USGS
science for a changing world

U.S. Geological Survey (USGS) Library: Indexes, Catalogs, and Other Bibliographic Tools
A Day in the Life of a Reference Librarian

Presented by Emily C. Wild, Librarian (Physical Scientist)
U.S. Geological Survey, Denver Library
GPO FDLP , Federal Agency Webinars
September 19, 2017

U.S. Department of the Interior
U.S. Geological Survey

http://www.usgs.gov

http://Library.usgs.gov

http://www.doi.gov

http://www.doi.gov/library

Previous GPO FDLP Webinars!

- August 2017 - "USGS Library - Oil, Gas, Coal, Uranium, and Minerals Maps and Data" presentation for the U.S. Government Publishing Office (GPO), FDLP Federal Agency Webinars
- May 2017 - "USGS Library - Using USGS Image, Map, and Data Products for Information Inquiries" presentation for the U.S. Government Publishing Office (GPO), FDLP Federal Agency Webinars
- December 2016 - "USGS Library: Geoscience Outreach and Instruction" presentation for the U.S. Government Publishing Office (GPO), FDLP Federal Agency Webinars
- May 2014 - "U.S. Geological Survey Library: Access and Outreach," presentation for the U.S. Government Printing Office (GPO), FDLP Federal Agency Webinars

USGS

USGS Denver Library: Reference, Outreach, Bibliographic Instruction, & Map Instruction

Book = Principles of Geology
[Shelf list catalog]

Emily C. Wild, ecwild@usgs.gov
303-236-1003
https://www.usgs.gov/staff-profiles/emily-wild

- **8 am – 4 pm Mountain Time**

- Online instruction sessions – 4th GPO FDLP
- Denver Federal Center : In-Person Sessions
- Denver-Metro Area : In-Person Sessions
- Virtual : Webex Sessions
- 30 minutes; 1 hour; 1.5 hours; 2 hours

Session Topics Include:

Free

- Print Books and Maps
- Library Catalogs
- Publication & Citation Databases
- Full-Text Options: Open-Access
- Digital Maps
- Raw Databases
- Real-Time Databases and Alerts

USGS Reference Librarian (Scientist & GIS)

Outreach & Instruction = Print and Electronic Products

Provide tabular, text, & geospatial data

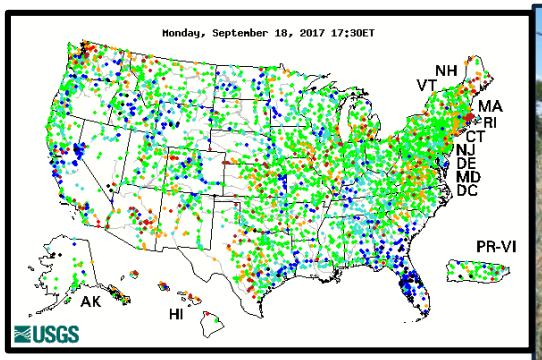
USGS staff, U.S. Government Agencies, Countries, Companies, & Public

Real-Time Data Librarian: current conditions

Disaster Librarian: recent and historical hazard events

Research Librarian: Earth's past, present, and future on subjects = biology, geology, geography, and water resources

Law & Legal Librarian: USGS data interconnected with local, state, federal, and international laws , and laws and regulations governing USGS activities



[Real-Time Streamflow, Monday, Sept 18, 2017 17:30 ET]

[Post Gold King Mine Release Monitoring]

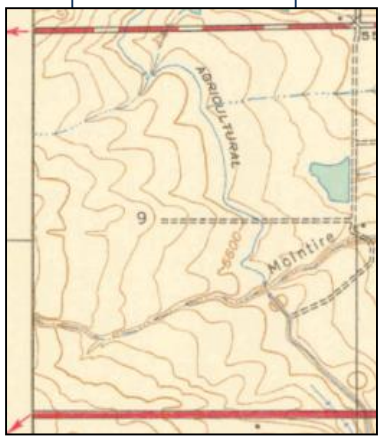
[Bossier and Haynesville Formations]

[Department of Justice's Radiation Exposure Compensation Act Program]

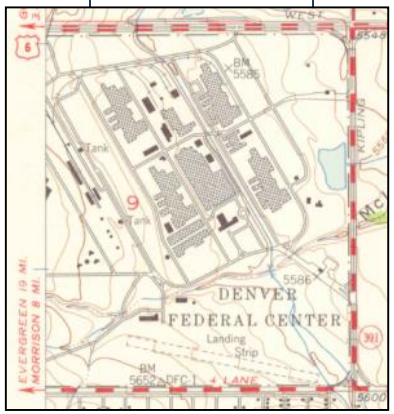
USGS

What types of questions do you get?

1937, 1941
USGS Topo Map



1954, 1957
USGS Topo Map



- **Library Inquiries within the USGS**

- Emergency Response: Earthquakes, Floods, Droughts, Water Quality, Mines, Energy, Human Health, Wildlife Health

- Research of Science on Earth (Land, Ocean) and other Planets: Subjects = Biology, Geology, Geography, & Water

- **Library Inquiries from Federal Government**

- Disasters: Explosions, Chemical Spills, Floods, Health

- Scientific Research: Local, State, National, International

- Legal: Disasters, Names, Land, Water, Oil, Gas, Minerals

- USGS Data Referenced in Legislation & Legislative Hearings

- **Library Inquiries from Industry & Communities**

- Land-Use Change: Hazards, Permitting, Zoning, Preservation

- Legal: Names, Land, Water, Oil, Gas, Minerals, Disasters

- To Understand the Science: Local, Regional, National, World

Ex: Induced Earthquakes, Water Supply, Topo Maps

USGS

U.S. Geological Survey: What about the budget?

- As of today, the U.S. Government is on a Continuing Resolution: Oct 1 to Dec 8, 2017
- For inquiries related to the USGS Budget for FY-2018, contact:

A.B. Wade : abwade@usgs.gov

- May 23, 2017 : https://www.usgs.gov/news/president-proposes-922-million-fy18-budget-usgs

Highlights: https://www.doi.gov/sites/doi.gov/files/uploads/fy2018_bib_bh049.pdf
Budget Justification:
https://www.doi.gov/sites/doi.gov/files/uploads/fy2018_usgs_budget_justification.pdf

The following is for reference & information only, not an endorsement:
American Library Association (ALA) D.C. offices news, July 11, 2017
http://www.districtdispatch.org/2017/07/protecting-public-access-earth-science-information/
American Library Association (ALA), letter dated July 10, 2017
: http://www.ala.org/advocacy/sites/ala.org.advocacy/files/content/govinfo/ALA%20Support%20for%20USGS%20Library%20Funding%20071017.pdf
American Geosciences Institute (AGI), letter dated June 16, 2017:
https://www.americangeosciences.org/sites/default/files/USGS%20Library%20Support%20Letter_20170619.pdf
AGU EOS article: USGS Library Cuts Would Harm Research, Education, Say Scientists
https://eos.org/articles/usgs-library-cuts-would-harm-research-education-say-scientists
USGS Coalition: http://www.usgscoalition.org/

USGS

U.S. Geological Survey: What makes Denver special?

The Rocky Mountain Association of Geologists (RMAG) newsletter publication The Outcrop (open-access content) has profiled several USGS staff here at the Denver Federal Center and our stories might be of interest to others : http://www.rmag.org/the-outcrop

September 2017 issue, a USGS librarian, pages 10-17
: https://rmag1.app.box.com/s/77axt278g0mm2upx7pn0u2bbj0nzdzud

August 2017 issue, USGS Ice Core Lab, pages 34-41
: https://rmag1.app.box.com/s/3bdjljqds7pkdp0ixdr5ycggqjbjcugm

July 2017 issue, a USGS paleontologist and archivist, pages 8-14
: https://rmag1.app.box.com/s/jex797pizbvjvtde38sjeezmwpjf87qj

March 2017 issue, a USGS geologist Betty Skipp
[- she started working for the USGS 65 years ago!], pages 8-13:
https://rmag1.app.box.com/s/a0iclfk5ordkrq2xeoupndfinr5jkvhy

USGS

Help from the U.S. Geological Survey

- ASK USGS - Information:

Call 1-888-ASK-USGS (1-888-275-8747) Press #2
Web Chat
Social Media

Email

- To order USGS maps : https://store.usgs.gov/

Email: usgsstore@usgs.gov or 1-888-ASK-USGS (1-888-275-8747) Press #1

- Imagery from USGS Earth Resources Observation & Science (EROS) Center: https://eros.usgs.gov/find-data & https://eros.usgs.gov/imagegallery

Email = custserv@usgs.gov

Tel: 800-252-4547
Tel: 605-594-6151

Or Call 1-888-ASK-USGS (1-888-275-8747) Press #4

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U.S. Geological Survey: https://library.usgs.gov/

USGS Library Locations:

[Denver, CO]

[Flagstaff, AZ]

[Menlo Park, CA] (NASA Ames, 18/19)

[Reston, VA]

[Other Libraries]

USGS

USGS Library: Public Access to Electronic Resources
https://library.usgs.gov/publiceresources.html

Example, USGS Denver Library:
8 am to 4 pm Monday-Friday,
Closed Federal Holidays

USGS

Publications of the U.S. Geological Survey

- **Print Indexes (photo above)**
- **Topographic Maps:**

Historical Maps: http://historicalmaps.arcgis.com/usgs/ & https://ngmdb.usgs.gov/topoview/

Historical & New U.S. Topos, text search: https://geonames.usgs.gov/apex/f?p=262:1:3361765829832

- **Geologic/Hydrologic …Maps: https://ngmdb.usgs.gov/ngm-bin/ngm_compsearch.pl**
- **Publications Warehouse: https://pubs.er.usgs.gov/**

USGS

Indexing and Availability of USGS Citations in 2001

National and Global Level: Commercial Databases (GeoRef)

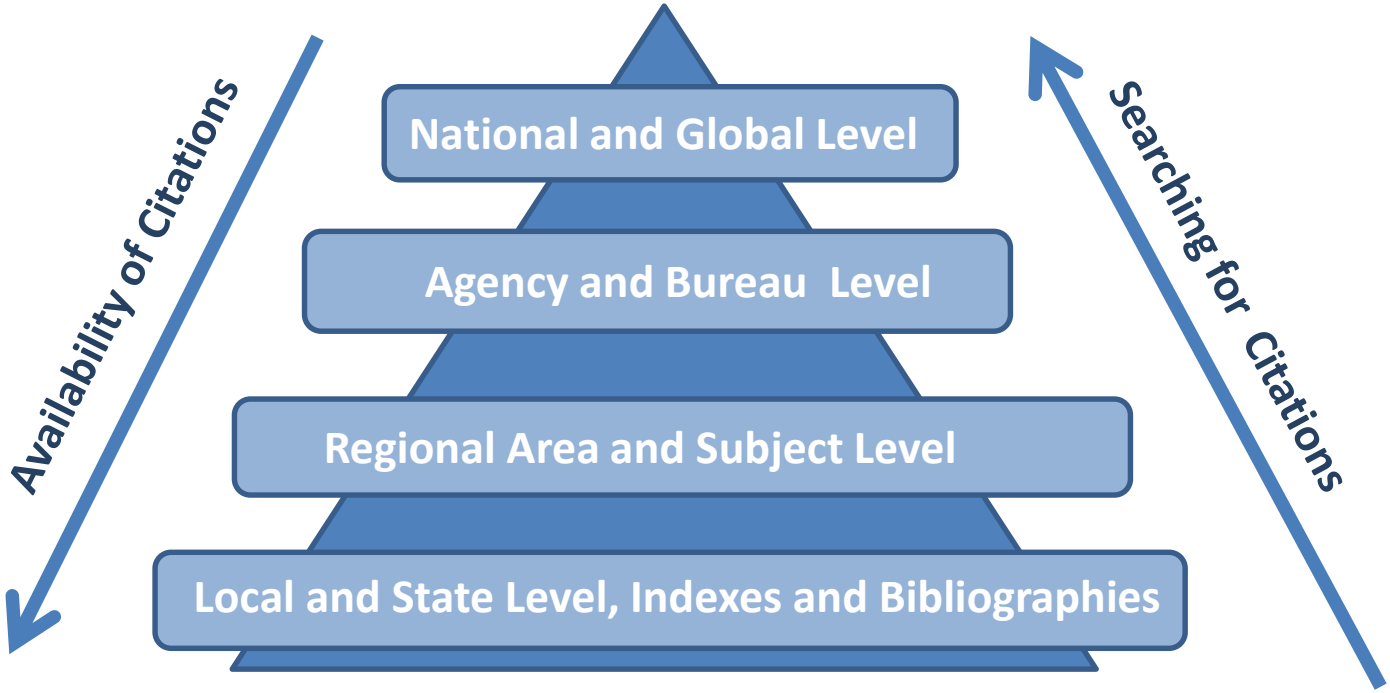
Agency and Bureau Level: USGS Library (online catalog) and USGS publication links (report series web sites)

Regional Area and Subject Level: USGS field libraries, project and(or) program bibliographies

Local and State Level: USGS State office libraries, bibliographies, publication links and GIS datasets

Wild, E.C., and Havener, M.W., 2001, "Online bibliographic sources in hydrology," in Baldwin, Virginia, and Hallmark, Julie, eds., Information and the Scientist and Engineer, 222 p.

Wild, E.C., and Havener, M.W., 2001, "Online bibliographic sources in hydrology," Science and Technology Libraries, Volume 21, Issue 3-4, 2001, pages 63-86. [Link]



USGS

USGS Bibliographies and Indexes

USGS Bulletin 746: Geologic literature on North America, 1785-1918; Part I, Bibliography

https://pubs.er.usgs.gov/publication/b746

USGS Bulletin 747: Geologic literature on North America, 1785-1918; Part II, Index

https://pubs.er.usgs.gov/publication/b747

USGS Bulletin 823: Bibliography of North American geology, 1919-1928

https://pubs.er.usgs.gov/publication/b823

USGS Bulletin 937: Bibliography of North American geology, 1929-1939

https://pubs.er.usgs.gov/publication/b937

USGS

USGS Bibliographies and Indexes

USGS Bulletin 1049: Bibliography of North American geology, 1940-1949
https://pubs.er.usgs.gov/publication/b1049

USGS Bulletin 1195: Bibliography of North American geology, 1950-1959
https://pubs.er.usgs.gov/publication/b1195

USGS Bulletin 1196: Bibliography of North American geology, 1960
https://pubs.er.usgs.gov/publication/b1196

USGS Bulletin 1197: Bibliography of North American geology, 1961
https://pubs.er.usgs.gov/publication/b1197

USGS Bulletin 1232: Bibliography of North American geology, 1962
https://pubs.er.usgs.gov/publication/b1232

USGS

USGS Bibliographies and Indexes

USGS Bulletin 1233: Bibliography of North American geology, 1963
https://pubs.er.usgs.gov/publication/b1233

USGS Bulletin 1234: Bibliography of North American geology, 1964
https://pubs.er.usgs.gov/publication/b1234

USGS Bulletin 1235: Bibliography of North American geology, 1965
https://pubs.er.usgs.gov/publication/b1235

USGS Bulletin 1266: Bibliography of North American geology, 1966
https://pubs.er.usgs.gov/publication/b1266

USGS Bulletin 1267: Bibliography of North American geology, 1967
https://pubs.er.usgs.gov/publication/b1267

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USGS Bibliographies and Indexes

USGS Bulletin 1268: Bibliography of North American geology, 1968
https://pubs.er.usgs.gov/publication/b1268

USGS Bulletin 1269: Bibliography of North American geology, 1969
https://pubs.er.usgs.gov/publication/b1269

USGS Bulletin 1370: Bibliography of North American geology, 1970
https://pubs.er.usgs.gov/publication/b1370

USGS

Please remember:

Not all USGS publications are indexed in USGS Publications Warehouse or Subscription Databases

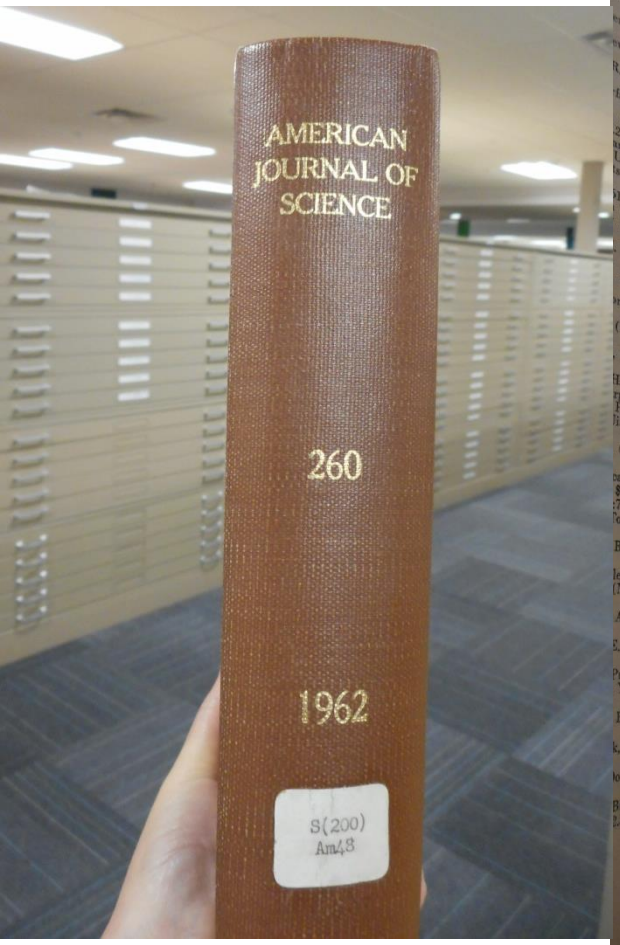
Not all USGS authors are indexed for USGS publications and findable

