

Asia-Pacific Mercury Monitoring Workshops

2012 Atmospheric Mercury Monitoring Workshop

- Organized by Taiwan EPA, National Central University, U.S. EPA, and NADP, September 2012, Taipei, Taiwan
- Science and policy experts from Canada, Indonesia, Japan, Korea, Taiwan, Thailand, and the U.S.
- Exchanged information on programs in North America and Asia that monitor atmospheric mercury concentrations, wet/dry mercury deposition, and related atmospheric pollutants



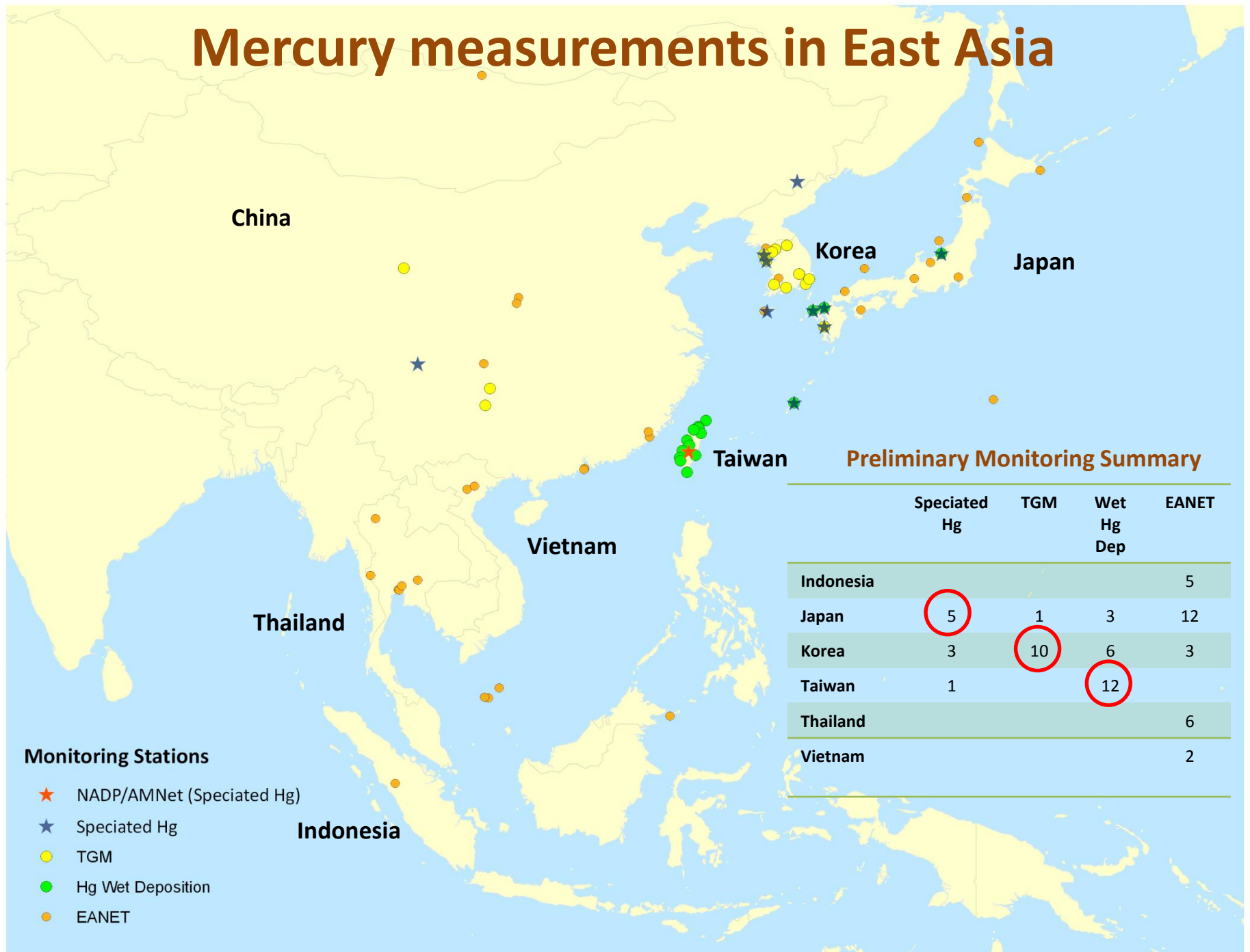
Key Findings and Needs

1. Range of mercury monitoring capabilities across the Asia-Pacific region
2. Many scientific papers published; but limited data available
 - No regional database of measurements
3. Improve availability of accurate and comparable mercury monitoring data for analysis and modeling of Trans-Pacific atmospheric mercury transport
4. Improve coordination of monitoring activities in the region
5. Assist countries with limited mercury monitoring experience (build capacity)

