LTER: Long Term Ecological Research Network

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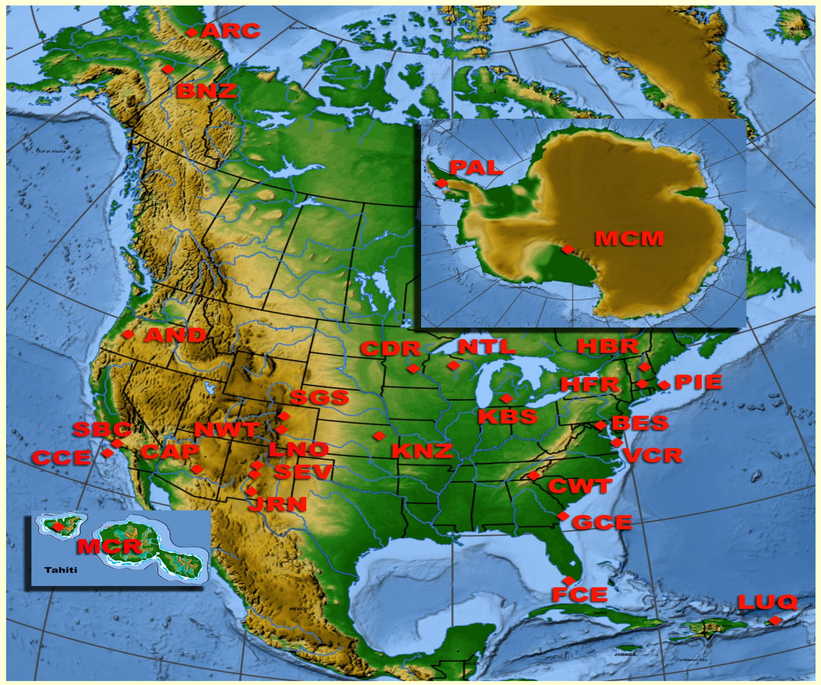
LTER Site Location and History:



1979: NSF announces a call for pilot LTER proposals
1980: Six sites are funded: North Temperate Lakes **NTL**, H.J. Andrews Exp. Forest **AND**, Coweeta Hydrological, Lab. **CWT**, Konza Prairie **KNZ**, North Inlet Marsh, Niwot Ridge **NWT**
1981: Five additional sites are funded: **Central Plains Experimental Range SGS**, Okefenokee, Illionois Rivers, Cedar Creek **CDR**, Jornada Basin **JRN**
1983: LTER Network Office established, **LNO**
1985: First LTER All-Scientists Meeting
1987: An NSF proposal competition results in five new sites added: Arctic Tundra **ARC**, Bonanza Creek **BNZ**, Hubbard Brook **HBR**, Kellogg Biological Station **KBS**, Virginia Coast Reserve **VCR**
First Issue, *LTER Network News* newsletter published
1988: Fourth NSF proposal competition results in addition of three new sites: Luquillo **LUQ**, Sevilleta **SEV**, Harvard Forest **HFR**; Illinois Rivers and Okefenokee are withdrawn
1989: NSF conducts national LTER program review
1991: NSF Antarctic research proposal competition results in addition of a new site: Palmer Station **PAL**
1993: NSF Antarctic research proposal competition results in addition of new site: McMurdo Dry Valleys, Antarctica **MCM**; North Inlet withdrawn; 18 sites remain in network
NSF commissions 10-Year Review
International LTER Summit held (Argentina, Brazil, Australia, Canada, Chile, China, Costa Rica, France, Hungary, Mexico, Mongolia, New Zealand, Russia, Taiwan, United Kingdom, and the United States represented); International LTER (ILTER) Network established
1994: NSF announces a special competition for cross-site comparisons and synthesis at LTER and non-LTER sites and international research awards
1997: Urban LTER proposal competition results in addition of two new sites: Phoenix **CAP**, Baltimore **BES**
1998: Land margin ecological research proposal competition results in addition of new site: Plum Island ecosystem **PIE**
1999: Schoolyard LTER supplements added to LTER grants
2000: Three new coastal sites join network: Georgia Coastal Ecosystem **GCE**, Florida Everglades **FCE**, Santa Barbara Coastal **SBC**
2001: NSF commissions 20-year review of the LTER Network
2002: LTER sites develop and implement standard metadata content and structure to facilitate synthesis of network-wide data
2004: Two new coastal sites join the Network: California Current Ecosystem **CCE**, Moorea Coral Reef **MCR**
The Network now consists of 26 sites

SGS-LTER

The Network:

The Long Term Ecological Research (LTER) Network is a collaborative effort involving more than 1800 scientists and students investigating ecological processes over long temporal and broad spatial scales. Each LTER site encompasses unique ecosystems and research approaches, investigators, students and management systems. Each of the 26 sites works as part of the Network sharing expertise, data and a common mission.

The mission:
- Understanding ecological phenomena over long temporal and large spatial scales
- Creating a legacy of well-designed and documented long-term experiments and observations for future generations
- Conducting major synthetic and theoretical efforts
- Providing information for the identification and solution of ecological problems

The research:
- Pattern and control of primary production
- Spatial and temporal distribution of populations selected to represent trophic structures
- Pattern and control of organic matter accumulation and decomposition in surface layers and sediments
- Patterns of inorganic inputs and movements of nutrients through soils, groundwater and surface waters
- Patterns and frequency of disturbances

Core Research Questions:

Dynamic patterns and control of primary production, over time, and in relation to natural and induced stresses or disturbances.
Evidence presented by several researchers indicates that several key measurements of the producer system can be correlated with physical and climatological measurements at the site. These measures seem to have great potential for estimating other site parameters.

Dynamics of selected populations of seed plants, saprophytic organisms, invertebrates, fish, birds and mammals in relation to time as well as natural and induced stresses or disturbances.
The causes of population fluctuations, or sustained population declines, are among the most elusive of biological problems. Records of the population variations in "indicator species" in a network context will permit testing and development of hypotheses central to the question of maintaining biotic diversity.

Patterns and control of organic accumulation (biomass) in surface layers and substrate (or sediment) in relation to time or natural and induced stresses or disturbances.
Remineralization or accumulation of carbon and associated nutrients often is a dominant aspect of ecological regulation. Certain measurements of the annual organic additions and long-term accumulations are essential to designing and interpreting the experimental work.

Patterns of inorganic contributions (atmospheric or hydrologic) and movement through soils, groundwater, streams and lakes in relation to time and natural or induced stresses or disturbances.
Research has shown unusual variations and trends in inorganic contributions to ecosystems from the atmosphere. These inputs reach aquatic systems, in part, through surface and subsurface hydrologic flows, which in turn vary in relation to precipitation inputs. Long-term measurement of constituents of this geochemical system will provide benchmark measurements for comparative as well as manipulative research.

Patterns and frequency of apparent site disturbances over space and time (drought, fire, windthrow, insects or other perturbations) that may be a product of, or induce, long-term trends.
Virtually all of the potential LTER study systems (land and water) will include unusual but probably natural local disturbances (e.g., floods, fire, insect attack). Study of system response to these interventions is an essential part of the LTER program. Thus, a class of research relates to the pattern and frequency of interventions (some may be very infrequent), and the status of the population recovery (which, in forest succession, may be very long).

Source: http://lternet.edu