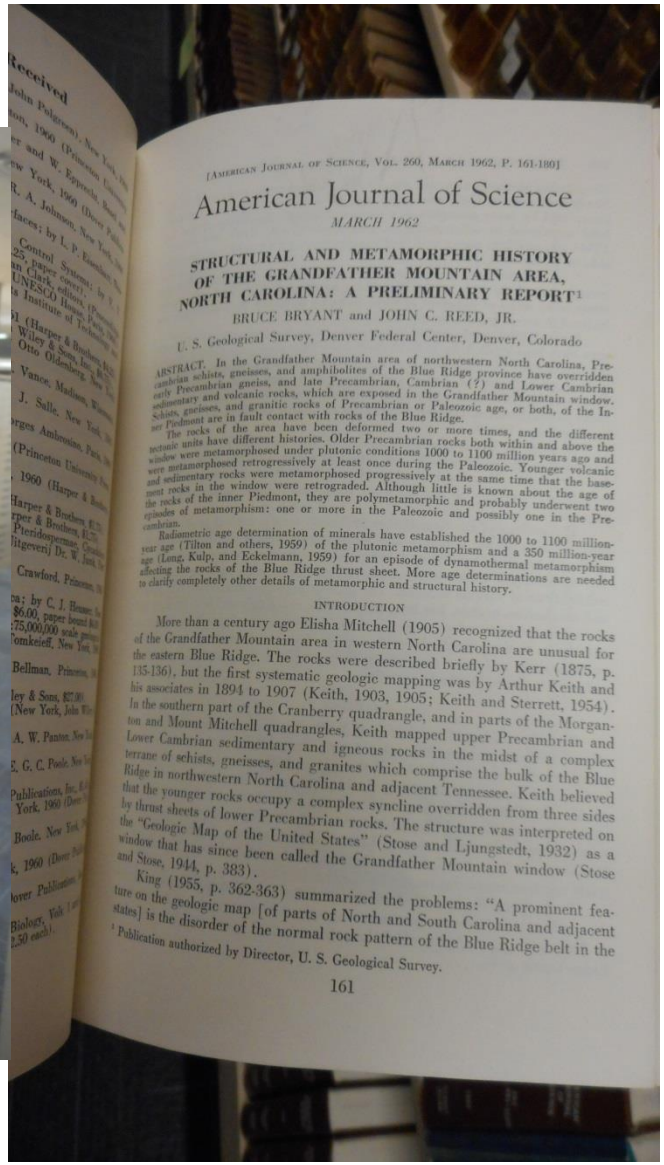
Not all USGS authored publications are online

Not all online USGS publications are usable

USGS

Not Indexed Online by the USGS, Online version not useable for research:
http://www.ajsonline.org/content/260/3/161.full.pdf




[American Journal of Science, Vol. 260, March 1962, P. 161-180]

American Journal of Science

MARCH 1962

STRUCTURAL AND METAMORPHIC HISTORY OF THE GRANDFATHER MOUNTAIN AREA, NORTH CAROLINA: A PRELIMINARY REPORT[1]

BRUCE BRYANT and JOHN C. REED, JR.

U. S. Geological Survey, Denver Federal Center, Denver, Colorado

ABSTRACT. In the Grandfather Mountain area of northwestern North Carolina, Precambrian schists, gneisses, and amphibolites of the Blue Ridge province have overridden early Precambrian gneiss, and late Precambrian, Cambrian (?) and Lower Cambrian sedimentary and volcanic rocks, which are exposed in the Grandfather Mountain window. Schists, gneisses, and granitic rocks of Precambrian or Paleozoic age, or both, of the Inner Piedmont are in fault contact with rocks of the Blue Ridge.

The rocks of the area have been deformed two or more times, and the different tectonic units have different histories. Older Precambrian rocks both within and above the window were metamorphosed under plutonic conditions 1000 to 1100 million years ago and were metamorphosed retrogressively at least once during the Paleozoic. Younger volcanic and sedimentary rocks were metamorphosed progressively at the same time that the basement rocks in the window were retrograded. Although little is known about the age of the rocks of the inner Piedmont, they are polymetamorphic and probably underwent two episodes of metamorphism: one or more in the Paleozoic and possibly one in the Precambrian.

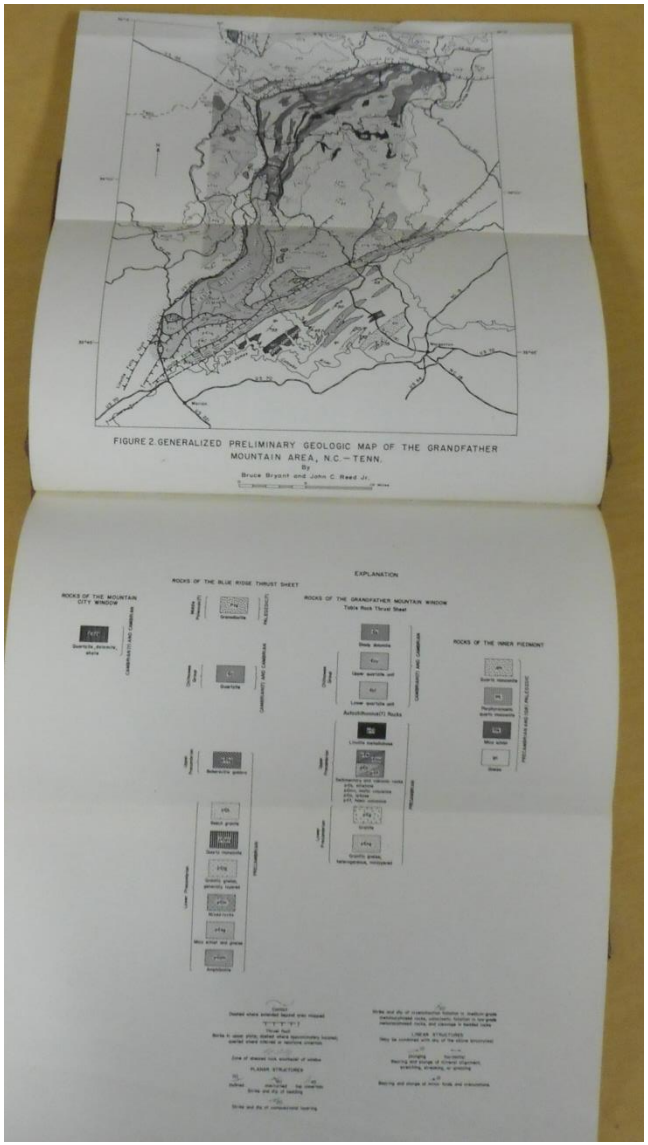
Radiometric age determination of minerals have established the 1000 to 1100 million-year age (Tilton and others, 1959) of the plutonic metamorphism and a 350 million-year age (Long, Kulp, and Eckelmann, 1959) for an episode of dynamothermal metamorphism affecting the rocks of the Blue Ridge thrust sheet. More age determinations are needed to clarify completely other details of metamorphic and structural history.

INTRODUCTION

More than a century ago Elisha Mitchell (1905) recognized that the rocks of the Grandfather Mountain area in western North Carolina are unusual for the eastern Blue Ridge. The rocks were described briefly by Kerr (1875, p. 135-136), but the first systematic geologic mapping was by Arthur Keith and his associates in 1894 to 1907 (Keith, 1903, 1905; Keith and Sterrett, 1954). In the southern part of the Cranberry quadrangle, and in parts of the Morganton and Mount Mitchell quadrangles, Keith mapped upper Precambrian and Lower Cambrian sedimentary and igneous rocks in the midst of a complex terrane of schists, gneisses, and granites which comprise the bulk of the Blue Ridge in northwestern North Carolina and adjacent Tennessee. Keith believed that the younger rocks occupy a complex syncline overridden from three sides by thrust sheets of lower Precambrian rocks. The structure was interpreted on the "Geologic Map of the United States" (Stose and Ljungstedt, 1932) as a window that has since been called the Grandfather Mountain window (Stose and Stose, 1944, p. 383).

King (1955, p. 362-363) summarized the problems: "A prominent feature on the geologic map [of parts of North and South Carolina and adjacent states] is the disorder of the normal rock pattern of the Blue Ridge belt in the

[1] Publication authorized by Director, U. S. Geological Survey.



USGS

Betty Skipp, 2nd Author (Co-Author), 1963

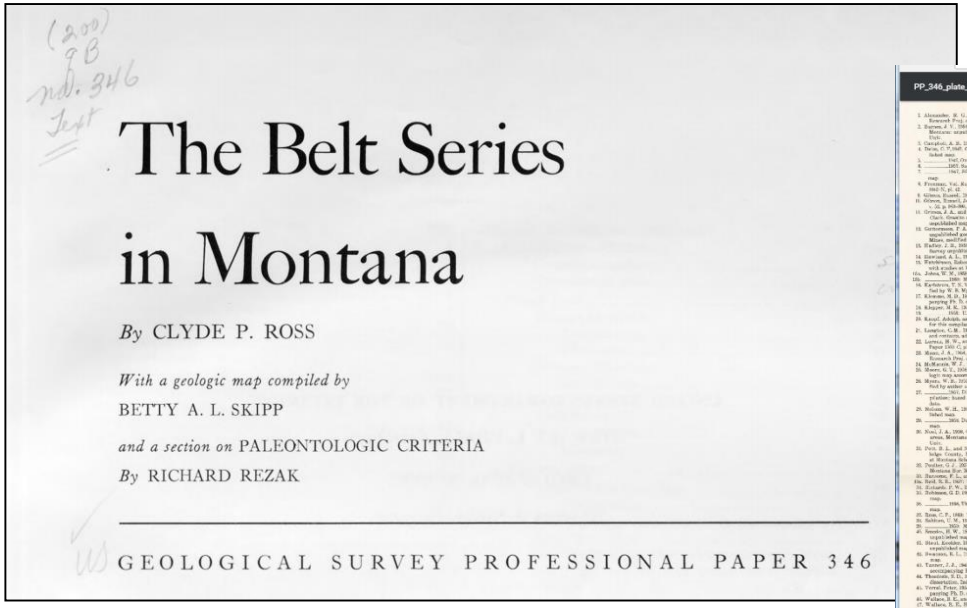
https://pubs.er.usgs.gov/publication/b1233

Skipp, B A L. *See* Ross, Clyde P 4192

577 **Skipp, Betty A L** Zonation of calcareous Foraminifera in the Redwall Limestone (Mississippian), Arizona [abs.] Geol Soc America Spec Paper 73, p 245–246, 1963

4192 **Ross, Clyde P., Skipp, B. A L., Rezak, Richard** The Belt Series in Montana U S Geol Survey Prof Paper 346, 155 p., illus., geol map, 1963

[USGS PP-346](#)



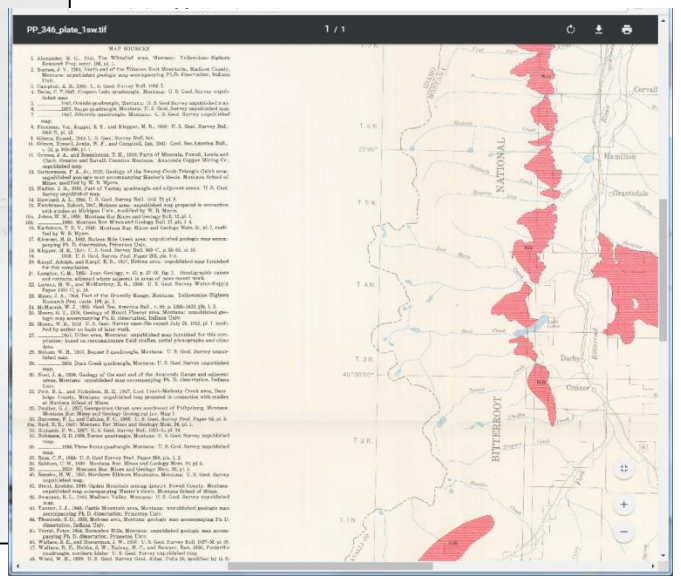
The Belt Series in Montana

By CLYDE P. ROSS

With a geologic map compiled by BETTY A. L. SKIPP

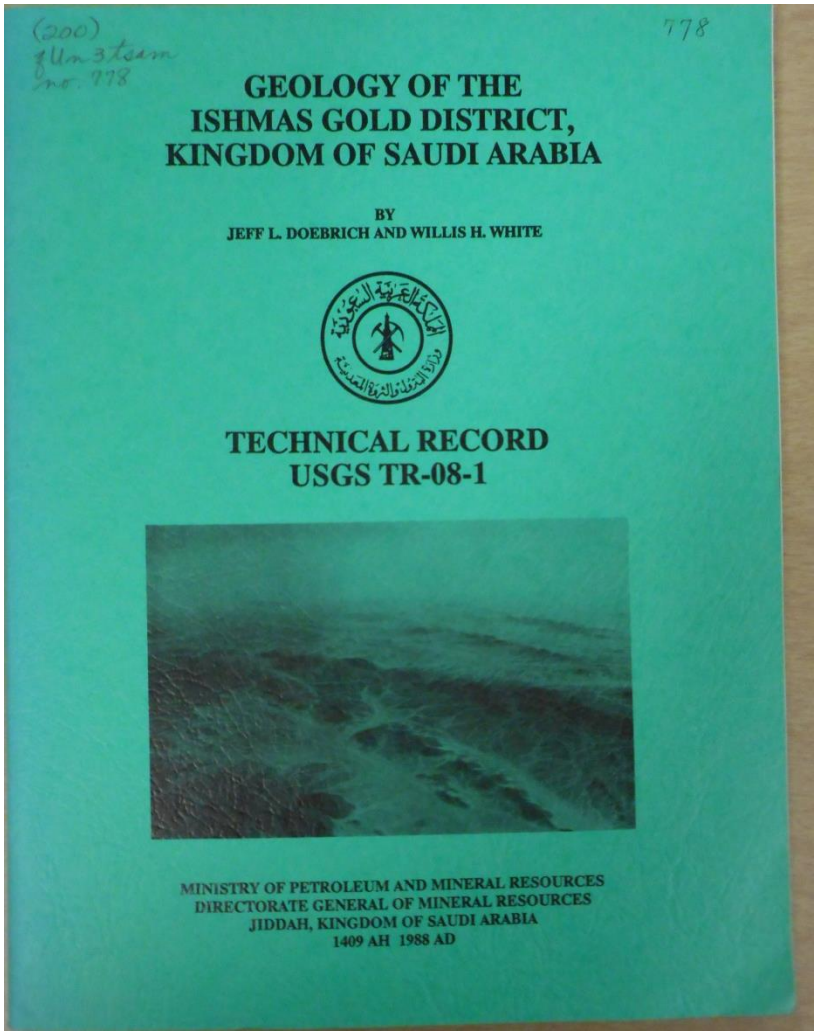
and a section on PALEONTOLOGIC CRITERIA By RICHARD REZAK

GEOLOGICAL SURVEY PROFESSIONAL PAPER 346



USGS

USGS Projects in Saudi Arabia: (200)'s USGS Publications, Print Only



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[U.S. State Department in Saudi Arabia]

Emily C. Wild, Vermont reports

54, search results: https://pubs.er.usgs.gov/search?q=%22Emily+C.+Wild%22+Vermont

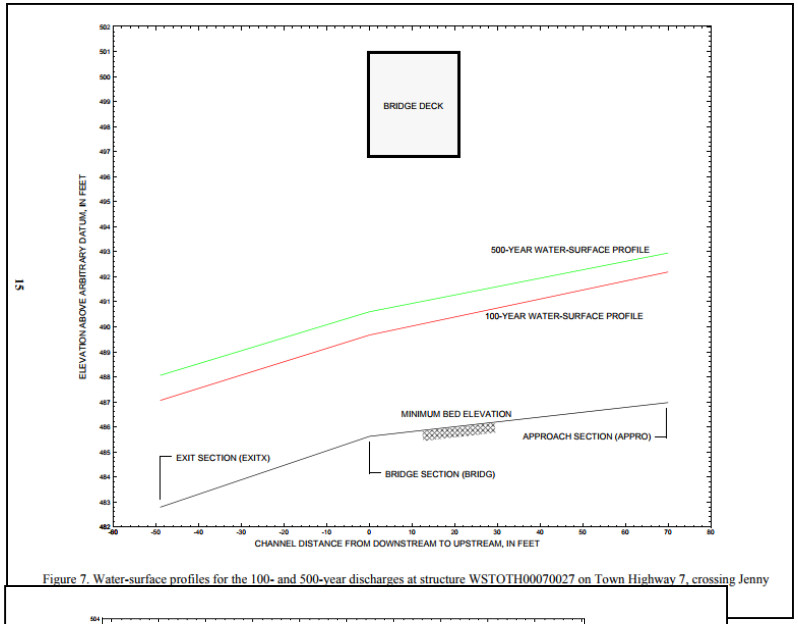


Figure 7. Water-surface profiles for the 100- and 500-year discharges at structure WSTOTH00070027 on Town Highway 7, crossing Jenny

