COP-1 AIR

ICMGP2017

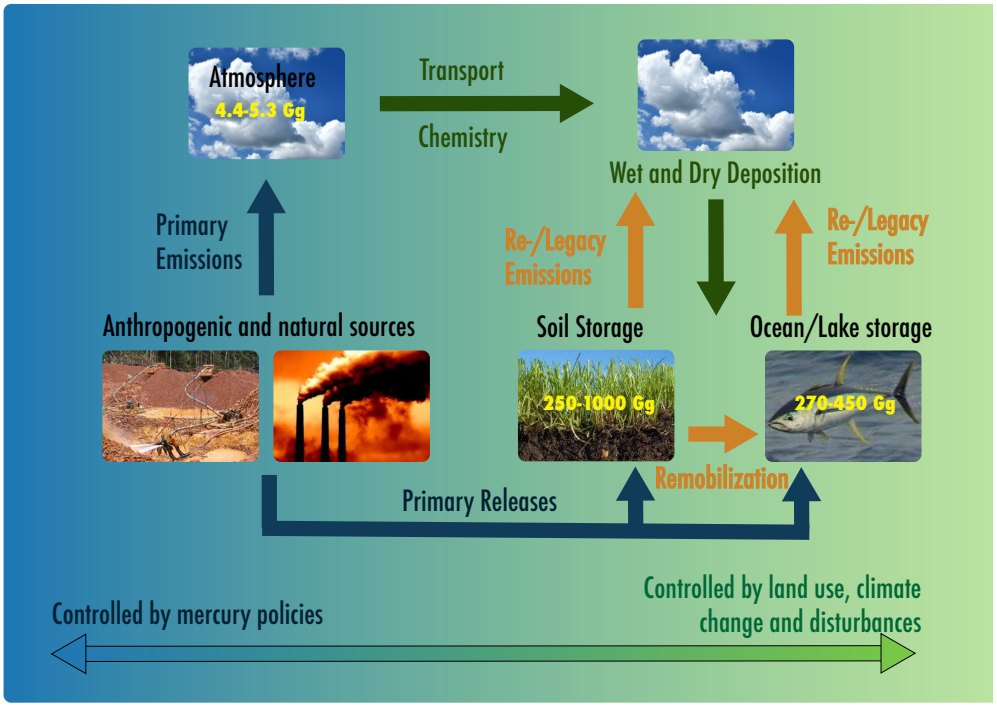
Providence, Rhode Island | July 16–21, 2017

13th International Conference on Mercury as a Global Pollutant

Science Synthesis

Science to Inform Implementation of the Minamata Convention: Air

Human activities have increased the amount of mercury in the air more than five times its natural level. In addition to present-day emissions, air concentrations of mercury are also affected by historical or "legacy" mercury, which can return to the atmosphere after deposition (see Figure). Mercury emissions to the air will be affected not only by future anthropogenic emissions, but also the cycling of legacy mercury. In addition, changing emissions, land use and climate change will have significant impacts on future mercury emissions and concentrations.



Synthesis: COP-1

As part of the 13th International Conference on Mercury as a Global Pollutant, teams of scientists prepared syntheses of the current state of mercury science. Syntheses addressed four topics:

- Science to Inform Implementation of the Minamata Convention
- Global Mercury Processes and Perturbations
- Managing Aquatic Mercury Pollution in Altered Landscapes
- Mercury Exposure and Effects in Wildlife and Humans

