Princeton University LIBRARY

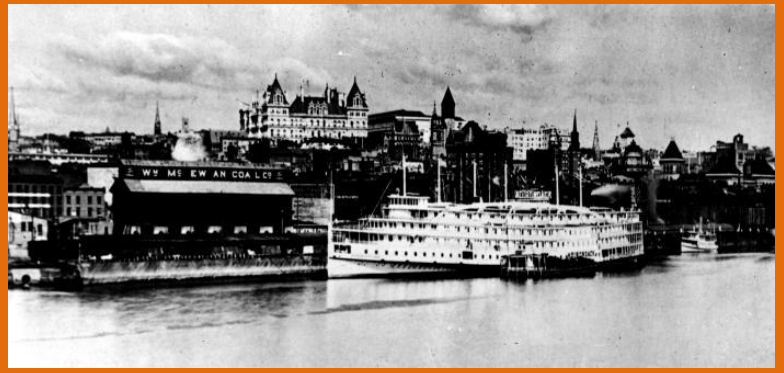
Library Research for Water Resources

March 5, 2020

Emily C. Wild, Chemistry, Geosciences and Environmental Studies Librarian

ewild@princeton.edu 609-258-5484

http://digitalcollections.archives.nysed.gov/index.php/Detail/objects/4197



http://digitalcollections.archives.nysed.gov/index.php/Detail/objects/46309

PRINCETON UNIVERSITY

Overview

The opening of the first section of the Erie Canal
http://digitalcollections.archives.nysed.gov/index.php/Detail/objects/9566

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?

U.S. MASTERS SWIMMING

H2O/day:
64 ounces to half your bodyweight

Past GPO Sessions

Use the Internet Archive WayBackMachine https://archive.org/web/

January 2020 – "Introduction to Geosciences Library Research https://www.fdlp.gov/introduction-to-geosciences-library-research

March 2018 - "U.S. Geological Survey (USGS) Library Materials for Natural Hazards (and Land Change)" https://www.fdlp.gov/usgs-library-materials-for-natural-hazards

March 2018 - "USGS Library Materials for Water Resources Information" https://www.fdlp.gov/usgs-library-materials-for-water-resources-information

March 2018 - "USGS Library Materials for Earth's Age" https://www.fdlp.gov/usgs-library-materials-for-earth-s-age

September 2017 - "USGS Library - Indexes, Catalogs, and Other Bibliographic Tools, A day in the life of a reference librarian" https://www.fdlp.gov/usgs-library-indexes-catalogs-and-other-bibliographic-tools-a-day-in-the-life-of-a-reference-librarian

August 2017 - "USGS Library - Oil, Gas, Coal, Uranium, and Minerals Maps and Data" https://www.fdlp.gov/usgs-library-oil-gas-coal-uranium-and-minerals-maps-and-data

May 2017 - "USGS Library - Using USGS Image, Map, and Data Products for Information Inquiries" https://www.fdlp.gov/usgs-library-using-usgs-image-map-and-data-products-for-information-inquiries

December 7, 2016 - "USGS Library: Geoscience Outreach and Instruction" https://www.fdlp.gov/usgs-library-geoscience-outreach-and-instruction

August 2014 - U.S. Government Printing Office (GPO) Federal Depository Library Program (FDLP), "Tricks and Tips for Finding and Using USGS Topographic Maps" : http://www.fdlp.gov/all-newsletters/community-insights/2045-tricks-and-tips-for-finding-and-using-usgs-topographic-maps

May 2014 - "U.S. Geological Survey Library: Access and Outreach"

Past Dept of the Interior - USGS Course (8 hour)

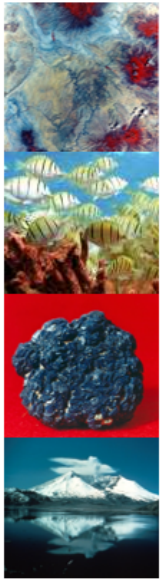
Contact me if you would like my old modules

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

USGS



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

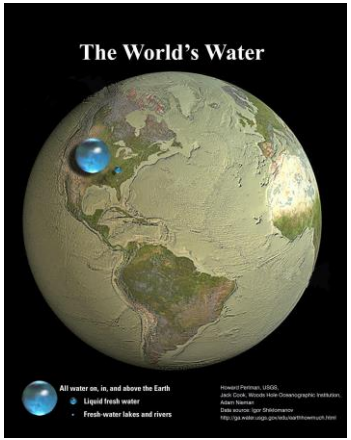
Session 6: Organizing Citations and Bibliographies

Session 7: Cited Reference Searches

USGS

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

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

My Bio

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

- **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
- **U.S. Geological Survey, Denver, Colorado : 2008-2018**
  Librarian (Physical Scientist) : Water, Minerals, Energy & Hazards research services, instruction, and outreach
- **U.S. Geological Survey, NH-VT & MA-RI: 1996-2008**
  Hydrologist: Water Use, Surface Water, Groundwater, Water Quality, Bibliographic Databases, NWIS Groundwater Database Administrator
- **Reference Desk at Providence College (2005-7), University of Rhode Island (1998-2000), and Hartwick College (1995) (thesis, water resources)**
- **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's Career Path

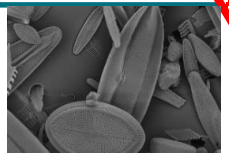
Born Interested in Science & Mathematics

Best Subject in School =Mathematics (college classes), loved 9th Grade Earth Science class (New York)

1991: Went to College for Mathematics

Recruited by Geology Dept. - Switched to Major in Geology

Undergraduate Thesis: Biology & Geology



Geology Department: Teaching & Research Assistant, Tutor (Library Instruction!!!)

1995: Hired by U.S. Geological Survey, Hydrologist:
1996: Field Work, Surface-Water Models, Report Writing, and Public Outreach
Report Search Results

Independent Study Paper, Legal Analysis

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

Paralegal Certificate (2016),
And Legal Investigation Certificate (2016)

Hired by College Library: Archives and Reference (Science)

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

1998: U.S. Geological Survey, Hydrologist: Field Work, Surface-Water, Groundwater, Water Quality, Water-Use Specialist, Report Writing, Presentations (Internal and External) Public Outreach, and Outreach Coordinator Report Search Results
& Academic Reference Librarian

2008: U.S. Geological Survey, Librarian (Physical Scientist) : 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

A Hydrologist?

What People think I did as a hydrologist

Really working as a hydrologist

Setting

Open Credits for “House” :
Princeton University & Lake Carnegie

News || U. Affairs

New Jersey American Water, U. professors dispute Environmental Working Group report on contaminants in Princeton water

By Hannah Wang and Katie Tam | Nov 25, 2019

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.

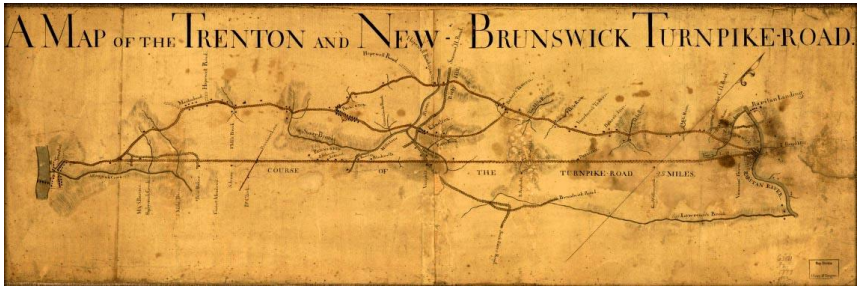
“For this reason, Princeton University EHS does not use their thresholds as a guide,” she added.

Instead, they use recommendations from the World Health Organization, the EPA, and other countries as guidelines.

https://www.dailyprincetonian.com/article/2019/11/new-jersey-american-water-u-profs-dispute-environmental-working-group-report-on-contaminants-in-princeton-water

D&R Canal

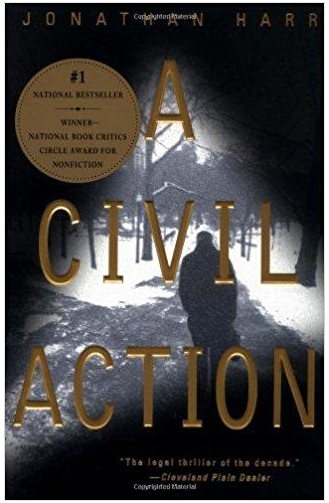
Lake Carnegie (background), Towpath (middle), and Delaware & Raritan Canal (foreground)
Princeton, New Jersey



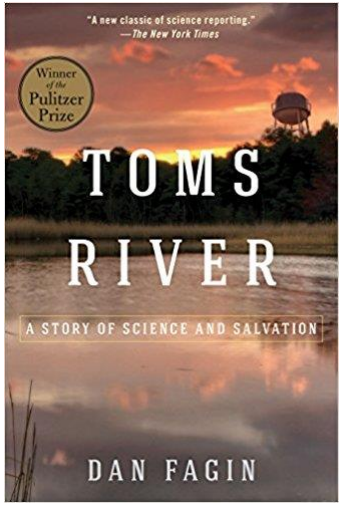
https://www.dandrcanal.com/index.php/history

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

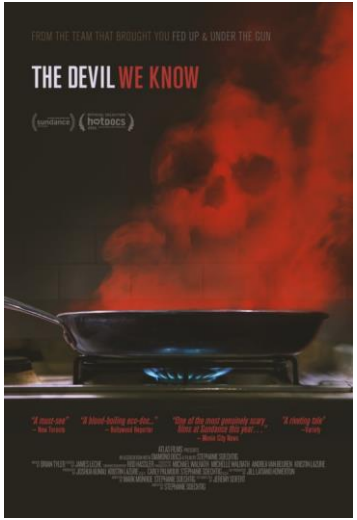
Water Resources, Can Be A Personal Topic



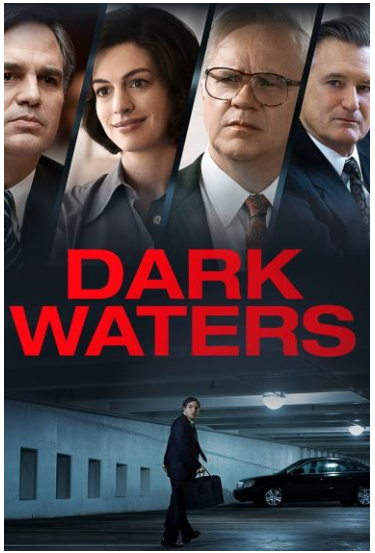
[A Civil Action by Jonathan Harr]

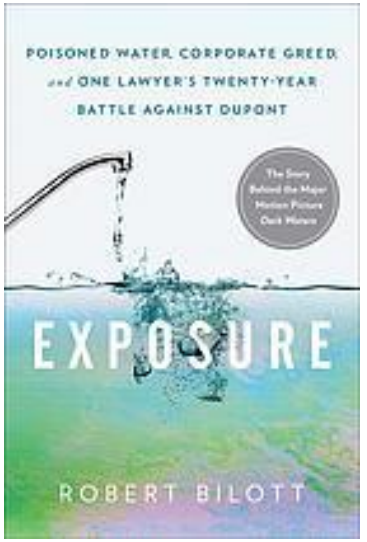


[Toms River: A Story of Science and Salvation by Dan Fagin]



https://thedevilweknow.com/





Exposure : poisoned water, corporate greed, and one lawyer's twenty-year battle against DuPont

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.

Erin Brockovich

USGS science for a changing world — MENU

A plan for study of hexavalent chromium, CR(VI) in groundwater near a mapped plume, Hinkley, California, 2016

Open-File Report 2016-1004
Prepared in cooperation with the Lahontan Regional Water Quality Control Board
By: John A. Izbicki and Krishangi D. Groover
https://doi.org/10.3133/ofr20161004
Tweet

https://pubs.er.usgs.gov/publication/ofr20161004

Links

USGS science for a changing world — MENU

Natural and man-made hexavalent chromium, Cr(VI), in groundwater near a mapped plume, Hinkley, California—study progress as of May 2017, and a summative-scale approach to estimate background Cr(VI) concentrations

Open-File Report 2018-1045
Prepared in cooperation with the Lahontan Regional Water Quality Control Board and the State Water Resources Control Board
By: John A. Izbicki and Krishangi D. Groover
https://doi.org/10.3133/ofr20181045
Tweet

https://pubs.er.usgs.gov/publication/ofr20181045

Links

- Document: **Report** (1.4 MB pdf)
- Open Access Version: Publisher Index Page
- Download citation as: RIS | Dublin Core

https://scholar.google.com/scholar?hl=en&as_sdt=0%2C31&q=hinkley+groundwater+contamination&btnG=&oq=Hinkley

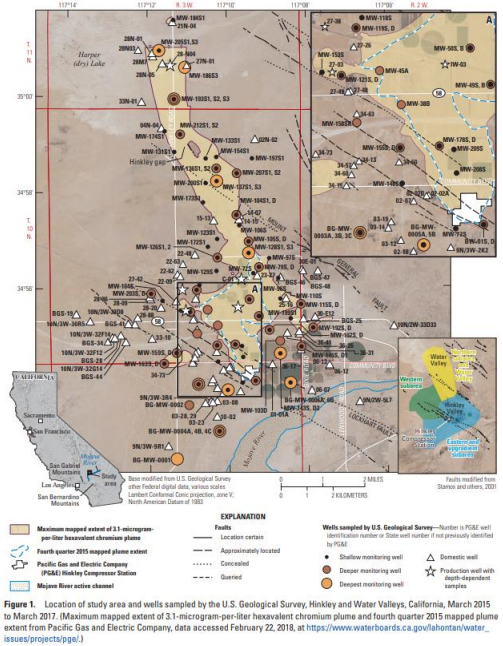
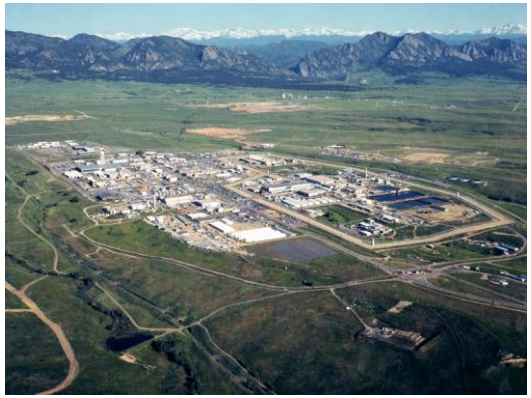
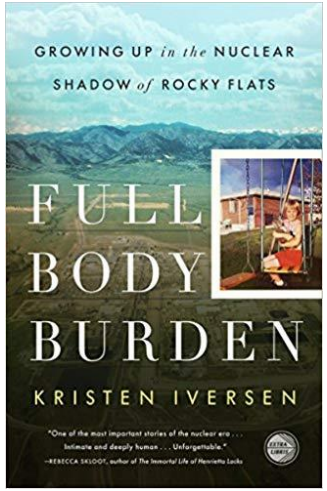


Figure 1. Location of study area and wells sampled by the U.S. Geological Survey, Hinkley and Water Valleys, California, March 2015 to March 2017. (Maximum mapped extent of 3.1-microgram-per-liter hexavalent chromium plume and fourth quarter 2015 mapped plume extent from Pacific Gas and Electric Company, data accessed February 22, 2018, at https://www.waterboards.ca.gov/lahontan/water_issues/projects/pge/.)

Rocky Flats, Colorado





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

https://en.wikipedia.org/wiki/Rocky_Flats_Plant

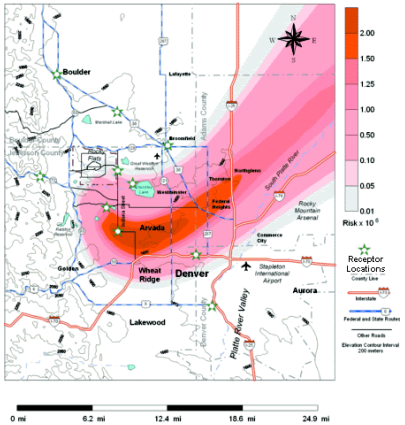


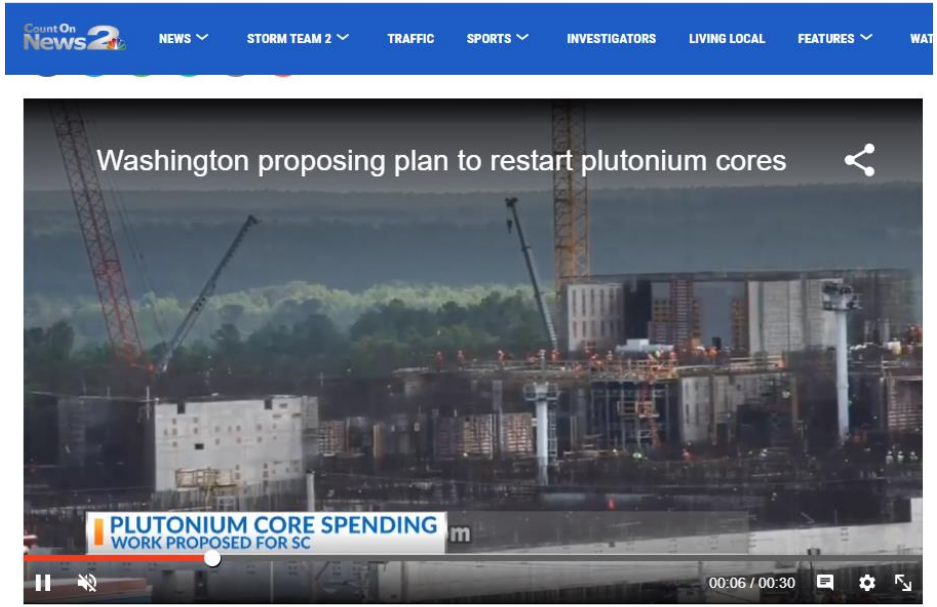
Figure showing lifetime cancer risk for the laborer from the 1957 plutonium fire at the Rocky Flats Plant. A full explanation of this figure and risks can be found in a 1999 report of the Colorado Department of Public Health and Environment which states that this image is specific to a laborer residing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

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

https://pubs.usgs.gov/of/2011/1092/

Plutonium?



by: SUSAN MONTOYA BRYAN, The Associated Press

https://www.counton2.com/news/latest-news/trump-admin-proposes-27b-to-restart-production-of-plutonium-cores-in-sc/

Posted: Mar 4, 2020 / 10:08 AM EST / Updated: Mar 4, 2020 / 10:08 AM EST

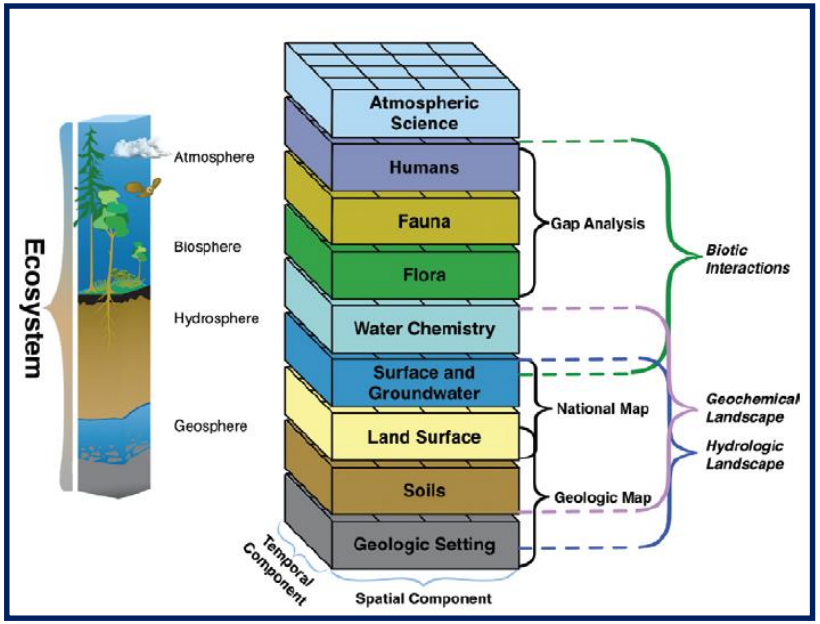
ALBUQUERQUE, N.M. (AP) — The Trump administration's proposed budget for the U.S. Energy Department drew criticism Tuesday as Democratic senators voiced concerns that spending to clean up sites contaminated by decades of nuclear research and bomb-making was being cut in order to fund modernization of the nation's nuclear arsenal.