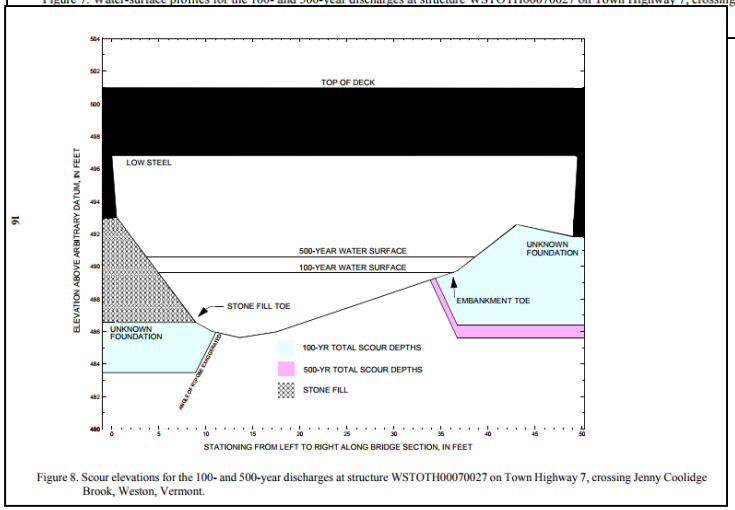
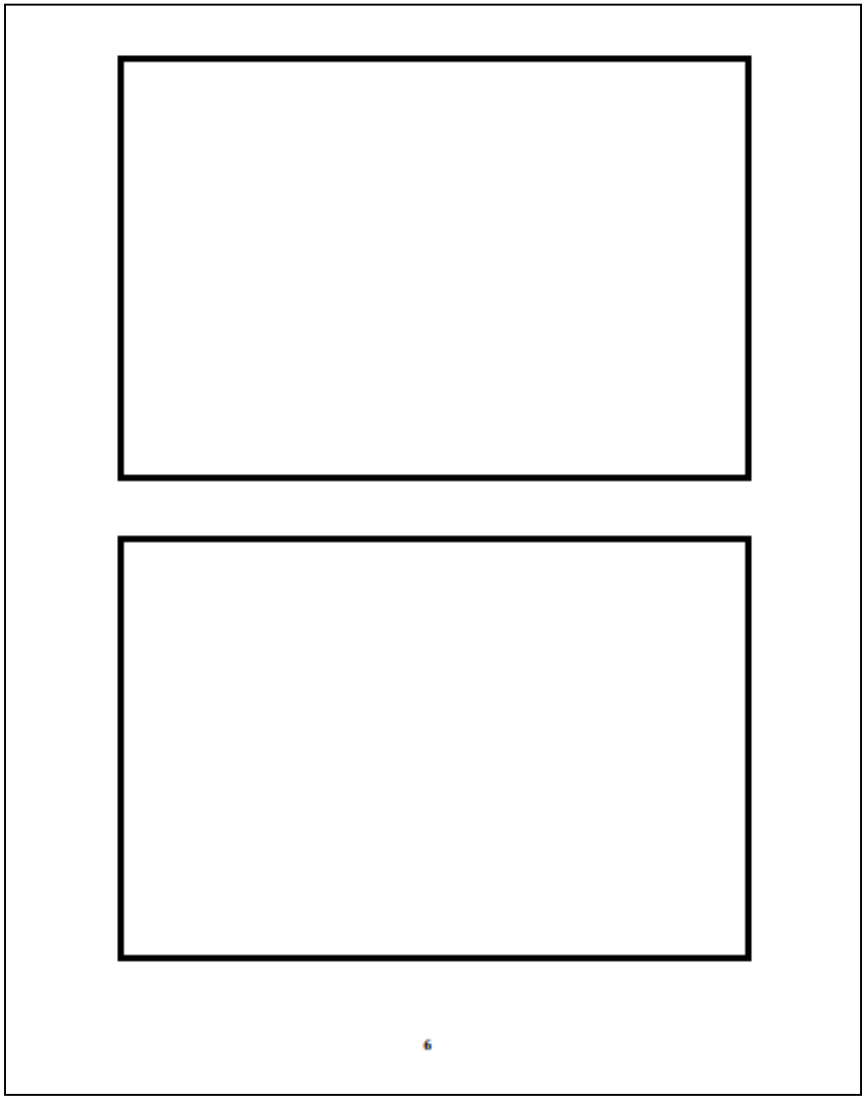


Figure 8. Scour elevations for the 100- and 500-year discharges at structure WSTOTH00070027 on Town Highway 7, crossing Jenny Coolidge Brook, Weston, Vermont.



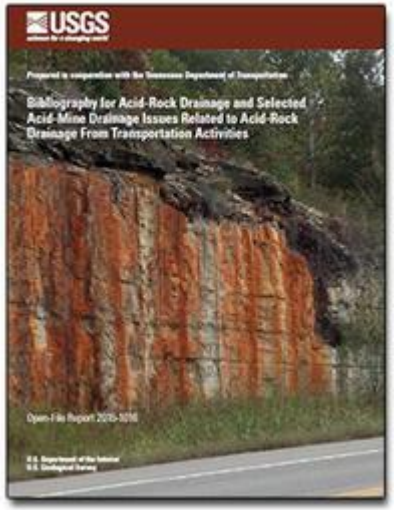
USGS Open-File Report 98-156 :
https://pubs.usgs.gov/of/1998/0156/report.pdf

USGS Bibliographies

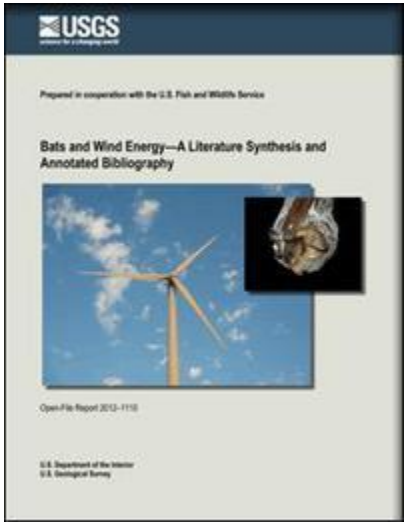
= 911 results

- https://pubs.er.usgs.gov/search?q=bibliography

Desert tortoise annotated bibliography, 1991-2015
Open-File Report 2016-1023



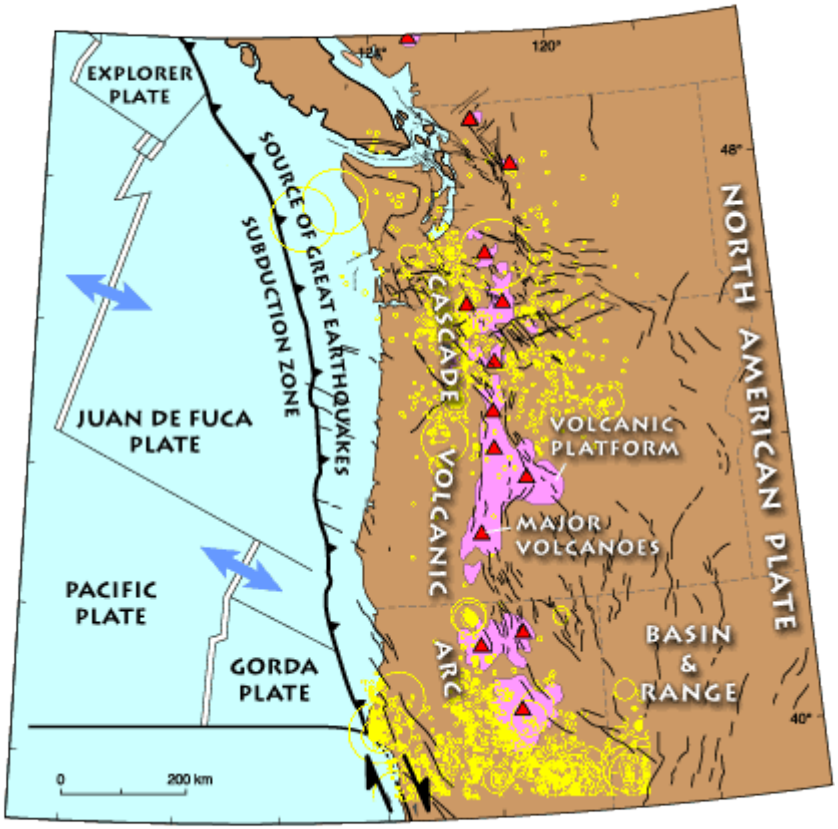
Bibliography for acid-rock drainage and selected acid-mine drainage issues related to acid-rock drainage from transportation activities
Open-File Report 2015-1016

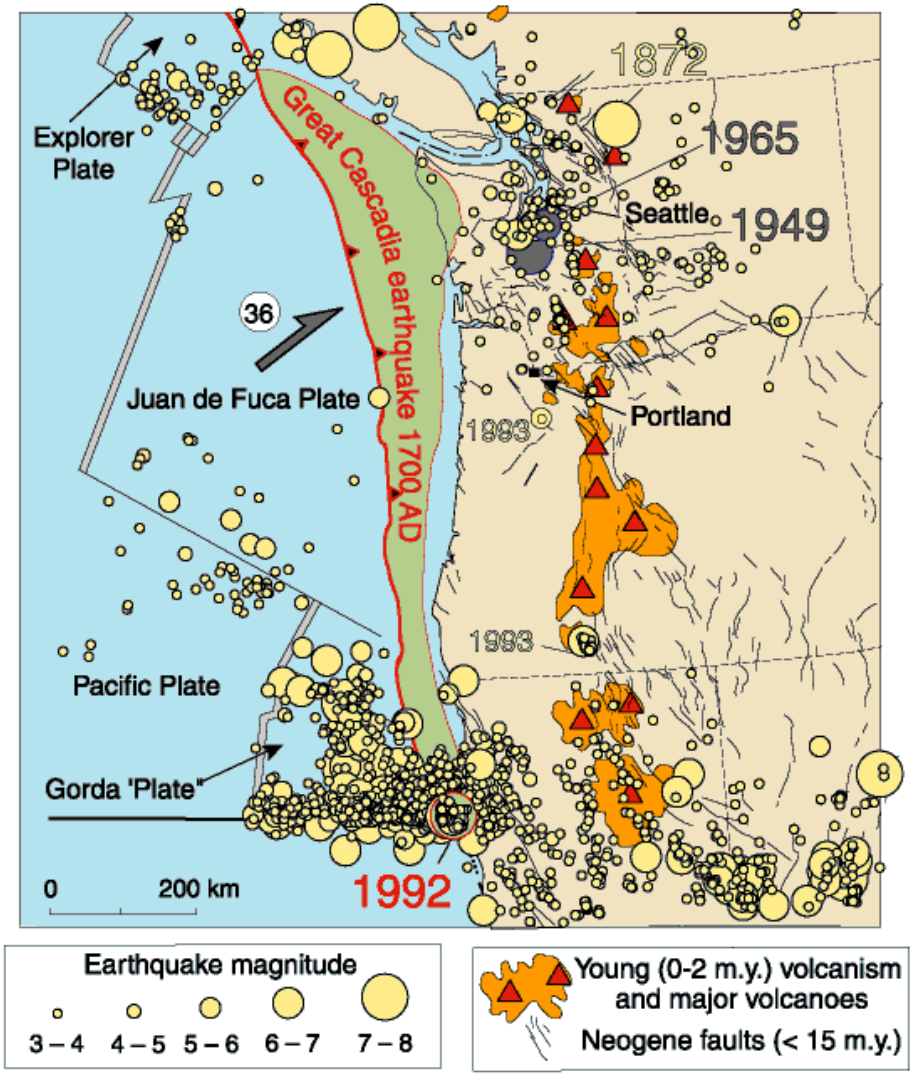


Bats and wind energy: a literature synthesis and annotated bibliography
Open-File Report 2012-1110

USGS

Juan de Fuca Ridge & Juan de Fuca Plate

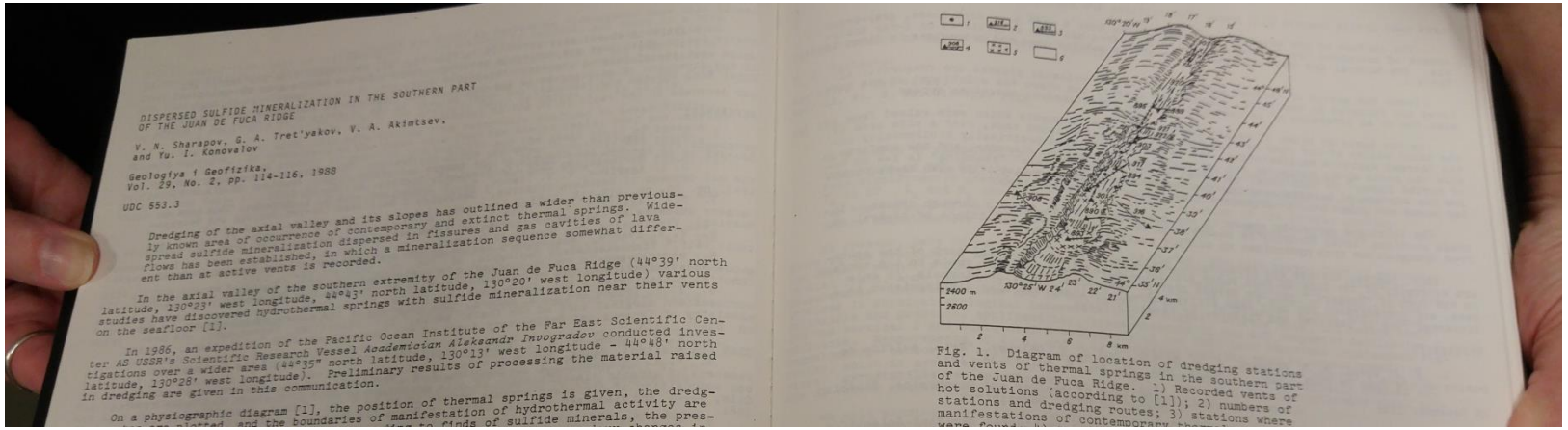




USGS

Soviet Geology and Geophysics, call #: G(690)G292E

- Dispersed sulfide mineralization in the southern part of the Juan de Fuca Ridge: http://geoscienceworld.org/georef/1989-004340



DISPERSED SULFIDE MINERALIZATION IN THE SOUTHERN PART OF THE JUAN DE FUCA RIDGE

V. N. Sharapov, G. A. Tret'yakov, V. A. Akimtsev, and Yu. I. Konovalov

Geologiya i Geofizika, Vol. 29, No. 2, pp. 114-116, 1988

UDC 553.3

Dredging of the axial valley and its slopes has outlined a wider than previously known area of occurrence of contemporary and extinct thermal springs. Widespread sulfide mineralization dispersed in fissures and gas cavities of lava flows has been established, in which a mineralization sequence somewhat different than at active vents is recorded.

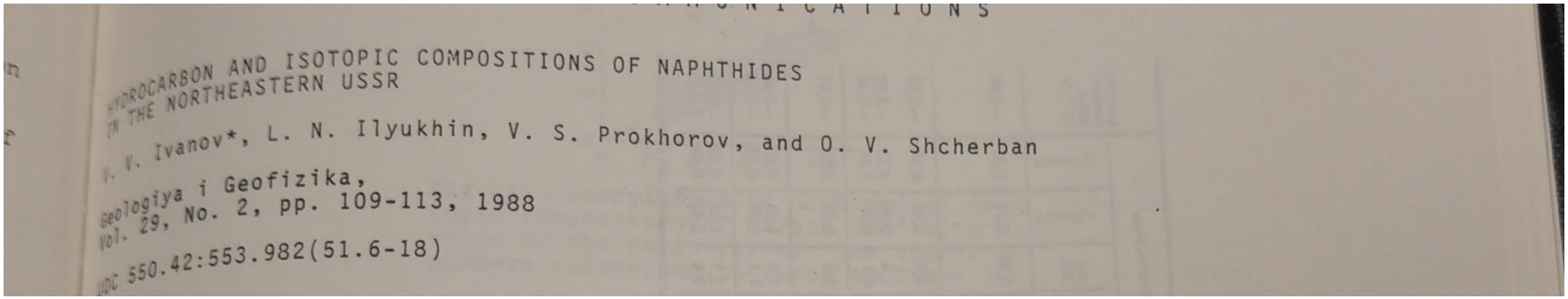
In the axial valley of the southern extremity of the Juan de Fuca Ridge (44°39' north latitude, 130°23' west longitude, 44°43' north latitude, 130°20' west longitude) various studies have discovered hydrothermal springs with sulfide mineralization near their vents on the seafloor [1].

In 1986, an expedition of the Pacific Ocean Institute of the Far East Scientific Center AS USSR's Scientific Research Vessel *Academician Aleksandr Invogradov* conducted investigations over a wider area (44°35' north latitude, 130°13' west longitude - 44°48' north latitude, 130°28' west longitude). Preliminary results of processing the material raised in dredging are given in this communication.

