



# NEWSLETTER

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*EANET started in 1998 as an intergovernmental initiative to create a common understanding on the state of acid deposition problems in East Asia, provide useful inputs for decision making at various levels with the aim of preventing or reducing the adverse impacts on the environment, and promote cooperation among countries. After three years of preparatory-phase, it was formally established in 2001. The participating countries are Cambodia, China, Indonesia, Japan, Lao PDR, Malaysia, Mongolia, Myanmar, Philippines, Republic of Korea, Russia, Thailand, and Viet Nam.*

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## Highlights

### **EANET adopted a five-year Medium Term Plan for 2016-2020**

At the 17th Session of the Intergovernmental Meeting of EANET in November 2015, a five-year Medium Term Plan (MTP) for the period 2016-2020 was adopted. The objectives of the EANET will be achieved through the seven specific objectives of the MTP during the period 2016-2020: (1) Monitoring of Acid Deposition: Conduct monitoring of acid deposition including related chemical substances; review for data quality and completeness; and data management. (2) Strengthening current monitoring: Strengthening current monitoring activities through research, capacity building and increasing number of monitoring sites to generate additional data. (3) Promotion of activities other than monitoring: promotion of information exchange on clean air technologies, emission inventories, and research activities. (4) Providing policy relevant information: Develop policy relevant reports and publications based on analysis of the monitoring data collected. (5) Promotion of public awareness: Promote public awareness through knowledge dissemination and outreach based on the monitoring data collected and analyzed and the policy relevant reports developed. (6) Enhancement of intergovernmental cooperation: Provide a forum for cooperation on the issues related to acid deposition among participating countries and support future development of EANET. (7) Enhancement of cooperation and collaboration: Enhancement of cooperation efforts, including South-South collaboration among participating countries and with outside organizations on the EANET objectives.



### **Research on Sulfur Dynamics in Forest Ecosystems in Thailand, Malaysia and Japan**

The sulfur isotopic analysis of the joint research project on Sulfur Dynamics in Forest Ecosystems in Thailand, Malaysia and Japan were presented at the 15th Session of the Scientific Advisory Committee (SAC15) in November 2015. According to the research findings, it is possible that sulfur sources or processes are present in the forest catchments. Observations found different trends of water chemistry by sulfur deposition and/or precipitation pattern in the streams of Kajikawa, Japan and Sakaerat, Thailand.

For more information, visit: [www.acap.asia/](http://www.acap.asia/)

### **Thailand assessment proved biomass burning - source of nitrogen deposition in Chiang Mai**

The assessment found the correlation between Nitrogen deposition, particulate matter of 10 microns in aerodynamic diameter or less (PM<sub>10</sub>), and hotspot numbers during the study period (2008-2012). The main source of Nitrogen (N) deposition is proved to be biomass burning derived from local and long range transport. The ammonia gas (NH<sub>3</sub>) and ammonium ion (NH<sub>4</sub><sup>+</sup>) were the main deposition for gas and particulate phase, respectively. The average deposition velocity of nitrogen for gas phase was descending from nitric acid to ammonia and nitrogen dioxide-HNO<sub>3</sub> > NH<sub>3</sub> > NO<sub>2</sub>. However, the deposition velocity in particulate phase (aerosol) of nitrate and ammonium was higher in forest area than grass area. It has been suggested that the calculation of deposition flux of Nitrogen species for this area has to be continued. For more information, contact Dr. Wan Wiriya, Chemistry Department, Faculty of Science, Chiang Mai University at [wanwiriya484@hotmail.com](mailto:wanwiriya484@hotmail.com)

## Seventeenth Session of the Intergovernmental Meeting on the EANET

The 17th Session of the Intergovernmental Meeting on the EANET (IG17) was held on 24-25 November 2015 in Bangkok and was attended by representatives from: EANET participating countries, Secretariat of Convention on Long-range Transboundary Air Pollution (CLRTAP), United Nations Economic Commission for Europe (UNECE); the Regional Resource Centre for Asia and the Pacific of the Asian Institute of Technology (RRC.AP/AIT), and Kanazawa University.

