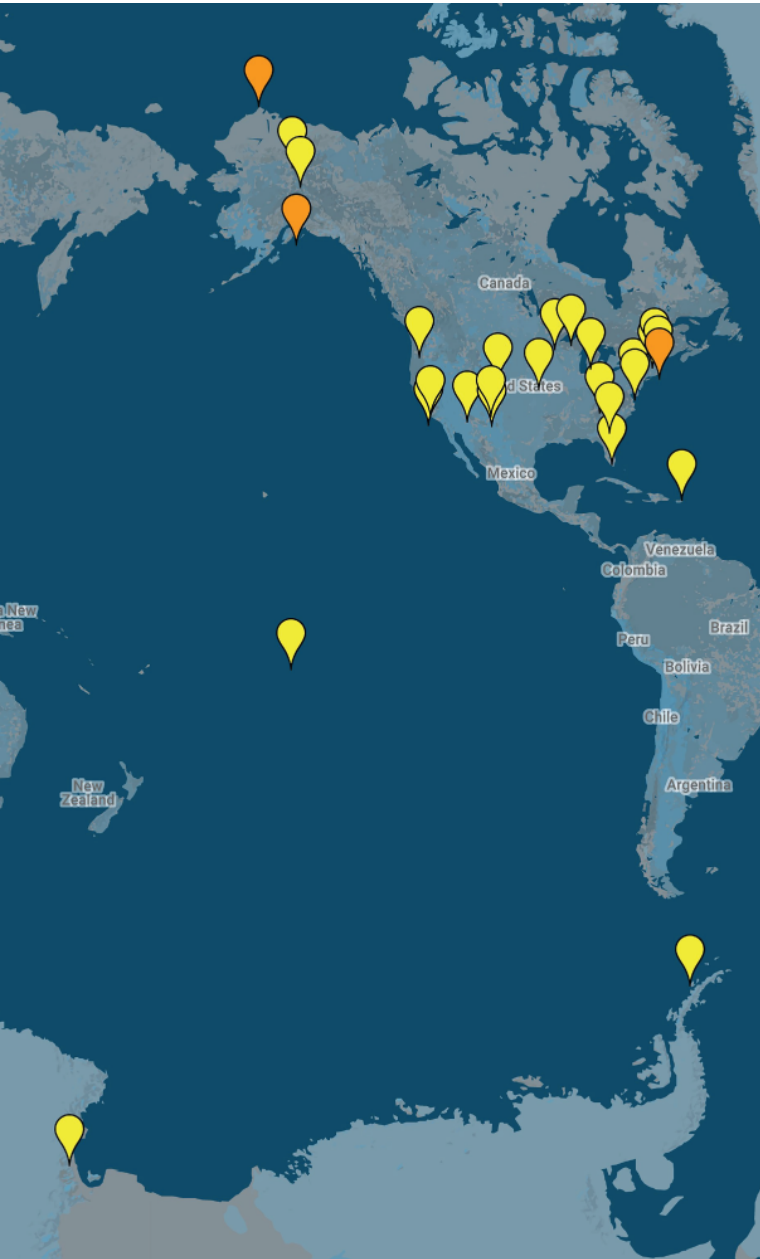
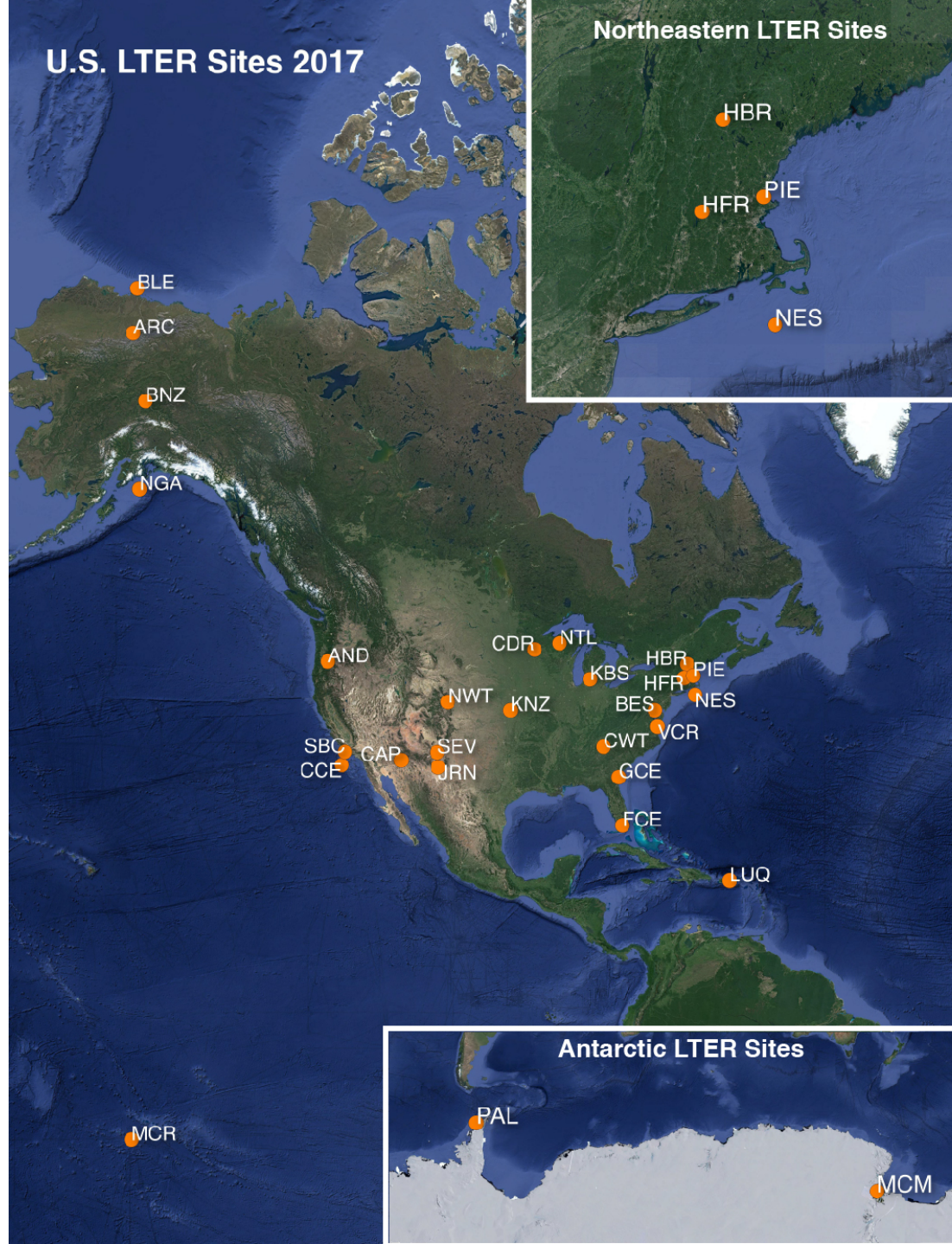