On a physiographic diagram [1], the position of thermal springs is given, the dredg- and the boundaries of manifestation of hydrothermal activity are

Fig. 1. Diagram of location of dredging stations and vents of thermal springs in the southern part of the Juan de Fuca Ridge. 1) Recorded vents of hot solutions (according to [1]); 2) numbers of stations and dredging routes; 3) stations where manifestations of contemporary

- Now try to find this Citation: “Hydrocarbon and isotopic compositions of naphthides in the northeastern USSR"



...NICATIONS

HYDROCARBON AND ISOTOPIC COMPOSITIONS OF NAPHTHIDES IN THE NORTHEASTERN USSR

V. V. Ivanov*, L. N. Ilyukhin, V. S. Prokhorov, and O. V. Shcherban

Geologiya i Geofizika, Vol. 29, No. 2, pp. 109-113, 1988

UDC 550.42:553.982(51.6-18)

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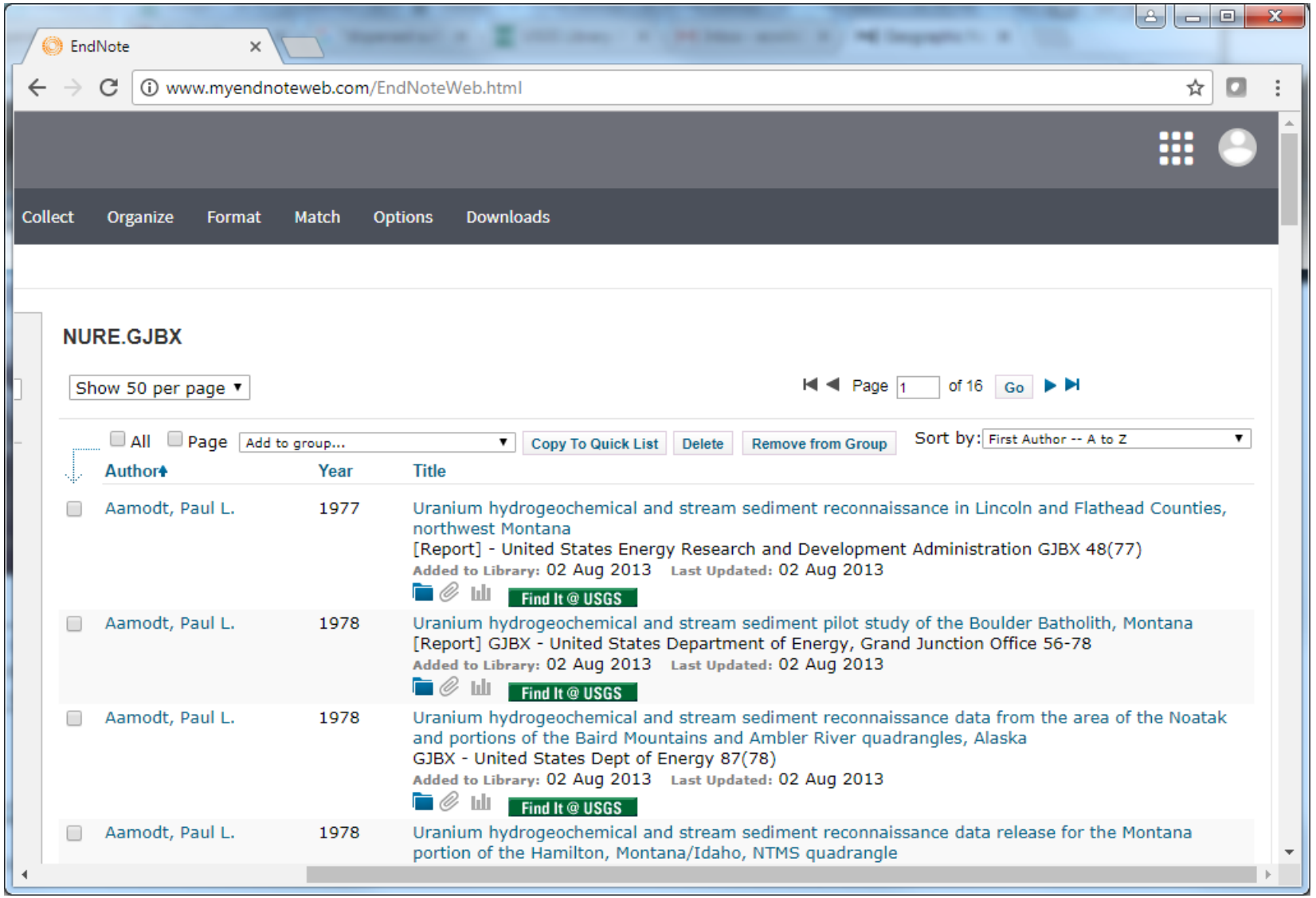
Soviet Geology and Geophysics, call #: G(690)G292E
Russian Geology and Geophysics, call #: G(690)G292E

USGS

Russian geology and geophysics (1068-7971) ;
USGS Library Online Access from 01/01/2007 to present in ScienceDirect Journals

Helping with Bibliographic Databases



USGS

USGS Public Access to Electronic Resources

https://library.usgs.gov/publiceresources.html

The following resources have selected full-text content available to USGS employees from their computer desktop and to the general public from computer workstations on-site at USGS Libraries located in Denver, CO; Flagstaff, AZ; Menlo Park, CA; and Reston, VA.

AAPG/Datapages
American Chemical Society (ACS)
Peer-reviewed research journals in the chemical and related sciences.
American Geophysical Union's Digital Library (AGU) -- See Wiley Online
More than 114,000 articles in the American Geophysical Union Library, comprising over 110 years of Earth and space science research
American Institute of Physics
American Journal of Science
"An International earth science journal."
American Meteorological Society (AMS)
Publishes nine atmospheric and related oceanic and hydrologic journals.
American Scientist (Sigma XI)
American Society for Microbiology
Publishes 11 professional journals on microbes, some of which cause diseases, but many of which are otherwise beneficial.
American Society of Civil Engineers (ASCE) Research Library
Access to more than 40,000 full-text papers from ASCE journals and proceedings for all disciplines of civil engineering.
Annual Reviews Complete A-Z List
Analytic reviews in 12 focused disciplines within the Life and Physical Sciences.
BioOne
97 high-impact publications across the biological, ecological, and environmental sciences, including 10 open-access, freely available titles.
The Birds of North America Online
comprehensive life histories for each of the 716+ species of birds breeding in the USA (including Hawaii) and Canada.

USGS

USGS Public Access to Electronic Resources, continued…

Cambridge University Press
Includes the titles Antarctic Science, Environmental Conservation, Journal of Fluid Mechanics, Journal of the Marine Biological Association of the United Kingdom, and Marine Biodiversity Records
CSIRO Publishing
Contains titles "Exploration Geophysics", "International Journal of Wildland Fire", "Preview (Australian Society of Exploration Geophysicists)"
Ecological Society of America -- See Wiley Online
Publishes a suite of publications, from peer-reviewed journals to newsletters, fact sheets and teaching resources.
Geological Society of America
Provides access to the Society's peer-reviewed journals and series. Full-text access available from this provider is for "Field Guides"; "Memoirs", "Reviews in Engineering Geology" and "Special Papers" only. Other GSA titles are available through GeoScienceWorld.
GeoRef and GeoRef In Process (EBSCOhost)
GeoRef is a citations database of over 2.8 million references to geoscience journal articles, books, maps, conference papers, reports and theses. GeoRef In Process contains records that are in the process of being indexed prior to their integration in the main GeoRef database.
GeoScienceWorld
Full-text database of core earth science journals, interoperable with GeoRef.
Glossary of Geology (AGI)
Groundwater and Soil Contamination Database (AGI)
Journal of Geology (University of Chicago Press)
JSTOR — The Scholarly Journal Archive
Archival access to titles in the "Biological Sciences" and "Health & General Sciences" Collections.
Lyell Collection
Brings together the key journals, special publications and book series of the Geological Society of London.
Nature Journals Online
Covers the Nature journals, with a scope of all aspects of science and medicine
NRC Research Press
Peer-reviewed science journals of the National Research Council of Canada.

USGS

USGS Public Access to Electronic Resources, continued…

Oil & Gas Journal
Oxford Journals
Publishes well over 200 academic and research journals covering a broad range of subject areas.
Proceedings of the National Academy of Sciences
Sage Publications
Major interdisciplinary journal focusing on recent environmental change. Titles include "Holocene" and "Progress in Physical Geography"
Science Magazine (AAAS)
"The world's leading journal of original scientific research, global news, and commentary."
ScienceDirect (Elsevier)
Full-text database of Elsevier journals and e-books.
Scopus (Elsevier)
World's largest multidisciplinary abstract and citations database, indexing some 15,000 journals.
Society of Exploration Geophysics (SEG) Research Collection
Single access point for the SEG's two journals, its meeting abstracts, and its best-selling encyclopedic dictionary.
Soil Science Society of America (American Society of Agronomy)
Journals by the society, "dedicated to the conservation and wise use of natural resources to produce food, feed, and fiber crops while maintaining and improving the environment."
SpringerLink Journals and eBooks (Earth and Environmental Science)
Full-text database of Springer journals and eBooks.
Standard Methods Online
Standard Methods for the Examination of Water and Wastewater
Taylor & Francis Online
A leading provider of specialist information to the global academic & scientific, professional and commercial communities.
Web of Science
World’s leading citation database with multidisciplinary coverage of over 10,000 high-impact journals.
Wiley Online
Full-text database of Wiley-Blackwell online journals, backfiles, online books.
American Geophysical Union (AGU) titles were transferred to Wiley Online in January 2013.

USGS

USGS

Reference = Data Inquiry

- **Raw Data:** Real-Time, Continuous, Partial Records, and Historical
- **Calculated Data:** Equations, Software Results, and Model Results
- **Map Data:** Specific Location Information & other Metadata
- **Citation Data:** Bibliographic Information for Reference Lists & <u>TO FIND THE PUBLICATION</u>

Non-USGS

USGS

USGS Library Reference Inquiries:

Subjects: Biology, Geology, Geography, and Water

Includes: Astronomy, Chemistry, Diseases, Economics, Ecosystems, Engineering, History, Land-Use Changes, Mathematics, & Physics

- I need all USGS info for Hurricane Irma - All 4 types of data
- What is white-nose syndrome? – All 4 types of data
- Where can I find information about pikas? – All 4 types
- I need all info for the Animas River and Gold King Mine - All 4 types
- What is the flow today on the South Platte River? – Raw
- How many earthquakes have occurred in Colorado: where and when? - Raw
- I want all USGS maps for the Colorado River – Map
- I want all maps for the Moon and Mars – Map
- How much water is in the Ogallala aquifer? – Calculated

Raw Data: Real-Time, Continuous, Partial Records, and Historical

Calculated Data: Equations, Software Results, and Model Results

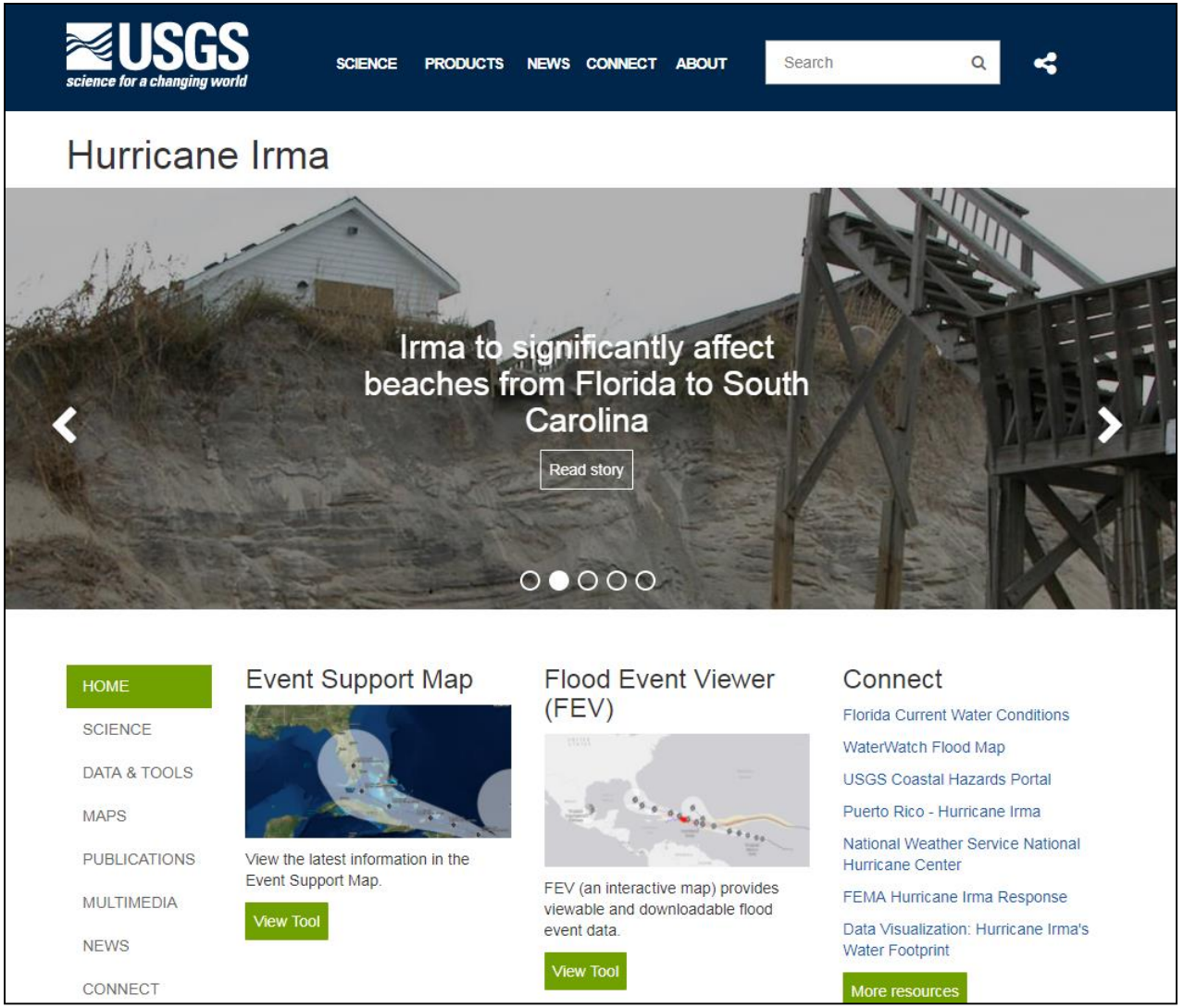
Map Data: Specific Location Information & other Metadata

Citation Data: Bibliographic Information for Reference Lists and TO FIND THE PUBLICATION

USGS

(1) I need all USGS info for Hurricane Irma

- Hurricane Irma: https://www.usgs.gov/special-topic/hurricane-irma



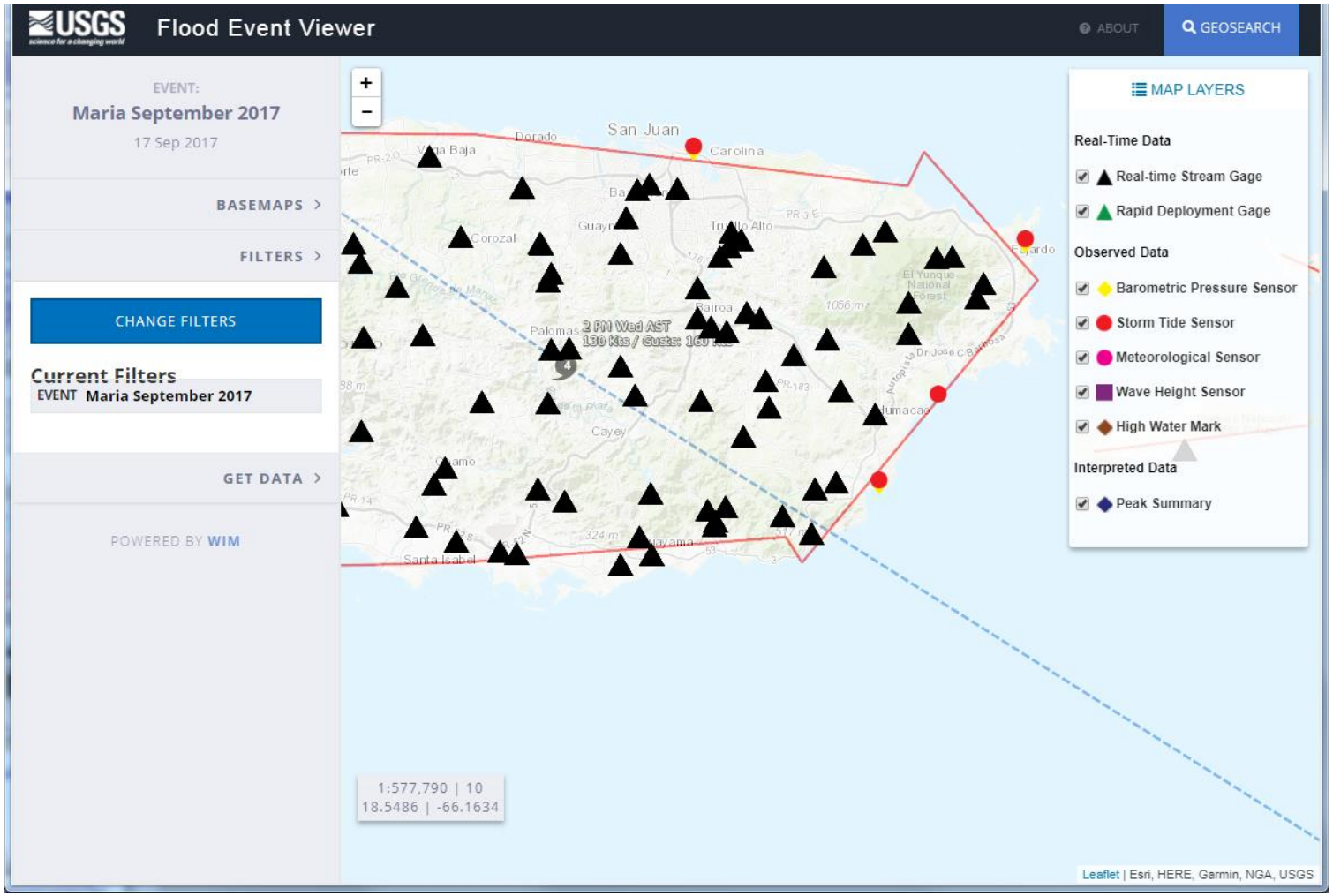
USGS

(1) USGS info for Hurricane Maria

- **USGS field crews in Puerto Rico are preparing for Hurricane Maria**

https://www.usgs.gov/news/usgs-field-crews-puerto-rico-are-preparing-hurricane-maria

USGS Flood Event Viewer: Hurricane Maria



USGS

(2) What is white-nose syndrome?