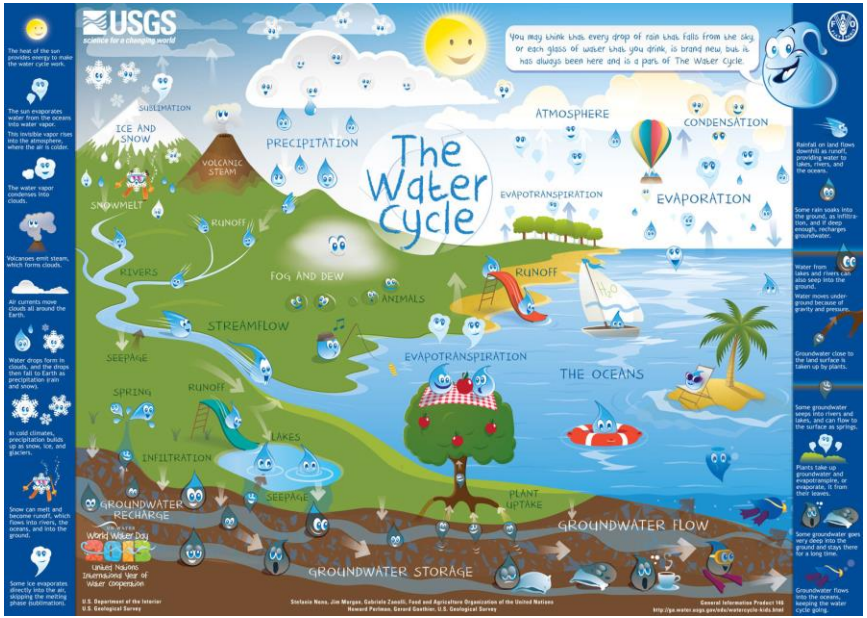
The proposal includes nearly $27 billion, most of which would go toward nuclear security work that includes restarting production of the plutonium cores that are used as triggers inside nuclear weapons. The plutonium work would be split between sites in New Mexico and South Carolina.

What is Hydrology?

https://www.usgs.gov/special-topic/water-science-school/science/what-hydrology?qt-science_center_objects=0#qt-science_center_objects

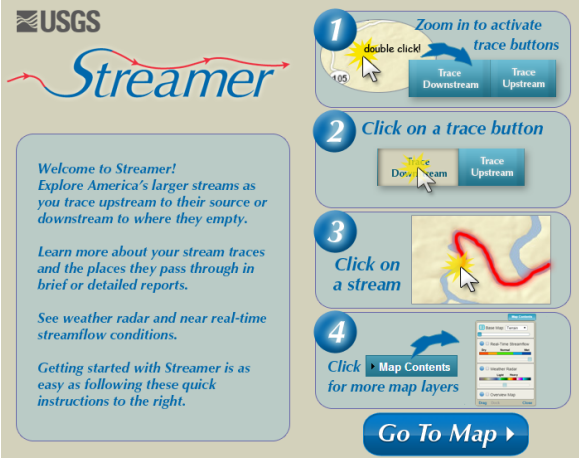
From the U.S. Geological Survey: "Hydro" comes from the Greek word for... water. Hydrology is the study of water and hydrologists are scientists who study water.



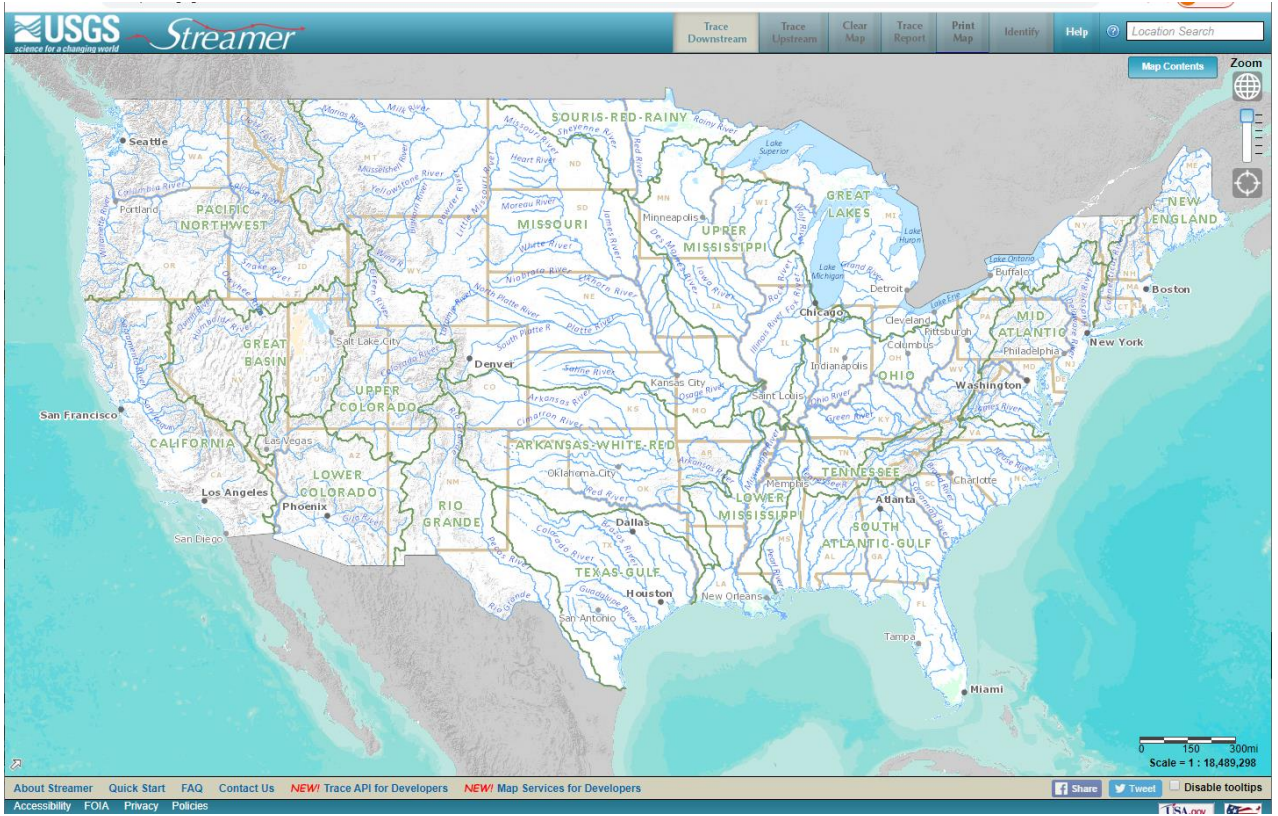


https://www.usgs.gov/special-topic/water-science-school/science/water-cycle-components

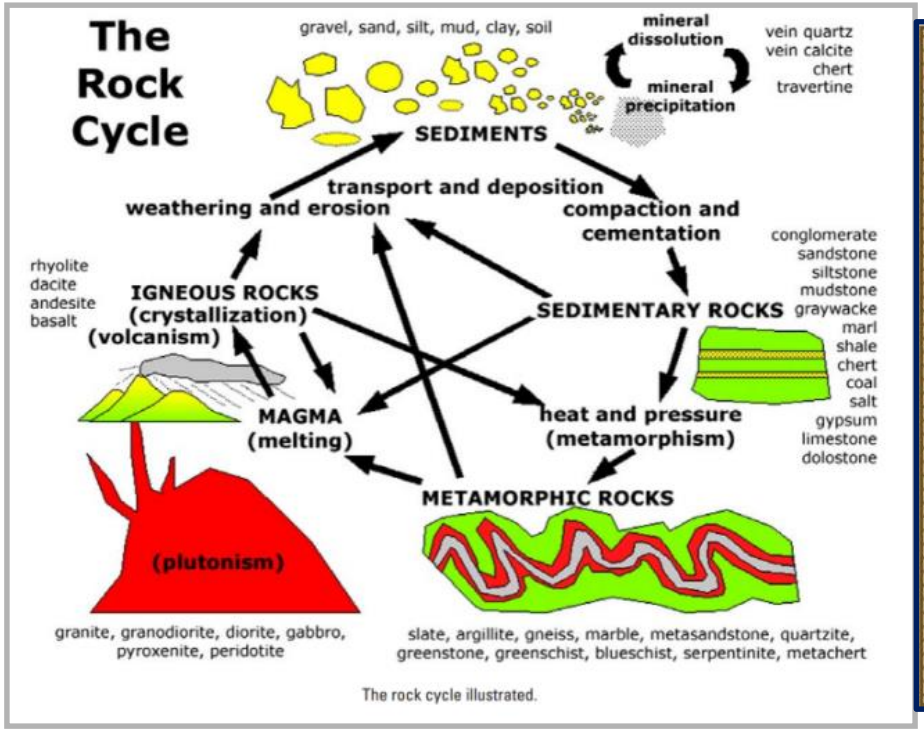
Surface Water



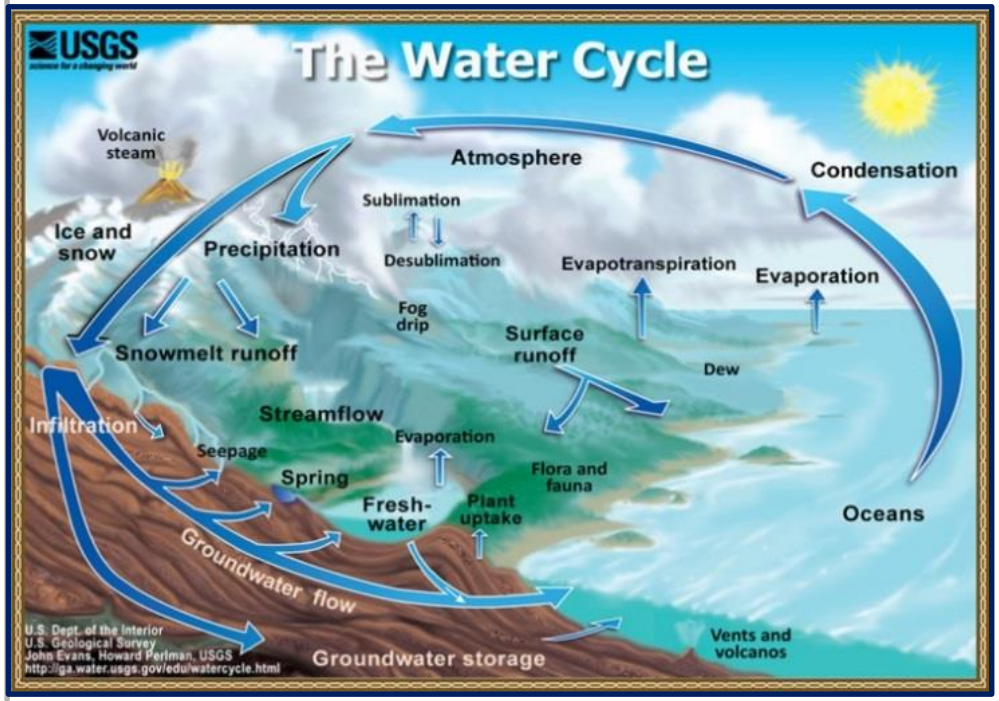
https://www.usgs.gov/centers/tx-water/science/streamer?qt-science_center_objects=0#qt-science_center_objects



Rock Cycle & Water Cycle



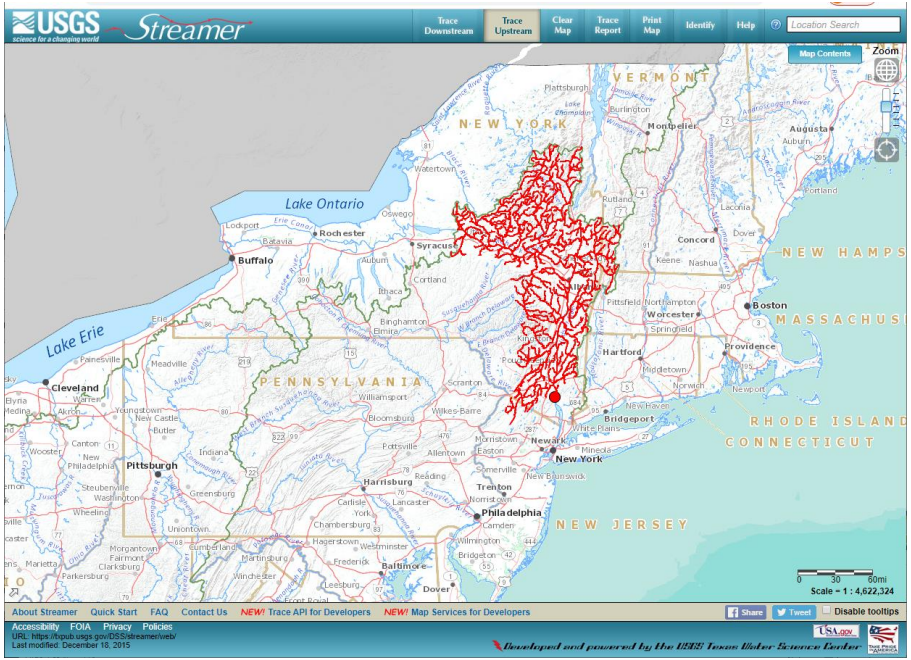
The rock cycle illustrated.



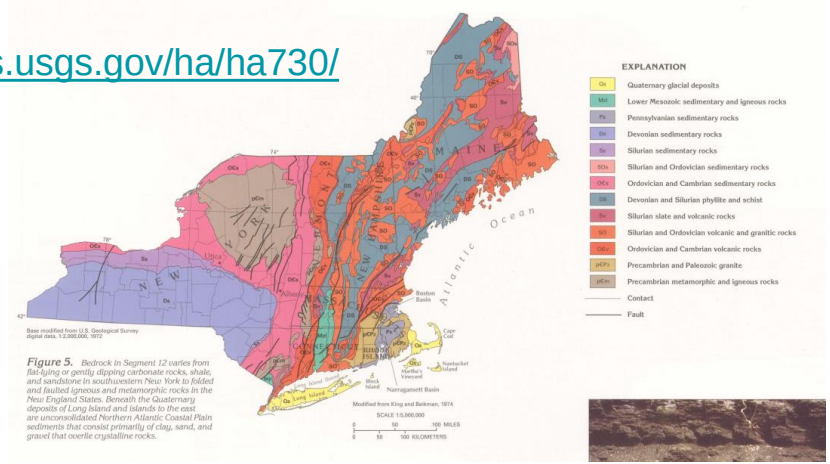
https://www.usgs.gov/special-topic/water-science-school/science/water-cycle-components

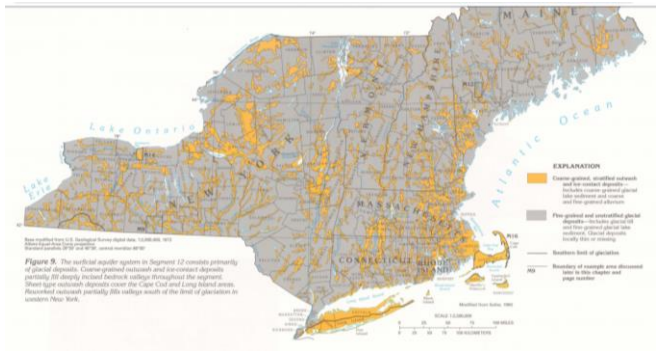
Hudson River Basin

https://pubs.usgs.gov/ha/ha730/



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

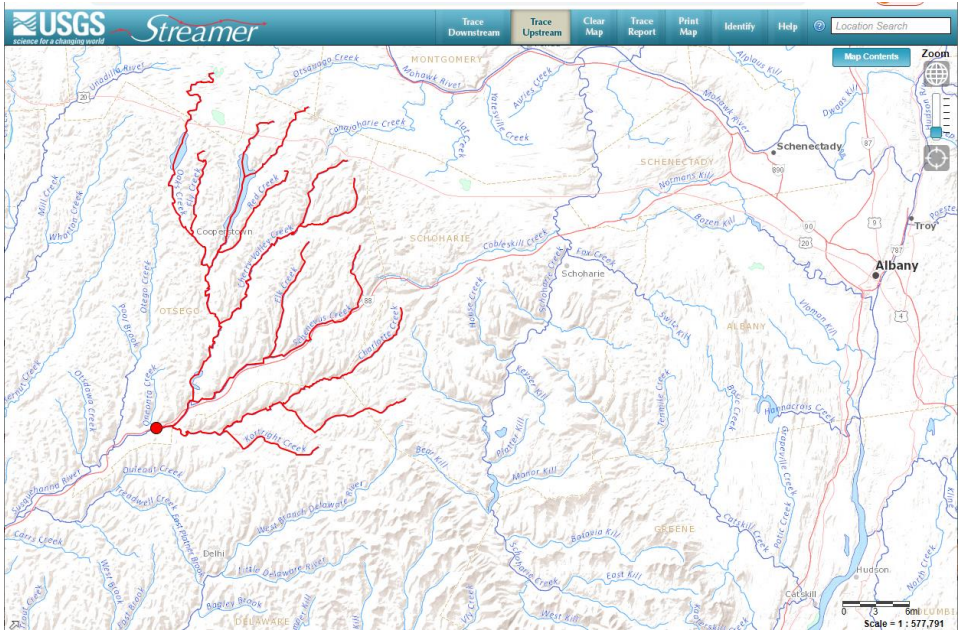




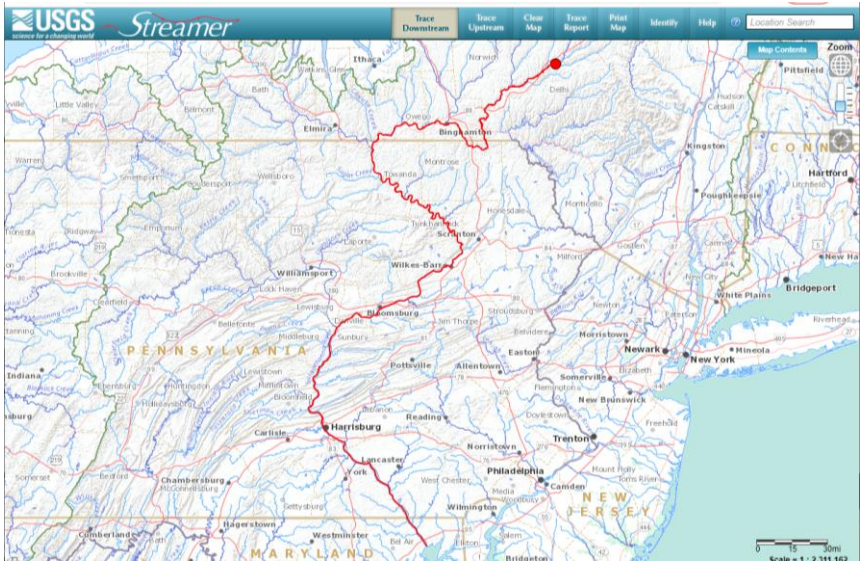
https://pubs.usgs.gov/ha/730m/report.pdf