The meeting discussed the progress EANET has made since its previous session; approved the draft five-year Medium Term Plan for 2016-2020, the work programme and budget for 2016; and endorsed the report of the 15th Session of the Scientific Advisory Committee (SAC15). Dr. Wijarn Simachaya, Director General of the Pollution Control Department of Thailand's Ministry of Natural Resources and Environment in his opening remarks assured the meeting of Thailand's full cooperation and continued support to the EANET. Mr. Kaveh Zahedi, UNEP Regional Director and Representative for Asia and the Pacific, in his opening address expressed that with its linkages to Sustainable Development Goals (SDGs) 3, 11 and 12, the EANET data will provide a vital source in establishing baseline and monitor the SDGs.



## Fifteenth Session of the Scientific Advisory Committee

The role of EANET's Scientific Advisory Committee is to provide the Intergovernmental Meeting (IG) with scientific and technical advice relevant to the development of the monitoring guidelines and manuals; monitoring, data procedure, quality assurance and quality control; and periodic assessment reports on the state of acid deposition in East Asia. Held from 29 September to 1 October 2015, in Da Nang, Viet Nam, SAC15 discussed all important technical and scientific issues of the EANET. SAC members and their alternates, World Meteorological Organization (WMO) expert attended the session.



Dr. Le Ngoc Cau, Acting Director of the Center of Environmental Research, Institute of Meteorology, Hydrology and Climate Change, Ministry of Natural Resources and Environment of Viet Nam delivered the welcome remarks and highlighted Viet Nam's commitment to EANET activities. Mr. Iyngararasan Mylvakanam delivered the opening remarks on behalf of the EANET Secretariat, pointed out the linkages between EANET's work and at least three of the 17 sustainable development goals (SDGs) and introduced the Asia Pacific Clean Air Partnership (APCAP) which is an initiative formed with an aim of providing support to

countries in the Asia Pacific region in managing their air pollution concerns through an integrated approach. Dr. Kazuhiko Sakamoto, Director General of the Asia Center for Air Pollution Research (ACAP) in his introductory remarks emphasized that Scientists play an important role in providing the right message to policy makers. The Session also reviewed the draft 2014 monitoring data report which includes wet deposition, dry deposition, soil and vegetation, inland aquatic environment and catchment-scale; the inter-laboratory comparison project of wet and dry deposition; soil and inland aquatic environment in 2014; the updated national monitoring plans; the progress of the task forces of SAC and drafting committee for the 3rd periodic report on the state of acid deposition in East Asia; feasibility study of EANET's expansion and scope; and draft medium term plan for the EANET (2016-2020), among others.



## Drafting Committee for the third Periodic Report on the State of Acid Deposition in East Asia

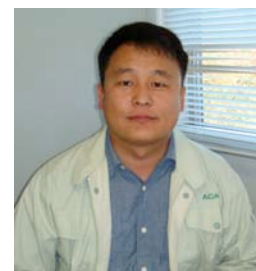
The 1st Drafting Committee (DC1) for the 3rd Periodic Report on the State of Acid Deposition in East Asia (PR SAD3) was held on 8-9 June 2015 in Niigata, Japan. The committee reached a consensus on the content of the report, action plan and Lead Authors and Contributing Authors for the report.

Held on 18-19 August 2015 in Niigata, Japan, the 1st Lead Authors' Meeting (LAM1) for PR SAD3 was organized to prepare the structure and contents of PR SAD3 including the lead author(s) and contributing authors of each chapter, as well as the action plan.

## Fourth Meeting of the Task Force on Monitoring for Dry Deposition (TFMDD4)

Held on 20-21 August 2015 in Niigata, Japan, the Meeting discussed the development of the draft strategy paper on future direction of monitoring for dry deposition of EANET. The Meeting decided to submit the revised strategy paper to the SAC15 and recommended that the Task Force's Terms of Reference be revised and two expert groups established to carry out the revision of the two technical manuals on Dry Deposition Flux Estimate and Air Concentration Monitoring. The above issues were adopted at SAC15 and endorsed at IG17.

