

Cover Photo - Researchers_PAL_USLTER (Photo credit: LTER Network Office)

Add - LTER Logo (square style) and Title - ADD: NSF logo



TITLE:

LTER Network Calendar (big font)

2020 (on the side)

In Celebration of the Long Term Ecological Research Network's 40th Anniversary
(smaller font)

1) **January** - penguin1_PAL_PAL (Photo credit: Palmer Station Antarctica LTER)

Inset photos to pair - Sikuliaq_NGA_NGA, OpenOcean_NES_JacobStrock



In 1980, the National Science Foundation funded the first Long Term Ecological Research (LTER) sites to spark ecological discovery on the influence of long-term and large-scale phenomenon. We are now over 2000 researchers at 28 sites who apply

long-term observation, experiments, and modeling to understand how ecological systems function over decades.

2. **February** - Sky_NWT_WilliamBowman.jpg (Photo credit: William D. Bowman); Inset photos to pair - IceSample_BLE_KenDunton, Valley2_MCM_MCM



Long-term studies are critical to achieve an integrated understanding of how components of ecosystems interact as well as to test ecological theory. Ongoing research at LTER sites contributes to the development and testing of fundamental ecological theories. It also significantly advances our understanding of the long-term dynamics of populations, communities, and ecosystems. LTER research often integrates multiple disciplines and, through cross-site interactions, may examine patterns or processes over broad spatial scales. Recognizing that the value of long-term data extends beyond use at any individual site, the data collected by all LTER sites are publicly accessible.

3) March - AerialMangroves_FCE_USLTER (Photo credit: LTER Network Office)

Inset photos to pair - Seagrass_VCR_MichaelCornish,
PlaidInterns_NTL_ErikaZambello



Core Research Area - Movement of Organic Matter. The entire ecosystem relies on the recycling of organic matter (and the nutrients it contains), including dead plants, animals, and other organisms. Decomposition of organic matter and its movement through the ecosystem is an important component of the food web.

4) April - DeronBurkepile2_MCR_JeffLiang (Photo credit: Jeff Liang)

Inset photos to pair - Clownfish1_MCR_MelissaHolbrookSchmitt,
SammyJessicaRapid_MCR_MCR



Core Research Area - Disturbance Patterns. Disturbances shape ecosystems by periodically reorganizing structure, allowing for significant changes in plant and animal populations and communities.

5) May - uncultivated_BES_LynnCazabon, AlienWeeds_BES_PattersonClark; Inset photos to pair - Emissions_HBR_USLTER, ObservationTower_HFR_ErikaZambello, Net_AND_LinaDiGregorio



Core Research Area - Human-Environment Interactions. The LTER program has long recognized the importance of humans in ecological systems and is especially interested in how human activities interact with natural processes to determine ecological outcomes. Factors that control ecosystems are not only environmental, but also social and economic. These factors and their interactions need to be considered to understand ecosystems over long time frames and broad spatial scales.

6) June - Sediment_CCE_CCE (Photo credit: California Current Ecosystem LTER)

Inset photos to pair - DataCollection_GCE_ErikaZambello,
FieldExperiment_SEV_MikeFriggens



Core Research Area - Movement of Inorganic Matter. Nitrogen, phosphorus, and other mineral nutrients are cycled through the ecosystem by way of decay and disturbances such as fire and flood. In excessive quantities nitrogen and other nutrients can have far-reaching and harmful effects on the environment.

7) July - Field_KBS_KurtStepnitzPhotography (Photo credit - Kurt Stepnitz Photography)

Inset photos to pair - Undergrad_KBS_KurtStepnitzPhotography,
KangarooRat_JRN_JohnKuehner, FieldExperiment_SEV_MikeFriggens



Core Research Area - Population Studies. A population is a group of organisms of the same species. Like canaries in the coal mine, changes in populations of organisms can be important indicators of environmental change.

8 - August - Kelp_SBC_USLTER (Photo credit: LTER Network Office); Inset photos to pair - Landscape_JRN_USLTER, TreeMeasure_LUQ_LUQ



Core Research Area - Primary Production. Plant growth in most ecosystems forms the base or “primary” component of the food web. The amount and type of plant growth in an ecosystem helps to determine the amount and kind of animals (or “secondary” productivity) that can survive there.

