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neon
Operated by Battelle

NEON: Data, samples, & infrastructure to understand changing ecosystems

An overview of the US National Ecological Observatory Network

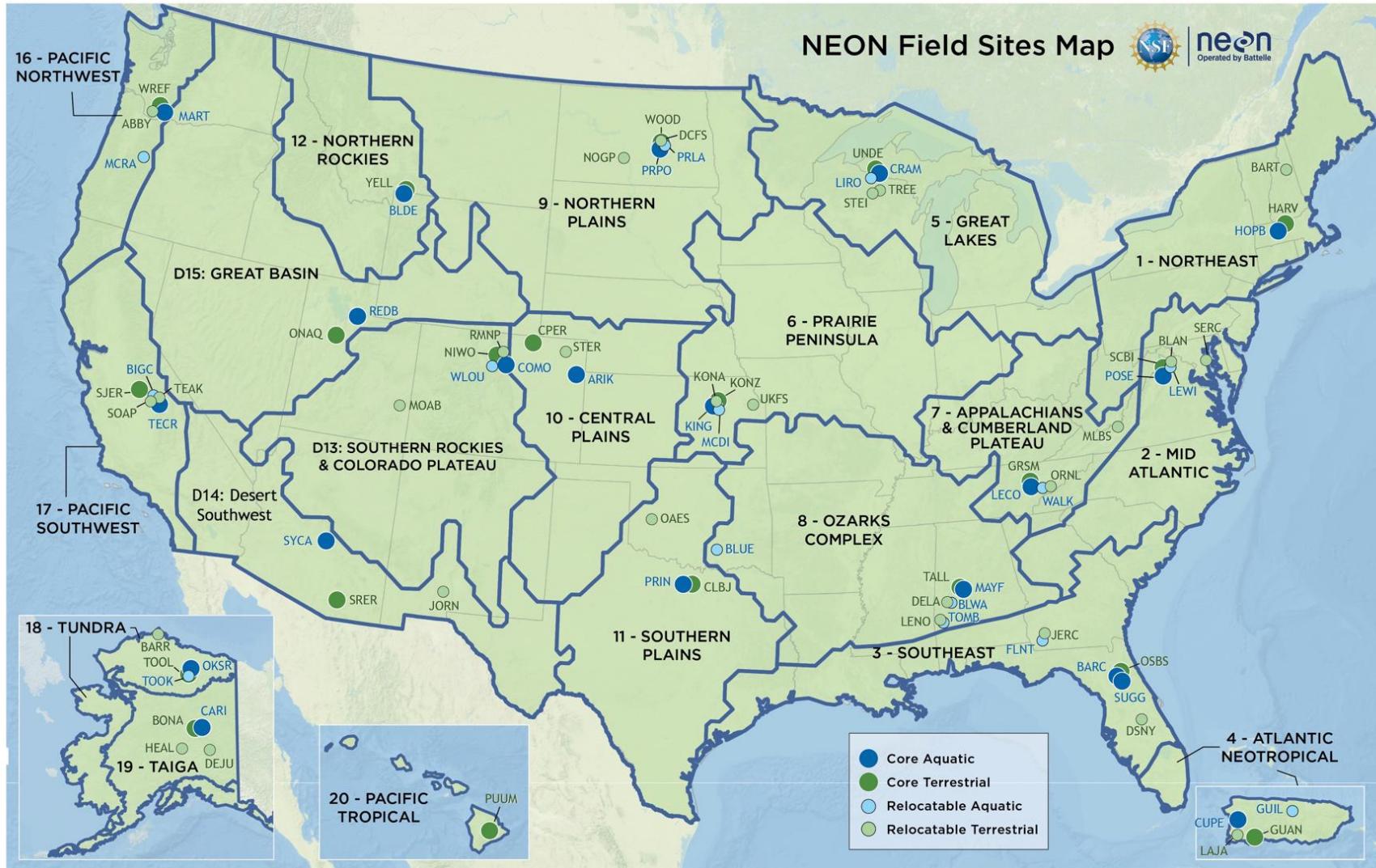
A project sponsored by the National Science Foundation and proudly operated by Battelle

What is NEON?