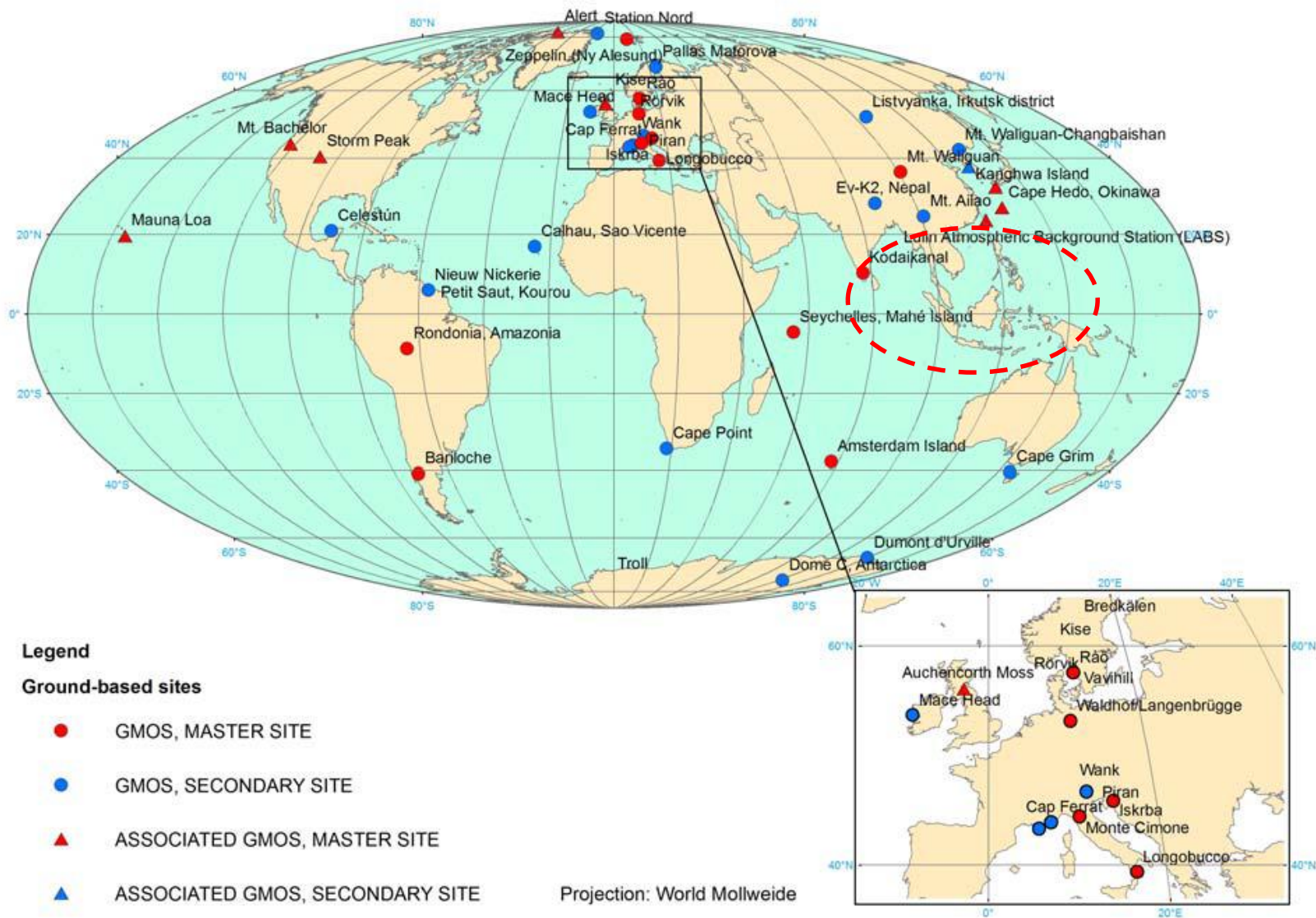
Opportunities for Asia-Pacific cooperation



Mercury measurements in East Asia



Global Mercury Observation System – Ground Based Sites



Policy Context: Minamata Convention

- Governments agreed to a global, legally-binding treaty to prevent emissions and releases
- Provides controls and reductions across a range of products, processes and industries where mercury is used, released or emitted
- Article 20 – Research, Development and Monitoring
 - Cooperate to develop and improve capabilities to assess the impact of mercury on human health and the environment
 - Harmonize methods; build on existing monitoring networks and research programs
- Article 23 – Effectiveness Evaluation
 - Evaluate the Convention's effectiveness 6 years after treaty goes into force
 - Comparable monitoring data on the presence and movement of mercury in the environment

January 2013



2013 Mercury Monitoring Workshop Washington, D.C.

1. Shared latest information from each partner agency
 - VEA, EPA, NADP, EPAT, NCU, Environment Canada, Thailand MOE, Japan MOE & NIMD, Korea NIER, Indonesia MOE,
2. Reached agreement on major design elements of an operating pilot network for the region
3. Devised a preliminary plan for deploying wet deposition collectors in Southeast Asia
4. Established an advisory group and ideas for next steps and meeting