The Long-Term Ecological Research Network

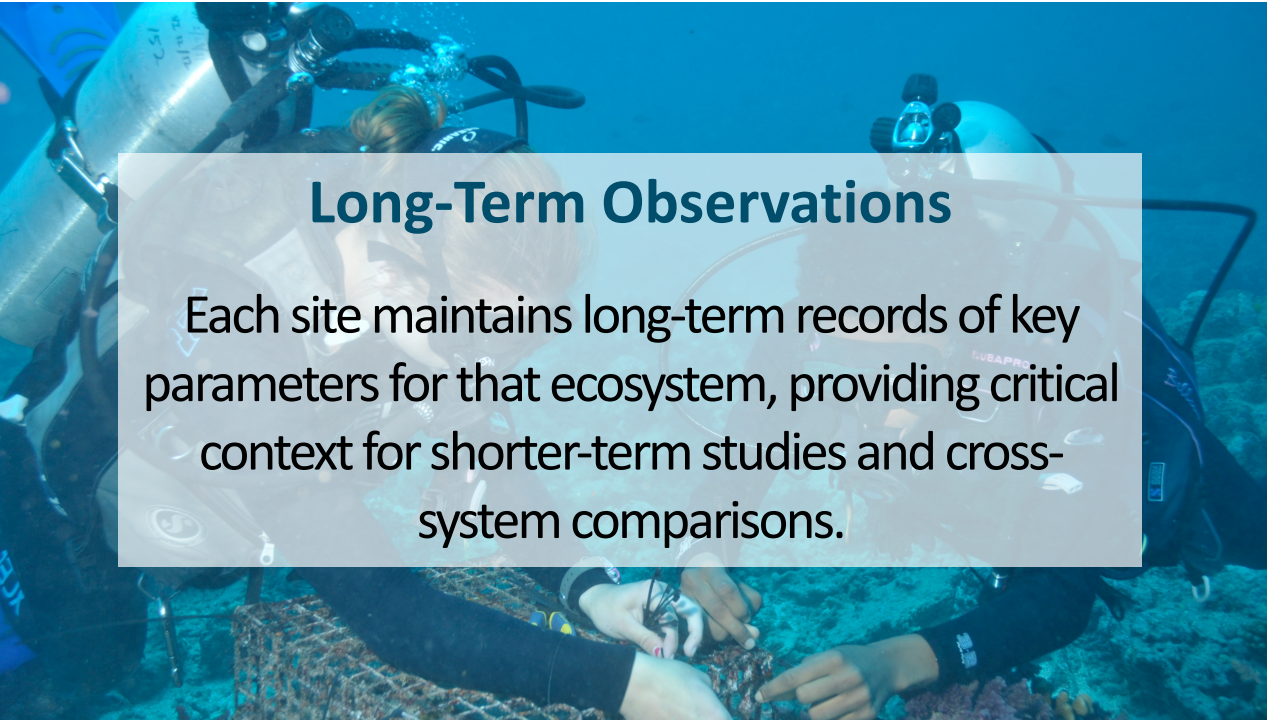
- 28 sites
- 38 years
- 2300 investigators
- >5911 public datasets
- >16,000 journal articles

