The opening of the first section of the Erie Canal

Overview

Session Information & Questions:

1. My Past Presentations & Bio

2. What is Hydrology?

3. Who is a Hydrologist?

4. What does a Hydrologist Research?

5. What does this water map mean?

6. Is there oil/gas/mining in my watershed?

7. What are your most frequently asked questions?

8. How do I become a Hydrologist?

H2O/day: 64 ounces to half your bodyweight
Past GPO Sessions

- **March 2018** - "USGS Library Materials for Water Resources Information" [https://www.fdlp.gov/usgs-library-materials-for-water-resources-information](https://www.fdlp.gov/usgs-library-materials-for-water-resources-information)
- **May 2014** - "U.S. Geological Survey Library: Access and Outreach"
Course Goals and Objectives for
Finding and using scientific literature and
data from the USGS Library:

At the conclusion of the course, we hope participants have
gained additional tips on:
- Finding and using materials available from the USGS Library
- Organizing citations and bibliographies
- Finding USGS map and data sources
- Finding and using data and publication information from
  USGS programs and science centers

Course Outline

Session 1: Introduction to the USGS Library and Services
Session 2: USGS Publications and the
  USGS Library Catalog
Session 3: Using the physical USGS Library
Session 4: Science Literature Searching Concepts and Citation
  Databases
Session 5: Accessing Scientific Literature from eJournal and
eBook Searches
Session 6: Organizing Citations and Bibliographies
Session 7: Cited Reference Searches

https://www.usgs.gov/about/organization/science-
support/human-capital/national-training-center

*Contact me if you would like my old modules*
Sessions for 2020

January – Introduction to Geosciences Library Research
March – Library Research for Water Resources
May – Library Research for Climate Change
TBD – Library Research for Atmospheric and Oceanic Sciences
TBD – Library Research for Energy, Mineral, and Uranium Resources
TBD – Library Research for Natural Hazard Events: Earthquakes, Hurricanes, Volcanoes, and Wildfires
TBD – Using Art to Teach Chemistry, Geosciences and Environmental Studies in the Library
• Princeton University Library, 2018-Present
  Chemistry, Geosciences and Environmental Studies Librarian
  https://library.princeton.edu/staff/ewild
  ORCID: https://orcid.org/0000-0001-6157-7629

  Librarian (Physical Scientist): Water, Minerals, Energy & Hazards research services, instruction, and outreach

  Hydrologist: Water Use, Surface Water, Groundwater, Water Quality, Bibliographic Databases, NWIS Groundwater Database Administrator


• Environmental Law Intern at New York State Department of Conservation (NYSDEC), 1994 – mostly water resources

• Education: MLIS, University of Rhode Island; BA Geology, Hartwick College; Paralegal Certificate & Legal Investigations Certificate, and currently taking classes in legal studies

Emily C. Wild
Lewis Science Library
Princeton University
ewild@princeton.edu
609-258-5484

Help Schedule:
9:00 am – 5:00 pm, Eastern Monday – Friday
Emily’s Career Path

Born Interested in Science & Mathematics

1991: Went to College for Mathematics

1994: NYSDEC Environmental Law Intern (planning = J.D.): Legal & Science Research Databases


Graduate School for Master’s in Library and Information Studies, Assistant Reference Librarian
Journal Article and Book Chapter (Hydrology)

Hired by College Library: Archives and Reference (Science)

Independent Study Paper, Legal Analysis

Research and Reference Services, Bibliographic Instruction, Map Instruction, Database Instruction, Scientific/Government Outreach, Report Writing, Presentations (Internal and External) and Public Outreach

2018 - Hired by Princeton University Library

Librarian for:
Chemistry
Geosciences
Environmental Studies (PEI)

Chat Librarian
Personal Librarian
Subject Specialist
Writing Seminar Librarian

Recruited by Geology Dept. - Switched to Major in Geology


1994: NYSDEC Environmental Law Intern (planning = J.D.): Legal & Science Research Databases
A Hydrologist?

What People think I did as a hydrologist

Really working as a hydrologist
New Jersey American Water, which supplies Princeton’s drinking water, stood behind their water quality record in a statement to Patch. They went on to state that they were aware of the contaminants reported by EWG, and that most are disinfectants or at levels far below the standards set by drinking water guidelines. "At New Jersey American Water, we take water quality and safety very seriously," the statement read. “Our treatment processes ensure our systems meet or surpass all current EPA and NJ DEP standards for safe drinking water, and we continually sample our water to ensure compliance.”

