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EANET NEWSLETTER

ACID DEPOSITION MONITORING NETWORK IN EAST ASIA

CONTENT

EDITORIAL PAGE - P2

UPDATES FROM THE SECRETARIAT- P3
-Mr. Bert Fabian appointed new EANET Coordinator

THE EANET PROJECT FUND AND PROJECT GUIDELINE- P4
-The EANET launches its Project Fund and Project Guideline

CAPACITY BUILDING ACTIVITIES - P5
-EANET Individual Training in 2021

RESEARCH AND MONITORING ACTIVITIES - P6-P7
-Acid deposition in East and Southeast Asia – EANET Researchers look at the science and policy over the last 30 years
-The Network Center for the EANET releases the Data Report 2020

AWARENESS & PROJECT ACTIVITIES - P8-P9
-Awareness Workshop: The State of Acid Deposition in East Asia, from data to policy – Join us on 20 June!

-EANET Project Acitivities: Join the Workshop on National Air Quality Monitoring Systems and Methodologies with Related Partners on 6 July and the Seminar and Workshop on Expanding Monitoring Systems Using Low-cost Sensors, on 21-22 July !

EVENTS IN 2022 - P10

BUILDING EANET'S FUTURE TOGETHER

In November 2021, in a landmark decision 20 years after the establishment of the EANET, the IG23 adopted the text of the Annex to the EANET Instrument, allowing the network to start working on wider air pollution-related issues.

In 2022, the EANET, following the Decisions of IG23, started preparing for this new process. Among the key new initiatives, the EANET Project Fund was launched, a new mechanism to encourage cooperation to fight the adverse effects of acid deposition and related pollutants. Key meetings such as the Working Group in 2022, are also being prepared to allow the EANET Participating Countries to work together on the future they want.

In parallel, the EANET continues to develop monitoring activities, capacity building, and public awareness events as presented in this issue of the EANET Newsletter.

Curious about what took place in the past months and what is coming next? Discover more inside!

By Bert Fabian
Coordinator, Secretariat for the EANET

It is an honor for me to serve as the Coordinator for the Secretariat of the EANET. My master's thesis included measuring levels of particulate matter inside public transport ("Jeepneys") in Metro Manila 22 years ago. I noted then the extremely high ambient concentrations of particulate matter in my observations and from the few air quality monitoring stations in the city. These high levels of particulate matter coincided with high levels of Sulphur dioxide (SO2) and oxides of Nitrogen (NOx) in the air, which are also main contributors to acid deposition. In most of the major cities in Asia, levels of particulate matter, SO2, and NOx were particularly high in the early 2000s. Various initiatives and development assistance were established to help governments and cities manage the air pollution problem. Unfortunately, not many cities were fully able to reduce and sustain air pollution improvements over the last two decades. I've observed EANET as one of the main initiatives fully backed by governments in East Asia to improve the capacity to monitor atmospheric emissions of acidifying substances and support policy development.

I am looking forward to substantially contributing to and supporting EANET in implementing its Work Programme for 2022 and Medium-Term Plan for 2021-2025, especially since the adoption of the text of the Supplementary Document (Annex) to the Instrument for Strengthening the Acid Deposition Monitoring Network in East Asia, indicating the expanded scope of EANET to tackle wider air pollution problems at the 23rd Session of the Intergovernmental of EANET (IG23) in November 2021.

IG23 also approved the EANET Project Fund and Project Guideline, which will guide the Network to collaborate with partners, attract funding, and, most importantly, magnify its activities' impact.

EANET showcased its activities and achievements over the last 20 years in the EANET 20th Anniversary and Science & Policy Dialogue held in Nov 2021. On 20 June 2022, we are further showcasing the results of EANET research and link to policy development in the EANET Awareness Workshop in 2022 "From Data to Policy", where we will hear from esteemed guests, academicians, and government officials that have long been involved with EANET.

2022 is a special year for UNEP as it celebrates its 50th anniversary when the United Nations Conference on Human Environment in Stockholm, Sweden in 1972 led to the creation of UNEP to inspire, inform and enable nations and peoples to improve their quality of life without compromising that of future generations. The World Environment Day celebrations on 5 June 2022 echo the messages in 1973 when the event was first held, calling for a collective, transformative action on a global scale to celebrate, protect and restore our planet, with the theme "Only One Earth". Air pollution is high on the global agenda as many countries and cities grapple with improving air quality to meet WHO guidelines.

Through a revitalized EANET, it is my hope that we can support effective and lasting improvements on air quality in Asia.

Mr. Bert Fabian appointed new EANET Coordinator

The Secretariat is pleased to announce that the recruitment of a Temporary Job Opening (TJO) for an interim EANET Coordinator has been successfully completed with the selection of Mr. Bert Fabian, effective on 1 June 2022.