Welcome to: Northeastern U.S. Shelf (NES),
Northern Gulf of Alaska (NGA), and Beaufort
Lagoon Ecosystem (BLE), starting autumn 2017.



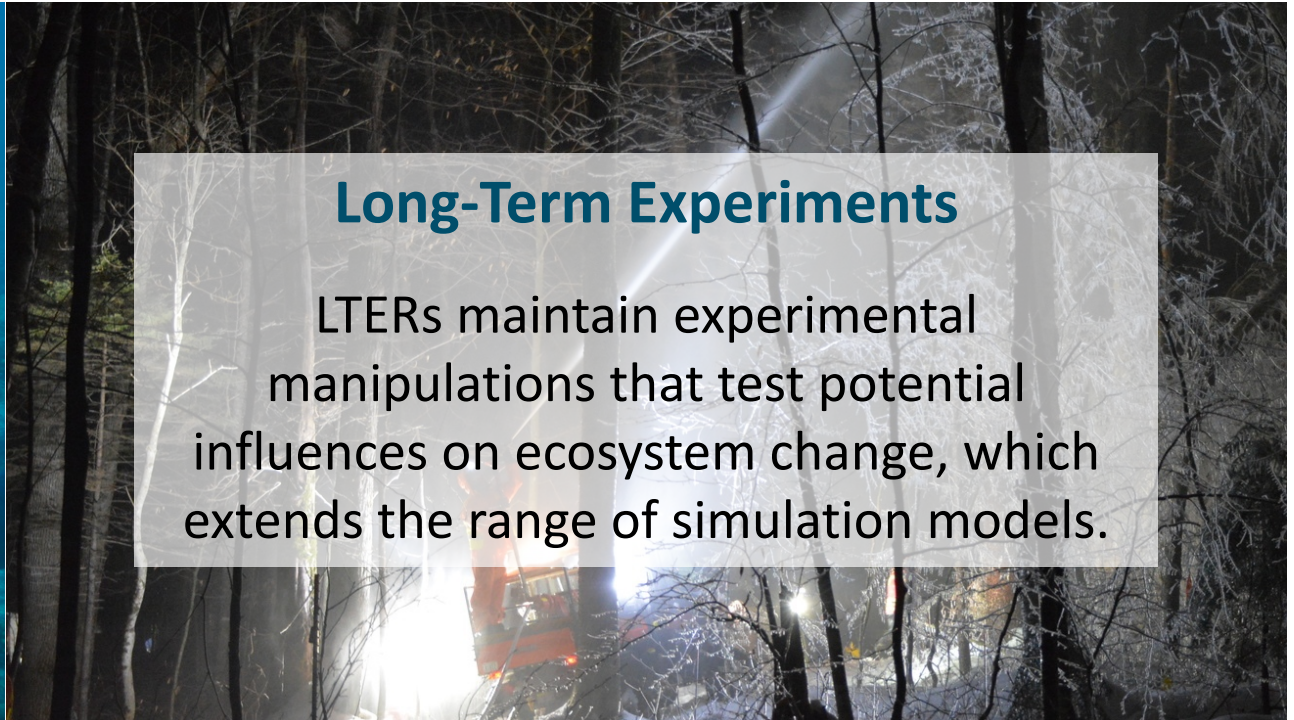
Site Codes	
AND	Andrews Forest LTER
ARC	Arctic LTER
BES	Baltimore Ecosystem Study
BLE	Beaufort Lagoon Ecosystems LTER
BNZ	Bonanza Creek LTER
CCE	California Current Ecosystem LTER
CDR	Cedar Creek Ecosystem Science Reserve
CAP	Central Arizona-Phoenix LTER
CWT	Coweeta LTER
FCE	Florida Coastal Everglades LTER
GCE	Georgia Coastal Ecosystems LTER
HFR	Harvard Forest LTER
HBR	Hubbard Brook LTER
JRN	Jornada Basin LTER
KBS	Kellogg Biological Station LTER
KNZ	Konza Prairie LTER
LUQ	Luquillo LTER
MCM	McMurdo Dry Valleys LTER
MCR	Moorea Coral Reef LTER
NWT	Niwot Ridge LTER
NTL	North Temperate Lakes LTER
NES	Northeast U.S. Shelf LTER
NGA	Northern Gulf of Alaska LTER
PAL	Palmer Antarctica LTER
PIE	Plum Island Ecosystems LTER
SBC	Santa Barbara Coastal LTER
SEV	Sevilleta LTER
VCR	Virginia Coast Reserve LTER