At the University, drinking water quality is monitored by the Office of Environmental Health and Safety (EHS) to ensure compliance with federal, state, and local guidelines. The standards used by EWG raise some doubt from both EHS and other University professors. “The EWG often cites scientific studies that are questionable — either not peer-reviewed or not repeatable — or emphasizes outlier data,” Robin M. Izzo, Executive Director of EHS, wrote in a statement to The Daily Princetonian. “For this reason, Princeton University EHS does not use their thresholds as a guide,” she added.

Lake Carnegie (background), Towpath (middle), and Delaware & Raritan Canal (foreground)
Princeton, New Jersey

Andrew Carnegie (left) and Princeton University officials at Lake Carnegie’s dedication ceremony on December 5, 1906.

https://www.dandrcanal.com/index.php/history
THE DEVIL WE KNOW is the story of how one synthetic chemical, used to make Teflon products, contaminated a West Virginia community. But new research hints at a much broader problem: nearly all Americans are affected by exposure to non-stick chemicals in food, drinking water, and consumer products. With very little oversight on the chemical industry in this country, we invite you to learn more about the problem and how you can protect yourself and your family.
Geohydrology of the shallow aquifers in the Denver metropolitan area, Colorado

The work was undertaken by the U.S. Geological Survey in cooperation with the U.S. Army-Rocky Mountain Arsenal, U.S. Department of Energy-Rocky Flats Field Office, Colorado Department of Public Health and Environment, Colorado Department of Natural Resources-State Engineers Office, Denver Water Department, Littleton-Englewood Wastewater Treatment Plant, East Cherry Creek Valley Water and Sanitation District, Metro Wastewater Reclamation District, Willows Water District, and the cities of Aurora, Lakewood, and Thornton.

https://pubs.er.usgs.gov/publication/ha736

Review and Interpretation of Previous Work and New Data on the Hydrogeology of the Schwartzwalder Uranium Mine and Vicinity, Jefferson County, Colorado

By Jonathan Saul Caine, Raymond H. Johnson, and Emily C. Wild


Figure showing lifetime cancer risk for the laborer from the 1957 plutonium fire at the Rocky Flats Plant. A full explanation of this figure and risks can be found in a 1999 report of the Colorado Department of Public Health and Environment which states that this image is specific to a laborer residing in the area between 1953-1959 (see page 18 of report).

https://en.wikipedia.org/wiki/Rocky_Flats_Plant
Washington proposing plan to restart plutonium cores

ALBUQUERQUE, N.M. (AP) — The Trump administration’s proposed budget for the U.S. Energy Department drew criticism Tuesday as Democratic senators voiced concerns that spending to clean up sites contaminated by decades of nuclear research and bomb-making was being cut in order to fund modernization of the nation’s nuclear arsenal. The proposal includes nearly $27 billion, most of which would go toward nuclear security work that includes restarting production of the plutonium cores that are used as triggers inside nuclear weapons. The plutonium work would be split between sites in New Mexico and South Carolina.

What is Hydrology?

From the U.S. Geological Survey: "Hydro" comes from the Greek word for... water. Hydrology is the study of water and hydrologists are scientists who study water.


Surface Water

https://www.usgs.gov/centers/tx-water/science/streamer?qt-science_center_objects=0#qt-science_center_objects
Susquahanna River Basin

https://www.hartwick.edu/

https://txpub.usgs.gov/DSS/streamer/web/
Raritan River Basin (Millstone River)

https://txpub.usgs.gov/DSS/streamer/web/

The Water on Earth

https://www.usgs.gov/media/images/all-earths-water-a-single-sphere

All Earth's freshwater, liquid fresh water, and water in lakes and rivers

Spheres showing:

1. All water (sphere over western U.S., 860 miles in diameter)
2. Fresh liquid water in the ground, lakes, swamps, and rivers (sphere over Kentucky, 169.5 miles in diameter), and
3. Fresh-water lakes and rivers (sphere over Georgia, 34.9 miles in diameter).
Where is Earth’s Water?

