: Zheng Mingxuan

Individual No.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
Direction (E, W, S, or N)	E	E	E	E	E	S	S	S	S	S	W	W	W	W	W	N	N	N	N	N
Plant Name	*Acacia confusa*	*Acacia confusa*	*Acacia confusa*	*Litsea rotundifolia var. oblongifolia*	*Microcos paniculata*	*Litsea rotundifolia var. oblongifolia*	*Acacia confusa*	*Acacia confusa*	*Mallotus paniculatus*	*Acacia confusa*	*Acacia confusa*	*Acacia confusa*	*Cratoxylum cochinchinense*	*Microcos paniculata*	*Acacia confusa*	*Syzygium euonymifolium*	*Acacia confusa*	*Syzygium euonymifolium*	*Acacia confusa*	*Acacia confusa*
Relative height																				
Tree height (m)	6.5	9.0	7.8	4.3	5.8	3.9	8.9	12.0	5.6	12.1	8.6	10.0	4.8	5.8	8.7	7.3	6.0	5.5	7.3	7.9
DBH (cm)	19.9	22.9	18.4	5.8	12.8	8.0	21.4	22.9	6.5	34.3	24.0	24.6	7.3	13.7	21.4	11.7	20.7	12.2	24.4	23.9
Vitality of tree			1		1		1	1						1						
Form of tree							2													
Branch growth	2	1	1	1		1	1	1	1		1	1	1			1	1	1	1	1
Dieback of stem	1	1																	1	1
Defoliation of crown			1											1						
Deformation of leaves														1						
Size of leaves																				
Discoloration of leaves	1						1		1	1				1			1		1	
Injury of leaves																				
Damage class[*1]			1											1						

Estimated cause of decline: :The reason for the decline of *Acacia confusa* and *Microcos paniculata* may be the combined effect of pests, diseases, and acid rain.

Blank cells indicate "0" (no damage).

*1, The damage class is determined by a combination of defoliation and discoloration classes.

Table 5.6.7 Observation of tree decline: Zhuxiandong-3 (Area: Zhuxiandong, China) CNS011

Plot name: Zhuxiandong-3, Forest type: Secondary, Stand age: Approx. 23 years old in 2025

Date: 31 December 2025

Surveyor: Zheng Mingxuan

Individual No.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
Direction (E, W, S, or N)	W	W	W	W	W	S	S	S	S	S	E	E	E	E	E	N	N	N	N	N
Plant Name	*Litsea glutinosa*	*Machilus velutina*	*Machilus velutina*	*Machilus velutina*	*Eurya nitida*	*Acacia confusa*	*Acacia confusa*	*Eurya nitida*	*Archidendron lucidum*	*Archidendron lucidum*	*Acacia confusa*	*Machilus velutina*	*Triadica cochinchinensis*	*Acacia confusa*	*Acacia confusa*	*Triadica cochinchinensis*	*Triadica cochinchinensis*	*Triadica cochinchinensis*	*Triadica cochinchinensis*	*Litsea rotundifolia var. oblongifolia*
Relative height																				
Tree height (m)	3.9	4.6	5.8	5.3	4.1	5.1	6.5	4.3	5.3	6.4	5.2	4.3	3.9	5.5	4.5	3.8	4.2	5.2	6.5	4.8
DBH (cm)	6.5	13.4	16.2	8.2	6.5	8.6	12.8	5.3	10.1	14.6	11.4	6.4	11.8	14.0	11.1	8.0	14.3	18.6	23	8.2
Vitality of tree						1	1											1		
Form of tree			1					1		1							1			
Branch growth		1			1	1	1	1	1	1	1	1		1	1					
Dieback of stem					1			1	1	1	1									
Defoliation of crown			1						1				1			1	1	1	1	
Deformation of leaves																				
Size of leaves																				
Discoloration of leaves			1						1									1		
Injury of leaves																				
Damage class[*1]			1						1				1			1	1	1	1	

Estimated cause of decline: The decline of *Machilus velutina* and *Archidendron lucidum* may result from the combined effects of plant diseases, insect pests and acid rain, while the decay of *Triadica cochinchinensis* is probably caused by its periodic defoliation.

Blank cells indicate "0" (no damage).

*1, The damage class is determined by a combination of defoliation and discoloration classes.

Table 5.6.8 Observation of tree decline: Sekido-san (Area: Happo, Japan) JPS005

Plot name: Sekido-san, Forest type: Secondary, Stand age: not specified

Date: 24 September 2025

Surveyor: Yuko Tomizawa

Individual No.	1	2	64	4	5	6	7	8-2	9	10	11	61	13	14	15	16	17	18	19	20
Direction (E, W, S, or N)	N	N	N	N	N	W	W	W	W	W	S	S	S	S	S	E	E	E	E	E
Plant Name	*Fagus crenata*	*Betula grossa*	*Acer pictum*	*Fagus crenata*	*Fagus crenata*	*Fagus crenata*	*Carpinus tschonoskii*	*Fagus crenata*	*Betula grossa*	*Acer pictum*	*Fagus crenata*	*Acer pictum*	*Fagus crenata*	*Fagus crenata*	*Fagus crenata*	*Quercus crispula var. crispula*	*Cerasus jamasakura*	*Fagus crenata*	*Fagus crenata*	*Fagus crenata*
Relative height	＋	＋	－	＋				－		－		－								
Tree height (m)	30.3	35.0	22.4	31.6	25.0	24.8	25.4	18.3	24.3	20.4	26.0	15.7	27.2	24.0	26.5	26.1	21.2	21.2	26.8	24.1
DBH (cm)	42.9	59.9	43.9	69.0	54.2	56.9	57.8	31.8	41.4	33.8	62.3	23.9	70.0	37.9	48.8	50.3	68.4	36.4	62.2	43.7
Vitality of tree																				
Form of tree								1		1		1				1	1			
Branch growth																				
Dieback of stem																				
Defoliation of crown																				
Deformation of leaves																				
Size of leaves																				
Discoloration of leaves																				
Injury of leaves																				
Damage class[*1]																				

Estimated cause of decline: 16, Form of tree is declined due to suppression by surrounding trees. 17, Form of tree is declined due to broken lower branch.
Trees locating on the eastern direction are shielded by lower trees.

Note: Tree No. 3 was replaced with tree No. 64 due to mortality in 2018; Tree No. 58, which replaced tree No. 12 in 2015, was renumbered as No. 61 in 2025.

＋:Significantly taller taller than other trees.　－: Significantly lower than other trees.

Blank cells indicate "0" (no damage).

*1, The damage class is determined by a combination of defoliation and discoloration classes.

Table 5.6.- Observation of tree decline: Horyu-zan (Area: Happo, Japan) JPS105

Survey at Horyu-zan was not conducted due to road damage from the 2024 earthquake.

Table 5.6.9 Observation of tree decline: Ijira (Area: Ijira, Japan) JPS006

Plot name: Ijira-lake, Forest type: Man-made, Stand age: 43-53 years in 2024

Date: 16 September 2025

Surveyor: Yoshizumi Hisada

Individual No.	1	2	3-2	4	5-2	6	7	8	9	10	11	12	13	14	15	16	17	18-2	19	20
Direction (E, W, S, or N)	N	N	N	N	N	E	E	E	E	E	S	S	S	S	S	W	W	W	W	W
Plant Name	*Chamaecyparis obtusa*	*Chamaecyparis obtusa*	*Chamaecyparis obtusa*	*Chamaecyparis obtusa*	*Chamaecyparis obtusa*	*Chamaecyparis obtusa*	*Cryptomeria japonica*	*Chamaecyparis obtusa*	*Chamaecyparis obtusa*	*Chamaecyparis obtusa*	*Chamaecyparis obtusa*	*Chamaecyparis obtusa*	*Chamaecyparis obtusa*	*Chamaecyparis obtusa*	*Chamaecyparis obtusa*	*Chamaecyparis obtusa*	*Chamaecyparis obtusa*	*Chamaecyparis obtusa*	*Chamaecyparis obtusa*	*Chamaecyparis obtusa*
Relative height				−		+	+									−			−	−
Tree height (m)	16.2	15.1	17.7	12.9	16.9	19.6	20.3	18.0	17.3	16.2	18.2	16.3	16.2	18.6	17.9	13.9	15.6	18.4	13.8	13.8
DBH (cm)	23.9	16.8	18.5	15.7	19.4	26.3	28.6	23.6	18.5	19.6	16.7	16.3	17.0	22.8	21.2	22.4	17.5	25.6	12.4	18.4
Vitality of tree																			1	1
Form of tree	1	1		1	1		1	1		1	1	1	1	1	1	1	1		1	1
Branch growth																				
Dieback of stem																				
Defoliation of crown																				
Deformation of leaves																				
Size of leaves																				
Discoloration of leaves																				
Injury of leaves																				
Damage class[*1]																				

Estimated cause of decline: No. 1, 2, 4, 5-2, 8, 11, 12, 14, 15 and 17, bent stem; No. 7, dichotomy; No. 10, bent stem and tip; No. 13, bent stem and dichotomy; No. 16, The presence of tip breakage; No. 19, suppression by other surrounding trees and bent stem; No. 20 suppression by other surrounding trees and dichotomy.

+ :Significantly taller taller than other trees. - : Significantly lower than other trees.

Blank cells indicate "0" (no damage).

*1, The damage class is determined by a combination of defoliation and discoloration classes.

Table 5.6.10 Observation of tree decline: Yamato (Area: Ijira, Japan) JPS106

Plot name: Yamato, Forest type: Man-made, Stand age: 103-113 years in 2024

Date: 19 September 2025

Surveyor: Yoshizumi Hisada

Individual No.	1	2	3	4	5-2	6-2	7-2	8	9-2	10-2	11-2	12-3	13-2	14-2	15	16-2	17	18-2	19-2	20
Direction	N	N	N	N	N	E	E	E	E	E	S	S	S	S	S	W	W	W	W	W
Plant Name	*Chamaecyparis obtusa*	*Chamaecyparis obtusa*	*Chamaecyparis obtusa*	*Chamaecyparis obtusa*	*Chamaecyparis obtusa*	*Chamaecyparis obtusa*	*Chamaecyparis obtusa*	*Chamaecyparis obtusa*	*Chamaecyparis obtusa*	*Chamaecyparis obtusa*	*Chamaecyparis obtusa*	*Chamaecyparis obtusa*	*Chamaecyparis obtusa*	*Chamaecyparis obtusa*	*Chamaecyparis obtusa*	*Chamaecyparis obtusa*	*Chamaecyparis obtusa*	*Chamaecyparis obtusa*	*Chamaecyparis obtusa*	*Chamaecyparis obtusa*
Relative height	+				−	+		+				−								−
Tree height (m)	33.5	29.9	32.0	30.3	28.3	32.4	30.7	33.0	31.6	28.9	29.6	26.6	32.3	29.0	30.0	29.5	29.0	32.0	32.2	27.3
DBH (cm)	41.1	40.5	45.6	45.3	31.6	46.9	42.8	38.8	42.4	44.6	35.1	33.7	50.5	36.9	45.1	36.5	35.6	48.7	48.3	35.3
Vitality of tree																				
Form of tree					1			1	1		1	1	1				1			1
Branch growth		1																		
Dieback of stem																				
Defoliation of crown																				
Deformation of leaves																				
Size of leaves																				
Discoloration of leaves																				
Injury of leaves																				
Damage class[*1]																				

Estimated cause of decline: No. 20, one side branch and leaning; bent stem; No. 8, 12-3 and 17, bent stem and tip; No. 11-2, dichotomy and leaning; No. 18-2, insect damage on stem; No. 13-2, bent tip; No. 5-2 and 9-2, one side branch.

+ :Significantly taller taller than other trees. - : Significantly lower than other trees.

Blank cells indicate "0" (no damage).

*1, The damage class is determined by a combination of defoliation and discoloration classes.

Table 5.7.1 Description of trees: Jinyunshan-1 (Area: Jinyunshan, China) CNS004

Plot name: Jinyunshan-1

Date: 1 December 2025

Surveyor: Yujie

Survey area 1: radius 7.98 m

(Height > 1.3 m)

Tree No.	Scientific name	DBH (cm)	Tree Height (m)	Remarks
1	*Machilus nanmu*	17.9	19.3	
2	*Symplocos lucida*	17.2	12.8	
3	*Cunninghamia lanceolata*	19.8	21.3	
5	*Machilus nanmu*	23	18.1	
6	*Symplocos lucida*	16.1	13.5	
7	*Pinus massoniana*	47.5	25.7	
8	*Aidia cochinchinensis*	4.6	6.6	
12	*Aidia cochinchinensis*	6.0	7.4	
13	*Aidia cochinchinensis*	3.3	6.5	
15	*Symplocos lucida*	14.8	15.5	
17	*Symplocos lucida*	died		
18	*Symplocos lucida*	died		
20	*Elaeocarpus japonicus*	7.3	12.8	
22	*Symplocos lucida*	10.4	12.4	
24	*Symplocos lucida*	died		
25	*Symplocos lucida*	8.8	14	
26	*Pinus massoniana*	31.6	22.7	
27	*Castanopsis carlesii* var. *spinulosa*	died		
28	*Diospyros morrisiana*	3.2	5.8	
31	*Elaeocarpus duclouxii*	26.1	18.6	
32	*Symplocos lucida*	4	8.2	
33	*Castanopsis carlesii* var. *spinulosa*	43.6	25	
34	*Symplocos lucida*	12.2	15.5	
35	*Symplocos lucida*	died		
39	*Aidia cochinchinensis*	died		
40	*Symplocos lucida*	died		
44	*Eurya nitida*	4.3	8.5	
46	*Castanopsis carlesii* var. *spinulosa*	27.1	25.3	
48	*Symplocos lucida*	18.4	17.1	
57	*Machilus nanmu*	27.5	21.6	
106	*Castanopsis carlesii* var. *spinulosa*	6.7	9.5	
107	*Castanopsis carlesii* var. *spinulosa*	5.8	6	

Survey area 2: radius 11.28 m
(DBH > 4 cm)

Tree No.	Scientific name	DBH (cm)	Tree Height (m)	Remarks
58	*Symplocos lucida*	14.3	11.5	
59	*Pinus massoniana*	54.9	28	
60	*Aidia cochinchinensis*	8.3	8.5	
61	*Pinus massoniana*	35.1	23.8	
62	*Symplocos lucida*	10.1	10.5	
64	*Castanopsis carlesii* var. *spinulosa*	41.5	20.4	
65	*Symplocos lucida*	14.2	13.5	
66	*Cunninghamia lanceolata*	38.7	19.9	
67	*Machilus nanmu*	36.5	25.7	
68	*Machilus nanmu*	28.6	21.8	
70	*Symplocos lucida*	11.9	12.5	
72	*Symplocos lucida*	died		
74	*Symplocos lucida*	16.1	15.8	
75	*Machilus nanmu*	14.2	17.3	
76	*Symplocos lucida*	16.6	15.8	
77	*Symplocos lucida*	died		
78	*Symplocos lucida*	22.7	16.8	
80	*Machilus nanmu*	34.5	23.3	
81	*Machilus nanmu*	24.4	23.3	
82	*Castanopsis carlesii* var. *spinulosa*	died		
83	*Cunninghamia lanceolata*	22.6	17.8	
84	*Symplocos lucida*	7.4	9.5	
85	*Symplocos lucida*	15.0	13.5	
108	*Symplocos lucida*	20.4	15.5	

Survey area 3: radius 17.85 m

(DBH > 18 cm)

Tree No.	Scientific name	DBH (cm)	Tree Height (m)	Remarks
87	*Castanopsis carlesii* var. *spinulosa*	47.0	26.6	
88	*Castanopsis carlesii* var. *spinulosa*	33.6	23.7	
90	*Castanopsis fargesii*	48.5	27.7	
91	*Machilus nanmu*	25.7	26.4	
92	*Machilus nanmu*	31.0	23.9	
93	*Pinus massoniana*	70.2	30.7	
94	*Cunninghamia lanceolata*	29.2	25.6	
95	*Castanopsis carlesii* var. *spinulosa*	35.9	21.8	
99	*Castanopsis carlesii* var. *spinulosa*	43.1	25.6	
100	*Cunninghamia lanceolata*	30.8	18.8	
101	*Symplocos lucida*	died		
103	*Symplocos lucida*	15.3	15.3	
104	*Symplocos lucida*	11.4	15.1	
105	*Symplocos lucida*	16.3	15.8	
109	*Polyspora speciosa*	13.7	15.8	
110	*Symplocos lucida*	15.2	13.5	
111	*Symplocos lucida*	15.5	11.5	

Note: *Symplocos lucida, Machilus nanmu,* and *Aidia cochinchinensis* were previously reported as *Symplocos setchuenensis, Machilus pingii* , and *Randia cochinchinensis* , respectively.

Table 5.7.2 Description of trees: Jinyunshan-2 (Area: Jinyunshan, China) CNS004

Plot name: Jinyunshan-2

Date: 1 December 2025

Surveyor: Yujie

Survey area 1: radius 7.98 m
(Height > 1.3 m)

Tree No.	Scientific name	DBH (cm)	Tree Height (m)	Remarks
2	*Eurya loquaniana*	4.0	6.8	
3	*Eurya loquaniana*	5.3	6.1	
6	*Machilus nanmu*	36.1	28.6	
7	*Machilus nanmu*	33.9	30.5	
12	*Machilus nanmu*	40.6	26.9	
13	*Machilus nanmu*	45.8	30.6	
18	*Symplocos lucida*	8.4	9.5	
21	*Symplocos lucida*	9.6	10.3	
23	*Symplocos lancifolia*	5.2	8.9	
26	*Symplocos lucida*	7.4	8.5	
28	*Symplocos lucida*	12.2	9.5	
32	*Eurya loquaniana*	3.9	7.9	
35	*Symplocos lucida*	11.3	11.5	
37	*Eurya loquaniana*	5.3	8.3	
78	*Castanopsis fargesii*	8.0	9.5	
79	*Symplocos lucida*	16.3	10.5	

Survey area 2: radius 11.28 m
(DBH > 4 cm)

Tree No.	Scientific name	DBH (cm)	Tree Height (m)	Remarks
39	*Machilus nanmu*	died		
40	*Machilus nanmu*	34.9	28.9	
41	*Adinandra bockiana*	died		
42	*Symplocos lancifolia*	17.6	18.3	
43	*Symplocos lucida*	11.8	18.1	
49	*Viburnum sambucinum* var. *tomentosum*	5.3	7.2	
80	*Symplocos lucida*	11.1	9.5	
81	*Symplocos lucida*	13.4	12.3	

Survey area 3: radius 17.85 m

(DBH > 18 cm)

Tree No.	Scientific name	DBH (cm)	Tree Height (m)	Remarks
50	*Elaeocarpus japonicus*	died		
51	*Castanopsis carlesii* var. *spinulosa*	38.4	27.9	
52	*Machilus nanmu*	39.1	27.3	
53	*Machilus nanmu*	37.2	30.9	
54	*Machilus nanmu*	31.0	31.0	
55	*Machilus nanmu*	38.7	32.4	
56	*Machilus nanmu*	31.2	28.4	
57	*Machilus nanmu*	33.8	28.9	
59	*Castanopsis fargesii*	61.0	29.3	
61	*Symplocos lucida*	24.2	18.4	
62	*Machilus nanmu*	42.6	32.6	
63	*Machilus nanmu*	47.2	32.4	
67	*Symplocos lucida*	15.2	14.1	
68	*Symplocos lucida*	19.3	12.8	
69	*Machilus nanmu*	28.1	18.0	
70	*Elaeocarpus japonicus*	42.2	20.8	
71	*Symplocos lancifolia*	18.9	17.2	
74	*Adinandra bockiana*	21.4	18.6	
76	*Symplocos lucida*	27.7	19.7	
77	*Symplocos lancifolia*	16.2	16.4	
82	*Machilus nanmu*	47.5	21.5	
83	*Symplocos lucida*	16.2	15.5	

Note: *Symplocos lucida, Machilus nanmu,* and *Aidia cochinchinensis* were previously reported as *Symplocos setchuenensis, Machilus pingii* , and *Randia cochinchinensis* , respectively.

Table 5.7.3 Description of trees: Dabagou (Area: Jiwozi, China) CNS007

Plot name: Dabagou

Date: 14 October 2025

Surveyor: Zhu Jian, Yang Naiwang, Song XueJuan

Survey area 1: radius 7.98 m

(Height > 1.3 m)

Tree No.	Scientific name	DBH (cm)	Tree Height (m)	Remarks
0	*Pinus armandii*	23.4	12.2	
1	*Pinus armandii*	21.7	15.9	
2	*Larix gmelinii*	12.7	13.6	
3	*Larix gmelinii*	21.9	15.9	
4	*Crataegus hupehensis*	4.5	3.9	
5	*Viburnum kansuense*	2.7	3.2	
6	*Viburnum betulifolium*	2.5	5.1	
7	*Rosa omeiensis*	2.4	3.2	
8	*Quercus aliena* var. *acuteserrata*	5.7	6.0	
9	*Pinus armandii*	dead	dead	(Natural death)
10	*Carpinus cordata*	dead	dead	(Natural death)
11	*Quercus aliena* var. *acuteserrata*	5.5	7.2	
12	*Lespedeza formosa*	dead	dead	(Natural death)
13	*Pinus armandii*	29.6	11.9	
14	*Pinus armandii*	24.5	14.2	
15	*Pinus armandii*	dead	dead	(Natural death)
16	*Pinus armandii*	14.6	18.3	
17	*Quercus aliena* var. *acuteserrata*	dead	dead	(Natural death)
18	*Elaeagnus henryi*	5.7	7.9	
19	*Pinus armandii*	14.6	13.0	
20	*Larix gmelinii*	13.8	9.5	
21	*Acer grosseri*	9.8	7.9	
22	*Carpinus cordata*	4.5	5.4	
23	*Larix gmelinii*	22.9	13.3	
24	*Larix gmelinii*	25.3	15.4	
25	*Larix gmelinii*	20.3	15.6	
26	*Quercus aliena* var. *acuteserrata*	6.1	8.6	
27	*Quercus aliena* var. *acuteserrata*	7.6	7.5	
28	*Larix gmelinii*	23.7	15.8	
29	*Berberis* sp.	2.6	4.0	
30	*Larix gmelinii*	14.8	11.9	
31	*Acer grosseri*	4.3	7.5	
32	*Prunus venosa*	3.5	7.2	
33	*Celastrus orbiculatus*	dead	dead	(Natural death)
34	*Quercus aliena* var. *acuteserrata*	dead	dead	(Natural death)
35	*Pinus armandii*	29.0	15.5	

Survey area 2: radius 11.28 m
(DBH > 4 cm)

Tree No.	Scientific name	DBH (cm)	Tree Height (m)	Remarks
36	*Pinus armandii*	11.6	7.3	
37	*Pinus armandii*	10.5	9.8	
38	*Larix gmelinii*	10.1	8.0	
39	*Larix gmelinii*	9.5	10.0	
40	*Larix gmelinii*	13.0	10.0	
41	*Quercus aliena* var. *acuteserrata*	9.7	11.6	
42	*Larix gmelinii*	16.5	9.1	
43	*Larix gmelinii*	17.9	12.4	
44	*Larix gmelinii*	12.0	12.8	
45	*Larix gmelinii*	6.8	9.6	
46	*Larix gmelinii*	124.0	10.1	
47	*Larix gmelinii*	15.9	13.5	
48	*Larix gmelinii*	14.6	12.3	
49	*Larix gmelinii*	19.9	15.0	
50	*Larix gmelinii*	7.4	9.8	
51	*Pinus armandii*	15.9	16.0	
52	*Larix gmelinii*	6.5	7.9	
53	*Larix gmelinii*	8.2	9.9	
54	*Larix gmelinii*	6.1	8.1	
55	*Larix gmelinii*	6.5	7.8	
56	*Pinus armandii*	dead	dead	(Natural death)
57	*Larix gmelinii*	8.9	8.7	
58	*Larix gmelinii*	28.0	18.1	
59	*Pinus armandii*	26.6	16.3	

Survey area 3: radius 17.85 m
(DBH > 18 cm)

Tree No.	Scientific name	DBH (cm)	Tree Height (m)	Remarks
60	*Pinus armandii*	dead	dead	(Natural death)
61	*Pinus armandii*	25.8	16.0	
62	*Larix gmelinii*	28.9	16.5	
64-66	*Larix gmelinii*	dead	dead	(Natural death)

Table 5.7.4 Description of trees: Xiaoping (Area: Xiaoping, China) CNS009

Plot name: XPZ-01

Date: 11 December 2025

Surveyor: Zhang Yashuang, Xiao Weijian, Zhou Jizai, Hong Zhiyuan

Survey area 1: radius 7.98 m

(Height > 1.3 m)

Tree No.	Scientific name	DBH (cm)	Tree Height (m)	Remarks
101	*Michelia macclurei*	21.1	17.7	
102	*Michelia macclurei*	15.6	12.1	
103	*Michelia macclurei*	21.8	17.9	
104	*Michelia macclurei*	25.6	19.9	
105		(dead)		
106	*Michelia macclurei*	21.8	17.7	
107	*Michelia macclurei*	15.7	12.7	
108	*Michelia macclurei*	16.2	11.9	
109	*Michelia macclurei*	19.1	17.2	
110	*Michelia macclurei*	10.1	10.6	
111		(dead)		
112	*Michelia macclurei*	16.4	12.7	
113	*Michelia macclurei*	20.0	17.1	
114	*Michelia macclurei*	16.3	12.9	
115	*Michelia macclurei*	16.2	12.3	
116	*Michelia macclurei*	20.5	17.8	
117	*Michelia macclurei*	20.1	18.5	
118	*Michelia macclurei*	15.9	11.5	
119	*Michelia macclurei*	17.2	13.4	
120	*Michelia macclurei*	17.9	17.1	

Survey area 2: radius 11.28 m
(DBH > 4 cm)

Tree No.	Scientific name	DBH (cm)	Tree Height (m)	Remarks
201	*Michelia macclurei*	22.0	15.7	
202	*Michelia macclurei*	15.2	11.2	
203	*Michelia macclurei*	22.1	17.6	
204	*Michelia macclurei*	7.2	8.4	
205	*Michelia macclurei*	16.9	11.7	
206	*Michelia macclurei*	13.4	11.8	
207	*Michelia macclurei*	22.1	18.6	
208	*Michelia macclurei*	15.9	11.1	
209	*Michelia macclurei*	14.1	12.5	
210	*Michelia macclurei*	21.3	17.8	
211	*Michelia macclurei*	20.1	18.8	
212	*Michelia macclurei*	16.2	11.5	
213	*Michelia macclurei*	24.1	17.8	
214	*Michelia macclurei*	22.9	18.2	
215	*Sapium sebiferum*	12.3	10.6	
216	*Michelia macclurei*	22.9	18.4	
217	*Michelia macclurei*	20.4	18.8	
218	*Schima superba*	11.8	13.3	
219	*Michelia macclurei*	17.9	18.0	
220	*Michelia macclurei*	18.8	17.9	
221	*Michelia macclurei*	23.0	18.9	
222		(dead)		
223	*Michelia macclurei*	19.2	17.1	
224	*Michelia macclurei*	15.0	9.7	
225	*Michelia macclurei*	24.9	18.1	
226	*Alnus rubra*	4.9	6.2	
227	*Michelia macclurei*	21.9	18.8	

Survey area 3: radius 17.85 m
(DBH > 18 cm)

Tree No.	Scientific name	DBH (cm)	Tree Height (m)	Remarks
301	*Michelia macclurei*	20.6	18.4	
302	*Michelia macclurei*	16.3	9.6	
303	*Michelia macclurei*	23.9	17.5	
304		(dead)		
305	*Michelia macclurei*	24.1	19.6	
306	*Michelia macclurei*	21.6	17.7	
307	*Michelia macclurei*	21.3	17.5	
308	*Michelia macclurei*	30.3	19.7	
309	*Michelia macclurei*	21.9	17.6	
310	*Michelia macclurei*	20.8	17.2	
311	*Michelia macclurei*	13.6	10.2	
312	*Michelia macclurei*	15.0	12.4	
313	*Michelia macclurei*	21.9	17.7	
314	*Michelia macclurei*	20.9	17.2	
315	*Michelia macclurei*	16.4	12.2	
316	*Michelia macclurei*	22.5	18.0	
317		(dead)		
318	*Schima superba*	11.1	12.3	
319	*Michelia macclurei*	15.6	12.3	
320	*Michelia macclurei*	15.9	13.2	
321	*Michelia macclurei*	12.4	12.6	
322	*Michelia macclurei*	18.6	16.7	
323	*Pinus Massoniana*	9.5	11.8	
324	*Michelia macclurei*	10.1	11.3	
325	*Michelia macclurei*	22.1	17.4	
326	*Michelia macclurei*	21.3	17.5	
327		(dead)		
328	*Michelia macclurei*	18.2	16.6	
329	*Michelia macclurei*	21.7	18.2	
330	*Michelia macclurei*	15.5	9.1	
331	*Michelia macclurei*	23.1	17.9	
332	*Michelia macclurei*	15.0	11.8	
333	*Michelia macclurei*	19.1	18.8	
334	*Michelia macclurei*	20.7	18.0	
335	*Michelia macclurei*	14.4	12.7	
336	*Michelia macclurei*	5.2	5.6	
337	*Michelia macclurei*	20.8	18.4	
338	*Michelia macclurei*	20.9	17.0	
339	*Michelia macclurei*	15.1	12.7	
340	*Michelia macclurei*	20.6	16.4	

Table 5.7.5 Description of trees: Zhuxiandong-1 (Area: Zhuxiandong, China) CNS011
Plot name: Zhuxiandong-1
Date: 30 December 2025
Surveyor: Zheng Mingxuan, Xu Wenxiang, Mo Lijuan, Zeng Lubo, Xu Yongmao

Survey area 1: radius 7.98 m
(Height > 1.3 m)