9 - September - Autumn_ARC_James Laundre (Photo credit: James Laundre); Inset photos to pair - Cacti_CAP_Zambello, Ice_HBR_JoeKlementovich



The events that reshape ecosystems can be infrequent and often unpredictable. Major droughts, hurricanes, the arrival of a new species, or a shift in ocean currents can dramatically affect the way an ecosystem looks and functions. Long-term observations and experiments are critical to tracking these disturbances and predicting effects on key ecosystem functions. A mechanistic understanding of how ecosystem functions can be resilient to future changes, such as rainfall regimes and changes in land use, will advance our fundamental knowledge of ecosystems while providing information that farmers and land managers can translate into practice.

10 - October - BioPlot_CDR_FrankMenschke (Photo credit: Frank Menschke); Inset photos to pair - ASM2018_ASM_USLTER, BogFall_PIE_SamBond



Core Research Area - Land Use and Land Cover Change. Both natural and managed ecosystems face increasingly novel conditions driven by human-induced changes, especially those related to climate and land use. LTER research examines the human impact on land use and land-cover change in rural and urban systems and relate these effects to ecosystem dynamics.

11 - November - KidsSoil_CDR_CaitlinPotter (Photo credit: Caitlin Potter); Inset photos to pair - FlowerID_NWT_NWT, Garden_BES_BES



The Long Term Ecological Research (LTER) Education Program — referred to as “Schoolyard LTER” — is dedicated to developing and sharing best practices in training, teaching, and learning about the Earth’s ecosystems. Each site receives an education supplement, the impact of which is magnified many times through partnerships with local museums and non-profit organizations, environmental educators, and school systems.

12 - December - Bison_KNZ_BarbaraVanSlyke (Photo credit: Barbara VanSlyke)

Inset photos to pair - humpback_PAL_PAL, DogSled_BNZ_BNZ



LTER sites are both physical places and communities of researchers. Some of the physical places are remote or protected from development, others are deliberately located in cities or agricultural areas. Either way, the program of research for each LTER is tailored to the most pressing and promising questions for that location and the program of research determines the group of researchers with the skills and interests to pursue those questions.

Back spread - GroupPhoto_ASM_USLTER (Photo credit: LTER Network Office)

Add - LTER_site_map, LTER logo (horizontal style), text about network, and list of LTER sites



In order to produce the best science possible, the LTER Network draws on a diverse pool of talented investigators with a variety of perspectives—and shares our work with a broad range of individuals and communities. Each individual LTER site faces unique challenges and opportunities in building the strengths, skills, and relationships needed to create a fully inclusive learning and work environment.

The National Science Foundation (NSF) is an independent federal agency created by Congress in 1950 "to promote the progress of science; to advance the national health, prosperity, and welfare; to secure the national defense..." NSF is vital because we support basic research and people to create knowledge that transforms the future.

U.S. LTER sites by funding duration
and ecosystem type



Since its establishment by the National Science Foundation in 1980, the Long Term Ecological Research (LTER) Network has been a major force in the field of ecology. LTER researchers have addressed fundamental questions about how ecosystems work, established seminal ecosystem experiments; maintained long term observations of ecosystem variables; and significantly advanced ecological theory and predictive models.

The sustained involvement of large teams of active scientists has also delivered substantial and ongoing engagement with resource managers, policymakers, educators, and public audiences — making the LTER a key resource for evidence-based environmental policy and knowledge at all levels.

As the LTER Network celebrates its 40th anniversary, we appreciate all those sites and individuals who have participated for a long or a short while, especially North Inlet LTER, Okefenokee LTER, Illinois Rivers LTER, Shortgrass Steppe LTER, and

previous Network Offices at Oregon State University, University of Washington, and New Mexico State University.

For more information on the LTER Network, visit our website at <https://lternet.edu>

List of Current LTER Sites:

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

- Sevilleta LTER (SEV)
- Virginia Coast Reserve LTER (VCR)