- **Total global water**
  - Oceans: 96.5%
  - Other saline water: 0.9%
  - Freshwater: 2.5%
- **Freshwater**
  - Groundwater: 30.1%
  - Glaciers and ice caps: 68.7%
- **Surface water and other freshwater**
  - Surface/other freshwater: 1.2%
  - Atmosphere: 3.0%
  - Living things: 0.26%
  - Lakes: 20.9%
  - Ground ice and permafrost: 69.0%
  - Rivers: 0.49%
  - Swamps, marshes: 2.6%
  - Soil moisture: 3.8%

Source: Igor Shiklomanov’s chapter "World fresh water resources" in Peter H. Gleick (editor), 1993, Water in Crisis: A Guide to the World’s Fresh Water Resources. (Numbers are rounded.)

A percentile is a value on a scale of one hundred that indicates the percent of a distribution that is equal to or below it. In general,
- streamflow which is greater than the 75th percentile is considered above normal
- streamflow which is between 25th and 75th percentiles is considered normal
- streamflow which is less than the 25th percentile is considered below normal
A **percentile** is a value on a scale of one hundred that indicates the percent of a distribution that is equal to or below it. In general,

- streamflow which is greater than the 75th percentile is considered *above normal*
- streamflow which is between 25th and 75th percentiles is considered *normal*
- streamflow which is less than the 25th percentile is considered *below normal*
Cretaceous Western Interior Seaway. Colorado was covered by a shallow, temperate sea.

The National Hydrography Dataset (NHD), Watershed Boundary Dataset (WBD), and NHDPlus High Resolution (NHDPlus HR) are digital geospatial datasets that map and model the surface water of the United States. The NHD represents the nation’s drainage networks and related features, including rivers, streams, canals, lakes, ponds, glaciers, coastlines, dams, and streamgages. The NHD, at 1:24,000 scale or better, is the most up-to-date and detailed hydrography dataset for the Nation. The WBD represents drainage areas of the country in eight nested levels.

Geologic Provinces

- Atlantic Plain Province
- Appalachian Highlands Province
- Laurentian Upland Province
  - Superior Upland
- Interior Plain Province
- Ouachita-Ozark Interior Highlands
- Rocky Mountains
- Colorado Plateau Province
- Columbia Plateau Province
- Basin and Range Province
- Pacific Province
- Alaska
- Hawai‘i
Hydrology Basics

https://water.usgs.gov/ogw/aquifer/atlas.html

Uranium-238 Concentrations across United States from NURE

Source of data: U.S. Geological Survey Digital Data Series DDS-9, 1993
Atmospheric Sciences Research Center (ASRC), of the State University of New York at Albany, was established on February 16, 1961 by the Board of Trustees of the State University of New York, as a SUNY system-wide resource for developing and administering programs in basic and applied sciences related to the atmospheric environment. 

https://www.albany.edu/asrc/indexmain.php
Groundwater

[URL: https://scholar.google.com/scholar?hl=en&as_qd=0%20C31&q=Groundwater+adirondacks&btnG=&oq=Groundwater+Adirondack&sa=X&sqi=2&ei=2RdVUeBbBCoicATb5QK0Cw&ved=0ahUKEwjO5qy7zwhcAhXixRwKHc9JAYkQ9UkUDAA&encodeurl=1]
Find Researchers, Universities, State Agencies, and NGOs

Where do they publish?
Groundwater ADKs

https://pubs.er.usgs.gov/publication/70039827

https://pubs.er.usgs.gov/search?q=&contributingOffice=New+York+Water+Science+Center
New York Water Science Center

Groundwater and Streamflow Information
Surface-water monitoring, groundwater monitoring, and flood hazards.

Home
The New York Water Science Center (NYWSC) provides research and data about water-related issues. The NYWSC provides high-quality, timely, and unbiased scientific data, reports, and other information that are widely accessible and understandable and that benefit science interests of all levels of government, Tribal Nations, academia, nongovernmental organizations, and the private sector.

Current Water Conditions
Science
NYWSC Quick Links

News
Software
Multimedia

Release Date: November 1, 2019

Record and Major flooding in parts of the Southern Adirondacks and northern Mohawk Valley October 31-November 1, 2019

Summary of Event Impact:
Record and Major flooding in parts of the Southern Adirondacks and northern Mohawk Valley October 31-November 1.

Event Information:
Record and Major flooding occurred in parts of the Southern Adirondacks and northern Mohawk Valley October 31-November 1 as a result of 3-5+ inches of rainfall last night.