NEON provides a coordinated national system for monitoring important ecological and environmental properties at multiple spatial and temporal scales.



NEON: Cross-Scale Observations



81

FIELD SITES

- 47 terrestrial
- 34 aquatic

20

ECOCЛИMATIC DOMAINS

30+

YEARS OF DATA

Collection systems at a site

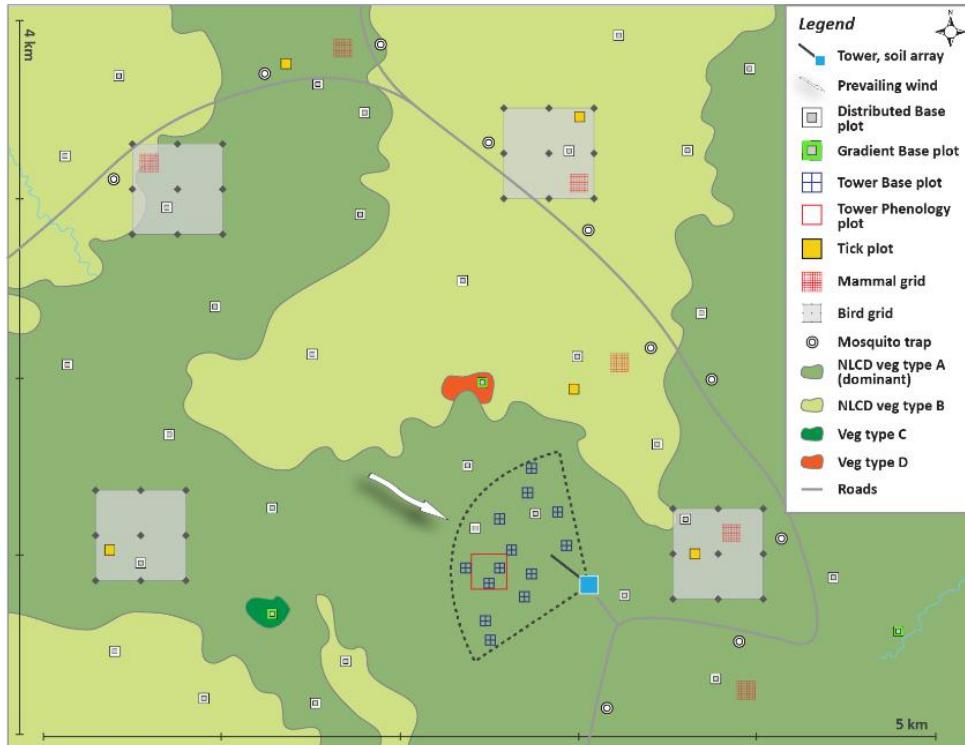


- ✓ All systems collect data within close proximity of each other at each site
- ✓ Standardized methods are used across all sites