Tree No.	Scientific name	DBH (cm)	Tree Height (m)	Remarks
1	*Mallotus paniculatus*	8.5	4.6	
2	*Mallotus paniculatus*	4.0	1.8	
3	*Litsea rotundifolia* var. *oblongifolia*	8.0	3.9	
4-1	*Litsea rotundifolia* var. *oblongifolia*	5.5	2.3	Bushy stands
4-2	*Litsea rotundifolia* var. *oblongifolia*	5.1	2.3	Bushy stands
4-3	*Litsea rotundifolia* var. *oblongifolia*	4.8	2.3	Bushy stands
5	*Heptapleurum heptaphyllum*	3.1	1.8	
6	*Benkara depauperata*	2.1	3.1	
7-1	*Litsea rotundifolia* var. *oblongifolia*	2.3	2.5	Bushy stands
7-2	*Litsea rotundifolia* var. *oblongifolia*	2.1	2.5	Bushy stands
7-3	*Litsea rotundifolia* var. *oblongifolia*	2.1	2.5	Bushy stands
7-4	*Litsea rotundifolia* var. *oblongifolia*	1.4	2.5	Bushy stands
8	*Litsea rotundifolia* var. *oblongifolia*	1.9	2.2	
9	*Ilex asprella*	2.0	2.8	
10	*Psychotria asiatica*	3.0	2.7	
11	*Triadica cochinchinensis*	3.4	3.1	
12	*Triadica cochinchinensis*	2.7	1.9	
13	*Mallotus paniculatus*	2.7	2.2	
14	*Pinus elliottii*	18.3	6.0	
15	*Ilex asprella*	3.2	3.4	
16	*Ilex asprella*	2.2	3.3	
17-1	*Ilex asprella*	3.4	3.5	Bushy stands
17-2	*Ilex asprella*	2.0	3.5	Bushy stands
18	*Ficus variolosa*	6.0	5.2	
19-1	*Ilex asprella*	3.6	4.3	Bushy stands
19-2	*Ilex asprella*	2.4	4.3	Bushy stands
19-3	*Ilex asprella*	2.3	4.3	Bushy stands
20	*Ficus variolosa*	2.2	2.4	
21-1	*Ilex asprella*	3.6	2.8	Bushy stands
21-2	*Ilex asprella*	2.9	2.8	Bushy stands
22	*Pinus elliottii*	25.5	16.0	
23	*Wendlandia uvariifolia*	12.1	6.5	
24	*Aporosa dioica*	2.9	3.6	
25	*Psychotria asiatica*	2.9	2.9	
26	*Pinus elliottii*	19.3	15.0	
27	*Ficus variolosa*	2.9	3.6	
28	*Ilex asprella*	2.9	1.8	
29	*Pinus elliottii*	23.4	16.0	
30	*Litsea glutinosa*	2.9	1.6	
31	*Heptapleurum heptaphyllum*	7.5	3.2	
32	*Syzygium levinei*	2.5	2.8	
33-1	*Heptapleurum heptaphyllum*	7.2	4.5	Bushy stands

33-2	*Heptapleurum heptaphyllum*	5.7	4.5	Bushy stands
34	*Pinus elliottii*	22.6	16.0	
35	*Litsea rotundifolia* var. *oblongifolia*	2.9	1.9	
36	*Cratoxylum cochinchinense*	8.2	4.2	
37	*Cratoxylum cochinchinense*	8.5	4.0	
38-1	*Litsea rotundifolia* var. *oblongifolia*	7.6	1.9	Bushy stands
38-2	*Litsea rotundifolia* var. *oblongifolia*	3.4	1.9	Bushy stands
39	*Pinus elliottii*	33.0	6.0	
40	*Cratoxylum cochinchinense*	6.7	3.2	
41	*Pinus elliottii*	18.7	14.0	
42-1	*Ilex asprella*	3.4	1.9	Bushy stands
42-2	*Ilex asprella*	2.5	1.9	Bushy stands
43	*Litsea glutinosa*	4.3	2.1	
44-1	*Ficus variolosa*	4.8	3.1	Bushy stands
44-2	*Ficus variolosa*	3.4	3.1	Bushy stands
44-3	*Ficus variolosa*	3.0	3.1	Bushy stands
44-4	*Ficus variolosa*	2.0	3.1	Bushy stands
45	*Cratoxylum cochinchinense*	4.6	3.3	

Survey area 2: radius 11.28 m
(DBH > 4 cm)

Tree No.	Scientific name	DBH (cm)	Tree Height (m)	Remarks
1	*Microcos paniculata*	12.1	3.2	
2	*Litsea rotundifolia* var. *oblongifolia*	9.4	5.3	
3	*Cratoxylum cochinchinense*	10.2	7.3	
4	*Mallotus paniculatus*	4.1	3.2	
5	*Daphniphyllum calycinum*	9.5	2.5	
6	*Cratoxylum cochinchinense*	4.5	4.0	
7-1	*Desmos chinensis*	4.6	3.0	Bushy stands
7-2	*Desmos chinensis*	4.1	3.0	Bushy stands
8	*Microcos paniculata*	4.8	9.0	
9	*Litsea rotundifolia* var. *oblongifolia*	4.3	4.2	
10	*Litsea rotundifolia* var. *oblongifolia*	4.2	2.3	
11	*Pinus elliottii*	21.2	13.0	
12	*Litsea rotundifolia* var. *oblongifolia*	5.3	3.6	
13	*Cratoxylum cochinchinense*	4.2	4.2	
14	*Aporosa dioica*	12.3	5.3	
15	*Zanthoxylum avicennae*	8.8	4.6	
16-1	*Litsea rotundifolia* var. *oblongifolia*	4.3	4.5	Bushy stands
16-2	*Litsea rotundifolia* var. *oblongifolia*	4.3	4.5	Bushy stands
17	*Acacia confusa*	13.3	7.5	
18	*Litsea rotundifolia* var. *oblongifolia*	4.0	3.6	
19-1	*Litsea rotundifolia* var. *oblongifolia*	4.7	2.8	Bushy stands
19-2	*Litsea rotundifolia* var. *oblongifolia*	5.7	2.8	Bushy stands
20	*Cratoxylum cochinchinense*	4.0	4.0	
21	*Acacia confusa*	25.8	8.1	
22	*Triadica cochinchinensis*	5.6	4.0	
23	*Phyllanthus emblica*	4.0	3.1	
24	*Syzygium rehderianum*	6.4	4.3	
25	*Sterculia lanceolata*	5.1	4.3	
26-1	*Litsea rotundifolia* var. *oblongifolia*	4.0	3.3	Bushy stands
26-2	*Litsea rotundifolia* var. *oblongifolia*	4.0	3.3	Bushy stands
27-1	*Eurya nitida*	5.9	4.8	Bushy stands
27-2	*Eurya nitida*	7.8	4.8	Bushy stands
28	*Rhaphiolepis indica*	4.0	2.6	
29	*Triadica cochinchinensis*	15.1	6.3	
30	*Mallotus paniculatus*	4.6	4.0	
31	*Mallotus paniculatus*	11.1	5.3	
32	*Heptapleurum heptaphyllum*	5.9	3.9	
33	*Heptapleurum heptaphyllum*	4.0	3.3	
34	*Mallotus paniculatus*	6.7	4.2	
35	*Pinus elliottii*	21.5	13.8	
36	*Litsea rotundifolia* var. *oblongifolia*	4.1	2.8	
37	*Heptapleurum heptaphyllum*	4.4	2.1	
38	*Archidendron lucidum*	6.3	5.4	
39-1	*Litsea rotundifolia* var. *oblongifolia*	8.5	4.6	Bushy stands
39-2	*Litsea rotundifolia* var. *oblongifolia*	6.8	4.6	Bushy stands
39-3	*Litsea rotundifolia* var. *oblongifolia*	6.4	4.6	Bushy stands

39-4	*Litsea rotundifolia* var. *oblongifolia*	5.2	4.6	Bushy stands
39-5	*Litsea rotundifolia* var. *oblongifolia*	4.9	4.6	Bushy stands
40-1	*Litsea rotundifolia* var. *oblongifolia*	6.3	4.2	Bushy stands
40-2	*Litsea rotundifolia* var. *oblongifolia*	6.0	4.2	Bushy stands
40-3	*Litsea rotundifolia* var. *oblongifolia*	5.1	4.2	Bushy stands
40-4	*Litsea rotundifolia* var. *oblongifolia*	4.0	4.2	Bushy stands
41	*Cratoxylum cochinchinense*	7.8	7.8	
42	*Microcos paniculata*	4.8	5.1	
43	*Heptapleurum heptaphyllum*	4.7	2.6	
44	*Cratoxylum cochinchinense*	8.6	6.5	
45	*Mallotus paniculatus*	5.3	1.6	
46	*Acacia confusa*	29.8	9.0	
47	*Triadica cochinchinensis*	15.3	7.2	
48	*Acacia confusa*	15.3	5.0	
49	*Mangifera indica*	15.7	8.6	
50	*Pinus elliottii*	16.1	9.8	

Survey area 3: radius 17.85 m
(DBH > 18 cm)

Tree No.	Scientific name	DBH (cm)	Tree Height (m)	Remarks
1	*Pinus elliottii*	18.2	10.0	
2	*Pinus elliottii*	26.2	14.1	
3	*Acacia confusa*	20.5	8.0	
4	*Acacia confusa*	20.8	9.0	
5	*Pinus elliottii*	22.2	11.0	
6	*Pinus elliottii*	21.3	10.5	
7	*Acacia confusa*	21.0	9.0	
8	*Acacia confusa*	24.0	6.5	
9	*Pinus elliottii*	21.3	8.0	
10	*Pinus elliottii*	22.1	9.0	
11	*Pinus elliottii*	20.8	10.0	
12	*Pinus elliottii*	27.4	15.2	
13	*Pinus elliottii*	21.4	9.0	
14	*Acacia confusa*	22.5	7.0	
15	*Pinus elliottii*	24.5	8.5	
16	*Pinus elliottii*	21.0	9.0	
17	*Pinus elliottii*	21.5	12.0	
18	*Pinus elliottii*	31.7	14.5	
19	*Pinus elliottii*	29.7	12.0	
20	*Acacia confusa*	29.0	11.0	
21	*Acacia confusa*	26.0	9.0	
22	*Acacia confusa*	26.2	12.0	
23	*Acacia confusa*	24.5	9.0	
24	*Acacia confusa*	52.7	15.0	

Table 5.7.6 Description of trees: Zhuxiandong-2 (Area: Zhuxiandong, China) CNS011
Plot name: Zhuxiandong-2
Date: 30 December 2025
Surveyor: Zheng Mingxuan, Xu Wenxiang, Mo Lijuan, Zeng Lubo, Xu Yongmao

Survey area 1: radius 7.98 m
(Height > 1.3 m)

Tree No.	Scientific name	DBH (cm)	Tree Height (m)	Remarks
1	*Acacia confusa*	19.1	4.8	
2	*Acacia confusa*	20.9	4.3	
3	*Acacia confusa*	14.4	4.5	
4	*Microcos paniculata*	12.3	3.8	
5-1	*Litsea rotundifolia* var. *oblongifolia*	4.0	2.9	Bushy stands
5-2	*Litsea rotundifolia* var. *oblongifolia*	2.8	2.9	Bushy stands
6	*Litsea rotundifolia* var. *oblongifolia*	3.2	2.6	
7	*Litsea rotundifolia* var. *oblongifolia*	3.3	2.4	
8	*Microcos paniculata*	8.0	4.8	
9	*Microcos paniculata*	5.6	3.9	
10	*Acacia confusa*	16.2	4.2	
11	*Litsea rotundifolia* var. *oblongifolia*	6.4	3.2	
12-1	*Litsea rotundifolia* var. *oblongifolia*	4.0	2.6	Bushy stands
12-2	*Litsea rotundifolia* var. *oblongifolia*	3.6	2.6	Bushy stands
13-1	*Litsea rotundifolia* var. *oblongifolia*	5.4	2.8	Bushy stands
13-2	*Litsea rotundifolia* var. *oblongifolia*	4.7	2.8	Bushy stands
14	*Acacia confusa*	17.1	4.8	
15-1	*Litsea rotundifolia* var. *oblongifolia*	4.4	2.6	Bushy stands
15-2	*Litsea rotundifolia* var. *oblongifolia*	2.9	2.6	Bushy stands
16	*Syzygium levinei*	18.8	5.1	
17	*Psychotria asiatica*	2.4	1.5	
18-1	*Aporosa dioica*	3.0	1.9	Bushy stands
18-2	*Aporosa dioica*	2.4	1.9	Bushy stands
19-1	*Microcos paniculata*	7.6	3.3	Bushy stands
19-2	*Microcos paniculata*	7.0	3.3	Bushy stands
20-1	*Microcos paniculata*	4.6	2.9	Bushy stands
20-2	*Microcos paniculata*	2.6	2.9	Bushy stands
21	*Microcos paniculata*	7.4	3.6	
22-1	*Litsea rotundifolia* var. *oblongifolia*	8.0	3.8	Bushy stands
22-2	*Litsea rotundifolia* var. *oblongifolia*	7.6	3.8	Bushy stands
22-3	*Litsea rotundifolia* var. *oblongifolia*	1.8	3.8	Bushy stands
23-1	*Litsea rotundifolia* var. *oblongifolia*	5.6	3.2	Bushy stands
23-2	*Litsea rotundifolia* var. *oblongifolia*	5.5	3.2	Bushy stands
23-3	*Litsea rotundifolia* var. *oblongifolia*	4.9	3.2	Bushy stands
24-1	*Litsea rotundifolia* var. *oblongifolia*	4.1	2.4	Bushy stands
24-2	*Litsea rotundifolia* var. *oblongifolia*	2.9	2.4	Bushy stands
25	*Bridelia tomentosa*	13.9	5.6	
26	*Ficus fistulosa*	3.1	3.6	
27	*Psychotria asiatica*	3.7	2.1	
28	*Litsea rotundifolia* var. *oblongifolia*	5.1	3.8	
29	*Psychotria asiatica*	2.4	2.7	
30	*Cratoxylum cochinchinense*	4.7	3.4	

31	*Acacia confusa*	20.1	5.5	
32	*Litsea rotundifolia* var. *oblongifolia*	3.8	2.1	
33-1	*Litsea rotundifolia* var. *oblongifolia*	4.5	1.5	Bushy stands
33-2	*Litsea rotundifolia* var. *oblongifolia*	3.3	1.5	Bushy stands
34	*Microcos paniculata*	5.8	2.3	
35	*Syzygium levinei*	3.0	3.6	
36	*Acacia confusa*	12.1	4.3	
37	*Microcos paniculata*	9.3	4.8	
38	*Desmos chinensis*	6.8	3.6	

Survey area 2: radius 11.28 m
(DBH > 4 cm)

Tree No.	Scientific name	DBH (cm)	Tree Height (m)	Remarks
1	*Acacia confusa*	15.1	5.0	
2	*Psychotria asiatica*	5.0	3.6	
3	*Acacia confusa*	21.3	3.8	
4	*Aporosa dioica*	4.5	3.9	
5-1	*Litsea rotundifolia* var. *oblongifolia*	4.1	3.2	Bushy stands
5-2	*Litsea rotundifolia* var. *oblongifolia*	4.0	3.2	Bushy stands
6	*Microcos paniculata*	6.5	4.6	
7-1	*Microcos paniculata*	10.5	5.3	Bushy stands
7-2	*Microcos paniculata*	8.0	5.3	Bushy stands
8	*Microcos paniculata*	4.8	4.2	
9	*Syzygium rehderianum*	4.8	4.2	
10	*Microcos paniculata*	4.8	4.0	
11-1	*Microcos paniculata*	9.3	5.4	Bushy stands
11-2	*Microcos paniculata*	9.1	5.4	Bushy stands
12	*Microcos paniculata*	5.1	5.3	
13-1	*Litsea rotundifolia* var. *oblongifolia*	7.5	5.4	Bushy stands
13-2	*Litsea rotundifolia* var. *oblongifolia*	7.3	5.4	Bushy stands
14-1	*Microcos paniculata*	13.7	5.8	Bushy stands
14-2	*Microcos paniculata*	7.3	5.8	Bushy stands
15	*Microcos paniculata*	4.6	6.2	
16	*Aporosa dioica*	14.3	5.6	
17-1	*Litsea rotundifolia* var. *oblongifolia*	5.8	4.3	Bushy stands
17-2	*Litsea rotundifolia* var. *oblongifolia*	4.6	4.3	Bushy stands
18	*Microcos paniculata*	12.8	5.8	
19	*Microcos paniculata*	8.8	4.1	
20	*Litsea rotundifolia* var. *oblongifolia*	4.0	3.6	
21	*Syzygium levinei*	4.8	3.2	
22	*Acacia confusa*	19.9	6.5	
23	*Mallotus paniculatus*	10.8	4.0	
24	*Mallotus paniculatus*	13.2	6.5	
25	*Mallotus paniculatus*	6.5	5.6	
26	*Acacia confusa*	24.0	8.6	
27	*Microcos paniculata*	7.1	3.4	
28	*Litsea rotundifolia* var. *oblongifolia*	4.9	5.1	
29	*Cratoxylum cochinchinense*	7.3	4.8	
30	*Psychotria asiatica*	5.5	3.8	
31	*Cratoxylum cochinchinense*	5.0	5.3	

32	*Acacia confusa*	11.2	6.0	
33	*Aporosa dioica*	9.4	3.5	
34	*Acacia confusa*	6.7	6.1	
35	*Microcos paniculata*	4.2	3.8	
36	*Acacia confusa*	21.4	8.9	
37	*Litsea rotundifolia* var. *oblongifolia*	4.0	2.1	
38	*Acacia confusa*	20.8	7.9	

Survey area 3: radius 17.85 m
(DBH > 18 cm)

Tree No.	Scientific name	DBH (cm)	Tree Height (m)	Remarks
1	*Acacia confusa*	34.3	12.1	
2-1	*Acacia confusa*	22.9	12.0	Bushy stands
2-2	*Acacia confusa*	18.9	12.0	Bushy stands
3	*Acacia confusa*	18.6	11.0	
4	*Acacia confusa*	32.0	13.0	
5-1	*Acacia confusa*	36.2	14.0	Bushy stands
5-2	*Acacia confusa*	26.6	14.0	Bushy stands
6	*Acacia confusa*	22.9	9.0	
7	*Acacia confusa*	22.2	10.0	
8	*Acacia confusa*	24.4	7.3	
9	*Acacia confusa*	20.7	6.0	
10	*Acacia confusa*	23.9	7.9	
11-1	*Acacia confusa*	24.6	10.0	Bushy stands
11-2	*Acacia confusa*	23.5	10.0	Bushy stands
12	*Acacia confusa*	29.0	12.0	
13	*Acacia confusa*	21.4	8.7	
14	*Acacia confusa*	18.4	7.8	
15	*Acacia confusa*	25.5	11.0	
16	*Acacia confusa*	22.5	12.0	
17	*Acacia confusa*	25.4	12.0	

Table 5.7.7 Description of trees: Zhuxiandong-3 (Area: Zhuxiandong, China) CNS011
Plot name: Zhuxiandong-3
Date: 31 December 2025
Surveyor: Zheng Mingxuan, Xu Wenxiang, Mo Lijuan, Zeng Lubo, Xu Yongmao

Survey area 1: radius 7.98 m
(Height > 1.3 m)

Tree No.	Scientific name	DBH (cm)	Tree Height (m)	Remarks
1	*Triadica cochinchinensis*	8.0	3.8	
2	*Litsea glutinosa*	6.5	3.9	
3-1	*Litsea rotundifolia* var. *oblongifolia*	3.5	2.8	Bushy stands
3-2	*Litsea rotundifolia* var. *oblongifolia*	2.9	2.8	Bushy stands
4	*Eurya nitida*	2.8	2.3	
5	*Litsea rotundifolia* var. *oblongifolia*	2.6	2.8	
6	*Triadica cochinchinensis*	14.3	4.2	
7	*Eurya nitida*	6.5	4.1	
8	*Eurya nitida*	3.9	2.5	
9	*Eurya nitida*	3.6	3.2	
10	*Eurya nitida*	3.5	2.5	
11-1	*Eurya nitida*	3.0	3.2	Bushy stands
11-2	*Eurya nitida*	2.6	3.2	Bushy stands
12	*Litsea rotundifolia* var. *oblongifolia*	3.4	3.0	
13-1	*Litsea rotundifolia* var. *oblongifolia*	3.0	3.2	Bushy stands
13-2	*Litsea rotundifolia* var. *oblongifolia*	2.9	3.2	Bushy stands
14	*Litsea rotundifolia* var. *oblongifolia*	2.9	3.0	
15	*Litsea rotundifolia* var. *oblongifolia*	2.5	3.2	
16-1	*Eurya nitida*	4.7	3.1	Bushy stands
16-2	*Eurya nitida*	4.0	3.1	Bushy stands
17	*Eurya nitida*	3.6	4.0	
18	*Eurya nitida*	3.2	3.1	
19	*Eurya nitida*	2.1	4.0	
20-1	*Litsea rotundifolia* var. *oblongifolia*	4.6	3.3	Bushy stands
20-2	*Litsea rotundifolia* var. *oblongifolia*	4.1	3.3	Bushy stands
20-3	*Litsea rotundifolia* var. *oblongifolia*	4.0	3.3	Bushy stands
21	*Litsea rotundifolia* var. *oblongifolia*	2.8	2.0	
22-1	*Machilus velutina*	6.9	5.0	Bushy stands
22-2	*Machilus velutina*	5.5	5.0	Bushy stands
22-3	*Machilus velutina*	5.3	5.0	Bushy stands
23-1	*Eurya nitida*	3.0	3.0	Bushy stands
23-2	*Eurya nitida*	2.7	3.0	Bushy stands
24	*Archidendron lucidum*	5.0	2.6	
25-1	*Eurya nitida*	4.5	2.3	Bushy stands
25-2	*Eurya nitida*	3.1	2.3	Bushy stands
26	*Triadica cochinchinensis*	21.2	7.0	
27-1	*Machilus velutina*	4.5	2.7	Bushy stands
27-2	*Machilus velutina*	3.0	2.7	Bushy stands
27-3	*Machilus velutina*	2.7	2.7	Bushy stands
28	*Acacia confusa*	12.8	6.5	
29	*Triadica cochinchinensis*	11.8	3.9	
30	*Eurya nitida*	4.6	2.6	

31	*Zanthoxylum avicennae*	4.5	6.0	
32-1	*Eurya nitida*	4.5	2.6	Bushy stands
32-2	*Eurya nitida*	3.5	2.6	Bushy stands
33-1	*Litsea rotundifolia* var. *oblongifolia*	3.6	3.0	Bushy stands
33-2	*Litsea rotundifolia* var. *oblongifolia*	3.0	3.0	Bushy stands
34	*Machilus velutina*	2.7	2.7	
35	*Litsea rotundifolia* var. *oblongifolia*	2.6	3.0	
36	*Eurya nitida*	4.3	2.1	
37-1	*Eurya nitida*	3.2	2.2	Bushy stands
37-2	*Eurya nitida*	2.3	2.2	Bushy stands
37-3	*Eurya nitida*	2.3	2.2	Bushy stands
38-1	*Machilus velutina*	7.3	5.5	Bushy stands
38-2	*Machilus velutina*	6.4	5.5	Bushy stands
39-1	*Litsea rotundifolia* var. *oblongifolia*	4.4	3.0	Bushy stands
39-2	*Litsea rotundifolia* var. *oblongifolia*	3.6	3.0	Bushy stands
40	*Eurya nitida*	5.3	4.3	
41	*Machilus velutina*	2.5	4.0	
42	*Machilus velutina*	16.2	5.8	
43	*Toxicodendron succedaneum*	11.8	4.0	
44-1	*Machilus velutina*	4.0	5.8	Bushy stands
44-2	*Machilus velutina*	3.8	5.8	Bushy stands
45-1	*Litsea rotundifolia* var. *oblongifolia*	4.1	3.1	Bushy stands
45-2	*Litsea rotundifolia* var. *oblongifolia*	3.9	3.1	Bushy stands
45-3	*Litsea rotundifolia* var. *oblongifolia*	3.6	3.1	Bushy stands
46-1	*Litsea rotundifolia* var. *oblongifolia*	2.5	2.0	Bushy stands
46-2	*Litsea rotundifolia* var. *oblongifolia*	2.2	2.0	Bushy stands
47-1	*Machilus velutina*	13.4	4.6	Bushy stands
47-2	*Machilus velutina*	9.8	4.6	Bushy stands
47-3	*Machilus velutina*	6.6	4.6	Bushy stands
47-4	*Machilus velutina*	4.0	4.6	Bushy stands
48-1	*Eurya nitida*	3.7	1.8	Bushy stands
48-2	*Eurya nitida*	2.9	1.8	Bushy stands
49-1	*Machilus velutina*	7.7	3.8	Bushy stands
49-2	*Machilus velutina*	7.6	3.8	Bushy stands
49-3	*Machilus velutina*	6.6	3.8	Bushy stands
50	*Cratoxylum cochinchinense*	4.7	2.8	
51-1	*Litsea rotundifolia* var. *oblongifolia*	4.3	4.1	Bushy stands
51-2	*Litsea rotundifolia* var. *oblongifolia*	4.1	4.1	Bushy stands
51-3	*Litsea rotundifolia* var. *oblongifolia*	3.5	4.1	Bushy stands
52	*Litsea glutinosa*	4.8	3.8	
53-1	*Eurya nitida*	6.7	4.3	Bushy stands
53-2	*Eurya nitida*	4.6	4.3	Bushy stands
54-1	*Eurya nitida*	6.0	2.7	Bushy stands
54-2	*Eurya nitida*	4.3	2.7	Bushy stands
55	*Eurya nitida*	2.6	1.9	
56-1	*Machilus velutina*	6.0	2.6	Bushy stands
56-2	*Machilus velutina*	3.8	2.6	Bushy stands
56-3	*Machilus velutina*	3.7	2.6	Bushy stands
56-4	*Machilus velutina*	3.1	2.6	Bushy stands
57-1	*Machilus velutina*	2.9	2.5	Bushy stands
57-2	*Machilus velutina*	4.3	2.5	Bushy stands
57-3	*Machilus velutina*	3.5	2.5	Bushy stands
57-4	*Machilus velutina*	2.7	2.5	Bushy stands

Survey area 2: radius 11.28 m
(DBH > 4 cm)

Tree No.	Scientific name	DBH (cm)	Tree Height (m)	Remarks
1	*Machilus velutina*	4.0	2.8	
2	*Eurya nitida*	4.3	2.5	
3-1	*Litsea rotundifolia* var. *oblongifolia*	5.5	2.7	Bushy stands
3-2	*Litsea rotundifolia* var. *oblongifolia*	4.0	2.7	Bushy stands
4	*Aporosa dioica*	8.6	3.5	
5	*Archidendron lucidum*	14.6	6.4	
6	*Archidendron lucidum*	10.1	5.3	
7	*Machilus velutina*	4.3	4.2	
8-1	*Litsea rotundifolia* var. *oblongifolia*	5.6	4.1	Bushy stands
8-2	*Litsea rotundifolia* var. *oblongifolia*	4.9	4.1	Bushy stands
8-3	*Litsea rotundifolia* var. *oblongifolia*	4.5	4.1	Bushy stands
8-4	*Litsea rotundifolia* var. *oblongifolia*	4.3	4.1	Bushy stands
9	*Heptapleurum heptaphyllum*	4.0	1.6	
10	*Acacia confusa*	11.4	5.2	
11	*Machilus velutina*	5.5	4.0	
12-1	*Machilus velutina*	4.6	4.1	Bushy stands
12-2	*Machilus velutina*	4.2	4.1	Bushy stands
13-1	*Machilus velutina*	8.3	5.3	Bushy stands
13-2	*Machilus velutina*	8.2	5.3	Bushy stands
13-3	*Machilus velutina*	5.8	5.3	Bushy stands
13-4	*Machilus velutina*	4.8	5.3	Bushy stands
14	*Acacia confusa*	30.0	7.1	
15	*Machilus velutina*	6.3	3.8	
16	*Machilus velutina*	4.0	3.6	
17	*Acacia confusa*	14.0	5.5	
18	*Machilus velutina*	6.4	4.3	
19-1	*Aporosa dioica*	12.3	4.5	Bushy stands
19-2	*Aporosa dioica*	11.5	4.5	Bushy stands
20	*Syzygium levinei*	7.6	4.6	
21	*Acacia confusa*	11.1	4.5	
22-1	*Machilus velutina*	5.6	4.2	Bushy stands
22-2	*Machilus velutina*	4.0	4.2	Bushy stands
23-1	*Machilus velutina*	6.6	4.2	Bushy stands
23-2	*Machilus velutina*	4.8	4.2	Bushy stands
24	*Acacia confusa*	8.6	5.1	
25	*Machilus velutina*	6.6	4.6	
26	*Machilus velutina*	4.3	2.8	
27	*Aporosa dioica*	4.2	4.3	
28-1	*Machilus velutina*	4.8	3.8	Bushy stands
28-2	*Machilus velutina*	4.5	3.8	Bushy stands
28-3	*Machilus velutina*	4.5	3.8	Bushy stands
29-1	*Machilus velutina*	4.7	4.1	Bushy stands
29-2	*Machilus velutina*	4.6	4.1	Bushy stands
29-3	*Machilus velutina*	4.5	4.1	Bushy stands
30-1	*Machilus velutina*	4.3	4.3	Bushy stands
30-2	*Machilus velutina*	4.0	4.3	Bushy stands
31	*Syzygium levinei*	8.7	4.2	
32-1	*Machilus velutina*	7.5	4.5	Bushy stands

32-2	*Machilus velutina*	4.8	4.5	Bushy stands
33	*Machilus velutina*	5.8	3.9	
34-1	*Machilus velutina*	5.4	4.3	Bushy stands
34-2	*Machilus velutina*	5.4	4.3	Bushy stands
34-3	*Machilus velutina*	4.4	4.3	Bushy stands
34-4	*Machilus velutina*	4.0	4.3	Bushy stands
35-1	*Machilus velutina*	6.9	4.3	Bushy stands
35-2	*Machilus velutina*	6.0	4.3	Bushy stands
35-3	*Machilus velutina*	5.3	4.3	Bushy stands
35-4	*Machilus velutina*	4.0	4.3	Bushy stands
36-1	*Microcos paniculata*	8.4	3.2	Bushy stands
36-2	*Microcos paniculata*	5.8	3.2	Bushy stands
37	*Litsea rotundifolia* var. *oblongifolia*	8.2	4.8	
38	*Machilus velutina*	7.7	4.4	
39	*Triadica cochinchinensis*	18.6	5.2	
40-1	*Eurya nitida*	5.5	2.4	Bushy stands
40-2	*Eurya nitida*	3.9	2.4	Bushy stands
41-1	*Eurya nitida*	4.3	3.2	Bushy stands
41-2	*Eurya nitida*	4.1	3.2	Bushy stands
41-3	*Eurya nitida*	4.0	3.2	Bushy stands
42-1	*Machilus velutina*	8.7	4.1	Bushy stands
42-2	*Machilus velutina*	8.5	4.1	Bushy stands
42-3	*Machilus velutina*	5.4	4.1	Bushy stands
43	*Acacia confusa*	6.0	3.5	
44-1	*Phyllanthus emblica*	6.2	3.8	Bushy stands
44-2	*Phyllanthus emblica*	5.7	3.8	Bushy stands
44-3	*Phyllanthus emblica*	1.5	3.8	Bushy stands

Survey area 3: radius 17.85 m
(DBH > 18 cm)

Tree No.	Scientific name	DBH (cm)	Tree Height (m)	Remarks
1	*Triadica cochinchinensis*	23.0	6.5	
2	*Triadica cochinchinensis*	24.5	7.0	
3	*Acacia confusa*	22.6	8.7	

