

EANET NEWSLETTER



ACID DEPOSITION MONITORING NETWORK IN EAST ASIA



THIS EDITION

Editorial page - 2

Highlight: We learn, we share! - 3

EANET in a glimpse - 5-9

- EANET at 2018 APCAP Joint Forum
- Research Fellowship
- Individual training
- EANET exhibition
- Emission inventory workshop

EANET this year - 9

Our publications - 10

STRENGTHENING REGIONAL CAPACITY AND KNOWLEDGE

In this edition, we share stories on how EANET as a long-standing regional network has been working hand in hand with its participating countries and partners to strengthen the capacity and knowledge of various stakeholders. Throughout the years, the network has implemented ranging of capacity building programme on acid deposition and air pollution.

On the margins of the Clean Air Week in March 2018, EANET organized the Science and Policy Dialogue, attended by representatives of the participating countries. Stories behind the policy dialogue highlight this edition of the Newsletter.

Also, more stories and updates from EANET training programme, research fellowships, workshops and other activities since late 2017 to 2018 can be found here . Check inside this year's EANET calendar of events and list of our newest publications.

Happy reading!

EDITORIAL PAGE

By Tomi Haryadi, Coordinator, Secretariat for the EANET

In her Opening Remarks at the EANET Science and Policy Dialogue, Lao PDR Vice-Minister Bounkham Vorachit emphasized the severe threats to humanity caused by air pollution. The World Health Organization's statistics indeed mentions annually around 6.5 million people die because of poor air quality. Also, the Organization for Economic Cooperation and Development noted that air pollution had caused 5,322 billion US\$ annual global loss. Vice-Minister concerned about this situation and encouraged stronger cooperation between countries through regional initiatives to work together, learn from each other, and take actions.

This unfortunate situation has indeed moved everyone. As a result, efforts have been made to overcome those threats. At the global level, for example, the third United Nations Environment Assembly (UNEA3) has come up with a resolution on preventing and reducing air pollution to improve air quality globally.

The Resolution acknowledges that addressing air pollution results in multiple benefits to human health, the economy, ecosystems, and climate and should be done across sectors. It also stresses the need for further sharing of existing knowledge by engaging in regional cooperation in science, technology, policy, measures, and best practices. The Resolution also highlights the importance of participating in regional cooperation and the need to use the collaboration to share the knowledge with and learn from each other.

In light of this, we organized the EANET Science and Policy Dialogue in March 2018 which attended by the representatives of EANET participating countries. They shared experiences and lessons learned in overcoming the problems through policy actions. It is an uplifting experience to listen to the stories from the ground and how countries have learned to develop their strategy to fight against air quality problems.

Among various interesting discussion, one exciting information shared by a country representative of Malaysia. Upon request from the participants who wanted to learn more about the presentation, Malaysia was so kind to make the follow-up on the request and came back with more detail information after the meeting.

On that occasion, we have witnessed the beauty of this kind of sharing and learning platform. Even after the event, the discussion continues, and the learning curve is only getting higher.

Given its existing region-wide monitoring network, support from scientists involved in research on acid deposition and air pollution, EANET is indeed in the best place to deliver credible data to policymakers and to assist in capacity building and information sharing. EANET is known for its well-planned training programme, research fellowship, and knowledge sharing. And therefore, it must continuously be strengthened.

In this edition, we will share stories on our capacity building activities and how it contributes to the countries.



WE LEARN, WE SHARE!

"An investment in knowledge always pays the best interest" – Benjamin Franklin.

In almost two decades, participating countries of the Acid Deposition Monitoring Network in East Asia (EANET) has been working closely to tackle the adverse impact of acid deposition and air pollution. Countries have invested their efforts to gather knowledge and experience and to share them within the network.

Notwithstanding the busy schedule, EANET representatives attended and prepared their participation to EANET Science and Policy Dialogue, which was held in Bangkok, Thailand on 23 March 2018. The event, organized on the margins of the Clean Air Week, aimed to provide a forum for participating countries to share and update information on recent acid deposition and air pollution issues and to learn from countries' experience on policy actions to tackle those problems.

Mrs. Bounkham Vorachit, Vice-Minister of Natural Resources and Environment, Lao PDR delivered opening remarks at the event. She mentioned a platform to meet and share idea is valuable for countries to work together and find a common solution for acid deposition and air pollution.

