

**THE MEXICAN LONG-TERM
ECOLOGICAL RESEARCH NETWORK**

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The participation by Mexico in the International Long-term Ecological Research Network is very important for several reasons such as:

- **Mexico's geographic situation and topographic complexity, it supports high levels of species and ecosystem diversity, representing a major fraction of the earth's biota.**

It is imperative that the country understands and protects this heritage, because the combination of an extended rural poverty, low technical support and high population growth, have led to a rapid land use transformation in the count



- **Scientific understanding of the effects of land use changes on natural ecosystems is necessary for developing more sustainable practices for their management and conservation.**
- **Additionally, Mexico is affected by ecological processes that operate at continental scales, such as the El Niño Southern Oscillation, that occur infrequently and can only be understood through large-scale collaborative efforts.**
- **Finally, the proximity of Mexico to a well-established network of long-term studies creates the opportunity for scientific cooperation and development of human resources.**



The objectives of the MEXLTER are the following ones:

- **Establishment of a network of sites to allow Mexican scientists to address in an interdisciplinary way ecological issues on broad spatial and temporal scales. *A corollary is to understand the role of biological diversity in ecosystem processes and in the provision of services to the biosphere, including humans.***
- **The creation of a legacy of well-designed and documented experiments and observations for future generations of society.**



Core Areas

The core areas are:

- **Patterns and control of ecosystem primary productivity.**
- **Patterns and control of water, carbon and nutrients dynamics in ecosystems.**
- **The role of biodiversity in the structure and functioning of ecosystem.**
- **Patterns and frequency of ecosystem disturbance.**
- **Effect of climate change on the structure and functioning of ecosystems.**
- **Interactions at the interface level between managed and natural ecosystems.**
- **Defining criteria for ecosystem management and conservation.**



Table of site characteristics

Participating sites will be required to fulfill a number of criteria recognized to secure the long term and large-scale viability of this initiative. All sites will be subject to continuous performance evaluation carried independently by peer reviewing.

The minimum criteria for a site to be eligible for the Mexican LTER are:

- critical scientific mass**
- commitment to sharing of the resulting data and its long-term management**
- participation of a Higher Level Institution, and evidence of its commitment**
- institutional longevity or security of site for the future**
- adequate infrastructure and logistics**
- existing knowledge base (availability of long-term databases).**



Network Management

The implementation of the LTER program in Mexico will require a coordinating mechanism that provides support for the establishment and funding of the research sites. The achievement of the common goals of the network will require centralization of certain processes such as training, network communication, and planning of meetings. In addition, by centralizing other elements such as acquisition of equipment and software, we anticipate improving efficiency and reducing cost. The basic structure for the coordination and operation of the Network consists of an Executive Committee, an Advisory Board, a Network Coordinator and a Coordinator for each Site. Management of the LTER Network will be by an Executive Group with representatives of each of the participating sites.



SITIOS DE LA RED MEX-LTER



CHAMELA MEXICO



□ **Conceptual framework**

The conceptual framework for the Mex-LTER was developed by organizing two workshops among Mexican and US scientists. Support was received from the US NSF and Mexico's CONACyT.

More than 20 scientists participated in the meetings held at the Chamela-Cuixmala biosphere reserve in western Mexico and the Sevilleta LTER site.

A proposal was developed through the workshops.

Participation of Mexican scientists in Latin American ILTER meetings was facilitated by the U.S. LTER Network.



- **Logistic and financial support**

The Mex-LTER network has received support to attend two international meetings of the ILTER: Taiwan and Italy.

- **Promotion of Mex-LTER network**

Jim Gosz and the US LTER network has been essential to help us generate support of the Mex-LTER by giving talks and private meetings with key Mexican authorities and scientists.

Examples: Latin American Botanical Congress (Mexico City)

Meetings with Dr. Jose Sarukhan, Dr. Arturo Gomez

Pompa



Presently, there are already interactions among Mexican and US LTER sites in:

Chamela - Cuixmala and Coweeta

Mapimi - Sevilleta

El Eden - Sevilleta

The endorsement of the Mex-LTER proposal by the ILTER and US LTER has giving us support in Mexico.



