



Working Together: Updates on Measurement, Monitoring, and Laboratory Science Issues

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NWQMC 2010
Denver, Colorado – April 28, 2010*



Overview



- Programs
 - Office of the Science Advisor (OSA)
 - Forum on Environmental Measurement (FEM)
 - Environmental Laboratory Advisory Board (ELAB)
 - Global Earth Observation System of Systems (GEOSS)
 - Environmental Technology Initiative (ETI)
- Recent Activities
 - FEM Action Agenda
 - AMI GEOSS Funding Initiatives
- Summary
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Office of the Science Advisor

- Mission: Provide leadership and serve as an honest broker for cross-agency science, science policy, and technology issues.
- Principle Areas of Responsibility:
 - Advising the EPA Administrator on science and technology issues and their relationship to Agency policies, procedures, and decisions with use of the best available science.
 - Leadership in promoting consistency and consensus for Agency measurement, monitoring, and laboratory science activities.
 - Leadership in catalyzing the development, verification, and deployment of sustainable technologies that help solve environmental problems.
 - Leadership in leveraging Earth observations and modeling for Agency missions.
 - Oversight of Risk Assessment Forum, Science Policy Council, and Program in Human Research Ethics.



Forum on Environmental Measurement (FEM)

- Mission: Promote consistency and consensus within the EPA, and provide an internal and external contact point for addressing measurement methodology, monitoring, and laboratory science issues with multi-program impact.
- Charge:
 - Enhance Agency programs by recommending principles for:
 - Validating and disseminating methods for sample collection and analysis;
 - Developing scientifically rigorous, statistically sound, and representative measurements; and
 - Employing a quality systems approach that ensures data gathered and used by the Agency are of known and documented quality.
 - Establish procedures and policies that provide consistent, yet flexible, measurement tools to support environmental decision-making.
 - Provide EPA and the public with a central point for addressing measurement methodology, monitoring, and laboratory issues with multi-program impact.



Environmental Laboratory Advisory Board (ELAB)

- Formed under the provisions of the Federal Advisory Committee Act (FACA) in 1997
- Composition: Trade Associations from the Environmental Laboratory Industry and Regulated Community; Academia; Federal, Local, and/or Tribal Governments; Laboratory Assessment Bodies; and Others.
- Charter – Purpose/Scope:
 - Enhancing EPA’s measurement programs (i.e., see FEM Charge, Action Agenda).
 - Facilitating the operation and expansion of a national environmental laboratory accreditation program. In this regard, ELAB will provide advice and recommendations to EPA on issues that impact the non-governmental community.



Global Earth Observation System of Systems (GEOSS)

- Mission: The OSA/Office of Environmental Information (OEI) GEOSS Team and the committee, EPA Global Earth Observations (GEO), work to coordinate with GEO, the intergovernmental body, and US GEO, a committee under CENR, to enhance the use of observational data and monitoring information, integrated with EPA science and technology, to improve the science supporting environmental decision making in EPA and by its partners. In addition, EPA GEO project results will be used as a demonstration of the societal benefits from the better observations and science to the US GEO and GEO.
- Areas of Accomplishment/Focus:
 - Global Air Quality – AIRNow – International
 - Water Quality Aquatic Integrity Measurements
 - Lyme Disease
 - Global Earth Enhanced Visualization of Data and Modeling for Decision-Makers
 - EPA GEO Knowledge Base – Advanced Monitoring Initiative (AMI) Projects



Environmental Technology Initiative (ETI)

- Mission: The Environmental Technology Initiative (ETI) catalyzes the development, verification, and deployment of sustainable environmental technologies. Toward this goal, the ETI works with other federal, state, international, industry, and non-governmental organizations with interests in advancing environmental technologies. The ETI also works with EPA's Environmental Technology Programs and supports the activities and efforts of EPA's Environmental Technology Council.
- Areas of Focus/Accomplishment:
 - Environmental Technology Council Re-establishment
 - Engagement of Venture Capital Community
 - Environmental Technology Opportunities Portal (ETOP)

FEM Action Agenda

- Improving the Quality of Agency's Methods
- Flexible Approaches for Environmental Measurement
- Communication and Outreach
- Toolbox of Techniques – Method Detection, Method Quantitation, Calibration
- General Laboratory Competency
- National Environmental Accreditation
- Environmental Measurement Symposium
- Environmental Technology for Monitoring
- Monitoring Assessment





Monitoring Assessment

- Monitoring Inventory
- Needs/Gaps Identification
 - Organized by the Administrator's Priorities
 - Taking Action on Climate Change
 - Improving Air Quality
 - Assuring the Safety of Chemicals
 - Cleaning Up Our Communities
 - Protecting America's Waters
 - Expanding the Conversation on Environmentalism and Working for Environmental Justice
 - Building Strong State and Tribal Partnerships
 - Approximately 50 Need/Gap Areas Identified
- Leveraging Opportunities, Common Themes, Innovative Problem Solving



AMI/GEOSS Funding Initiatives

- FY 2009 Funding Initiative Focused on Sensors
 - Sensors for Semi-Continuous Ambient Air Monitoring of Toxic Metals in Midwestern Communities Burdened by Industrial Emissions
 - Field Deployment of Prototype Deep UV Optical Sensor (DUVOS) for Fenceline Monitoring
 - Field Testing of Nitrate Sensors in Various Conductivity, Turbidity, and Dissolved Organic Carbon Gradients in the Delaware River Basin Demonstration Study Area of the National Monitoring Network for Coastal Waters and Their Tributaries
 - Use of Many Low-cost Sensors for Monitoring Spatial and Temporal NO₂ Gradients Near Roadways
- FY 2010 Portfolio Development
 - Data and Information Infrastructure
 - Integrated Applications
 - Sensor and Observational Methods Development
 - Support for Communities of Practice and Engagement of Users and Decision Makers.

Why does this matter?

- A critical need exists to synthesize information to increase our understanding of the significance of interactions.
- There are benefits to tackling challenges with consistency and consideration of information needs and identification of gaps.
- There is a need for innovative ideas and strategies ('thinking outside of the box') for problem solving to advance the challenges that face the nation.
- Collaboration with partners and advancements in science and technology will provide leveraging opportunities for advancement of our mission, as well.

Contact Us

- Websites:

- www.epa.gov/fem
- www.epa.gov/elab
- www.epa.gov/geoss
- www.epa.gov/etop

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