Data to Understand Changing Ecosystems

What is NEON?

National Ecological Observatory Network (NEON) is a long term, continental-scale observation facility funded by the National Science Foundation and operated by Battelle.

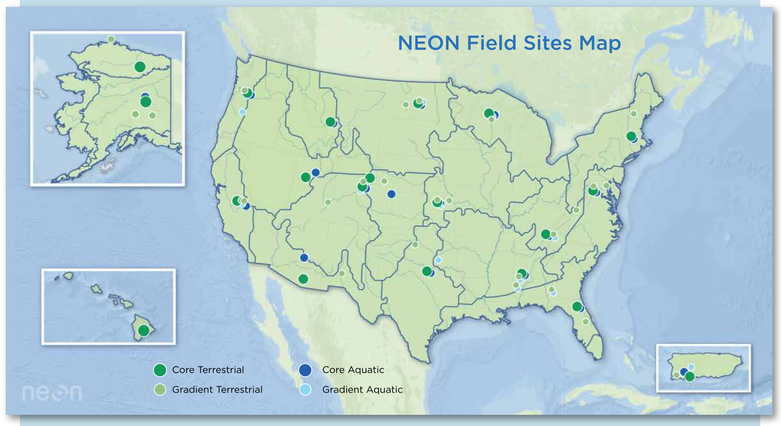
NEON provides standardized, consistent data at unprecendented spatial and temporal scales, as well as, resources and infrastructure for the scientific community. The Observatory provides open access data and archival samples and is planned to collect data for 30 years. Neon Infrastructure may also be used to additional research studies through the NEON Assignable Assets program.

Strategically placed field sites

Understanding the changing health of an ecosystem is a complex and costly challenge. NEON is designed to collect standardized data at 81 field sites across the U.S. that will quantify ecological change over time.

Field sites are strategically located in many different types of terrestrial and aquatic ecosystems enabling scientists to study and forecast ecological change over time at the local, regional and continental scales.

Terrestrial field sites and aquatic field sites are often colocated to support understanding of linkages across atmospheric, terrestrial and aquatic ecosystems.



Freely accessible big data

NEON empowers a large and diverse user community to tackle new questions at scales not accessible to previous generations of ecologists. Freely accessible data and learning resources are available to download online. Researchers can also request to use NEON infrastructure for additional ecological studies.

www.NEONScience.org

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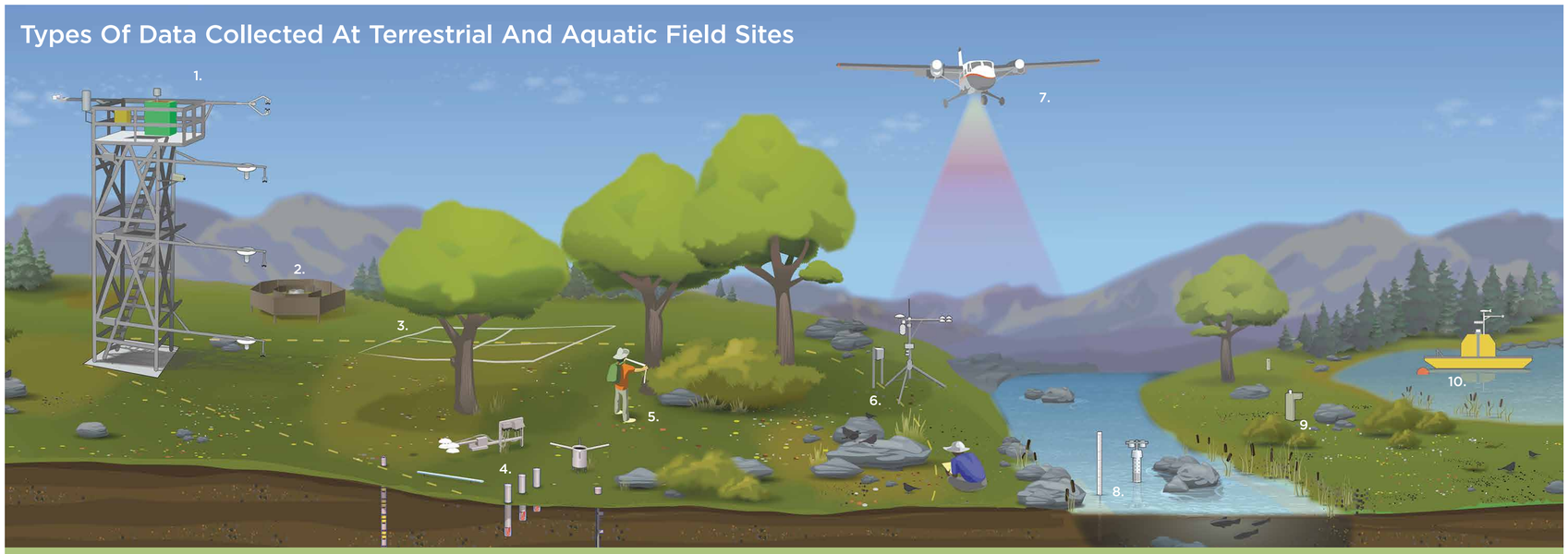
A variety of standardized methods are used at NEON sites to collect long-term ecological data