Table 5.7.8 Description of trees: Sekido-san (Area: Happo, Japan) JPS005
Plot name: Sekido-san, Forest type: Secondary, Stand age: not specified
Date: 24 September 2025
Surveyor: Jiro Kodani, Hiroko Tomisawa, Yuga Nakagami, Shinichi Nagaoka, Tomoe Komine

Survey area 1: radius 7.98 m
(Height > 1.3 m)

Tree No.		Scientific name	DBH (cm)	Tree Height (m)	Remarks
5		*Fagus crenata*	54.2	25.0	
10		*Acer pictum*	33.8	20.4	
15		*Fagus crenata*	48.8	26.5	
20		*Fagus crenata*	43.7	24.1	
21	(31)	*Euonymus oxyphyllus*	6.0	3.1	
22	(94)	*Daphniphyllum macropodum* ssp. *humile*	2.7	1.9	22 and 23: same individual
23	(136)	*Daphniphyllum macropodum* ssp. *humile*	2.1	2.0	22 and 23: same individual
24		*Fagus crenata*	44.5	23.1	
25	(160)	*Chengiopanax sciadophylloides*	3.4	3.2	
26	(29)	*Acer pictum*	36.0	20.4	
27	(27)	*Fagus crenata*	45.3	23.3	
28	(135)	*Daphniphyllum macropodum* ssp. *humile*	3.0	2.1	
29	(39)	*Cryptomeria japonica*	6.8	3.7	
30		*Fagus crenata*	37.0	20.8	
31	(162)	*Cryptomeria japonica*	4.1	1.8	
32	(150)	*Viburnum furcatum*	3.2	1.5	
33		*Daphniphyllum macropodum* ssp. *humile*	2.7	1.9	
34		*Daphniphyllum macropodum* ssp. *humile*	2.5	1.6	
35		*Daphniphyllum macropodum* ssp. *humile*	2.0	1.8	
36		*Viburnum furcatum*	1.8	2.2	
37	(152)	*Viburnum furcatum*	2.4	1.9	
38		*Daphniphyllum macropodum* ssp. *humile*	2.6	1.8	
39	(163)	*Daphniphyllum macropodum* ssp. *humile*	2.8	1.9	
40		*Daphniphyllum macropodum* ssp. *humile*	2.7	1.9	
41		*Daphniphyllum macropodum* ssp. *humile*	2.0	1.5	
42	(36)	*Camellia japonica*	3.6	2.5	42, 43, and 44: same individual
43	(68)	*Camellia japonica*	3.6	2.5	42, 43, and 44: same individual
44	(67)	*Camellia japonica*	2.5	2.5	42, 43, and 44: same individual
45		*Daphniphyllum macropodum* ssp. *humile*	2.9	1.8	
46	(164)	*Acer japonicum*	3.0	3.3	
47		*Daphniphyllum macropodum* ssp. *humile*	1.5	1.6	
48		*Daphniphyllum macropodum* ssp. *humile*	3.9	1.3	
49	(165)	*Camellia japonica*	1.9	1.7	
50	(144)	*Acer pictum*	38.5	21.3	
51	(80)	*Camellia japonica*	1.1	1.6	
54	(34)	*Camellia japonica*	3.3	3.4	54 and 55: same individual
55	(142)	*Camellia japonica*	0.7	1.6	54 and 55: same individual
	(21)	*Fagus crenata*	Dead		
	(28)	*Fagus crenata*	Dead		

Survey area 2: radius 11.28 m
(DBH > 4 cm)

Tree No.		Scientific name	DBH (cm)	Tree Height (m)	Remarks
4		*Fagus crenata*	69.0	31.6	
13		*Fagus crenata*	70.0	27.2	
14		*Fagus crenata*	37.9	24.0	
18		*Fagus crenata*	36.2	21.2	
19		*Fagus crenata*	62.2	26.8	
52	(139)	*Acer distylum*	5.0	2.4	
53	(166)	*Acer distylum*	7.7	4.0	
56		*Daphniphyllum macropodum* ssp. *humile*	4.1	2.2	New in 2025
57		*Daphniphyllum macropodum* ssp. *humile*	4.6	2.6	New in 2025
58		*Daphniphyllum macropodum* ssp. *humile*	4.2	2.5	New in 2025
59		*Daphniphyllum macropodum* ssp. *humile*	4.0	2.5	New in 2025
60		*Daphniphyllum macropodum* ssp. *humile*	4.6	2.6	New in 2025
	(56)	*Camellia japonica*	Dead		

Survey area 3: radius 17.85 m
(DBH > 18 cm)

Tree No.		Scientific name	DBH (cm)	Tree Height (m)	Remarks
11		*Fagus crenata*	62.3	26.0	
9		*Betula grossa*	41.4	24.3	
7		*Carpinus tschonoskii*	57.8	25.4	
6		*Fagus crenata*	56.9	24.8	
17		*Cerasus jamasakura*	65.7	21.2	
16		*Quercus crispula* var. *crispula*	50.0	26.1	
1		*Fagus crenata*	42.9	30.3	
2		*Betula grossa*	59.9	35.0	
8		*Fagus crenata*	31.8	18.3	
61	(167)	*Acer pictum*	23.9	15.7	
62	(59)	*Fagus crenata*	67.8	26.6	
63	(60)	*Fagus crenata*	53.6	25.1	
64	(168)	*Acer pictum*	43.9	22.4	
3		*Carpinus tschonoskii*	Dead		Recorded in 2015
8		*Carpinus laxiflora*	Dead		Recorded in 2015
12		*Fagus crenata*	Dead		Recorded in 2015
169		*Carpinus tschonoskii*	Dead		
170		*Magnolia obovata*	Dead		

Table 5.8.1 Understory vegetation survey: Jinyunshan-1 (Area: Jinyunshan, China) CNS004
Plot name: Jinyunshan-1
Date: 1 December 2025
Surveyor: Yujie

Number of Species: 41

Scientific name	Abundance
Symplocos lucida	1
Lophatherum gracile	*
Castanopsis carlesii var. *spinulosa*	1
Elaeocarpus duclouxii	2
Vaccinium sprengelii	*
Sarcandra glabra	3
Castanopsis fargesii	*
Maesa japonica	1
Diplopterygium chinensis	1
Elaeocarpus japonicus	*
Eurya loquaniana	1
Ardisia crispa var. dielsii	*
Camellia euryoides var. *nokoensis*	1
Lindera kwangtungensis	*
Symplocos lancifolia	*
Cunninghamia lanceolata	*
Randia cochinchinensis	1
Stranvaesia tomentosa	*
Dryopteris erythrosora	*
Embelia rudis	*
Antidesma decicatalum	*
Arachniodes chinensis	*
Ardisia crenata	1
Lysimachia paridiformis	2
Machilus nanmu	1
Alpinia japonica	*
Smilax china	1
Neolitsea aurata var. *glauca*	1
Laurocerasus spinulosa	*
Polyspora speciosa	*
Diospyros morrisiana	*
Ilex tetramera	*
Woodwardia japonica	*
Caesalpinia crista	*
Symplocos laurina	*
Rhododendron simsii	*
Holboellia grandiflora	*
Dioscorea cirrhosa	1
Cinnamomum japonicum	*
Callerya dielsiana	*
Ficus heteromorpha	*

Note: *Symplocos lucida* and *Machilus nanmu* were previously reported as *Symplocos setchuenensis* and *Machilus pingii*, respectively.

Table 5.8.2 Understory vegetation survey: Jinyunshan-2 (Area: Jinyunshan, China) CNS004
Plot name: Jinyunshan-2
Date: 1 December 2025
Surveyor: Yujie

Number of Species: 40

Scientific name	Abundance
Diplopterygium chinensis	4
Machilus nanmu	3
Castanopsis carlesii var. *spinulosa*	2
Symplocos lancifolia	*
Symplocos lucida	3
Camellia sinensis	*
Rubus assamensis	*
Maesa japonica	*
Sarcandra glabra	3
Lophatherum gracile	*
Woodwardia japonica	*
Stranvaesia tomentosa	*
Caesalpinia crista	2
Arachniodes omaena	*
Castanopsis fargesii	*
Elaeocarpus japonicus	*
Lysimachia paridiformis	*
Adinandra bockiana	*
Ilex viridis var. *brevipedicellata*	*
Symplocos botryantha	*
Trachycarpus fortunei	*
Dichroa febrifuga	*
Daphniphyllum oldhamii	*
Mahonia eurybracteata	*
Cinnamomum appelianum	*
Eurya loquaniana	*
Smilax china	1
Symplocos laurina	*
Sapium discolor	*
Balanophora henryi	*
Ardisia japonica	*
Photinia glabra	*
Aidia cochinchinensis	*
Aleurites fordii	*
Diospyros morrisiana	*
Microlepia marginata	*
Holboellia grandiflora	*
Dicranopteris pedata	*
Stranvaesia davidiana	*
Diploclisia affinis	2

Note: *Symplocos lucida* and *Machilus nanmu* were previously reported as *Symplocos setchuenensis* and *Machilus pingii*, respectively.

Table 5.8.3 Understory vegetation survey: Dabagou (Area: Jiwozi, China) CNS007
Plot name: Dabagou
Date: 14 October 2025
Surveyor: Zhu Jian, Yang Naiwang, Song XueJuan

Number of Species: 13

Scientific name	Abundance
Equisetum hyemale	1
Fargesia spathacea	+
Chimaphila japonica	+
Aquilegia ecalcarata	+
Sanguisorba officinalis	+
Euonymus alatus	+
Reineckea carnea	+
Cardamine leucantha	+
Glechoma longituba	+
Celastrus orbiculatus	+
Rubia ovatifolia	+
Agrimonia pilosa	+
Rubus mesogaeus	+

Table 5.8.4 Understory vegetation survey: Xiaoping (Area: Xiaoping, China) CNS009
Plot name: XPZ-01
Date: 11 December 2025
Surveyor: Zhang Yashuang, Xiao Weijian, Zhou Jizai, Hong Zhiyuan

Number of Species: 9

Scientific name	Abundance
Myrica rubra	3
Dicranopteris dichotoma	2
Mussaenda pubescens	2
Gardenia jasminoides	2
Schima superba	2
Melastoma sp.	1
Adiantum capillus-veneris	1
Ardisia crenata	1
Ilex chinensis	1

Table 5.8.5 Understory vegetation survey: Zhuxiandong-1 (Area: Zhuxiandong, China) CNS011

Plot name: Zhuxiandong-1

Date: 30 December 2025

Surveyor: Zheng Mingxuan, Xu Wenxiang, Mo Lijuan, Zeng Lubo, Xu Yongmao

Number of Species: 23

Scientific name	Abundance
Dicranopteris pedata	
Mussaenda pubescens	
Miscanthus floridulus	
Indocalamus tessellatus	
Litsea rotundifolia var. *oblongifolia*	
Psychotria serpens	
Morinda parvifolia	
Adiantum flabellulatum	
Smilax corbularia var. *woodii*	
Ilex elmerrilliana	

Table 5.8.6 Understory vegetation survey: Zhuxiandong-2 (Area: Zhuxiandong, China) CNS011

Plot name: Zhuxiandong-2

Date: 30 December 2025

Surveyor: Zheng Mingxuan, Xu Wenxiang, Mo Lijuan, Zeng Lubo, Xu Yongmao

Number of Species: 7

Scientific name	Abundance
Dicranopteris pedata	
Psychotria asiatica	
Lindsaea orbiculata	
Lophatherum gracile	
Pteris semipinnata	
Adiantum flabellulatum	
Ardisia crenata	

Table 5.8.7 Understory vegetation survey: Zhuxiandong-3 (Area: Zhuxiandong, China) CNS011

Plot name: Zhuxiandong-3

Date:

Surveyor:

Number of Species: 11

Scientific name	Abundance
Dicranopteris pedata	
Eurya nitida	
Machilus velutina	
Blechnopsis orientalis	
Litsea rotundifolia var. *oblongifolia*	
Rubus reflexus	
Psychotria serpens	
Adiantum flabellulatum	
Morinda parvifolia	
Miscanthus floridulus	
Mussaenda pubescens	

Table 5.8.8 Understory vegetation survey: Sekido-san (Area: Happo, Japan) JPS005

Plot name: Sekido-san, Forest type: Secondary, Stand age: not specified

Date: 24 September 2025

Surveyor: Jiro Kodani, Hiroko Tomisawa, Yuga Nakagami, Shinichi Nagaoka, Tomoe Komine

Number of Species: 18

Scientific name	Abundance
Sasa kurilensis	4
Daphniphyllum macropodum ssp. *humile*	2
Viburnum furcatum	+
Aucuba japonica var. *borealis*	1
Cephalotaxus harringtonia var. *nana*	+
Carex conica var. *conica*	+
Torreya nucifera var. *radicans*	+
Cryptomeria japonica	+
Ilex crenata var. *radicans*	+
Struthiopteris niponica	+
Schizophragma hydrangeoides	+
Camellia japonica	+
Coptis japonica	+
Ardisia japonica	+
Goodyera foliosa var. *laevis*	+
Acer distylum	+
Carex morrowii	+
Mitchella undulata	+

CHAPTER 6

Inland Aquatic Environment Monitoring

6. Inland Aquatic Environment Monitoring

6.1 Method

There were evidence over Northern Europe and North America that the lake water pH levels decreased in the 1970's compared to the levels in the 1930's and the damages noted as a result of this decrease, including decline of fish populations. The cause of this pH decline is believed to be the deposition of acidic substances into lakes in excess amounts of their neutralization or buffering capacity. In general, inland bodies of water with low alkalinity and low electric conductivities are prone to be sensitive to acidification by acid deposition. Therefore, it is important to conduct continuous monitoring of water bodies and aquatic fauna and so on.

Items specified in the technical manual (2000) include water temperature, pH, electric conductivity (EC), alkalinity and concentration of SO_4^{2-}, NO_3^-, Cl^-, NH_4^+, Na^+, K^+, Ca^{2+}, and Mg^{2+} of targeted lakes/rivers at least four times a year (seasonally), and transparency, water color, DOC (if impossible, COD), NO_2^-, and PO_4^{3-} more than once a year while some other optional items are specified to be monitored. In the near future, it is expected that some additional items (*i.e.* Chlorophyll a, T-P, T-N, DO) will be adopted as mandatory parameters according to the new manual (2010) at each laboratory.

6.1.1 Selection of Sampling Sites

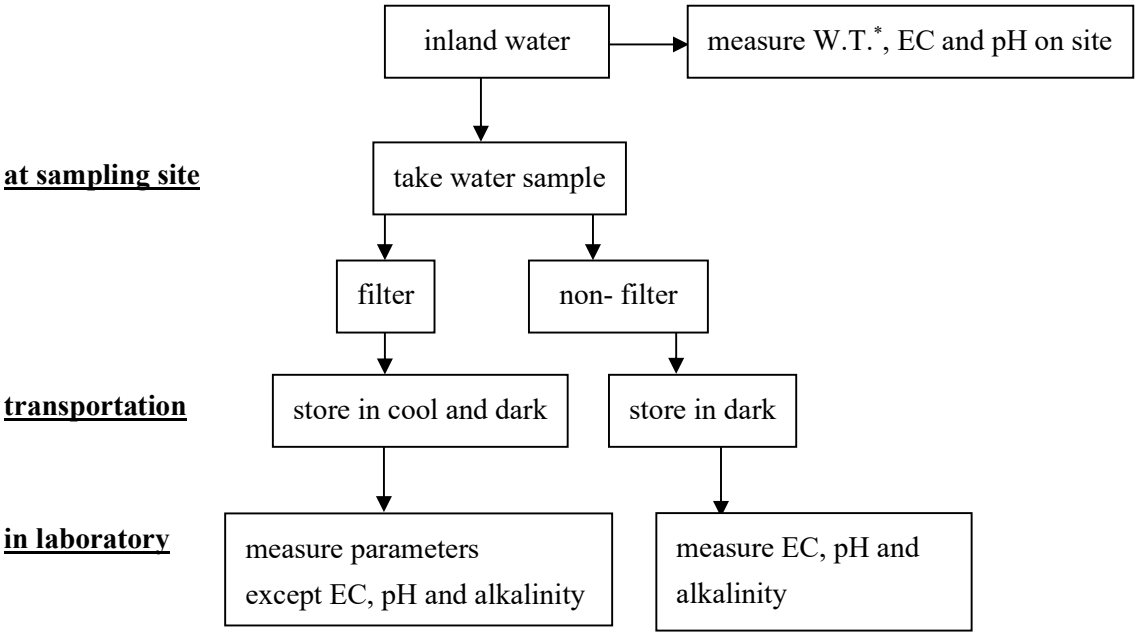
According to the technical manual (2010), the lakes chosen for monitoring should be harmonic type lakes, preferably with depths of approximately 10 m or less, a water residence time of 1 year or less, an area of 1 ha or more, with low alkalinity and electric conductivity, minimal anthropogenic water pollution and no coverage of the surface with aquatic organisms. If appropriate lakes are not available, rivers (streams) that are potentially susceptible to acidification and have little artificial influence should be selected.

For the monitoring sites, it is desirable to locate in nature protection areas, and human activities such as deforestation, and cultivation should be few and far between in the upstream area.

6.1.2 Field Operation

Surface water is sampled at one location at the center of the lake or river. In principle, measurements of pH and electric conductivity (EC) are conducted at the site before a more precise measurement is taken in the laboratory. Water samples for further analyses are kept in a tightly stoppered polyethylene bottle and stored in a cool dark place. The samples are shipped to the laboratory for chemical analysis. The water samples for analysis of chemical components

other than pH, EC and alkalinity are filtered at the sampling site with a glass fiber filter. An example of treatment procedure is described in Figure 6.1.



W.T.* : Water Temperature

Figure 6.1 Example of treatment procedure of inland water sample

6.1.3 Laboratory Operation

Collected samples are analyzed by analytical methods specified in Table 6.1 immediately, otherwise they are stored in a refrigerator. In addition, with regard to alkalinity, the Gran's plot titration method is adopted newly and recommended as a measurement parallel to the end-point pH 4.8 method in the latest version of the manual 2010.

Electric conductivity is measured at 25℃ using a water bath. If it is measured at any other water temperature, its value is corrected to 25℃.

Table 6.1 Parameters and recommended analytical methods

Parameter	Analytical method
pH	pH meter (glass electrode)
Electric conductivity	Conductivity meter
Alkalinity	Titration by burette or digital burette with pH meter
NH_4^+, NO_3^-, NO_2^-, PO_4^{3-}	Ion Chromatography or spectrometry
K^+, Mg^{2+}, Ca^{2+}, Na^+	Ion Chromatography or atomic absorption spectrometry
SO_4^{2-}	Ion Chromatography or turbidimetry
DOC	Combustion-infrared method or wet-oxidation method

6.1.4 Monitoring Sites

As described in Table 6.2.1, the monitoring sites were established in 14 lakes/reservoirs and 6 rivers/streams. For 2025, 9 countries (Cambodia, China, Japan, Lao PDR, Malaysia, Mongolia, Philippines, Russia and Vietnam) carried out the monitoring. The data from the rest of the countries have not been submitted yet. Properties of all the monitoring sites are shown on Table 6.3. However, more information should be appended to these tables in the future.

6.2 Results of Monitoring

The results of monitoring of each parameter are shown in Table 6.4.1 to Table 6.4.9. Data within or exceeded the criteria of R_1 and R_2 (details are shown below) are judged and marked as "O" or "×" in these tables respectively according to *QA/QC Program for Monitoring on Inland Aquatic Environment in East Asia*. The annual mean values of each monitoring site are summarized in Table 6.4.10.

There were 3 sites (Sras Srang Lake in Cambodia and Nam Houm Lake in Lao PDR and Terelj River in Mongolia) which have results exceeding allowable range of R_1 and/or R_2. However, those main reasons could not be identified.

The annual mean values of each parameter from 2001 to 2025 are shown in Table 6.5.1 to Table 6.5.20.

Ion balance (R_1):

Calculated as:

$R_1 = (C - A) / (C + A) \times 100$ (%)

where A: total anion equivalent concentration (μeq L^{-1})

C: total cation equivalent concentration (μeq L^{-1})

$A = c(SO_4^{2-}) + c(NO_3^-) + c(Cl^-) + (ALK)$*

* If PO_4^{3-}, NO_2^- etc were measured, add next formula, {+ c (PO_4^{3-}) + c (NO_2^-) +…}.

Alkalinity (ALK: μeq L^{-1}) considered to correspond to bicarbonate ions (HCO_3^-).

$C = 10^{(6-pH)} + c(NH_4^+) + c(Na^+) + c(K^+) + c(Ca^{2+}) + c(Mg^{2+})$*

* If Fe^{2+}, Mn^{2+} etc were measured, add next formula, {(+ c (Fe^{2+}) + c (Mn^{2+}) +…}.

where c( ) : the ionic concentration (μeq L^{-1}).

When the concentration of ion is shown as (mg L^{-1}), it should be changed in equivalent concentration (μeq L^{-1}) as follows:

μeq L^{-1} = mg L^{-1} × (1000/equivalent weight)

Required criteria for R_1 :

The required ion balances of precipitation analyses are given in Table 6.2.2

Table 6.2.2 Required criteria for R_1

(C+A) (μeq L^{-1})	R_1 (%)
<50	±30
50 – 100	±15
>100	±8

Comparison between calculations and measurement in electrical conductivity (R_2):

Calculated as:

$R_2 = (\Lambda calc - \Lambda meas) / (\Lambda calc + \Lambda meas) \times 100$ (%)

where $\Lambda calc$: the calculated conductivity (mS m^{-1})

$\Lambda meas$: the measured conductivity (mS m^{-1})

Λcalc should be calculated as follows:

$$\Lambda calc\ (\mu S\ cm^{-1}) = 349.7 \times 10^{(3-pH)} + \{80.0 \times c(SO_4^{2-}) + 71.4 \times c(NO_3^-) + 76.3 \times c(Cl^-) + 73.5 \times c(NH_4^+) + 50.1 \times c(Na^+) + 73.5 \times c(K^+) + 59.5 \times c(Ca^{2+}) + 53.0 \times c(Mg^{2+}) + 44.5 \times (ALK)\}/1000$$

c: equivalent concentration (μeq L^{-1}) of ions in the parenthesis, each constant value is ionic equivalent conductivity at 25 °C. Alkalinity considered to correspond to bicarbonate ions (HCO_3^-).

For SI unit system, convert Λcalc (μS cm^{-1}) into Λcalc (mS m^{-1}) following

$\Lambda calc\ (mS\ m^{-1}) = \Lambda calc\ (\mu S\ cm^{-1}) \times (1/10)$

Required criteria for R_2:

The required conductivity comparison criteria are given in Table 6.2.3.

Table 6.2.3 Required criteria for R_2

$\Lambda meas$ (mS m^{-1})	R_2 (%)
<0.5	±20
0.5 – 3	±13
>3	±9

Table 6.2.1 Outline of Inland Aquatic Environment Monitoring of 2025

Country	Site	Distance from the site	Nearest deposition monitoring site	Start year	Interval
Cambodia	Sras Srang Lake (Kampong Speu province)	-	Remote	2012	2 times/yr.
China	Jinyunshan Lake (Chongqing)	-	Rural	2001	4 times/yr.
	Xiaoping Dam (Xiamen)	-	Remote	2001	4 times/yr.
	Jiwozi River (Xi'an)	-	Remote	2001	4 times/yr.
	Zhuxiandong Stream (Zhuhai)	-	Urban	2004	4 times/yr.
Indonesia	Patengang Lake (Bandung)	47 km	Urban	2001	-
	Gunung Lake (Sukabumi)	-	-	2008	-
Japan	Ijira Lake (Gifu Pref.)	1.1 km	Rural/Ecolog. (Ijira)	2001	4 times/yr.
	Futago-ike Lake (Nagano Pref.)	82 km	Remote (Happo)	2019	3 times/yr.
Lao PDR	Nam Houm Lake (Vientiane province)	-	Vientiane	2009	2 times/yr.
Malaysia	Baru River	-	Remote (Danum Valley)	2022	6 times/yr.
	Kuala Tahan*	-	-	-	-
Mongolia	Terelj River	-	Remote (Terelj)	2002	6 times/yr.
Philippines	Pandin Lake	30 km	Rural (Mt. Makiling)	2004	4 times/yr.
	Ambulalakaw Lake	-	Remote (Mt. Sto. Tomas)	2005	-
Russia	Pereemnaya River (Listvyanka)	48 km	Rural (Listvyanka)	2004	4 times/yr.
	Komarovka River (Primorskaya)	0.5 km	Rural (Primorskaya)	2005	5 times/yr.
Thailand	Vajiralongkorn Dam (Kanchanaburi Province)	-	Remote	2002	-
Vietnam	Hoa Binh Reservoir	-	Rural	2001	4 times/yr.

*Kuala Tahan is currently under preparation.

Table 6.3.1 Properties of lakes or streams

Lake Name: Sras Srang Lake

Country	Cambodia
Location	KIRIRUM national Park, Kampong Speu province
Latitude and longitude	11° 19’ 69.29” N, 104° 2’ 22.97” E
Altitude	800 m
Origin	-
Area and shape	10,403 m^2
Shore line length	-
Lake hydrologic type	-
Lake trophic type	-
Water depth	-
Water volume	-
Annual water level fluctuation	-
Annual air temperature	-
Precipitation	-
Sunshine duration	-
Solar radiation	-
Wind speed	-
Wind direction	-
Residence time of water	-
Lake utilization	-
River (inflow)	-
Amount of inlet water	-
Amount of outlet water	-
Nearest meteorological station	-

Watershed area	-
Surface geology	-
Vegetation (dominant plants)	-
Land use	-

- : No information.

Table 6.3.2 Properties of lakes or streams

Lake Name: Jinyunshan Lake

Country	China
Location	Chongqing Prefecture
Latitude and longitude	-
Altitude	-
Origin	Artificial lake
Area and shape	9,990 m^2
Shore line length	About 2 km
Lake hydrologic type	Reservoir
Lake trophic type	Oligotrophic to Mesotrophic
Water depth	6-13 m
Water volume	60,000 m^3
Annual water level fluctuation	2-4 m
Annual air temperature	-
Precipitation	-
Sunshine duration	-
Solar radiation	-
Wind speed	-
Wind direction	-
Residence time of water	-
Lake utilization	For drink, Irrigation water
River (inflow)	-
Amount of inlet water	-
Amount of outlet water	-
Nearest meteorological station	-

Watershed area	-
Surface geology	-
Vegetation (dominant plants)	-
Land use	-

- : No information.

Table 6.3.3 Properties of lakes or streams

Lake Name: Xiaoping Dam

Country	China
Location	Xiaoping, Xiamen
Latitude and longitude	-
Altitude	595 m
Origin	Artificial lake
Area and shape	264,000 m^2
Shore line length	100 m
Lake hydrologic type	Natural
Lake trophic type	Normal
Water depth	57.5 m
Water volume	4,080,000 m^3
Annual water level fluctuation	-
Annual air temperature	21.3 °C (mean) *1
Precipitation	1,084.5 mm/year *1
Sunshine duration	164.3 hrs/month (mean) *1
Solar radiation	-
Wind speed	2.4 m/s (mean) *1
Wind direction	E and ENE (dominant) *1
Residence time of water	15 days
Lake utilization	Water power
River (inflow)	Dingxi lake
Amount of inlet water	-
Amount of outlet water	-
Nearest meteorological station	-

Watershed area	18.1 km^2
Surface geology	-
Vegetation (dominant plants)	-
Land use	-

- : No information.

*1 Xiamen, 2014.

Table 6.3.4 Properties of lakes or streams

Stream Name: Jiwozi River

Country	China
Location	Xi'an
Latitude and longitude	-
Altitude	-
Origin	Natural stream
Water depth	-
Water discharge	-
River length	-
Drainage area	-
The mean height of the river basin	-
Annual air temperature	15.4 °C (mean) *1
Precipitation	593.0 mm/year *1
Sunshine duration	146.0 hrs/month (mean) *1
Solar radiation	-
Wind speed	Mean 2.2 m/s *1
Wind direction	NE (dominant) *1
Lake (flows into)	-
River (meet in 10m from sampling point)	-

Watershed area	-
Surface geology	-
Soil type Mountain	-
Vegetation (dominant plants)	-
Population	-

- : No information.

*1 Xi'an, 2019.

Table 6.3.5 Properties of lakes or streams

Stream Name: Zhuxiandong Stream

Country	China
Location	Zhuhai
Latitude and longitude	-
Altitude	-
Origin	Natural stream
Water depth	-
Water discharge	-
River length	-
Drainage area	-
The mean height of the river basin	-
Annual air temperature	24.1 °C (mean) *1
Precipitation	1984.4 mm *1
Sunshine duration	143.6 hrs/month (mean) *1
Solar radiation	-
Wind speed	Mean 2.6 m/s *1
Wind direction	ESE (dominant) *1
Lake (flows into)	-
River (meet in 10m from sampling point)	-

Watershed area	-
Surface geology	-
Soil type Mountain	-
Vegetation (dominant plants)	-
Population	-

- : No information.

*1 Zhuhai, 2019.

The monitoring was conducted between 2001 and 2003 at Zhuxiandong reservoir, after that, Zhuxiandong Stream was selected as a new site for inland water monitoring in 2004. This site is located in the upper stream of Zhuxiandong Reservoir. Therefore continuous monitoring has been conducted since 2004 at Zhuxiandong Stream.

Table 6.3.6 Properties of lakes or streams

Lake Name: Patengang Lake

Country	Indonesia
Location	Bandung
Latitude and longitude	-
Altitude	1600-1700 m
Origin	Natural lake
Area and shape	4.5 km^2
Shore line length	-
Lake hydrologic type	-
Lake trophic type	Oligotrophic
Water depth	8 m (max)
Water volume	4.98 x 10^6 m^3
Annual water level fluctuation	1.42 m-4.20 m
Annual air temperature	24.0 °C (mean) *1
Precipitation	6,728.8 mm *1
Sunshine duration	-
Solar radiation	408.1 MJ/m^2/month (mean) *1
Wind speed	Mean 1.7 m/s *1
Wind direction	W (dominant) *1
Residence time of water	-
Lake utilization	Tourism
River (inflow)	1
Amount of inlet water	-
Amount of outlet water	-
Nearest meteorological station	LAPAN Bandung

Watershed area	650 km^2
Surface geology	-
Vegetation (dominant plants)	Strawberry, tea
Land use	-

- : No information.

*1 Bandung, 2017.

Table 6.3.7 Properties of lakes or streams

Lake Name: Gunung Lake

Country	Indonesia
Location	Sukabumi, West Java
Latitude and longitude	-
Altitude	950-1036 m
Origin	Natural lake
Area and shape	95,000 m^2
Shore line length	-
Lake hydrologic type	Reservoir
Lake trophic type	Eutrophic
Water depth	Ave 2.75 m (< 10 m)
Water volume	-
Annual water level fluctuation	-
Annual air temperature	-
Precipitation	-
Sunshine duration	-
Solar radiation	-
Wind speed	-
Wind direction	-
Residence time of water	-
Lake utilization	Irrigation
River (inflow)	1
Amount of inlet water	-
Amount of outlet water	-
Nearest meteorological station	Serpong

Watershed area	1.2 km^2
Surface geology	-
Vegetation (dominant plants)	Pine Tree, *Agathis Damara*
Land use	Agricultural area (5%), Residential area (1%, population < 500)

- : No information.