An underwater photograph showing two divers in blue gear. One diver is in the foreground, and another is slightly behind. They are surrounded by scientific equipment, including a large silver gas cylinder and various cables. The water is clear and blue.

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.

A photograph of a forest with tall, thin trees. A red vehicle, possibly a logging truck or a specialized research vehicle, is partially visible through the trees. The scene is dimly lit, suggesting a forest interior.

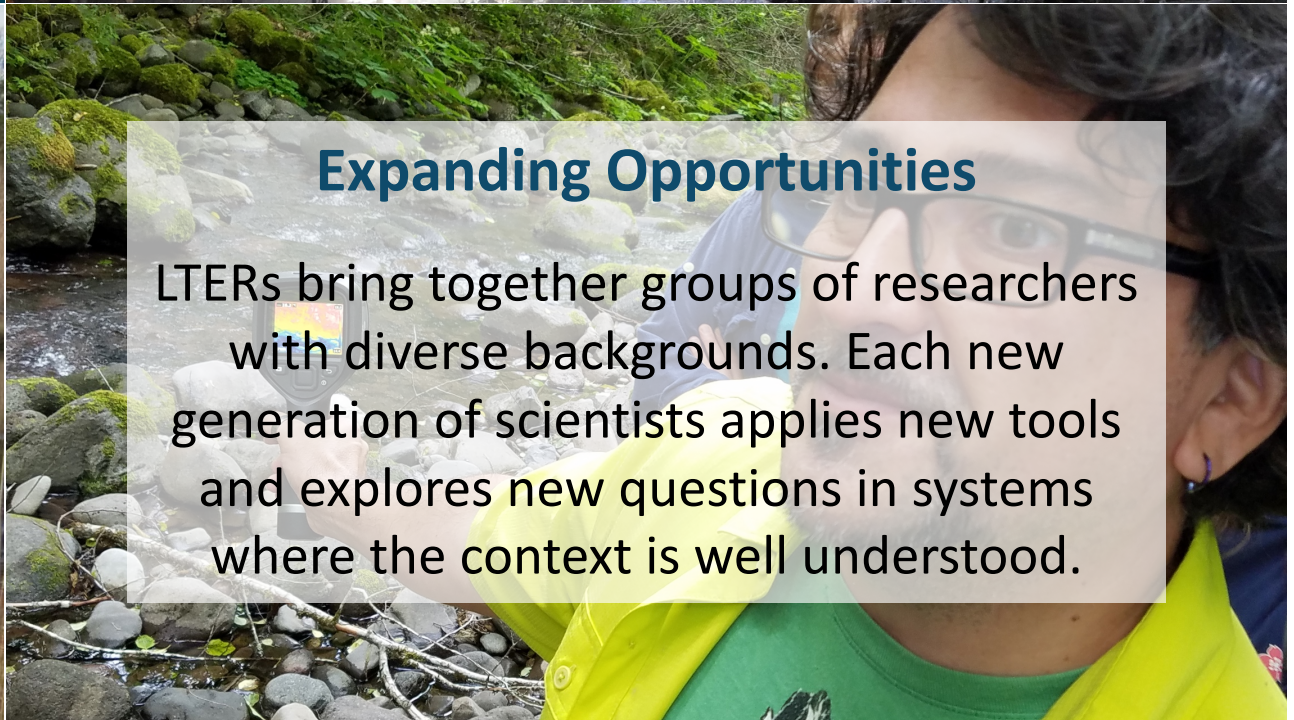
Long-Term Experiments

LTERs maintain experimental manipulations that test potential influences on ecosystem change, which extends the range of simulation models.