Types of data collection include:

- Automated instruments
- Observational sampling
- Airborne remote sensing surveys



1. A flux tower collects atmospheric data at terrestrial sites.

2. Primary precipitation is measured using a Double Fence Intercomparison Reference.

3. Sampling plots are located within, and outside of the tower footprint.

4. Automated instruments collect soil data at terrestrial sites.

5. Field scientists collect organismal data from select plants, animals, pathogens, and microbes.

6. A meteorological station collects atmospheric data at aquatic sites.

7. The Airborne Observation Platform (AOP) flies over most sites annually to collect remote sensing data.

8. Surface water and depth profile data are collected in streams, rivers, and lakes.

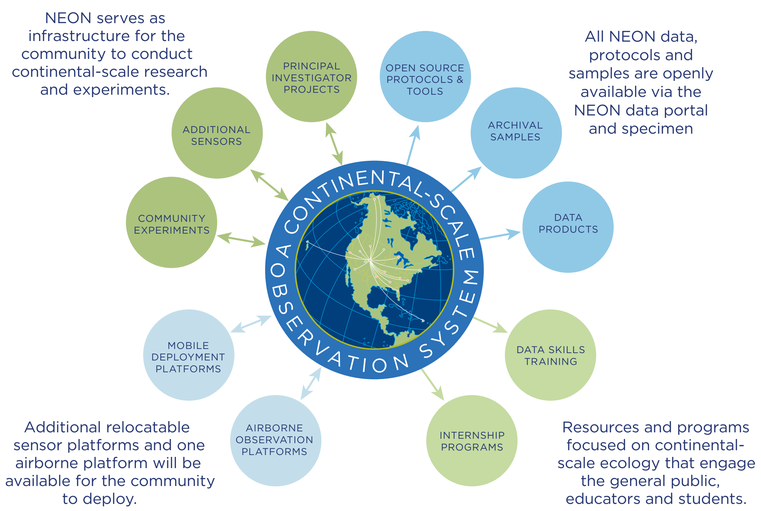
9. Groundwater wells capture changes in groundwater elevation, temperature, and specific conductance.

10. Buoy stations at lake sites collect data about surface water quality.

Various ways you can use NEON

NEON serves as infrastructure for the community to conduct continental-scale research and experiments.

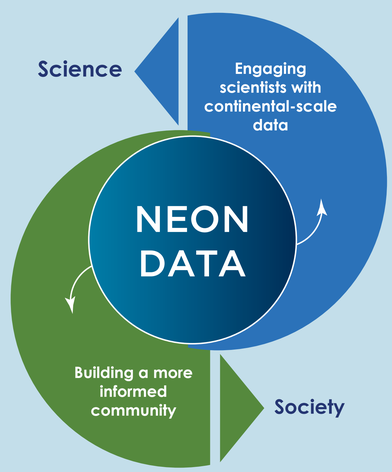
All NEON data, protocols and samples are openly available via the NEON data portal and specimen



Additional relocatable sensor platforms and one airborne platform will be available for the community to deploy.

Resources and programs focused on continental-scale ecology that engage the general public, educators and students.

Empowering an ecologically-informed society



Resources & programs include:

- Open access data
- Open access methods/protocols
- Self-paced online tutorials
- Science videos
- Teaching modules
- Teaching data subsets
- Workshops and courses
- Internship programs

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