Susquahanna River Basin

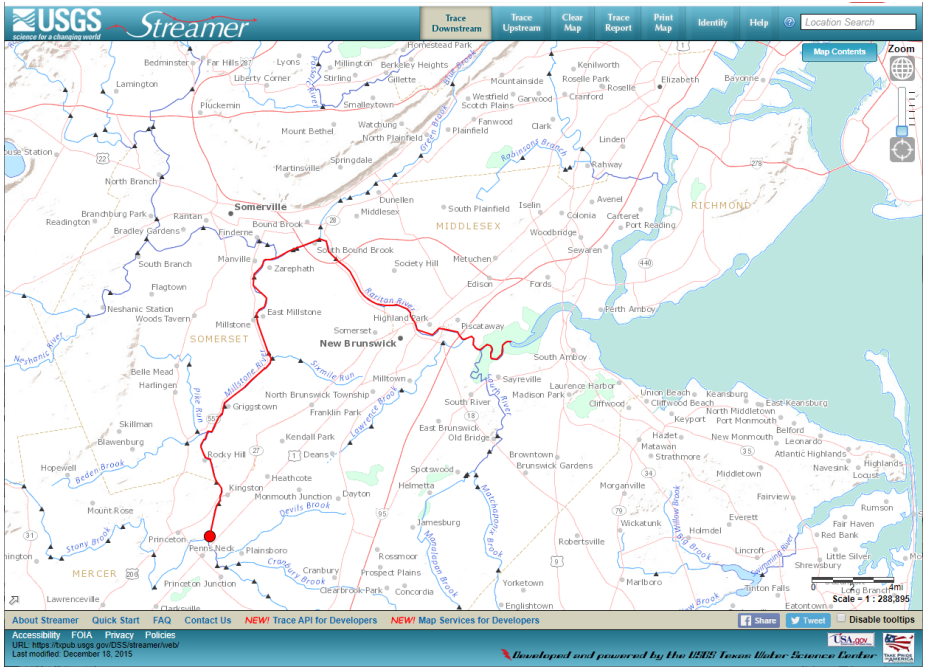
https://www.hartwick.edu/



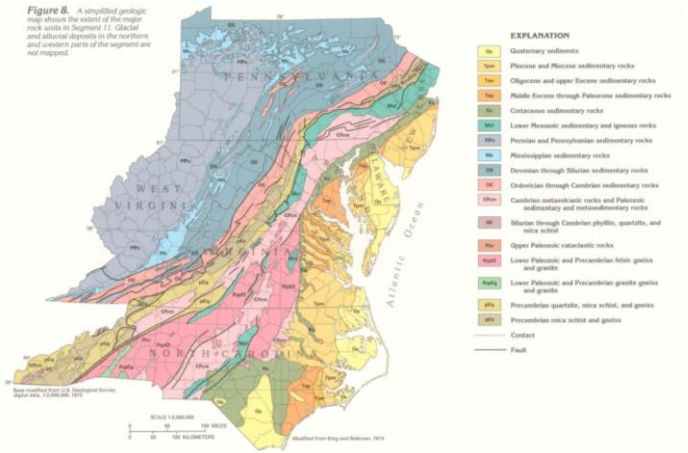
https://txpub.usgs.gov/DSS/streamer/web/

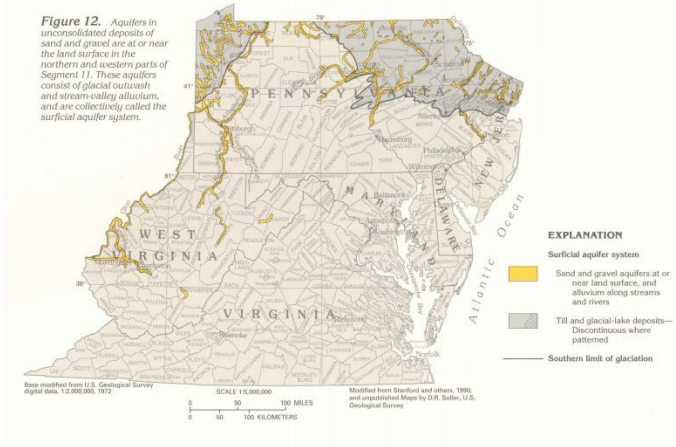


Raritan River Basin (Millstone River)



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





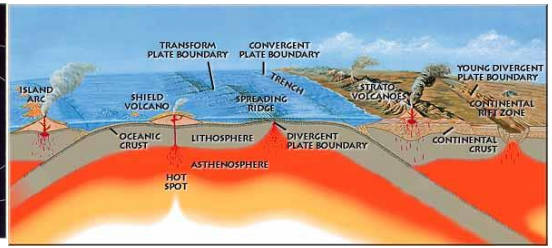
https://pubs.usgs.gov/ha/730l/report.pdf

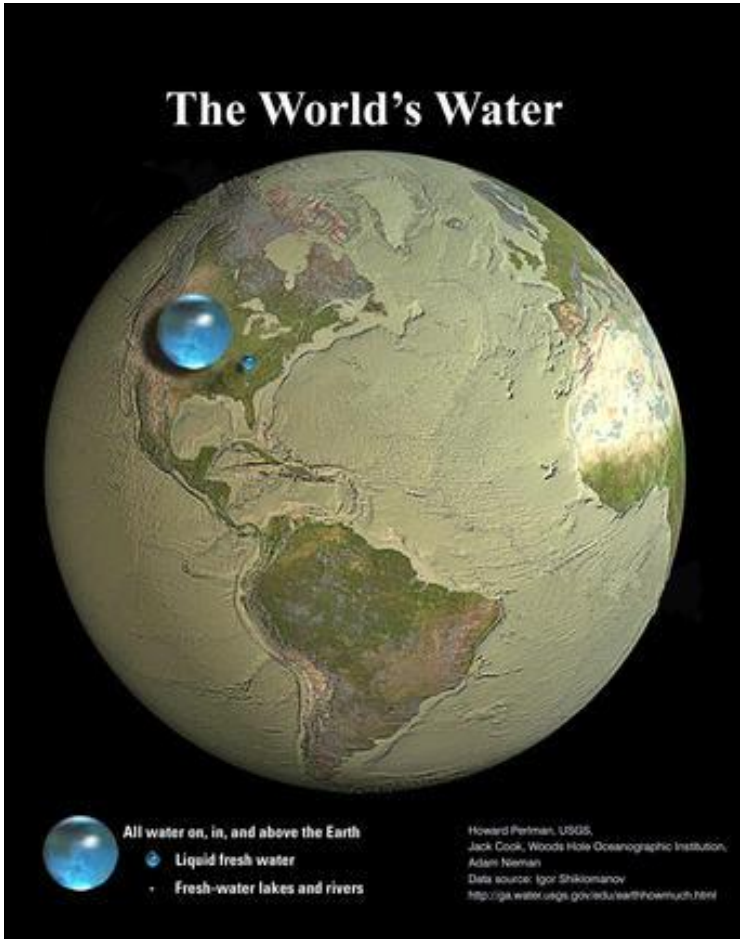
The Water on Earth

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

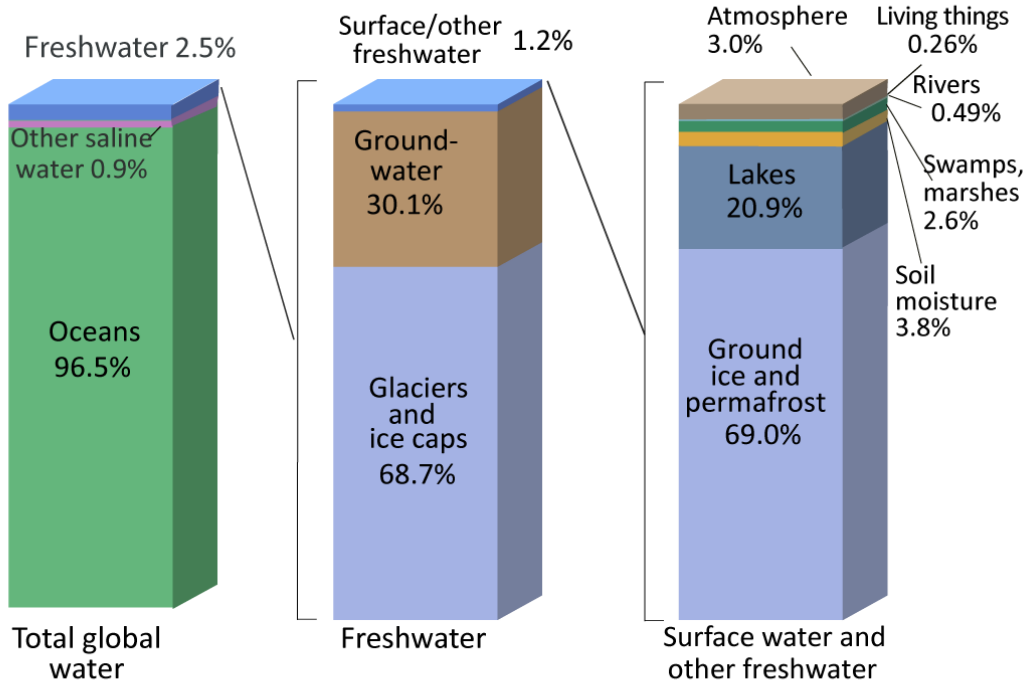
All Earth's freshwater, liquid fresh water, and water in lakes and rivers
Spheres showing:

(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?



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).

https://www.usgs.gov/special-topic/water-science-school/science/where-earths-water?qt-science_center_objects=0#qt-science_center_objects

U.S. Geological Survey (USGS)

Ecosystems
- Status and Trends Program
- Fisheries Program
- Wildlife Program
- Environments Program
- Invasive Species Program

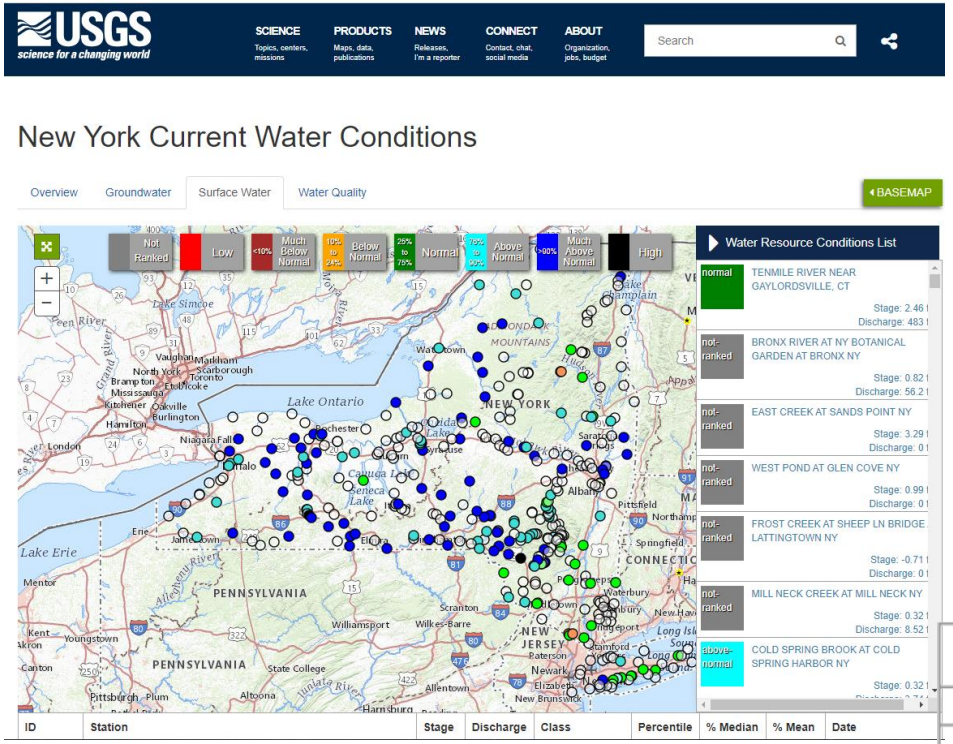
Energy and Mineral Resources
- Mineral Resources Program
- Energy Resources Program

Natural Hazards
- Earthquake Hazards Program
- Volcano Hazards Program
- Landslide Hazards Program
- Global Seismographic Network
- Geomagnetism
- Coastal/Marine Hazards and Resources

Core Science Systems
- National Geospatial Program
- National Cooperative Geologic Mapping Program
- Science Synthesis, Analysis, and Research Program

Water Resources
- Groundwater and Streamflow Information Program
- National Water Quality Program
  - National Water-Quality Assessment Project (NAWQA)
  - National Atmospheric Deposition Program
  - USGS-National Park Service Water-Quality Partnership
- Water Availability and Use Science Program
- Water Resources Research Act Program

New York



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,

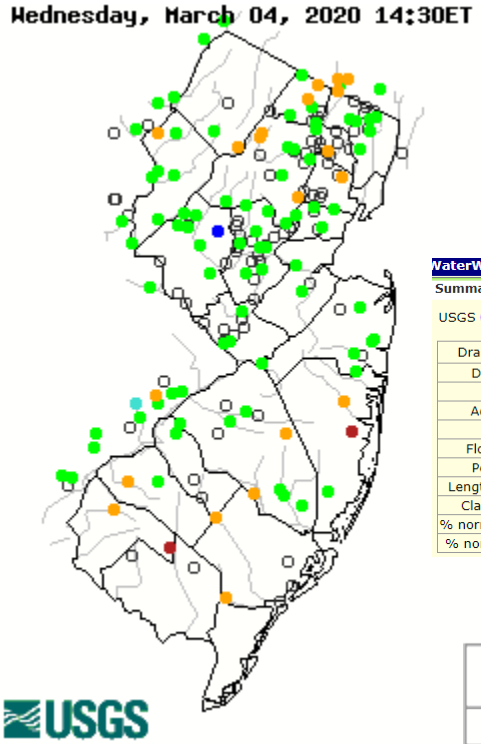
- streamflow which is greater than the 75th percentile is considered *above normal*
- streamflow which is between 25th and 75th percentiles is considered *normal*
- streamflow which is less than the 25th percentile is considered *below normal*

Explanation - Percentile classes							
Low	<10	10-24	25-75	76-90	>90	High	Not-ranked
	Much below normal	Below normal	Normal	Above normal	Much above normal		

New Jersey

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*

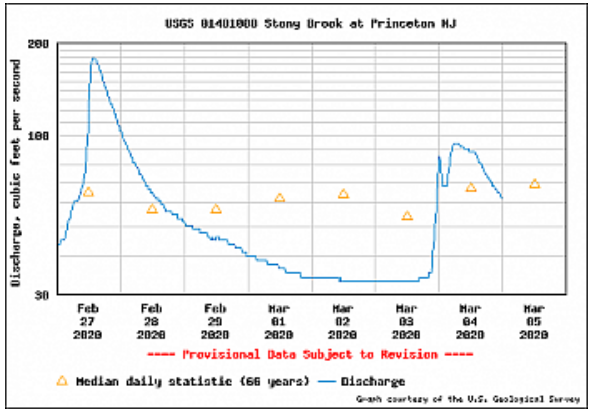


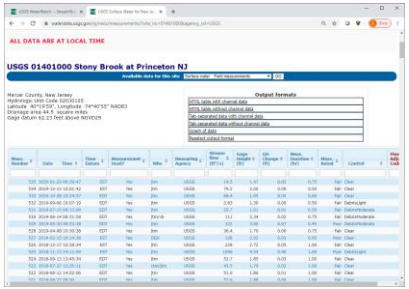
WaterWatch: Water Resources Conditions

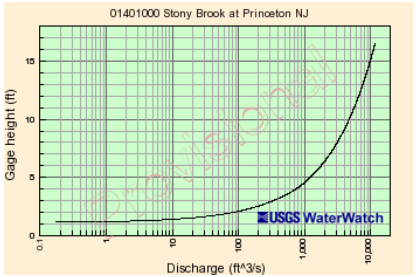
Summary | Hydrograph | Peak | Forecast | Rating

USGS **01401000** Stony Brook at Princeton NJ

Drainage area:	44.5 mi^2
Discharge:	65.1 cfs
Stage:	1.90 ft
Adj. stage:	64.13 ft
Date:	2020-03-04 22:30:00
Flood stage:	9 ft
Percentile:	50.79 %
Length of Record:	65 years
Class symbol:	
% normal (median):	101.88 %
% normal (mean):	58.21 %







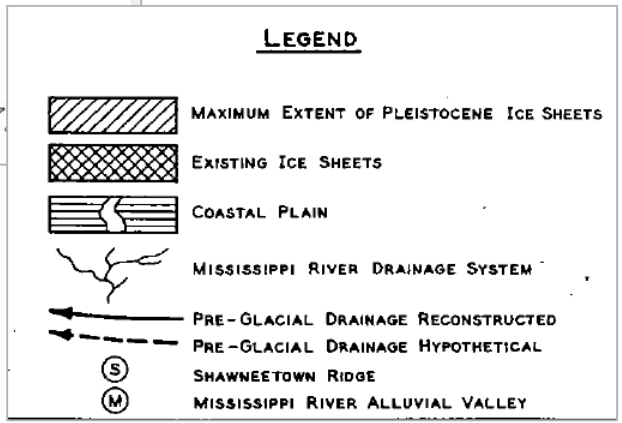
Explanation - Percentile classes

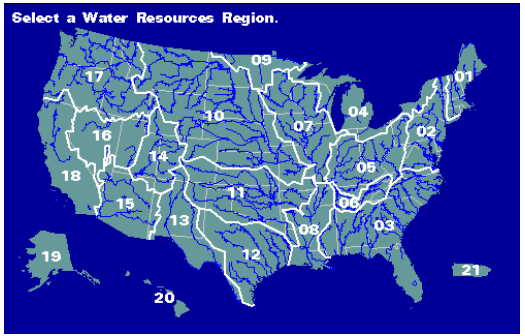
Low	<10	10-24	25-75	76-90	>90	High	Not-ranked
	Much below normal	Below normal	Normal	Above normal	Much above normal		

Earth's History

Cretaceous Western Interior Seaway.
Colorado was covered by a shallow, temperate sea.
https://pubs.usgs.gov/pp/1561/report.pdf

Geological Investigation of the Alluvial Valley of the Lower Mississippi River, Fisk, 1944:
http://lmvmapping.erdc.usace.army.mil/





Hydrologic Units: HUCs

Watershed Boundary Dataset

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.