A photograph of a group of people in a wetland or marshy area. In the foreground, a person is writing on a clipboard. Another person is pointing towards the water. The background shows tall grasses and a body of water under a cloudy sky.

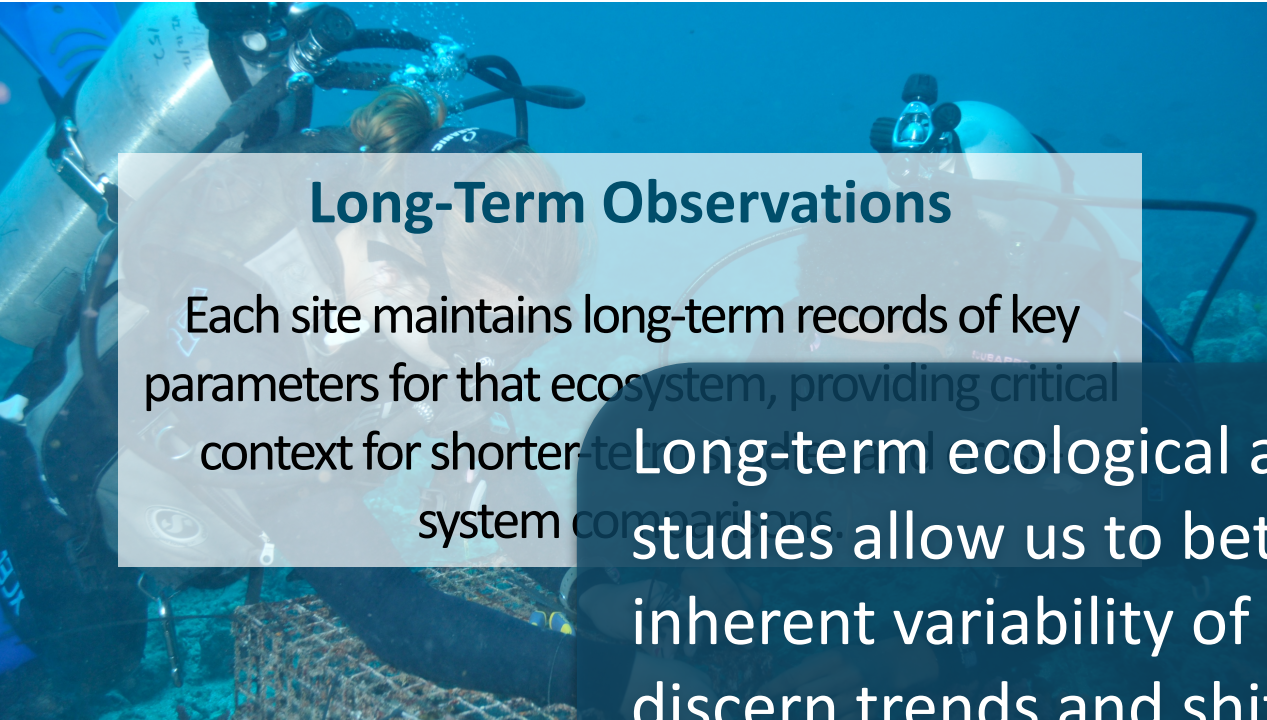
Long-Term Relationships

LTER sites build trusting relationships with resource managers, educators, and landowners in their regions.

A close-up photograph of a person wearing a bright yellow jacket and glasses. They are looking down, possibly at a device or a sample. The background is slightly blurred, showing a rocky stream bed.