Contacts
Gerard Butch
Associate Director for Data
New York Water Science Center
Email: gbutch@usgs.gov
Phone: 518-265-5573

https://www.usgs.gov/centers/ny-water

New Jersey

https://www.usgs.gov/centers/nj-water

https://waterdata.usgs.gov/nj/nwis/current/?type=weather;group_key=basin_cd

https://waterdata.usgs.gov/nj/nwis/uv/?site_no=404751074250601&PARAMeter_cd=00045,00021,00052,00035,61728,00036
“Emily the Uranium Librarian”

Geohydrologic data for a low-level radioactive contamination site, Wood River Junction, Rhode Island


Tragic Death Gives Way to Environmental Rebirth January 06, 2016

“WOOD RIVER JUNCTION, R.I. — Fifty-two years ago this July an explosion rocked this rural village and devastated a local family. On July 24, 1964, a criticality accident occurred at the United Nuclear Corp.’s fuels recovery plant, killing a 37-year-old production technician. On the evening of the accident, Robert Peabody was reportedly pouring what he thought was a bottle of trichloroethylene, to remove organics, into a mechanical mixer when he saw a blue flash. He had accidentally poured a concentrated uranium solution into the mixer, which contained sodium carbonate, resulting in a critical nuclear reaction.

With so much uranium in one container, it reached critical mass and reacted, knocking Peabody to the floor, splashing him with radioactive liquid and exposing him to a fatal radiation dose of 10,000 rads (1 rad equals 0.01) — 1,000 times the lethal dose and the equivalent of 700,000 chest X-rays. Peabody, bombarded by neutrons and gamma rays, had been exposed to more radiation than anyone outside of Hiroshima or Nagasaki, Japan, two decades earlier.

Peabody died two days later. His wife and their nine children were left with a small cash settlement. The accident was blamed on a combination of factors, including incorrect procedures approved by supervisors. The Atomic Energy Commission eventually charged United Nuclear Corp. with 14 violations of nuclear-safety regulations, eight directly involved in Peabody’s accident, but no fines were ever imposed.”


2012 - Critical analysis of world uranium resources https://pubs.er.usgs.gov/publication/sir20125239

Teaching Assistant for Mineralogy

Geology Tutor: GeoRef and study sessions in the Stevens-German Library

Research Assistant for Structural Geology projects and “The Catskill Geologist”
https://thecatskillgeologist.com/ “I will never kick a rock”

Summer 1995: Reference & Archives at Hartwick College Stevens-German Library

Geologic Mapping in:
New York
Pennsylvania
Vermont
Tucson, AZ (1992)
Grand Canyon (1992)
Hawai’i (1993)
San Salvador, Bahamas (1994)
Geology & Hydrology

1996-1998: Hydrologist
Vermont Bridge Scour
Floods/Hurricanes in New Hampshire & Vermont
Water Quality projects for EPA

Literature reviews for:
Fractured Bedrock
NAWQA New England
Mirror Lake, NH

1998-2008: Hydrologist
Massachusetts & Rhode Island Water Use & Availability - “Emily Law” in Rhode Island
Floods/Hurricanes in Massachusetts & Rhode Island
Water-Quality United States
Groundwater Research & Database Administrator (GWSI)

2008-2018: Librarian & Physical Scientist
Minerals/Mining: US and Worldwide
Oil & Gas: US and Worldwide
Uranium Resources: US & Worldwide
Geology, Geophysics, and Geochemistry
Water, Earthquakes, etc... US & Worldwide

April 5, 1987
On-line access to geoscience bibliographic citations
Emily C. Wild
2012, EXPL0RE: Newsletter for the Association of Applied Geochemists (155) 1-5
On-line geoscience bibliographic citations and access points to citations are exponentially increasing as commercial, non-profit, and government agencies worldwide publish materials electronically. On-line bibliographic tools capture cited works, and open access content allows for freely obtained citations and documents. For this newsletter, citations from the numerous journals and books listed...

Review and interpretation of previous work and new data on the hydrogeology of the Schwatwalder Uranium Mine and vicinity, Jefferson County, Colorado
Jonathan S. Ceine, Raymond H. Johnson, Emily C. Wild
The Schwatwalder deposit is the largest known vein type uranium deposit in the United States. Located about eight miles northwest of Golden, Colorado, it occurs in Precambrian metamorphic rocks and was formed by hydrothermal fluid flow, mineralization, and deformation during the Laramide Orogeny. A complex brittle fault zone hosts the...