Mr. Fabian has been with The United Nations Environment Programme (UNEP) as a Programme Officer since 2013 as lead for the Sustainable Mobility Unit's activities in Asia and the Pacific. He has supported more than 15 countries in developing policies on transport, air pollution, and climate change and managed projects worth about 13.5 million USD including about 5.6 million USD allocated for Asia and the Pacific.

Mr. Fabian coordinated the activities of UNEP with the Global Fuel Economy Initiative and managed the Electric 2&3 Wheelers project in East Africa and Southeast Asia. He also managed projects on strengthening the air quality management community of practice in Asia and the Pacific and on understanding the relationships between COVID-19 and air quality impacts, policies, and measures in cities. Prior to joining UNEP, Mr. Fabian was the Transport Program Manager of Clean Air Asia. He has also worked for the Asian Development Bank on various transport and air quality projects.

Mr. Fabian has published and contributed to several books and studies on transport, air pollution, and climate change, like the Urban Air Pollution in Asian Cities: Status, Challenges and Management (2006) and the Transport and Carbon Dioxide Emissions: Forecasts, Options Analysis, and Evaluation (2009). Mr. Fabian holds a master's degree in Urban and Regional Planning with a major in Transportation, and a B.S. Biology degree from the University of the Philippines.
The EANET Coordinator can be contacted at eanetsecretariat@un.org

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The EANET launches its Project Fund and Project Guideline

The Acid Deposition Monitoring Network in East Asia (EANET) launched the EANET Project Fund and Project Guideline, a new mechanism to encourage cooperation to fight the adverse effects of acid deposition and related pollutants on ecosystems and human health.

The EANET Project Fund

Almost one-third of the world's population lives in the East Asian region. Due to rapid economic growth and industrialization, many countries in this region are facing a serious threat from acid deposition and related pollutants. Impacts of acid deposition affect aquatic environments, forests, soils; including human health when airborne particles are inhaled. Today almost the entire global population (99%) breathes air that exceeds the World Health Organization's air quality limits.

The EANET Project Fund and Project Guideline, approved by the IG23 in 2021, is a new financial mechanism allowing EANET to build co-financed EANET Projects with partners in the region and beyond. Co-financing and contributing to the Project Fund will allow supporting effective action in East Asia and fund projects to help countries fight acid deposition's effects.

The EANET Projects

Participating Countries and partner organizations, not members of EANET, now have the possibility to cooperate in a strong regional platform with extensive experience and knowledge, as part of the EANET Projects.

The EANET Projects are a set of projects defined by the Medium Term Plan (MTP) for the Acid Deposition Monitoring Network in East Asia (EANET) (2021-2025) to conduct specific non-core activities to achieve EANET objectives, using the EANET Project Fund, in accordance with the MTP and other EANET guiding documents.
EANET was established in 2001 as an intergovernmental initiative to create a common understanding of the state of acid deposition problems in East Asia, provide useful inputs for decision-making at various levels, and promote cooperation among countries. EANET Projects, in line with these objectives, will mainly focus on the monitoring of acid deposition and control of data, research, capacity building, and awareness-raising activities.

Find out more on the EANET Project Fund and Project Guideline, how to contribute to the EANET Fund, and submit a project proposal on:
-The EANET Project fund and Project Guideline General Information page
-The EANET Project fund and Project Call for Proposal page

or contact the Secretariat or the Network Center for additional information.

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EANET Individual Training in 2021

The EANET Individual Training in 2021 was successfully organized online by the Network Center, from 4th to 19th November 2021, and included the participation of China, through the presentation of two virtual lectures. It aimed at providing participants from the EANET Participating Countries with technical support and capacity building on acid deposition monitoring.

Individual Training is a regular activity conducted yearly by the Network Center for the EANET (NC) which aims at improving the various monitoring skills of Participating Countries' representatives. Individual Training sessions are usually conducted at the Network Center in Niigata, Japan, and tentatively planned for five or six trainees from the Participating Countries.

This year, due to COVID-19 related travel restrictions, the EANET Individual Training in 2021 was held via an online platform. It gathered 14 trainees from 7 EANET Participating Countries (namely from Indonesia, Lao PDR, Malaysia, Myanmar, the Philippines, Thailand, and Viet Nam). Furthermore, in total, approximately 50 observers from the EANET Participating Countries took part in the program.

During the Training, Scientists from the Network Center's Planning and Training, Atmospheric Research, Ecological Impact Research, and Data Management Departments, delivered daily lectures. The main topics covered, among others, included the ecological effects of atmospheric deposition and EANET monitoring methods, automatic monitor maintenance, Quality Assurance, and Quality Control (QA/QC) activities, and data reporting procedures.