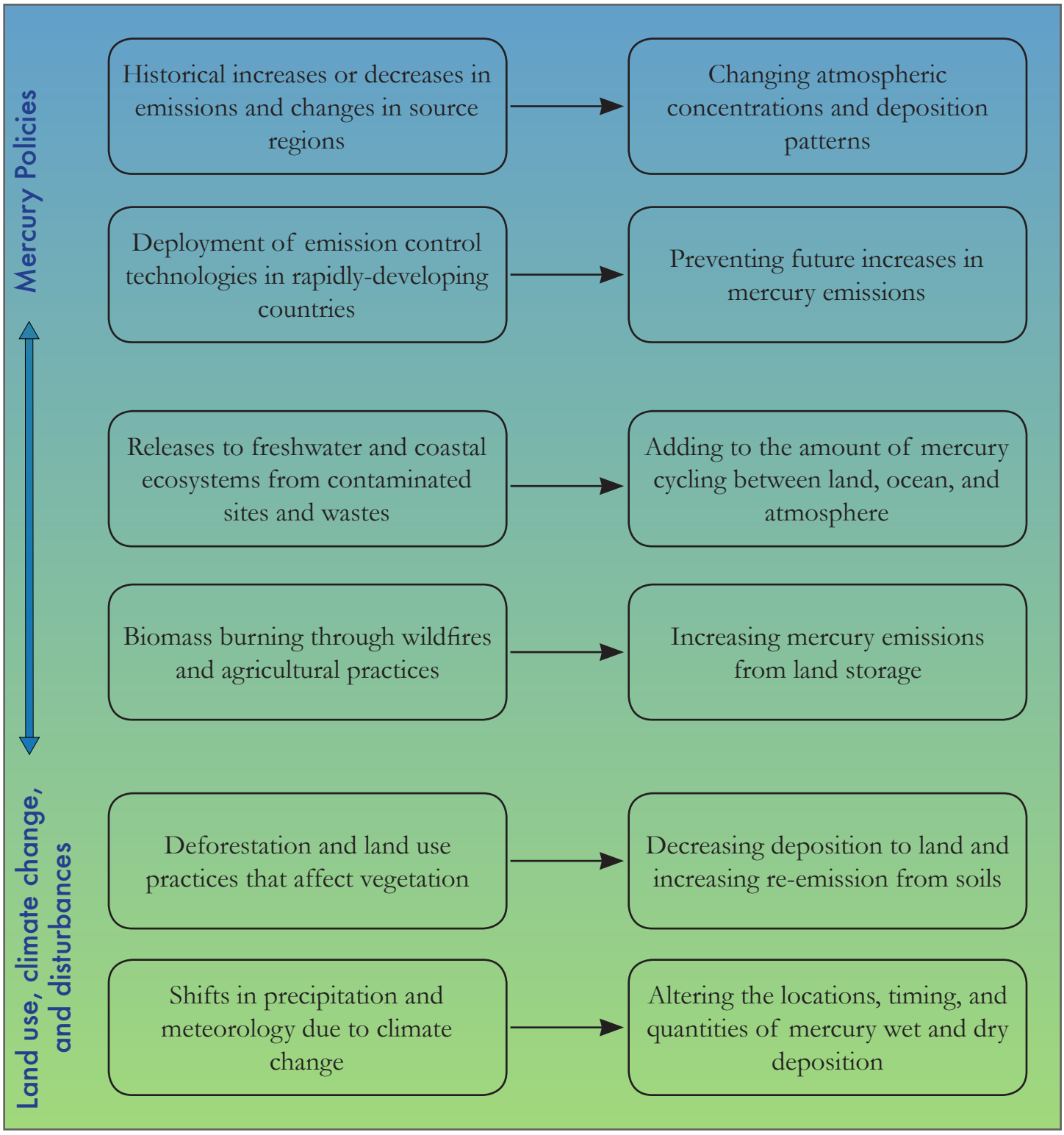
Insights from the syntheses relevant to the implementation of the Minamata Convention are summarized here to inform COP-1 delegates and observers.

What does the latest science say about global mercury cycling?

- Research can project future mercury concentrations with global datasets, new tools, and more reliable models, although some uncertainties remain
- Emissions, climate, and land use changes have led to large changes in mercury cycling
- We have observed some atmospheric mercury declines over the past decade at some sites in the Northern Hemisphere, but some other sites show increases
- New measurements have led to better global constraints on deposition and impacts and show some hotspots of deposition in the tropics.

Synthesis Paper: D. Obrist, J. Kirk, L. Zhang, E. Sunderland, M. Jiskra, N. E. Selin, D. Jaffe. "A review of global environmental mercury processes in response to human and natural perturbations: changes of emissions, climate, and land use." Available at: http://mercury2017.com/program/synthesis-effort/

How do global changes affect global mercury cycling?



For more information on ICMGP 2017 and for copies of the synthesis papers, see: http://mercury2017.com/program/synthesis-effort/