

The Fourth Senior Technical Managers' Meeting
of the Acid Deposition Monitoring Network
in East Asia
1-3 October 2003, Niigata, Japan

Overview of the national monitoring plans of the participating countries in 2003 (The summary table)

The Network Center of EANET

Country/items	Monitoring sites	Classification	Monitoring interval	Measurement Parameters	Remarks (start time)	Site information	Available Data(2002)	
<China> Wet deposition	Chongqing -Guanyinqiao -[Nanshan] →Jinyunshan Xi'an -shizhan -Weishuiyuan -[Dabagou]→Jiwozi Xiamen -Hongwen -Xiaoping Zhuhai -Xiang Zhou -Zhuxian Cavern	Urban Rural Urban Rural Remote Urban Remote Urban Urban	[Event]→daily [weekly]→daily [event]→daily [event]→daily [event]→daily daily daily daily daily	All required items (pH,EC,SO ₄ ²⁻ ,NO ₃ ⁻ ,Cl ⁻ ,NH ₄ ⁺ ,Na ⁺ , K ⁺ ,Ca ²⁺ , and Mg ²⁺ , (F ⁻)) "ditto" "ditto" "ditto" "ditto" "ditto" "ditto"	April '99 January, '01 April '99 April '99 January, '01 April '99 April '99 May '99 December '99	Y Y Y Y Y Y Y Y Y Y	Y Y Y Y Y Y Y Y Y Y	
	Dry deposition	Chongqing -Guanyinqiao -[Nanshan]→Jinyunshan Xi'an -[Jiancezhan] →[] -Weishuiyuan -[Dabagou]→Jiwozi Xiamen -Hongwen -Xiaoping→[] Zhuhai -Xiang Zhou -Zhuxian Cavern→[]	Urban Rural Urban Rural Remote Urban Remote Urban Urban	— AT(daily) — AT(daily) — AT(daily) — AT(daily) —	None SO ₂ , NO ₂ , PM ₁₀ None SO ₂ , NO ₂ , PM ₁₀ None SO ₂ , NO ₂ , PM ₁₀ None SO ₂ , NO ₂ , PM ₁₀ None			- Y - Y - Y - Y -

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<China> soil and vegetation	Chongqing -[Nanshan] →Jinyunshan Xi'an	Rural	Every 3 years (soil;2003)	Tree decline, Abnormalities of leaves and branches(Ions etc.in soil)			-
	-[Dabagou]→Jiwozi	Remote	Every 3 years (soil& Veg;2003)	Tree decline, Abnormalities of leaves and branches(Ions etc.in soil)			-
	Xiamen	Remote	Every 3 years (soil& Veg;2003)	Tree decline, Abnormalities of leaves and branches(Ions etc.in soil)			-
	-Xiaoping	Urban	Every 3 years (soil& Veg;2003)	Tree decline, Abnormalities of leaves and branches(Ions etc.in soil)			-
	Zhuhai						
	-Zhuxian dong						
	Chongqing	Rural	4times/yr.	Water quality of Jinyunshan			Y
	-[Nanshan] →Jinyunshan Xi'an	Remote	4times/yr.	Water quality of Jiwozi (Stream)			Y
<Indonesia> Wet deposition	-[Dabagou]→Jiwozi	Remote	4times/yr.	Water quality of Xiaoping			Y
	Xiamen	Remote	4times/yr.	Water quality of Zhuxian Cavern			Y
	-Xiaoping	Urban	4times/yr.				Y
	Zhuhai						Y
	-Zhuxian Cavern						
	Jakarta(BMG)	Urban	weekly* event	All required items	April '98	Y	N
	Serpong(EMC)	Rural	weekly* event*	"ditto"	April '98		Y
	Kototabang(BMG)	Remote	AT(1hr) →[]	"ditto"	April '98		N
Bandung(LAPAN)	Urban	AT(1hr) →[]	"ditto"	January '99		Y	
Dry deposition	Jakarta(BMG) →[]	Urban	FP	SO ₂ ,HNO ₃ ,HCl,NH ₃ ,PMC			-
	Serpong(EMC)	Rural	AT(1hr) →[]	SO ₂ ,NO _x ,O ₃			Y
	Kototabang(BMG) →[]	Remote	Twice/yr twice/yr(once/3years from 2003)	Decline, K etc. in leaves & ions in soil	From '03		-
	Bandung(LAPAN)	Urban	4times/yr.	Water quality of Patenggang	From '02		Y
Soil and vegetation	Serpong(EMC)	Rural					
	Bogor Reserch Forest(Puslitanak)	Rural					
Inland aquatic environment	Lake Patenggang	Rural					

