

## Asia Pacific Mercury Monitoring Network (APMMN)

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### DATE OF MEMBERSHIP OF THE PHILIPPINES

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2018



An EMB Region 3 technical staff conducts weekly rainwater sample collection in Clark Air Base Station, Pampan-ga in 2018. [EMB]

The Asia Pacific Mercury Monitoring Network (APMMN) is a cooperative effort to systematically monitor mercury in the air and rainwater in the Asia-Pacific region. Its creation is the result of a 2013 workshop wherein environment ministers and scientists agreed to develop a standardized pilot network to monitor wet deposition and atmospheric concentrations of mercury in the region. It involves environmental ministries or agencies of the Philippines (DENR), Japan, Korea, Indonesia, Thailand, Vietnam, Canada, Taiwan and the USA, the National Oceanic and Atmospheric Administration, two academic institutions, namely the National Central University, Taiwan and the Indian Institute of Technology, Hyderabad, India and the National Atmospheric Deposition Program (NADP), a scientific research and monitoring organization in the United States.

Its goal is to advance the science of global atmospheric mercury monitoring in the Asia-Pacific region. There are five APMMN sites as of 2018, i.e., Pampanga, Philippines; Jakarta, Indonesia; Nantou, Taiwan; Pathum Thani, Thailand; and Hanoi, Vietnam. Except for the Taiwan site, which does wet and dry monitoring, only wet monitoring is done in the other four sites.

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## COMMITMENTS

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The objectives of the network are to: (1) determine the status and trends in concentrations of ambient mercury species, and wet, dry, and total atmospheric deposition of mercury; (2) develop a robust dataset for regional and global modelling; (3) assist countries in the Asia-Pacific region that have mercury environmental concerns, but do not yet have mercury monitoring capabilities; and (4) promote sharing of information, data, and technologies among countries in the Asia-Pacific region in order to expand coordinated mercury monitoring capacity, cultivate a common understanding of mercury-focused policy-relevant scientific topics, and develop mercury datasets useful to regional and global atmospheric modelling.

The members commit to collect weekly wet deposition samples, following the standard operating procedures of the network, be an active member of the APMMN management committee, and agree to share observations among all members, and eventually with all data users.

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## POLICY ISSUANCE

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**DENR Administrative Order 2000-81** - Implementing Rules and Regulations for RA 8749 (Philippine Clean Air Act of 1999)

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## UPDATES

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On March 2018, DENR received a mercury sampler from the Government of Taiwan. The survey for a suitable site for taking air samples and training in the use of the equipment were conducted in June 2018. The results from the mercury sampler serve as inputs to the Asia-Pacific Mercury Monitoring Network. Since the last quarter of 2018, mercury wet deposition monitoring has been conducted in a selected site in Clark Air Base, Pampanga. Samples are collected weekly and are submitted to Taiwan University every month for analysis. The DENR, through the EMB, has been collecting and shipping wet deposition samples for analysis to the network since 25 September 2018.

In September 2018, a set of gold amalgam mercury sampler was donated by the Ministry of the Environment of Japan (MOEJ) to the DENR. It is capable of monitoring the mercury in the ambient air.

The DENR, United States Environmental Protection Agency (US EPA) and Environmental Protection Administration Taiwan (Taiwan EPA) co-organized the 7th Annual Asia-Pacific Mercury Monitoring Network Partners Meeting on 5-7 September 2018 in Quezon City, Philippines.



**Figure 10** Set of gold amalgam manual mercury samplers donated by the Ministry of the Environment of Japan [EMB]

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## NEXT STEPS

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- Closer coordination of the EMB, specifically the Air Quality Management Section with the Bureau of Customs so as to facilitate the submission of mercury wet deposition samples to Taiwan University and to ensure the continuous supply of argon gas for continuous mercury monitoring (Tekran operation).
- Transfer the continuous mercury monitoring (Tekran) station in coal fired power plant areas, foremost of which is in Calaca, Batangas.
- After the installation of the Tekran station in Batangas, training on the operation and maintenance shall be conducted.
- Samples obtained from the gold amalgam sampler for mercury donated by the Japan Ministry of Environment (MOEJ) will be sent to Japan for analysis.
- DENR needs to formulate a policy on ambient air quality standards for mercury.

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## FOCAL OFFICE

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### ***Air Quality Management Section***

DENR – Environmental Management Bureau

Tel. No. - (632) 928 4430

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## MEETINGS ATTENDED

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- Atmospheric Mercury Monitoring Training, 14–20 April 2019; Taoyuan City, Taiwan – Engr. Nesty Mendiola (EMB Reg. 3)
- 7th Annual Asia Pacific Mercury Monitoring Network Partners Meeting, 5–7 September 2018; Quezon City, Philippines – Engr. Jundy Del Socorro, EMB Central Office representatives: AQMS Staff, WQMS Staff, HWMS Staff, CMS staff and ERLSD Staff, and EMB Region 3 representatives.
- 6th Annual Asia Pacific Mercury Monitoring Network Partners Meeting and 2017 Atmospheric Mercury Monitoring Training Workshop, 15–19 May 2017; Taoyuan, Taiwan – Engr. Teresita A. Peralta and Mr. Joel Tugano (EMB)
- Asia Pacific Expert Workshop on Continuous Atmospheric Mercury Monitoring, 29 November–2 December 2016; Minamata City, Kumamoto Prefecture, Japan – Engr. Teresita A. Peralta (EMB)
- 5th Annual Asia Pacific Mercury Monitoring Network Partners Meeting and Asia–Pacific Mercury Monitoring Network Workshop, 26–28 July 2016; Bangkok, Thailand – Engr. Teresita A. Peralta (EMB)

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## **SOURCES/RELEVANT LINKS**

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<http://apmmn.org/AboutAPMMN.html>