

CONFERENCE SPONSORS

New York State Energy Research and Development Authority • New York State Department of Public Service
New York State Department of Environmental Conservation • New York State Department of Health
U.S. Environmental Protection Agency • Adirondack Park Agency • Electric Power Research Institute
Environmental Defense • Environmental Energy Alliance of New York
Northeast States for Coordinated Air Use Management

ENVIRONMENTAL MONITORING, EVALUATION, AND PROTECTION IN NEW YORK: LINKING SCIENCE AND POLICY

OCTOBER 25-26, 2005

The Albany Marriott • 189 Wolf Road • Albany, NY

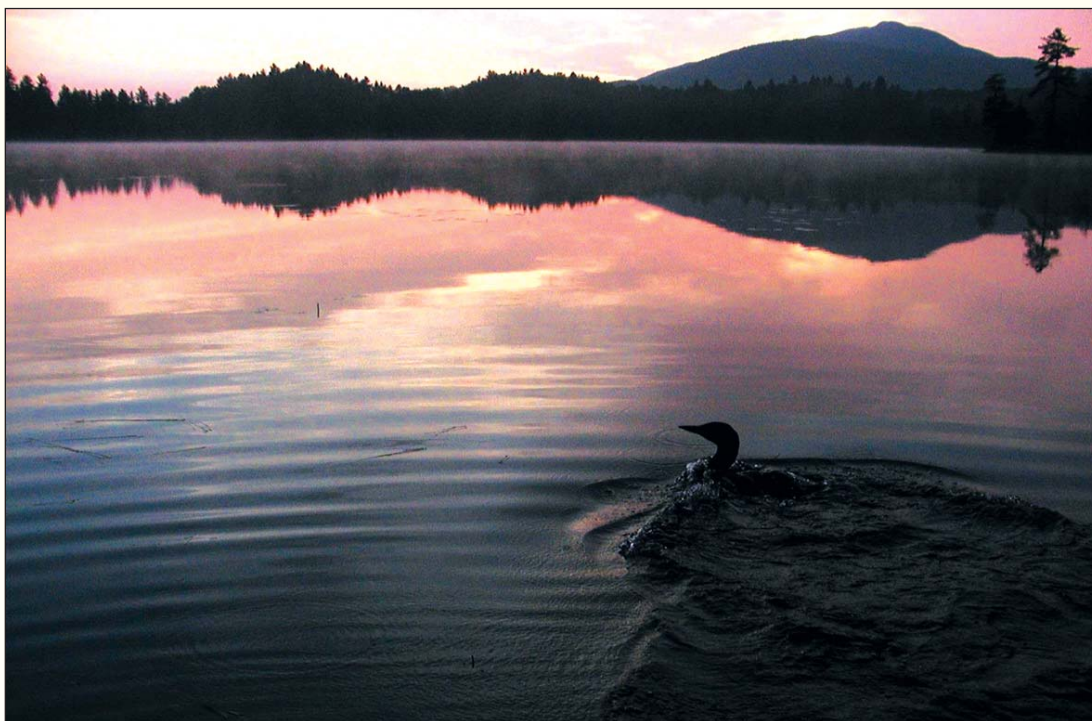
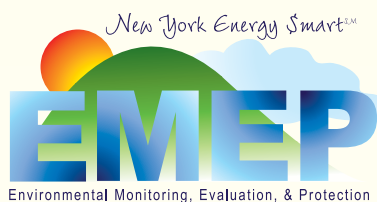


Photo by Nina Schoch

Common Loon on Adirondack Lake

This conference brings together scientists and policy makers to share information on environmental research in New York State and its implications for making and evaluating policy. The New York Energy SmartSM Environmental program supports policy-relevant research in order to enhance understanding of energy-related environmental issues. The program will highlight the latest research on air quality and related health issues, ecosystem responses to atmospheric pollutants, and climate change issues in our region. Results of NYSERDA/EMEP-sponsored and related research projects will be presented in poster sessions throughout the two-day event. A plenary session will draw attention to setting energy-related environmental research priorities in a changing policy landscape.