On the 17th of November, lectures were presented by Ms. Wang Xiaofei, from the China National Environmental Monitoring Centre, and by Mr. Li Jie, from the Institute of Atmospheric Physics, Chinese Academy of Sciences, on China's Atmospheric Air Monitoring, and on the Development of an Atmospheric Environment Forecasting System and MICS-ASIA III Program, respectively.

Through this training, participants have deepened their knowledge of laboratory work, data evaluation, and reporting.

Interested in finding out more? Contact the Network Center for the EANET.

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Acid deposition in East and Southeast Asia – EANET Researchers look at the science and policy over the last 30 years

The well-renowned researcher Prof. Hajime Akimoto and co-authors recently published the article Development of science and policy related to acid deposition in East Asia over 30 years on the occasion of the celebration of the twentieth anniversary of the EANET.

Acid deposition is a scientific phenomenon in which air pollutants, mainly sulfur dioxide (SO_2) and oxides of nitrogen (NOx), and other air pollutants are emitted into the atmosphere from the combustion of fossil fuels and forest fires. They are transformed via long-range transport and chemical reactions with water, oxygen, and other atmospheric chemicals, which produce nitric acid, sulfuric acid, and other acids in the atmosphere and come down on the earth's surface. The deposition of acids on the surface causes detrimental impacts on the ecosystem, water bodies, soil, forests, and infrastructures.

Based on three decades of knowledge on acid deposition in East Asia, Professor Akimoto and co-authors in EANET summarized the development of science and policy on acid deposition in East Asia over the period of 30 years.

In this article, the authors reviewed the state of acid deposition in East Asia since the 1980s and early 1990s and report important information on acidification of inland water, forest soil, and forest decline in the East Asia region.

In the context of broadening the scope of the EANET to include wider air pollution issues, Akimoto et al. also analyzed the past successes and future challenges the EANET will face in the coming years.

Read the full article on the following link: Akimoto et al. (2022), Development of science and policy related to acid deposition in East Asia over 30 years, Ambio, https://doi.org/10.1007/s13280-022-01702-6

Continue the discussion on science, policy, and acid deposition in East Asia and ask questions to Professor Akimoto during: "The State of Acid Deposition in East Asia, from data to policy" online awareness workshop on 20 June 2022.

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The Network Center for the EANET releases the Data Report 2020

Composed of acid deposition monitoring data gathered in 2020 and endorsed by the Scientific Advisory Committee (SAC) in 2021, the "Data Report 2020" and the "Report of the Inter-laboratory Comparison Project 2020" have been uploaded in open access on EANET website.

In the context of the recent adoption in March 2022 by governments at UNEA-5.2 of a key resolution supporting the establishment of a comprehensive science policy panel on the sound management of chemicals and waste and preventing pollution, the importance of referring to high-quality data has never been greater.
Covering in 2022 the area of 13 countries, from Irkutsk (Russia) in the North to Lombok (Indonesia) in the South, Ochiishi (Japan) in the East, and Mandalay (Myanmar) in the West, the Acid Deposition Monitoring Network in East Asia (EANET)'s total surface is extremely wide and diverse.
Since 1998 (during the preparatory phase activities of the Network), the EANET has deployed monitoring stations in urban, rural, and remote locations to monitor acid deposition. These monitoring sites gather high-quality data related to the deposition of major acidifying species and related chemical substances such as sulfate (SO_4^{2-}), nitrate (NO_3^-), hydrogen ($H+$) in precipitation, sulfur dioxide (SO_2), nitrogen dioxide (NO_2), ozone (O_3), and particulate matter (PM) in ambient air.

Monitoring data are used to evaluate the state of acid deposition as well as its impacts on ecosystems.

Data on the atmospheric wet deposition of acidic components and other relevant pollutants have for example been used to understand the impacts of pollution on forest ecosystems, such as for the study led by EANET scientists in the dry evergreen forest of Sakaerat, in Nakhon Ratchasima Province, in northeastern Thailand.
Monitoring activities carried out in 2020 are presented in the Data Report 2020 (published in December 2021) and available in open access online.

Over the years, EANET scientists and monitoring officers have improved the collective knowledge and skills of the Network, among others on the quality assurance and quality control (QA/QC) of the data.
The Report of the Inter-laboratory Comparison Project is conducted each year among the EANET analytical laboratories, based on the quality assurance/quality control (QA/QC) programs of the Network. The objectives of this project are to recognize the analytical precision and accuracy of the measurement in each participating laboratory, to give further opportunities to improve the quality of the analysis, and to improve the reliability of analytical data through the assessment of suitable analytical methods and techniques.