"Prominent network like EANET has its potential role to contribute to reducing the adverse impact of air pollution. We all know, cooperation and partnership can play a significant role as a key enabler to promote change and action in the fight against pollution," says Vice-Minister.

She emphasized that regional networks or initiatives need to encourage the cooperation among countries in various forms, such as through sharing success stories and experiences on what works well, and the lessons learned from the failure, share the opportunities and many more.

"The countries need this platform, and therefore, we are grateful that the network such as EANET can facilitate it," says Vice-Minister.

She brought the participants back to November 2002 when Lao PDR decided to be part of the participating countries of EANET. That time, acid deposition issues were relatively new for Lao PDR. The country had limited knowledge and experience on various aspects of sulfur and nitrogen pollution including emissions, atmospheric transport, and deposition.

After joining the partnership, Lao PDR took a quick action by nominating one institution as the National Center to develop and implement the Lao National Monitoring plan as well as to collect monitoring data.

From the moment, Lao PDR also continuously involved in various training, workshops, and experience sharing events provided by EANET. As a result, from time to time, the capacity of monitoring officers and researchers of Lao PDR has been continuously strengthened and improved.

Lao's experience in getting the benefit from the network is indeed in line with the expected benefit that EANET would like to provide to its participating countries. With different background and experience, participating countries meet in EANET learning forum to share and learn.



Policies

The exchange of information is expected to help countries to think about options to the solution. In addition, the combination of EANET members which include the policymakers and scientists/researchers may enrich and add a broader spectrum of discussion among them.

"EANET (arrangement) is unique. Its institutional framework was designed to consist of members of the Intergovernmental Meeting – the national focal points serve as policymakers, and the Scientific Advisory Committee, the scientists and researchers," says Dr. Dechen Tsering, Regional Director and Representatives for Asia and the Pacific, United Nations Environment Programme in her Remarks.

She mentioned the synergy between both groups is the best way to find best possible solution for the region. It is ideal because the decision-making process done by the policymakers is supported by the scientists or researchers who can provide scientific-based evidence.

During the Science and Policy Dialogue, each country were given the opportunity to deliver a ten-minute presentation on countries updates and stories. Since the nature of the event is dialogue, after each presentation, participants could ask any questions or discuss the issues.

The Secretariat also made use of the event to share the draft 4th Report for Policymakers (RPM4) of EANET. The RPM4 aims to inform the policymakers of the results from analysis of monitoring during the period 2010-2014 and trends in the past 15 years as reported in the Third Periodic Report on the State of Acid Deposition in East Asia.



Vice-Minister delivers the Opening Remarks at the Science and Policy Dialogue (Photos: UNEP)

"The countries need this platform, and therefore, we are grateful that the network such as EANET can facilitate it"

- Bounkham Vorachit - Vice-Minister, Lao PDR-

The report also highlights the adverse impacts of acid deposition and air pollution on human health and the economy and report new developments related to air pollution management especially ozone and particulate matter. In addition, strategic initiatives to achieve cleaner air including challenges in air quality management and motivation for an integrated approach are also included in the report.

It was encouraging to witness the excitement of the Science and Policy Dialogue' participants when receiving new information shared by other countries. At the end of the event, the Secretariat urged the need to keep the learning curve steep by getting in touch and maintaining to share information with each other. Whatever we learned, we share with our network.



EANET AT THE 2018 JOINT FORUM OF THE ASIA PACIFIC CLEAN AIR PARTNERSHIP

EANET participated in the Clean Air Week, organized in Bangkok, from 18 to 23 March 2018. This one-week-long event aims to bring together governments, leaders, experts, private sector and civil society organizations in a series of events focused on solutions for better air quality in the Asia Pacific region. Various partners and initiatives organized their events on the margins of Clean Air Week, including the 2018 Joint Forum of the Asia Pacific Clean Air Partnership (APCAP).

Under the theme 'Solutions Landscape for Clean Air, the 2018 Joint Forum brought together over 300 delegates, including EANET representatives. The Forum discussed the central topics around science, policy, financing, and technology in the fight against air pollution.

