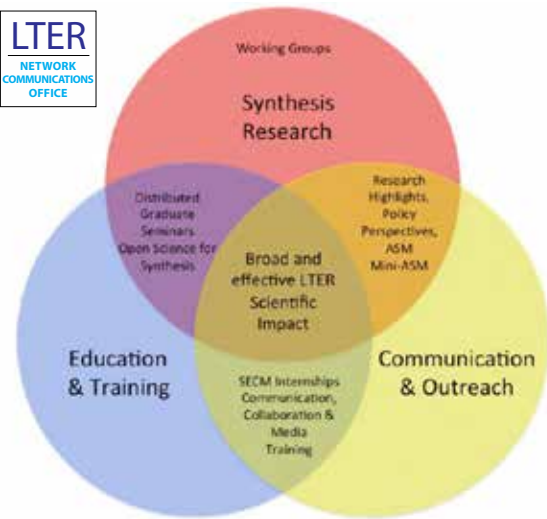


Long-term ecological and environmental studies allow us to better understand the inherent variability of natural systems, to discern trends and shifting baselines, and to witness rare events and unanticipated ecological surprises.

—Hughes et al. *Bioscience*, 2017



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

nco@lternet.edu | nco.lternet.edu | 805.893.7549

## U.S. LTER NETWORK by the numbers

25 sites  
37 years  
>2000 graduate theses  
>5,911 public datasets  
>16,000 journal articles

The 25 sites (soon to be 28) of the Long-Term Ecological Research (LTER) Network share a rich history of ecological inquiry, collaboration across a wide range of research topics, and engagement with students, educators, and resource managers.

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## The Long-Term Ecological Research Network





# The Power and Practice of Long-Term Ecological Research



Credit: MCR LTER

## Long-Term Observations

Long-term studies act as pre-treatment controls for the natural experiments offered by rare and extreme events, including droughts, wildfires, El Niños, floods, heat waves, and hurricanes.

## Long-Term Experiments

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



Credit: CDR LTER



Credit: Liz Duff/PIE-LTER

## 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.

## Long-Term Perspective

Ecosystems are experiencing conditions with no natural precedent. Combining long-term experiments with simulation modeling helps answer the big what-if questions.



Credit: US Forest Service - Northern Research Station