ENVIRONMENTAL MONITORING, EVALUATION, AND PROTECTION IN NEW YORK: LINKING SCIENCE AND POLICY OCTOBER 25-26, 2005

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TUESDAY, OCTOBER 25, 2005

8:00 a.m. **Registration and Continental Breakfast**

8:30 a.m. **Welcome and Opening Remarks**

- [Peter R. Smith](#), President
New York State Energy Research and Development Authority (NYSERDA)

9:00 a.m.

Panel: Emerging Environmental Issues for the Energy Industry

Chair: [Jim Gallagher](#), Director, Office of Electricity and Environment, New York State Department of Public Service

- Clean Energy Technologies
[James Lyons](#), Chief Engineer for Electrical Energy System Technologies, General Electric Company
- Environmental Issues Related to the Electric Industry
[Ron Wyzga](#), Technical Executive, Electric Power Research Institute
- Environmental Issues Related to the Gas Industry
[Diane Saber](#), Director of Environmental Science and Forensic Chemistry, Gas Technology Institute

The panelists will present brief summaries of environmental trends and issues likely to emerge in the next decade. The panelists will focus on issues relevant to the production and use of energy in New York State and the region. The presentations will be followed by a question and answer period.

10:15 a.m. **Break**



Clarkson University Air Quality Monitoring, Potsdam, NY

Photo by Eileen Burkhardt

10:45 a.m.	<p>Update of the Latest Research on Major Energy-Related Environmental and Public Health Issues in New York State</p> <p><u>Session A</u></p> <p>AIR QUALITY AND RELATED HEALTH RESEARCH: PARTICULATES (PM) AND CO-POLLUTANTS</p> <p><i>This session will focus on key science/policy questions associated with PM: What is in ambient PM? Where are these components coming from? What is the status of the PM2.5 emissions inventory? What are the latest findings on PM health effects?</i></p> <p>Session Co-Chairs: George Hidy, Principal, Aerochem Associates and Ellen Burkhard, Project Manager, NYSERDA</p>	<p><u>Session B</u></p> <p>ECOSYSTEM RESPONSE TO DEPOSITION OF SULFUR AND NITROGEN</p> <p><i>This session will focus on ecosystem response to changing levels of acid deposition in New York State and will address the extent to which ecosystem improvements are being observed.</i></p> <p>Session Co-Chairs: Stuart Findlay, Senior Scientist, Institute of Ecosystem Studies and Mark Watson, Senior Project Manager, NYSERDA</p>
10:45 a.m.	Introduction – Ellen Burkhard , Project Manager, NYSERDA	Introduction – Mark Watson , Senior Project Manager, NYSERDA
11:00 a.m.	<p>What is in Ambient PM2.5 in NY? Where are These Components Coming From – Local vs Transported?</p> <p>Dirk Felton, Research Scientist, New York State Department of Environmental Conservation</p> <p>Ken Demerjian, Director, Atmospheric Sciences Research Center, University at Albany</p> <p>Phil Hopke, Director for the Center for Air Resources Engineering and Science, Clarkson University</p>	<p>Acid Rain Monitoring in the Adirondacks and Catskills – Garry Boynton, Environmental Chemist, NYSDEC</p> <p>Assessment of Recovery of Adirondack and Catskill Surface Waters – Doug Burns, Research Hydrologist, U.S. Geological Survey</p> <p>Long Term Monitoring Program for Evaluating Changes in Water Quality in Adirondack Lakes 1982-2004 – Karen Roy, Research Scientist, New York State Department of Environmental Conservation</p>
12:15 p.m. - 2:00 p.m.	Luncheon and Poster Session	
2:00 p.m.	Emissions Inventory and Air Quality Management – George Hidy , Principal, Aerochem Associates	Adirondack Streams Assessment – Greg Lawrence , Physical Scientist, U.S. Geological Survey
2:30 p.m.	What are the Latest Findings Regarding Health Effects from Fine Particles and Associated Components? – Maria Costantini , Principal Scientist, Health Effects Institute	Assessment of Adirondack Watersheds – Tim Sullivan , President, E&S Environmental Chemistry
3:00 p.m.	Environmental Public Health Tracking: Linking Air Quality and Health Effects Data – Edward Fitzgerald , Associate Professor, University at Albany School of Public Health	Biological Trends in Adirondack Waters, The Adirondack Effects Assessment Program – Sandra Nierzwicki-Bauer , Director, Darren Freshwater Institute, Rensselaer Polytechnic Institute
3:30 p.m.	Wrap-up – George Hidy , Principal, Aerochem Associates	Wrap-up – Stuart Findlay , Senior Scientist, Institute of Ecosystem Studies
4:00 p.m. - 6:00 p.m.	Reception and Poster Session	