USGS National Wildlife Health Center, White-Nose Syndrome (WNS) web page: https://www.nwhc.usgs.gov/disease_information/white-nose_syndrome/

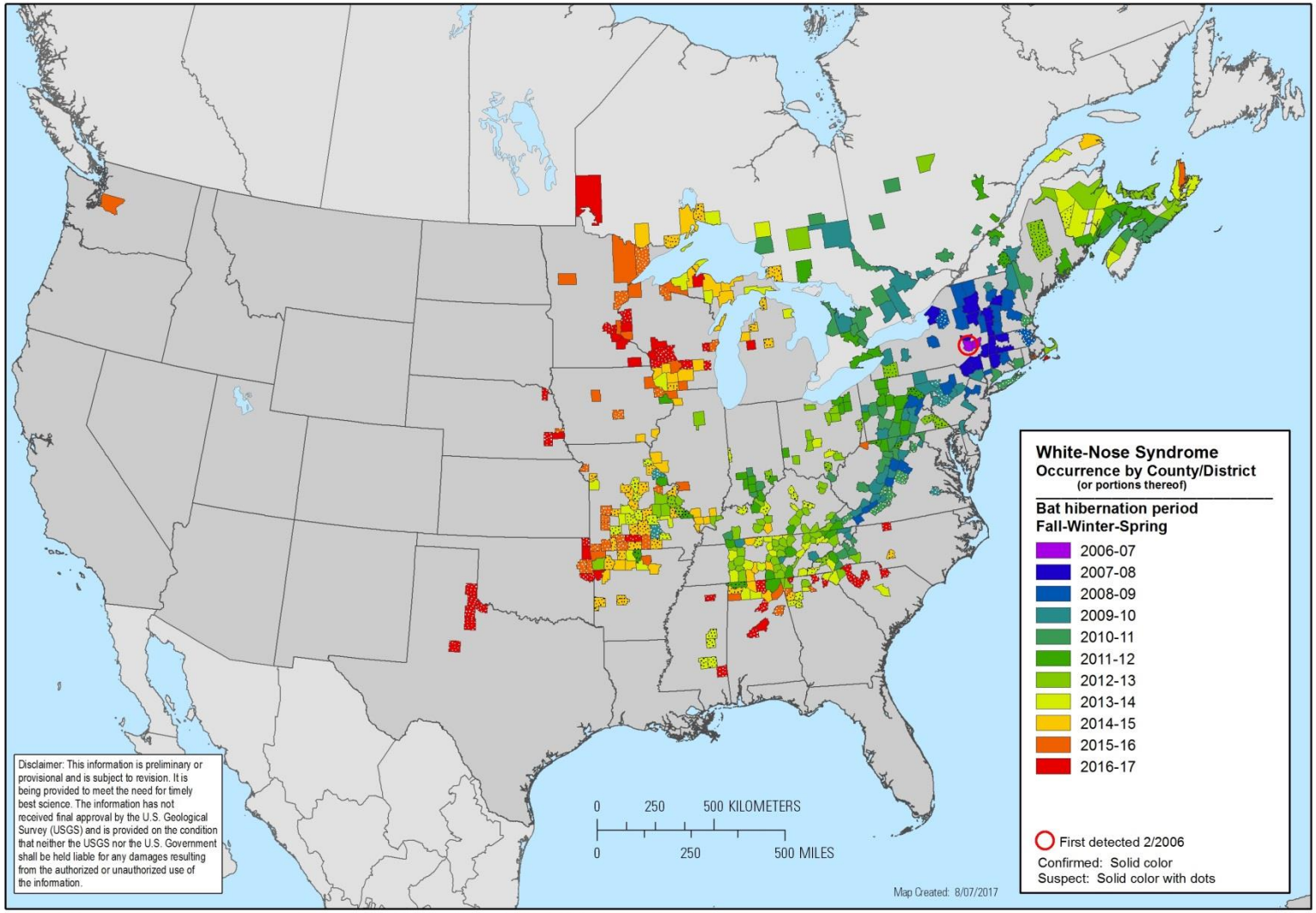
- White-nose syndrome (WNS) is an emergent disease of hibernating bats that has spread from the northeastern to the central United States at an alarming rate. Since the winter of 2007-2008, millions of insect-eating bats in 31 states and five Canadian provinces have died from this devastating disease. (see map below) The disease is named for the white fungus, *Pseudogymnoascus destructans*, that infects skin of the muzzle, ears, and wings of hibernating bats.
- The USGS National Wildlife Health Center (NWHC), along with the U.S. Fish and Wildlife Service and other partners continue to play a primary role in WNS research. Studies conducted at NWHC led to the discovery, characterization, and naming of the causative agent (the cold-loving fungus *P. destructans*), and to the development of standardized criteria for diagnosing the disease. Additionally, scientists at the NWHC have pioneered laboratory techniques for studying impacts of the fungus on hibernating bats.
- To determine if bats are affected by white-nose syndrome, scientists look for a characteristic microscopic pattern of skin erosion caused by *P. destructans*. Field signs of WNS can include visible white fungal growth on the bat's muzzle and/or wing tissue, but this is not a reliable indicator. Infected bats also often display abnormal behaviors in their hibernation sites (hibernacula), such as movement toward the mouth of caves and daytime flights during winter. These abnormal behaviors may contribute to the untimely consumption of stored fat reserves causing emaciation, a characteristic documented in a portion of the bats that die from WNS.
- Current estimates of bat population declines in the northeastern US since the emergence of WNS are approximately 80%. This sudden and widespread mortality associated with WNS is unprecedented in hibernating bats, among which disease outbreaks have not been previously documented. It is unlikely that species of bats affected by WNS will recover quickly because most are long-lived and have only a single pup per year. Consequently, even in the absence of disease, bat populations do not fluctuate widely in numbers over time.
- The true ecological consequences of large-scale population reductions currently under way among hibernating bats are not yet known. However, farmers might feel the impact. In temperate regions, bats are primary consumers of insects, and a recent economic analysis indicated that insect suppression services (ecosystem services) provided by bats to U.S. agriculture is valued between 4 to 50 billion dollars per year.
- Despite efforts to contain it, WNS continues to spread. In March 2016, a little brown bat (Myotis lucifugus alascensis) found sick in King County, Washington, tested positive for WNS. Genetic analysis on the fungus from this bat found that the strain of fungus was genetically similar to strains found in the eastern U.S. and did not likely originate in Eurasia. See the link below for map of WNS occurrences in North America

USGS

(2) What is white-nose syndrome?

- **White-Nose Syndrome (WNS) by County:**

https://www.whitenosesyndrome.org/resources/map



Citation: White-nose syndrome occurrence map - by year (2017). Data Last Updated: 8/07/2017. Available at: https://www.whitenosesyndrome.org/resources/map.

USGS Disease Investigation Services

- To request diagnostic services or report wildlife mortality, please contact the NWHC at 608-270-2480 or by email at NWHC-epi@usgs.gov,and a field epidemiologist will be available to discuss the case. To report wildlife mortality events in Hawaii or Pacific Island territories, please contact the Honolulu Field Station at 808-792-9520 or email Thierry Work at thierry_work@usgs.gov. Further information can be found at http://www.nwhc.usgs.gov/services/
- Wildlife Mortality Reporting and Diagnostic Submission Request Form



USGS

USGS National Wildlife Health Center

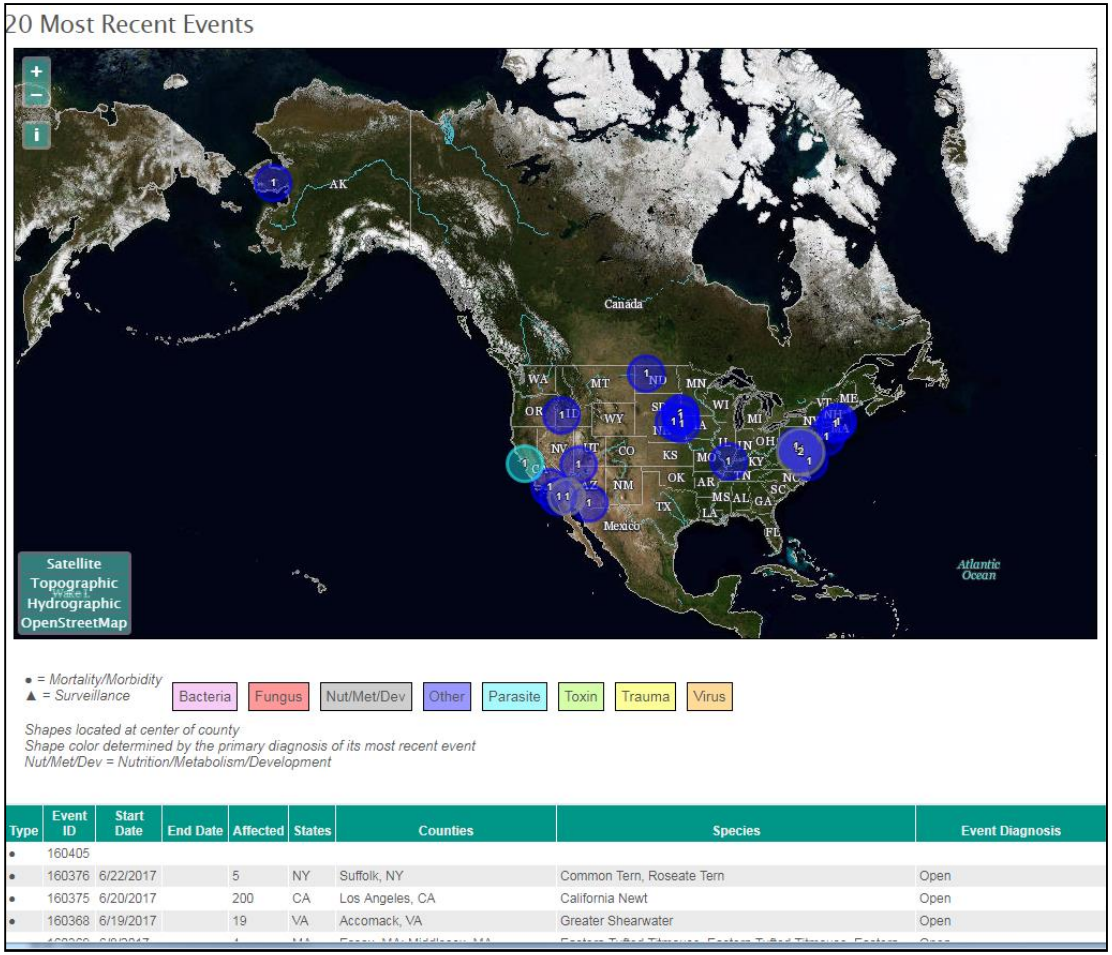
Diseases currently being researched by NWHC

- Avian Cholera
- Avian Botulism
- Amphibian Malformation and Decline
- Avian Influenza
- Avian Pox
- Avian Vacuolar Myelinopathy
- Chronic Wasting Disease
- Coral Diseases
- Duck Plague
- Foot and Mouth Disease
- Lead Poisoning
- Ranavirus
- Salmonellosis
- Snake Fungal Disease
- Sylvatic Plague
- Viral Hemorrhagic Septicemia Virus

(Source: Western Fisheries Research Center)

- Vulture Decline
- West Nile Virus
- White-Nose Syndrome

WHISPers, a Wildlife Health Information Sharing Partnership event reporting system
https://www.nwhc.usgs.gov/whispers/



Type	Event ID	Start Date	End Date	Affected	States	Counties	Species	Event Diagnosis
•	160405							
•	160376	6/22/2017		5	NY	Suffolk, NY	Common Tern, Roseate Tern	Open
•	160375	6/20/2017		200	CA	Los Angeles, CA	California Newt	Open
•	160368	6/19/2017		19	VA	Accomack, VA	Greater Shearwater	Open

USGS

(3) Where can I find information about pikas?

USGS Northern Rocky Mountain Science Center (NOROCK)

https://www.usgs.gov/centers/norock/science-topics/american-pika

USGS Publications Warehouse:
https://pubs.er.usgs.gov/search?q=pikas

National Park Service:
https://www.nps.gov/romo/learn/nature/pikas.htm

- Pikas in Peril: https://science.nature.nps.gov/im/units/ucbn/monitor/pikas_in_peril.cfm

9 animals that are feeling the impacts of climate change: https://www.doi.gov/blog/9-animals-are-feeling-impacts-climate-change

National Academies, Ecological Impacts of Climate Change: https://www.nap.edu/read/12491

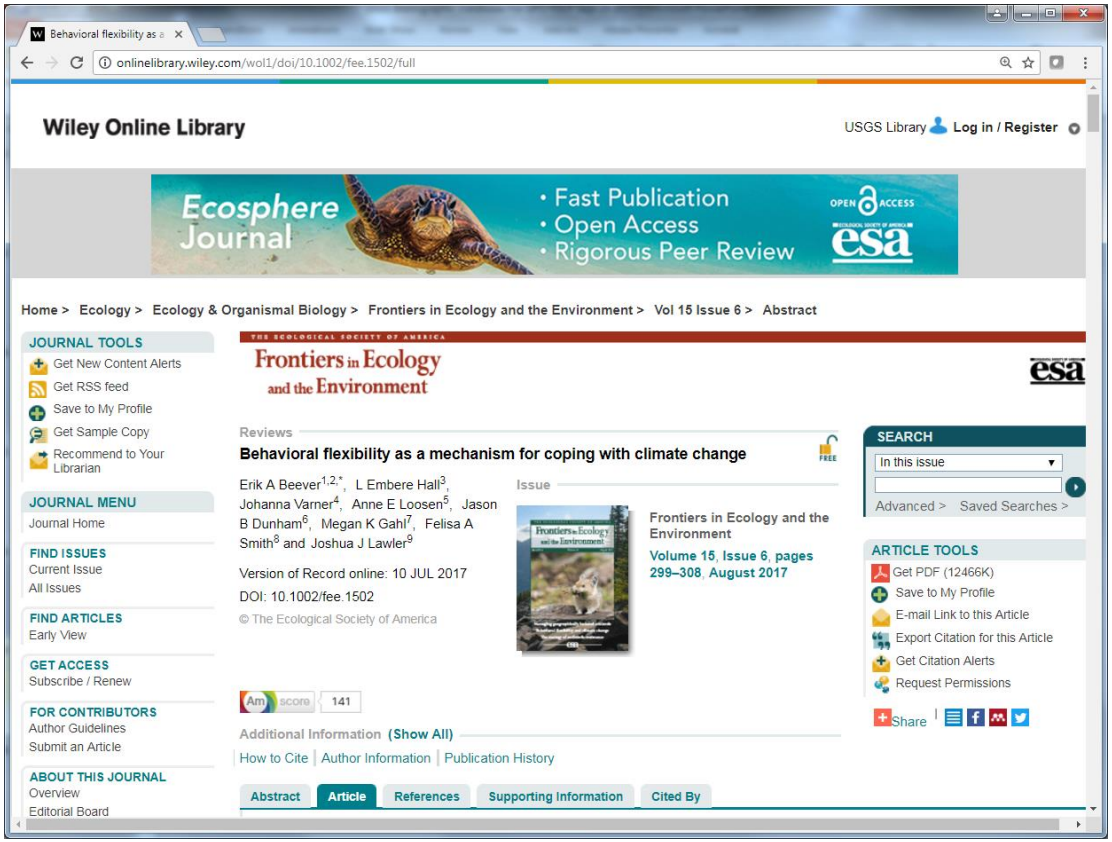
Worldcat, search = Pika: http://www.worldcat.org/search?q=su%3Apika&qt=results_page

USGS

(3) Where can I find information about pikas?

Behavioral Flexibility May Help Some Animals Deal with a Changing Climate
http://blogs.plos.org/ecology/2017/07/27/behavioral-flexibility-may-help-some-animals-deal-with-a-changing-climate/

Behavioral flexibility as a mechanism for coping with climate change
http://onlinelibrary.wiley.com/wol1/doi/10.1002/fee.1502/full



USGS

(4) I need all info for the Animas River and Gold King Mine

https://water.usgs.gov/owq/gkm/

USGS science for a changing world

USGS Water-Quality Information

USGS Water-Quality Data and Activities for the 2015 Gold King Mine Release

Overview | Water-Quality Sampling Results | Map & Geospatial | Satellite Imagery | Past Publications | Photos | Contact USGS

Water-Quality Sampling Data

USGS has collected water-quality samples at a number of sites downstream from the Gold King Mine since the August 2015 release. As part of our routine science activities, USGS collects water-quality data around the Nation. The region near Silverton, Colorado, has been an area of extensive USGS research on abandoned mine lands and on natural sources of metals and acidity to streams. The locations, types of data, and frequency of data vary based on the objectives of the USGS program or study for which they were collected.