EANET participated in the session seven focusing on issue 'Working together against air pollution – Partnership and cooperation.' The panel session discussed solutions to optimize synergy between networks and initiatives working to improve air quality in the Asia Pacific region. Various regional and global initiatives were shared their views and experience in working together to explored opportunities in overcoming challenges for collective actions to further strengthen the impact of partnership.

Representing EANET in the panel, Dr. Batbayar Jadamba, EANET National Focal Point of Mongolia explained how EANET realized the crucial role of policymakers in safeguarding the environment through the implementation of sufficient legislative and policy tools and ensuring that there is compliance with environmental laws and regulations.

He mentioned greater actions on acid deposition and air pollution would require greater uptake by decision makers of the scientific and economic findings on the impacts of pollution. It is what EANET exactly do, through support from its scientific community, the network is trying to improve the uptake by communicating policy-relevant findings in a clear, effective and credible way based on scientific results.



Presenters of session 7 engage in a discussion with the participants at the 2018' APCAP Joint Forum (Photo: UNEP)

EANET is actively exploring collaboration opportunity with other like-minded initiatives within the region or outside the region. EANET can offer various modality of collaboration, such as data sharing, capacity building on acid deposition and joint research, and awareness raising.

"With its existing region-wide monitoring network, and a pool of scientists engaged in research on acid deposition and air pollution, EANET has a major role in assessing the state of air pollutants in the region and its impacts on the ecosystem, and delivering credible data and information to policymakers to be used for policy formulation and setting of priorities. EANET, through its training programs, can also assist in capacity building," says Dr. Batbayar.

The panelists concluded that their combined strength could be aligned to help implement the UN Environment Assembly resolutions on air quality, regionally as well as globally.

One of the key messages of the forum which is very relevant to EANET is that existing air pollution-related international platforms and intergovernmental mechanisms support collaboration within and between regions and offer opportunities for exchange of experiences and information.

RESEARCH FELLOWSHIP

Every year, EANET awarded Research Fellowship for two researchers from the participating countries on a competitive basis. The fellowship offers an opportunity for young scientists from the participating countries to conduct part of their research activities at the Asia Center for Air Pollution Research (ACAP) for two months and to be guided by the experts.

In 2016, Ms. Cuihong Chen, an engineer from China was among one of the researchers who received the EANET Fellowship in 2016. Her research "Comparison of observed and modeled NO₂ in China: sensitivity of meteorological conditions and NO_x emissions prediction", was accepted by the fellowship panels and she had the opportunity to conduct part of her research in Niigata, Japan.

Her research focused on air pollution transport modeling and emission control. Through her study, she analyzed EANET monitoring data and evaluated the influence of emissions which was a key to the research on air quality, especially for emission reduction control and decision-making aid.

Throughout her fellowship period, Ms. Chen had an opportunity to visit EANET air quality research station, involved in group discussions with other researchers and experts, and presenting her work to colleagues at EANET Network Center.

She also gained knowledge on acid deposition monitoring technology and methodology of data analysis from the researchers at ACAP that has helped her in conducting her research more systematically.

"The visit and exchange information with National Institute for Environmental Studies (NIES), including a visit to the vehicle emission test facility and atmospheric chemistry laboratory was very useful in helping me with the research," says Ms. Chen regarding activities she was involved in during her fellowship period.



Ms. Chen presents her findings in front of her supervisor, colleagues and ACAP researchers in 2016 (Photo: Cuihong Chen)

During the eight-week program, Ms. Chen admitted to has been given the best opportunity to work on her research. As a result, she has gained a better understanding of air quality monitoring as well as atmospheric chemistry model.

The following year, the research panel selected Ms. Ekaterina Zhigacheva, a researcher from Russia to receive the 2017 EANET Research Fellowship. Ms. Zhigacheva went to ACAP premise in Niigata to implement her research from 5 October to 25 November 2017.

Her research title is 'Investigation of atmospheric input and runoff discharge of sulfur and nitrogen compounds as the balance components of Komarovka river catchment by long-term observations at Russian EANET Primorskaya station (for 2005-2015).

The primary objective of her research was to evaluate the effects of atmospheric deposition on inland aquatic and soil properties. Due to the limited time of the fellowship period and large scale of the coverage of the research problem, she focused her research work in Niigata only on a few tasks.