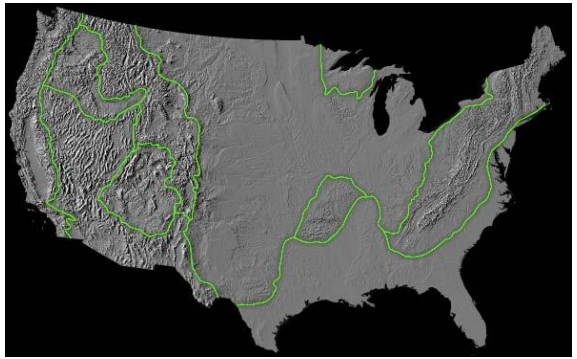
The NHD represents the nation's drainage networks and related features, including rivers, streams, canals, lakes, ponds, glaciers, coastlines, dams, and streamgages. The NHD, at 1:24,000 scale or better, is the most up-to-date and detailed hydrography dataset for the Nation. The WBD represents drainage areas of the country in eight nested levels.

https://www.usgs.gov/core-science-systems/ngp/national-hydrography

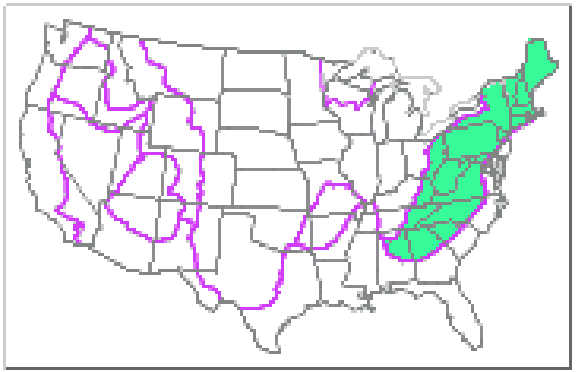
Hydrologic Unit Codes (HUCs)

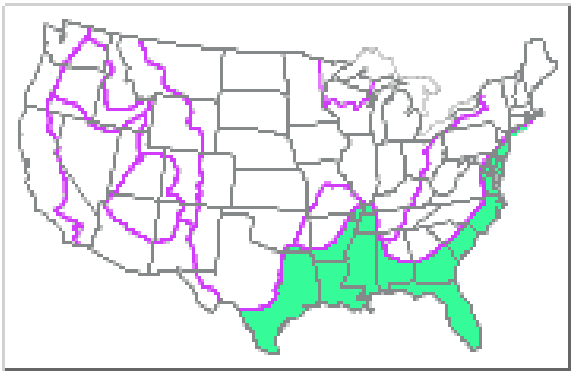
Region 01 New England
Region 02 Mid-Atlantic
Region 03 South Atlantic-Gulf
Region 04 Great Lakes
Region 05 Ohio
Region 06 Tennessee
Region 07 Upper Mississippi
Region 08 Lower Mississippi
Region 09 Souris-Red-Rainy
Region 10 Missouri
Region 11 Arkansas-White-Red
Region 12 Texas-Gulf
Region 13 Rio Grande
Region 14 Upper Colorado
Region 15 Lower Colorado
Region 16 Great Basin
Region 17 Pacific Northwest
Region 18 California
Region 19 Alaska (Old numbering system)
Region 20 Hawaii
Region 21 Caribbean

Geologic Provinces

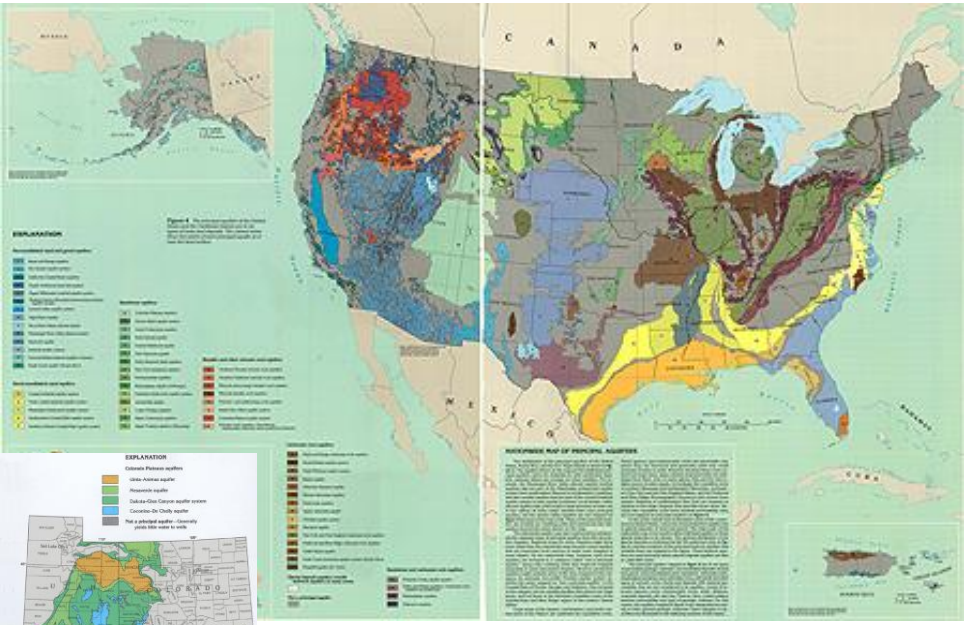


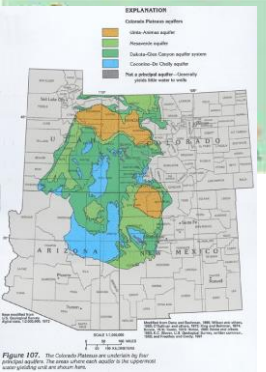
- Atlantic Plain Province
- Appalachian Highlands Province
- Laurentian Upland Province - Superior Upland
- Interior Plain Province
- Ouachita-Ozark Interior Highlands
- Rocky Mountains
- Colorado Plateau Province
- Columbia Plateau Province
- Basin and Range Province
- Pacific Province
- Alaska
- Hawai'i

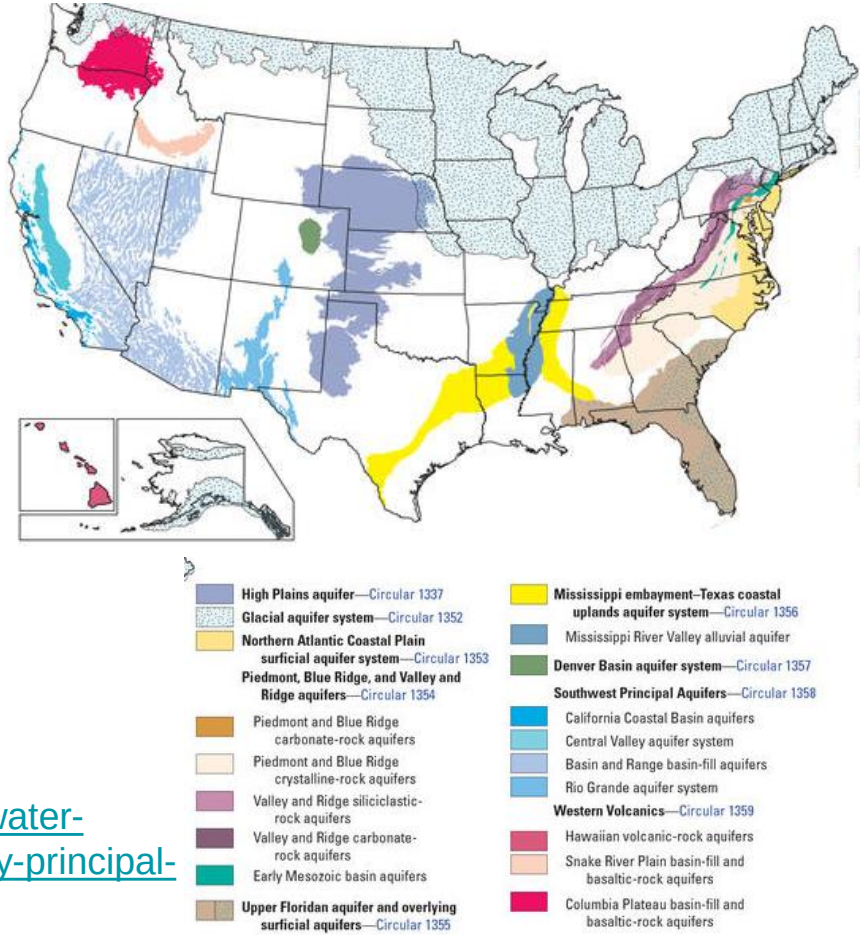




https://water.usgs.gov/ogw/aquifer/atlas.html

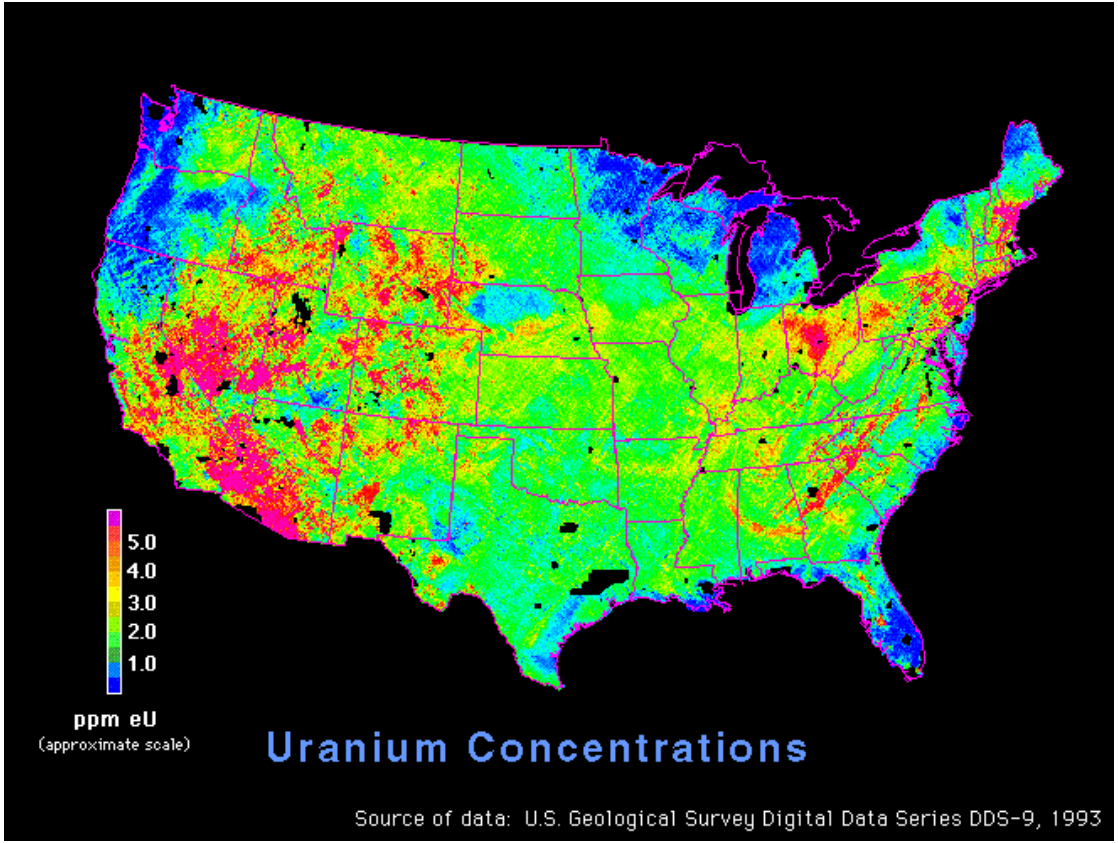




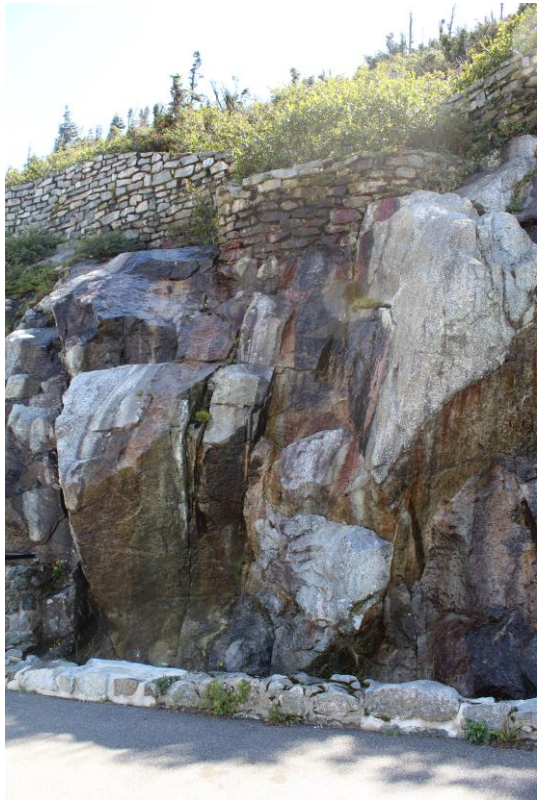


https://www.usgs.gov/mission-areas/water-resources/science/groundwater-quality-principal-aquifers-nation-1991-2010

Uranium-238 Concentrations across United States from NURE



Groundwater at Atmospheric Station



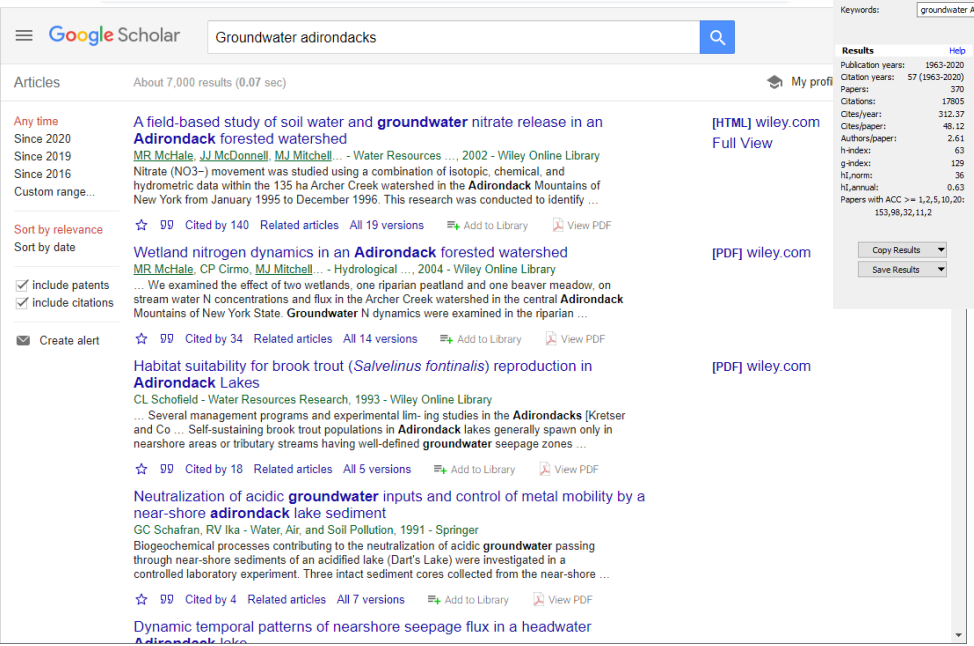
Atmospheric Sciences Research Center (ASRC), of the State University of New York at Albany, was established on February 16, 1961 by the Board of Trustees of the State University of New York, as a SUNY system-wide resource for developing and administering programs in basic and applied sciences related to the atmospheric environment.

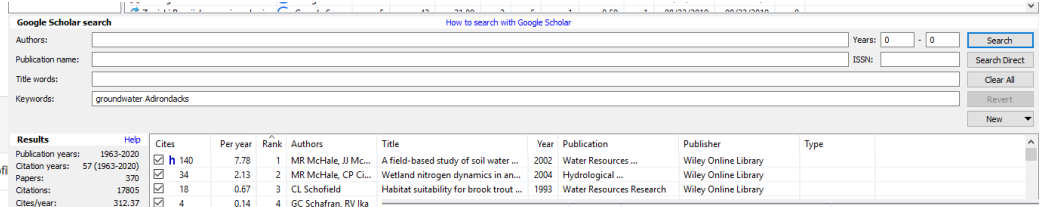
https://www.albany.edu/asrc/indexmain.php

5th Highest Mountain in New York State

Groundwater

https://scholar.google.com/scholar?hl=en&as_sdt=0%2C31&q=Groundwater+adirondacks&btnG=&oq=Groundwater+Adironda

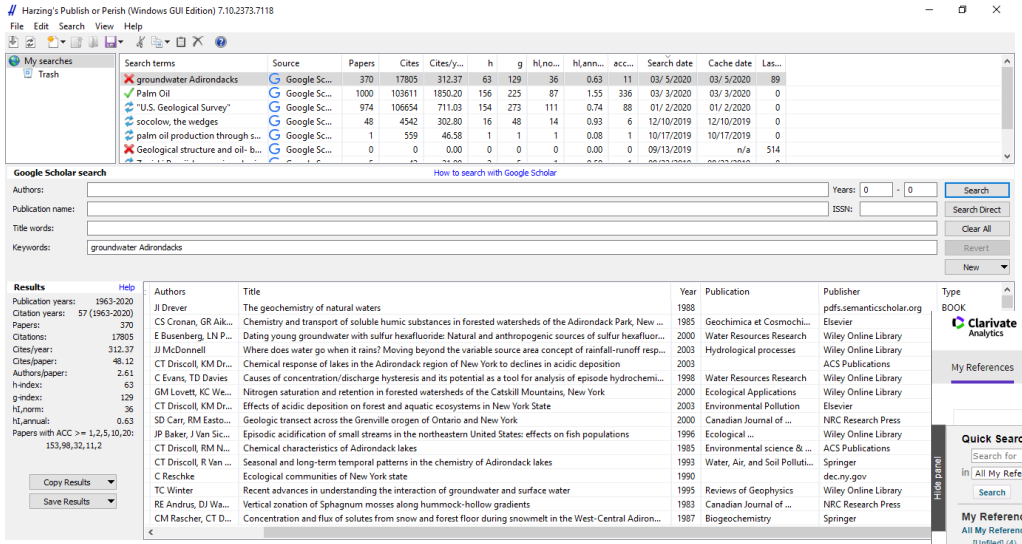


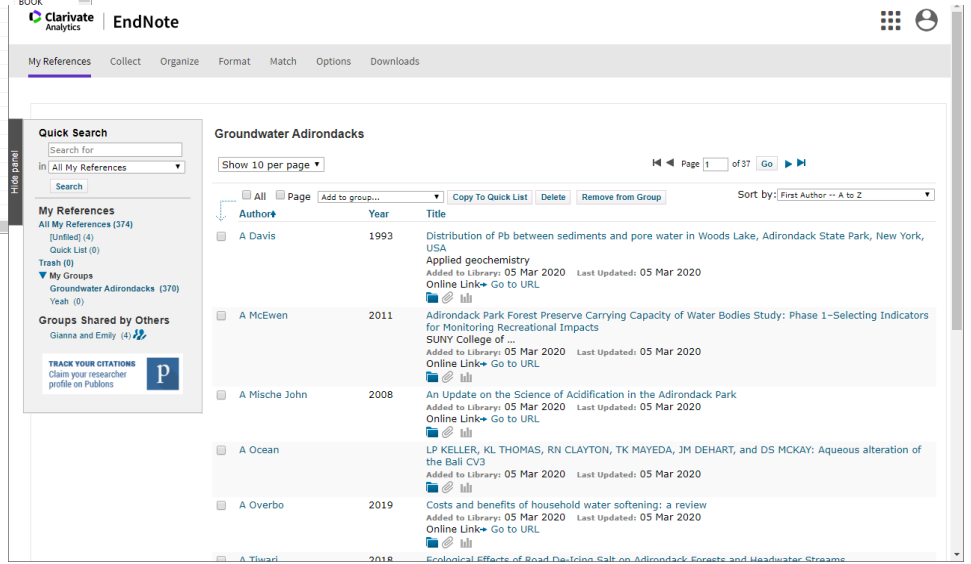


Title	Year	Publication	Publisher
The geochemistry of n...	1988		pdfs.semanticscholar.org
Chemistry and transpo...	1985	Geochimica et Cosmochi...	Elsevier
Dating young ground...	2000	Water Resources Research	Wiley Online Library
Where does water go ...	2003	Hydrological processes	Wiley Online Library
Chemical response of l...	2003		ACS Publications
Causes of concentrati...	1998	Water Resources Research	Wiley Online Library
Nitrogen saturation an...	2000	Ecological Applications	Wiley Online Library
Effects of acidic depos...	2003	Environmental Pollution	Elsevier
Geologic transect acro...	2000	Canadian Journal of ...	NRC Research Press
Episodic acidification ...	1996	Ecological ...	Wiley Online Library
Chemical characteristi...	1985	Environmental science & ...	ACS Publications
Seasonal and long-ter...	1993	Water, Air, and Soil Polluti...	Springer
Ecological communiti...	1990		dec.ny.gov
Recent advances in un...	1995	Reviews of Geophysics	Wiley Online Library
Vertical zonation of Sp...	1983	Canadian Journal of ...	NRC Research Press
Concentration and flu...	1987	Biogeochemistry	Springer
Contrasts between ma...	1998	Limnology and Oceanogr...	Wiley Online Library
Export mechanisms fo...	2004	Hydrological ...	Wiley Online Library
Interspecific competiti...	1984	Nature	nature.com
Episodic acidification ...	1996	Ecological ...	Wiley Online Library
The microbial diversity...	2006	Current opinion in biotec...	Elsevier
A field-based study of ...	2002	Water Resources ...	Wiley Online Library
The challenge of acid r...	1988	Scientific American	JSTOR
A spatially explicit wat...	2004	Ecological ...	Wiley Online Library

