

MEETING

Phenology for Science, Resource Management, Decision Making, and Education

Fourth USA National Phenology Network (USA-NPN) Research Coordination Network (RCN) Annual Meeting and Stakeholders Workshop; Milwaukee, Wisconsin, 21–22 September 2010

PAGE 15

Phenology, the study of recurring plant and animal life cycle events, is rapidly emerging as a fundamental approach for understanding how ecological systems respond to environmental variation and climate change. The USA National Phenology Network (USA-NPN; <http://www.usanpn.org>) is a large-scale network of governmental and nongovernmental organizations, academic institutions, resource management agencies, and tribes. The network is dedicated to conducting and promoting repeated and integrated plant and animal phenological observations, identifying linkages with other relevant biological and physical data sources, and developing and distributing the tools to analyze these data at local to national scales. The primary goal of the USA-NPN is to improve the ability of decision makers to design strategies for climate adaptation.

The network conducts strategic planning and programmatic implementation through its National Coordinating Office (NCO), established in 2007 at the University of Arizona with support from the U.S. Geological Survey. A key deliverable for 2010 was the development of an online

national phenology monitoring system and user interface, called Nature's Notebook, which includes monitoring standards and methodologies for more than 500 important plant and animal species of the nation.

The USA-NPN could not succeed without the support and participation of its partners, stakeholders, citizens, and society as a whole. To better understand and serve their needs, the NCO hosted a 2-day workshop, with support from a U.S. National Science Foundation Research Coordination Network Grant, for 50 representatives from key stakeholder groups including scientists, educators, natural resource managers, and representatives of public agencies, nongovernmental organizations, specialized networks, and Native American tribes. The goal of the workshop was to describe progress to date, determine stakeholder needs, establish future directions, and create opportunities for partnership and collaboration.

Some of the key concepts and top-priority needs identified by the workshop participants included communication about the network structure and the identity and purpose of its several programs; clarification of opportunities for

collaboration and development of partnerships; documentation of phenology information in support of the human enterprise (e.g., resource management, human health, local and regional economic decision making); and data management, planning, and stewardship.

Through workshop discussions the NCO recognized that it has become increasingly important to identify and determine the motivation and needs of various market segments and network participants, including data providers (e.g., scientists, resource managers, outdoor naturalists, hunting and fishing organizations, formal and informal educators and interpreters) and data users (e.g., resource managers, conservation planners, scientists, policy makers, decision makers). Targeted field campaigns for local to national projects that demonstrate problem definition, strategic planning, data collection, and application development will help showcase the national infrastructure of the network while demonstrating the value of linking phenology to landscape-scale management initiatives.

Several key messages from stakeholders will shape the priorities and deliverables of the NCO, including a renewed focus on demonstrating applications of phenology data in decision making, improving and differentiating communication with various partner organizations, and planning for sustainability of operational resources and data. Stakeholder feedback will also be integrated into the 5-year strategic plan. A full workshop report will be posted on the USA-NPN Web site (<http://www.usanpn.org>) in 2011.

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