

## Mercury Biogeochemistry and Policy

**CHAIRS: Nelson O'Driscoll, Stefano Covelli, Davide Vignati,  
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Thursday 15<sup>th</sup> May 2014, 08:10 – 12:50, room: Boston 1

Mercury is an acute neurotoxin and endocrine-disrupting chemical that biomagnifies in food webs, with the result being that higher trophic-level organisms can suffer severe neurological and reproductive effects. According to the most recent Arctic Monitoring and Assessment Program (AMAP) report on mercury, mercury emissions may increase by as much as 20% by the year 2020. This increase in mercury will be particularly damaging in ecosystems that retain atmospherically deposited mercury and efficiently convert it to bioavailable methyl mercury. These “mercury-sensitive” ecosystems may be located in remote areas with no direct industrial mercury emissions. While a higher average global temperature is expected to increase the global mercury burden through the release of natural stores, the rate of release and the mechanisms controlling the distribution, retention and bioavailability of deposited mercury in sensitive ecosystems still requires much research.

In this complex and evolving scientific scenario, the UNEP Minamata Convention on mercury represents a major global effort to harmonize policies for the protection of human and environmental health against adverse effects of mercury. Transferring scientific knowledge into policy measures will clearly be one of the limiting factors in determining the ultimate success of the provisions contained in the Minamata Convention. This session will cover a wide range of mercury science and policy initiatives including new analytical techniques, speciation in ecosystems, bioaccumulation in the food web, multimedia modeling and critical assessment of regulatory policies. This session will facilitate collaborations, tools for ecological risk assessments, and policy development and application. Key to the continued understanding and mitigation of the mercury problem is the fundamental science controlling its movement and bioaccumulation in ecosystems and incorporation into developing global policy.

**SESSION TYPE:** Platform and Poster