MyEndNoteWeb

https://access.clarivate.com/login?app=endnote



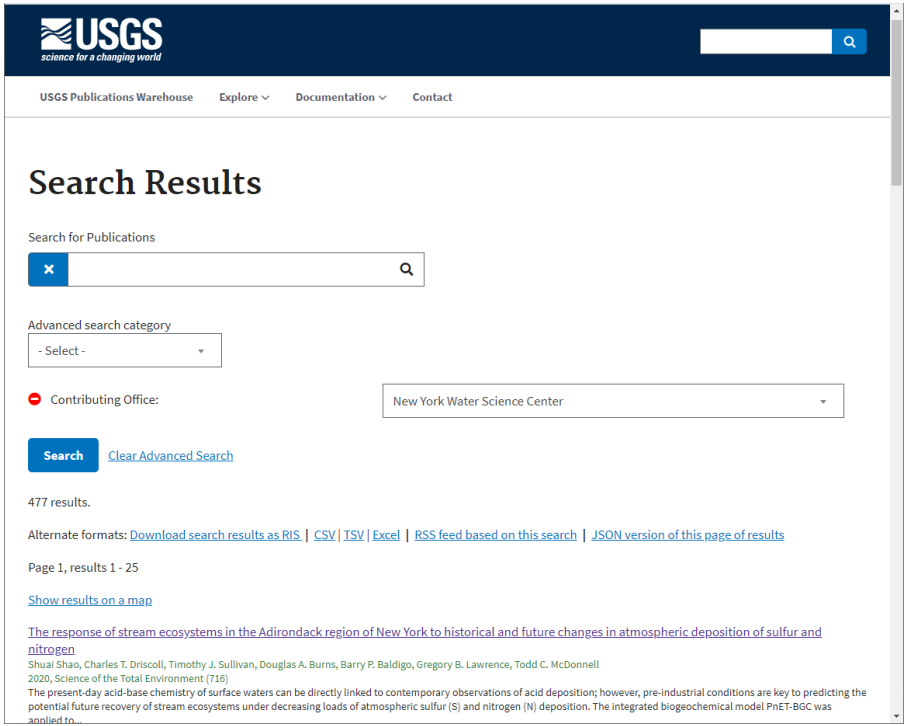


Find Researchers, Universities, State Agencies, and NGOs

Where do they publish?

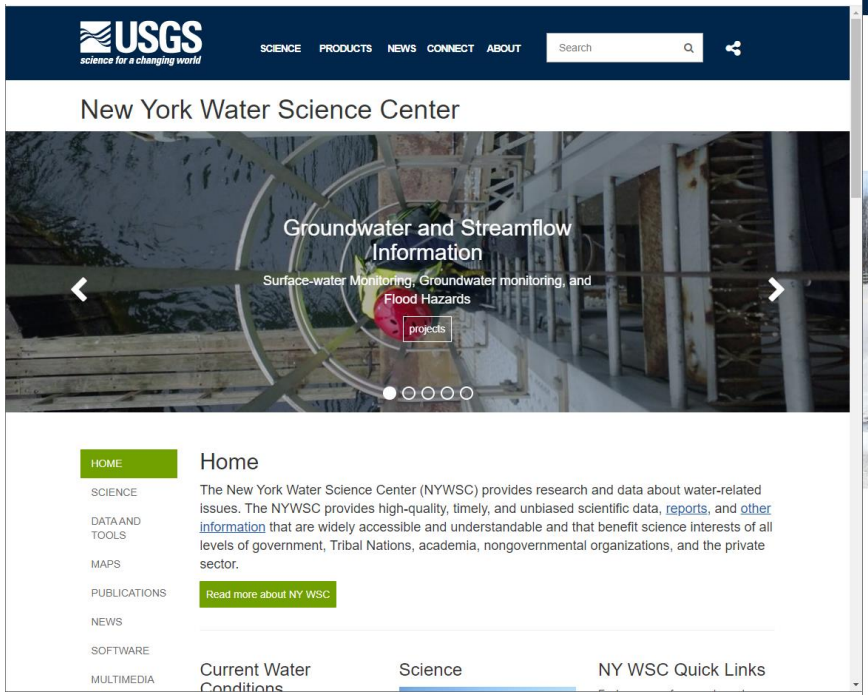
Groundwater ADKs

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

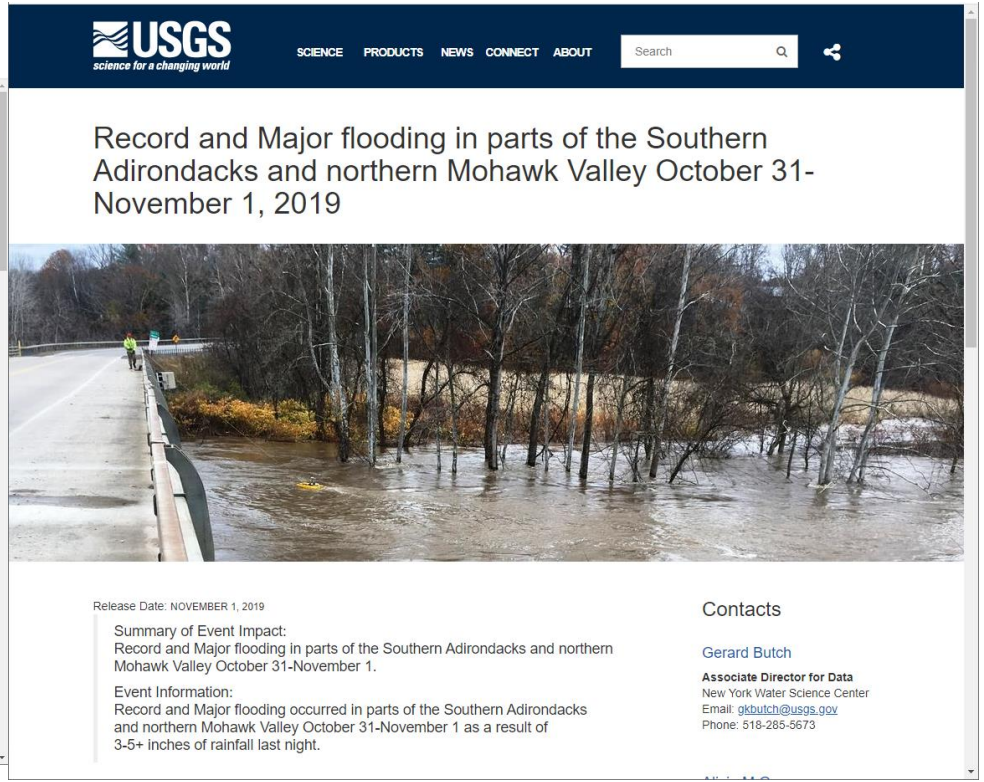


https://pubs.er.usgs.gov/search?q=&contributingOffice=New+York+Water+Science+Center

New York Water

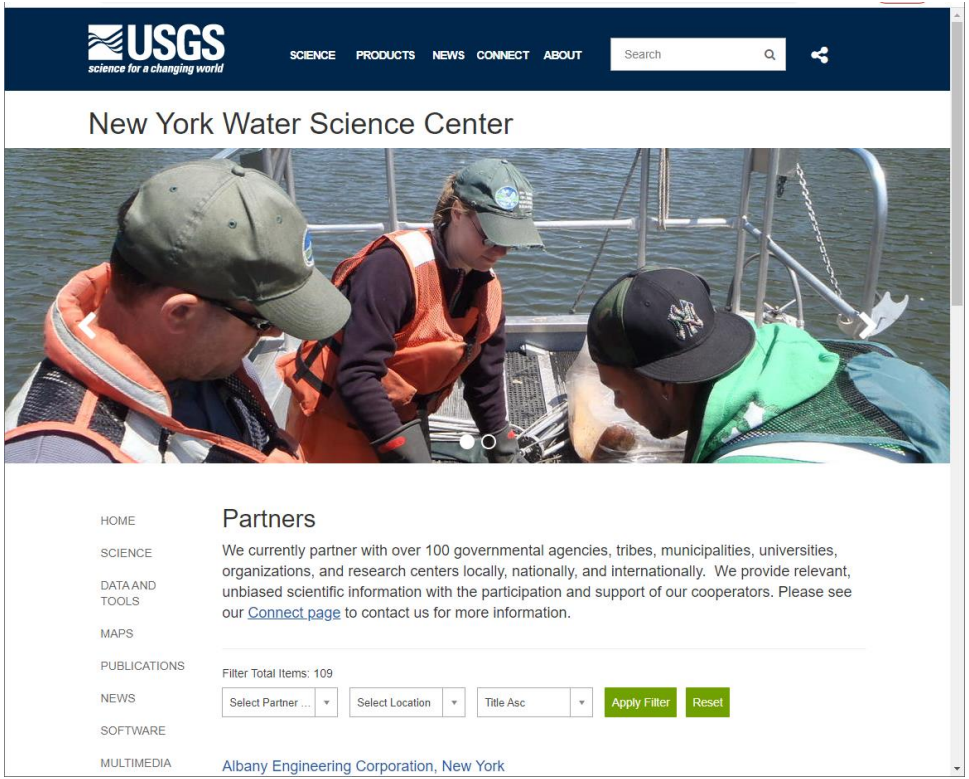


https://www.usgs.gov/centers/ny-water



https://www.usgs.gov/center-news/record-and-major-flooding-parts-southern-adirondacks-and-northern-mohawk-valley-october

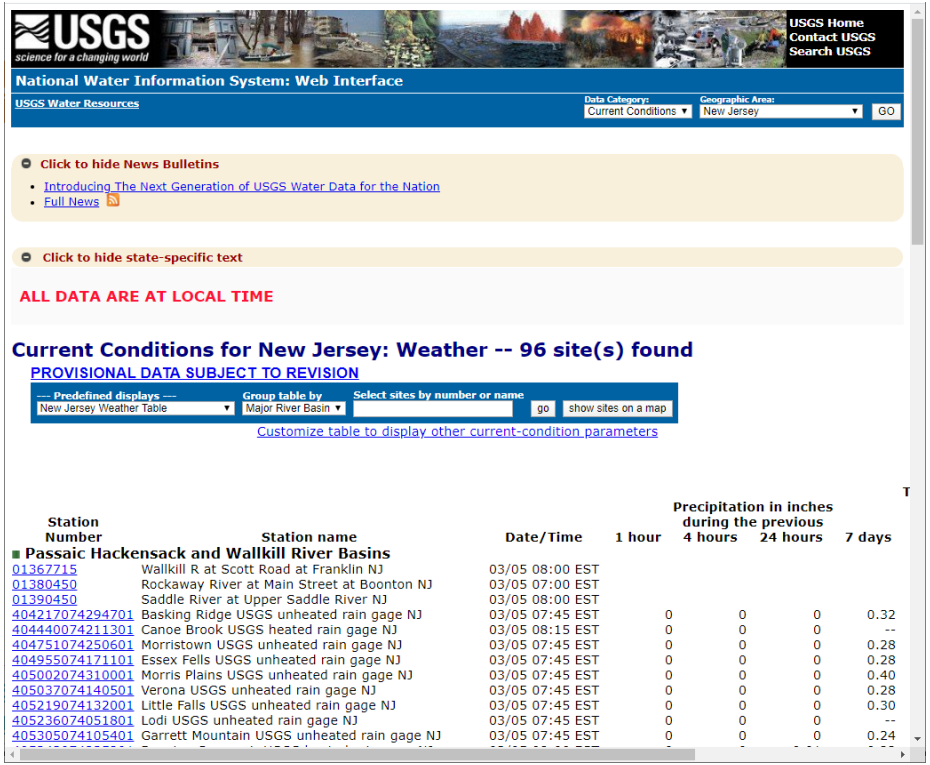
Partnerships



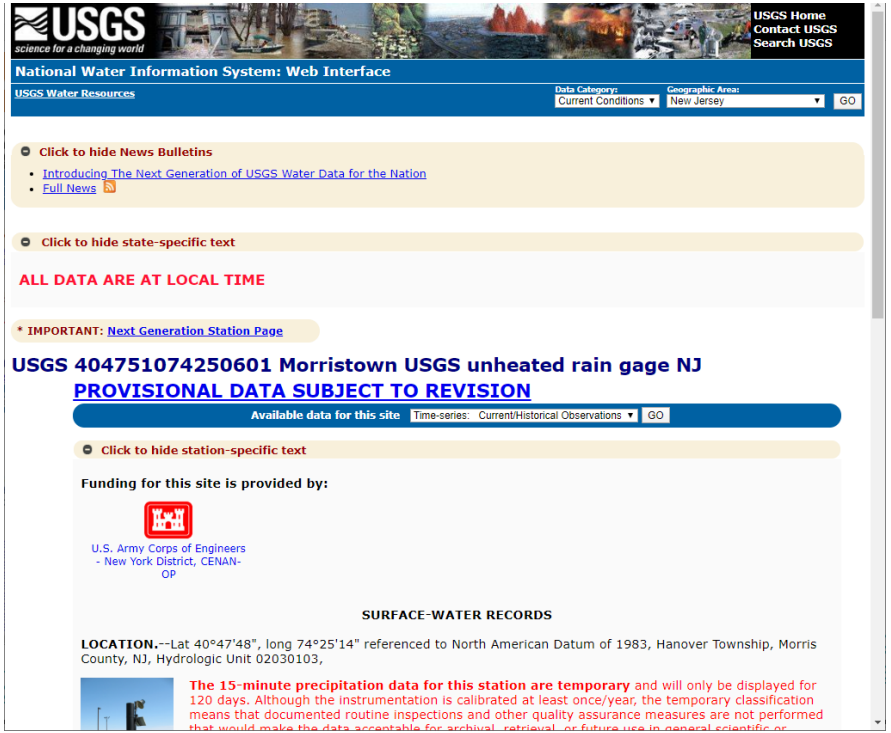
Albany Engineering Corporation, New York
Albany Water Board, New York
Bronx Council for Environmental Quality
Bronx River Alliance
Brookfield Renewable Energy Partners
Brookfield Renewable Power Company
Cayuga County Department of Planning and Economic Development
Center for Coastal Studies
Central Pine Barrens Joint Planning & Policy Commission
Chautauqua County, New York
City of Auburn, New York
City of Ithaca, Dept. of Public Works
City University of New York Queens College
Cornell Cooperative Extension
Cornell University
Delaware County Department of Public Works
Delaware River Basin Commission
Eagle Creek Renewable Energy
Federal Emergency Management Agency (FEMA)
Federal Emergency Management Agency (FEMA), Region 2
Fire Island National Seashore
Friends of Georgica Pond Foundation
Great Lakes Restoration Initiative (GLRI)

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
Open-File Report 84-725 **By:** Barbara J. Ryan https://pubs.er.usgs.gov/publication/ofr84725

Low-level radioactive ground-water contamination from a cold scrap recovery operation, Wood River Junction, Rhode Island Open-File Report 84-66 **By:** B.J. Ryan and K.L. Kipp
https://pubs.er.usgs.gov/publication/ofr8466

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.”

2013- BACK TO THE FUTURE: URANIUM INFORMATION AT THE USGS DENVER LIBRARY
https://gsa.confex.com/gsa/2013AM/webprogram/Paper225430.html

2013- THE PAST IS THE KEY TO THE FUTURE: URANIUM RESEARCH AT THE USGS DENVER LIBRARY
https://gsa.confex.com/gsa/2013AM/webprogram/Paper222073.html

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

2011 - Review and Interpretation of Previous Work and New Data on the Hydrogeology of the Schwartzwalder Uranium Mine and Vicinity, Jefferson County, Colorado
https://pubs.usgs.gov/of/2011/1092/

Hartwick College Geology Department

1992-1995: Working for the Geology Department
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

Jan 1996 – July 2018 = U.S. Geological Survey

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

April 5, 1987

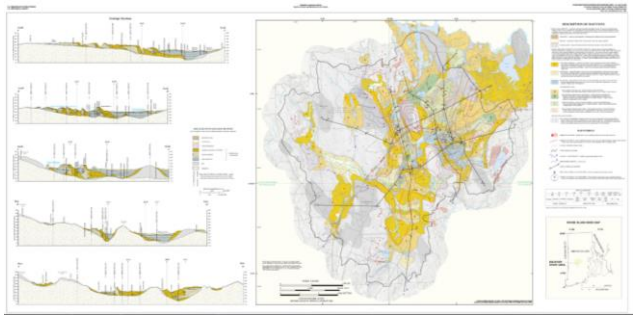
1998-2008: Hydrologist

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

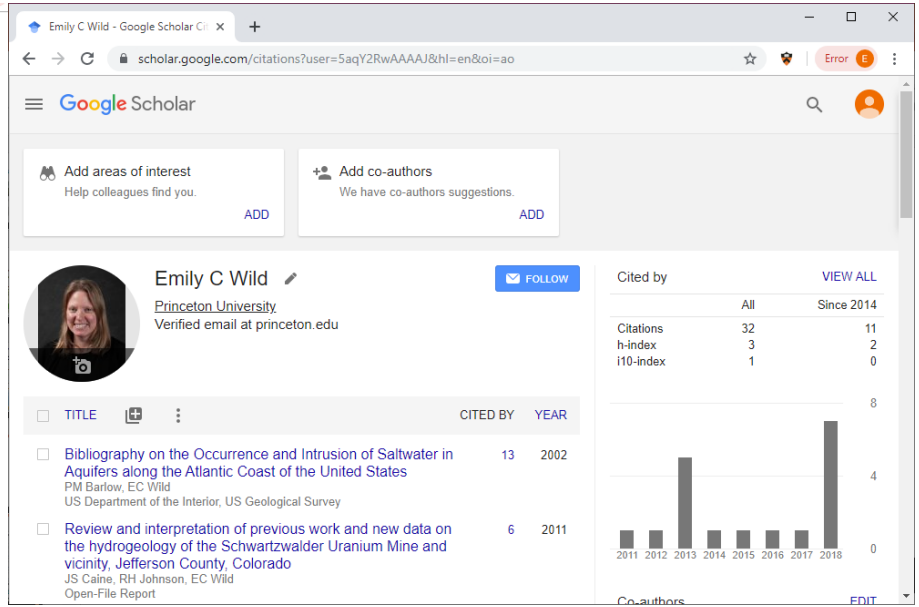
My Bibliography = Over 70 Citations - I know what I published :)

On-line access to geoscience bibliographic citations
Emily C. Wild
2012, EXPLORE: 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 Schwartzwalder Uranium Mine and vicinity, Jefferson County, Colorado
Jonathan S. Caine, Raymond H. Johnson, Emily C. Wild
2011, Open-File Report 2011-1092
The Schwartzwalder deposit is the largest known vein type uranium deposit in the United States. Located about eight miles northwest of Golden, Colorado it occurs in Proterozoic 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
2007, Scientific Investigations Report 2007-5168
Water availability became a concern in Rhode Island during a drought in 1999, 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. Nimiroski
2007, Scientific Investigations Report 2006-5154
Water availability became a concern in Rhode Island during a drought in 1999, and an investigation was needed to assess demands on the hydrologic system from withdrawals during periods of little to no precipitation. The low water levels during the drought prompted the U.S. Geological Survey and the Rhode Island...