Two main databases are available with data for the area of interest:

- Digital Database from USGS Professional Paper 1651: Integrated Investigations of Environmental Effects of Historical Mining in the Animas River Watershed
- USGS Gold King Mine Release Database (download the data below)

USGS gage 09358550, Cement Creek at Silverton. Photo taken September 29, 2012. Credit: USGS. This photo is in the public domain. Higher resolution version is available.

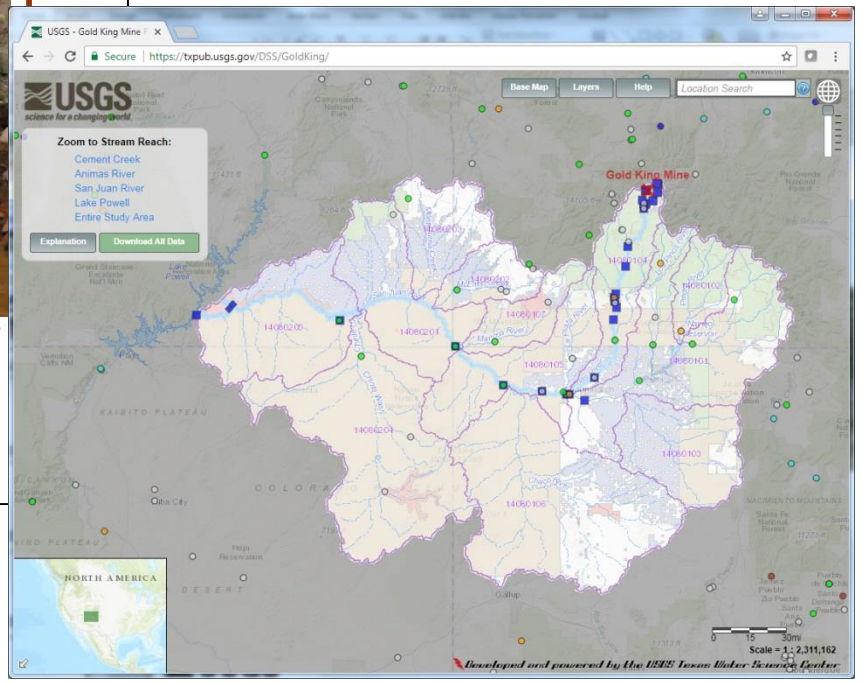
USGS Gold King Mine Release Database

Download the Data

For convenience and ease of access, USGS has compiled a database of USGS National Water Information (NWIS) water-quality data, referred to as the USGS Gold King Mine Release Database [25MB ZIP]. The zip file includes copies of the database in two formats: a Microsoft Access Database and a comma-separated-values text file.

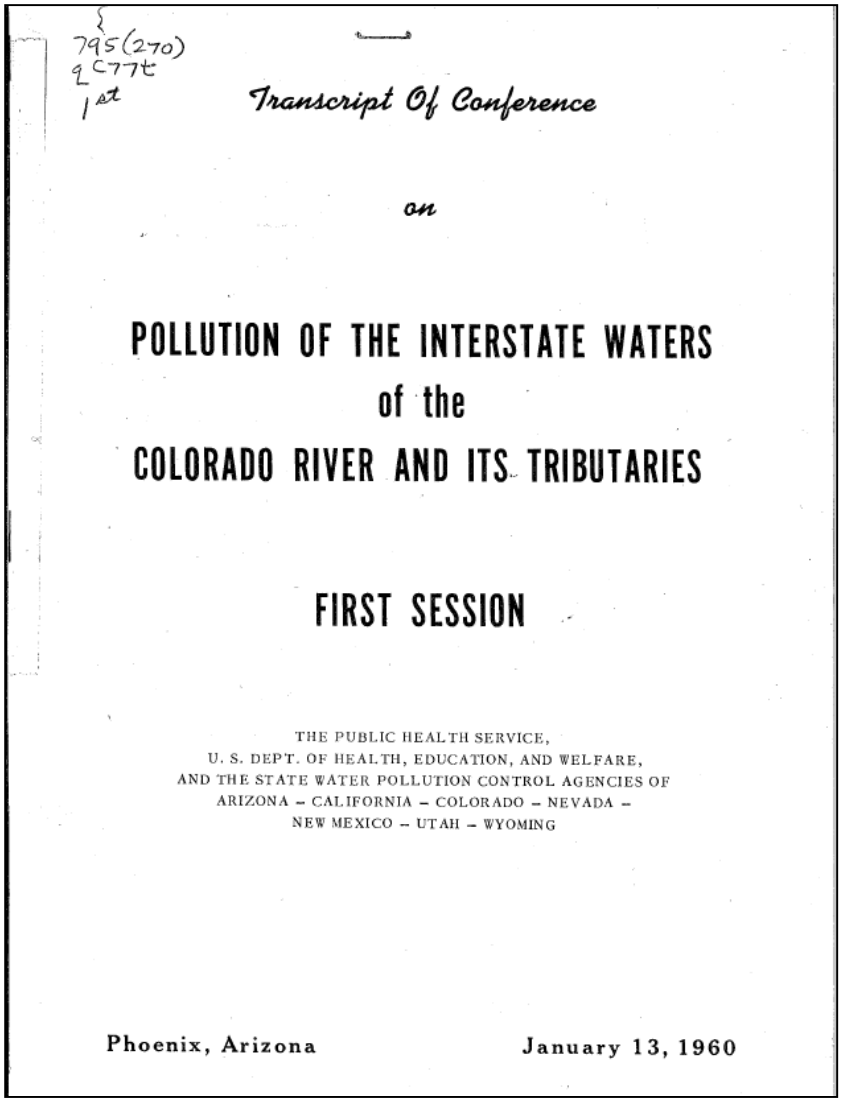
What does the database include?

The USGS water-quality sites included in the database were selected based on the criteria below. Both approved and provisional data are contained in the database.



USGS

(4) I need all info for the Animas River and Gold King Mine



795(270)
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Transcript Of Conference

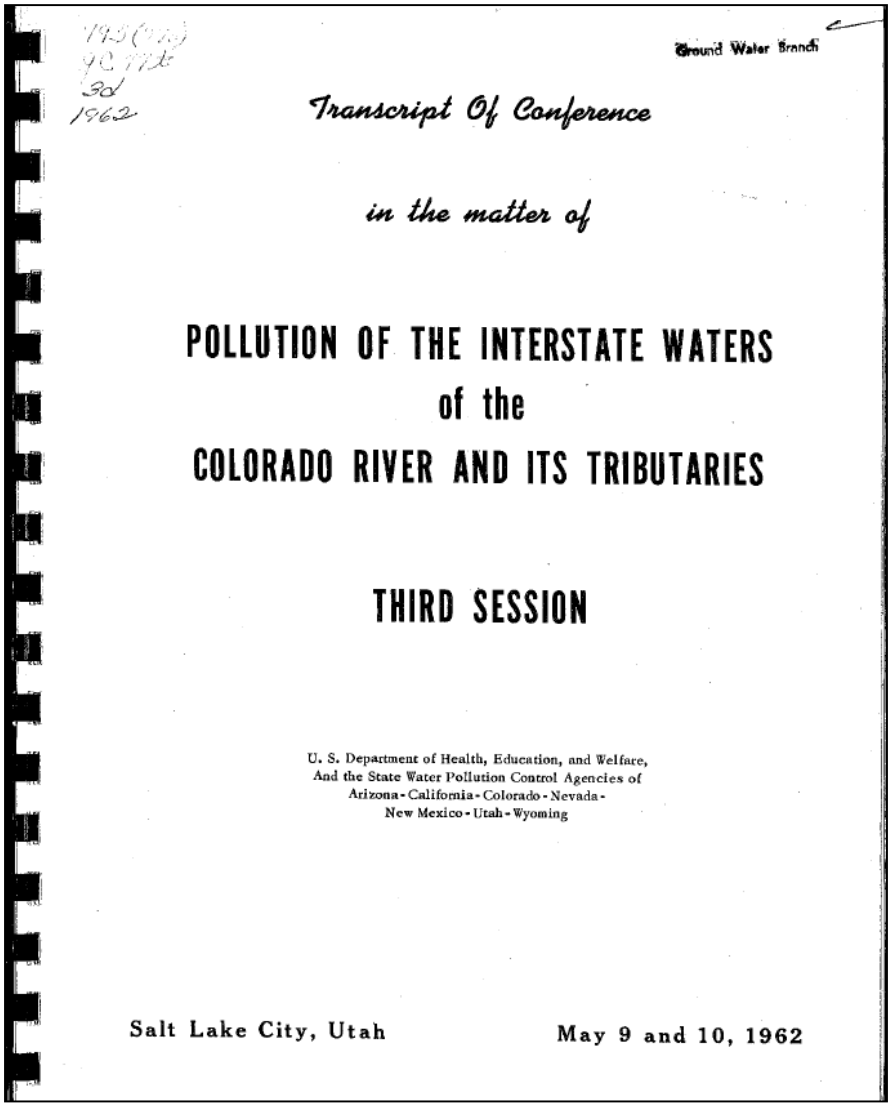
on

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



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

USGS

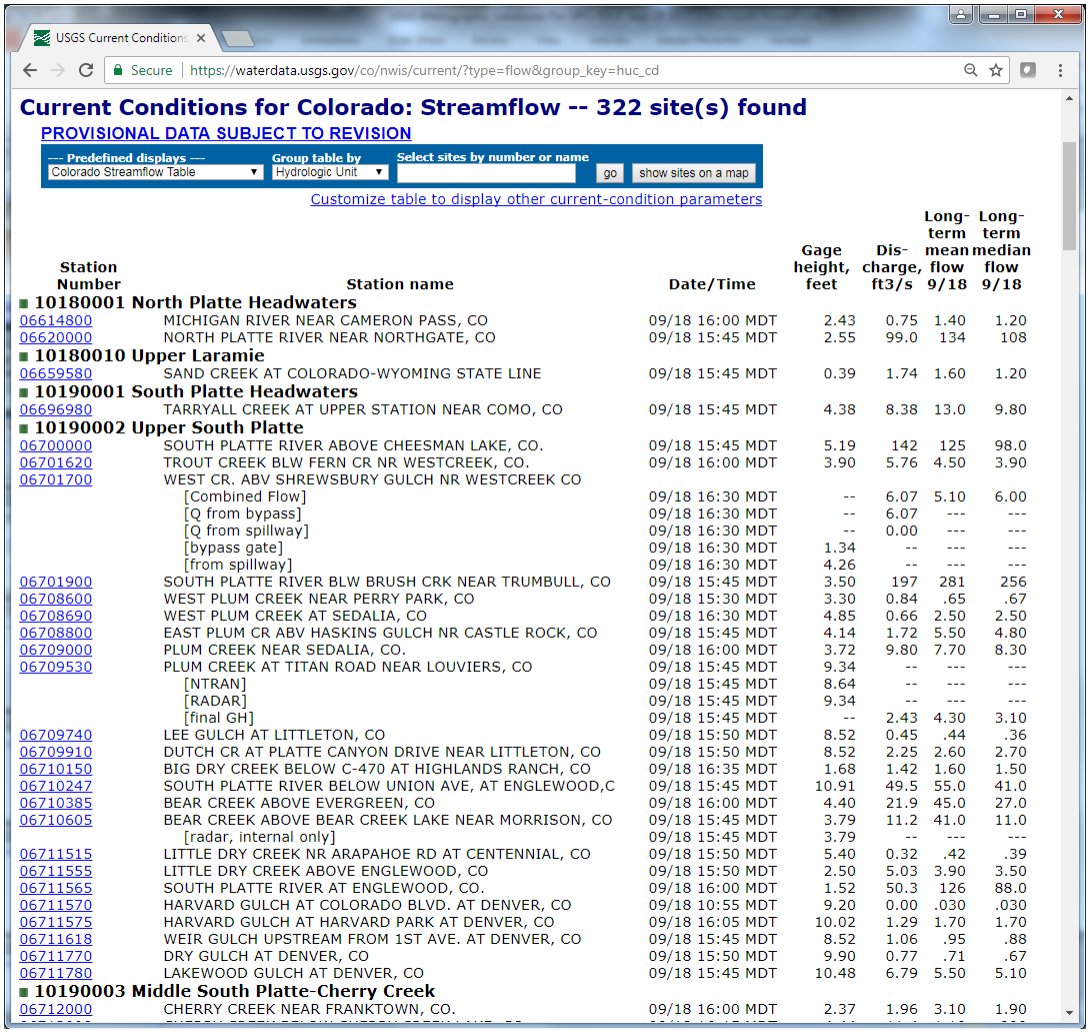
A library user told me about these on Aug. 7, 2015; I read both, then scanned them for scientists; after I was done with using them, my colleague Lily created a record & barcoded the publications, and returned the books back to the stacks…

(5) What is the flow today on the South Platte River?

Subregion 1019 -- South Platte: The South Platte River Basin. Colorado, Nebraska, Wyoming.
Area = 23900 sq.mi.

Accounting Unit 101900 -- South Platte. Colorado, Nebraska, Wyoming.
Area = 23900 sq.mi.

Cataloging Units
- 10190001 -- South Platte Headwaters. Colorado. Area = 1590 sq.mi.
- 10190002 -- Upper South Platte. Colorado. Area = 1820 sq.mi.
- 10190003 -- Middle South Platte-Cherry Creek. Colorado. Area = 2870 sq.mi.
- 10190004 -- Clear. Colorado. Area = 558 sq.mi.
- 10190005 -- St. Vrain. Colorado. Area = 978 sq.mi.
- 10190006 -- Big Thompson. Colorado. Area = 819 sq.mi.
- 10190007 -- Cache La Poudre. Colorado, Wyoming. Area = 1910 sq.mi.
- 10190008 -- Lone Tree-Owl. Colorado, Wyoming. Area = 573 sq.mi.
- 10190009 -- Crow. Colorado, Wyoming. Area = 1410 sq.mi.
- 10190010 -- Kiowa. Colorado. Area = 720 sq.mi.
- 10190011 -- Bijou. Colorado. Area = 1360 sq.mi.
- 10190012 -- Middle South Platte-Sterling. Colorado, Nebraska. Area = 2900 sq.mi.
- 10190013 -- Beaver. Colorado. Area = 1080 sq.mi.
- 10190014 -- Pawnee. Colorado. Area = 728 sq.mi.
- 10190015 -- Upper Lodgepole. Colorado, Nebraska, Wyoming. Area = 1130 sq.mi.
- 10190016 -- Lower Lodgepole. Colorado, Nebraska, Wyoming. Area = 1350 sq.mi.
- 10190017 -- Sidney Draw. Colorado, Nebraska, Wyoming. Area = 744 sq.mi.
- 10190018 -- Lower South Platte. Colorado, Nebraska. Area = 1380 sq.mi.



Current Conditions for Colorado: Streamflow -- 322 site(s) found

PROVISIONAL DATA SUBJECT TO REVISION

--- Predefined displays --- Colorado Streamflow Table | Group table by Hydrologic Unit | Select sites by number or name | go | show sites on a map

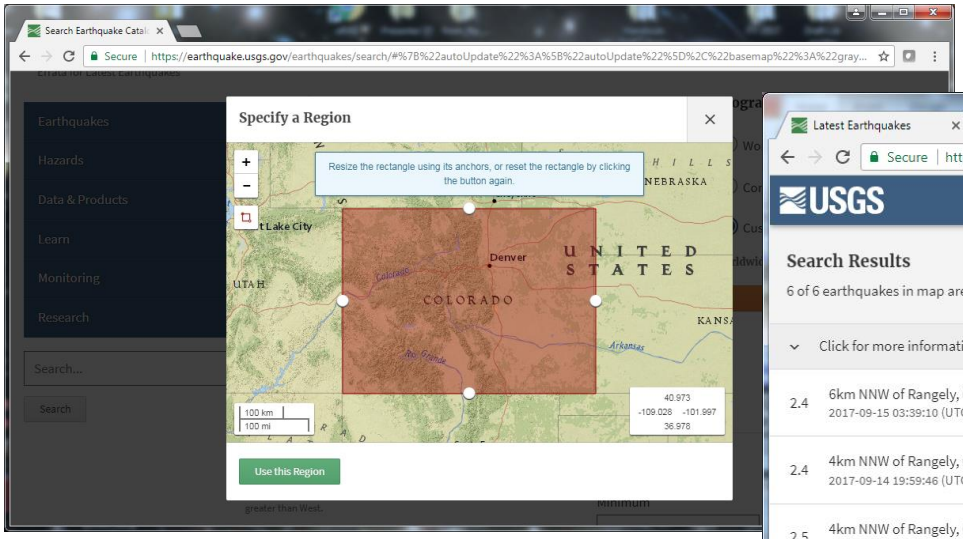
Customize table to display other current-condition parameters