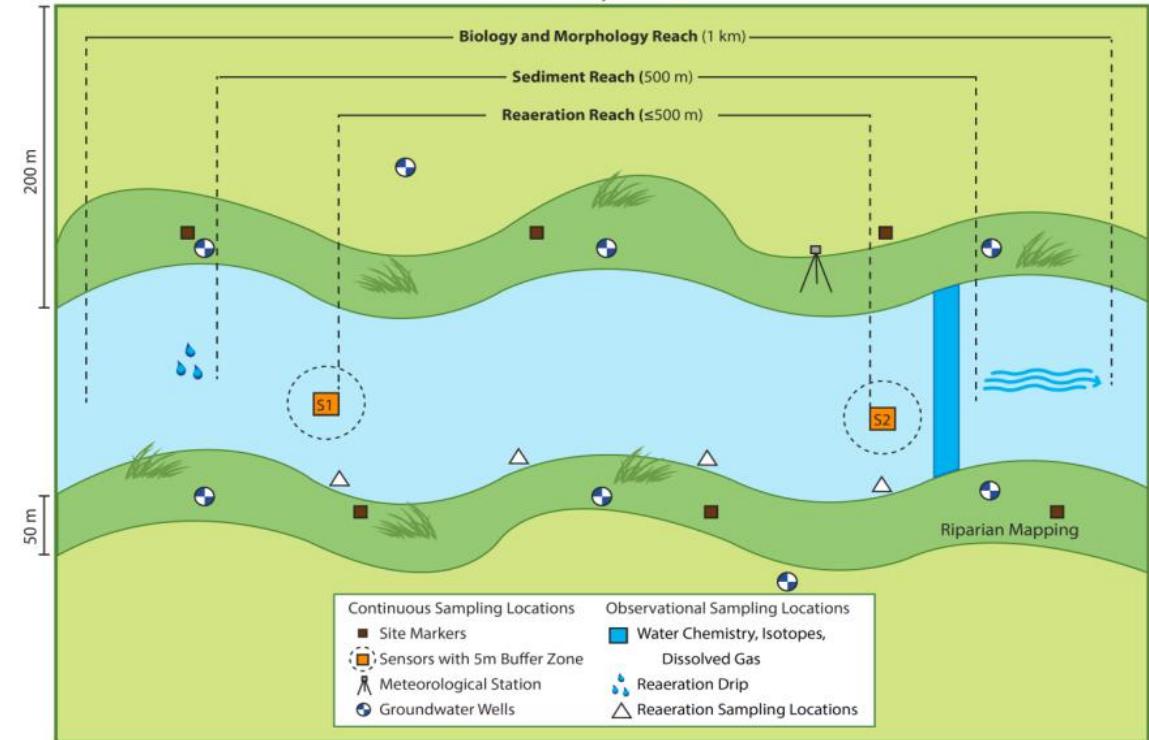
180

DATA PRODUCTS

Terrestrial site



Aquatic wadeable site





Terrestrial organisms & biogeochemical data

	LV, SD	LV	LV, SD *	SD *		AD *	AD *	AD *
	 Plants	 Soil microbes	 Small mammals	 Mosquitoes	 Birds	 Ground beetles	 Ticks	 Soil
Diversity	✓	✓	✓	✓	✓	✓	✓	
Abundance	✓	✓	✓	✓	✓	✓	✓	
Pathogens			✓	✓			✓	
Phenology	✓			✓			✓	
Pools/fluxes: biogeochemistry	✓							✓
Metabolism		✓						
Productivity & biomass	✓	✓						

LV: Limited Vouchering

SD: Subset ± Derivatives

AD: All ± Derivatives

* Genomic Extracts



Aquatic organisms & biogeochemical data

	LV *	AD *	SD *	AD	LV		
Diversity	✓	✓	✓	✓	✓		
Abundance	✓	✓	✓	✓	✓		
Metabolism							✓
Biomass				✓	✓		
Pools/fluxes: biogeochemistry				✓	✓	✓	✓