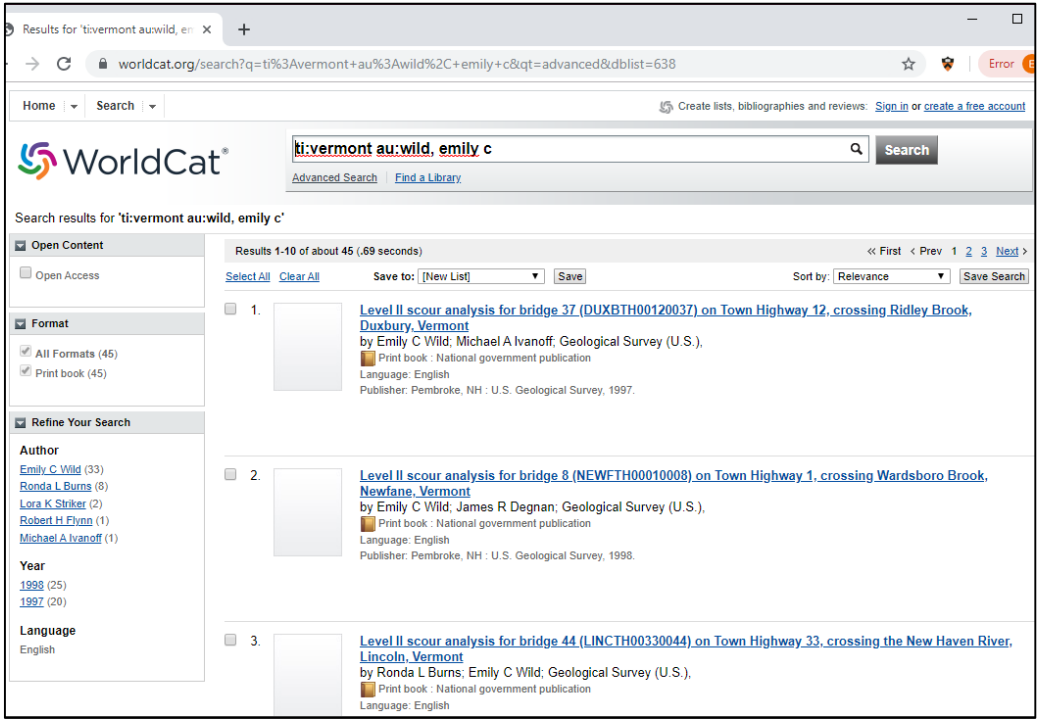
Emily's search:
https://pubs.er.usgs.gov/search?q=%22emily+c+wild%22

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



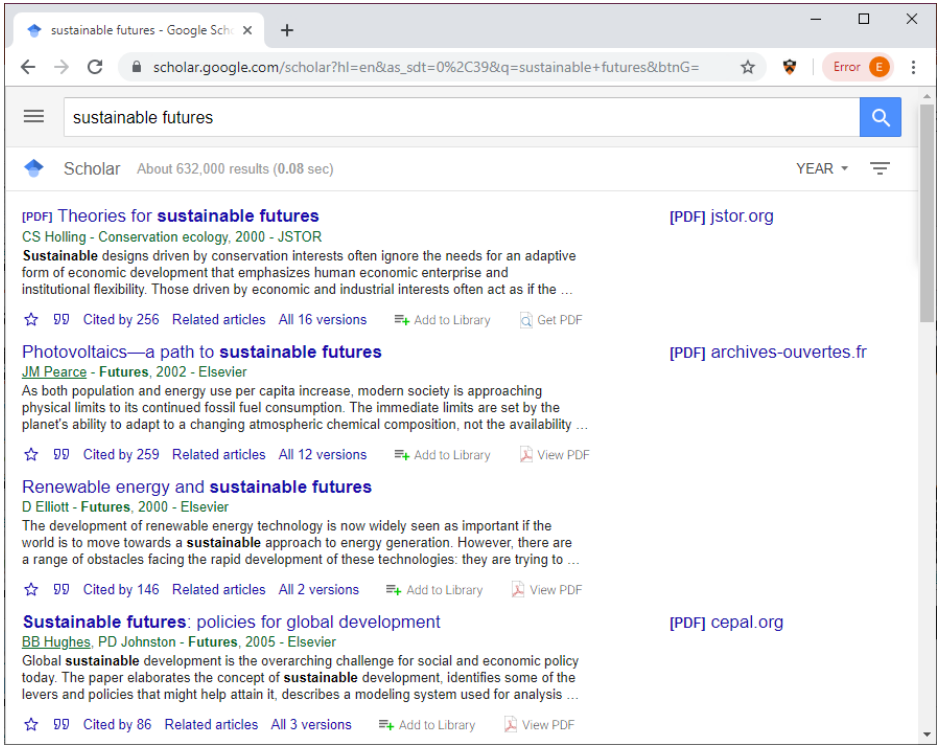
Vermont Bridge Scour:
https://pubs.er.usgs.gov/search?q=vermont+bridge+scour+emily

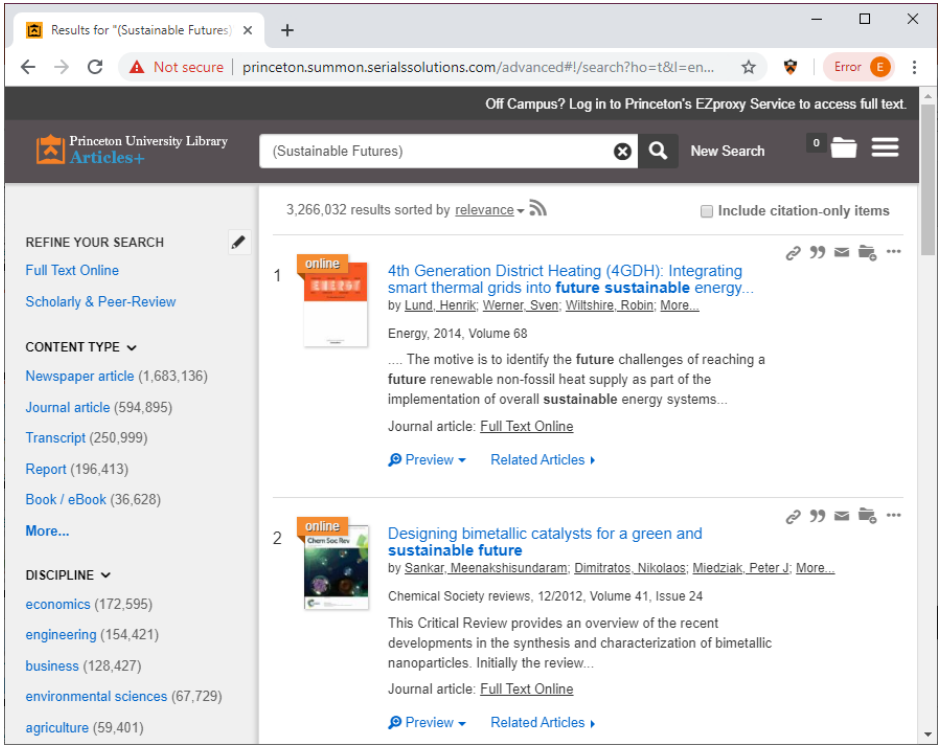
54 Published Reports (WSPRO models)

https://www.worldcat.org/search?q=ti%3Avermont+au%3Awild%2C+emily+c&qt=advanced&dblist=638

Only 45 are indexed in library catalogs

Google Scholar & Articles+





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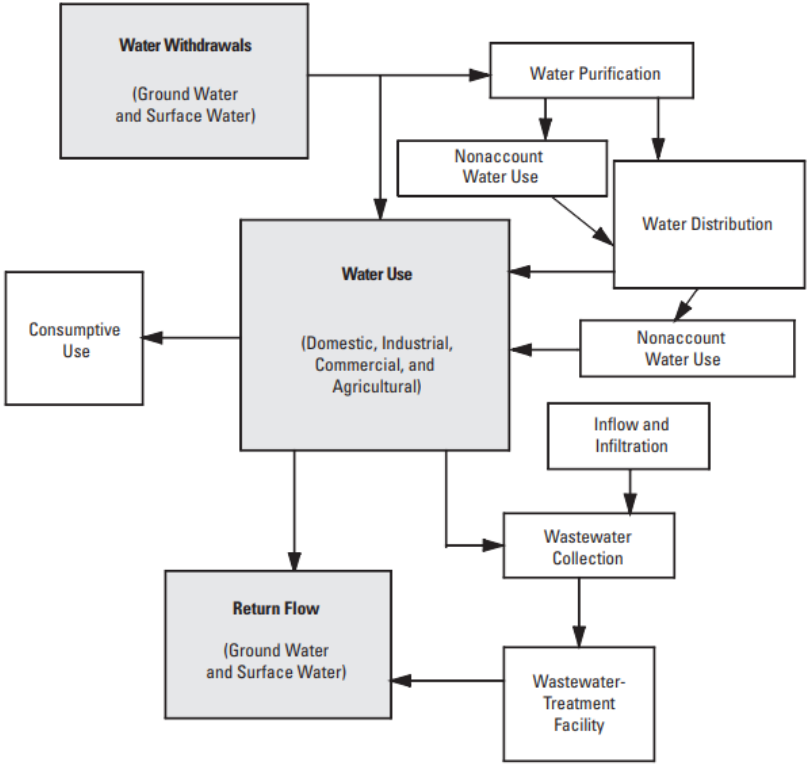
http://princeton.summon.serialssolutions.com/advanced#!/search?ho=t&l=en&q=(Sustainable%20Futures)

Water Quantity & Quality



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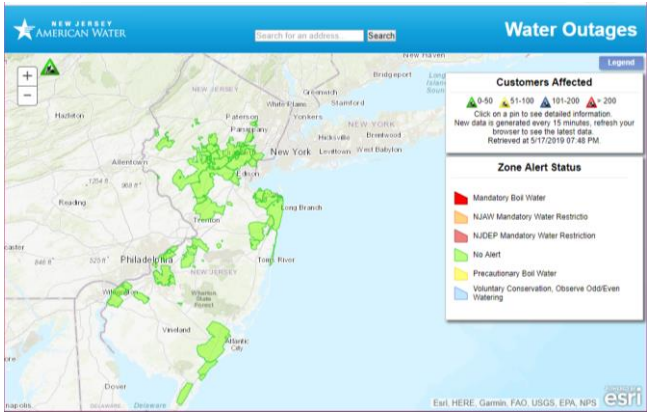
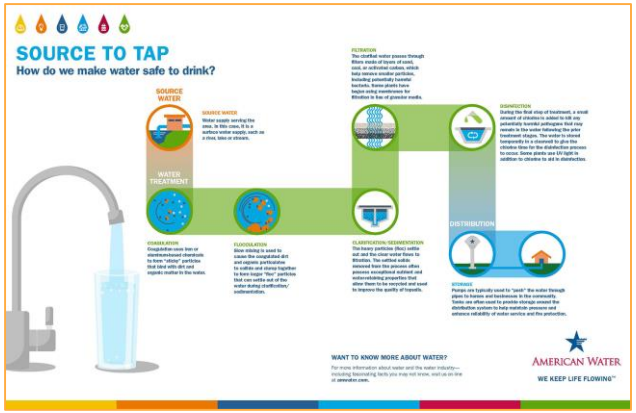
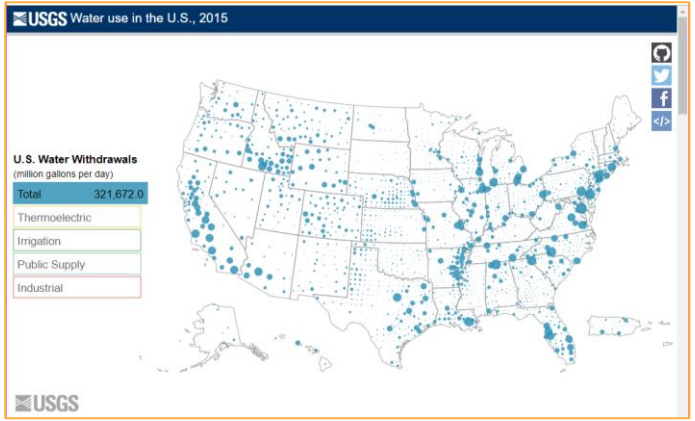


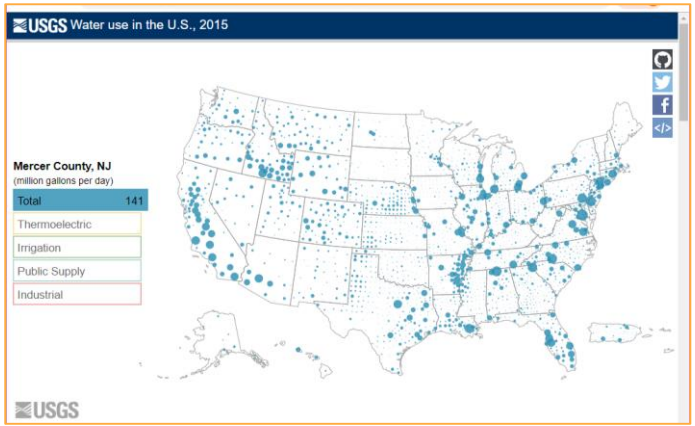
https://wateroutages.amwater.com/



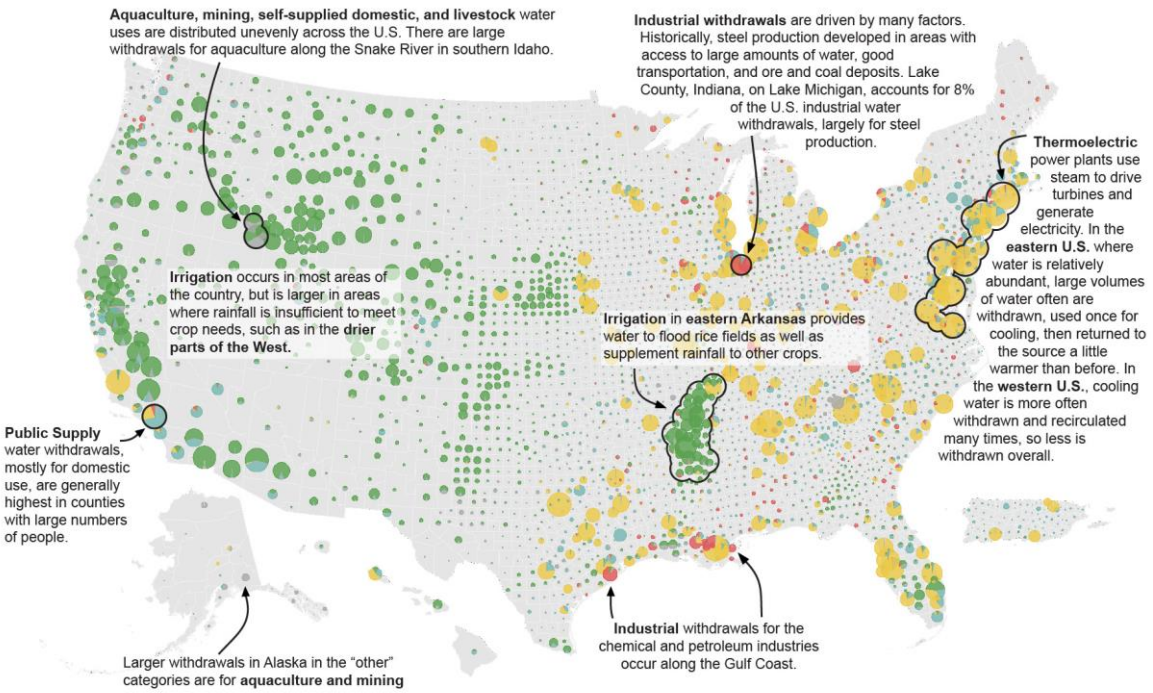
https://amwater.com/njaw/water-quality/water-treatment

Water Use in the United States, 2015





https://www.usgs.gov/mission-areas/water-resources/science/water-use-united-states?qt-science_center_objects=0#qt-science_center_objects