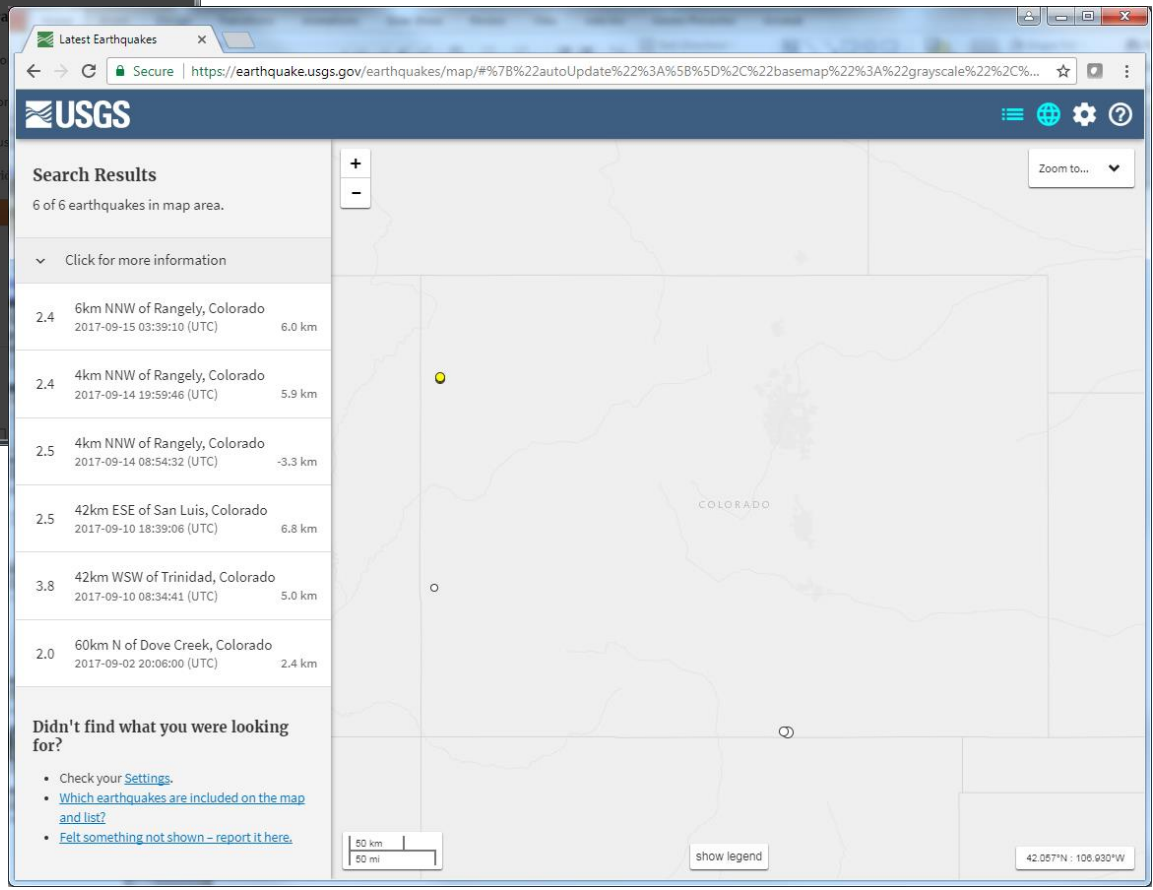
Station Number	Station name	Date/Time	Gage height, feet	Dis-charge, ft3/s	Long-term mean flow 9/18	Long-term median flow 9/18
10180001 North Platte Headwaters						
06614800	MICHIGAN RIVER NEAR CAMERON PASS, CO	09/18 16:00 MDT	2.43	0.75	1.40	1.20
06620000	NORTH PLATTE RIVER NEAR NORTHGATE, CO	09/18 15:45 MDT	2.55	99.0	134	108
10180010 Upper Laramie						
06659580	SAND CREEK AT COLORADO-WYOMING STATE LINE	09/18 15:45 MDT	0.39	1.74	1.60	1.20
10190001 South Platte Headwaters						
06696980	TARRYALL CREEK AT UPPER STATION NEAR COMO, CO	09/18 15:45 MDT	4.38	8.38	13.0	9.80
10190002 Upper South Platte						
06700000	SOUTH PLATTE RIVER ABOVE CHEESMAN LAKE, CO.	09/18 15:45 MDT	5.19	142	125	98.0
06701620	TROUT CREEK BLW FERN CR NR WESTCREEK, CO.	09/18 16:00 MDT	3.90	5.76	4.50	3.90
06701700	WEST CR. ABV SHREWSBURY GULCH NR WESTCREEK CO					
	[Combined Flow]	09/18 16:30 MDT	--	6.07	5.10	6.00
	[Q from bypass]	09/18 16:30 MDT	--	6.07	---	---
	[Q from spillway]	09/18 16:30 MDT	--	0.00	---	---
	[bypass gate]	09/18 16:30 MDT	1.34	--	---	---
	[from spillway]	09/18 16:30 MDT	4.26	--	---	---
06701900	SOUTH PLATTE RIVER BLW BRUSH CRK NEAR TRUMBULL, CO	09/18 15:45 MDT	3.50	197	281	256
06708600	WEST PLUM CREEK NEAR PERRY PARK, CO	09/18 15:30 MDT	3.30	0.84	.65	.67
06708690	WEST PLUM CREEK AT SEDALIA, CO	09/18 16:30 MDT	4.85	0.66	2.50	2.50
06708800	EAST PLUM CR ABV HASKINS GULCH NR CASTLE ROCK, CO	09/18 15:45 MDT	4.14	1.72	5.50	4.80
06709000	PLUM CREEK NEAR SEDALIA, CO.	09/18 16:00 MDT	3.72	9.80	7.70	8.30
06709530	PLUM CREEK AT TITAN ROAD NEAR LOUVIERS, CO	09/18 15:45 MDT	9.34	--	---	---
	[NTRAN]	09/18 15:45 MDT	8.64	--	---	---
	[RADAR]	09/18 15:45 MDT	9.34	--	---	---
	[final GH]	09/18 15:45 MDT	--	2.43	4.30	3.10
06709740	LEE GULCH AT LITTLETON, CO	09/18 15:50 MDT	8.52	0.45	.44	.36
06709910	DUTCH CR AT PLATTE CANYON DRIVE NEAR LITTLETON, CO	09/18 15:50 MDT	8.52	2.25	2.60	2.70
06710150	BIG DRY CREEK BELOW C-470 AT HIGHLANDS RANCH, CO	09/18 16:35 MDT	1.68	1.42	1.60	1.50
06710247	SOUTH PLATTE RIVER BELOW UNION AVE, AT ENGLEWOOD,C	09/18 15:45 MDT	10.91	49.5	55.0	41.0
06710385	BEAR CREEK ABOVE EVERGREEN, CO	09/18 16:00 MDT	4.40	21.9	45.0	27.0
06710605	BEAR CREEK ABOVE BEAR CREEK LAKE NEAR MORRISON, CO	09/18 15:45 MDT	3.79	11.2	41.0	11.0
	[radar, internal only]	09/18 15:45 MDT	3.79	--	---	---
06711515	LITTLE DRY CREEK NR ARAPAHOE RD AT CENTENNIAL, CO	09/18 15:50 MDT	5.40	0.32	.42	.39
06711555	LITTLE DRY CREEK ABOVE ENGLEWOOD, CO	09/18 15:50 MDT	2.50	5.03	3.90	3.50
06711565	SOUTH PLATTE RIVER AT ENGLEWOOD, CO.	09/18 16:00 MDT	1.52	50.3	126	88.0
06711570	HARVARD GULCH AT COLORADO BLVD. AT DENVER, CO	09/18 10:55 MDT	9.20	0.00	.030	.030
06711575	HARVARD GULCH AT HARVARD PARK AT DENVER, CO	09/18 16:05 MDT	10.02	1.29	1.70	1.70
06711618	WEIR GULCH UPSTREAM FROM 1ST AVE. AT DENVER, CO	09/18 15:45 MDT	8.52	1.06	.95	.88
06711770	DRY GULCH AT DENVER, CO	09/18 15:50 MDT	9.90	0.77	.71	.67
06711780	LAKEWOOD GULCH AT DENVER, CO	09/18 15:45 MDT	10.48	6.79	5.50	5.10
10190003 Middle South Platte-Cherry Creek						
06712000	CHERRY CREEK NEAR FRANKTOWN, CO.	09/18 16:00 MDT	2.37	1.96	3.10	1.90

USGS

https://waterdata.usgs.gov/co/nwis/current/?type=flow&group_key=huc_cd

(6) How many earthquakes have occurred in Colorado: where & when?
Create a Custom Map, State for the past 30 days
https://earthquake.usgs.gov/earthquakes/search/

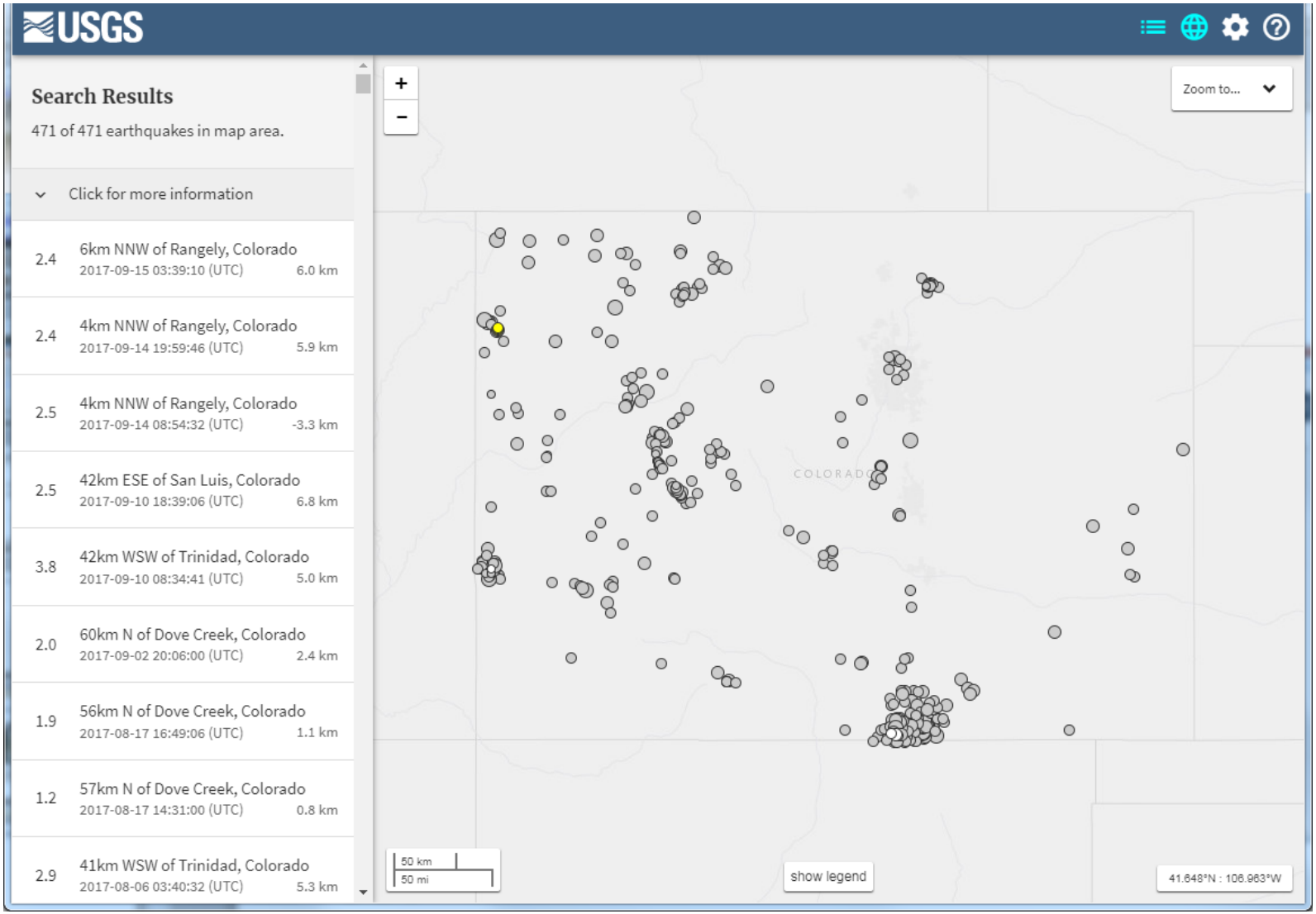




Custom Rectangle
[36.978, 40.973] Latitude
[-109.028, -101.997] Longitude

USGS

(6) How many earthquakes have occurred in Colorado: where & when?
Create a Custom Map for State since 1900 : About 471



USGS

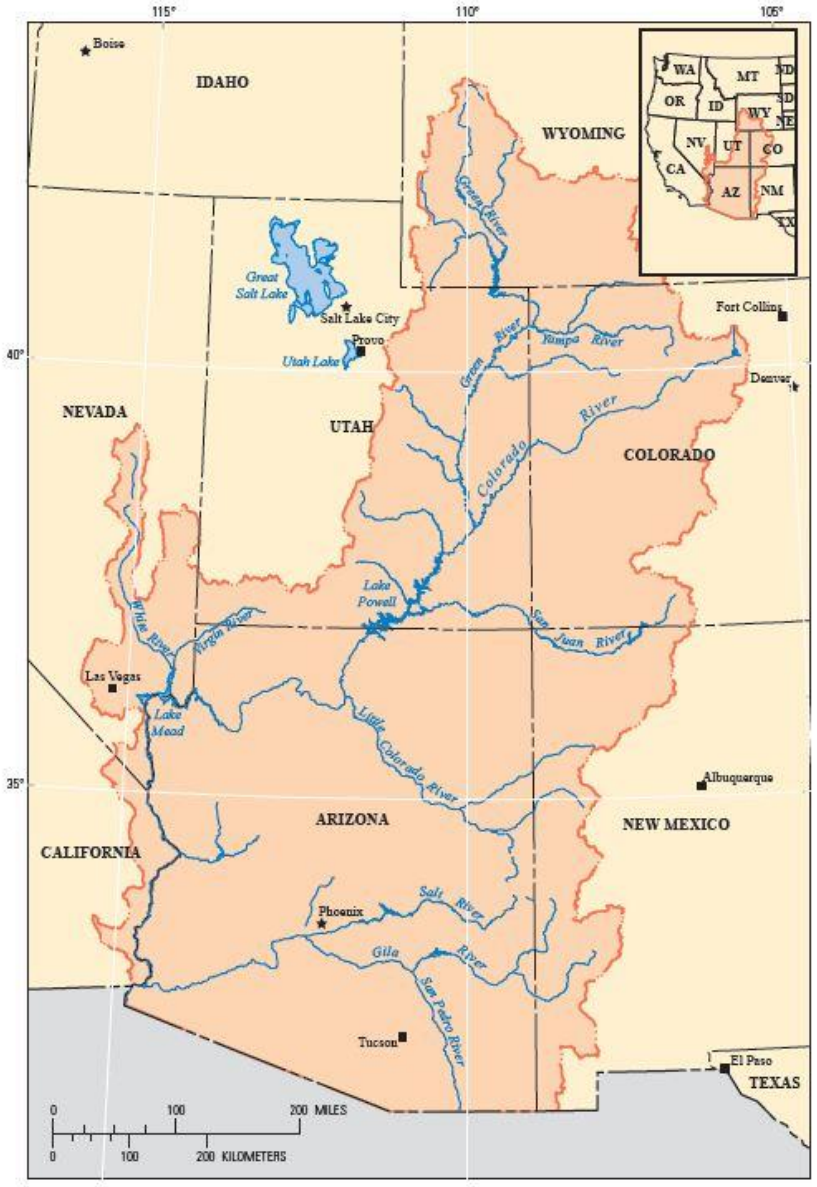
(7) I want all USGS maps for the Colorado River

Topographic Maps

Geologic Maps

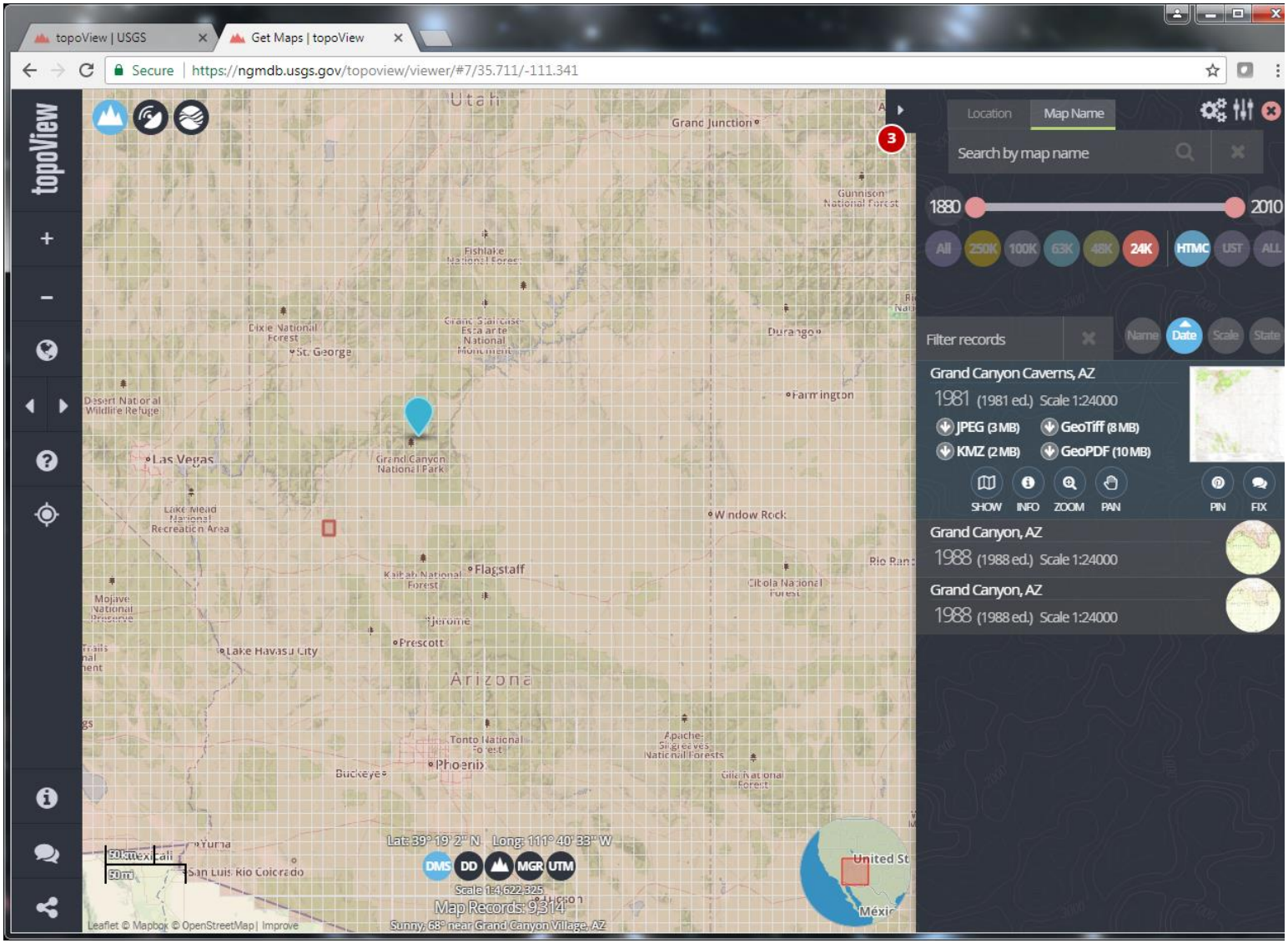
Hydrologic Maps

Others?