Table 6.3.8 Properties of lakes or streams

Lake Name: Ijira Lake

Country	Japan
Location	Gifu prefecture
Latitude and longitude	35° 33’ 51” N, 136° 42’ 12” E
Altitude	110 m
Origin	Artificial (dam-made lake)
Area and shape	0.1 km^2
Shore line length	1.8 km
Lake hydrologic type	Reservoir
Lake trophic type	Oligotrophic or mesotrophic
Water depth	Ave. 5.4 m (Max 10.9 m)
Water volume	0.00054 km^3
Annual water level fluctuation	0-0.74 m (Ave. 0.22 m)
Annual air temperature	17.3 °C (mean) *1
Precipitation	1895.0 mm/year *1
Sunshine duration	188.55 hrs/month (mean) *1
Solar radiation	-
Wind speed	Mean 2.6 m/s *1
Wind direction	WNW (dominant) *1
Residence time of water	23 days
Lake utilization	Irrigation and fishing
River (inflow)	Kamagatani River, Kobora River
Amount of inlet water	-
Amount of outlet water	-
Nearest meteorological station	Gifu Local Meteorological Observatory

Watershed area	5.4 km^2
Surface geology	Chert
Vegetation (dominant plants)	*Pinus densiflora, Chamaecyparis obtuse, Cryptomeria japonica*
Land use	-

- : No information.

*1 Gifu Local Meteorological Observatory, 2025.

Table 6.3.9 Properties of lakes or streams

Lake Name: Futago-ike Lake (Oike and Meike)

Site	Oike	Meike
Country	Japan	
Location	Nagano prefecture	
Latitude and longitude	36° 05’ 42” N, 138° 20’ 05” E	36° 05’ 52” N, 138° 19’ 57” E
Altitude	2050 m	2050 m
Origin	Dammed lake	Dammed lake
Area and shape	0.019 km^2	0.017 km^2
Shore line length	0.64 km	0.55 km
Lake hydrologic type	Dammed lake	Dammed lake
Lake trophic type	Extreme oligotrophic	Oligotrophic
Water depth	Ave. 3.82 m	Ave. 2.65 m
Water volume	73369 m^3	45002 m^3
Annual water level fluctuation	0-4 m	0-1 m
Annual air temperature	10.8 °C (mean) *1	
Precipitation	928 mm/year *1	
Sunshine duration	192.6 hrs/month (mean) *1	
Solar radiation	-	
Wind speed	Mean 2.1 m/s *1	
Wind direction	S (dominant) *1	
Residence time of water	-	
Lake utilization	Sightseeing	
River (inflow)	None	None
Amount of inlet water	-	-
Amount of outlet water	-	-
Nearest meteorological station	Haramura AMeDAS of Japan Meteorological Agency	

Watershed area	0.488 km^2	0.338 km^2
Surface geology	Lava bed	
Vegetation (dominant plants)	*Abies veitchii, Larix kaempferi*	
Land use	-	

- : No information.

*1 Haramura AMeDAS of Japan Meteorological Agency, 2025.

Table 6.3.10 Properties of lakes or streams

Lake Name: Nam Houm Lake

Country	Lao PDR
Location	Nasayphong Dictric, Vientiane Capital
Latitude and longitude	-
Altitude	-
Origin	-
Area and shape	-
Shore line length	-
Lake hydrologic type	-
Lake trophic type	-
Water depth	Mean: 5 m, Maximum: 10 m
Water volume	-
Annual water level fluctuation	-
Annual air temperature	-
Precipitation	-
Sunshine duration	-
Solar radiation	-
Wind speed	-
Wind direction	-
Residence time of water	-
Lake utilization	Irrigation
River (inflow)	-
Amount of inlet water	-
Amount of outlet water	-
Nearest meteorological station	-

Watershed area	-
Surface geology	-
Vegetation (dominant plants)	-
Land use	-

- : No information.

Table 6.3.11 Properties of lakes or streams

Lake Name: Baru River

Country	Malaysia
Location	Danum Valley, Sabah
Latitude and longitude	-
Altitude	-
Origin	-
Area and shape	-
Shore line length	-
Lake hydrologic type	-
Lake trophic type	-
Water depth	-
Water volume	-
Annual water level fluctuation	-
Annual air temperature	-
Precipitation	-
Sunshine duration	-
Solar radiation	-
Wind speed	-
Wind direction	-
Residence time of water	-
Lake utilization	-
River (inflow)	-
Amount of inlet water	-
Amount of outlet water	-
Nearest meteorological station	-

Watershed area	-
Surface geology	-
Vegetation (dominant plants)	-
Land use	-

- : No information.

Table 6.3.12 Properties of lakes or streams

Stream Name: Kuala Tahan

Country	Malaysia
Location	-
Latitude and longitude	-
Altitude	-
Origin	-
Water depth	-
Water discharge	-
River length	-
Drainage area	-
The mean height of the river basin	-
Annual air temperature	-
Precipitation	-
Sunshine duration	-
Solar radiation	-
Wind speed	-
Wind direction	-
Lake (flows into)	-
River (meet in 10m from sampling point)	-

Watershed area	-
Surface geology	-
Soil type Mountain	-
Vegetation (dominant plants)	-
Population	-

- : No information.

Table 6.3.13 Properties of lakes or streams

Stream Name: Terelj River

Country	Mongolia
Location	Terelj
Latitude and longitude	48° 00’ 06.12” N, 107° 27’17.06 ” E
Altitude	-
Origin	Natural stream
Water depth	-
Water discharge	Mean: 7.96 m^3 sec^{-1}
River length	65 km
Drainage area	1220 km^2
The mean height of the river basin	-
Annual air temperature	-
Precipitation	-
Sunshine duration	-
Solar radiation	-
Wind speed	-
Wind direction	-
Lake (flows into)	-
River (meet in 10m from sampling point)	-

Watershed area	-
Surface geology	Main type of bed rocks is granite and drainage area is forest steppe
Soil type Mountain	Brown, marshy
Vegetation (dominant plants)	Grazing crop, Plantain
Population	3400

- : No information.

Table 6.3.14 Properties of lakes or streams

Lake Name: Pandin Lake

Country	Philippines
Location	San Pablo City
Latitude and longitude	-
Altitude	200m
Origin	Natural lake
Area and shape	0.24 km^2
Shore line length	-
Lake hydrologic type	-
Lake trophic type	Oligotrophic
Water depth	61.75 m (mean), 63 m (max)
Water volume	6600 m^3
Annual water level fluctuation	-
Annual air temperature	27.6 °C (mean) *1
Precipitation	1859.7 mm *1
Sunshine duration	-
Solar radiation	-
Wind speed	2.0 m/s (mean) *1
Wind direction	ENE (dominant) *1
Residence time of water	-
Lake utilization	domestic, electric power and tourism
River (inflow)	-
Amount of inlet water	-
Amount of outlet water	-
Nearest meteorological station	-

Watershed area	-
Surface geology	-
Vegetation (dominant plants)	-
Land use	-

- : No information.

*1 UP Agrometeorological Station Los Baños College, 2024.

Table 6.3.15 Properties of lakes or streams

Lake Name: Ambulalakao Lake

Country	Philippines
Location	Kabayan, Benguet
Latitude and longitude	-
Altitude	2400 m
Origin	Natural lake
Area and shape	0.006087 km^2
Shore line length	-
Lake hydrologic type	-
Lake trophic type	-
Water depth	1.5 m (mean), 4.0 m (max), 0.2 m (min)
Water volume	11476 m^3
Annual water level fluctuation	-
Annual air temperature	-
Precipitation	-
Sunshine duration	-
Solar radiation	-
Wind speed	-
Wind direction	-
Residence time of water	-
Lake utilization	Tourism
River (inflow)	-
Amount of inlet water	-
Amount of outlet water	-
Nearest meteorological station	-

Watershed area	-
Surface geology	-
Vegetation (dominant plants)	-
Land use	-

- : No information.

Table 6.3.16 Properties of lakes or streams

Stream Name: Pereemnaya River

Country	Russia
Location	Southern Baikal
Latitude and longitude	51°56'N, 105°17'E
Altitude	460 m-1500 m
Origin	Natural stream
Water depth	0.9 m (mean), 2 m (max)
Water discharge	-
River length	42 km
Drainage area	About 360 km^2
The mean height of the river basin	1,260 m
Annual air temperature	1.7℃ *1
Precipitation	398.6 mm/year *1
Sunshine duration	-
Solar radiation	-
Wind speed	Mean: 3.3 m/sec*1
Wind direction	N*1
Lake (flows into)	Lake Baikal
River (meet in 10m from sampling point)	-

Watershed area	About 360 km^2
Surface geology	Archaean rocks, presented mainly by gneisses, crystal schists, andpegmatites
Soil type Mountain	-
Vegetation (dominant plants)	The larger part of the basin belongs to the zone of mountain-taiga soils. The lower taiga border begins from the lake's shore, and the upper border rises up to 900-1800 m depending on the slopes exposition. Above, within loach zone, waste-mountain landscapes with undersized motley grass and lichens prevail. Coniferous forest
Population	-

- : No information.

*1 Listvyanka Meteorological station, 2025.

Table 6.3.17 Properties of lakes or streams

Stream Name: Komarovka River

Country	Russia
Location	Primorskli Kray, Ussuriyskii district, near Kamenushka settlement
Latitude and longitude	43°42’ N, 132°07’E
Altitude	386 m
Origin	Natural stream
Water depth	Mean 0.8 m Maximum 2 m
Water discharge	Mean:1.55 m^3/sec, Min:0.66, Max:3.79
River length	67 km
Drainage area	-
The mean height of the river basin	-
Annual air temperature	5.8°C *1
Precipitation	735.3 mm/year*1
Sunshine duration	-
Solar radiation	-
Wind speed	0.6-1.5 (mean 1.0) m/s*1
Wind direction	-
Lake (flows into)	River Razdolnaya, Amurskiy Bay
River (meet in 10m from sampling point)	-

Watershed area	About 1490 km^2
Surface geology	Rocks, sandstones, clayey schist
Soil type Mountain	Mountain- forest brown type of soil
Vegetation (dominant plants)	Komarovka valley is situated near Komarovskiy reserve surrounded by hills which protect the site from winds. The valley is covered by the mixed forest from broad-leaves to conifer.
Population	About 2000

- : No information.

*1 Primorskaya Meteorological station, 2025.

Table 6.3.18 Properties of lakes or streams

Lake Name: Vajiralongkorn Dam

Country	Thailand
Location	Tha Khanoon sub-district, Thongpaphum District, Khanchanaburi Province 71180
Latitude and longitude	14°46' N, 98°35' E
Altitude	170 m
Origin	Artificial (Lake by Dam Reservoir area)
Area and shape	3,720 km^2 , Multi-shape
Shore line length	-
Lake hydrologic type	Reservoir
Lake trophic type	-
Water depth	137.0-152.0 m (mean: 143.8 m) (2021)
Water volume	3.5134-7.7479 km^3 (mean: 5.2607 km^3) (2021)
Annual water level fluctuation	Depth: 4.2 m (2010)
Annual air temperature	27.0 ℃ (mean)*1
Precipitation	1690.1 mm*1
Sunshine duration	-
Solar radiation	-
Wind speed	0.17 m/s (mean) *1
Wind direction	-
Residence time of water	165 days
Lake utilization	Irrigation, Electric power generation, Fishery, Flooding protection and Sight seeing
River (inflow)	-
Amount of inlet water	Annual : 6140.5×10^6 m^3 /year, daily : 16.8×10^6 m^3 /day
Amount of outlet water	Annual : 2990.3×10^6 m^3 /year, daily : 8.2×10^6 m^3 /day
Nearest meteorological station	Vajiralongkorn Dam (0.3 km from the site)

Watershed area	3,720 km^2
Surface geology	Ferric Acrisols, USA Texonomy: Hapluf Talff / FAO : Luvisols
Vegetation (dominant plants)	banana, pine apple, pomelo, para rubber tree, tapioca, corn, rice , rambutan, longon, durien (2008)
Land use	Agriculture area 183,832 km^2 (8.7%) Residential area 21,941 km^2 (1.0%) Forest area 1,788,561 km^2 (84.6%) Others 118,807 km^2 (5.6%) (2010)

- : No information.

*1 Thongpaphum Meteorological station, 2022.

Table 6.3.19 Properties of lakes or streams

Lake Name: Hoa Binh Reservoir

Country	Vietnam
Location	Hoa Binh Province
Latitude and longitude	-
Altitude	23 m
Origin	Artificial (dam-made lake)
Area and shape	208 km^2 -25 km^2 *1
Shore line length	208 km-16.7 km *1
Lake hydrologic type	Reservoir
Lake trophic type	Mesotrophic
Water depth	60 m (max: 120 m)
Water volume	9.45 km^3-2.5 km^3 *1
Annual water level fluctuation	80 m-120 m (Ave.100 m)
Annual air temperature	24.2 °C (mean) *2
Precipitation	2350.8 mm *2
Sunshine duration	121.4 hrs/month (mean) *2
Solar radiation	-
Wind speed	Mean 0.5 m/s *2
Wind direction	N (dominant) *2
Residence time of water	365 days
Lake utilization	Electric power and flood control
River (inflow)	Da River
Amount of inlet water	-
Amount of outlet water	-
Nearest meteorological station	-

Watershed area	51,700 km^2-13,700 km^2 *1
Surface geology	-
Vegetation (dominant plants)	-
Land use	-

- : No information.

*1 Second value is in affected area of reservoir.

*2 Hoa Binh, 2025.

Table 6.4.1 Result of Inland Aquatic Environment Monitoring

Duration: 2025.3-2025.9
Country: Cambodia
Lake/Stream: Sras Srang Lake

		Mandatory Parameters: 4 times/year											
Site	Sampling Date	Temp. (°C)	pH	EC (mS/m)	Alkalinity (meq/L)	SO_4^{2-} (mg/L)	NO_3^- (mg/L)	Cl^- (mg/L)	NH_4^+ (mg/L)	Na^+ (mg/L)	K^+ (mg/L)	Ca^{2+} (mg/L)	Mg^{2+} (mg/L)
Sras Srang Lake	Mar-25	29.5	6.08	1.12	0.025	0.33	0.14	1.49	0.22	1.32	0.41	0.44	0.35
	Sep-25	26.8	6.18	0.90	0.015	0.42	0.18	1.68	0.03	1.18	0.28	0.41	0.18
	mean*1	-	6.13	1.01	0.020	0.38	0.16	1.59	0.13	1.25	0.35	0.43	0.27

		Mandatory Parameters: Once/year				Optional Parameters
Site	Sampling Date	Transparency (m)	PO_4^{3-} (mg/L)	NO_2^- (mg/L)	COD (mg/L)	DO (mg/L)
Sras Srang Lake	Mar-25	0.65	-	-	-	6.9
	Sep-25	0.78	-	-	-	7.0
	mean	0.72	-	-	-	7.0

note
- : No analysis or measurement.
*1: Mean of pH takes an average of hydrogen ion.

		Anion	Cation	R1	Judge	Λcalc	R2	Judge
Sras Srang Lake	Mar-25	76.2	131.7	26.7	×	1.27	6.5	○
	Sep-25	74.0	96.1	13.0	×	1.07	8.5	○

Table 6.4.2 Result of Inland Aquatic Environment Monitoring

Duration: 2025.1-2025.12
Country: China
Lake/Stream: (See below)

		Mandatory Parameters : 4 times/year											
Site	Sampling Date	Temp. (°C)	pH	EC (mS/m)	Alkalinity (meq/L)	SO_4^{2-} (mg/L)	NO_3^- (mg/L)	Cl^- (mg/L)	NH_4^+ (mg/L)	Na^+ (mg/L)	K^+ (mg/L)	Ca^{2+} (mg/L)	Mg^{2+} (mg/L)
Chongqing	24-Mar-25	17.0	6.68	11.13	0.351	25.24	6.10	2.18	0.20	2.50	2.45	11.23	3.60
-Jinyunshan Lake	27-Jun-25	26.0	6.44	11.60	0.247	24.48	10.85	2.53	0.10	2.32	2.21	10.59	3.53
	25-Sep-25	27.4	6.22	8.98	0.094	17.42	13.97	1.64	0.10	1.55	2.67	8.45	2.21
	19-Dec-25	12.0	6.49	10.44	0.177	23.60	11.45	1.78	0.10	2.23	1.99	10.10	3.26
	mean*1	20.6	6.43	10.54	0.217	22.69	10.59	2.03	0.13	2.15	2.33	10.09	3.15
Xiamen	03-Jan-25	13.2	6.93	5.48	0.232	1.91	3.01	2.95	0.04	4.15	2.79	3.16	0.61
-Xiaoping Dam	07-May-25	22.8	7.56	4.92	0.226	2.44	2.37	3.43	0.02	4.81	3.02	2.52	0.62
	20-Sep-25	24.2	7.12	5.22	0.242	1.86	2.35	2.61	0.16	4.24	2.75	2.69	0.48
	04-Dec-25	20.6	7.03	5.02	0.187	1.98	2.57	3.26	0.06	4.23	2.94	2.26	0.47
	mean*1	20.2	7.10	5.16	0.222	2.05	2.58	3.06	0.07	4.36	2.88	2.66	0.55
Xi'an	28-Mar-25	9.0	7.42	8.76	0.290	9.45	8.58	1.34	0.02	2.17	0.69	10.26	0.82
-Jiwozi River	13-May-25	12.0	7.11	4.92	0.250	5.92	3.09	1.30	0.00	0.69	0.52	6.34	0.49
	28-Jul-25	16.0	7.08	4.68	0.230	4.46	4.36	1.99	1.10	1.33	1.03	4.37	1.25
	11-Nov-25	11.0	7.24	5.87	0.280	5.34	4.33	1.97	1.12	1.47	1.04	6.42	1.27
	mean*1	12.0	7.19	6.06	0.263	6.29	5.09	1.65	0.56	1.41	0.82	6.85	0.96
Zhuhai	08-Feb-25	16.8	6.81	6.68	0.502	1.49	1.86	5.13	<0.02	8.44	1.22	4.38	1.54
-Zhuxiandong	02-Apr-25	18.0	7.05	7.43	0.452	1.70	1.33	5.80	<0.02	8.38	1.25	4.44	1.64
Stream	04-Aug-25	28.4	7.09	4.34	0.137	2.50	5.88	3.98	<0.02	5.70	2.09	1.34	0.50
	04-Nov-25	23.2	7.05	7.41	0.494	1.63	2.86	5.75	<0.02	7.32	1.16	4.24	1.82
	mean*1	21.6	6.98	6.47	0.396	1.83	2.98	5.17	<0.02*1	7.46	1.43	3.60	1.38

		Mandatory Parameters : Once /year				
Site	Sampling Date	Transparency (m)	Water Color	PO_4^{3-} (mg/l)	NO_2^- (mg/l)	COD (mg/l)
Chongqing	24-Mar-25	4.9	-	-	-	-
-Jinyunshan Lake	27-Jun-25	1.5	-	-	-	-
	25-Sep-25	0.1	-	0.020	<0.016	10
	19-Dec-25	0.6	-	-	-	-
	mean	1.8	-	0.020	<0.016*1	10
Xiamen	03-Jan-25	1.2	-	-	0.023	10
-Xiaoping Dam	07-May-25	1.3	-	-	0.037	11
	20-Sep-25	1.2	-	-	0.098	8
	04-Dec-25	1.4	-	0.008	0.019	6
	mean	1.3	-	0.008	0.044	8.8
Xi'an	28-Mar-25	-	-	-	-	-
-Jiwozi River	13-May-25	-	-	-	-	-
	28-Jul-25	-	-	-	-	-
	11-Nov-25	-	clear,colorless	<0.051	<0.016	<4
	mean	-	-	<0.051*1	<0.016*1	<4*1
Zhuhai	08-Feb-25	-	-	-	-	
-Zhuxiandong	02-Apr-25	-	-	<0.051	<0.016	<4
Stream	04-Aug-25	-	-	-	-	
	04-Nov-25	-	-	-	-	
	mean	-	-	<0.051*1	<0.016*1	3.0

note
- : No analysis or measurement.
*1: Mean of pH takes an average of hydrogen ion.
When the value is under detection limit, it is considered as "0". Then the average and R1R2 were calculated by using it.

		Anion	Cation	R1	Judge	Acalc	R2	Judge
Chongqing	24-Mar-25	1043	1039	-0.2	O	13.0	7.8	O
-Jinyunshan Lake	27-Jun-25	1003	982	-1.0	O	12.7	4.3	O
	25-Sep-25	729	745	1.1	O	9.7	3.7	O
	19-Dec-25	903	926	1.2	O	11.8	6.0	O
Xiamen	3-Jan-25	404	462	6.8	O	5.0	-4.7	O
-Xiaoping	7-May-25	412	464	6.0	O	5.1	1.5	O
	20-Sep-25	392	437	5.4	O	4.8	-4.8	O
	4-Dec-25	362	414	6.8	O	4.5	-5.0	O
Xi'an	28-Mar-25	663	692	2.2	O	8.2	-3.5	O
-Jiwozi River	13-May-25	460	400	-6.9	O	5.1	1.7	O
	28-Jul-25	449	466	1.8	O	5.5	7.9	O
	11-Nov-25	517	577	5.5	O	6.5	5.1	O
Zhuhai	8-Feb-25	723	744	1.4	O	7.9	8.6	O
-Zhuxiandong	2-Apr-25	688	753	4.5	O	7.8	3.0	O
Stream	4-Aug-25	407	409	0.3	O	4.8	5.8	O
	4-Nov-25	749	709	-2.7	O	7.9	3.7	O

Table 6.4.3 Result of Inland Aquatic Environment Monitoring

Duration: 2025.5-2026.1
Country: Japan
Lake/Stream: Ijira Lake

		Mandatory Parameters : 4times/year												
	Sampling Date	Temp. (℃)	pH	EC (mS/m)	Alkalinity (meq/L)	Gran's ANC (meq/L)	SO_4^{2-} (mg/L)	NO_3^- (mg/L)	Cl^- (mg/L)	NH_4^+ (mg/L)	Na^+ (mg/L)	K^+ (mg/L)	Ca^{2+} (mg/L)	Mg^{2+} (mg/L)
Center (Surface)	16-Apr-25	13.8	7.14	3.63	0.141	0.132	4.84	0.91	1.86	<0.01*1	1.85	0.23	2.68	1.19
	01-Jul-25	26.0	7.49	3.31	0.148	0.139	4.06	0.52	1.59	<0.01*1	1.76	0.25	2.28	1.12
	02-Oct-25	24.3	7.18	3.71	0.190	0.180	4.07	0.42	1.64	0.02	1.92	0.30	2.92	1.20
	06-Jan-26	8.0	6.97	3.98	0.192	0.185	4.83	0.53	1.79	<0.01*1	1.99	0.24	3.36	1.18
	mean*2	18.0	7.16	3.66	0.167	0.159	4.45	0.60	1.72	<0.01*1	1.88	0.25	2.81	1.17
Center (near bottom)	16-Apr-25	12.4	6.94	3.74	0.144	0.130	5.04	1.00	1.85	<0.01*1	1.84	0.23	2.73	1.22
	01-Jul-25	17.4	6.65	3.44	0.158	0.148	3.78	0.62	1.59	0.06	1.70	0.25	2.41	1.13
	02-Oct-25	22.5	6.76	3.99	0.206	0.194	4.18	0.59	1.67	0.14	1.97	0.32	3.06	1.29
	06-Jan-26	7.9	7.01	4.00	0.193	0.184	4.83	0.53	1.80	0.01	1.99	0.25	3.35	1.18
	mean*2	15.1	6.82	3.79	0.175	0.164	4.45	0.68	1.73	0.05	1.87	0.26	2.89	1.20
Kamagatani River (Input)	16-Apr-25	10.5	7.00	3.75	0.128	0.114	5.52	1.41	1.76	<0.01*1	1.83	0.23	2.54	1.30
	01-Jul-25	19.8	7.19	3.61	0.145	0.134	4.73	0.91	1.70	<0.01*1	1.83	0.26	2.42	1.23
	02-Oct-25	21.0	7.25	4.05	0.152	0.138	6.01	1.51	1.73	<0.01*1	2.11	0.30	2.81	1.36
	06-Jan-26	8.3	7.04	4.16	0.128	0.113	7.27	1.42	1.86	<0.01*1	2.08	0.22	2.82	1.42
	mean*2	14.9	7.11	3.89	0.138	0.125	5.88	1.31	1.76	<0.01*1	1.96	0.25	2.65	1.33
Kobora River (Input)	16-Apr-25	11.4	6.94	3.25	0.115	0.103	4.25	1.13	1.80	<0.01*1	2.02	0.22	1.74	1.20
	01-Jul-25	20.7	7.11	3.27	0.138	0.127	3.90	0.63	1.72	<0.01*1	2.08	0.26	1.74	1.18
	02-Oct-25*3	-	-	-	-	-	-	-	-	-	-	-	-	-
	06-Jan-26*3	-	-	-	-	-	-	-	-	-	-	-	-	-
	mean*2	16.1	7.01	3.26	0.126	0.115	4.08	0.88	1.76	<0.01*1	2.05	0.24	1.74	1.19

		Mandatory Parameters : Once/year						Optional Parameters
Site	Sampling Date	Transparency (m)	Water Color (Forel-Ule Scale)	Water Color (sample)	PO_4^{3-} (mg/L)	NO_2^- (mg/L)	DOC (mg/L)	Chl-a (μg/L)
Center (Surface)	16-Apr-25	4.9	15	clear, colorless	<0.02*1	<0.01*1	0.5	1.4
	01-Jul-25	3.5	15	clear, colorless	-	<0.01*1	-	2.8
	02-Oct-25	2.7	17	clear, colorless	-	<0.01*1	-	13.0
	06-Jan-26	1.5	16	clear, colorless	-	<0.01*1	-	10.2
	mean	3.1	-	-	<0.02*1	<0.01*1	0.5	10.4
Center (near bottom)	16-Apr-25	-	-	clear, colorless	<0.02*1	<0.01*1	0.5	4.0
	01-Jul-25	-	-	clear, colorless	-	<0.01*1	-	5.8
	02-Oct-25	-	-	clear, colorless	-	0.01	-	8.2
	06-Jan-26	-	-	clear, colorless	-	<0.01*1	-	10.0
	mean	-	-	-	<0.02*1	<0.01*1	0.5	9.0
Kamagatani River (Input)	16-Apr-25	-	-	clear, colorless	0.03	<0.01*1	0.3	-
	01-Jul-25	-	-	clear, colorless	-	<0.01*1	-	-
	02-Oct-25	-	-	clear, colorless	-	<0.01*1	-	-
	06-Jan-26	-	-	clear, colorless	-	<0.01*1	-	-
	mean	-	-	-	0.03	<0.01*1	0.3	-
Kobora River (Input)	16-Apr-25	-	-	clear, colorless	<0.02*1	<0.01*1	0.4	-
	01-Jul-25	-	-	clear, colorless	-	<0.01*1	-	-
	02-Oct-25*3	-	-	-	-	-	-	-
	06-Jan-26*3	-	-	-	-	-	-	-
	mean	-	-	-	<0.02*1	<0.01*1	0.4	-

note
- : No analysis or measurement.
*1: Less than detection limit.
*2: Mean of pH takes an average of hydrogen ion.
*3: No sample because of no river flow.
When the value is under detection limit, it is considered as "0". Then the average and R1R2 were calculated by using it.
Annual precipitation is 1895.0 mm/year in 2025 (Gifu pref. Meteorological observatory).