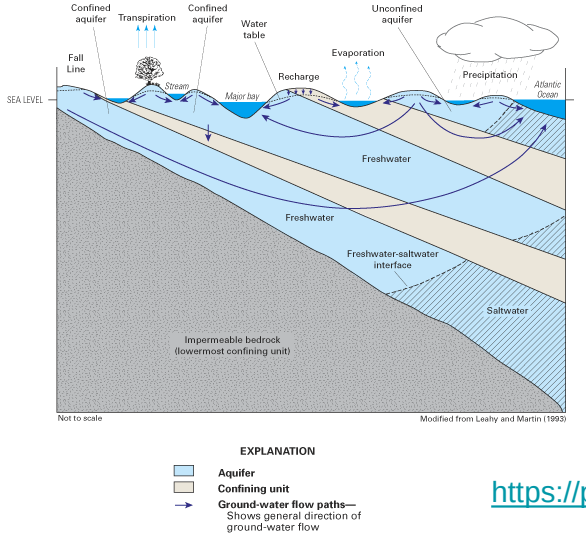


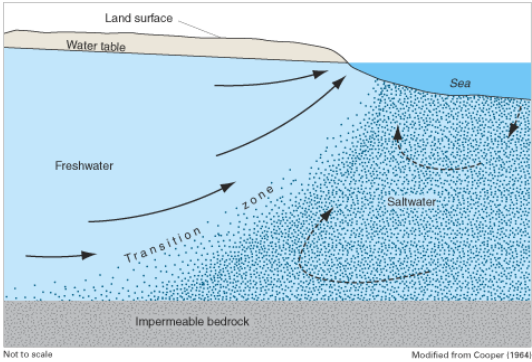
Water Quanity & Quality

USGS
science for a changing world

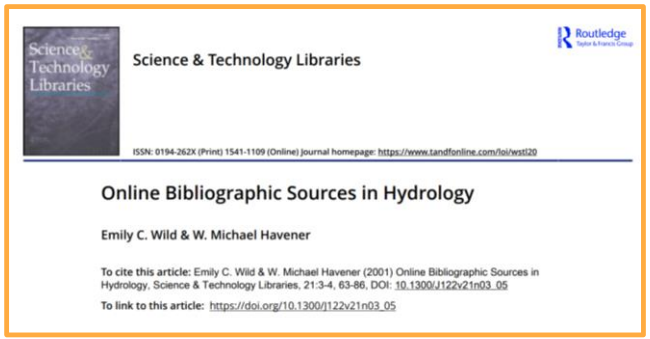
Bibliography on the Occurrence and Intrusion of Saltwater in Aquifers along the Atlantic Coast of the United States

https://pubs.usgs.gov/of/2002/ofr02235/

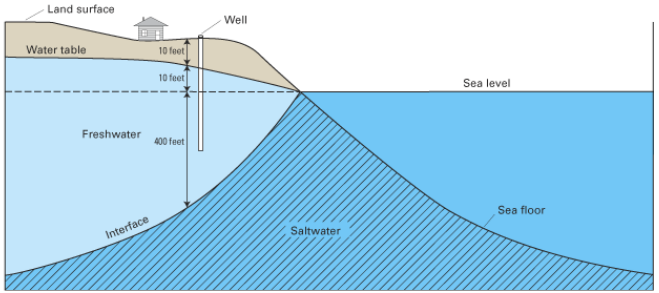


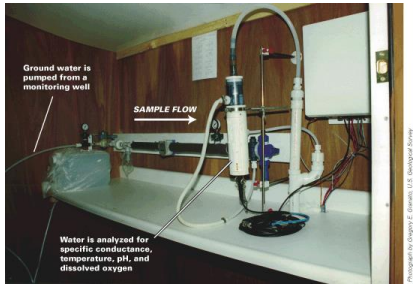


https://pubs.usgs.gov/circ/2003/circ1262/



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

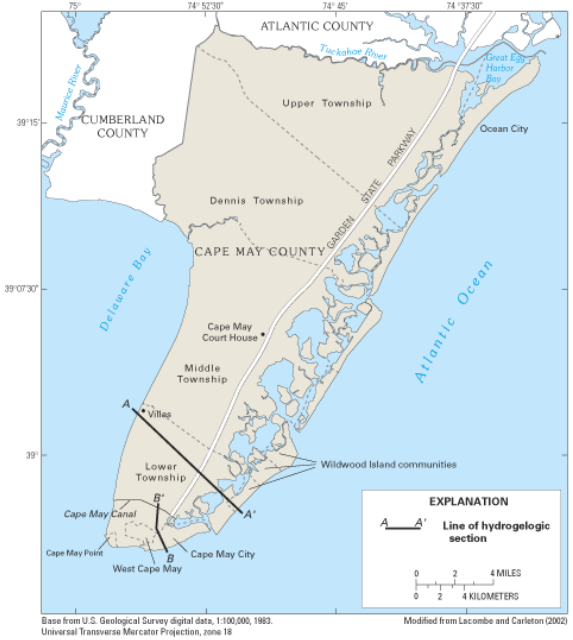


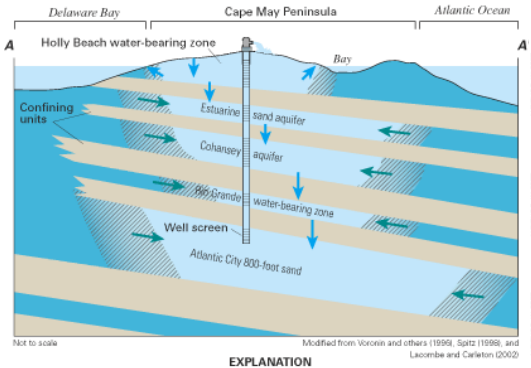


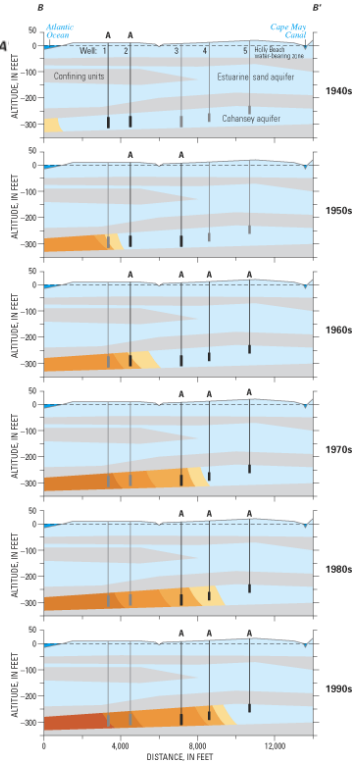
Robowell

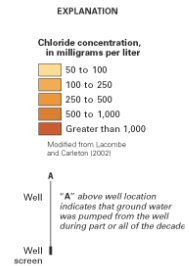
Ground Water in Freshwater-Saltwater Environments of the Atlantic Coast

Development of a Desalination System in Response to Saltwater Intrusion, Cape May City, New Jersey



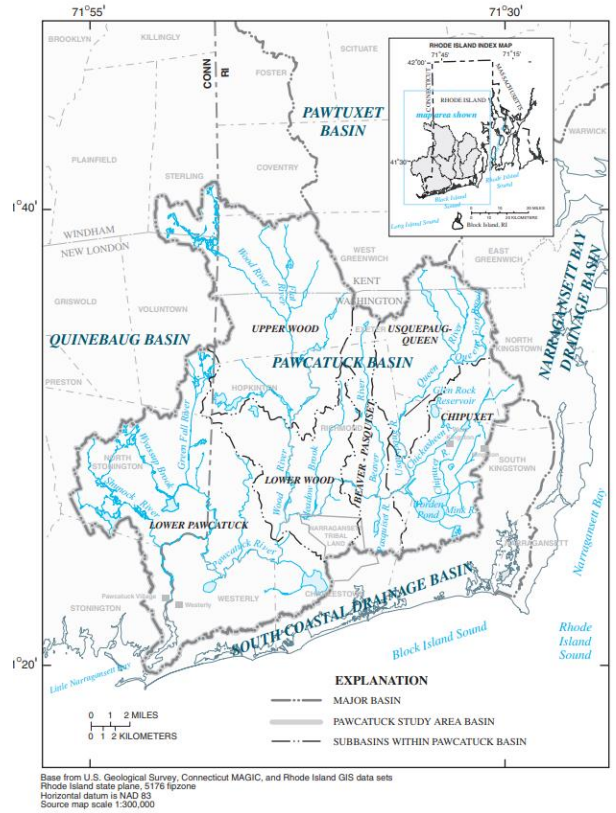




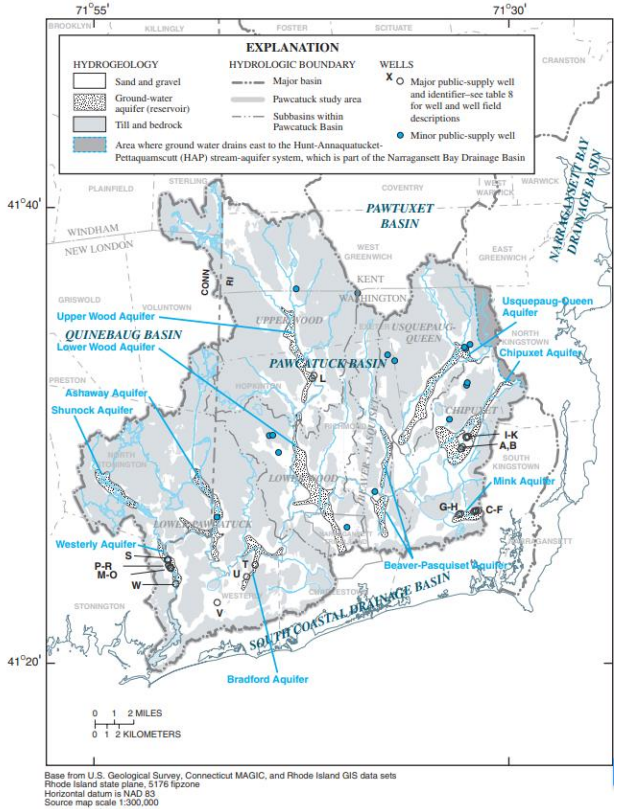


State of Rhode Island and Providence Plantations

https://pubs.usgs.gov/sir/2004/5020/



Base from U.S. Geological Survey, Connecticut MAGIC, and Rhode Island GIS data sets
Rhode Island state plane, 5176 fipzone
Horizontal datum is NAD 83
Source map scale 1:300,000



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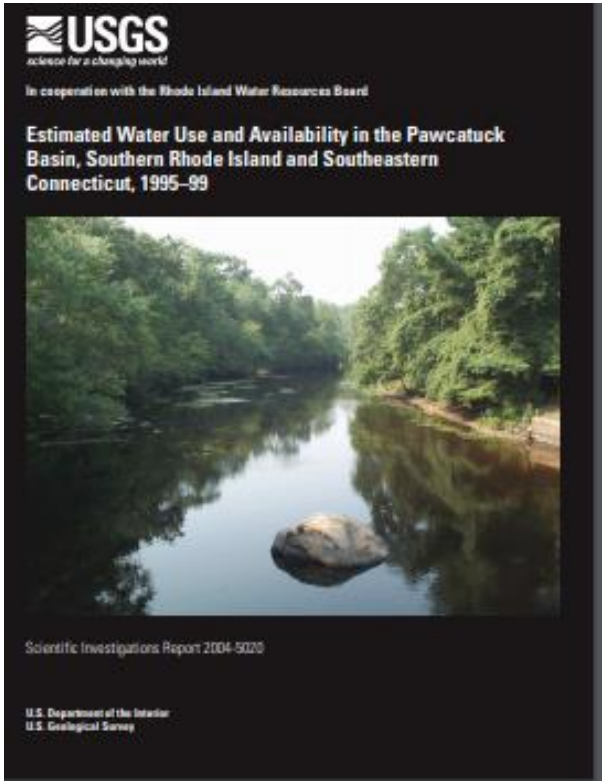


Water Use and Availability in Rhode Island

Wild, E.C., 2007, Estimated water use and availability in the East Narragansett Bay study area: U.S. Geological Survey Scientific Investigations Report 2007–5168, 51 p.
http://pubs.usgs.gov/sir/2007/5168/

Wild, E.C., and Nimiroski, M.T., 2007, Estimated water use and availability in the Pawtuxet and Quinebaug River Basins, Rhode Island, 1995–99: U.S. Geological Survey Scientific Investigations Report 2006–5154, 68 p.
http://pubs.usgs.gov/sir/2006/5154/

Wild, E.C., and Nimiroski, M.T., 2005, Estimated water use and availability in the South Coastal Drainage Basin, Southern Rhode Island, 1995-99: U.S. Geological Survey Scientific Investigations Report 2004-5288, 46 p.
https://pubs.usgs.gov/sir/2004/5288/

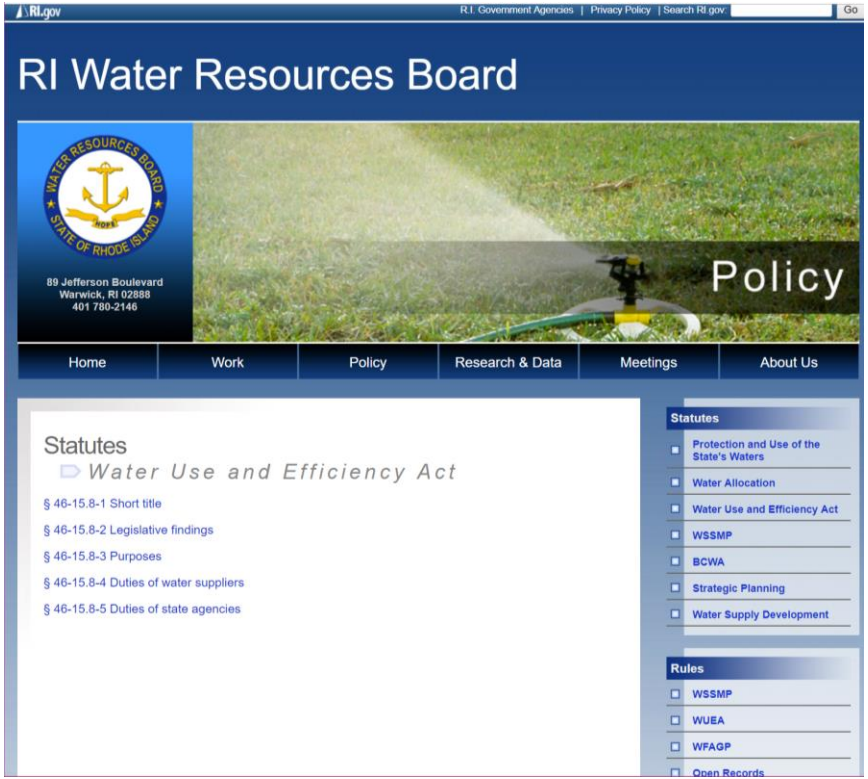
Wild, E.C., and Nimiroski, M.T., 2004, Estimated water use and availability in the Pawcatuck Basin, southern Rhode Island and southeastern Connecticut, 1995–99: U.S. Geological Survey Scientific Investigations Report 2004-5020, 80 p.
http://pubs.usgs.gov/sir/2004/5020/

Nimiroski, M.T., and Wild, E.C. Water use and availability in the West Narragansett Bay Area, coastal Rhode Island 1995-99: Scientific Investigations Report 2005-5256, 54 p. https://pubs.usgs.gov/sir/2005/5256/

Nimiroski, M.T., and Wild, E.C., 2005, Water use and availability in the Woonasquatucket and Moshassuck River Basins, north-central Rhode Island: U.S. Geological Survey Scientific Investigations Report 2005-5031, 44 p.
https://pubs.usgs.gov/sir/2005/5031/

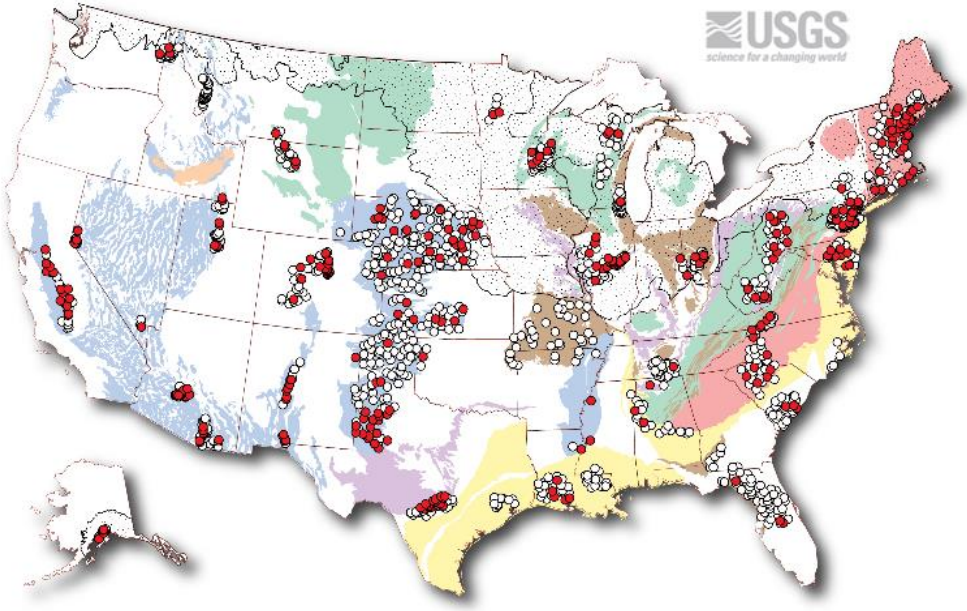
https://www.usgs.gov/staff-profiles/emily-wild

"The Emily Law"



http://webserver.rilin.state.ri.us/Statutes/TITLE46/46-15.8/INDEX.HTM

Domestic (Private) Well Water Quality



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

Water Quality of Domestic Wells: (1991-2004)

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.**

New Jersey Water: PFAS

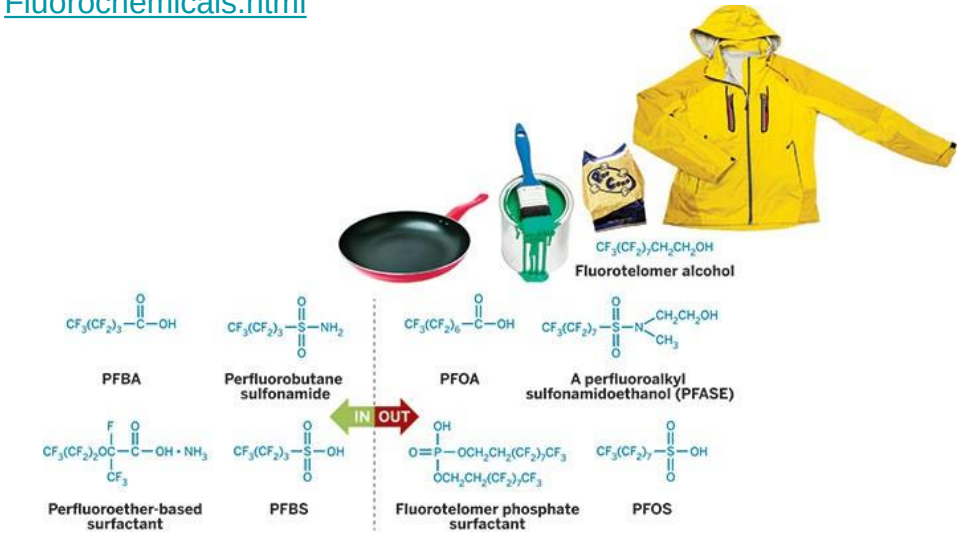
New Jersey sues DuPont, 3M over toxic firefighting foam
https://www.nj.gov/oag/newsreleases19/AFFF_Complaint.pdf
May 14, 2019

NRDC Advises Tougher Standards for PFAS in NJ Drinking Water, May 15, 2019
https://www.nrdc.org/experts/kimberly-ong/nrdc-advises-tougher-standards-pfas-nj-drinking-water

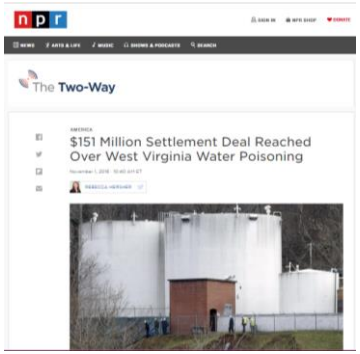
USGS : Per- and Polyfluoroalkyl Substances (PFASs) detected in Source Waters and Treated Public Water Supplies
https://www.usgs.gov/mission-areas/environmental-health/science/and-polyfluoroalkyl-substances-pfass-detected-source?qt-science_center_objects=0#qt-science_center_objects

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

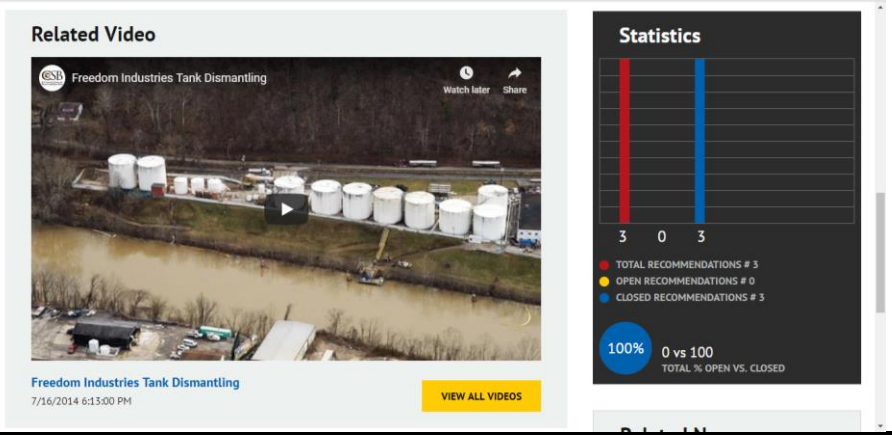
The Shrinking Case For Fluorochemicals
As the long-alkyl-chain fluorocarbons found in many household products are replaced with short-chain ones, debate over safety continues https://cen.acs.org/articles/93/i28/Shrinking-Case-Fluorochemicals.html