Country/items	Monitoring sites	Classification	Monitoring interval	Measurement Parameters	Remarks (start time)	Site information	Available Data(2002)	
<Japan> Wet deposition	10 Sites	Remote	daily	All required items	Start from April '98	Y	Y	
	Rishiri	Remote	daily	(pH, EC, SO ₄ ²⁻ , NO ₃ ⁻ , Cl ⁻ , NH ₄ ⁺ , Na ⁺ , K ⁺ , Ca ²⁺ , and Mg ²⁺)	(Some sites started from (April '99)		Y	
	Tappi	Remote	daily				Y	
	Ogasawara	Remote	daily				Y	
	Sado/(Sado-seki)	Remote	daily				Y	
	Happo	Remote	daily				Y	
	Okii	Remote	daily				Y	
	Ashizuri→[Yusuhara]	Remote	daily				Y	
	Kunigami→[Hedo]	Remote	daily				Y	
	(8 Remote sites)	Remote	daily				Y	
	Ijira	Rural	weekly(daily composite sample)				Y	
	Banryu	Urban	weekly(daily composite sample)				Y	
	Dry deposition	Rishiri	Remote	AT*(1hr)	SO ₂ , NO, NO _x , O ₃ , PMC	*(+FP from '02)		Y
		Tappi	Remote	AT*(1hr)	"ditto"	*(+FP from '03)		Y
Ogasawara		Remote	AT*(1hr)	"ditto"	*(+FP from '03)		Y	
Sado/(Sado-seki)		Remote	AT*(1hr)	"ditto"	*(+FP from '03)		Y	
Happo		Remote	AT*(1hr)	"ditto"	*(+FP from '03)		Y	
Okii		Remote	AT*(1hr)	"ditto"	*(+FP from '02)		Y	
Ashizuri→[Ushuhara]		Remote	AT*(1hr)	"ditto"	*(+FP from '03)		Y	
Kunigami→[Hedo]		Remote	AT*(1hr)	"ditto"	*(+FP from '03)		Y	
Ijira		Rural.	AT*(1hr)	"ditto"	*(+FP from '03)		Y	
Banryu		Urban	AT*(1hr)	"ditto"	*(+FP from '03)		Y	
Soil and vegetation inland aquatic environment	Lake Ijira	Rural/Ecolog.	Once in 3-5 years	All required items			-	
	Lake Banryu	Urban/Ecolog	Once in 3-5 years	All required items			-	
	Lake Ijira	Rural/Ecolog.	4times/yr.	Water quality of Lake Ijira			Y	
	Lake Banryu	Urban/Ecolog	4times/yr.	Water quality of Lake Banryu			Y	

Country/items	Monitoring sites	Classification	Monitoring interval	Measurement Parameters	Remarks (start time)	Site information	Available Data(2002)	
<Malaysia> Wet deposition	Petaling Jaya Tanah Rata Lembah Danum	Urban	weekly*	All required items	April '98 January '99 From '03	Y	Y	
		Remote	weekly*				Y	
		Remote	weekly*				-	
Dry deposition	Petaling Jaya Tanah Rata Lembah Danum	Urban	AS,(PS)(7day)	PMC, SO ₂ , NO ₂ , HNO ₃ , NH ₃	From '03		Y	
		Remote	FP(PS)(7day)	PMC, SO ₂ , NO ₂ , HNO ₃ , NH ₃		Y		
		Remote	FP,(PS)(7day)	—		-		
Soil and vegetation	Pasoh Reserve Forest Sungai Tekala Reserve Forest	Remote	—		From '01		-	
		Remote	—		From '02		-	
<Mongolia> Wet deposition	Ulaanbaatar Terej	Urban	daily	All required items(+F)	August '98 September '98	Y	Y	
		Remote	daily				Y	
		Urban	FP(Weekly)				SO ₂ , HNO ₃ , HCl, NH ₃ , PMC	Y
		Remote	FP(Weekly)				SO ₂ , HNO ₃ , HCl, NH ₃ , PMC	Y
		Urban/Ecolog	Every 3-5 years				PH(H ₂ O), pH(KCl), Exchange able acidity	-
inland aquatic environment	Terej river- Terej	Remote/Ecolog	4 times/yr.	Water quality of Terej river	From '02		Y	
<Philippines> Wet deposition	Metro Manila Los Banos	Urban	weekly	All required items	April '99 April '99	Y	Y	
		Rural	weekly				Y	
		Urban	FP(weekly)				SO ₂ , HNO ₃ , HCl, NH ₃ , PM	Y
Dry deposition	Metro Manila Los Banos	Rural	FP(weekly)	SO ₂ , HNO ₃ , HCl, NH ₃ , PM			Y	
		Rural	Once in 3 years	(Tree decline, description tree & ions in soil etc.)	From '01		N	
		Rural	Once in 3 years					N
Soil and vegetation	Los Banos Laguna (Makiling Forest Reserve) UP-Quzon Land Grant	Rural	4 times a year	Water quality of Los Banos	From '02		Y	
		Rural						
inland aquatic environment	Los Banos(Mojicap lake)	Rural						