LV: Limited Vouchering

SD: Subset ± Derivatives

AD: All ± Derivatives

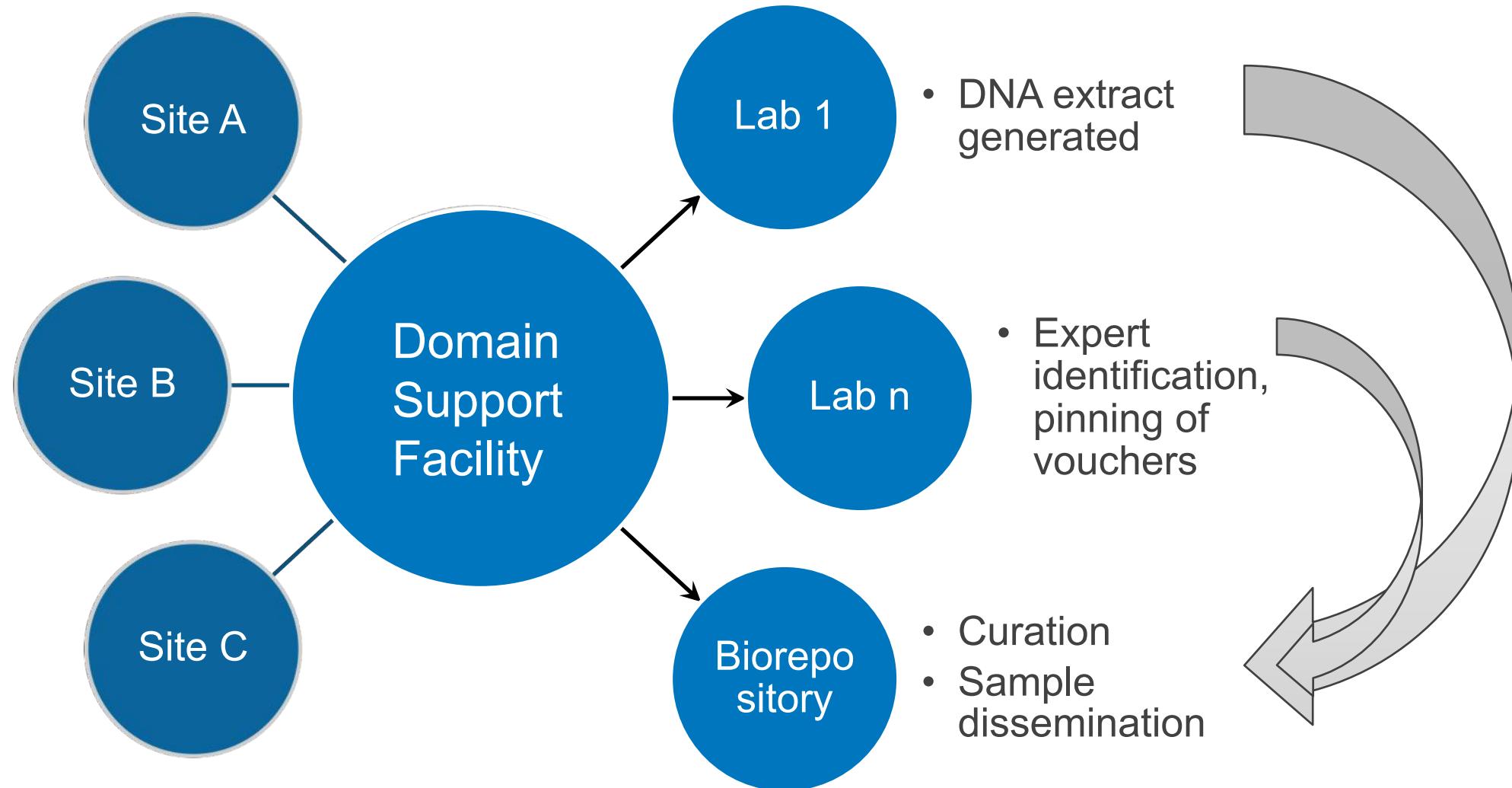
* Genomic Extracts

NEON Biorepository @ Arizona State University

>100,000 samples per year



Sample generation workflows



Data Portals – neonscience.org

Filters

[CLEAR ALL FILTERS](#)

Keywords

 [X](#) [▼](#)

Data Status

Available (151)

Coming soon (30)

Themes

Atmosphere (55)

Biogeochemistry (84)

Ecohydrology (49)

Land Use, Land Cover, and Land Processes (46)

Organisms, Populations, and Communities (50)

States

Alabama

Alaska

Arizona

California

Colorado

[+ View All](#)

Domains

D01

Northeast

Data Products

Showing 1 of 181 data products at 47 of 81 sites, Jul 2013 - Jul 2019

Ground beetles sampled from pitfall traps [?](#)

Available Time Range
2013-07 - 2019-07

Product ID
DP1.10022.001

[Summary](#) [Sites](#) [States](#) [Domains](#)

2014 2015 2016 2017 2018 2019

ABBY BART BLAN BONA C01 CPER DCFS DEER DELA DSGN ELEM GUAN HARV HEST JERIC JOHN KONZ LAMO MBLB MOAB NAWA NOGP OAES ORNL OSIRI PFTI RMNP SCBI SJER SOAP STET STEL STER TEAK TOOL TREES UNG UNDE WOOD WRIE YELL

[DOWNLOAD DATA](#)

[VIEW PRODUCT DETAILS](#)

Assignable Assets

Components of NEON infrastructure available to members of the community to support their own research or other activities

- Airborne Observation Platform
- Mobile Deployment Platform (5)
- Sensor/Instrument Infrastructure
- Observational Sampling Infrastructure
- Field Operations Staff
- Field Site Support



AssignableAssetRequests@BattelleEcology.org

Other Resources

Tutorials, videos, and direct contact with NEON scientists

Featured

Use the neonUtilities Package to Access NEON Data
40 MINUTES

Use the neonUtilities R package to download data, and to convert downloaded data from zipped month-by-site files into a table with all data of interest. Temperature data are used as an example.