## EANET Fellowship



## Sixteenth Senior Technical Managers' Meeting (STM16) of the EANET

Held on 25-26 August 2015 in Ulaanbaatar, Mongolia, the Sixteenth Senior Technical Managers' Meeting of the EANET was co-organized by the Network Center (NC) and the Government of Mongolia. The Meeting reviewed and discussed extensively the draft data report 2014 and evaluated the results of the 2014 inter-laboratory comparison project. It also considered the national monitoring plans of participating countries for 2016 and suggested the inclusion of Particulate Matter and ozone to the country's national monitoring plan. The session also reported the current status of Mongolia' air pollution monitoring and discussed the new curriculum of EANET individual training from 2016 onwards.

EANET has awarded the fellowship for young researchers each year to conduct the research on acid deposition related issues.

Two young researchers from Mongolia and Thailand received EANET fellowship to conduct research on acid deposition and other related issues. Mr. Barkhasragchaa Baldorj from Mongolia has completed a research on "Source apportionment of Particulate Matter in Ulaanbaatar, Mongolia" to support policies on PM control in Ulaanbaatar. Ms. Rungruang Janta from Thailand carried out a research on "Origin of air pollution and influence of long-range transport of PM<sub>10</sub>, CO and O<sub>3</sub> in Northern Thailand during open burning season" to support policy development on Haze control in Northern Thailand.

# Publications



## Strategy paper on future direction of monitoring for dry deposition of the EANET (2016-2020)

Launched in October 2015, the paper described a step-wise approach for dry deposition monitoring, which includes: (1) Implementation of air concentration monitoring for priority chemical species; (2) Intensive research on methodology for dry deposition monitoring; and (3) Selection of specific monitoring sites suitable for dry deposition computation among the air concentration monitoring sites. This 2nd edition aims to elaborate more on dry deposition flux estimation to assess the environmental impact and to enhance the quality assurance and quality control of the monitoring activities and validate the model outputs of air pollution assessment. The strategy is in line with the Medium Term Plan 2016-2020.

## Data Report 2014

Launched in November 2015, the report contains acid deposition monitoring data and related information obtained from participating countries, which includes wet and dry deposition data collected from 55 and 47 EANET monitoring stations respectively. The ecological monitoring is also collected from multiple sites in the participating countries.

## Report of the Inter-laboratory Comparison Project 2014

The report launched in November 2015, presented the results of the 17th Inter-laboratory Comparison Project on dry deposition, 16th Inter-laboratory Comparison Project on soil and the 15th Inter-laboratory Comparison Project on inland aquatic environment. The Inter-laboratory Comparison Project was conducted in the analytical laboratories of participating countries based on the quality assurance and quality control programme of EANET.



# Events 2016

1. Second Drafting Committee (DC2)/ Second Lead Authors' Meeting (LAM2) for the Third Periodic Report on the State of Acid Deposition in East Asia (PRPAD3), 25-27 April 2016, ACAP, Niigata, Japan
2. Working Group on Framework (WGF), 15-16 June 2016, UNCC, Bangkok, Thailand
3. EANET Individual Training Course, June-July 2016, ACAP, Niigata, Japan
4. Third Drafting Committee (DC3)/ Lead Authors' Meeting (LAM3) for the Third Periodic Report on the State of Acid Deposition in East Asia (PRPAD3), Late July/Early August 2016, ACAP, Niigata, Japan
5. Seventeenth Senior Technical Managers' Meeting (STM17), September 2016, Participating country
6. EANET Fellowship Research 2016 (2 months), ACAP, Niigata, Japan
7. Sixteenth Session of the Scientific Advisory Committee (SAC16), October 2016, Participating country
8. Eighteenth Session of the Intergovernmental Meeting (IG18) on the EANET, November 2016, Participating Country

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