WEDNESDAY, OCTOBER 26, 2005

8:00 - 8:30 a.m. **Continental Breakfast**

8:30 a.m. **Science and Policy Issues Related to Mercury in the Environment**

Chair: [Praveen Amar](#), Director, Science and Policy, Northeast States for Coordinated Air Use Management (NESCAUM)

This session will focus on the latest findings on mercury in the environment, and the policy implications for New York State, the region and the nation.

- Mercury Basics, Chemistry, Health Effects and Control Technologies – [Praveen Amar](#), Director, Science and Policy, NESCAUM
- Mercury in the Atmosphere – [Thomas Holsen](#), Professor, Civil & Environmental Engineering, Clarkson University
- Mercury Modeling – [Russ Bullock](#), Meteorologist, National Exposure Research Laboratory, U.S. Environmental Protection Agency
- Atmospheric Deposition, Transport, Transformations, Fate and Bioavailability of Mercury in Forested Watersheds of the Northeastern United States – [Charley Driscoll](#), Professor and Director of the Center for Environmental Systems Engineering, Syracuse University

10:15 a.m. **Break**

- 10:30 a.m.
- Mercury in the Coastal Environment – [William Fitzgerald](#), Professor of Marine Sciences, University of Connecticut
 - Ecological Impacts/Bio-indicators and Fish – [Nina Schoch](#), Program Coordinator, Adirondack Cooperative Loon Program, [Howard Simonin](#), Aquatic Toxicology Research Unit Leader, NYSDEC
 - Reducing Emissions from the Electricity Sector: The Costs and Benefits Nationwide and in the Empire State – [Karen Palmer](#), Senior Fellow, Resources for the Future

12:00 p.m. - 1:30 p.m. **Lunch**

POSTER SESSION

The conference will include a poster session highlighting over 30 current EMEP projects, as well as nearly 20 other related research projects. Conference participants are encouraged to attend the reception and poster session on the evening of October 25th, and visit the poster area during the lunch and break periods.

CONFERENCE PROCEEDINGS

NYSERDA will distribute proceedings from this conference, which will include presentation abstracts. Proceedings and speaker presentations will be posted on the EMEP website.

FOR MORE INFORMATION

www.nyserdera.org/programs/environment/emep/

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1:30 p.m.

Science and Policy Issues Related to Climate Change

Chair: [Scott Ollinger](#), Assistant Professor, Institute for the Study of Earth, Oceans, and Space, University of New Hampshire

This session will focus on climate change issues and research in our region, and will provide a summary of initiatives aimed at reducing greenhouse gas emissions.

- Climate Change Research in Northeast Ecosystems – [Lindsey Rustad](#), Forest Ecologist, U.S. Forest Service
- Independent and Joint Impacts of Heat and Ozone on Mortality Risk Under a Changing Climate – [Pat Kinney](#), Associate Professor, Environmental Health Sciences, Mailman School of Public Health, Columbia University
- New York City Regional Heat Island Initiative – [Cynthia Rosenzweig](#), Senior Research Agronomist, NASA's Goddard Institute for Space Studies at The Earth Institute at Columbia University
- New York State Initiatives to Reduce Greenhouse Gases – [Karl Michael](#), Program Manager, NYSERDA

3:30 p.m.

Break

3:45 p.m.

Plenary Discussion: Energy-Related Environmental Research – Setting Priorities in a Changing Policy Landscape

Chair: [Janet Joseph](#), Program Manager, NYSERDA

Panelists will offer perspectives on current and future environmental research and analysis needs related to energy production and use.