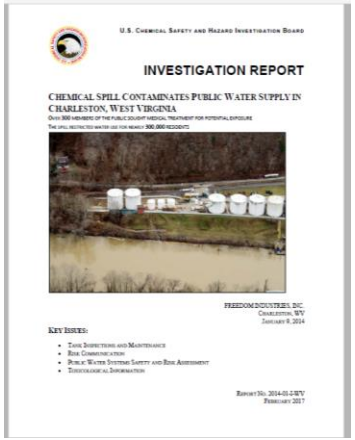


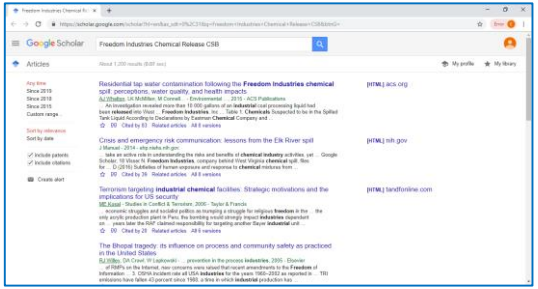
Water Quality Investigation



Accident Description
Accident: Freedom Industries Chemical Release
Location: 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-/



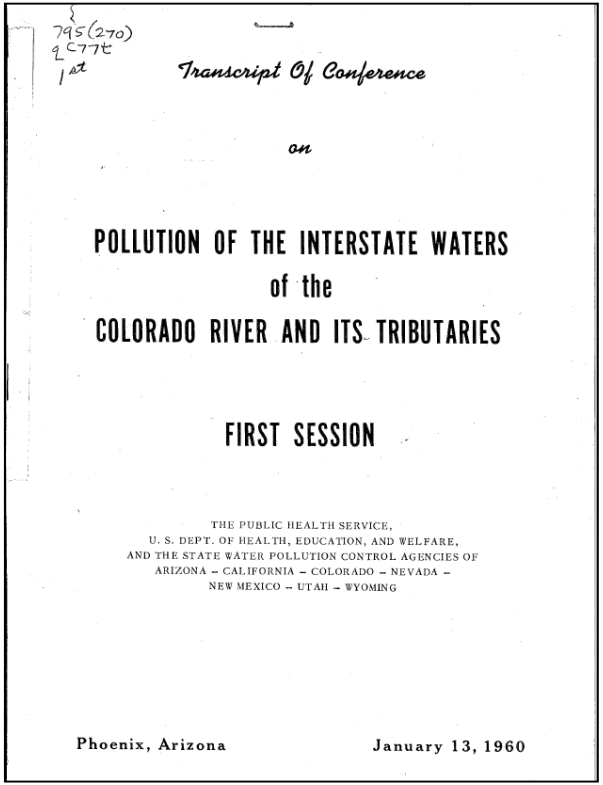




Colorado River: Animas River

Pollution of Interstate Waters Reports

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



795(270)
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Transcript Of Conference

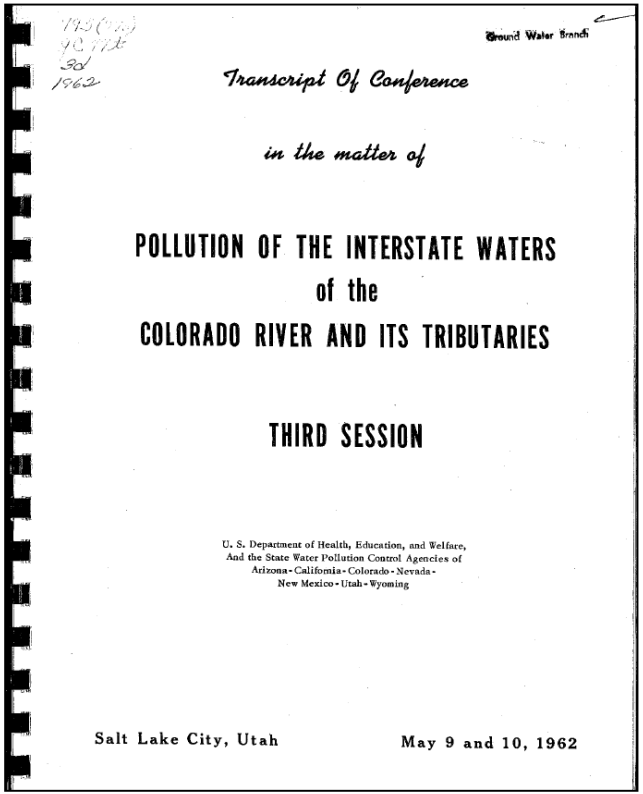
on

POLLUTION OF THE INTERSTATE WATERS
of the
COLORADO RIVER AND ITS TRIBUTARIES

FIRST SESSION

THE PUBLIC HEALTH SERVICE,
U. S. DEPT. OF HEALTH, EDUCATION, AND WELFARE,
AND THE STATE WATER POLLUTION CONTROL AGENCIES OF
ARIZONA – CALIFORNIA – COLORADO – NEVADA –
NEW MEXICO – UTAH – WYOMING

Phoenix, Arizona January 13, 1960



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1962

Ground Water Branch

Transcript Of Conference

in the matter of

POLLUTION OF THE INTERSTATE WATERS
of the
COLORADO RIVER AND ITS TRIBUTARIES

THIRD SESSION

U. S. Department of Health, Education, and Welfare,
And the State Water Pollution Control Agencies of
Arizona - California - Colorado - Nevada -
New Mexico - Utah - Wyoming

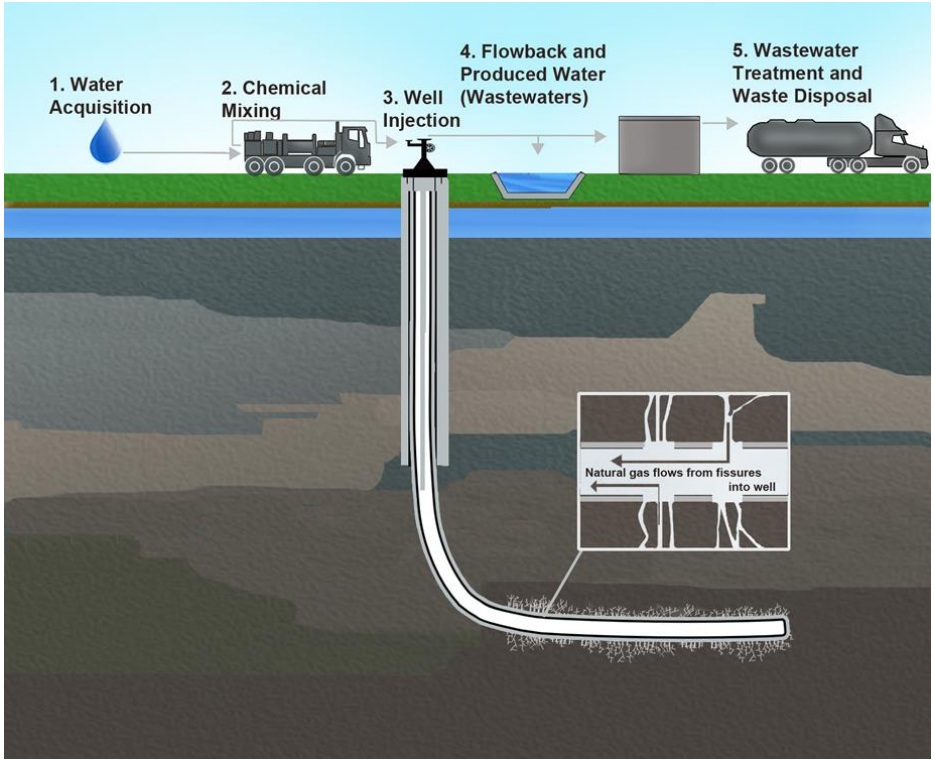
Salt Lake City, Utah May 9 and 10, 1962

Reports include Raw & Calculated USGS data

These are the Pre-EPA reports: EPA created on December 2, 1970
https://www.epa.gov/history

Water-Quality Topics: Hydraulic Fracturing

https://water.usgs.gov/owq/topics/hydraulic-fracturing/

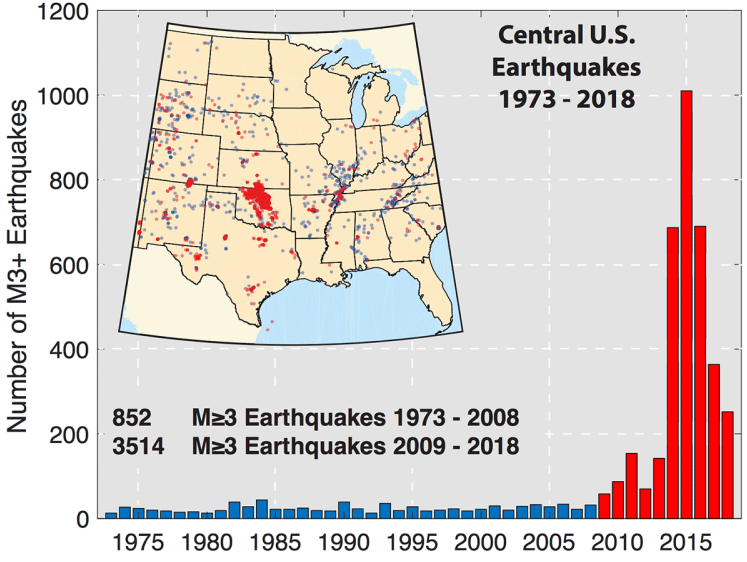


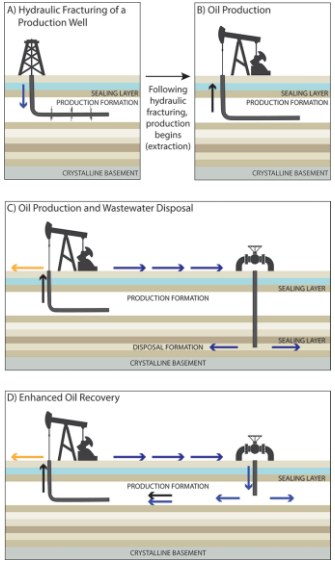
Hydraulic fracturing (informally known as hydrofracking, fracking, fracing, or hydrofracturing) is a process that typically involves injecting water, sand, and (or) chemicals under high pressure into a bedrock formation via a well. This process is intended to create new fractures in the rock as well as increase the size, extent, and connectivity of existing fractures.

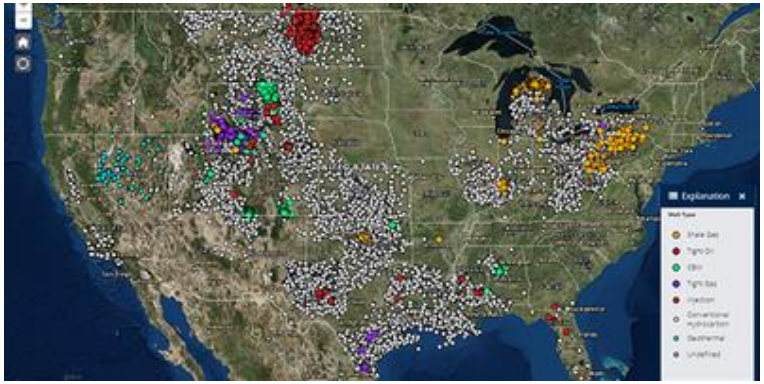
Hydraulic fracturing is a well-stimulation technique used commonly in low-permeability rocks like tight sandstone, shale, and some coal beds to increase oil and/or gas flow to a well from petroleum-bearing rock formations. A similar technique is used to create improved permeability in underground geothermal 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

Energy Program: Environmental Aspects







Produced Waters Database

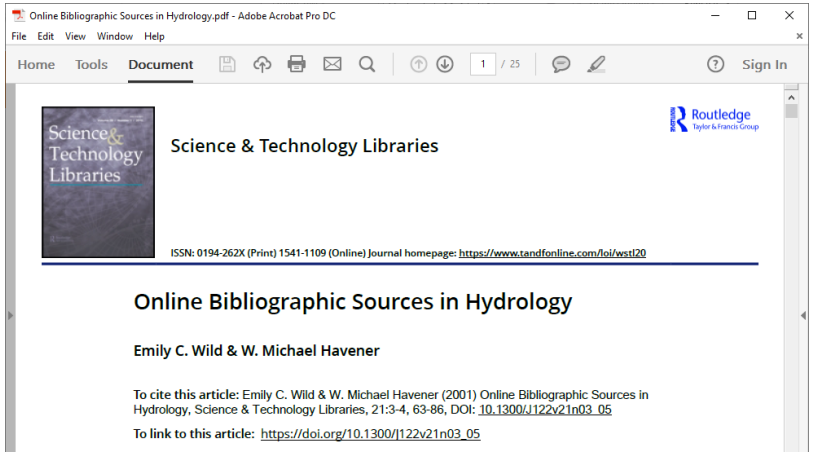
The primary objective of this project is to provide information on the volume, quality, impacts, and possible uses of water produced during generation and development of energy resources (particularly hydrocarbons) as well as related fluids injected into reservoirs for energy development and associated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

https://earthquake.usgs.gov/research/induced/overview.php

Water Resources – Hydrology

I hope to publish an update in 2020-2021

https://pubs.er.usgs.gov/publication/70023512


Online Bibliographic Sources in Hydrology.pdf - Adobe Acrobat Pro DC

File Edit View Window Help

Home Tools Document 1 / 25 Sign In

Science & Technology Libraries

ISSN: 0194-262X (Print) 1541-1109 (Online) Journal homepage: https://www.tandfonline.com/loi/wstl20

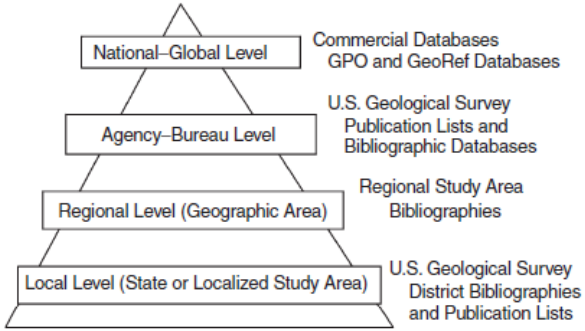
Online Bibliographic Sources in Hydrology

Emily C. Wild & W. Michael Havener

To cite this article: Emily C. Wild & W. Michael Havener (2001) Online Bibliographic Sources in Hydrology, Science & Technology Libraries, 21:3-4, 63-86, DOI: 10.1300/J122v21n03_05

To link to this article: https://doi.org/10.1300/J122v21n03_05

FIGURE 2. Indexing and Availability Trends of U.S. Geological Survey Publications in Hydrology



Abstract

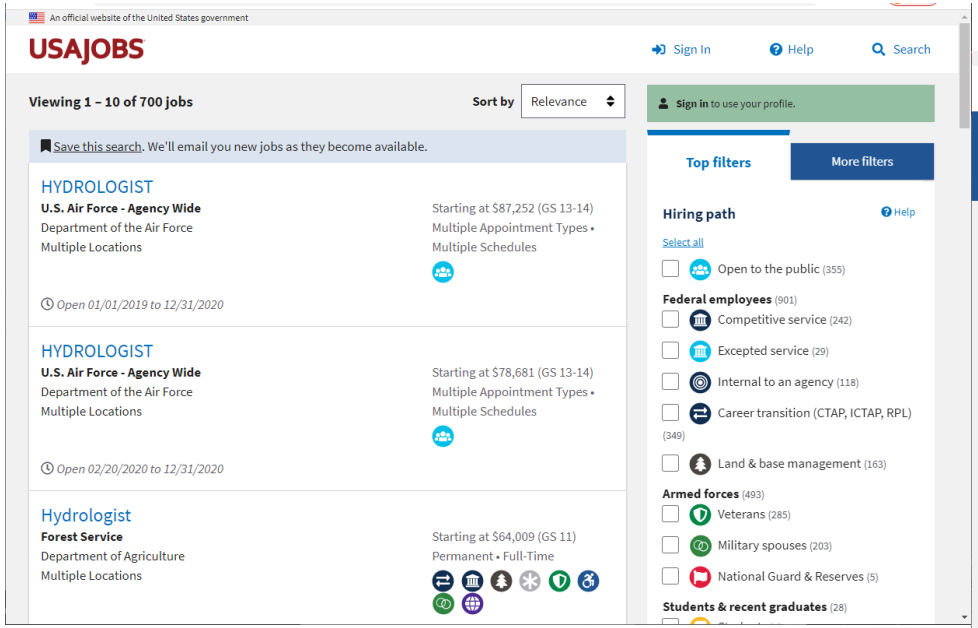
Traditional commercial bibliographic databases and indexes provide some access to hydrology materials produced by the government; however, these sources do not provide comprehensive coverage of relevant hydrologic publications. This paper discusses bibliographic information available from the federal 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.

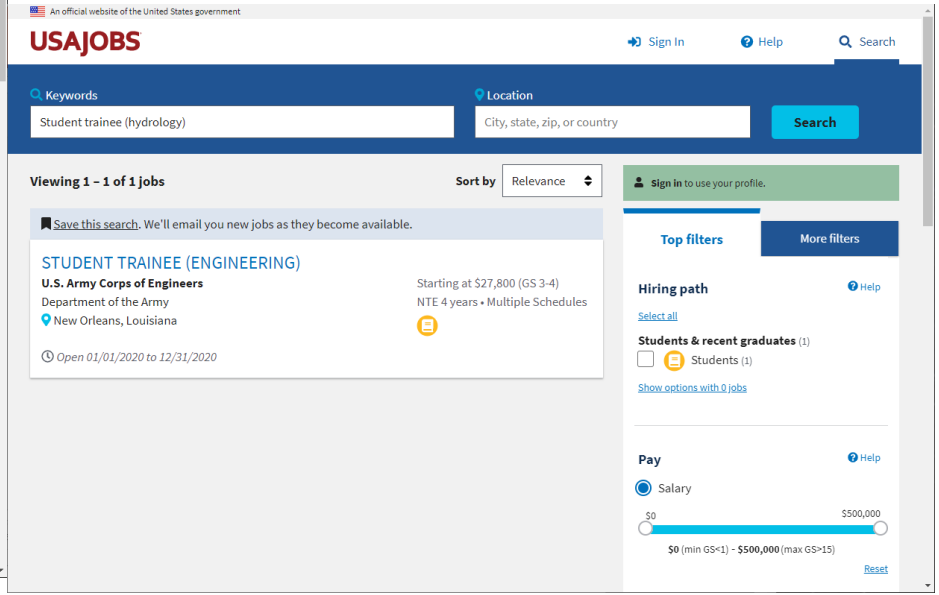
Water Resources – Hydrology Jobs

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

https://www.opm.gov/policy-data-oversight/classification-qualifications/classifying-general-schedule-positions/

https://www.opm.gov/policy-data-oversight/classification-qualifications/classifying-general-schedule-positions/#url=1300





Ex. me = Hydrologist-GS-1315-11

https://www.opm.gov/policy-data-oversight/pay-leave/salaries-wages/2020/general-schedule/

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

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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/