Estimated water use and availability in the East Narragansett Bay study area, Rhode Island, 1995-99
Emily C. Wild
Water availability became a concern in Rhode Island during a drought in 1995, and further investigation was needed to assess the current demands on the hydrologic system from withdrawals during periods of little to no precipitation. The low ground-water levels and streamflows measured in Rhode Island prompted initiation of a...

Estimated water use and availability in the Pawtuxet and Quinebaug River basins, Rhode Island, 1995-99
Emily C. Wild, Mark T. Nimisikos
Water availability became a concern in Rhode Island during a drought in 1995, and an investigation was needed to assess demands on the hydrologic system from withdrawals during periods of little to no precipitation. The low ground-water levels during the drought prompted the U.S. Geological Survey and the Rhode Island...

Emily’s search: https://pubs.er.usgs.gov/search?q=%22emily+c+wild%22
64 Citations, USGS Publications Catalog

Emily’s search: https://scholar.google.com/citations?user=5aqY2RwAAAAJ&hl=en&oi=ao
32 Citations, Google Scholar
Favorite Projects

Vermont Bridge Scour:
https://pubs.er.usgs.gov/search?q=vermont +bridge+scour+emily

54 Published Reports (WSPRO models)
https://www.worldcat.org/search?q=ti%3Avermont+au%3Awild%2C+emily+c&qft=advanced&dblist=638

Only 45 are indexed in library catalogs
Aquaculture, mining, self-supplied domestic, and livestock water uses are distributed unevenly across the U.S. There are large withdrawals for aquaculture along the Snake River in southern Idaho.

Industrial withdrawals are driven by many factors. Historically, steel production developed in areas with access to large amounts of water, good transportation, and ore and coal deposits. Lake County, Indiana, on Lake Michigan, accounts for 8% of the U.S. industrial water withdrawals, largely for steel production.

Thermoelectric power plants use steam to drive turbines and generate electricity. In the eastern U.S. where water is relatively abundant, large volumes of water often are withdrawn, used once for cooling, then returned to the source a little warmer than before. In the western U.S., cooling water is more often withdrawn and recirculated many times, so less is withdrawn overall.

Irrigation occurs in most areas of the country, but is larger in areas where rainfall is insufficient to meet crop needs, such as in the drier parts of the West.

Irrigation in eastern Arkansas provides water to flood rice fields as well as supplement rainfall to other crops.

Larger withdrawals in Alaska in the "other" categories are for aquaculture and mining.
Bibliography on the Occurrence and Intrusion of Saltwater in Aquifers along the Atlantic Coast of the United States


https://www.tandfonline.com/doi/abs/10.1300/J122v21n03_05

Robowell
Ground Water in Freshwater-Saltwater Environments of the Atlantic Coast

Development of a Desalination System in Response to Saltwater Intrusion, Cape May City, New Jersey
Water Use and Availability in Rhode Island


“The Emily Law”

https://www.usgs.gov/staff-profiles/emily-wild

http://webserver.rilin.state.ri.us/Statutes/TITL E46/46-15.8/INDEX.HTM
Domestic (Private) Well Water Quality


In a study of 2,100 domestic wells, water pumped from about one in five wells contained one or more contaminants at a concentration greater than a human-health benchmark for drinking water.

- The contaminants most often found at these elevated concentrations were inorganic chemicals, such as metals, radionuclides, and nitrate; all of these but nitrate are derived primarily from natural sources.

- Man-made organic compounds, such as pesticides and solvents, were detected in more than half (60 percent) of the domestic wells sampled, but concentrations were seldom greater than human-health benchmarks (less than 1 percent of wells).

- About half of the wells had at least one “nuisance” contaminant—a compound that impairs taste, odor, or other aesthetic considerations—at a level or concentration outside the range of values recommended by the U.S. Environmental Protection Agency.

- Microbial contaminants (for example, bacteria) were detected in about one-third of the approximately 400 wells that had their water analyzed for those contaminants.

- Contaminants found in domestic wells usually co-occurred with other contaminants as mixtures, rather than alone, which is a potential concern because the total toxicity of a mixture can be greater than that of any single contaminant.