EANET data is available for non-commercial use for scientists, researchers, students, mobile app developers, etc… and anyone who wishes to understand the state of acid deposition and air pollution in East Asia over the last two decades.
By widely sharing data, EANET aims at improving the global knowledge on acid deposition, as well as providing collaboration opportunities to improve public health and ecosystems' restoration.

The "Data Report 2020" and the "Report of the Inter-laboratory Comparison Project 2020" are available in open access online, for non-commercial use only.
Users may also access customized data, such as hourly, weekly, and bi-weekly data of wet and dry deposition monitoring, by registering on the monitoring portal.

Download the "Data Report 2020" and the "Report of the Inter-laboratory Comparison Project 2020"

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The State of Acid Deposition in East Asia, from data to policy – Join us on 20 June!

In the last 20 years, the EANET has made excellent progress in acid deposition monitoring cooperation. The Network has fostered a regional acid deposition monitoring methodology and scientific exchange platforms which have contributed gradually to solving acid deposition problems in East Asia.

However, due to rapid economic growth and industrialization, many countries in the East Asia region are still facing serious threats from acid deposition related pollutants, in a more global context where almost the entire global population (99%) breathes air that exceeds the World Health Organization's air quality limits, hindering populations' right to a healthy environment.

Since 2006, the EANET has been developing Periodic Reports on the State of Acid Deposition in East Asia (PRSADs), published every four to five years, and aiming at providing high-quality data to be used for research, formulation of policies, and measures to reduce the impacts of acid deposition and related air pollutants on the environment. In 2022, the Fourth Periodic Report on the State of Acid Deposition in East Asia (PRSAD4), prepared by a Drafting Committee composed of members from the 13 EANET Participating Countries, will be released.

In November 2021, the Secretariat for the EANET organized the EANET Science and Policy Dialogue outreach event. In the results of the survey from the EANET Science and Policy Dialogue Event Report, it was suggested to discuss the findings from the Fourth Periodic Report on the State of Acid Deposition in East Asia (PRSAD4).

In November 2021, the IG23 approved the Work Programme and Budget of EANET in 2022, among which Objective 4, Activity 10: Promotion of public awareness on acid deposition, including other priority chemical species. In this respect, and in line with the efforts to facilitate the sharing of a common understanding of atmospheric environmental issues among the scientific and policy-makers communities, the EANET Awareness Workshop in 2022 will be organized virtually on Monday, 20 June 13:00-16:00 (ICT) under the name "The State of Acid Deposition in East Asia – from data to policy".

Register for the event: https://www.eanet.asia/awareness-workshop-2022-registration/

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Join the EANET Seminar and Workshops in July 2022!

As part of the EANET Project Activities in 2022, in line with the MTP for the EANET (2021-2025) and Work Programme and Budget in 2022, the Network Center (NC) for the EANET is organizing several online capacity building events in July 2022.

Workshop on National Air Quality Monitoring Systems and Methodologies with Related Partners

The Workshop on National Air Quality Monitoring Systems and Methodologies with Related Partners aims to provide the opportunity of sharing a wide range of national and international experiences in the field of atmospheric monitoring, discussing the current development and future challenge of monitoring systems and related methodologies in the EANET. It will be held on Wednesday, 6 July 2022, from 13:00 - 17:00 Bangkok time (UTC+7).

Register here for the 6 July Workshop

Seminar and Workshop on Expanding Monitoring Systems Using Low-cost Sensors

The Seminar and Workshop on Expanding Monitoring Systems Using Low-cost Sensors aim to (1) strengthen the EANET's monitoring network, especially in expanding spatial coverage of the motoring of PM2.5 and ozone with high time resolution; and (2) to assist the EANET Participating Countries in developing their air quality monitoring network. The Seminar will be held online on 21 July 2022 from 13:00-15:15 Bangkok time (UTC+7). It will be followed by a Workshop attended by selected experts and will take place virtually on 22 July 2022, from 13:00-15:30 Bangkok time (UTC+7).

Register here for the 21 July Seminar

EANET Events in 2022

JUNE

20 June 2022

The State of Acid Deposition in East Asia – from data to policy" (virtual Awareness Workshop)

JULY

6 July 2022

The Workshop on National Air Quality Monitoring Systems and Methodologies with Related Partners (virtual event)

21-22 July 2022

The Seminar and Workshop on Expanding Monitoring Systems Using Low-cost Sensors (virtual events)

AUGUST

24-25 August 2022

The EANET Working Group Meeting in 2022 (virtual meeting)

SEPTEMBER

28-29 September 2022

The EANET 24th Senior Technical Managers' Meeting (STM24)

OCTOBER

18-20 October 2022

The Twenty-second Scientific Advisory Committee (SAC22) Meeting

NOVEMBER

24-25 November 2022

The Twenty-fourth Session of the Intergovernmental (IG24) Meeting of the EANET

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