- [Carl Johnson](#), Deputy Commissioner, Division of Air and Waste Management, NYSDEC
- [James Vickery](#), Acting Deputy Director, Atmospheric Sciences Modeling Division, National Exposure Research Laboratory, U.S. EPA
- [Robert Teetz](#), Director, Environmental Licensing and Compliance, Keyspan Energy
- [David Lawrence](#), Manager of Market Strategies, New York Independent System Operator
- [Andrew Darrell](#), New York Regional Director, Environmental Defense

5:00 p.m.

Wrap Up and Closing Comments – [Elizabeth Thorndike](#), Founder and Director, Center for Environmental Information and Member of NYSERDA Board

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POSTER PRESENTATIONS

NEW YORK ENERGY SMARTSM ENVIRONMENTAL MONITORING, EVALUATION, AND PROTECTION (EMEP) AND RELATED RESEARCH

In-State/Out-of-State Sources of Semivolatile Pollutants and Hg in New York State	Clarkson University
Analysis of PM Data in New York Using Advanced Source Apportionment Methods	Clarkson University
The Workshop on the Source Apportionment of PM Health Effects: Intercomparison of Results and Implications	Clarkson University
Penetration of the Ambient Ultrafine Aerosol into a Cardiac Rehabilitation Facility in Rochester, NY	Clarkson University
Assessment of Carbonaceous Fine Particle (PM _{2.5}) for New York and the Region	NESCAUM
Source Apportionment of Fine Particles in New York City	New York University School of Medicine
Near-Realtime CMAQ Air Quality Simulations Over New York State Since Summer 2004: Project Overview, Model Performance, and Future Directions	NYS Department of Environmental Conservation/Atmospheric Sciences Research Center
Recent Cloud Chemistry Measurements at Whiteface Mountain, NY	NYS Department of Environmental Conservation/Adirondack Lakes Survey Corporation
Associations Between Air Pollutants and Asthma Exacerbations in New York City	NYS Department of Health
Chemical Composition of Fine Particulate Matter from Urban and Regional Background Locations in New York State	Rutgers University
Innovation in Air Monitoring of Particulate Matter (PM)	Thermo Electron Corporation
Enhanced Measurements of Oxidants, Fine Particles and Their Precursors: Relationship between NO _y , PM _{Nitrate} and PM _{2.5} at a Mountain Site in Upstate New York	University at Albany
Enhanced Measurements of Oxidants, Fine Particles and Their Precursors: Selected Results from the Pinnacle State Park Research Station	University at Albany
Enhanced Measurements of Oxidants, Fine Particles and Their Precursors: Perspectives on Ambient Aerosol Composition in New York City	University at Albany
Physical and Chemical Characterization of Laboratory-Generated Organic Particulate Matter	University at Albany
Formation and Transformation of Particles in Motor Engine Exhaust	University at Albany
Ultrafine Particles and Cardiac Responses: Evaluation in a Cardiac Rehabilitation Center	University of Rochester Medical Center
Quantifying the Economic and Environmental Benefits of Combined Heat and Power Technologies in New York State	Navigant Consulting
Analysis of New Pollution Control Strategy Utilizing Emission Reduction Credits and Small-Scale Combined Heat and Power Units	Navigant Consulting
Reducing Emissions from the Electricity Sector: The Costs and Benefits Nationwide and in the Empire State	Resources for the Future
Preliminary Results from a Laboratory Intercomparison of Gaseous Ammonia Measurement Methods	University at Albany
Tracing Atmospheric Sources of Nitrogen to Watersheds: Nitrate Isotopes in Precipitation in the Northeastern and Continental United States	U.S. Geological Survey/University of California, Berkeley

