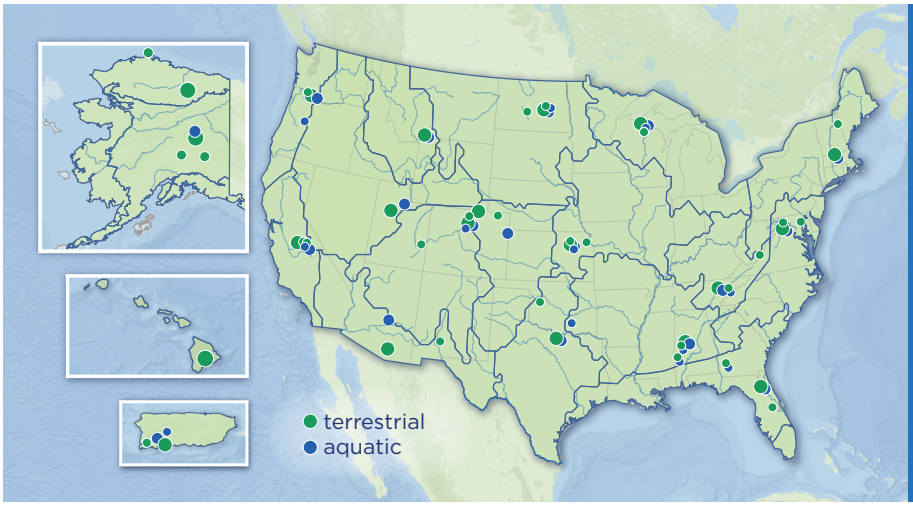
National Ecological Observatory Network

NSF | neon Operated by Battelle

The U.S. National Science Foundation's National Ecological Observatory Network (NEON) is a continental-scale observation facility operated by Battelle and designed to collect and provide long-term, open-access ecological data. Over the Observatory's 30+ year life, the data and samples from across the United States can be used to characterize and quantify our nation's ecosystems.



NEON statistically partitioned the continental U.S., Hawaii, and Puerto Rico into 20 ecoclimatic Domains that represent distinct regions of vegetation, landforms, and ecosystem dynamics to capture the full range of U.S. ecological diversity. In each Domain, NEON collects data on plants, animals, soil, nutrients, freshwater, and the atmosphere using sensor measurements and field observations. Airborne remote sensing data combined with local, site-level data capture contiguous site-level information and can be combined with existing satellite data to support regional to continental characterization of ecological processes.

81 Field Sites
47 terrestrial
34 aquatic

20 Ecoclimatic Domains

24 States +1 territory with sites

Consistent, comparable, high-quality data

NEON assures high-quality, comparable data through standardized and quality-controlled data collection and processing methods. The Observatory employs multidisciplinary experts to design and implement infrastructure that provides high-quality data and associated documentation to the community.

Integrated data collection

NEON collects integrated biological, physical, and chemical measurements and samples at all of its field sites using a combination of field-based protocols, as well as in situ and remote sensing methods and technologies, to support the study of complex ecological processes. This coordinated data collection strategy uniquely addresses ecosystem level questions in several key themes, such as biogeochemistry and ecohydrology.


Tick sampling, D19
Healy, Alaska

Open data and samples

NEON data are free and accessible to everyone and are downloaded in standard formats commonly used in the scientific community. NEON offers documentation and tutorials to help users understand and interpret the data. The NEON Biorepository is designed to store millions of samples collected from field sites, which researchers can borrow for study, including destructive analysis.

To learn more and explore the resources, visit **NEONScience.org**

NEON by the Numbers

Operated by Battelle

Our People

~600 total staff:

320+
full time

250+
seasonal techs

Data & Samples

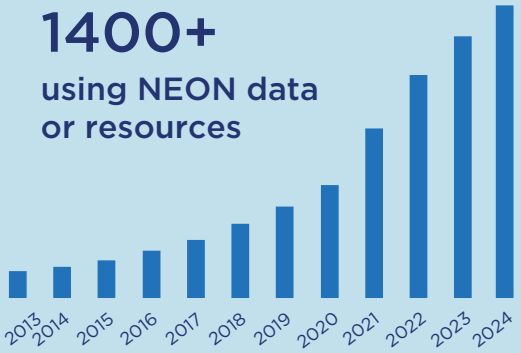
180+
data products

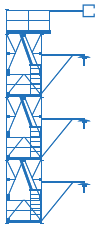
100,000+
added samples/year

500,000+
samples to date

Publications

1400+
using NEON data or resources





3 airborne observation platforms
5 mobile deployment platforms
47 flux towers
57 water quality stations

89 meteorological stations
197 groundwater wells
235 soil sensor arrays


Instrumented buoy system, D05
Crampton Lake, Wisconsin

A 30+ Year NSF Observatory

As ecosystems in the United States change, NEON plays a fundamental role in our ability to sustainably manage natural resources across regions of the country and support science related to resilience. Battelle is proud to manage NEON, one of the most ambitious ecology programs. Since assuming management for NEON in 2016, these milestones have been accomplished:

- Completed the construction of the entire Observatory.
- Transitioned all 81 field sites to successful operation.
- Established NEON as a crucial source of knowledge of the dependencies between life and the environment.
- Enabled workforce development and safe operations.

Battelle's expertise in large research infrastructures has proven to be invaluable to the successful launch and continuation of NEON. Our unique knowledge is critical to ensure the longevity of one of the world's most ambitious ecological data endeavors.

To learn more and explore the resources, visit **NEONScience.org**