		Anion	Cation	R1	Judge	Acalc	R2	Judge
Center (Surface)	16-Apr-25	308	318	1.5	○	3.7	1.0	○
	01-Jul-25	285	289	0.7	○	3.3	0.4	○
	02-Oct-25	327	336	1.3	○	3.8	1.2	○
	06-Jan-26	351	357	0.9	○	4.1	1.5	○
Center (near bottom)	16-Apr-25	317	322	0.8	○	3.8	0.7	○
	01-Jul-25	291	296	1.0	○	3.4	-0.5	○
	02-Oct-25	350	360	1.4	○	4.1	0.9	○
	06-Jan-26	352	357	0.7	○	4.1	1.4	○
Kamagatani River (Input)	16-Apr-25	316	319	0.5	○	3.8	0.8	○
	01-Jul-25	305	308	0.5	○	3.6	0.1	○
	02-Oct-25	350	351	0.2	○	4.2	1.6	○
	06-Jan-26	355	354	-0.1	○	4.3	1.8	○
Kobora River (Input)	16-Apr-25	272	278	1.2	○	3.3	0.2	○
	01-Jul-25	277	281	0.7	○	3.2	-0.4	○
	02-Oct-25*3	-	-	-	-	-	-	-
	06-Jan-26*3	-	-	-	-	-	-	-

Table 6.4.4 Result of Inland Aquatic Environment Monitoring

Duration: 2025.6-2025.10
Country: Japan
Lake/Stream: Futago-ike Lake (Oike and Meike)

		Mandatory Parameters : 3 times/year												
Site	Sampling Date	Temp. (°C)	pH	EC (mS/m)	Alkalinity (meq/L)	Gran's ANC (meq/L)	SO_4^{2-} (mg/L)	NO_3^- (mg/L)	Cl^- (mg/L)	NH_4^+ (mg/L)	Na^+ (mg/L)	K^+ (mg/L)	Ca^{2+} (mg/L)	Mg^{2+} (mg/L)
Oike (center) surface	18-Jun-25	14.7	6.90	1.79	0.145	0.120	0.96	0.84	0.34	<0.02*1	1.11	0.27	1.86	0.19
	25-Aug-25	18.0	7.08	1.97	0.143	0.132	1.02	0.86	0.37	<0.02*1	1.24	0.29	2.01	0.21
	20-Oct-25	11.2	7.11	2.05	0.154	0.136	1.04	0.81	0.40	<0.02*1	1.32	0.31	2.06	0.21
	mean*2	14.6	7.02	1.94	0.147	0.129	1.00	0.83	0.37	<0.02*1	1.22	0.29	1.97	0.20
Oike (center) near bottom	18-Jun-25	6.8	6.87	2.13	0.158	0.138	1.08	1.17	0.41	<0.02*1	1.31	0.31	2.24	0.23
	25-Aug-25	7.6	6.89	2.22	0.158	0.143	1.06	1.13	0.43	<0.02*1	1.43	0.33	2.26	0.24
	20-Oct-25	8.3	6.96	2.23	0.160	0.143	1.09	1.03	0.45	<0.02*1	1.43	0.34	2.27	0.24
	mean*2	7.6	6.91	2.19	0.158	0.141	1.07	1.11	0.43	<0.02*1	1.39	0.32	2.25	0.23
Meike (center) surface	18-Jun-25	17.5	5.89	0.48	0.030	0.013	0.54	<0.10*1	0.38	<0.02*1	0.43	0.11	0.27	0.07
	25-Aug-25	22.4	5.69	0.44	0.024	0.012	0.46	<0.10*1	0.37	<0.02*1	0.53	0.11	0.17	0.06
	20-Oct-25	13.1	5.60	0.41	0.020	0.006	0.36	<0.10*1	0.51	<0.02*1	0.52	0.11	0.15	0.06
	mean*2	17.7	5.71	0.44	0.025	0.010	0.45	<0.10*1	0.42	<0.02*1	0.49	0.11	0.19	0.06
Meike (center) near bottom	18-Jun-25	13.3	5.87	0.50	0.028	0.012	0.61	<0.10*1	0.38	<0.02*1	0.44	0.13	0.27	0.07
	25-Aug-25	19.1	5.74	0.45	0.029	0.016	0.46	<0.10*1	0.41	<0.02*1	0.58	0.12	0.16	0.06
	20-Oct-25	12.6	5.58	0.43	0.020	0.006	0.38	<0.10*1	0.56	<0.02*1	0.56	0.11	0.16	0.06
	mean*2	15.0	5.71	0.46	0.026	0.011	0.48	<0.10*1	0.45	<0.02*1	0.53	0.12	0.19	0.06

		Mandatory Parameters : Once/year					Optional Parameters			
Site	Sampling Date	Transparency (m)	Water Color (Lake)	Water Color (Sample)	PO_4^{3-} (mg/L)	NO_2^- (mg/L)	DOC (mg/L)	COD (mg/L)	D-Al (mg/L)	Chl-a (μg/L)
Oike (center) surface	18-Jun-25	8.8	clear, colorless	clear, colorless	<0.01*1	<0.01*1	0.9	1.5	-	0.2
	25-Aug-25	7.6	clear, colorless	clear, colorless	<0.01*1	<0.01*1	0.9	1.9	-	1.1
	20-Oct-25	7.3	colorless	clear, colorless	<0.01*1	<0.01*1	0.9	1.9	-	1.3
	mean	7.9	-	-	<0.01*1	<0.01*1	0.9	1.8	-	0.8
Oike (center) near bottom	18-Jun-25	-	-	clear, colorless	<0.01*1	<0.01*1	1.0	1.9	-	0.5
	25-Aug-25	-	-	clear, colorless	<0.01*1	<0.01*1	1.1	2.1	-	2.1
	20-Oct-25	-	-	clear, colorless	<0.01*1	<0.01*1	1.1	2.3	-	2.8
	mean	-	-	-	<0.01*1	<0.01*1	1.1	2.1	-	1.8
Meike (center) surface	18-Jun-25	1.7	green	clear, colorless	<0.01*1	<0.01*1	3.9	8.1	-	21.1
	25-Aug-25	1.8	green	clear, colorless	<0.01*1	<0.01*1	6.0	11.2	-	37.2
	20-Oct-25	1.5	green	clear, colorless	<0.01*1	<0.01*1	8.0	15.8	-	28.4
	mean	1.7	-	-	<0.01*1	<0.01*1	5.9	11.7	-	28.9
Meike (center) near bottom	18-Jun-25	-	-	clear, colorless	<0.01*1	<0.01*1	3.8	8.5	-	25.2
	25-Aug-25	-	-	clear, colorless	<0.01*1	<0.01*1	6.2	12.7	-	55.8
	20-Oct-25	-	-	clear, colorless	<0.01*1	<0.01*1	8.5	15.8	-	28.7
	mean	-	-	-	<0.01*1	<0.01*1	6.2	12.3	-	36.5

- : No analysis or measurement.
*1: Less than determination limit.
*2: Mean of pH takes an average of hydrogen ion.
When the value is under detection limit, it is considered as "0". Then the average and R1R2 were calculated by using it.
Annual precipitation is 928.5 mm/year in 2025 (Hara village Meteorological observatory).

		Anion	Cation	R1	Judge	Acalc	R2	Judge
Oike (center) surface	18-Jun-25	188	164	-6.9	○	1.9	3.2	○
	25-Aug-25	188	178	-2.8	○	2.0	0.7	○
	20-Oct-25	200	185	-3.9	○	2.1	1.1	○
Oike (center) near bottom	18-Jun-25	211	195	-4.0	○	2.2	2.1	○
	25-Aug-25	210	203	-1.7	○	2.3	0.9	○
	20-Oct-25	211	203	-2.0	○	2.3	0.8	○
Meike (center) surface	18-Jun-25	51	42	-10.4	○	0.6	9.3	○
	25-Aug-25	44	41	-3.9	○	0.5	11.1	○
	20-Oct-25	42	40	-1.8	○	0.6	14.7	○
Meike (center) near bottom	18-Jun-25	51	43	-8.8	○	0.6	8.4	○
	25-Aug-25	50	43	-8.0	○	0.6	12.3	○
	20-Oct-25	43	42	-1.1	○	0.6	14.7	○

Table 6.4.5 Result of Inland Aquatic Environment Monitoring

Duration: 2025.5-2025.8
Country: Lao PDR
Lake/Stream: Nam Houm Lake

		Mandatory Parameters: 4 times/year											
Site	Sampling Date	Temp. (^{o}C)	pH*2	EC*2 (mS/m)	Alkalinity (meq/L)	SO_4^{2-} (mg/L)	NO_3^- (mg/L)	Cl^- (mg/L)	NH_4^+ (mg/L)	Na^+ (mg/L)	K^+ (mg/L)	Ca^{2+} (mg/L)	Mg^{2+} (mg/L)
Nam Houm Lake	5-May-25	27.6	8.35	50	0.54	-	-	1.01	0.03	2.40	2.28	12.0	1.38
	19-Aug-25	26.7	6.39	35	0.60	1.55	0.78	1.66	0.02	1.92	1.90	8.75	1.34
	mean*1	27.2	6.69	42	0.57	1.55	0.78	1.34	0.03	2.16	2.09	10.36	1.36

		Mandatory Parameters: Once/year					Optional Parameters	
Site	Sampling Date	Transparency (m)	Water Color	PO_4^{3-} (mg/L)	NO_2^- (mg/L)	COD (mg/L)	DO*2 (mg/L)	T-P (mg/L)
Nam Houm Lake	5-May-25	-	-	-	-	3.0	6.8	0.02
	19-Aug-25	-	-	0.001	0.01	3.1	6.6	0.05
	mean	-	-	0.001	0.01	3.1	6.7	0.04

- : No analysis or measurement.
*1 : Mean of pH takes an average of hydrogen ion.
*2 : Measured on-site

		Anion	Cation	R1	Judge	Acalc	R2	Judge
Nam Houm Lake	5-May-25	568	875	21.2	×	7.76	-73.0	×
	19-Aug-25	692	680	-0.8	○	7.37	-65.2	×

Table 6.4.6 Result of Inland Aquatic Environment Monitoring

Duration: 2025.2.-2025.12
Country: Malaysia
Lake/Stream: (See below)

		Mandatory Parameters: 6 times/year											
Site	Sampling Date	Temp. (°C)	pH	EC (mS/m)	Alkalinity (meq/L)	SO_4^{2-} (mg/L)	NO_3^- (mg/L)	Cl^- (mg/L)	NH_4^+ (mg/L)	Na^+ (mg/L)	K^+ (mg/L)	Ca^{2+} (mg/L)	Mg^{2+} (mg/L)
Baru River	4-Feb-25	24.5	7.31	2.87	0.238	0.87	1.03	1.18	0.02	3.30	0.27	1.89	1.07
	8-Apr-25	24.5	7.50	3.69	0.322	1.14	0.50	1.40	0.010	4.14	0.20	2.82	1.46
	10-Jun-25	24.6	7.60	4.29	0.390	1.13	0.47	1.19	0.011	4.43	0.31	3.16	1.32
	5-Aug-25	24.4	7.82	6.85	0.610	1.66	0.95	1.96	0.010	5.66	0.63	5.97	2.71
	14-Oct-25	24.7	7.86	4.38	0.380	1.36	0.54	1.47	0.009	4.14	0.38	3.42	1.68
	2-Dec-25	24.3	7.73	4.38	0.405	1.42	0.64	1.67	0.006	4.48	0.33	2.97	1.58
	mean*2	24.5	7.59	4.41	0.391	1.26	0.69	1.48	0.01	4.36	0.36	3.37	1.64

		Mandatory Parameters: 6times/year			
Site	Sampling Date	PO_4^{3-} (mg/L)	TOC (mg/L)	T-P (mg/L)	COD (mg/L)
Baru River	4-Feb-25	<0.10*1	2.2	-	6.4
	8-Apr-25	<0.10*1	4.5	-	16.0
	10-Jun-25	<0.10*1	0.8	-	4.4
	5-Aug-25	<0.10*1	2.7	-	7.5
	14-Oct-25	<0.10*1	1.5	-	6.3
	2-Dec-25	<0.10*1	2.1	-	7.7
	mean	<0.10*1	2.3	-	8.0

- : No analysis or measurement.
*1: Less than determination limit.
*2: Mean of pH takes an average of hydrogen ion.
When the value is under detection limit, it is considered as "0". Then the average and R1R2 were calculated by using it.

		Anion	Cation	R1	Judge
Baru River	4-Feb-25	306	334	4.4	O
	8-Apr-25	393	446	6.3	O
	10-Jun-25	455	467	1.4	O
	5-Aug-25	715	784	4.6	O
	14-Oct-25	459	499	4.3	O
	2-Dec-25	492	482	-1.0	O

Acalc	R2	Judge
3.4	8.3	O
4.4	8.8	O
4.8	5.5	O
7.8	6.8	O
5.0	6.9	O
5.1	7.6	O

Table 6.4.7 Result of Inland Aquatic Environment Monitoring

Duration: 2025.5-2025.10
Country: Mongolia
Lake/Stream: Terelj River

		Mandatory Parameters: 4 times/year											
Site	Sampling Date	Temp. (°C)	pH	EC (mS/m)	Alkalinity (meq/L)	SO_4^{2-} (mg/L)	NO_3^- (mg/L)	Cl^- (mg/L)	NH_4^+ (mg/L)	Na^+ (mg/L)	K^+ (mg/L)	Ca^{2+} (mg/L)	Mg^{2+} (mg/L)
Terelj River	14-May-25	7.4	7.16	4.02	0.286	3.35	1.38	0.45	0.01	1.51	0.53	6.02	0.76
	18-Jun-25	16.0	7.32	5.53	0.408	4.66	1.68	0.50	0.01	2.02	0.62	8.20	1.08
	23-Jul-25	14.4	7.42	5.25	0.316	4.65	1.51	0.39	0.01	1.86	0.58	7.38	0.96
	6-Aug-25	14.5	7.38	5.45	0.306	5.31	2.51	0.51	0.01	1.34	0.39	6.61	0.75
	10-Sep-25	9.8	7.32	5.22	0.388	4.19	1.27	0.35	0.01	1.88	0.56	7.58	0.99
	8-Oct-25	3.1	7.67	5.50	0.388	4.54	1.73	0.53	0.01	1.95	0.56	7.67	1.01
	mean*1	10.5	7.35	5.16	0.349	4.45	1.68	0.46	0.01	1.76	0.54	7.24	0.93

		Mandatory Parameters : Once/year	
Site	Sampling Date	PO_4^{3-} (mg/L)	NO_2^- (mg/L)
Terelj River	14-May-25	-	-
	18-Jun-25	-	-
	23-Jul-25	-	-
	6-Aug-25	-	-
	10-Sep-25	-	-
	8-Oct-25	-	-
	mean	-	-

note
- : No analysis or measurement.
*1: Mean of pH takes an average of hydrogen ion.

		Anion	Cation	R1	Judge	Acalc	R2	Judge
Terelj River*2	14-May-25	391	443	6.2	O	4.7	7.3	O
	18-Jun-25	546	602	4.9	O	6.4	7.1	O
	23-Jul-25	448	544	9.6	×	5.6	3.1	O
	6-Aug-25	471	460	-1.2	O	5.3	-1.2	O
	10-Sep-25	506	556	4.8	O	5.9	5.8	O
	8-Oct-25	525	566	3.7	O	6.1	4.9	O

Table 6.4.8 Result of Inland Aquatic Environment Monitoring

Duration: 2025.5-2025.11
Country: Philippines
Lake/Stream: (See below)

		Mandatory Parameters: 4 times/year											
Site	Sampling Date	Temp. (℃)	pH	EC (mS/m)	Alkalinity (meq/L)	SO_4^{2-} (mg/L)	NO_3^- (mg/L)	Cl^- (mg/L)	NH_4^+ (mg/L)	Na^+ (mg/L)	K^+ (mg/L)	Ca^{2+} (mg/L)	Mg^{2+} (mg/L)
Pandin Lake	21-Feb-25	-	8.60	18.80	1.705	1.94	<0.1*1	3.45	<0.1*1	7.77	5.20	14.43	8.12
	30-May-25	-	8.70	17.88	1.600	2.25	0.10	3.68	<0.1*1	7.75	4.06	14.26	7.38
	15-Aug-25	-	8.18	16.47	1.690	2.22	<0.1*1	3.36	<0.1*1	8.44	4.54	14.09	8.12
	13-Nov-25	-	8.04	17.04	1.603	2.09	<0.1*1	3.26	<0.1*1	7.83	4.23	14.11	7.03
	mean*2	-	8.30	17.55	1.649	2.12	0.03	3.44	<0.1*1	7.95	4.51	14.22	7.66

		Mandatory Parameters: Once/year				Optional Parameters		
Site	Sampling Date	Transparency (m)	PO_4^{3-} (mg/L)	NO_2^- (mg/L)	TOC (mg/L)	DOC (mg/L)	Chl-a (μg/L)	COD (mg/L)
Pandin Lake	21-Feb-25	-	<0.1*1	<0.1*1	-	-	8.51	7.85
	30-May-25	-	<0.1*1	<0.1*1	-	-	1.86	<2*1
	15-Aug-25	-	<0.1*1	<0.1*1	-	-	3.52	<2*1
	13-Nov-25	-	<0.1*1	<0.1*1	-	-	1.63	<2*1
	mean	-	<0.1*1	<0.1*1	-	-	3.88	1.96

note
- : No analysis or measurement.
*1: Less than determination limit.
*2: Mean of pH takes an average of hydrogen ion.
When the value is under detection limit, it is considered as "0". Then the average and R1R2 were calculated by using it.

		Anion	Cation	R1	Judge	Acalc	R2	Judge
Pandin Lake	21-Feb-25	1843	1859	0.4	O	19.2	1.0	O
	30-May-25	1752	1759	0.2	O	18.2	1.0	O
	15-Aug-25	1831	1854	0.6	O	19.1	7.3	O
	13-Nov-25	1738	1730	-0.2	O	18.0	2.7	O

Table 6.4.9 Result of Inland Aquatic Environment Monitoring

Duration: 2025.2-2025.11
Country: Russia
Lake/Stream: (See below)

		Mandatory Parameters: 4 times/year											
Site	Sampling Date	Temp. (°C)	pH	EC (mS/m)	Alkalinity (meq/L)	SO_4^{2-} (mg/L)	NO_3^- (mg/L)	Cl^- (mg/L)	NH_4^+ (mg/L)	Na^+ (mg/L)	K^+ (mg/L)	Ca^{2+} (mg/L)	Mg^{2+} (mg/L)
Pereemnaya River	4-Mar-25	0.4	6.80	5.64	0.143	14.00	0.84	0.11	0.004	1.35	0.62	5.08	1.22
	7-May-25	6.3	6.84	3.93	0.133	7.76	1.29	0.11	0.001	0.82	0.56	3.68	0.84
	10-Jul-25	14.4	7.09	6.07	0.124	16.77	0.49	0.11	0.006	0.91	0.67	6.30	1.43
	7-Oct-25	4.1	6.66	6.06	0.147	15.82	0.57	0.21	0.005	0.96	0.59	6.11	1.45
	mean*1	6.3	6.82	5.42	0.137	13.58	0.80	0.13	0.004	1.01	0.61	5.29	1.24
Komarovka River	11-Feb-25	0.1	7.37	9.55	0.538	7.58	0.15	3.37	0.12	6.00	1.20	6.89	2.88
	11-Apr-25	4.6	6.80	9.39	0.400	8.07	1.29	3.80	0.08	3.87	0.50	9.23	0.74
	2-Jun-25	15.2	7.20	10.03	0.579	6.99	0.74	4.20	0.76	5.03	2.02	8.25	2.29
	8-Sep-25	17.0	7.52	9.41	0.372	13.48	0.62	3.34	0.19	5.20	1.20	6.68	2.04
	10-Nov-25	3.4	7.23	9.31	0.444	14.55	0.67	3.83	0.39	4.76	3.73	8.04	2.13
	mean*1	8.1	7.15	9.54	0.467	10.14	0.69	3.71	0.31	4.97	1.73	7.82	2.01

		Mandatory Parameters: Once/year					Optional Parameters			
Site	Sampling Date	Transparency (m)	Water color	COD (mg/L)	NO_2^- (mg/L)	PO_4^{3-} (mg/L)	Si (mg/L)	O_2 (mg/L)	TP (mg/L)	Fe (mg/L)
Pereemnaya River	4-Mar-25	-	colorless	0.3	0.001	0.009	2.35	13.07	0.005	-
	7-May-25	-	light yellow	1.2	0.001	0.002	0.74	12.32	0.002	-
	10-Jul-25	-	colorless	1.1	0.002	0.003	2.27	10.52	0.002	-
	7-Oct-25	-	colorless	1.8	0.002	0.002	3.28	11.98	0.003	-
	mean	-	-	1.1	0.001	0.004	2.16	11.97	0.003	-
Komarovka River	11-Feb-25	-	colorless	2.2	0.755	0.046	6.02	4.66	-	0.14
	11-Apr-25	-	colorless	2.4	0.003	0.036	5.10	6.62	-	0.21
	2-Jun-25	-	colorless	5.1	0.010	0.060	5.36	6.65	-	0.69
	8-Sep-25	-	colorless	10.1	0.010	0.054	7.80	8.78	-	1.40
	10-Nov-25	-	colorless	6.1	0.021	0.127	7.36	7.65	-	0.34
	mean	-	-	5.2	0.160	0.064	6.33	6.87	-	0.56

note
- : No analysis or measurement.
*1: Mean of pH takes an average of hydrogen ion.
#Construction of a new bridge has started in 2021 at the water sampling site on the Pereemnaya River.
Water samples were taken upstream from the construction place, but in winter there was a flooding of a large area around.
Deviations from natural values may be observed in 2021-2022, especially in winter.

		Anion	Cation	R1	Judge	Acalc	R2	Judge
Pereemnaya River	4-Mar-25	451	429	-2.6	O	5.56	-0.7	O
	7-May-25	318	303	-2.4	O	3.81	-1.5	O
	10-Jul-25	484	489	0.5	O	6.26	1.6	O
	7-Oct-25	491	481	-1.1	O	6.19	1.0	O
Komarovka River	11-Feb-25	811	878	4.0	O	9.4	-0.6	O
	11-Apr-25	697	707	0.7	O	8.2	-7.0	O
	2-Jun-25	857	912	3.1	O	10.0	-0.2	O
	8-Sep-25	759	768	0.6	O	9.0	-2.1	O
	10-Nov-25	870	901	1.7	O	10.6	6.3	O

Table 6.4.10 Result of Inland Aquatic Environment Monitoring

Duration: 2025.3-2025.12
Country: Vietnam
Lake/Stream: Hoa Binh Reservoir

		Mandatory Parameters: 4 times/year											
Site	Sampling Date	Temp. (^oC)	pH	EC (mS/m)	Alkalinity (meq/L)	SO_4^{2-} (mg/L)	NO_3^- (mg/L)	Cl^- (mg/L)	NH_4^+ (mg/L)	Na^+ (mg/L)	K^+ (mg/L)	Ca^{2+} (mg/L)	Mg^{2+} (mg/L)
Hoa Binh Reservoir	15-Mar-25	22.6	7.45	17.24	1.366	4.91	3.36	2.25	0.13	3.97	1.63	24.12	2.76
	15-Jun-25	32.5	7.39	16.97	1.379	4.52	3.11	1.93	0.12	3.25	1.47	23.19	2.34
	15-Sep-25	30.2	7.62	18.15	1.493	5.14	4.22	2.47	0.14	4.16	1.97	24.79	3.16
	15-Dec-25	24.1	7.79	19.16	1.553	5.43	4.54	3.15	0.16	4.56	2.35	25.11	3.65
	mean*1	27.4	7.54	17.88	1.448	5.00	3.81	2.45	0.14	3.99	1.86	24.30	2.98

		Mandatory Parameters: Once/year					
Site	Sampling Date	Transparency (m)	Water Color (PtCo unit)	F^- (mg/L)	PO_4^{3-} (mg/L)	NO_2^- (mg/L)	COD (mg/L)
Hoa Binh Reservoir	15-Mar-25	1.2	4	0.075	-	0.034	6.0
	15-Jun-25	1.2	5	0.079	-	0.041	6.5
	15-Sep-25	1.2	5	0.072	-	0.031	6.7
	15-Dec-25	1.2	6	0.077	0.032	0.051	7.0
	mean	1.2	-	0.076	0.032	0.039	6.6

note
- : No analysis or measurement.
*1 : Mean of pH takes an average of hydrogen ion.

		Anion	Cation	R1	Judge	Λcalc	R2	Judge
Hoa Binh Reservoir	15-Mar-25	1587	1652	2.0	O	17.4	0.5	O
	15-Jun-25	1579	1535	-1.4	O	16.7	-0.9	O
	15-Sep-25	1738	1736	-0.1	O	18.6	1.3	O
	15-Dec-25	1830	1821	-0.3	O	19.6	1.2	O

Table 6.4.11 Summary of Inland Aquatic Environment Monitoring

			Mandatory Parameters : 4 times/year											
Country	Location	Site	pH	EC (mS/m)	Alkalinity (meq/L)	Gran's ANC (meq/L)	SO_4^{2-} (mg/L)	NO_3^- (mg/L)	Cl^- (mg/L)	NH_4^+ (mg/L)	Na^+ (mg/L)	K^+ (mg/L)	Ca^{2+} (mg/L)	Mg^{2+} (mg/L)
Cambodia	Kampong Speu province	Sras Srang Lake	6.13	1.01	0.020	-	0.38	0.16	1.59	0.13	1.25	0.35	0.43	0.27
China	Chongqing	Jinyunshan Lake*4	6.43	10.54	0.217	-	22.7	10.6	2.03	0.13	2.15	2.33	10.1	3.15
	Xiamen	Xiaoping Dam*4	7.10	5.16	0.222	-	2.05	2.58	3.06	0.07	4.36	2.88	2.66	0.55
	Xi'an	Jiwozi River*4	7.19	6.06	0.263	-	6.29	5.09	1.65	0.56	1.41	0.82	6.85	0.96
	Zhuhai	Zhuxiandong*4 Stream	6.98	6.47	0.396	-	1.83	2.98	5.17	<0.02*1	7.46	1.43	3.60	1.38
Indonesia	Bandung	Patengang Lake	-	-	-	-	-	-	-	-	-	-	-	-
	Sukabumi, West Java	Gunung Lake	-	-	-	-	-	-	-	-	-	-	-	-
Japan	Gifu pref.	Ijira Lake*4 (Center, surface)	7.16	3.66	0.167	0.16	4.45	0.60	1.72	<0.01*1	1.88	0.25	2.81	1.17
	Nagano pref.	Futago-ike Lake(Oike)*5 (Center, surface)	7.02	1.94	0.147	0.13	1.00	0.83	0.37	<0.02*1	1.22	0.29	1.97	0.20
		Futago-ike Lake(Meike)*5 (Center, surface)	5.71	0.44	0.025	0.01	0.45	<0.10*1	0.42	<0.02*1	0.49	0.11	0.19	0.06
Lao PDR	Vientiane province	Nam Houm Lake*6	6.69	42.4	0.570	-	1.55	0.78	1.34	0.03	2.16	2.09	10.4	1.36
Malaysia	-	Baru River*2	7.59	4.41	0.391	-	1.26	0.69	1.48	0.01	4.36	0.36	3.37	1.64
	-	Kuala Tahan	-	-	-	-	-	-	-	-	-	-	-	-
Mongolia	Terelj	Terelj River*2	7.35	5.16	0.349	-	4.45	1.68	0.46	0.01	1.76	0.54	7.24	0.93
Philippines	San Pablo City	Pandin Lake*4	8.30	17.55	1.649	-	2.12	0.03	3.44	<0.1*1	7.95	4.51	14.22	7.66
	Benguet	Ambulalakaw Lake	-	-	-	-	-	-	-	-	-	-	-	-
Russia	Southern Baikal	Pereemnaya River *4	6.82	5.42	0.137	-	13.6	0.80	0.13	0.00	1.01	0.61	5.29	1.24
	Primorskaya	Komarovka River*3	7.15	9.54	0.467	-	10.1	0.69	3.71	0.31	4.97	1.73	7.82	2.01
Thailand	Kanchanaburi Province	Vajiralongkorn Dam (Ban Pong Chang)	-	-	-	-	-	-	-	-	-	-	-	-
		Vajiralongkorn Dam (Ban Pang Pueng)	-	-	-	-	-	-	-	-	-	-	-	-
Vietnam	Hoa Binh Province	Hoa Binh Reservoir*4	7.54	17.88	1.448	-	5.00	3.81	2.45	0.14	3.99	1.86	24.3	2.98

			Mandatory Parameters : Once/year				
Country	Location	Site	Transparency (m)	PO_4^{3-} (mg/L)	NO_2^- (mg/L)	DOC (mg/L)	COD (mg/L)
Cambodia	Kampong Speu province	Sras Srang Lake	0.7	-	-	-	-
China	Chongqing	Jinyunshan Lake*2	1.8	0.020	<0.016*1	-	10
	Xiamen	Xiaoping Dam*3*6	1.3	0.008	0.044	-	8.8
	Xi'an	Jiwozi River*3	-	<0.051*1	<0.016*1	-	<4*1
	Zhuhai	Zhuxiandong*3 Stream	-	<0.051*1	<0.016*1	-	3.0
Indonesia	Bandung	Patengang Lake	-	-	-	-	-
	Sukabumi, West Java	Gunung Lake	-	-	-	-	-
Japan	Gifu pref.	Ijira Lake*3*6 (Center, surface)	3.1	<0.02*1	<0.01*1	0.5	10.4
	Nagano pref.	Futago-ike Lake(Oike)*2 (Center, surface)	7.9	<0.01*1	<0.01*1	0.9	1.8
		Futago-ike Lake(Meike)*2 (Center, surface)	1.7	<0.01*1	<0.01*1	5.9	12
Lao PDR	Vientiane province	Nam Houm Lake*6	-	0.001	0.01	-	3.1
Malaysia	-	Baru River*5	-	<0.10*1	-	-	8.0
	-	Kuala Tahan	-	-	-	-	-
Mongolia	Terelj	Terelj River*5	-	-	-	-	-
Philippines	San Pablo City	Pandin Lake*3	-	<0.1*1	<0.1*1	-	2.0
	Benguet	Ambulalakaw Lake*3					
Russia	Southern Baikal	Pereemnaya River *4	-	0.004	0.001	-	1.1
	Primorskaya	Komarovka River*3	-	0.064	0.160	-	5.2
Thailand	Kanchanaburi Province	Vajiralongkorn Dam*2 (Ban Pong Chang)	-	-	-	-	-
		Vajiralongkorn Dam*2 (Ban Pang Pueng)	-	-	-	-	-
Vietnam	Hoa Binh Province	Hoa Binh Reservoir*3*6	1.2	0.032	0.039	-	6.6

note
- : No analysis or measurement.
*1: Less than determination/detection limit.
*2: Surveyed 6 times a year.
*3: Surveyed 5 times a year.
*4: Surveyed 4 times a year.
*5: Surveyed 3 times a year.
*6: Surveyed 2 times a year.
*7: NO_2^- was surveyed 4 times a year.