Upon completion of her research fellowship, Ms. Zhigacheva presented the findings to her supervisors and made some follow-up recommendations. She continued her research after the fellowship and recently, she has completed her research paper.

INDIVIDUAL TRAINING

Six participants from participating countries attended three-week EANET Individual training on specific issues related to monitoring in Niigata, Japan from 17 July to 3 August 2018. Their National Focal Points nominated the participants, namely Peach Pon (Cambodia), Sun Kang (China), Tanti Dyah Aries (Indonesia), Singsonesack Soukthakhane (Lao PDR), Tserenbaljir Miiduv (Mongolia), Zin Nwe Thann (Myanmar).

"The training content was customized according to the needs of the participants by providing hands-on skills that will be useful for them upon returning home," says Dr. Ken Yamashita, Head of Planning and Training Department, Asia Center for Air Pollution Research (ACAP).



Training participants conducted laboratory work at ACAP, Niigata (Photo: ACAP)

Scientists and researchers of ACAP facilitated the training through a combination of classroom lecture and practice in the laboratory. A lecture on atmospheric deposition was provided for participants to offer a general concept of the issue. Then, it was followed by activities related to the analysis of samples. The laboratory training includes basic knowledge of laboratory activities, such as sample treatment, introduction to equipment, and data analysis.

Participants perceived the overall training positively as reflected in the training feedback, particularly on how it was conducted. With adequate time allocated for each subject and the right balance between lectures and hands-on work, participants felt that they had enough opportunity to digest the information so that they can follow the course smoothly.

"It is beneficial and well prepared. Even though I have been doing similar laboratory activities (sampling and analysis) every day back home, in here, I feel that I have learned something new," says Tanti, laboratory analyst at Center of Atmospheric Science and Technology, National Institute of Aeronautics and Space, Indonesia.

Like Tanti, Pon from Cambodia mentioned that the training has helped to strengthen his capacity as monitoring officer. Celebrating his birthday during his time in Niigata, Pon is keen to learn more on other monitoring skills as he sees the importance of it for Cambodia. He is willing to bring back the knowledge and apply it and share it with his peers.

"By attending this training, I have the opportunity to learn about monitoring acid deposition and air pollution in theoretical and in practice. This has given me advantages to learn not only from Japan experience but also from international experience," says Zin, a participant from Myanmar.

Previously in 2017, six participants from six participating countries have joined EANET Individual Training at the same premise at ACAP in Niigata, Japan from 6 to 21 July. The participants, namely Pakayphone Nhotchaleun (Lao PDR), Haslina binti Abdullah (Malaysia), Oyunsuren Gerelbadrakh (Mongolia), Min-young Sung (Republic of Korea), Elizaveta Konkova (Russia) and Sirirat Yensong (Thailand) have received various training contents on monitoring.

Upon receiving a request from participants and considering their skills and experience, the training was set at advanced level, by including contents on monitoring and analysis of the passive sampler. At the last session of the training, participants delivered their wrap-up presentation highlighting the lessons they learned from the courses as well as their plan to utilize the skill/knowledge upon returning home.

Individual training is a regular activity of EANET aiming to give an opportunity for monitoring officers of researchers from participating countries to gain skills and knowledge on monitoring of acid deposition and air pollution. The training usually accommodates up to six participants every year for about three weeks.

EANET EXHIBITION AT 1ST AP MINISTERIAL SUMMIT

The first Asia-Pacific Ministerial Summit on the Environment took place in Bangkok from 5 to 8 September 2017. The Economic and Social Commission jointly organized it for Asia and the Pacific (ESCAP) and UN Environment.

At the request of member States, the Ministerial Summit brought together for the first time two United Nations ministerial-level meetings on the environment, namely the seventh Ministerial Conference on Environment and Development in Asia and the Pacific and the second session of UN Environment's Forum of Ministers and Environment Authorities of Asia Pacific.

The Ministerial Summit focused on addressing the linkages between resource efficiency and pollution reduction in Asia and the Pacific, under the theme 'Pollution Free Planet.'

"On the margins of the Summit, part of awareness raising activity, EANET had an opportunity to get involved with by setting up an extra large exhibition on acid rain in front of the main meeting room.

The display tried to seek the attention of the Forum on what EANET does and the issue regarding acid rain and air pollution. Through the display, the audience would have the opportunity to learn more about the issues and raise their awareness about the importance to continue working towards the reduction of air pollutants in the form of SO₂ and NO_x as the course of acid rain.