Continuous Air Monitoring of Mercury in Rochester, NY	NYS Department of Environmental Conservation
Tracing Sources of Nitrogen to New York Watersheds Using Nitrate Isotopes	U.S. Geological Survey/University of California, Berkeley
Elucidating Sources and Factors Affecting Delivery of Nitrogen to Surface Waters of New York State	U.S. Geological Survey/University of California, Berkeley
Long-term Monitoring and Assessment of Mercury Based on Integrated Sampling Efforts Using the Common Loon, Prey Fish, Water, and Sediment	Adirondack Cooperative Loon Program
Long-Term Monitoring Program for Evaluating Changes in Water Quality in Adirondack Lakes 1982-2004	New York State Department of Environmental Conservation/ Adirondack Lakes Survey Corporation
Potential Negative Effects of Air Pollutants on Thrushes and Other Songbirds in the Appalachian Mountains	BioDiversity Institute
Assessment of Extent to Which Intensively-studied Lakes are Representative of the Adirondack Mountain Region	E&S Environmental Chemistry
Effects of Nitrogen Addition on Fine Roots in an Oak Forest	Institute of Ecosystem Studies
Strategic Monitoring of Mercury in New York State Fish	NYS Department of Environmental Conservation
Ecosystem Integrity in Adirondack Upland Headwater Catchments: A Comparison of Reference and Logged Catchments	SUNY Plattsburgh
Assessment of Nitrogen and Acidic Deposition Impacts on Terrestrial and Aquatic Ecosystems of Tug Hill	SUNY-College of Environmental Science and Forestry at Syracuse
Long Term Monitoring: An Integration of the Effects of Atmospheric Deposition and Climatic Effects on the Arbutus Watershed in the Adirondack Mountains	SUNY-College of Environmental Science and Forestry at Syracuse
Apatite as a Calcium Source to Forests	SUNY-College of Environmental Science and Forestry at Syracuse
Atmospheric Deposition, Transformations, and Fate of Mercury Across a Northern Forest Landscape	Syracuse University
Mercury in Adirondack Wetlands, Lakes and Terrestrial Systems	Tetra Tech
Long-term Monitoring of Water Quality in Massachusetts: Assessment of Acid Deposition Impact Changes	University of Massachusetts
Potential Recovery of Water Chemistry and Stream Biota from Reduced Acid Deposition at a Sensitive Watershed in the Catskills	U.S. Geological Survey
Assessment of Acidic Deposition Effects on Stream Chemistry in the Western Adirondack Region of New York	U.S. Geological Survey
Assessment of Regional Forest Health and Stream and Soil Chemistry Using a Multi-Scale Approach and New Methods of Remote-Sensing Interpretation in the Catskill Mountains of New York	U.S. Geological Survey
Integrated Assessment of Recovery of Surface Waters from Reduced Levels of Acid Deposition in the Catskills and Adirondacks	U.S. Geological Survey/Institute of Ecosystem Studies
Efficiency and Emissions Benefits of Low-Sulfur Heating Oil and Condensing Appliances	Brookhaven National Lab
A New, Compact Instrument for Realtime Aerosol Sizing	Clarkson University
Mitigating New York City's Heat Island with Urban Forestry, Living Roofs, and Light Surfaces: New York City Regional Heat Island Initiative	NASA Goddard Institute for Space Studies

Realtime PM2.5 Black Carbon Measurements at Rochester, NY and the South Bronx, NY	NYS Department of Environmental Conservation
New York State Department of Environmental Conservation's Ambient Air Monitoring Website	NYS Department of Environmental Conservation
New York State Clean Air School Bus Program	NYSERDA
Improving the NYC Ferry Boat Transportation System	NYSERDA
NYSERDA's Clean Diesel Initiative: Off-Road Field Testing Program	Southern Research Institute
Improving Emission Inventories for Effective Air-Quality Management Across North America: A NARSTO Assessment	USEPA/NARSTO
Climate Variability and Change in the Northeastern United States and Eastern Canada: Consequences for Northern Forest Ecosystems	US Forest Service
An On-line Analyzer for Low-Sulfur-Content Measurements in Petroleum Products	X-Ray Optical

FOR MORE INFORMATION

on NYSERDA's Environmental Monitoring, Evaluation, and Protection Program and related environmental issues may be found at:

www.nyserdera.org/programs/environment/emep/



Biscuit Brook Tributary, Catskill Mountain Region

Photo by Mark Watson



Mercury Sampling, Adirondack Region

Photo by Nina Schoch

PROGRAM CONTACTS

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