The power of long-term research

Long-term studies grounded some of the most fundamental discoveries of ecological theory. As the science evolves, they continue to serve as the gold-standard for developing and testing new hypotheses.

Ecosystems are experiencing conditions with no natural precedent. Long-term manipulation experiments combined with simulation modeling help answer the what-if questions.

Long-term data reveal shifting baselines and place current ecosystem conditions in the broader historical context of past conditions.

The practice of LTERs

Long-Term Experiments
LTER sites maintain experimental manipulations that test potential influences on ecosystem change, such as nutrient inputs, biodiversity, temperature, and precipitation. The experiments serve as a resource to the entire ecological research community.

Long-Term Observations
Each site maintains long-term records of key parameters for that ecosystem, providing critical context for shorter-term studies and cross-system comparisons.

Long-Term Relationships
Over time, LTER sites build trusting relationships with resource managers, educators, and landowners in their regions. Individual investigators can capitalize on those relationships to get new projects off the ground fast.

Expanding Opportunities
Bringing together diverse groups of researchers with sustained data collection and ecosystem manipulation experiments, these sites allow each new generation of scientists to apply new tools and explore new questions in systems where the context is well understood, shared, and thoroughly documented.

US LTER Network
By the numbers

- 25 sites
- 37 years
- 2,300 investigators
- >5,911 public datasets
- >16,000 journal articles

The LTER Network Communications Office is a hub for catalyzing scientific synthesis and facilitating engagement with the Network.

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