Table 6.5.1 Annual mean values of each parameters from 2012 to 2025 at Sras Srang Lake (Cambodia)

	Mandatory Parameters : 4 times/year												Mandatory Parameters : Once/year				
	pH	EC	Alkalinity	Gran's ANC	SO_4^{2-}	NO_3^-	Cl^-	NH_4^+	Na^+	K^+	Ca^{2+}	Mg^{2+}	Transparency	PO_4^{3-}	NO_2^-	DOC	COD
		mS/m	meq/L	(meq/L)	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	m	mg/L	mg/L	mg/L	mg/L
2012	6.46	0.88	0.037	-	0.08	0.06	1.65	0.04	0.94	0.13	0.27	0.16	0.7	-	-	-	-
2013	5.74	0.93	0.034	-	0.05	0.28	1.39	0.02	0.94	0.12	0.29	0.13	0.7	-	-	-	-
2014	5.84	0.96	0.035	-	0.06	0.60	1.38	0.12	1.03	0.31	0.26	0.12	0.7	-	-	-	-
2015	5.81	0.98	0.040	-	0.09	0.22	1.17	0.07	0.80	0.19	0.37	0.22	0.8	-	-	-	-
2016	5.95	0.92	0.028	-	0.10	0.30	1.10	0.09	0.91	0.14	0.27	0.13	0.7	-	-	-	-
2017	6.04	0.97	0.034	-	0.07	0.06	1.12	0.01	0.67	0.08	0.17	0.09	0.8	-	-	-	-
2018	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2020	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2021	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2022	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2023	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2024	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2025	6.13	1.01	0.020		0.38	0.16	1.59	0.13	1.25	0.35	0.43	0.27	0.7	-	-	-	-

Table 6.5.2 Annual mean values of each parameters from 2001 to 2025 at Jinyunshan Lake (China)

	Mandatory Parameters : 4 times/year												Mandatory Parameters : Once/year				
	pH	EC	Alkalinity	Gran's ANC	SO_4^{2-}	NO_3^-	Cl^-	NH_4^+	Na^+	K^+	Ca^{2+}	Mg^{2+}	Transparency	PO_4^{3-}	NO_2^-	DOC	COD
		mS/m	meq/L	(meq/L)	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	m	mg/L	mg/L	mg/L	mg/L
2001	7.50	9.05	-	-	26.05	7.68	2.58	0.65	1.78	1.58	6.63	2.63	-	-	-	-	-
2002	6.12	9.52	-	-	26.36	7.99	2.53	0.09	2.50	1.79	9.08	3.28	-	-	-	-	-
2003	6.55	9.79	0.210	-	23.21	5.16	2.68	0.21	2.60	1.72	9.03	3.30	0.9	-	-	-	-
2004	6.34	9.61	0.075	-	25.72	7.94	1.74	0.30	1.98	1.65	9.66	2.71	2.6	-	-	-	7.6
2005	6.04	10.21	0.073	-	28.12	8.16	2.63	0.04	2.70	1.82	9.36	3.22	3.7	*1	*1	-	2.9
2006	6.36	11.92	0.113	-	32.65	9.53	3.05	0.11	2.96	2.27	11.05	3.82	5.0	*1	*1	-	3.2
2007	6.24	12.35	0.086	-	37.19	10.21	3.12	0.12	2.81	2.18	11.24	3.81	3.0	*1	*1	-	4.4
2008	5.42	12.20	0.066	-	33.26	12.78	2.77	0.16	2.65	1.98	11.34	3.77	3.7	*1	*1	-	2.9
2009	5.84	11.18	0.048	-	29.27	8.29	2.95	0.23	2.59	1.96	10.15	3.63	2.3	*1	*1	-	<10*1
2010	5.76	12.79	0.157	-	34.55	10.62	3.00	0.14	2.90	2.07	11.72	3.98	3.4	*1	*1	-	<10*1
2011	5.25	14.17	0.064	-	39.63	15.15	3.76	0.12	2.71	2.27	12.77	3.90	4.5	*1	*1	-	<10*1
2012	5.47	13.54	0.052	-	40.79	9.88	3.71	0.14	3.08	2.38	12.79	3.98	3.1	*1	*1	-	<10*1
2013	6.03	7.12	0.082	-	20.74	3.93	0.68	0.12	0.75	0.77	8.75	0.98	3.5	*1	*1	-	<10*1
2014	5.41	12.39	0.040	-	34.94	14.30	2.65	0.09	2.54	2.14	11.84	3.77	6.3	*1	*1	-	-
2015	6.48	11.35	0.145	-	29.41	10.09	2.24	0.25	2.25	2.01	11.62	3.46	0.9	*1	*1	-	<10*1
2016	6.49	12.17	0.266	-	28.60	11.72	2.97	*1	2.91	2.30	12.66	3.59	2.5	*1	*1	-	<10*1
2017	6.48	11.16	0.122	-	27.27	11.84	2.70	0.02	2.63	1.98	11.32	3.24	2.0	*1	*1	-	<10*1
2018	6.74	10.99	0.223	-	26.04	7.25	2.28	0.62	2.48	1.81	9.96	3.00	2.2	*1	*1	-	<10*1
2019	6.44	10.63	0.147	-	26.54	10.76	2.10	0.03	2.48	1.84	9.96	3.41	2.3	*1	*1	-	<10*1
2020	6.61	9.98	0.147	-	24.03	10.00	1.75	0.01	2.12	2.01	9.30	3.26	2.4	*1	*1	-	4.0
2021	6.27	9.52	0.129	-	23.36	8.47	1.58	0.06	1.96	1.61	8.49	2.70	1.9	<0.05*1	*1	-	4.0
2022	6.63	9.27	0.186	-	22.44	6.01	1.52	0.09	2.10	1.85	8.99	3.13	1.0	<0.05*1	*1	-	4.5
2023	6.43	9.50	0.092	-	23.29	11.21	1.62	0.02	1.86	2.39	9.19	3.25	1.2	<0.05*1	*1	-	6.5
2024	6.40	10.05	0.176	-	21.73	7.87	1.71	0.09	2.15	2.15	9.39	3.21	1.6	-	-	-	-
2025	6.43	10.54	0.217	-	22.69	10.59	2.03	0.13	2.15	2.33	10.09	3.15	1.8	0.020	<0.016*1	-	10.0

Table 6.5.3 Annual mean values of each parameters from 2001 to 2025 at Xiaoping Dam (China)

	Mandatory Parameters : 4 times/year												Mandatory Parameters : Once/year				
	pH	EC	Alkalinity	Gran's ANC	SO_4^{2-}	NO_3^-	Cl^-	NH_4^+	Na^+	K^+	Ca^{2+}	Mg^{2+}	Transparency	PO_4^{3-}	NO_2^-	DOC	COD
		mS/m	meq/L	(meq/L)	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	m	mg/L	mg/L	mg/L	mg/L
2001	7.21	-	-	-	1.43	1.30	2.18	-	-	-	-	-	-	-	-	-	-
2002	7.39	7.00	-	-	4.67	6.66	2.82	0.20	7.29	2.14	2.29	0.82	-	-	-	-	-
2003	6.73	7.19	0.193	-	2.68	5.02	5.91	0.17	6.53	2.06	2.35	0.86	-	-	-	-	1.8
2004	7.34	5.57	0.242	-	2.68	7.83	4.35	0.18	6.70	2.18	2.92	0.64	-	0.020	0.008	-	2.1
2005	6.73	4.62	0.232	-	2.07	2.83	3.94	0.05	4.77	2.37	2.95	0.61	0.9	0.020	0.008	-	1.3
2006	6.81	5.27	0.190	-	2.46	2.52	5.13	0.19	6.02	2.33	3.19	0.66	0.9	0.020	0.008	-	0.7
2007	7.07	7.32	0.110	-	2.67	2.67	5.13	0.15	3.64	1.63	2.82	0.54	-	-	0.006	-	1.8
2008	6.73	5.66	0.124	-	4.49	2.67	12.95	0.14	4.97	2.46	3.90	0.56	-	0.010	0.007	-	1.9
2009	6.72	7.53	0.193	-	3.14	2.67	7.44	0.10	6.91	3.52	2.43	0.82	-	0.010	0.008	-	3.5
2010	6.63	6.19	0.190	-	2.70	3.70	5.54	0.11	5.80	2.53	2.51	0.69	1.1	0.020	0.015	-	1.9
2011	6.78	4.85	0.168	-	2.60	2.89	3.14	0.09	3.50	2.10	2.57	0.52	0.7	0.050	0.022	-	1.8
2012	6.94	5.08	0.155	-	2.92	3.46	3.10	0.06	3.78	2.50	2.51	0.68	1.2	0.030	0.031	-	2.5
2013	6.80	5.52	0.220	-	2.71	3.42	2.77	0.05	3.80	2.83	3.20	0.76	0.9	0.024	0.029	-	1.7
2014	7.18	5.79	0.219	-	3.71	3.53	2.64	0.05	3.09	2.61	3.70	0.84	0.9	0.041	0.020	-	1.5
2015	7.01	6.01	0.179	-	3.99	3.17	3.43	0.05	3.65	2.64	3.61	0.66	0.7	0.045	0.014	-	1.2
2016	6.65	5.98	0.280	-	2.39	2.61	2.87	0.11	4.43	2.36	3.52	0.66	1.2	0.042	0.017	-	0.9
2017	7.08	5.76	0.259	-	3.17	3.33	2.85	0.08	4.56	2.47	3.96	0.62	1.5	0.032	0.025	-	1.1
2018	7.31	5.68	0.287	-	2.17	2.53	2.32	0.29	3.99	2.19	3.54	0.57	0.8	0.032	0.049	-	1.9
2019	7.23	5.61	0.269	-	2.42	2.56	2.76	0.07	3.40	2.41	3.96	0.64	0.9	0.032	0.156	-	2.0
2020	7.36	5.91	0.282	-	2.21	2.46	2.48	0.03	4.22	2.66	3.62	0.66	1.1	0.021	0.052	-	2.0
2021	7.43	5.81	0.294	-	2.08	2.43	2.47	0.08	4.22	2.71	3.79	0.65	0.9	0.018	0.026	-	1.7
2022	7.35	6.38	0.235	-	2.00	2.56	2.48	0.04	4.65	2.85	4.38	0.71	1.2	0.015	0.049	-	10.0
2023	7.41	6.19	0.161	-	5.48	3.27	4.81	0.13	5.01	2.69	3.13	0.64	0.9	0.005	0.015	-	6.8
2024	7.55	5.40	0.222	-	2.26	3.04	3.14	0.05	4.24	2.61	3.03	0.59	1.2	0.007	0.026	-	5.8
2025	7.10	5.16	0.222	-	2.05	2.58	3.06	0.07	4.36	2.88	2.66	0.55	1.3	0.008	0.044	-	8.8

- : No analysis or measurement.
*1: Less than determination/detection limit.

Table 6.5.4 Annual mean values of each parameters from 2001 to 2025 at Jiwozi River (China)

	Mandatory Parameters : 4 times/year												Mandatory Parameters : Once/year				
	pH	EC	Alkalinity	Gran's ANC	SO_4^{2-}	NO_3^-	Cl^-	NH_4^+	Na^+	K^+	Ca^{2+}	Mg^{2+}	Transparency	PO_4^{3-}	NO_2^-	DOC	COD
		mS/m	meq/L	(meq/L)	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	m	mg/L	mg/L	mg/L	mg/L
2001	7.11	4.50	0.225	-	10.03	1.47	1.06	0.04	1.90	0.70	8.83	1.38	-	-	-	-	-
2002	7.60	8.47	0.110	-	12.16	1.70	1.80	*1	2.80	1.20	12.73	1.72	-	-	-	-	-
2003	7.54	7.83	0.140	-	11.44	2.01	1.63	*1	2.08	0.95	12.03	1.59	-	-	-	-	-
2004	7.20	6.63	0.243	-	11.68	2.30	1.06	*1	1.79	0.68	9.04	1.35	-	*1	*1	-	3.2
2005	6.99	7.99	0.208	-	15.31	0.81	1.74	0.06	1.77	0.72	7.44	1.35	-	*1	0.090	-	1.6
2006	6.80	7.59	0.238	-	11.80	1.87	1.21	0.07	1.93	0.65	7.64	1.11	-	0.030	0.003	-	2.8
2007	7.32	8.86	0.250	-	16.68	3.46	1.31	0.13	2.09	0.96	11.00	0.96	-	*1	*1	-	2.2
2008	7.05	8.42	0.248	-	13.92	1.89	1.51	0.30	1.43	1.05	9.38	1.20	-	<0.01*1	<0.003*1	-	2.5
2009	6.98	8.28	0.278	-	15.51	2.07	1.34	0.14	1.88	1.04	9.85	1.38	-	<0.01*1	<0.003*1	-	2.5
2010	7.33	8.11	0.280	-	13.92	2.83	1.27	*1	1.22	0.81	10.49	1.35	-	<0.01*1	<0.003*1	-	3.0
2011	6.85	6.83	0.275	-	12.89	0.87	0.51	*1	0.74	0.84	8.09	2.01	-	<0.01*1	<0.003*1	-	3.0
2012	6.83	6.95	0.275	-	12.97	0.96	0.57	*1	0.70	0.83	7.80	2.01	-	<0.01*1	<0.003*1	-	4.0
2013	6.86	8.92	0.333	-	15.01	2.39	3.16	*1	3.50	1.37	11.07	1.69	-	<0.01*1	<0.003*1	-	5.0
2014	7.05	8.24	0.273	-	15.85	1.28	1.32	0.27	1.93	1.06	9.15	1.61	-	<0.01*1	<0.003*1	-	4.0
2015	7.09	7.27	0.263	-	11.32	6.45	1.55	*1	4.12	0.95	9.19	1.28	-	<0.01*1	<0.003*1	-	3.0
2016	7.10	7.60	0.295	-	11.70	2.86	0.82	*1	2.29	0.65	10.07	1.11	-	<0.01*1	<0.003*1		*1
2017	6.99	6.87	0.335	-	9.02	2.09	1.02	0.03	2.02	0.82	8.60	1.41	-	<0.01*1	<0.003*1	-	*1
2018	6.95	6.33	0.330	-	8.59	0.77	1.20	0.02	1.81	0.85	7.62	1.48	-	<0.01*1	<0.003*1	-	*1
2019	7.65	6.22	0.295	-	6.80	5.10	1.22	0.28	1.89	0.99	7.48	1.06	-	<0.01*1	<0.003*1	-	<0.5*1
2020	7.13	5.40	0.353	-	5.52	0.75	0.74	0.00	1.69	0.73	7.47	1.13	-	<0.01*1	<0.003*1	-	<5*1
2021	6.74	5.50	0.295	-	5.86	3.71	0.70	0.10	1.41	0.65	7.93	0.76	-	<0.051*1	<0.016*1	-	<5*1
2022	7.43	5.62	0.323	-	4.82	2.25	0.77	0.00	1.41	0.84	7.64	0.84	-	<0.05*1	<0.02*1	-	<4*1
2023	7.06	4.53	0.160	-	5.69	2.59	1.59	0.34	0.77	0.45	5.34	0.58	-	<0.051*1	<0.016*1	-	<4*1
2024※	7.13	5.42	0.273	-	5.42	2.92	0.61	0.33	1.36	0.67	6.67	0.63	-	<0.051*1	<0.016*1	-	<4*1
2025	7.19	6.06	0.263	-	6.29	5.09	1.65	0.56	1.41	0.82	6.85	0.96	-	<0.051*1	<0.016*1	-	<4*1

Table 6.5.5 Annual mean values of each parameters from 2004 to 2025 at Zhuxiandong stream and from 2001 to 2003 at Zhuxiandong resorvoir(China)

	Mandatory Parameters : 4 times/year												Mandatory Parameters : Once/year				
	pH	EC	Alkalinity	Gran's ANC	SO_4^{2-}	NO_3^-	Cl^-	NH_4^+	Na^+	K^+	Ca^{2+}	Mg^{2+}	Transparency	PO_4^{3-}	NO_2^-	DOC	COD
		mS/m	meq/L	(meq/L)	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	m	mg/L	mg/L	mg/L	mg/L
2001	7.62	-	-	-	17.70	0.63	43.13	0.20	-	-	-	-	-	-	-	-	-
2002	7.93	6.70	0.963	-	19.89	0.83	23.80	0.23	7.27	1.57	17.00	2.50	-	-	-	-	-
2003	7.82	7.54	1.603	-	17.50	0.29	19.59	0.17	7.34	1.96	16.80	2.36	-	-	0.029	-	1.7
2004	7.12	8.49	0.645	-	5.47	1.90	6.03	*1	8.95	1.88	5.41	2.84	-		*1	-	1.1
2005	6.97	9.53	0.133	-	5.83	1.70	6.73	*1	8.90	1.60	4.63	2.65	1.3	*1	*1	-	0.9
2006	7.18	7.35	0.225	-	2.60	1.15	4.50	1.10	5.40	1.13	4.38	1.58	1.3	*1	*1		1.0
2007	7.28	7.80	0.240	-	3.61	1.77	5.09	0.10	6.01	1.22	3.65	1.38	1.3	*1	*1	-	1.1
2008	7.18	7.58	0.165	-	2.95	2.36	4.90	0.05	6.83	1.31	4.40	1.76	1.3	*1	*1	-	1.1
2009	7.16	7.74	0.367	-	2.97	4.20	6.30	0.06	7.86	1.57	2.77	1.96	1.1	*1	*1	-	1.3
2010	7.22	6.86	0.393	-	2.49	2.50	5.15	0.08	6.98	1.23	4.30	1.72	1.1	*1	*1	-	1.4
2011	7.16	7.42	0.467	-	1.95	1.00	4.33	0.09	7.70	1.15	4.68	1.69	1.1	*1	*1	-	1.3
2012	7.26	7.62	0.499	-	2.98	2.00	5.38	0.09	7.50	1.69	4.81	1.88	1.1	*1	*1	-	1.2
2013	7.20	7.87	0.500	-	3.81	4.11	4.66	0.07	6.95	1.77	4.91	1.91	1.2	*1	*1	-	1.1
2014	7.19	8.27	0.502	-	4.64	4.80	3.75	0.02	6.42	1.69	5.22	2.53	-	-	-	-	-
2015	6.38	6.73	0.496	-	2.47	1.31	2.50	0.44	7.48	1.84	2.84	1.14	-	-	-	-	-
2016	6.99	7.45	0.496	-	1.85	2.01	3.69	0.03	6.70	1.53	4.35	1.64	-	-	-	-	-
2017	7.29	15.17	0.492	-	8.15	3.33	14.38	0.15	11.32	1.76	14.03	2.87	-	-	-	-	-
2018	7.19	8.63	0.630	-	2.11	2.11	5.80	0.03	7.58	1.38	6.05	2.25	-	*1	-	-	8.5
2019	7.11	8.05	0.524	-	2.40	2.62	5.63	0.00	7.32	1.36	5.11	1.99	-	0.020	0.003	-	2.1
2020	7.23	7.34	0.448	-	1.85	1.83	5.39	0.00	7.79	1.26	4.47	1.65	-	0.020	0.004	-	1.7
2021	6.97	7.25	0.400	-	2.39	3.45	5.86	0.01	7.91	1.42	3.75	1.47	1.0	0.020	0.004	-	1.7
2022	7.11	6.36	0.340	-	1.92	2.83	5.09	0.01	7.91	1.60	2.54	0.99	0.3	0.010	*1	-	6.0
2023	7.25	6.50	0.359	-	1.94	3.06	5.19	0.01	7.91	1.76	3.03	1.13	0.3	0.010	0.012	-	2.6
2024	7.20	7.18	0.447	-	1.70	2.20	5.80	<0.02*1	8.29	1.30	3.96	1.59	0.1	<0.051*1	<0.016*1	-	3.0
2025	6.98	6.47	0.396	-	1.83	2.98	5.17	<0.02*1	7.46	1.43	3.60	1.38	-	<0.051*1	<0.016*1	-	3.0

Table 6.5.6 Annual mean values of each parameters from 2001 to 2019 at Patenggang Lake (Indonesia)

	Mandatory Parameters : 4 times/year												Mandatory Parameters : Once/year				
	pH	EC	Alkalinity	Gran's ANC	SO_4^{2-}	NO_3^-	Cl^-	NH_4^+	Na^+	K^+	Ca^{2+}	Mg^{2+}	Transparency	PO_4^{3-}	NO_2^-	DOC	COD
		mS/m	meq/L	(meq/L)	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	m	mg/L	mg/L	mg/L	mg/L
2001	7.90	7.28	0.488	-	4.33	0.07	8.19	0.13	4.90	0.54	6.32	2.18	-	-	-	-	-
2002	8.46	5.83	0.255	-	7.33	0.06	6.30	0.17	4.60	0.71	4.03	1.93	-	-	-	-	-
2003	7.34	6.58	0.460	-	7.76	0.19	7.50	0.53	4.30	0.49	5.17	2.53	0.6	0.207	*1	12.4	-
2004	7.29	5.89	0.340	-	2.65	0.03	3.85	0.02	2.10	0.85	5.75	2.20	0.6	0.014	*1	7.3	-
2005	7.19	6.71	0.459	-	8.83	0.23	2.30	0.43	4.04	1.87	5.70	2.70	0.1	0.010	*1	10.9	-
2006	7.49	5.74	0.414	-	3.80	0.47	2.58	0.39	2.87	1.70	5.70	1.43	0.1	0.085	0.016	8.1	-
2007	7.17	6.75	0.420	-	7.45	0.32	2.59	0.41	3.40	1.53	5.75	1.47	0.1	0.038	0.012	3.8	-
2008	6.76	6.43	0.448	-	7.89	0.07	2.18	0.05	2.84	1.29	6.18	2.39	0.9	0.202	0.019	10.2	-
2009	6.99	6.96	0.490	-	5.16	0.58	2.24	0.19	3.68	2.33	6.66	1.09	1.1	0.011	0.007	8.6	-
2010	6.66	6.75	0.512	-	4.93	0.01	2.33	0.17	3.43	1.52	6.87	2.12	1.1	0.031	0.006	7.5	-
2011	7.84	7.40	0.522	-	8.08	0.02	2.48	0.34	3.18	1.38	6.46	2.61	0.7	0.292	0.006	6.9	-
2012	7.72	6.09	0.403	-	7.40	*1	1.80	0.43	3.50	1.47	5.26	2.06	0.8	0.133	*1	7.6	-
2013	7.41	6.64	0.442	-	8.23	0.06	1.50	0.09	4.83	2.03	4.60	1.97	0.9	*1	0.009	12.1	-
2014	7.48	6.19	0.357	-	7.15	0.12	2.44	0.47	3.00	1.15	4.90	2.06	1.6	0.010	0.007	6.8	-
2015	7.75	7.03	0.375	-	9.96	0.12	2.06	0.06	3.12	1.50	5.74	2.22	-	-	-	-	-
2016	8.09	9.51	0.426	-	6.40	0.82	3.62	0.09	4.68	1.14	5.32	1.84	-	-	-	-	-
2017	7.88	6.56	0.493	-	6.65	0.48	2.24	0.07	3.07	1.53	6.58	1.80	1.4	-	-	-	-
2018	7.81	6.39	0.459	-	6.11	0.79	2.22	0.02	3.57	1.32	6.57	1.82	-	-	-	-	-
2019	7.94	6.07	0.432	-	6.05	0.97	1.51	0.93	3.93	1.44	5.83	1.82	-	-	-	-	-

- : No analysis or measurement.
*:.Data for Dec. of 2024 at Jiwozi River were excluded from the aggregation due to a sampling issue.
*1: Less than determination/detection limit.

Table 6.5.7 Annual mean values of each parameters from 2008 to 2019 at Gunung Lake (Indonesia)

	Mandatory Parameters : 4 times/year												Mandatory Parameters : Once/year				
	pH	EC	Alkalinity	Gran's ANC	SO_4^{2-}	NO_3^-	Cl^-	NH_4^+	Na^+	K^+	Ca^{2+}	Mg^{2+}	Transparency	PO_4^{3-}	NO_2^-	DOC	COD
		mS/m	meq/L	(meq/L)	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	m	mg/L	mg/L	mg/L	mg/L
2008	6.73	5.90	0.438	-	5.59	0.03	2.01	0.57	2.24	0.71	5.09	1.87	1.1	0.040	0.007	6.7	-
2009	6.69	5.54	0.460	-	3.48	0.06	1.30	0.16	3.14	1.02	4.62	2.20	1.0	0.014	0.005	10.8	-
2010	6.24	5.14	0.442	-	1.70	0.00	1.15	0.11	2.01	0.87	5.35	1.66	1.1	0.125	0.002	5.0	-
2011	7.38	5.15	0.414	-	4.04	0.07	1.00	0.12	2.36	0.84	5.04	2.02	0.7	0.037	0.004	10.2	-
2012	6.56	5.86	0.450	-	4.04	*1	1.10	*1	1.74	0.88	5.30	2.54	0.5	0.710	*1	9.5	-
2013	7.38	4.15	0.321	-	3.05	0.04	0.75	0.08	2.75	0.76	2.92	1.18	1.0	*1	0.002	5.3	-
2014	6.97	3.96	0.248	-	4.05	0.04	1.68	0.13	2.74	0.87	2.65	0.92	1.0	0.020	0.004	8.8	4.8
2015	7.33	4.91	0.274	-	6.74	0.05	1.96	0.03	1.74	0.49	4.46	2.00	-	-	-	-	-
2016	7.41	3.92	0.412	-	1.27	0.15	0.81	0.09	4.10	0.51	5.53	1.36	-	-	-	-	-
2017	7.88	4.47	0.318	-	1.59	0.13	0.82	0.09	1.87	0.92	5.07	1.17	0.8	-	-	-	-
2018	6.99	4.87	0.487	-	0.84	0.15	1.12	0.03	2.35	0.65	6.31	1.61	-	-	-	-	-
2019	7.76	5.58	0.436	-	2.50	0.14	1.09	0.56	1.68	0.98	6.39	1.64	-	-	-	-	-

Table 6.5.8 Annual mean values of each parameters from 2001 to 2025 at Ijira Lake (Japan)

	Mandatory Parameters : 4 times/year												Mandatory Parameters : Once/year				
	pH	EC	Alkalinity	Gran's ANC	SO_4^{2-}	NO_3^-	Cl^-	NH_4^+	Na^+	K^+	Ca^{2+}	Mg^{2+}	Transparency	PO_4^{3-}	NO_2^-	DOC	COD
		mS/m	meq/L	(meq/L)	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	m	mg/L	mg/L	mg/L	mg/L
2001	6.85	4.33	0.138	-	4.66	2.31	2.19	0.07	2.37	0.40	3.51	1.61	-	<0.01*1	-	-	-
2002	6.72	4.52	0.173	-	5.63	2.01	2.27	0.09	2.23	0.38	3.39	1.37	2.2	<0.066*1	<0.01*1	3.2	-
2003	6.75	4.10	0.146	-	5.14	2.07	2.40	0.08	1.86	0.30	2.94	1.36	3.0	<0.01*1	<0.03*1	1.4	-
2004	7.17	4.05	0.145	-	4.79	1.88	2.34	0.12	2.15	0.23	2.71	1.23	2.8	<0.03*1	<0.02*1	1.1	-
2005	6.94	4.47	0.153	-	5.73	2.37	2.32	0.08	2.29	0.39	3.27	1.42	3.0	<0.03*1	0.068	0.7	-
2006	6.81	3.94	0.164	-	4.53	2.11	2.09	0.03	2.00	0.33	2.80	1.23	2.4	<0.1*1	<0.02*1	0.6	-
2007	7.09	4.58	0.206	-	5.77	1.22	2.27	0.03	2.24	0.30	3.57	1.46	2.7	<0.1*1	<0.02*1	1.0	-
2008	7.19	4.36	0.183	-	5.37	1.78	2.16	0.04	2.10	0.28	3.24	1.45	2.7	<0.1*1	<0.01*1	0.8	-
2009	7.04	4.26	0.176	-	5.18	1.47	2.13	0.01	2.08	0.26	3.03	1.35	2.7	<0.1*1	<0.01*1	0.7	-
2010	7.01	3.74	0.158	-	4.58	1.10	1.96	<0.01*1	1.88	0.25	2.61	1.18	2.3	<0.1*1	<0.01*1	0.5	-
2011	7.11	3.85	0.159	-	4.77	1.34	1.86	<0.01*1	1.89	0.23	3.05	1.22	1.8	<0.1*1	<0.01*1	0.8	-
2012	7.11	3.76	0.154	-	4.66	1.31	1.89	<0.01*1	1.85	0.23	2.78	1.23	2.3	<0.1*1	<0.01*1	0.5	-
2013	7.17	3.94	0.165	-	5.02	1.06	1.97	<0.01*1	1.97	0.24	2.73	1.25	2.4	<0.1*1	<0.01*1	0.5	-
2014	7.06	3.73	0.140	-	4.67	1.21	1.86	<0.01*1	1.82	0.27	2.34	1.12	1.9	<0.1*1	<0.01*1	0.5	-
2015	7.16	3.57	0.149	-	4.38	1.06	1.87	<0.01*1	1.79	0.27	2.12	1.05	2.2	<0.1*1	<0.01*1	0.6	-
2016	7.11	3.73	0.141	-	5.37	1.39	1.78	<0.01*1	1.89	0.27	2.39	1.20	4.8	<0.1*1	<0.01*1	0.6	-
2017	7.02	3.89	0.165	-	5.33	0.97	1.84	<0.01*1	1.96	0.26	2.82	1.31	3.3	<0.1*1	<0.01*1	0.6	-
2018	6.95	3.59	0.162	0.143	4.54	0.74	1.87	<0.01*1	1.82	0.26	2.75	1.16	2.6	<0.1*1	<0.01*1	2.4	-
2019	7.16	3.84	0.176	0.160	4.81	0.74	1.88	<0.01*1	1.95	0.24	3.08	1.20	3.3	<0.02*1	<0.01*1	3.0	-
2020	6.99	3.64	0.163	0.151	4.56	0.85	1.73	<0.01*1	1.90	0.24	2.72	1.13	2.2	0.030	<0.01*1	0.9	-
2021	7.18	3.51	0.160	0.149	4.32	0.60	1.70	<0.01	1.83	0.24	2.52	1.12	2.4	<0.02*1	<0.01*1	0.5	-
2022	7.01	3.61	0.163	0.153	4.43	0.81	1.74	<0.01*1	1.85	0.25	2.64	1.17	2.3	<0.02*1	<0.01*1	0.6	-
2023	7.11	3.50	0.161	0.134	4.30	0.75	1.73	<0.01*1	1.84	0.25	2.62	1.16	3.0	<0.02*1	<0.01*1	0.5	-
2024	7.12	3.58	0.167	0.155	4.52	0.59	1.64	<0.01*1	1.85	0.25	2.68	1.19	3.0	<0.02*1	<0.01*1	0.5	-
2025	7.12	3.58	0.167	0.155	4.52	0.59	1.64	<0.01*1	1.85	0.25	2.68	1.19	3.1	<0.02	<0.01*1	0.5	6.9

Table 6.5.9 Annual mean values of each parameters from 2019 to 2025 at Futago-ike Lake (Oike) (Japan)

	Mandatory Parameters : 4 times/year												Mandatory Parameters : Once/year				
	pH	EC	Alkalinity	Gran's ANC	SO_4^{2-}	NO_3^-	Cl^-	NH_4^+	Na^+	K^+	Ca^{2+}	Mg^{2+}	Transparency	PO_4^{3-}	NO_2^-	DOC	COD
		mS/m	meq/L	(meq/L)	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	m	mg/L	mg/L	mg/L	mg/L
2019	7.01	1.86	0.129	0.112	1.19	0.80	0.33	<0.02*1	1.13	0.25	2.10	0.19	8.2	<0.01*1	<0.01*1	0.9	1.5
2020	6.98	1.77	0.121	0.106	1.09	0.74	0.32	<0.02*1	1.07	0.27	1.93	0.19	9.0	<0.01*1	<0.01*1	1.0	1.5
2021	6.94	1.72	0.122	0.107	1.00	0.80	0.33	<0.02*1	1.02	0.27	1.88	0.18	9.1	<0.01*1	<0.01*1	1.2	2.0
2022	7.11	1.83	0.135	0.121	0.98	0.77	0.33	<0.02*1	1.12	0.27	2.10	0.19	8.6	<0.01*1	<0.01*1	0.9	1.5
2023	7.01	1.89	0.131	0.119	1.02	0.90	0.37	<0.02*1	1.22	0.26	2.26	0.20	8.5	<0.01*1	<0.01*1	1.1	1.8
2024	7.00	1.86	0.138	0.123	0.96	0.83	0.34	<0.02*1	1.17	0.27	1.86	0.19	8.5	<0.01*1	<0.01*1	0.9	2.0
2025	7.00	1.86	0.138	0.123	0.96	0.83	0.34	<0.02*1	1.17	0.27	1.86	0.19	7.9	<0.01*1	<0.01*1	0.9	1.8

Table 6.5.10 Annual mean values of each parameters from 2019 to 2025 at Futago-ike Lake (Meike) (Japan)

	Mandatory Parameters : 4 times/year												Mandatory Parameters : Once/year				
	pH	EC	Alkalinity	Gran's ANC	SO_4^{2-}	NO_3^-	Cl^-	NH_4^+	Na^+	K^+	Ca^{2+}	Mg^{2+}	Transparency	PO_4^{3-}	NO_2^-	DOC	COD
		mS/m	meq/L	(meq/L)	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	m	mg/L	mg/L	mg/L	mg/L
2019	6.93	2.04	0.141	0.125	1.27	0.96	0.36	<0.02*1	1.25	0.27	2.34	0.21	4.8	<0.01*1	<0.01*1	1.1	1.5
2020	6.11	0.62	0.033	0.017	0.82	0.08	0.31	<0.02*1	0.40	0.23	0.43	0.09	3.6	<0.01*1	<0.01*1	1.6	2.7
2021	5.94	0.59	0.030	0.015	0.76	0.10	0.28	<0.02*1	0.33	0.19	0.37	0.08	4.2	<0.01*1	<0.01*1	1.8	3.1
2022	5.86	0.52	0.027	0.013	0.69	0.06	0.29	<0.02*1	0.28	0.17	0.31	0.06	4.3	<0.01*1	<0.01*1	1.1	1.8
2023	5.84	0.49	0.026	0.008	0.60	<0.1*1	0.30	<0.02*1	0.29	0.15	0.31	0.06	2.0	<0.01*1	<0.01*1	3.5	5.0
2024	5.87	0.45	0.026	0.010	0.46	<0.1*1	0.36	<0.02*1	0.53	0.08	0.24	0.05	1.8	<0.01*1	<0.01*1	5.0	12.1
2025	5.87	0.45	0.026	0.010	0.46	<0.1*1	0.36	<0.02*1	0.53	0.08	0.24	0.05	1.7	<0.01*1	<0.01*1	5.9	11.7

Table 6.5.11 Annual mean values of each parameters from 2009 to 2025 at Nam Houm Lake (Lao PDR)

	Mandatory Parameters : 4 times/year												Mandatory Parameters : Once/year				
	pH	EC	Alkalinity	Gran's ANC	SO_4^{2-}	NO_3^-	Cl^-	NH_4^+	Na^+	K^+	Ca^{2+}	Mg^{2+}	Transparency	PO_4^{3-}	NO_2^-	DOC	COD
		mS/m	meq/L	(meq/L)	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	m	mg/L	mg/L	mg/L	mg/L
2009	7.55	3.90	0.411	-	1.83	0.65	1.45	0.15	0.94	1.75	4.43	0.86	-	0.001	-	-	10.2
2014	7.18	4.12	0.438	-	-	-	-	-	-	-	-	-	0.8	0.013	-	-	23.1
2016	7.20	2.34	0.340	-	2.61	0.02	1.83	0.01	1.07	0.40	1.14	1.72	0.6	0.010	-	-	11.2
2017	7.54	3.39	0.303	-	3.76	0.01	0.48	-	-	-	-	-	0.6	0.010	-	-	3.7
2018	7.43	4.11	0.390	-	2.26	0.41	0.40	-	-	-	-	-	0.6	0.010	-	-	7.5
2019	8.05	3.37	0.338	-	3.65	0.01	0.40	-	-	-	-	-	0.6	0.010	-	-	19.4
2020	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2021	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2022	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2023	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2024	6.40	34	0.724	-	1.60	0.16	1.92	0.04	5.04	1.73	8.26	1.11	-	0.001	1.25	-	17.6
2025	6.99	42	0.570	-	0.78	0.39	1.34	0.03	2.16	2.09	10.36	1.36	-	0.001	0.01	-	3.1

- : No analysis or measurement.
*1: Less than determination/detection limit.