EXPLANATION
- At least one contaminant concentration greater than a human-health benchmark
- No contaminant concentration greater than a human-health benchmark

Health-Based Screening Levels for Evaluating Water-Quality Data
New Jersey Water: PFAS

New Jersey sues DuPont, 3M over toxic firefighting foam
https://www.nj.gov/oag/newsreleases19/AFFF_Complaint.pdf
May 14, 2019

NRDC Advises Tougher Standards for PFAS in NJ Drinking Water, May 15, 2019

USGS : Per- and Polyfluoroalkyl Substances (PFASs) detected in Source Waters and Treated Public Water Supplies

How to say goodbye to PFAS
Researchers call for phaseout of fluorochemicals based on health, safety, and societal need
https://cen.acs.org/environment/persistent-pollutants/say-goodbye-PFAS/97/i46

The Shrinking Case For Fluorochemicals
As the long-alkyl-chain fluorocarbons found in many household products are replaced with short-chain ones, debate over safety continues
https://cen.acs.org/articles/93/i28/Shrinking-Case-Fluorochemicals.html
Accident Description

Accident: Freedom Industries Chemical Release
Location: Charleston, WV
Accident Occurred On: 01/09/2014 | Final Report Released On: 05/11/2017
Accident Type: Release

Investigation Status: The CSB’s final investigation report was released on 5.11.2017
A leak originating from a storage tank at Freedom Industries contaminated the local water supply leaving hundreds of thousands of West Virginia residents without clean drinking water.
https://www.csb.gov/freedom-industries-chemical-release-
Colorado River: Animas River

Pollution of Interstate Waters Reports
http://www.worldcat.org/search?q=ti%3APollution+of+Interstate+Waters+&qt=advanced&dblist=638

Reports include Raw & Calculated USGS data

These are the Pre-EPA reports: EPA created on December 2, 1970
https://www.epa.gov/history
Hydraulic fracturing (informally known as hydrofracking, fracking, fracing, or hydrofracturing) is a process that typically involves injecting water, sand, and (or) chemicals under high pressure into a bedrock formation via a well. This process is intended to create new fractures in the rock as well as increase the size, extent, and connectivity of existing fractures.

Hydraulic fracturing is a well-stimulation technique used commonly in low-permeability rocks like tight sandstone, shale, and some coal beds to increase oil and/or gas flow to a well from petroleum-bearing rock formations. A similar technique is used to create improved permeability in underground geothermal reservoirs. A form of hydraulic fracturing is also used in low permeability sediments and other tight subsurface formations to increase the efficiency of soil vapor extraction and other technologies used in remediating contaminated sites.

Water Quality - Energy

Water-Quality Topics: Hydraulic Fracturing
https://water.usgs.gov/owq/topics/hydraulic-fracturing/
Water Quality - Energy

Energy Program: Environmental Aspects

Produced Waters Database

The primary objective of this project is to provide information on the volume, quality, impacts, and possible uses of water produced during generation and development of energy resources (particularly hydrocarbons) as well as related fluids injected into reservoirs for energy development and associated waste disposal.

https://earthquake.usgs.gov/research/induced/overview.php
Abstract
Traditional commercial bibliographic databases and indexes provide some access to hydrology materials produced by the government; however, these sources do not provide comprehensive coverage of relevant hydrologic publications. This paper discusses bibliographic information available from the federal government and state geological surveys, water resources agencies, and depositories. In addition to information in these databases, the paper describes the scope, styles of citing, subject terminology, and the ways these information sources are currently being searched, formally and informally, by hydrologists. Information available from the federal and state agencies and from the state depositories might be missed by limiting searches to commercially distributed databases.
Water Resources – Hydrology Jobs

https://www.usajobs.gov/Search/?k=Hydrology

Ex. me = Hydrologist-GS-1315-11

https://www.usajobs.gov/Search/?k=Student%20trainee%20(hydrology)

https://www.usajobs.gov/Search/?k=Hydrology


Thank You!

New England Water Science Center: NH-VT & MA-RI
https://www.usgs.gov/centers/new-england-water/

New York Water Science Center
https://www.usgs.gov/centers/ny-water

New Jersey Water Science Center
https://www.usgs.gov/centers/nj-water

Emily C. Wild
ewild@princeton.edu
609-258-5484

Princeton University Library
http://library.princeton.edu

Princeton University Geosciences
http://geosciences.princeton.edu

Geophysical Fluid Dynamics Laboratory
https://www.gfdl.noaa.gov/

Princeton Environmental Institute
http://environment.princeton.edu

Princeton University Chemistry
https://chemistry.princeton.edu/

Andlinger Center for Energy and the Environment
https://acee.princeton.edu/