Expanding Opportunities

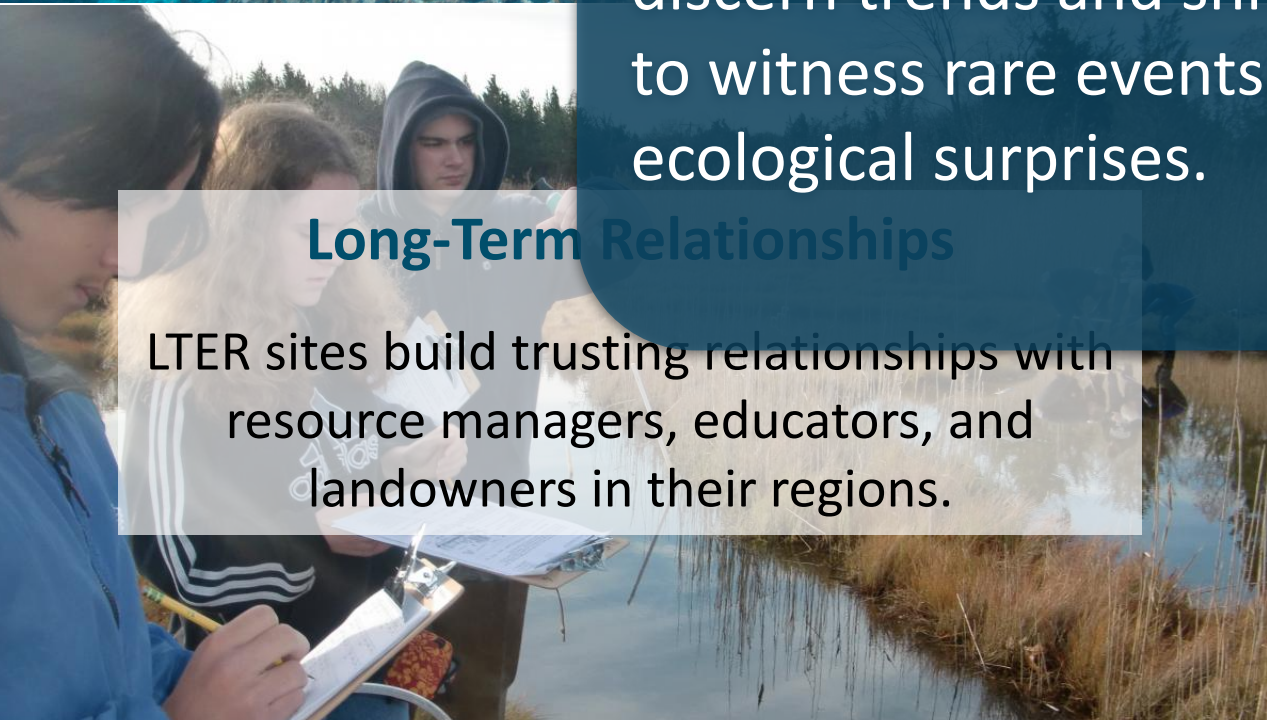
LTERs bring together groups of researchers with diverse backgrounds. Each new generation of scientists applies new tools and explores new questions in systems where the context is well understood.



Long-Term Observations

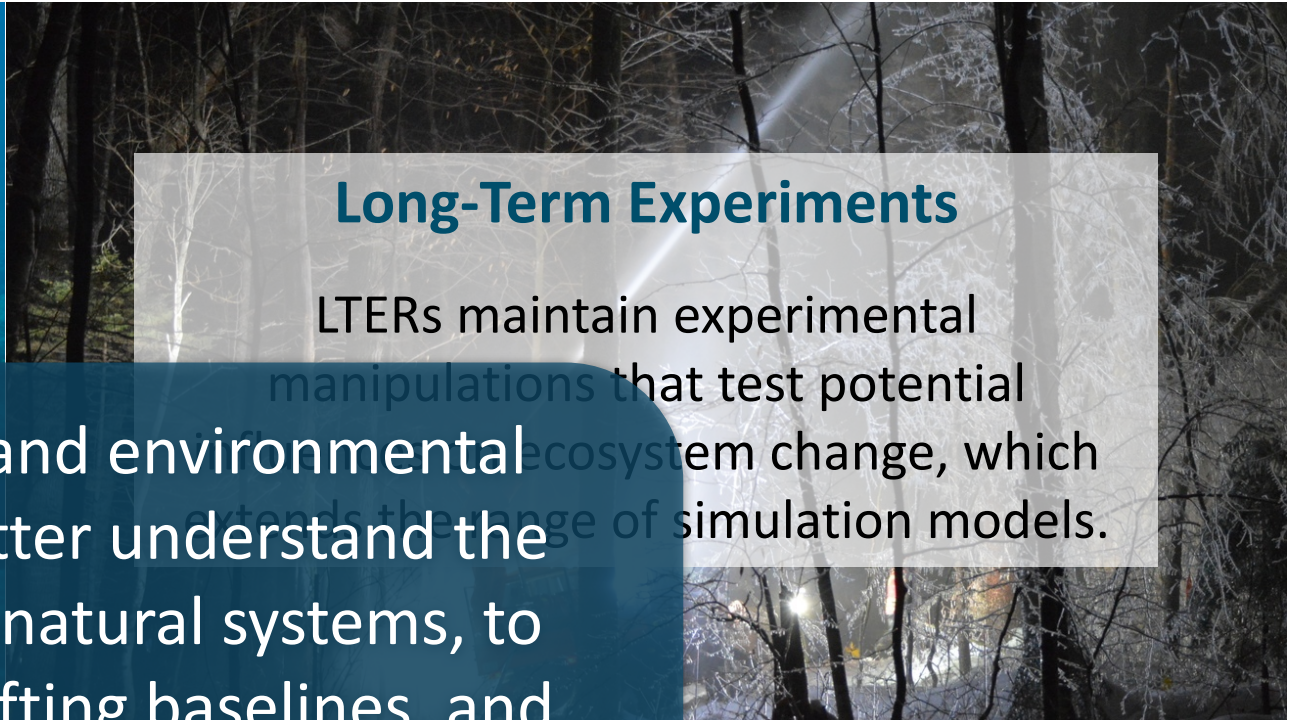
Each site maintains long-term records of key parameters for that ecosystem, providing critical context for shorter-term studies.