Country/items	Monitoring sites	Classification	Monitoring interval	Measurement Parameters	Remarks (start time)	Site information	Available Data(2002)	
<Republic of Korea> Wet deposition	Kanghwa Cheju(Kosan) Imsil	Rural Remote Rural	weekly→daily weekly→daily weekly	All required items	March '99 April '99 From '01	Y	N N N	
	Kanghwa Cheju(Kosan) Imsil	Rural Remote Rural	Twice a week Twice a week Twice a week	PM _{2.5} , ions inPM _{2.5} PM _{2.5} , ions inPM _{2.5} SO ₂ ,HNO ₃ ,NH ₃ ,HCL,PM _{2.5} ions inPM _{2.5}	From '01 From '01 From '01		N N N	
	Mt.Naejang	Rural	Every 3 years	(Tree decline, description tree & ions in soil)	From '01		N	
<Russia> Wet deposition	Mondy Listvyanka Primorskaya(Vladiv) Irkutsk	Remote Rural Rural Urban	daily daily event event	All required items(+HCO ₃ ⁻) "ditto" "ditto" "ditto"	May '99 From '01 From '02 From '01	Y	Y Y Y Y	
	Mondy Listvyanka Primorskaya(Vladiv) Irkutsk	Remote Rural Rural Urban	FP(weekly) FP(weekly) FP(weekly) FP(weekly)	SO ₂ ,HNO ₃ ,HCL,NH ₃ ,PMC "ditto" "ditto" "ditto"	From '01 From '01 From '01 From '01		Y Y Y Y	
	Mondy Bolshiekoti Irkutsk	Remote Rural Urban	Once/3-5 years Once/3-5 years Once/3-5 years	Tree decline, description tree & ions in soil	From '01 From '01 From '02		- - Y	
	inland aquatic environment	[Lake Ilchir] → Stream Krestovka	Remote Rural	12times/yr	Water quality of Krestovka	From '01 (Sites will increase 2 to 4 in '02)		Y

Country/items	Monitoring sites	Classification	Monitoring interval	Measurement Parameters	Remarks (start time)	Site information	Available Data(2002)
<Thailand> Wet deposition	Bangkok(PCD) Samutprakarn(TMD) Patumthani(ERIC) Vachiralongkorn Dam Mae-Hia campus (Chiang Mai University) Bangkok(OEPP)	Urban Urban Rural Remote Rural	daily daily daily daily daily	All required items	April '99 April '99 March '99 April '99 From '01	Y	Y - Y Y Y
Dry deposition	Bangkok(OEPP)	Urban	AT(1hr) HV(daily) FP	SO ₂ ,NO,NO _x , TSP, PM ₁₀ SO₂,HNO₃,HCl,NH₃⁺,PMC			Y
	Samutprakarn(TMD)	Urban	AT(1hr) HV(daily) FP	SO ₂ ,NO,NO _x , O ₃ TSP SO₂,HNO₃,HCl,NH₃⁺,PMC			Y
Soil and vegetation	Patumthani(ERIC) Vachiralongkorn Dam	Rural Remote	AT(1hr) FP FP	SO ₂ ,NO,NO _x ,PM ₁₀ , O ₃ SO₂,HNO₃,HCl,NH₃⁺,PMC			Y
Inland Aquatic environment	Mae-Hia campus (Chiang Mai University) Vachiralongkorn Dam	Rural Remote Remote	2 times/year 4 times/year	Tree Decline, ions in soil Water quality of Vachiralongkorn Dam			Y Y
<Viet nam> Wet deposition	Hanoi Hoa Binh	urban rural	daily** daily**	All required items	August '99 August '99	Y	Y Y
Dry deposition	Hanoi Hoa Binh	urban rural	FP(weekly) FP(weekly)	SO ₂ ,HNO ₃ ,HCl,NH ₃ ⁺ ,PMC SO ₂ ,HNO ₃ ,HCl,NH ₃ ⁺ ,PMC			Y Y
Soil and vegetation	Hoa Binh	rural	Once a year → Once/3-5 years	Decline, & ions in soil			-
Inland Aquatic environment	Hoa Binh	rural	Four times per year	Water quality of Hoa Bin Reservoir			Y

Note)*: Biocides are added to precipitation samples, **Chemical analysis is carried out for weekly composite samples.

PMC; Particulate matter components