

Ecosystem Response to Deposition of Sulfur, Nitrogen and Mercury

EMEP Project Activity and Road Map



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Ecosystem Response to Deposition of Sulfur, Nitrogen and Mercury

Road Map

How are the EMEP projects helping us to get where we want to go?



Ecosystem Response to Deposition of Sulfur, Nitrogen and Mercury



Around the Bend

- CAAA Phase 2
- Clear Skies, etc.
- Hg Regulations
- NYS Acid Rain Initiative

Information Needs

What's happening?

Where/When is it happening?

How is it happening?

Why is it happening?

Is it a problem?

Who or what is making it happen?

Can it be fixed? (if it needs fixing)



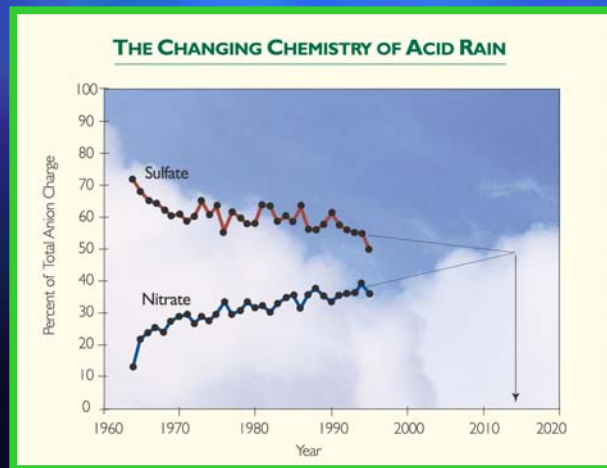
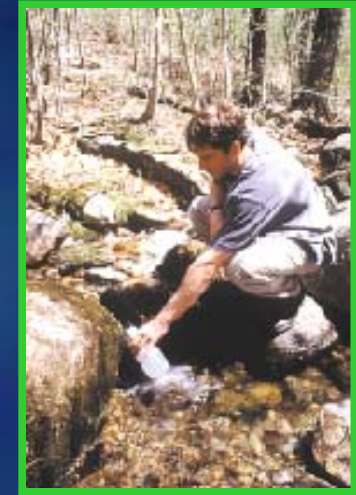
Ecosystem Response to Deposition of Sulfur, Nitrogen and Mercury

Addressing the Information Needs



Project Portfolio

Monitoring
Field/Process Studies
Syntheses/Assessments
Modeling



Environmental Monitoring

(What's happening? Where /When is it happening?)

- Long-Term Monitoring Program for Evaluating Changes in Water Quality in Adirondack Lakes (ALSC)



- Monitoring Deposition and Effects of Air Pollution in the Hudson Valley (IES)

Monitoring Projects (continued)



- Long-term Monitoring and Assessment of Mercury Based on Integrated Sampling Efforts Using the Common Loon, Prey Fish, Water, and Sediment (ACLIP)
- Strategic Monitoring of Mercury in New York State Fish (DEC)
- Mercury Deposition Network
 - Huntington Forest, Adirondacks (Syracuse University)
 - Biscuit Brook, Catskills (USGS)



Field/Process Studies

(How is it happening?

Why is it happening?)

- **Mercury in Adirondack/Catskills Wetlands, Lakes and Terrestrial Systems** (Tetra Tech, SU, USGS)
- **Effects of Deposition of S, N, Hg on Adirondack Ecosystems** (ESF)
- **Evaluation of the Recovery from Acidification of Surface Waters in the Adirondacks** (ESF)



Field/Process Studies (continued)



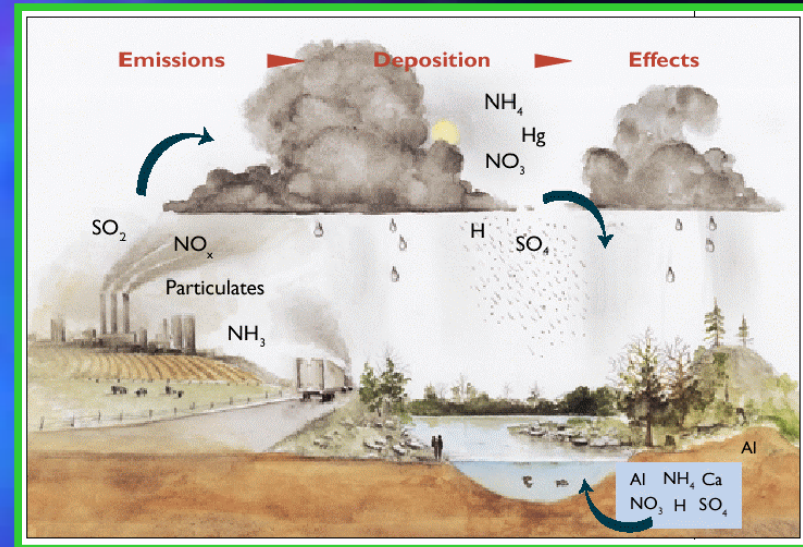
- **Assessment of Chemistry and Benthic Communities in Streams of the Oswegatchie-Black River Basins of the Adirondack Region (USGS)**
- **Quantifying Atmospheric Nitrogen Sources with New Stable Isotope Techniques (USGS)**

Syntheses/ Assessments

Is it a problem?

or -

Is it getting better or worse?



- **Status and Effects of Nitrogen Pollution in North Eastern United States (HBRF)**
- **Assessment of Extent to Which Intensively-studied Lakes are Representative of the Adirondack Mountain Region (E&S Environmental Chemistry)**

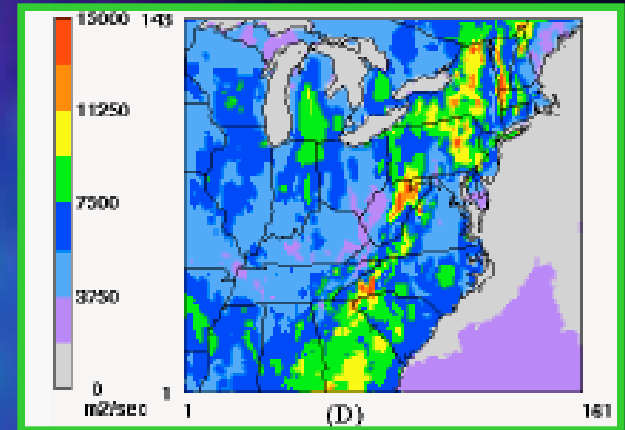
Syntheses/ Assessments, cont.



- **Integrated Assessment of Recovery of Surface Waters from Reduced Levels of Acid Deposition in the Catskills and Adirondacks (USGS)**
- **Potential Recovery of Water Chemistry and Stream Biota from Reduced Levels of Acid Deposition at a Sensitive Watershed in the Catskill Mountains (USGS)**

Modeling Projects

Who or what is making it happen?
Can it be fixed? (if it needs fixing)



- Contributions of Global and Regional Sources to Mercury in New York State (AER)
- Atmospheric Fate and Transport of Mercury in New York State (SUNY Albany)
- Multi Pollutant Policies for the Electricity Sector and Environmental Quality in the Empire State (RFF)

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