Table 6.5.12 Annual mean values of each parameters from 2022 to 2025 at Baru River (Malaysia)

	Mandatory Parameters : 4 times/year												Mandatory Parameters : Once/year				
	pH	EC	Alkalinity	Gran's ANC	SO_4^{2-}	NO_3^-	Cl^-	NH_4^+	Na^+	K^+	Ca^{2+}	Mg^{2+}	Transparency	PO_4^{3-}	NO_2^-	DOC	COD
		mS/m	meq/L	(meq/L)	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	m	mg/L	mg/L	mg/L	mg/L
2022	7.62	8.02	0.747	-	2.58	0.42	1.58	<0.003*1	5.27	0.71	9.07	2.63	-	<0.10*1	-	-	5.2
2023	7.29	6.09	0.538	-	1.86	0.37	1.62	0.01	4.89	0.49	4.82	2.09	-	<0.10*1	-	-	4.0
2024	7.38	5.03	0.433	-	1.57	0.61	2.07	0.01	4.78	0.52	3.36	1.71	-	<0.10*1	-	-	8.5
2025	7.59	4.41	0.391	-	1.26	0.69	1.48	0.01	4.36	0.36	3.37	1.64	-	<0.10*1	-	-	8.0

Table 6.5.13 Annual mean values of each parameters from 2002 to 2025 at Terelj River (Mongolia)

	Mandatory Parameters : 4 times/year												Mandatory Parameters : Once/year				
	pH	EC	Alkalinity	Gran's ANC	SO_4^{2-}	NO_3^-	Cl^-	NH_4^+	Na^+	K^+	Ca^{2+}	Mg^{2+}	Transparency	PO_4^{3-}	NO_2^-	DOC	COD
		mS/m	meq/L	(meq/L)	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	m	mg/L	mg/L	mg/L	mg/L
2002	7.23	4.84	0.098	-	3.47	1.11	0.43	0.04	1.87	0.52	7.17	0.87	-	-	-	-	-
2003	6.75	4.60	0.266	-	3.16	0.74	0.36	0.04	1.65	0.48	5.88	0.83	-	-	-	-	-
2004	6.80	4.44	0.296	-	2.76	0.70	0.54	0.06	1.60	0.72	5.93	0.89	-	-	-	-	-
2005	6.90	4.84	0.367	-	3.18	0.82	0.56	0.05	1.95	0.68	8.90	1.04	-	-	0.003	-	-
2006	6.99	5.07	0.327	-	3.60	0.79	0.46	0.11	2.07	0.62	9.04	1.07	-	-	0.003	-	-
2007	6.89	5.06	0.339	-	3.18	0.79	0.57	0.07	2.22	0.55	8.63	1.03	-	<0.005*1	0.003	-	-
2008	6.36	6.59	0.282	-	3.82	1.33	0.73	<0.01*1	1.93	0.60	13.70	1.00	-	0.007	<0.005*1	-	-
2009	7.13	4.70	0.331	-	3.47	0.49	0.41	<0.01*1	1.66	0.58	5.41	0.76	-	-	<0.005*1	-	-
2010	6.67	5.57	0.380	-	4.47	0.86	0.78	0.13	2.17	1.19	7.52	1.15	-	0.011	<0.005*1	-	-
2011	6.28	5.33	0.327	-	3.73	0.76	0.79	0.06	1.57	0.68	5.80	0.87	-	0.008	0.002	-	-
2012	7.24	4.55	0.318	-	-	-	-	-	-	-	-	-	-	0.008	0.006	-	-
2013	6.84	4.32	0.294	-	2.81	0.46	0.37	*1	1.46	1.01	6.13	0.83	-	-	-	-	-
2014	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2015	7.23	5.37	0.350	-	4.43	0.82	0.38	-	-	-	-	-	-	-	-	-	-
2016	6.59	4.39	0.277	-	3.42	0.34	0.35	*1	1.45	0.57	6.55	0.82	-	-	-	-	-
2017	6.73	5.09	0.346	-	4.72	0.85	0.48	0.01	1.89	0.52	6.90	0.88	-	-	-	-	-
2018	6.79	4.38	0.279	-	3.52	0.83	0.30	0.00	1.90	0.43	5.72	0.70	-	-	-	-	-
2019	6.48	4.77	0.316	-	4.36	0.36	0.34	0.00	1.78	0.52	6.40	0.82	-	-	-	-	-
2020	6.27	5.02	0.335	-	4.21	0.66	0.33	0.00	2.18	0.49	7.29	0.82	-	-	-	-	-
2021	6.37	4.12	0.320	-	1.24	0.29	1.90	0.02	1.53	0.51	6.23	0.76	-	-	-	-	-
2022	6.48	4.59	0.379	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2023	6.32	3.79	0.263	-	3.21	0.86	0.42	0.03	1.94	0.75	6.46	0.88	-	-	-	-	-
2024	7.50	4.40	0.336	-	3.57	0.24	0.40	0.01	1.76	0.59	6.80	0.89	-	-	-	-	-
2025	7.35	5.16	0.349	-	4.45	1.68	0.46	0.01	1.76	0.54	7.24	0.93	-	-	-	-	-

Table 6.5.14 Annual mean values of each parameters from 2004 to 2025 at Pandin Lake (Philippines)

	Mandatory Parameters : 4 times/year												Mandatory Parameters : Once/year				
	pH	EC	Alkalinity	Gran's ANC	SO_4^{2-}	NO_3^-	Cl^-	NH_4^+	Na^+	K^+	Ca^{2+}	Mg^{2+}	Transparency	PO_4^{3-}	NO_2^-	DOC	COD
		mS/m	meq/L	(meq/L)	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	m	mg/L	mg/L	mg/L	mg/L
2004	8.08	18.23	1.808	-	0.33	0.08	3.16	0.02	8.91	5.81	12.05	6.91	-	0.014	0.072	-	-
2005	7.96	18.14	1.723	-	1.11	0.58	3.76	0.69	8.18	4.89	14.33	7.84	-	0.005	0.295	-	-
2006	7.72	17.34	1.758	-	0.43	0.19	2.40	0.22	8.08	5.08	15.13	7.30	2.2	0.004	0.012	-	-
2007	7.76	17.57	1.708	-	0.52	0.10	3.37	0.26	7.28	6.29	12.10	9.03	-	0.002	0.013	-	-
2008	7.48	17.95	1.627	-	0.76	5.23	3.70	0.02	7.33	4.92	12.65	7.97	-	0.013	-	-	-
2009	7.68	18.70	1.813	-	0.66	5.72	3.78	1.02	8.61	4.35	14.10	7.32	1.8	0.087	-	-	-
2010	8.25	18.35	1.837	-	0.34	3.36	3.28	*1	8.79	5.59	13.07	8.49	-	0.060	-	-	-
2011	7.67	20.46	1.738	-	0.49	2.08	3.29	0.17	7.99	4.14	14.90	7.58	-	0.086	-	-	-
2012	7.95	17.56	1.683	-	1.53	0.48	3.45	0.06	8.19	4.43	14.15	7.59	-	*1	-	-	-
2013	7.29	17.71	1.725	-	0.56	0.16	3.19	0.10	8.17	4.24	15.55	7.89	-	0.004	*1	-	-
2014	7.64	20.51	2.145	-	0.22	0.14	2.54	0.04	7.00	3.70	19.13	9.09	-	-	*1	-	-
2015	7.65	19.48	2.104	-	0.85	0.67	3.26	0.12	10.77	8.46	21.04	3.91	-	0.470	*1	-	-
2016	7.18	18.74	1.744	-	0.84	0.32	3.48	0.32	8.58	4.41	15.77	8.29	-	0.110	*1	-	-
2017	8.02	17.38	1.729	-	0.86	0.15	3.44	0.41	8.68	4.07	16.36	7.91	-	0.274	0.000	-	-
2018	8.20	18.18	1.740	-	0.54	0.20	3.52	0.02	8.41	3.81	15.54	7.09	-	0.000	0.000	-	-
2019	8.65	18.03	1.700	-	0.85	0.03	3.92	0.00	8.05	4.02	16.98	6.96	-	0.244	0.000	-	-
2020	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2021	7.97	17.39	1.821	-	1.07	0.20	2.84	0.07	5.25	4.10	15.73	8.02	-	0.049	0.047	-	5.1
2022	8.32	18.05	1.601	-	1.51	0.04	3.83	0.07	8.91	4.50	14.33	8.65	-	*1	*1	-	4.1
2023	8.09	19.24	1.590	-	1.67	0.04	3.33	0.03	8.54	4.31	12.69	8.67	-	0.083	0.010	3.1	9.9
2024	7.28	18.88	1.771	-	2.13	0.28	3.49	0.02	8.70	4.45	15.36	8.75	-	0.088	0.012	1.5	6.2
2025	8.30	17.55	1.649	-	2.12	0.03	3.44	<0.1*1	7.95	4.51	14.22	7.66	-	<0.1*1	<0.1*1	-	2.0

Table 6.5.15 Annual mean values of each parameters from 2005 to 2024 at Ambulalakao Lake (Philippines)

	Mandatory Parameters : 4 times/year												Mandatory Parameters : Once/year				
	pH	EC	Alkalinity	Gran's ANC	SO_4^{2-}	NO_3^-	Cl^-	NH_4^+	Na^+	K^+	Ca^{2+}	Mg^{2+}	Transparency	PO_4^{3-}	NO_2^-	DOC	COD
		mS/m	meq/L	(meq/L)	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	m	mg/L	mg/L	mg/L	mg/L
2005	5.82	0.44	0.020	-	0.15	0.11	0.06	-	0.22	0.15	0.15	0.04	-	-	0.100	-	-
2007	5.49	0.53	0.031	-	0.46	0.12	0.25	0.02	0.37	0.13	0.40	0.10	-	*1	*1	-	-
2008	5.74	0.38	0.081	-	0.27	0.12	0.17	0.10	0.19	0.07	0.26	0.15	-	0.001	-	-	-
2009*	5.42	0.17	0.290	-	0.21	0.08	0.13	0.17	0.27	0.06	0.17	0.07	-	-	-	-	-
2010	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2011	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2012	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2013	5.75	0.52	0.060	-	*1	*1	0.39	*1	0.56	0.13	0.49	0.11	-	-	-	-	-
2014	5.69	0.52	0.023	-	0.11	*1	0.20	0.21	0.46	0.35	0.59	0.12	-	-	-	-	-
2015	5.86	0.50	0.031	-	0.21	0.36	0.22	0.05	0.48	0.14	0.37	0.31	-	-	-	-	-
2016	5.81	0.51	0.026	-	0.11	0.02	0.18	0.00	0.46	0.12	0.26	0.10	-	-	-	-	-
2017	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2018	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2020	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2021	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2022	5.65	0.87	0.035	-	0.22	0.20	0.34	*1	0.20	0.05	0.74	0.08	-	-	-	-	-
2023*	6.61	1.50	0.030	-	0.92	0.37	1.20	0.25	0.95	0.48	0.90	0.11	-	0.041	-	-	-
2024	5.80	5.37	0.027		0.093	< 0.06*1	0.48	0.06	0.03	0.17	0.29	0.15	-	<0.3*1	<0.06*1	-	-

- : No analysis or measurement.

* : Data for Dec. of 2009, Jun.and Dec. of 2023 were excluded from the aggregation due to the high probability of contamination.

*1: Less than determination/detection limit.

Table 6.5.16 Annual mean values of each parameters from 2004 to 2025 at Pereemnaya River (Russia)

	Mandatory Parameters : 4 times/year												Mandatory Parameters : Once/year				
	pH	EC	Alkalinity	Gran's ANC	SO_4^{2-}	NO_3^-	Cl^-	NH_4^+	Na^+	K^+	Ca^{2+}	Mg^{2+}	Transparency	PO_4^{3-}	NO_2^-	DOC	COD
		mS/m	meq/L	(meq/L)	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	m	mg/L	mg/L	mg/L	mg/L
2004	6.55	3.93	0.135	-	7.18	0.76	0.23	0.03	1.10	0.77	3.23	0.94	2.0	0.008	0.002	-	-
2005	6.80	4.03	0.135	-	7.84	0.66	0.20	0.03	0.96	0.71	3.29	1.04	-	0.002	0.005	-	0.8
2006	6.74	3.95	0.140	-	7.49	0.81	0.20	0.04	1.07	0.75	3.36	1.02	-	0.004	0.002	1.5	1.1
2007	6.59	4.21	0.135	-	8.98	0.91	0.18	0.11	1.06	0.76	3.92	0.85	-	0.004	0.003	1.6	1.0
2008	6.68	4.87	0.155	-	9.77	1.03	0.13	0.03	0.93	0.60	4.78	1.05	-	0.007	0.002	1.0	0.8
2009	6.66	4.87	0.128	-	11.69	0.85	0.14	0.02	1.00	0.60	4.94	0.97	-	0.005	0.002	-	0.6
2010	6.88	5.14	0.127	-	12.87	0.79	0.20	0.03	0.99	0.66	5.18	1.05	-	0.007	0.002	-	1.1
2011	6.85	4.79	0.138	-	11.39	0.67	0.16	0.02	1.02	0.68	4.97	0.83	-	0.004	0.003	-	0.9
2012	6.61	4.21	0.139	-	9.49	0.38	0.17	0.09	0.95	0.63	4.42	0.67	-	0.005	0.002	-	1.2
2013	6.76	4.61	0.134	-	11.14	0.57	0.13	0.02	1.00	0.65	4.92	0.82	1.9	0.008	0.002	-	1.0
2014	6.69	4.66	0.142	-	11.19	0.58	0.19	0.01	1.30	0.78	4.87	0.78	1.9	0.009	0.002	-	1.2
2015	6.63	4.29	0.124	-	10.47	0.48	0.20	0.01	1.01	0.66	4.57	0.76	1.9	0.006	0.003	-	0.8
2016	6.78	4.53	0.142	-	11.14	0.70	0.14	0.01	1.06	0.66	4.90	0.85	1.9	0.004	0.002	-	0.9
2017	6.76	4.64	0.128	-	11.87	0.87	0.09	0.01	1.03	0.66	4.89	0.97	-	0.003	0.003	-	0.8
2018	6.68	4.30	0.109	-	11.20	0.74	0.25	0.01	1.06	0.59	4.43	0.80	-	0.007	0.004	-	1.1
2019	6.71	4.72	0.124	-	11.75	0.68	0.17	0.01	1.07	0.70	4.85	0.94	-	0.003	0.004	-	0.9
2020	6.80	4.83	0.118	-	12.00	0.57	0.13	0.00	1.01	0.70	4.70	0.94	-	0.005	0.002	-	1.0
2021	6.79	4.46	0.124	-	10.83	0.67	0.16	0.01	1.00	0.66	4.84	0.84	-	0.002	0.002	-	1.4
2022	6.85	5.15	0.136	-	12.68	0.93	0.17	0.01	1.16	0.72	5.10	1.02	-	0.006	0.002	-	1.0
2023	6.60	4.80	0.127	-	12.60	0.77	0.08	0.00	1.05	0.67	5.47	0.68	-	0.002	0.002	-	1.1
2024	6.72	4.86	0.131	-	12.07	0.70	0.07	0.01	1.00	0.70	5.14	0.93	-	0.002	0.002	-	2.6
2025	6.82	5.42	0.137	-	13.58	0.80	0.13	0.00	1.01	0.61	5.29	1.24	-	0.004	0.001	-	1.1

Table 6.5.17 Annual mean values of each parameters from 2005 to 2025 at Komarovka River (Russia)

	Mandatory Parameters : 4 times/year												Mandatory Parameters : Once/year				
	pH	EC	Alkalinity	Gran's ANC	SO_4^{2-}	NO_3^-	Cl^-	NH_4^+	Na^+	K^+	Ca^{2+}	Mg^{2+}	Transparency	PO_4^{3-}	NO_2^-	DOC	COD
		mS/m	meq/L	(meq/L)	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	m	mg/L	mg/L	mg/L	mg/L
2005	7.24	8.75	0.495	-	11.18	0.33	3.09	0.15	3.34	0.60	9.07	2.25	-	*1	*1	-	-
2006	7.08	8.37	0.428	-	9.02	0.26	3.12	0.08	3.10	0.57	8.51	2.27	-	0.014	0.003	-	-
2007	7.15	8.68	0.395	-	10.51	0.26	4.03	0.09	3.39	0.65	8.04	2.34	-	0.010	0.025	-	4.3
2008	7.22	8.68	0.391	-	12.08	0.52	3.06	0.09	3.80	0.62	8.14	2.08	-	0.030	0.053	-	3.6
2009	7.02	8.64	0.351	-	12.59	1.11	3.69	0.22	3.57	0.60	8.21	2.07	-	0.041	0.067	-	4.4
2010	6.99	8.32	0.445	-	8.62	0.99	3.33	0.19	3.21	0.46	8.29	2.12	-	0.013	0.036	-	4.0
2011	7.09	8.86	0.405	-	12.67	1.63	3.11	0.27	3.88	0.74	8.58	2.22	-	0.010	0.018	-	4.4
2012	6.99	8.54	0.384	-	9.61	1.33	3.88	0.45	3.53	0.79	7.88	2.37	-	0.015	0.038	-	5.1
2013	6.84	8.45	0.372	-	11.87	1.27	3.61	0.16	3.44	0.64	7.71	2.66	-	0.006	0.027	-	4.1
2014	6.91	8.45	0.368	-	11.76	2.81	3.16	0.14	3.52	0.72	8.29	2.27	-	0.005	0.033	-	4.6
2015	6.98	8.75	0.404	-	13.46	1.27	3.06	0.12	3.45	0.58	8.73	2.20	-	0.005	0.026	-	4.4
2016	6.71	9.09	0.375	-	14.25	3.68	3.57	0.24	3.82	0.75	8.85	2.02	-	0.005	0.017	-	5.6
2017	6.93	8.93	0.425	-	11.48	3.97	4.36	0.19	4.39	0.87	10.00	1.91	-	0.005	0.016	-	3.3
2018	6.98	8.50	0.383	-	12.78	3.72	2.25	0.08	4.06	1.02	9.20	2.54	-	0.003	0.011	-	4.6
2019	6.64	8.09	0.303	-	12.97	2.45	3.20	0.11	3.95	1.07	8.42	1.42	-	0.007	0.011	-	3.7
2020	6.77	8.59	0.426	-	11.03	2.02	2.87	0.24	4.37	1.52	9.62	2.25	-	0.006	0.027	-	4.2
2021	7.91	11.31	0.554	-	15.12	1.05	6.24	0.11	6.14	1.49	12.82	3.33	-	0.037	0.006	-	3.8
2022	7.27	8.88	0.611	-	8.37	0.44	3.53	0.08	6.32	1.96	9.50	1.97	-	0.013	0.026	-	4.2
2023	6.93	8.11	0.635	-	8.13	0.37	3.38	0.20	6.17	2.39	8.78	1.98	-	0.029	0.020	-	4.8
2024	6.60	7.91	0.646	-	6.54	0.53	3.25	0.14	6.13	1.39	9.36	1.37	-	0.022	0.017	-	5.1
2025	7.15	9.54	0.467	-	10.14	0.69	3.71	0.31	4.97	1.73	7.82	2.01	-	0.064	0.160	-	5.2

- : No analysis or measurement.

*1: Less than determination/detection limit.

Table 6.5.18 Annual mean values of each parameters from 2002 to 2024 at Vajiralongkorn Dam (Ban Pong Chang) (Thailand)

	Mandatory Parameters : 4 times/year												Mandatory Parameters : Once/year				
	pH	EC	Alkalinity	Gran's ANC	SO_4^{2-}	NO_3^-	Cl^-	NH_4^+	Na^+	K^+	Ca^{2+}	Mg^{2+}	Transparency	PO_4^{3-}	NO_2^-	DOC	COD
		mS/m	meq/L	(meq/L)	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	m	mg/L	mg/L	mg/L	mg/L
2002	7.52	12.13	0.625	-	1.15	0.04	0.89	*1	1.14	1.01	13.27	2.98	5.3	0.024	*1	-	4.0
2003	7.45	10.75	0.625	-	1.29	0.01	0.84	*1	1.14	0.97	16.24	3.52	5.0	*1	*1	-	5.8
2004	7.77	11.53	1.050	-	1.27	0.20	0.98	0.05	1.18	0.97	15.68	3.26	5.6	0.023	0.010	-	7.5
2005	7.33	11.18	1.276	-	1.47	0.11	1.05	0.01	1.26	1.02	15.83	3.12	3.6	0.010	0.010	-	<4.0*1
2006	7.21	10.41	1.125	-	1.31	0.20	0.85	0.06	1.14	1.03	16.24	3.17	4.6	<0.01*1	<0.01*1		10.0
2007	7.80	10.41	1.090	-	1.17	0.20	0.75	0.01	1.21	0.96	16.50	3.26	5.1	0.010	0.010	-	5.2
2008	7.71	10.55	1.178	-	1.11	0.05	0.75	<0.01*1	1.16	0.97	16.25	3.23	4.4	<0.01*1	0.010	-	6.8
2009	7.79	10.83	1.111	-	1.33	0.06	0.74	-	1.16	0.95	16.09	3.39	4.4	0.010	<0.01*1	-	-
2010	7.70	11.80	1.176	-	1.55	0.06	0.83	0.01	1.24	1.01	16.59	3.62	3.6	0.010	0.010	-	4.7
2011	7.38	12.76	1.178	-	1.43	0.07	0.82	0.01	1.22	1.04	17.93	3.70	3.0	0.012	<0.01*1	-	5.7
2012	7.32	11.81	1.150	-	1.22	0.19	0.94	0.03	1.21	1.12	16.79	3.53	3.2	0.010	-	-	8.5
2013	7.67	13.53	1.186	-	1.10	0.10	0.87	0.01	1.21	1.02	16.99	3.81	2.8	0.010	-	-	-
2014	7.55	5.62	1.138	-	1.64	0.09	0.88	0.04	1.20	0.95	16.69	3.29	3.8	0.010	-	-	-
2015	7.50	5.33	1.066	-	1.44	0.11	0.93	0.04	1.18	0.86	15.78	3.10	3.0	0.010	-	-	-
2016	7.06	12.16	1.121	-	1.28	0.10	1.06	0.01	1.47	0.96	17.18	3.61	2.7	0.020	-	-	40.0
2017	7.07	11.94	1.193	-	1.57	0.09	1.15	0.01	1.44	1.06	17.91	3.45	2.9	0.018	-	-	-
2018	7.88	12.35	1.130	-	1.11	0.10	0.95	0.01	1.23	1.04	17.21	3.16	3.0	0.010	-	-	-
2019	8.35	12.42	1.072	-	1.53	0.10	1.16	0.02	1.32	1.07	15.10	3.44	3.8	0.010	-	-	-
2020	8.42	12.04	1.070	-	1.24	0.10	1.13	0.01	1.25	0.99	16.38	3.30	4.0	0.010	-	-	-
2021	7.89	10.53	1.168	-	1.39	0.10	1.28	0.01	1.31	1.11	18.73	3.72	3.4	0.010	-	-	-
2022	7.27	12.85	1.168	-	1.95	0.10	1.18	0.01	1.31	1.06	17.66	3.29	3.6	0.010	-	-	-
2023	7.61	12.54	1.196	-	1.20	0.11	1.05	0.01	1.68	0.93	18.60	3.58	3.5	0.010	-	-	-
2024	7.53	12.69	1.118	-	1.25	0.09	1.05	-	-	-	-	-	4.1	0.010	-	-	-

Table 6.5.19 Annual mean values of each parameters from 2002 to 2024 at Vajiralongkorn Dam (Ban Pang Pueng) (Thailand)

	Mandatory Parameters : 4 times/year												Mandatory Parameters : Once/year				
	pH	EC	Alkalinity	Gran's ANC	SO_4^{2-}	NO_3^-	Cl^-	NH_4^+	Na^+	K^+	Ca^{2+}	Mg^{2+}	Transparency	PO_4^{3-}	NO_2^-	DOC	COD
		mS/m	meq/L	(meq/L)	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	m	mg/L	mg/L	mg/L	mg/L
2002	7.31	11.98	0.633	-	1.24	0.06	0.90	*1	1.19	0.99	13.28	2.90	5.5	0.034	*1	-	3.0
2003	7.87	10.50	0.590	-	1.41	0.01	0.84	*1	1.17	0.98	16.24	2.94	5.8	*1	*1	-	7.3
2004	7.24	11.12	1.005	-	1.54	0.20	0.95	0.05	1.21	1.03	16.01	2.83	8.1	0.020	0.010	-	5.0
2005	6.98	11.20	1.015	-	1.29	0.11	1.15	0.03	1.52	1.02	16.16	2.98	4.4	0.135	0.010	-	*1
2006	7.12	10.03	1.046	-	1.44	0.20	0.83	0.03	1.14	1.04	16.19	2.64	5.0	<0.01*1	<0.01*1		11.0
2007	7.84	10.21	1.050	-	1.25	0.20	0.70	0.01	1.13	0.98	16.75	2.98	5.3	0.010	0.010	-	4.0
2008	7.78	9.88	1.104	-	1.49	<0.06*1	0.75	<0.01*1	1.17	1.00	15.65	2.49	4.4	<0.01*1	0.010	-	4.7
2009	7.93	10.30	1.065	-	1.42	0.06	0.73	-	1.14	2.04	15.88	2.79	4.6	0.010	<0.01*1	-	-
2010	7.79	11.16	1.113	-	1.61	0.06	0.76	0.01	1.16	0.99	16.38	2.86	4.1	0.010	0.010	-	7.1
2011	7.41	11.79	1.098	-	1.51	0.07	0.79	0.02	1.18	0.98	16.93	2.92	3.5	0.010	<0.01*1	-	8.4
2012	7.30	9.41	1.048	-	1.85	0.08	0.86	0.03	1.17	1.08	16.25	2.80	3.8	0.010	-	-	6.9
2013	7.90	11.10	1.093	-	1.26	0.10	0.83	0.01	1.14	1.01	16.84	2.88	4.0	0.010	-	-	-
2014	7.75	5.46	1.091	-	1.46	0.07	0.89	0.03	1.22	0.96	16.49	2.70	4.0	0.011	-	-	-
2015	7.87	6.86	1.076	-	1.41	0.10	1.01	0.01	1.40	0.87	16.31	2.72	3.4	0.010	-	-	-
2016	7.28	11.83	1.119	-	1.55	0.11	1.09	0.01	1.51	0.92	17.78	3.15	2.9	0.020	-	-	40.0
2017	7.17	11.85	1.195	-	1.61	0.10	0.98	0.02	1.37	1.04	18.70	2.98	3.6	0.018	-	-	-
2018	7.99	11.42	1.109	-	1.29	0.10	0.89	0.01	1.21	1.03	16.94	2.69	3.8	0.010	-	-	-
2019	8.53	11.85	1.038	-	1.83	0.10	1.22	0.02	1.37	1.11	15.83	3.02	5.0	0.010	-	-	-
2020	8.69	11.86	1.045	-	1.25	0.10	0.97	0.01	1.20	0.99	16.85	2.86	4.3	0.010	-	-	-
2021	8.11	12.52	1.118	-	1.96	0.10	2.02	0.01	1.49	1.11	18.68	3.20	3.3	0.010	-	-	-
2022	7.19	12.55	1.159	-	1.91	0.14	1.13	0.02	1.26	1.06	18.01	2.98	3.6	0.010	-	-	-
2023	7.51	12.61	1.184	-	1.37	0.09	1.04	0.00	1.61	0.95	19.33	3.20	4.4	0.010	-	-	-
2024	7.01	12.25	1.108	-	1.41	0.12	1.09	-	-	-	-	-	4.1	0.010	-	-	-

Table 6.5.20 Annual mean values of each parameters from 2001 to 2025 at Hoa Binh Reservoir (Vietnam)

	Mandatory Parameters : 4 times/year												Mandatory Parameters : Once/year				
	pH	EC	Alkalinity	Gran's ANC	SO_4^{2-}	NO_3^-	Cl^-	NH_4^+	Na^+	K^+	Ca^{2+}	Mg^{2+}	Transparency	PO_4^{3-}	NO_2^-	DOC	COD
		mS/m	meq/L	(meq/L)	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	m	mg/L	mg/L	mg/L	mg/L
2001	7.59	17.40	1.575	-	5.44	0.59	1.16	0.15	1.97	1.22	21.85	6.12	-	-	-	-	-
2002	7.88	17.14	1.613	-	3.90	0.46	1.35	0.21	1.70	1.16	22.53	5.49	-	-	-	-	-
2003	7.29	18.41	1.595	-	6.13	0.63	1.33	0.08	2.14	1.36	24.50	4.78	-	-	-	-	-
2004	6.55	19.27	1.675	-	4.51	1.16	1.38	0.17	2.45	1.11	27.22	4.11	-	-	-	-	-
2005	7.58	19.01	1.605	-	5.62	1.04	1.62	0.16	4.40	1.31	23.12	4.77	-	-	-	-	-
2006	7.22	19.08	1.605	-	7.71	0.87	1.41	0.12	3.62	1.46	25.22	4.87	0.7	0.005	0.006	-	2.2
2007	7.62	19.09	1.613	-	8.14	1.44	1.54	0.11	3.53	1.48	24.90	4.64	0.9	0.015	0.016	-	1.9
2008	7.73	18.26	1.533	-	7.36	1.04	1.65	0.04	2.33	0.91	22.90	5.01	1.5	0.021	0.025	-	2.2
2009	7.98	16.65	1.390	-	6.55	0.67	2.05	0.02	3.10	0.84	20.82	4.49	1.1	0.019	0.010	-	1.4
2010	7.80	17.66	1.420	-	7.26	1.66	2.07	0.11	4.20	1.56	23.30	2.94	1.0	0.013	0.014	-	0.9
2011	7.43	18.46	1.540	-	7.36	1.59	2.26	0.07	3.51	1.26	23.17	4.55	1.1	0.010	0.012	-	3.4
2012	7.10	17.71	1.518	-	4.67	1.52	2.13	0.12	3.59	1.39	23.08	4.25	1.0	0.010	0.016	-	4.3
2013	7.54	17.19	1.435	-	6.92	1.04	2.41	0.14	4.96	1.58	20.02	5.31	1.1	0.008	0.006	-	3.7
2014	7.65	17.22	1.500	-	5.13	0.80	1.64	0.02	3.05	1.31	22.29	4.50	1.1	0.019	0.012	-	3.5
2015	7.60	17.94	1.430	-	7.01	1.47	0.95	0.02	2.93	1.06	24.42	3.65	1.2	0.045	0.009	-	3.5
2016	7.39	18.75	1.545	-	6.70	1.61	1.24	0.00	3.01	1.24	21.84	6.28	1.2	0.038	0.056	-	4.0
2017	7.29	15.85	1.330	-	5.09	1.43	1.04	0.01	2.15	1.09	20.47	4.21	1.0	0.043	0.007	-	4.2
2018	7.81	16.25	1.320	-	4.54	2.13	4.15	0.16	5.82	1.60	18.26	4.56	1.0	0.082	0.006	-	3.9
2019	7.67	18.63	1.505	-	5.42	1.33	4.42	0.08	3.75	1.98	24.28	4.38	1.1	0.108	0.019	-	4.1
2020	7.71	16.70	1.355	-	4.65	1.52	3.00	0.04	3.21	1.84	22.99	2.71	1.2	0.090	0.018	-	4.2
2021	7.69	17.35	1.405	-	4.19	1.35	2.75	0.28	3.28	1.82	23.41	2.66	1.2	0.076	0.022	-	4.4
2022	7.62	17.49	1.506	-	4.33	2.59	1.10	0.10	3.63	1.78	23.55	2.87	1.2	0.064	0.051	-	4.9
2023	7.54	17.53	1.472	-	4.35	2.02	1.45	0.11	3.87	1.81	24.12	2.85	1.2	0.016	0.037	-	5.1
2024	7.46	15.64	1.322	-	4.46	2.10	1.20	0.09	2.47	1.68	23.12	2.14	1.2	0.029	0.049	-	5.6
2025	7.54	17.88	1.448	-	5.00	3.81	2.45	0.14	3.99	1.86	24.30	2.98	1.2	0.032	0.039	-	6.6

- : No analysis or measurement.
*1: Less than determination/detection limit.