[READ MORE >](#)



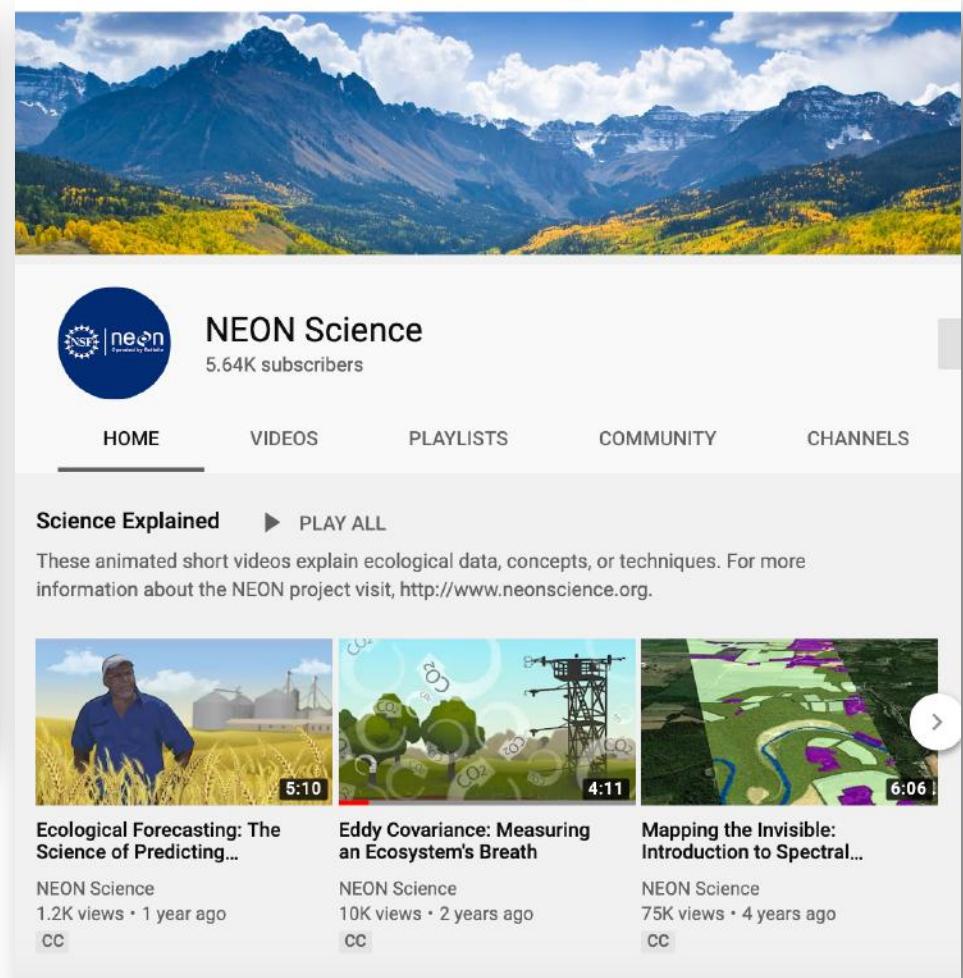
FILTER [ALL](#) **TYPE** [TOPIC](#) [LANGUAGE / TOOL](#)

Access and Work with NEON Geolocation Data
40 MINUTES

Use files available on the data portal, the NEON API, and the neonUtilities R package to access the locations of NEON sampling events and infrastructure. Calculate more precise locations for certain sampling types, and reference ground sampling to airborne data.

[START TUTORIAL >](#)

<https://www.neonscience.org/resources/data-tutorials>
<https://www.youtube.com/NEONScience>
<https://data.neonscience.org/feedback>



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Science Explained ► [PLAY ALL](#)

These animated short videos explain ecological data, concepts, or techniques. For more information about the NEON project visit, <http://www.neonscience.org>.



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NEON Science
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Mapping the Invisible: Introduction to Spectral...
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