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.



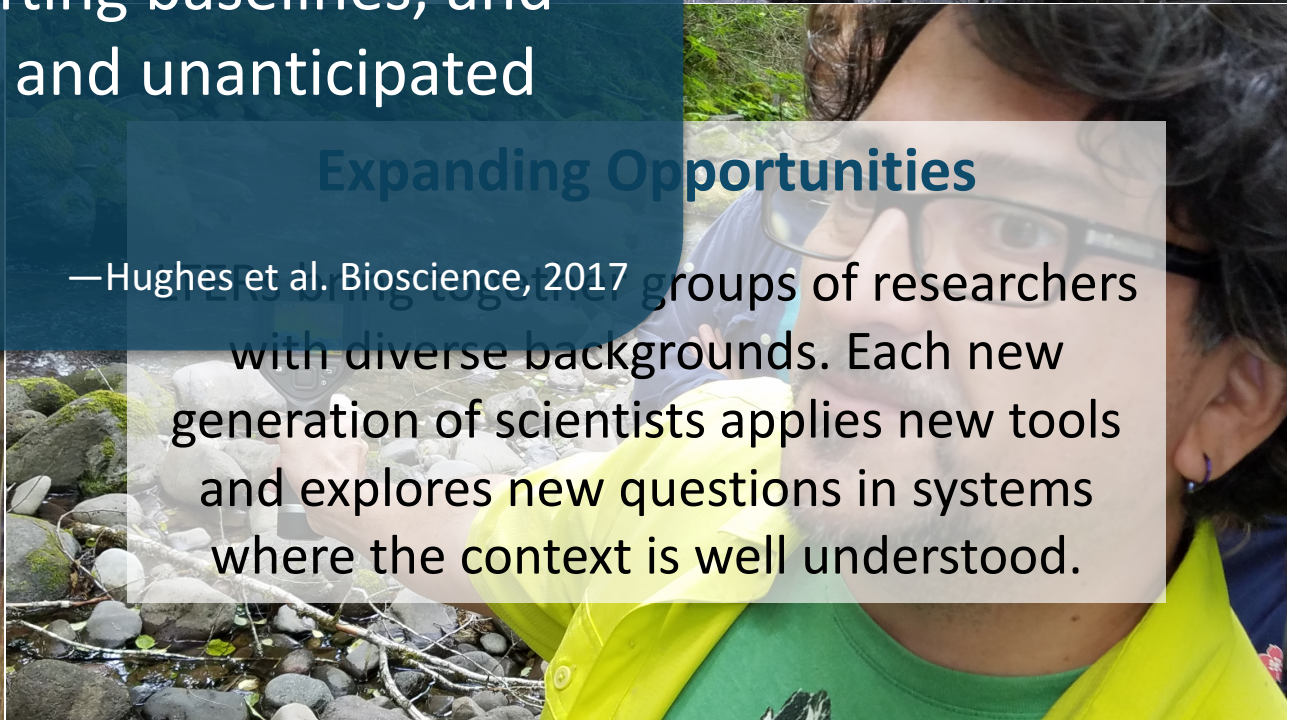
Long-Term Relationships

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Long-Term Experiments

LTERs maintain experimental manipulations that test potential ecosystem change, which extends the range of simulation models.