CHAPTER 7

Catchment-scale Monitoring

7. Catchment-scale Monitoring

7.1 Method

The Guideline for Catchment-scale Monitoring in East Asia (2010) recommends measuring input from atmosphere (total deposition), output from the catchment (discharge from the stream), and some biogeochemical processes in selected small forest catchments to discuss relationship between seasonal or annual changes in stream water chemistry and those in atmospheric deposition. Material/elemental input-output budget in the catchment can be calculated based on atmospheric deposition chemistry, stream water chemistry, and water balance. Based on the catchment-scale dataset, the simulation model on biogeochemical cycles is expected to be developed.

Analytical results of the EANET catchment data have been included in the previous periodic reports, such as the Third Periodic Report of the State of Acid Deposition in East Asia (PRSAD3) and the Forth Periodic Report of the State of Acid Deposition in East Asia (PRSAD4). In addition, research papers based on the EANET catchment monitoring data have been published in international journals (Sase et al. 2019, Biogeochemistry; Sase et al. 2021, Atmospheric Environment). These scientific publications will also be informative to understand effectiveness of catchment-scale monitoring.

7.1.1 Field Operation

Recommended methods and proposed frequency of major monitoring items in the field are summarized in Table 7.1. The existing EANET technical documents can be referred in the field operation for the items. Moreover, the existing EANET data on wet and dry deposition collected at the nearest monitoring sites can be used to calculate total deposition. Similarly, the existing EANET data on soil and vegetation can be referred as the relevant information on biogeochemical processes.

Table 7.1 Methods and frequency of major monitoring items

Items		Recommended methods	Proposed frequency
Input (total deposition)	Precipitation amount	Rain gauge	Continuously or daily
	Wet deposition[*1]	Wet-only sampling	Daily or weekly
		Bulk sampling (when electricity is not available)	Weekly or biweekly
	Dry deposition[*1]	Inferential method: based on Filter pack data and Meteorological data	Weekly (for filter pack method)
		Automatic monitors (alternative for air concentration)	Continuously
	Total deposition	Wet + Dry	Biweekly or monthly
		Throughfall–Stemflow method (when electricity is not available)	Biweekly
Output (discharge from the stream)	Water discharge	Weir	Continuously or biweekly
		H-Q curve method (when a weir is not available)	
	Stream water chemistry	Periodical collection of stream water	Weekly or biweekly
		Intensive sampling	During heavy-rain or snow-melting events
	Chemical discharge	Calculation based on the water flux and the chemical concentration	Biweekly, monthly or annual
Soil	Soil chemistry[*1]	Collection from the permanent plots	Once for several years
Vegetation	Plant growth[*1]	Measurement of tree size (diameter at breast height, height of tree and name of species)	Once for several years

Note. [*1], The relevant EANET data can be referred.

7.1.2 Laboratory Operation

Table 7.2 Chemical parameters for the respective items

Items	Parameters
Rainwater samples	Mandatory: SO_4^{2-}, NO_3^-, Cl^-, NH_4^+, Ca^{2+}, Mg^{2+}, Na^+, K^+, Electric conductivity (EC), and pH Optional: Total organic nitrogen (TON), Total organic carbon (TOC)
Stream water samples	Mandatory: SO_4^{2-}, NO_3^-, Cl^-, NH_4^+, Ca^{2+}, Mg^{2+}, Na^+, K^+, Electric conductivity (EC), pH, and Alkalinity (Gran's ANC and/or pH 4.8 endpoint) Optional: SiO_2, TON, TOC, Total dissolved Al
Air concentrations (by filter pack method)	Cations: NH_4^+, Ca^{2+}, Mg^{2+}, Na^+, and K^+, Anions: SO_4^{2-}, NO_3^-, and Cl^-, Gasses: SO_2, HNO_3, HCl, and NH_3
Soil chemistry	pH(H_2O), pH(KCl), Exchangeable Base Cations (Ca^{2+}, Mg^{2+}, K^+, and Na^+), Exchangeable Acidity, Al and H, Effective Cation Exchangeable Capacity

Chemical parameters for the respective monitoring items are shown in Table 7.2. Basically, the parameters are same as those for other EANET monitoring items. The existing EANET technical documents can also be referred to in the laboratory operation.

7.1.3 Data Management

Data quality was controlled and assured according to the EANET QA/QC program. In particular, for rainwater and stream water samples, ion balance (R_1) and conductivity check (R_2) can be applied to check the analytical results as same as monitoring on wet deposition and inland aquatic environment.

The data should be evaluated on a catchment scale. The input-output budget should be calculated based on the atmospheric deposition chemistry, stream water chemistry, and water balance to outline the material/elemental cycles in the catchment. The standard units should be used for the input and output. Recommended basic units for evaluation is as follows:

- Water flux (precipitation amount and stream water discharge): mm
- Chemical concentration: $mol_c\ L^{-1}$ (ex. $\mu mol_c\ L^{-1}$ or $mmol_c\ L^{-1}$)
- Ion flux (deposition, discharge or soil/vegetation flux): $mol_c\ ha^{-1}$ or $mol_c\ m^{-2}$
- Elemental flux for N and S: $kg\ ha^{-1}\ y^{-1}$ or $g\ m^{-2}\ y^{-1}$

Based on the compiled data with the standard units on a water-year basis, initial evaluations should be made for the following items:

- Water balance on a catchment-scale: input, output and possible evapotranspiration
- Material/elemental balance on a catchment-scale: input-output budget

Dataset should be submitted to the Network Center after an initial evaluation is done by the national center. Since the catchment-scale data should be evaluated based on the water year, the dataset should be compiled on a water-year basis of the respective catchment sites.

7.1.4 Monitoring sites

Several EANET countries have experience of catchment-scale analysis as research activities and/or national monitoring activities. Many research projects were conducted by universities and institutes in China and Japan. The case studies have been conducted in Japan, Malaysia, Russia, and Thailand as the EANET joint research projects. Some countries may have an intention to start regular catchment-scale monitoring as a part of the EANET activities.

Japan submitted the data of the Lake Ijira Catchment, which was started in 2007. Moreover, the Philippines has just started the regular monitoring in 2019. Site characteristics and the survey outline are shown in Table 7.3 and 7.4, respectively. The maps of the Lake Ijira catchment site and the La Mesa Watershed site are shown in Figure 7.1 and 7.2, respectively.

Table 7.3 Site for the catchment-scale monitoring

Country	Site name (and name of river/stream)	Catchment area (km^2)	Geology and soil type	Coverage of forest (%)	Start year
Japan	Lake Ijira Catchment (IJR) , (Kamagatani River)	2.98 at Kamagata ni River	Chert, Cambisols (brown forest soils)	99.6%,	November 2007 (the water year here: from November to the next October)
Philippines	La Mesa Watershed (LMW), (Stream at Tower 1 Station)	0.186 at Tower 1 (La Mesa Watershed (LMW) total area: 26.59)	Clastic and volcanic rocks, Loamy-sand soil at Tower 1	For the whole LMW, 81.5%;	January 2019

Site	Major tree species
IJR	Japanese cedar (*Cryptomeria japonica),* Japanese cypress (*Chamaecyparis obtusa),* and Japanese red pine (*Pinus densiflora)*
LMW	Yemane (*Gmelina arborea* Roxb.), Auriculiformis (*Acacia auriculiformis* A. Cunn. Ex Berth.) , Mangium (*A. mangium* Willd.), Narra (*Pterpcarpus indicus* Willd. forma *indicus*), Mahogany (*Swietenia macrophylla* King), Teak (*Tectona grandis* L.*f.)*, Ipil-ipil (*Leucaena leucocephala* De Wit), Kaatoan bangkal (*Anthocephalus chinensis* (Lam.) A. Rich. Ex Walp. And Alibangbang (*Bauhinia malabarica* Roxb.)

Table 7.4 Survey outline for the catchment-scale monitoring

Site	Items	Detailed items
Lake Ijira Catchment	Input (total deposition)	1. Precipitation amount (at 3 different slope positions) 2. Wet deposition: Ijira[*1] 3. Dry deposition (Air concentration measurement for Inferential method): Ijira[*1] 4. Total deposition (calculated as wet+dry)
	Output (chemical discharge)	1. Water discharge (by H-Q curve method) 2. Stream water chemistry: biweekly 3. Chemical discharge
	Soil[*2]	Soil chemical properties: Lake Ijira
	Vegetation[*2]	1. Plant growth: Lake Ijira 2. Species composition: Lake Ijira
La Mesa Watershed	Input (total deposition)	1. Precipitation amount (PAGASA-Science Garden Station) 2. Wet deposition: Metro Manila *(MM) site located at the top of Ionosphere Office, MO, AdMU*[*1] 3. Dry deposition (Air concentration measurement for Inferential method): Metro Manila *(MM) site (same location*[*1] 4. Total deposition (calculated as wet+dry)
	Output (chemical discharge)	1. Water discharge: (using the Float Method) 2. Stream water chemistry: monthly 3. Chemical discharge: not determined yet
	Soil[*2]	Soil chemical properties: La Mesa Watershed
	Vegetation[*2]	3. Plant growth: La Mesa Watershed 4. Species composition: La Mesa Watershed

Note. [*1], The data from the EANET deposition monitoring site will be used; [*2], The data from the EANET soil and vegetation monitoring plots will be referred.

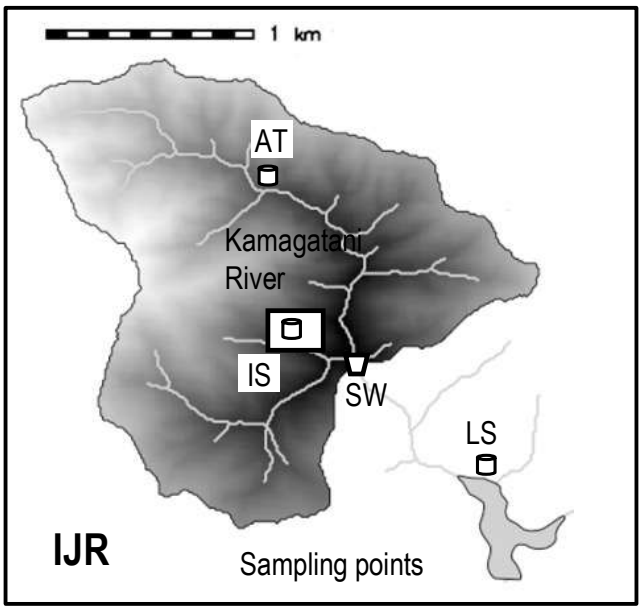


Figure 7.1 Catchment area and sampling design at the Lake Ijira catchment site

Precipitation amount is monitored at three points, namely, Akatani (AT), the Ijira site for wet/dry deposition monitoring (IS), and Lakeside (LS). SW indicates the point for stream water sampling and discharge. Darker colors indicate lower altitudes.

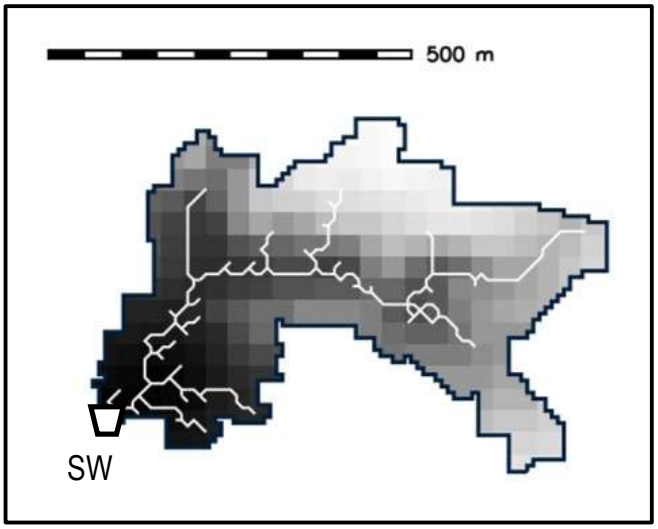


Figure 7.2 Catchment area and sampling design at the La Mesa Watershed site (Stream at Tower 1 Station)

SW indicates the stream water sampling point. Precipitation amount and wet/dry deposition are monitored at the PAGASA- Science Garden Station and the Metro Manila EANET site. Darker colors indicate lower altitudes.

7.2 Results of Monitoring

The list of the dataset submitted to the NC is shown in Table 7.5.

Table 7.5 List of the dataset submitted for Data Report 2025

Site	Items	Detailed items	Water year
Lake Ijira Catchment	Input [*1]	1. Precipitation amount (at 3 different slope positions)	2024-2025[*2]
	Output	1. Water discharge 2. Stream water chemistry: biweekly 3. Chemical discharge	2024-2025[*2]
La Mesa Watershed	Input [*1]	1. Precipitation amount (observed at PAGASA- Science Garden Station)	2025
	Output	1. Stream water chemistry: monthly	2025

Note. [*1], The data of wet deposition and dry deposition (air concentration) in the EANET deposition monitoring site for the same period can be found in Data Reports 2023 and/or 2024; [*2], The water year was defined as the period from November to October in the following year at Lake Ijira Catchment. Soil chemical properties, plant growth and understory-species composition were surveyed as a part of soil and vegetation monitoring in 2021 and 2010 at Lake Ijira Catchment and La Mesa Watershed, respectively.

The submitted data above are summarized in the following tables.

Table 7.6: Water balance in the catchment

Table 7.7: Stream water chemistry

Table 7.8: Periodic chemical discharges from the stream

Table 7.9: Annual chemical discharges from the stream

Table 7.6a Water balance in the catchment: Lake Ijira Catchment

Fluxes[*1]	Points	Water year[*2]
		2024-2025
Input by precipitation, mm y^{-1}	Akatani (260 m)	2887
	Ijira monitoring site (140 m)	2935
	Lakeside (110 m)	5641
	Mean	2821
Output by the stream, mm y^{-1}	Outlet of Kamagatani River	2602
Runoff rate, %		92

Note. [*1], Fluxes were calculated based on the catchment area, 2.98 km^2, at the outlet of Kamagatani River; [*2], The water year: from November to the next October.

Table 7.6b Water balance in the catchment: La Mesa Watershed

Fluxes[*1]	Points	Year
		2025
Input by precipitation, mm y^{-1}	Science Garden	
Output by the stream, mm y^{-1}	Outlet of Tower 1 Stream	2170
Runoff rate, %		

Note. [*1], Fluxes were calculated based on the catchment area, at the outlet of Tower 1 Stream. [*2], Average of flow measured during the monitoring activities in April and in December 2019 in the dry season: 0.0231 $m^3 s^{-1}$

Table 7.7a Stream water chemistry: Lake Ijira Catchment (Water year 2024-2025)

Collection date	pH	EC	alkalinity		SO_4^{2-}	NO_3^-	Cl^-	Na^+	Ca^{2+}	Mg^{2+}	K^+	NH_4^{+*1}	H^+	Al	TOC	SiO_2	Water level
			pH4.8	Gran's ANC													
		$mS\ m^{-1}$							$\mu mol_c\ L^{-1}$					$mg\ L^{-1}$	$mg\text{-}C\ L^{-1}$	$mg\text{-}SiO_2\ L^{-1}$	m
2024/11/15	6.90	3.92	158	146	125	15.0	52.4	91	137	115	6.4	< 3.0	0.13	< 0.02	0.6	8.9	0.27
2024/11/29	6.82	4.09	152	139	137	22.8	53.5	91	144	121	6.2	< 3.0	0.15	< 0.02	0.5	8.3	0.26
2024/12/13	6.90	4.19	150	133	148	20.6	52.7	94	148	125	4.9	< 3.0	0.13	< 0.02	0.3	8.1	0.25
2024/12/25	6.88	4.27	152	137	155	21.0	54.4	96	152	129	4.9	< 3.0	0.13	< 0.02	0.3	7.8	0.25
2025/01/15	7.00	4.07	140	127	141	22.9	52.5	89	143	121	4.6	< 3.0	0.10	< 0.02	0.5	7.6	0.30
2025/01/31	6.91	4.19	148	134	150	18.0	55.5	94	150	126	4.5	< 3.0	0.12	< 0.02	0.3	7.6	0.27
2025/02/18	7.04	3.95	126	114	129	29.5	63.9	89	139	118	4.5	< 3.0	0.09	< 0.02	0.3	7.3	0.39
2025/02/28	6.87	4.06	142	132	140	21.3	57.0	92	144	123	4.6	< 3.0	0.14	< 0.02	0.4	7.6	0.34
2025/03/14	7.01	3.80	142	130	124	17.0	53.4	85	131	111	4.7	< 3.0	0.10	0.03	0.9	8.2	0.34
2025/03/25	7.06	4.09	158	147	139	15.6	53.3	92	145	123	5.1	< 3.0	0.09	< 0.02	0.7	8.2	0.30
2025/04/14	6.97	3.68	132	121	113	31.1	52.1	83	133	111	6.6	< 3.0	0.11	< 0.02	0.6	7.4	0.42
2025/04/30	7.04	3.81	152	141	120	13.9	52.2	89	137	115	6.5	< 3.0	0.09	< 0.02	0.4	8.6	0.33
2025/05/13	6.93	3.65	148	136	112	12.2	50.5	86	133	110	6.5	< 3.0	0.12	< 0.02	0.7	8.5	0.37
2025/05/30	7.00	3.87	160	145	117	11.4	51.3	89	140	117	7.0	< 3.0	0.10	< 0.02	0.6	8.8	0.34
2025/06/13	7.04	3.57	146	139	107	14.9	49.3	84	130	108	6.6	< 3.0	0.09	< 0.02	0.5	8.6	0.40
2025/06/30	7.00	3.54	146	135	105	12.5	51.4	86	128	107	6.9	< 3.0	0.10	< 0.02	0.7	9.0	0.37
2025/07/18	6.57	2.68	86	74	77	16.6	48.3	69	86	71	6.8	< 3.0	0.27	< 0.02	0.6	7.7	0.56
2025/07/30	6.79	3.64	144	132	109	12.6	52.1	89	129	106	7.6	< 3.0	0.16	< 0.02	0.5	9.3	0.31
2025/08/13	6.67	3.12	124	104	89	16.0	49.1	79	108	89	6.9	< 3.0	0.22	< 0.02	0.4	8.6	0.46
2025/08/29	6.62	3.90	156	138	123	14.8	53.3	95	139	115	8.0	< 3.0	0.24	< 0.02	0.6	9.5	0.32
2025/09/16	6.96	4.13	170	143	124	28.5	48.9	95	147	121	7.2	< 3.0	0.11	< 0.02	0.5	9.3	0.32
2025/09/29	6.96	4.35	174	153	137	28.4	51.5	97	155	129	7.5	< 3.0	0.11	< 0.02	0.5	9.2	0.31
2025/10/14	6.90	4.29	170	149	139	23.8	52.2	98	155	130	7.4	< 3.0	0.13	< 0.02	0.5	9.1	0.31
2025/10/30	7.04	4.00	152	131	129	26.4	49.8	90	143	119	6.0	< 3.0	0.09	< 0.02	0.4	8.6	0.33

Note. The water year was difined as the period from November to October in the following year. *1, The data were processed according to the determination limit decided by the data quality objectives (DQO) of EANET.

Table 7.7b Stream water chemistry: La Mesa Watershed (Year 2025)

Collection date	pH	EC	alkalinity pH4.8	PO_4^{3-}	NO_2^-	SO_4^{2-}	NO_3^-	Cl^-	Na^+	Ca^{2+}	Mg^{2+}	K^+	NH_4^+	H^+
		$mS\ m^{-1}$							$\mu mol_c\ L^{-1}$					
2025/02/19	7.76	27.4	2619	9.9	0.00	47.9	16.4	57.7	589	1100	778	51.6	4.8	0.02
2025/03/19	7.69	29.8	3122	0.0	0.16	47.2	12.3	63.3	763	1467	928	62.2	1.8	0.02
2025/04/14	7.65	27.2	2788	21.6	0.23	70.8	10.2	82.0	721	1266	800	91.0	10.9	0.02
2025/05/21	7.87	30.3	3073	26.9	0.78	38.0	10.6	54.4	834	1526	1010	78.1	45.9	0.01
2025/06/20	7.51	30.4	2931	16.8	1.03	45.1	13.1	59.0	735	1331	816	63.0	7.7	0.03
2025/07/16	6.45	25.4	2196	11.0	0.35	45.0	15.0	49.1	548	1016	565	48.1	1.7	0.35
2025/08/12	7.98	20.9	2007	14.8	0.41	47.9	13.6	53.2	630	958	630	44.4	< 0.6	0.01
2025/09/17	7.88	20.6	2266	6.7	0.14	39.4	12.8	36.8	509	933	616	38.4	< 0.6	0.01
2025/10/15	7.60	20.5	2047	11.9	0.08	46.6	15.0	55.7	513	932	597	41.8	1.7	0.03
2025/11/12	7.91	18.2	1840	12.1	0.22	43.7	15.7	47.0	441	833	536	41.5	< 0.6	0.01
2025/12/17	7.66	23.5	2309	15.7	0.00	40.9	11.9	56.2	343	546	371	14.5	< 0.6	0.02

Table 7.8 Periodic chemical discharges from the stream: Lake Ijira Catchment (Water year 2024-2025)

Start date	End date	alkalinity		SO_4^{2-}	NO_3^-	Cl^-	Na^+	Ca^{2+}	Mg^{2+}	K^+	NH_4^+	H^+	Al	TOC	SiO_2	Periodic discharge
		pH4.8	Gran's ANC													
		$kmol_c\ ha^{-1}$											$kg\ ha^{-1}$	$kg\text{-}C\ ha^{-1}$	$kg\text{-}SiO_2\ ha^{-1}$	mm
2024/10/31	2024/11/15	0.10	0.09	0.07	0.01	0.03	0.05	0.08	0.07	0.004	ND	8.51E-05	ND	0.30	5.3	63
2024/11/15	2024/11/29	0.04	0.04	0.03	0.00	0.01	0.02	0.03	0.03	0.002	ND	3.45E-05	ND	0.13	2.1	25
2024/11/29	2024/12/13	0.03	0.03	0.03	0.01	0.01	0.02	0.03	0.03	0.001	ND	3.24E-05	ND	0.09	1.9	24
2024/12/13	2024/12/25	0.03	0.02	0.03	0.00	0.01	0.02	0.03	0.02	0.001	ND	2.19E-05	ND	0.05	1.3	18
2024/12/25	2025/01/15	0.06	0.05	0.06	0.01	0.02	0.04	0.06	0.05	0.002	ND	4.48E-05	ND	0.16	3.0	55
2025/01/15	2025/01/31	0.05	0.05	0.05	0.01	0.02	0.03	0.05	0.04	0.002	ND	3.88E-05	ND	0.15	2.7	36
2025/01/31	2025/02/18	0.09	0.08	0.09	0.02	0.04	0.06	0.09	0.08	0.003	ND	6.80E-05	ND	0.21	4.8	64
2025/02/18	2025/02/28	0.06	0.06	0.06	0.01	0.03	0.04	0.07	0.06	0.002	ND	5.49E-05	ND	0.17	3.6	45
2025/02/28	2025/03/14	0.19	0.18	0.18	0.03	0.08	0.12	0.19	0.16	0.006	ND	1.64E-04	ND	0.85	10.8	150
2025/03/14	2025/03/25	0.07	0.06	0.06	0.01	0.02	0.04	0.06	0.05	0.002	ND	4.24E-05	ND	0.36	3.6	43
2025/03/25	2025/04/14	0.13	0.12	0.11	0.02	0.05	0.08	0.12	0.10	0.005	ND	8.78E-05	ND	0.56	6.8	95
2025/04/14	2025/04/30	0.19	0.17	0.15	0.03	0.07	0.11	0.18	0.15	0.009	ND	1.33E-04	ND	0.61	10.7	146
2025/04/30	2025/05/13	0.15	0.14	0.11	0.01	0.05	0.09	0.13	0.11	0.006	ND	1.03E-04	ND	0.53	8.4	112
2025/05/13	2025/05/30	0.19	0.18	0.14	0.01	0.06	0.11	0.17	0.14	0.009	ND	1.38E-04	ND	0.80	10.9	129
2025/05/30	2025/06/13	0.16	0.15	0.12	0.01	0.05	0.09	0.14	0.12	0.007	ND	9.82E-05	ND	0.53	9.0	115
2025/06/13	2025/06/30	0.38	0.36	0.28	0.04	0.13	0.22	0.34	0.28	0.017	ND	2.47E-04	ND	1.52	23.0	325
2025/06/30	2025/07/18	0.35	0.31	0.27	0.04	0.15	0.23	0.32	0.27	0.020	ND	5.56E-04	ND	1.91	25.1	450
2025/07/18	2025/07/30	0.12	0.11	0.10	0.02	0.05	0.08	0.11	0.09	0.008	ND	2.26E-04	ND	0.58	8.9	118
2025/07/30	2025/08/13	0.22	0.20	0.16	0.02	0.08	0.14	0.20	0.16	0.012	ND	3.14E-04	ND	0.75	14.8	226
2025/08/13	2025/08/29	0.14	0.12	0.11	0.02	0.05	0.09	0.13	0.10	0.008	ND	2.35E-04	ND	0.49	9.2	102
2025/08/29	2025/09/16	0.12	0.10	0.09	0.02	0.04	0.07	0.10	0.08	0.005	ND	1.25E-04	ND	0.40	6.7	70
2025/09/16	2025/09/29	0.07	0.06	0.06	0.01	0.02	0.04	0.06	0.05	0.003	ND	4.72E-05	ND	0.23	4.0	42
2025/09/29	2025/10/14	0.11	0.10	0.09	0.02	0.03	0.06	0.10	0.09	0.005	ND	7.90E-05	ND	0.32	6.0	63
2025/10/14	2025/10/30	0.15	0.13	0.12	0.02	0.05	0.09	0.14	0.11	0.006	ND	1.00E-04	ND	0.40	8.0	87

Note. Periodic chemical discharges were calculated based on the mean concentrations and the water discharge for the respective sampling intervals.

Table 7.9 Annual chemical discharges from the stream: Lake Ijira Catchment (Water year 2024-2025)

Water year	alkalinity		SO_4^{2-}	NO_3^-	Cl^-	Na^+	Ca^{2+}	Mg^{2+}	K^+	NH_4^+	H^+	Al	TOC	SiO_2
	pH4.8	Gran's ANC												
	$kmol_c\ ha^{-1}$											$kg\ ha^{-1}$	$kg\text{-}C\ ha^{-1}$	$kg\text{-}SiO_2\ ha^{-1}$
2024 - 2025	3.2	2.9	2.6	0.4	1.2	1.9	2.9	2.5	0.1	0.0	0.0	ND	12.1	191