North American Science Symposium

"Toward a unified framework for inventorying and monitoring forest ecosystem resources"

"Hacia un planteamiento unificado para inventariar y monitorear los recursos de los ecosistemas forestales"

November 1-6, 1998

Guadalajara, Jalisco, Mexico

This symposium provided an excellent opportunity for interactions among U.S. LTER, Canadian, and Mexican scientists for the facilitation of a North American Regional LTER Network. Excellent papers were presented by the following LTER scientists on behalf of LTER:

Bob Waide

Tim Fahey

Jerry Franklin

Ariel Lugo

Jim Vose

James Brunt

Don Henshaw

Eda Melendez-Colom

Jim Gosz

Bill Michener

The goal for the symposium was to build on the best science and technology available to assure that the data and information produced in future inventory and monitoring programs are comparable, quality assured, available, and adequate for their intended purposes, thereby providing a reliable framework for characterization, assessment, and management of forest ecosystems in North America. This provided an excellent opportunity to demonstrate how long-term research and information management provided at Long Term Ecological Research sites in Canada, U.S. and Mexico could aid the needs of forest management. Two of the sessions in the symposium where U.S. speakers presented results from LTER were Long Term Ecological Research Monitoring and Information Management Systems. The primary objectives of the Long Term Ecological Research Monitoring session addressed issues and alternatives to integrate these sites and other monitoring programs into a more comprehensive, integrated approach for monitoring forest ecosystems. In the Information Management Systems session, speakers addressed questions and issues regarding the design of information management systems for supporting the needs of integrated/comprehensive inventory and monitoring frameworks as well as research.

The sessions also developed recommendations to be made to the general symposium. Of special note in the Long Term Ecological Research session, participants from the three countries agreed to form the **North American Regional LTER Network**. Initially, the sites from the U.S. LTER Network, Canadian Environmental Monitoring and Assessment Network, and proposed Mexican MEXLTER Network will make up this regional network. We anticipate, and will work for, the addition of other North American sites/networks in the future. The North American Regional Network will join with regional networks in Asia Pacific, Latin America and Central Europe and other countries in the International LTER Network (ILTER) to increase international collaboration.

The first meeting of the Regional Network will occur in late 1999 (place to be determined) and a second meeting will occur in association with the All-Scientist LTER and Ecological Society of America meeting at Snowbird, Utah in 2000. These meetings will focus on developing scientific questions and research necessary to develop regional-scale analyses, scientific exchanges/interactions and training/education.

A number of other specific recommendations for the overall symposium were made in the two sessions. For the Long Term Ecological Research session:

- Develop analyses and syntheses of existing inventory, monitoring and research data based on important scientific and management questions.
- Integrate intensive site studies with extensive site studies. Monitoring and research efforts should be linked and integrated.
- Monitoring/Inventory should be an adaptive activity. Continual evaluation and assessment are important. Monitoring/inventory activities should be a result of top-down and bottom-up considerations. National needs (management needs) and pragmatic considerations of scientific feasibility must be considered.
- Utilize the new paradigms based on current scientific understanding and incorporate into assessments of inventory, monitoring and research needs.
- Maintain a long-term view on the needs for inventory, monitoring and research (as well as satisfying short-term objectives).
- Use conceptual models (and theory) to integrate research and monitoring efforts.
- Monitoring networks and intensive research sites should evaluate methods and approaches for determining how well intensive sites provide representative information on ecosystem dynamics and the mechanisms underlying those dynamics for the surrounding region. Develop exploratory project(s) to address this issue.
- Interactions among scientists and sites in Mexico, U.S. and Canada are very important. Students should be involved in those interactions.
- Consider the human factor in our research and monitoring of ecosystems.
- Develop facilities and necessary infrastructure at intensive study sites to increase opportunities for research and monitoring activities. Increased numbers of studies facilitate the development of the comprehensive understanding of the ecosystems.
- The North American Regional LTER Network should aim at providing needed input to the decision-making processes.
- Design research/inventory/monitoring activities to understand ecosystems along the environmental gradients present in North America.

The Information Management session recommended:

- Develop a vision for enhanced sharing of forest ecosystem information across North America
    - this should include a directory of forest databases
    - formulate metadata standards
    - establish procedures to encourage data sharing
    - use a client focus

Promote cooperation within and between countries in North America

- use the model of the U.S. LTER Network Data Managers Committee
- consider forming a tripartite working group
- focus cooperative efforts using a pilot study
- develop capacity building and technology transfer