Workshop Participants

ARTZ	Richard	U.S.	NOAA
BLANCHARD	Pierrette	Canada	Environment Canada
CHU	Yu-Chi	Taiwan	Taiwan EPA
GARIVAIT	Hathairatana	Thailand	MOE Thailand
GAY	David	U.S.	NADP
HAMONANGAN	Esrom	Indonesia	MOE Indonesia
KANEKO	Motoo	Japan	MOE Japan
KIM	Young-Hee	Korea	National Institute of Environmental Research
MARUMOTO	Kohji	Japan	National Institute of Minamata Disease
NGUYEN	Van Thuy	Vietnam	Vietnam Environment Administration
NOVIKFOFF	Josh	U.S.	USEPA
OLSON	Mark	U.S.	NADP
SCHMELTZ	David	U.S.	USEPA
SHEU	Guey-Rong	Taiwan	National Central University
TEJALAKSANA	Aksa	Indonesia	MOE Indonesia

Summary of General Agreement

- Workshop participants generally agreed to develop a Pilot Network that monitors mercury wet deposition and atmospheric concentrations – Total Gaseous Mercury (TGM) or Speciated Mercury – Gaseous Elemental Mercury (GEM), Particulate Bound Mercury (PBM), Gaseous Oxidized Mercury (GOM); The network would include dry deposition calculations, where appropriate
 - Workshop participants also agreed information and training was needed to develop capabilities for monitoring mercury in air, precipitation, soil, sediment, fish, and humans
 - NADP/EPA /Network Partners are willing or will provide help with network development, training, knowledge transfer and/or help with instrument procurement
- Pilot Network Start Date: TBD; End Date: 3 years running time
- Workshop participants generally agreed to form a Scientific Advisory Group (SAG) to act as the steering body of the Pilot Network
 - One or two representatives from all participating partner organizations
 - Further membership to be discussed by SAG
- Current participants
 - Vietnam (VEA), Japan (MOE, NIMD likely), Korea (NIER possibly), Taiwan (EPAT, NCU), United States (EPA, NADP, NOAA), Indonesia (MOE likely), Thailand (MOE likely)



Initial Locations Asia Pacific Mercury Monitoring Network

- Hg wet dep, TGM, speciation
- One laboratory for analysis of wet deposition samples. NCU offered to perform at no analytical costs.
- Sharing of the data
 - Will not be public at the start of the network; data will be available to the Scientific Advisory Group
- Common SOPs for monitoring and data review will be developed over Year 1
- Field and lab training
- Develop capacity for countries to use the data

US (Mauna Loa Hawaii), Canada (Alert) not shown

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2014 Mercury Monitoring Workshop

Hanoi, Vietnam?

- Training
 - Wet deposition and TGM
- Development and/or completion of SOP for wet deposition
- Science Advisory Group meeting
- First sampling proposed for week after meeting

9-17-2013

Version 1

Proposal for an
Asia Pacific Mercury Monitoring Workshop
Hanoi, Vietnam, March 2014

Background:

- September 2012 – Atmospheric Mercury Monitoring Workshop, Taipei, Taiwan organized by Taiwan EPA, National Central University, USEPA and NADP. Scientific experts from Thailand, Indonesia, Taiwan, Canada, Japan, Korea, and U.S. exchanged information from programs in Asia and North America that monitor atmospheric mercury, identified gaps in monitoring, and articulated the need for a coordinated, Asia-Pacific network for monitoring and assessing atmospheric mercury transport and deposition.
- July 2013 – Asia-Pacific Mercury Monitoring Workshop, Washington D.C. organized by USEPA, NADP, Taiwan EPA, and National Central University. Scientific experts and ministry and agency officials from Thailand, Indonesia, Vietnam, Taiwan, Canada, Japan, Korea, and U.S. agreed to develop a pilot network that monitors mercury wet deposition and atmospheric concentrations - total gaseous mercury (TGM) or speciated mercury (gaseous elemental mercury [GEM], particle bound mercury [PBM], gaseous oxidized mercury [GOM]).
- As a major workshop outcome, organizers plan to establish three new mercury wet deposition stations in Southeast Asia (Thailand, Vietnam, and Indonesia) to participate in the pilot network. Workshop organizers secured wet deposition collectors to deploy in this area.
- Workshop participants agreed information and training was needed to develop multi-media monitoring capabilities in Southeast Asia. EPA, NADP, and partners agreed to assist with network development, training, knowledge transfer and instrument procurement. Workshop participants agreed to form a Scientific Advisory Group (SAG) to act as the steering body of the pilot network.

Workshop Proposal:

- As next step from the July 2013 workshop, EPA, EPAT, and NADP in partnership with Vietnam Environmental Administration propose to organize and host a four day mercury