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NSF symposium addresses the long view of  
environmental change: Ecological scenarios

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**Scientists ask: If this happened, what then, in ecosystems around the world**



Winter at NSF's Harvard Forest LTER site, where future scenarios studies are taking place.

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**January 28, 2014**

Like all of us, scientists think in scenarios: If this happened, what then?

Results of their efforts to understand and anticipate global environmental changes through the process of scenario thinking and ecological forecasting are the topic of the annual National Science Foundation (NSF) Long-Term Ecological Research (LTER) Mini-Symposium.

The forum will be held on Friday, Feb. 21, 2014, at NSF headquarters in Arlington, Va.

Presentations will address social and ecological change; ecosystem vulnerability, resilience and adaptability; and why long-term data are essential to understanding and predicting future responses to natural and human-caused environmental changes.

Results from scenario-thinking and simulations will be presented for ecosystems from forests to lakes to the open ocean.

For example, the Harvard Forest LTER site scenarios project integrates stakeholder

engagement with land use and ecosystem modeling. LTER scientists are working to understand the reasons for and consequences of land use change in New England forests and how decisions are made for the forests' future.

Harvard Forest is one of 25 such NSF LTER sites around the world in ecosystems from deserts to grasslands, coral reefs to Arctic tundra.

Another talk at the mini-symposium will describe scenarios for long-term change in a southern Wisconsin watershed, part of the North Temperate Lakes LTER site. The scenarios will be presented as narratives, art and trajectories and maps of environmental factors.

Central Arizona-Phoenix LTER site scientists use "participatory modeling" in their research. The models engage researchers and decision-makers as partners in addressing city planning needs. Results of these efforts will be presented at the forum.

Building on long-term research at the California Current Ecosystem LTER site, models are being developed to better understand changes in fish and other marine species that live in or migrate along the California Current. Findings will be reported at the mini-symposium.

Other presentations will address research at the Hubbard Brook LTER site on the recovery of acid lakes in the Northeast, and climate change in northern Alaska at the Arctic LTER site.

**Who:** NSF LTER Network Scientists

**What:** NSF LTER Annual Mini-Symposium

**When:** Friday, Feb. 21, 2014, 8:30 a.m. - 12:00 p.m.

**Where:** National Science Foundation,

**Detailed Agenda: Scenarios and  
Ecosystem Forecasting Mini-Symposium**

- 8:30 *Welcome and Opening Comments*  
a.m. Saran Twombly (NSF Division of  
Environmental Biology), Scott  
Collins (University of New Mexico  
and Sevilleta LTER site) and David  
Foster (Harvard University and  
Harvard Forest LTER site)
- 8:45 *A Long View: Integrating Stories,*  
a.m. *Art, and Biophysical Models to*  
*Explore Long-term Change in the*  
*Yahara Watershed, Wisconsin*  
Stephen Carpenter (University of  
Wisconsin and North Temperate  
Lakes LTER site)
- 9:15 *Sustainable Futures Scenarios*  
a.m. David Iwaniec (Arizona State  
University and Central Arizona-  
Phoenix LTER site)
- 9:45 *Land Use Scenarios, Ecosystem*  
a.m. *Services, and Links to Society: A*  
*New England Case Study*  
Kathy Lambert (Harvard University  
and Harvard Forest LTER site)
- 10:15 Break  
a.m.
- 10:30 *Recovery of Acid Lakes in the*  
a.m. *Adirondack Region of New*  
*York: Model Projections under*  
*Different Scenarios of Emissions*  
*Controls*  
Charles Driscoll (Syracuse  
University and Hubbard Brook  
Forest LTER site)
- 11:00 *Fire and Ice: Climate Change and*  
a.m. *Changing Disturbance Regimes in*  
*Northern Alaska*  
Gaius Shaver (Marine Biological  
Laboratory and Arctic LTER site)
- 11:30 *Ocean Ecosystems: Forecasting*  
a.m. *Responses to Climate Forcing*

Emanuele DiLorenzo (Georgia  
Institute of Technology and  
California Current Ecosystem LTER  
site)

-NSF-

### **Media Contacts**

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### **Related Websites**

NSF LTER Network: <http://www.lternet.edu>  
NSF Publication: Discoveries in Long-Term  
Ecological Research:  
<http://www.nsf.gov/pubs/2013/nsf13083/nsf13083.pdf>





*The National Science Foundation (NSF) is an independent federal agency that supports fundamental research and education across all fields of science and engineering. In fiscal year (FY) 2014, its budget is \$7.2 billion. NSF funds reach all 50 states through grants to nearly 2,000 colleges, universities and other institutions. Each year, NSF receives about 50,000 competitive requests for funding, and makes about 11,500 new funding awards. NSF also awards about \$593 million in professional and service contracts yearly.*

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