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Overview of the NADP's atmospheric mercury network (AMNet)

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The National Atmospheric Deposition Program (NADP) developed and operates a collaborative network of atmospheric mercury monitoring sites based in North America - the Atmospheric Mercury Network (AMNet). The justification for the network was growing interest and demand from many scientists and policy makers for a robust database of measurements to improve model development, assess policies and programs, and improve estimates of mercury dry deposition. Network sites measure concentrations of atmospheric mercury fractions using automated, continuous mercury speciation systems, and include concentrations of hourly gaseous elemental mercury (GEM), two-hour gaseous oxidized mercury (GOM), and two-hour particulate-bound mercury less than 2.5 microns in size (PBM_{2.5}). The procedures that NADP developed for field operations, data management, and quality assurance ensure that the network makes scientifically valid and consistent measurements. As of March 2013, over 600,000 valid observations are available from 30 stations. An overview of the network, sites and data, quality assurance steps and methodology, operational details, basic network results, and future directions for AMNet will be presented. Contrasting values for site locations across the network: urban versus rural, coastal versus high-elevation and the range of maximum observations will be highlighted. Details about network planning for the future will also be presented, including fostering new network partnerships in Asia, continued network operation and growth, and weekly dry deposition estimates for each fraction.

Biography

David A Gay received his PhD in Environmental Sciences with a concentration in climatology of air pollution from the University of Virginia in 1996. He is currently the Coordinator of the National Atmospheric Deposition Program, an international monitoring cooperative, and a Research Scientist at the Prairie Research Institute at the University of Illinois-Urbana Champaign. His research interests include monitoring of wet deposition of mercury, gaseous measurement of mercury and statistical analysis of trends in time.

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