Expanding Opportunities

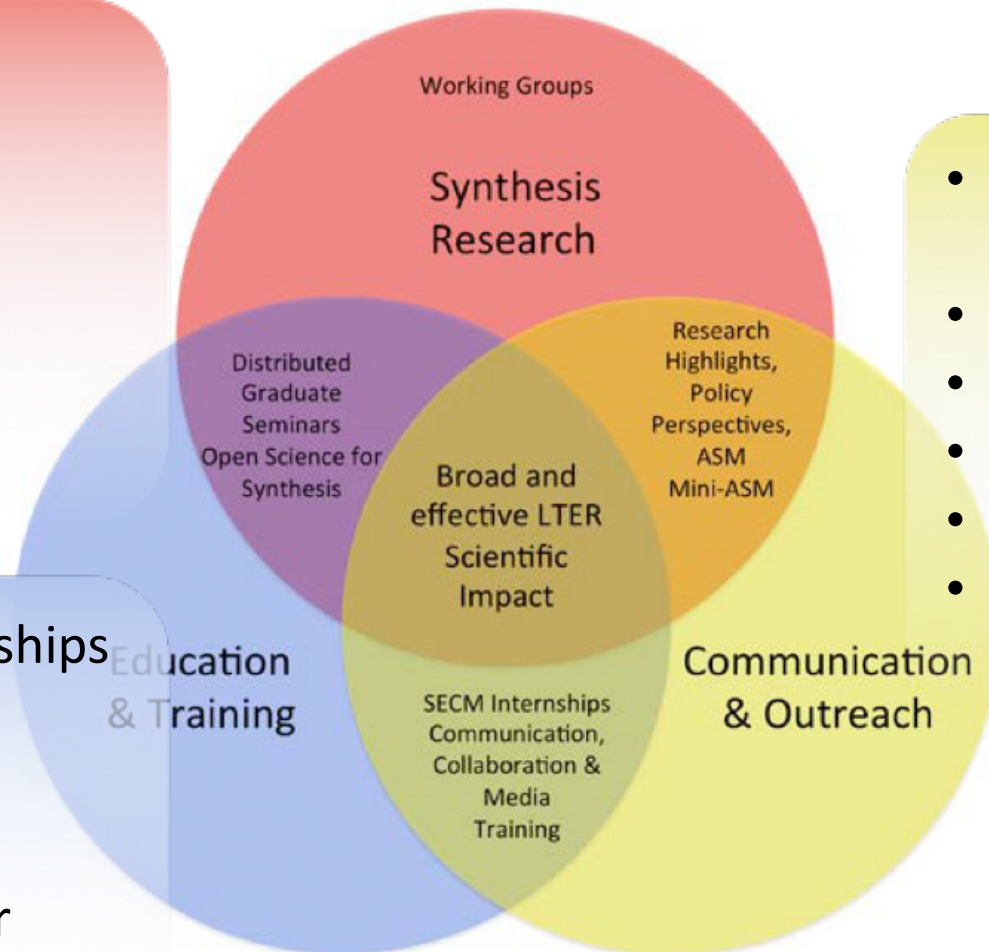
—Hughes et al. Bioscience, 2017
groups of researchers with diverse backgrounds. Each new generation of scientists applies new tools and explores new questions in systems where the context is well understood.

LTER Network Communications Office

Synthesis Working Groups

- Stream Elemental Cycling
- LTER Metacommunities
- Communities-to-ecosystems
- LTER Synchrony
- Biodiversity & Productivity
- Soil Organic Matter

- Education & training partnerships
- Data nuggets
- Schoolyard LTER book series
- ESA workshops
- Distributed graduate seminar



- Science Update (monthly)
- News from the NCO
- Web sites
- Social media
- Print materials
- Meeting outreach

Are we addressing the hardest and most important questions in Environment Science?

- What kinds of ecosystems are most susceptible to multiple components of global environmental change?
- What are the mechanisms underlying ecosystem response *and resilience* to these changes?
- Can we develop new monitoring, experimental, and modeling systems that will allow us to predict and respond to changes?
- Today's topic: Ocean Connections:
 - Marshes, reefs, kelp forests, penguins, hurricanes and resilience, continental shelf