

Testimony of Dr. David Schimel
Chief Executive Officer, National Ecological Observatory Network (NEON), Inc.
before the
UNITED STATES HOUSE OF REPRESENTATIVES
Committee on Appropriations
Subcommittee on Commerce, Justice, Science, and Related Agencies
on
The National Science Foundation's (NSF)
Major Research Equipment and Facilities Construction (MREFC) NEON Project
March 11, 2011

Chairman Wolf, Ranking Member Fattah, and Members of the Subcommittee, thank you for the opportunity to testify. My name is Dr. David Schimel, CEO of NEON, Inc. I appreciate the opportunity to discuss funding for the National Science Foundation and the National Ecological Observatory Network (NEON) which is part of NSF's FY12 Budget Request. We are deeply appreciative of the support this Subcommittee has provided NEON in previous years and hope it will continue as you consider the FY 12 budget request for the Major Research Equipment and Facilities Construction account in the amount of \$224.7M. This funding will continue the construction of NEON consistent with the schedule developed by the NSF over a five-year period, including the full MREFC review cycle leading to National Science Board review last year.

NSF is charting an exciting course, broadening the scope of science with enhanced observational capabilities, managing the data produced by new observational tools, and transforming data into knowledge. NSF Director Suresh describes this journey as entering into an "Era of Observation" and an "Era of Data and Information". We applaud NSF for taking proactive steps towards a vision where the creative capacities of private industry, academia, and government have unfettered access to data and information generated through targeted investments at the frontiers of science. That vision also recognizes the growing marketplace for access to environmental information to aid those with resource management responsibilities at the local, state, regional and national levels.

NEON belongs to a class of NSF environmental observatories that contributes to that vision. NEON is an advanced research infrastructure for the study and analysis of the biosphere at regional to continental scales. Living systems are experiencing some of the greatest rates of change caused by multiple changes in the environment, both human-driven and natural. These changes affect ecosystems, air quality, water resources, agriculture, and other goods and services. Understanding how these changes impact our natural resources requires a fully integrated, multi-scale system to detect, understand, and forecast changes. NEON is an advanced networked system of 60 sites plus airborne assets across the continent that monitors the pulse of the Nation's ecosystem. NEON represents the first scientific enterprise to measure a carefully selected suite of hundreds of variables in the same manner across an entire continent. Data collected by the Observatory will be provided free over the web for science, education, and decision-support purposes. Just as weather models are continually improved with data from atmospheric and ocean sensors, scientists and resource managers require data at various scales of time and space to improve forecast models of complex natural systems that are intimately connected with the human enterprise. NEON is also designed to enable the integration of ground, airborne, and space-based data, giving this country an unprecedented means to assess ecosystem health at very high resolutions.

Environmental observatories like NEON represent targeted investments in research infrastructure that will maintain U.S. leadership in linking research to national challenges. There is great synergy between enhanced observational capabilities and other NSF initiatives like the Science, Engineering, and Education for Sustainability (SEES) and the Cyberinfrastructure Framework for 21st Century Science and Engineering (CIF21) portfolios. Such initiatives build the capacity to empower individuals and enterprises with the tools, data, and information that maintain the health of the environmental sciences broadly described and support informed environmental decision-making. Both objectives are vital contributions to our economic growth and environmental health.

I recognize the severe budget constraints facing the Congress. I ask you to think of NEON as key part of the Nation's investment strategy in research and education that will fuel the Nation's long-term competitiveness and innovation agenda.

Thank you for the opportunity to appear before you today. I would be happy to answer any questions you might have.