This exhibition successfully gained attention of the delegates from various countries, including Executive Director of UN Environment, ministers/ representatives and high-level officials from the states who took a selfie at the display find more information. The visitors to the both also spread the news widely through social media so that the impact of the action can be intensified.



Clockwise: 1. Erik Solheim, Executive Director of UNEP and colleagues in front of the EANET display; 2. Meeting participants interact in front of the display (3) Visitor takes a selfie with key messages play right in front of the main meeting room of UNCC, Bangkok (Photos: UNEP)



EMISSION INVENTORY WORKSHOP

EANET organized the Emission Inventory Training Workshop from 28 to 30 November 2017 at the Asia Center for Air Pollution Research (ACAP) in Niigata, Japan. The objective of the workshop was to provide basic knowledge and fundamental skills to participants from participating countries in developing the emission inventory of air pollutants from anthropogenic activities.

Ten technical officers involved in air quality management administration and in developing their national emission inventory from EANET participating countries attended the workshop. Furthermore, the experts of the Network Center (NC) for the EANET facilitated the workshop which was utilizing NC additional budget and funded by the Ministry of the Environment, Japan.

The workshop covered various issues related to emission inventory, such as roles of emission inventory for policy making; general knowledge of emission inventory; developing national emission inventory; application of emission inventory and; basic practice to develop emission inventory.

The workshop is organized as part of implementation of EANET Medium-Term Plan (2016-2020) under objective three on the promotion of activities other than monitoring. Upon returning home, the workshop participants is expected to be able to apply their experience and knowledge during the workshop can help in planning and developing their national emission inventory and contribute to improving the air quality of each country.

EANET THIS YEAR

Throughout the year, EANET organized various events in many places in the region. Please find below some of EANET activities along 2018.

1. Science and Policy Dialogue, Bangkok, Thailand, 23 March 2018.
2. Individual Training at the Network Center, Niigata, 17 July to 3 August 2018.
3. The 19th Senior Technical Managers' Meeting (STM19), Niigata, Japan, 4-5 September 2018.
4. The 18th Session of the Scientific Advisory Committee (SAC18), Hanoi, Viet Nam, 9-11 October 2018.
5. Clean Air Technology Workshop, Qingdao, China, 4-5 November 2018.
6. The 20th Session of the Intergovernmental Meeting (IG20) on the EANET, Bangkok, Thailand, 27-28 November 2018.
7. The EANET Research Fellowship Program 2018, Niigata, Japan, September 2018 – March 2019 (max two months).

Besides the list above, there are also various activities organized by the participating countries on acid deposition and air pollution as part of capacity building or awareness raising activities, at national and sub-national level.



OUR PUBLICATIONS IN 2018

Summary and proceedings of the 19th Session of Intergovernmental Meeting on EANET.

In 2018, EANET produced the summary and proceedings of the 19th Session of Intergovernmental Meeting on EANET. The Report summarizes the outcomes of the Session of the IG19 in Siem Reap, 13-14 November 2017.

Summary and proceedings of the 17th Session of the Scientific Advisory Committee of EANET.

EANET produced the summary and proceedings of the 17th Session of the Scientific Advisory Committee. The report summarizes the outcomes of the Session of SAC17, organized in Pathumthani, Thailand, 26-28 September 2017.

Data Report 2016 of the EANET

The Data Report 2016 compiled and verified data obtained from monitoring activities carried out in 2016. It covers five environmental items – wet deposition, dry deposition (air concentration), soil and vegetation, inland aquatic environment, and catchment-scale monitoring.

Report of the Inter-Laboratory Comparison Projects 2016 of the EANET

The report presents the result of the 19th Inter-laboratory Comparison Project on wet deposition, the 12th Inter-laboratory Comparison Project on dry deposition, 18th Inter-laboratory Comparison Project on soil and 17th Inter-laboratory Comparison project on the inland aquatic environment.

EANET Science Bulletin (Volume 4)

The EANET Science Bulletin is published to share the scientific findings from the EANET research activities and to provide a platform for scientists from member countries to publish their scientific and technical research activities relevant to the EANET.

All those publications can be downloaded at EANET website at www.eanet.asia

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