USGS

(7) I want all USGS maps for the Colorado River



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Topographic Maps by using USGS TopoView:
https://ngmdb.usgs.gov/topoview/viewer

The Colorado River (ID = 45730) on 176 topo maps

141	39.1294254	-108.6867645	390746N	1084112W	Fruita
142	39.1102591	-108.6634304	390637N	1083948W	Colorado National Monument
143	39.0519262	-108.5542598	390307N	1083315W	Grand Junction
144	39.0835924	-108.4025877	390501N	1082409W	Clifton
145	39.1008144	-108.3484192	390603N	1082054W	Palisade
146	39.1763692	-108.2889728	391035N	1081720W	Cameo
147	39.2588684	-108.2595278	391532N	1081534W	Wagon Track Ridge
148	39.3099790	-108.2273044	391836N	1081338W	De Beque
149	39.3813673	-108.1323005	392253N	1080756W	Red Pinnacle
150	39.4313671	-108.0597975	392553N	1080335W	Parachute
151	39.4858118	-107.9475707	392909N	1075651W	Rulison
152	39.4972015	-107.8717342	392950N	1075218W	North Mamm Peak
153	39.5230355	-107.7992314	393123N	1074757W	Rifle
154	39.5416473	-107.6547817	393230N	1073917W	Silt
155	39.5652585	-107.5489447	393355N	1073256W	New Castle
156	39.5649808	-107.4975540	393354N	1072951W	Storm King Mountain
157	39.5588710	-107.3117207	393332N	1071842W	Glenwood Springs
158	39.5905386	-107.1864409	393526N	1071111W	Shoshone
159	39.6235948	-107.1169943	393725N	1070701W	Cottonwood Pass
160	39.7022070	-107.0483811	394208N	1070254W	Dotsero
161	39.7708191	-107.0047688	394615N	1070017W	Sugarloaf Mountain
162	39.8624865	-106.9105995	395145N	1065438W	Burns South
163	39.8822089	-106.8680982	395256N	1065205W	Blue Hill
164	39.8919315	-106.7030929	395331N	1064211W	McCoy
165	39.8547090	-106.6542025	395117N	1063915W	State Bridge
166	39.9527643	-106.5567014	395710N	1063324W	Radium
167	39.9985974	-106.4978115	395955N	1062952W	Sheephorn Mountain
168	40.0427635	-106.4314211	400234N	1062553W	Kremmling
169	40.0602630	-106.2622493	400337N	1061544W	Junction Butte
170	40.0494299	-106.1666902	400258N	1061000W	Parshall
171	40.0835967	-106.0764093	400501N	1060435W	Hot Sulphur Springs
172	40.1066525	-105.9552938	400624N	1055719W	Granby
173	40.1294302	-105.8816797	400746N	1055254W	Trail Mountain
174	40.1430413	-105.8669570	400835N	1055201W	Shadow Mountain
175	40.3644286	-105.8589012	402152N	1055132W	Grand Lake
176	40.4722056	-105.8261216	402820N	1054934W	Fall River Pass

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Geographic Names Database:
https://geonames.usgs.gov/domestic/

Variant Names

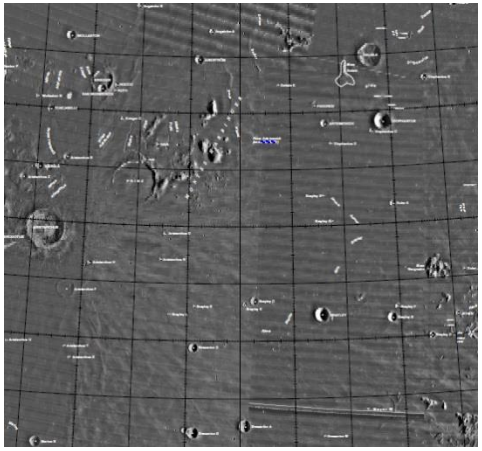
Variant Name	
Ahan Yava Kothickwa	Citation
Ancon de San Andres	Citation
Blue River	Citation
Bunkara River	Citation
Buqui Acqumuri	Citation
Canon of the Colorado River	Citation
El Rio de Buena Guia	Citation
Grand River	Citation
Green River	Citation
Gritetho	Citation
Hah Weal Asientic	Citation
Hahweel	Citation
Javill	Citation
Mar Bermejo	Citation
Nah Oon Kara	Citation
North Fork	Citation
North Fork Colorado River	Citation
North Fork of Grand River	Citation
Pa-na-weap	Citation
Packet-to	Citation
Pagah	Citation
Pocket-to	Citation
Red River of California	Citation
Red River of the West	Citation
Rio Buena Guia	Citation
Rio Colorado	Citation
Rio Colorado Del Norte	Citation
Rio Colorado del Norte	Citation
Rio Cosnina	Citation
Rio Del Norte	Citation
Rio Del Tizon	Citation
Rio Grande De Buena Esperanza	Citation
Rio Grande de Buena Esperanza	Citation
Rio Grande de los Cosninas	Citation
Rio Grande de los Martyres	Citation
Rio de Buena Guia	Citation
Rio de los Martires	Citation
Rio del Norta	Citation
Rio del Norte	Citation
Rio del Tizon	Citation
Seedekeeden	Citation
Seeds Keedee	Citation
Seeds Keeden	Citation
Seeds Keeder	Citation
Seeds-ke-Agie	Citation
Seedskeedee Agie	Citation
Seedskeeden	Citation
Seetes-Ker-Der	Citation

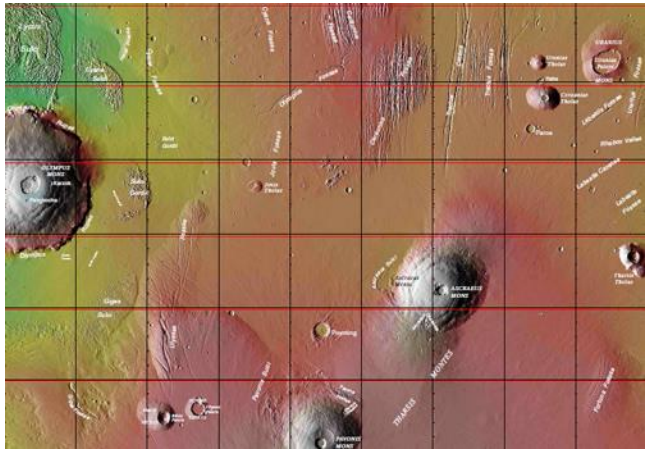
(8) I want all maps for the Moon and Mars
Go to: https://astrogeology.usgs.gov/ and
https://astrogeology.usgs.gov/maps

Advanced Search : Target = Moon, Data Format = Geologic Map
https://astrogeology.usgs.gov/search/results?k1=target&v1=Moon&k2=geospatial_data_presentation_form&v2=Geologic+Map

USGS Moon: https://planetarynames.wr.usgs.gov/Page/MOON/target

Advanced Search : Target = Mars, Data Format = Geologic Map
https://astrogeology.usgs.gov/search/results?k1=target&v1=Mars&k2=geospatial_data_presentation_form&v2=Geologic+Map
USGS Mars: https://astrogeology.usgs.gov/solar-system/mars
USGS Mars:https://planetarynames.wr.usgs.gov/Page/MARS/target





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(8) I want all maps for the Moon and Mars

	A	
1	I #	title
2	351	Engineer Special Study of the Surface of the Moon
3	355	Geologic Map and Sections of the Kepler Region of the Moon
4	385	Geologic Map and Sections of the Letronne Region of the Moon
5	458	Geologic Map of the Riphaeus Mountains Region of the Moon
6	462	Geologic Map and Section of the Timocharis Region of the Moon
7	463	Geologic Map of the Montes Apenninus Region of the Moon
8	465	Geologic Map of the Aristarchus Region of the Moon
9	485	Geologic Map of the Pitatus Region of the Moon
10	489	Geologic Map of the Mare Serenitatis Region of the Moon
11	491	Geologic Map of the Hevelius Region of the Moon
12	495	Geologic Map of the Mare Humorum Region of the Moon
13	510	Geologic Map of the Julius Caesar Quadrangle of the Moon
14	515	Geologic Map of the Copernicus Quadrangle of the Moon
15	527	Geologic Map of the Seleucus Quadrangle of the Moon
16	546	Geologic Map of the Theophilus Quadrangle of the Moon
17	548	Geologic Map of the Mare Vaporum Quadrangle of the Moon
18	566	Geologic Map of the Ptolemaeus Quadrangle of the Moon
19	566	Geologic Map of the Ptolemaeus Quadrangle of the Moon (revised)
20	586	Geologic Map of the Alphonsus GA Region of the Moon
21	594	Geologic Map of the Sabine DM Region of the Moon
22	599	Geologic Map of the Alphonsus Region of the Moon
23	602	Geologic Map of the Sinus Iridium Quadrangle of the Moon
24	604	Geologic Map of the J. Herschel Quadrangle of the Moon
25	616	Geologic Map of the Maskelyne DA Region of the Moon
26	617	Geologic Map of Apollo Landing Site 1
27	618	Geologic Map of the Sabine D Region of the Moon
28	619	Geologic Map of Apollo Landing Site 2 (Apollo 11)
29	620	Geologic Map of the Oppolzer A Region of the Moon
30	621	Geologic Map of Apollo Landing Sites 3 and 3R
31	622	Geologic Map of the Maestlin G Region of the Moon
32	623	Geologic Map of Apollo Landing Site 5
33	624	Geologic Map of the Wichmann CA Region of the Moon
34	625	Geologic Map of Apollo Landing Sites 4 and 4R
35	626	Geologic Map of the Flamsteed K Region of the Moon
36	627	Geologic Map of the Lansberg P Region of the Moon
37	666	Geologic Map of the Cassini Quadrangle of the Moon
38	678	Geologic Map of the Bonpland PQC Region of the Moon
39	679	Geologic Map of the Sabine EB Region of the Moon
40	690	Geologic Map of the Rupes Altai Quadrangle of the Moon
41	691	Geologic Map of the Schiller Quadrangle of the Moon
42	693	Geologic Map of the Bonpland H Region of the Moon
43	694	Geologic Map of the Rheita Quadrangle of the Moon
44	695	Geologic Map of the Maurolycus Quadrangle of the Moon
45	701	Geologic Map of the Plato Quadrangle of the Moon
46	702	Geologic Map of the Hommel Quadrangle of the Moon
47	703	Geologic Map of the Near Side of the Moon

Sheet1 Sheet2 Sheet3

Ready 100%

	A	
74	841	Geologic Map of the Geminus Quadrangle of the Moon
75	893	Geologic Map of the Tharsis Quadrangle of Mars
76	894	Geologic Map of the Lunae Palus Quadrangle of Mars
77	895	Geologic Map of the Oxia Palus Quadrangle of Mars
78	896	Geologic Map of the Phoenicis Lacus Quadrangle of Mars
79	897	Geologic Map of the Coprates Quadrangle of Mars
80	903	Reference Mosaic of Mercury
81	910	Geologic Map of the Noachis Quadrangle of Mars
82	923	Shaded Relief Map of the Argyre Quadrangle of Mars
83	924	Shaded Relief Map of the Phoenicus Lacus Quadrangle of Mars
84	925	Shaded Relief Map of the Lunae Palus Quadrangle of Mars
85	926	Shaded Relief Map of the Tharsis Quadrangle of Mars
86	927	Shaded Relief Map of the Margaritifer Sinus Quadrangle of Mars
87	928	Shaded Relief Map of the Coprates Quadrangle of Mars
88	929	Shaded Relief Map of the Syrtis Major Quadrangle of Mars
89	935	Geologic Map of the Elysium Quadrangle of Mars
90	939	Shaded Relief Map of the Chryse Region of Mars
91	940	Shaded Relief Map of Mars
92	941	Geologic Map of the Hellas Quadrangle of Mars
93	945	Geologic Map of the Rima Hyginus Region of the Moon
94	946	Shaded Relief Map of the Cydonia Region of Mars
95	947	Shaded Relief Map of the Erythraeum Region of Mars
96	948	Geologic Map of the East Side of the Moon
97	955	Shaded Relief Map of the Oxia Palus Quadrangle of Mars
98	956	Shaded Relief Map of the Amazonis Quadrangle of Mars
99	957	Shaded Relief Map of the Nereidum Montes Region of Mars
100	958	Shaded Relief Map of the Mare Acidalium Quadrangle of Mars
101	959	Shaded Relief Map of the Bach Area of Mercury
102	960	Shaded Relief Map of the Kuiper Quadrangle of Mercury
103	961	Topographic Map of Mars
104	967	Topographic Map of the Syrtis Major Quadrangle of Mars
105	969	Shaded Relief Map of the Mare Boreum Area of Mars
106	970	Shaded Relief Map of the Mare Australe Area of Mars
107	971	Topographic Map of the Lunae Palus Quadrangle of Mars
108	975	Topographic Map of the Margaritifer Sinus Quadrangle of Mars
109	976	Topographic Map of the Coprates Quadrangle of Mars
110	977	Topographic Maps of the Tharsis Quadrangle of Mars
111	978	Topographic Map of the Oxia Palus Quadrangle of Mars
112	979	Topographic Map of the Mare Acidalium Quadrangle of Mars
113	983	Topographic Map of the Chryse Region of Mars
114	984	Topographic Map of the Phoenicis Lacus Quadrangle of Mars
115	985	Topographic Map of the Argyre Quadrangle of Mars
116	986	Topographic Map of the Erythraeum Region of Mars
117	988	Topographic Map of the Cydonia Region of Mars
118	989	Shaded Relief Map of the Diacria Quadrangle of Mars
119	990	High Resolution Mariner 9 Pictures in the Cydonia Region of Mars
120	991	High Resolution Mariner 9 Pictures in the Chryse Region of Mars

Sheet1 Sheet2 Sheet3

Ready 100%

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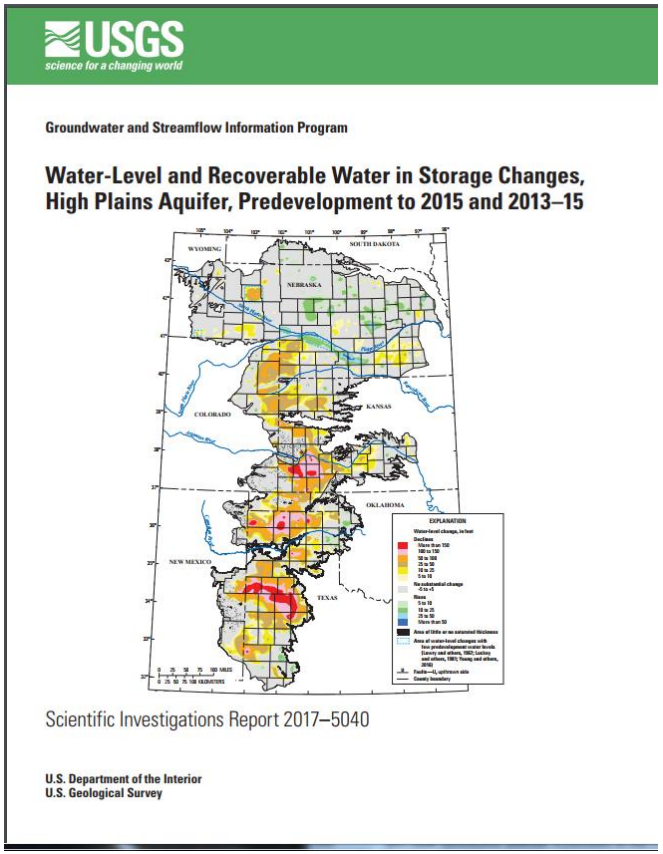
(9) How much water is in the Ogallala aquifer?

USGS SIR 2017-5040 Water-level and recoverable water in storage changes, High Plains aquifer, predevelopment to 2015 and 2013–15

https://pubs.er.usgs.gov/publication/sir20175040



Abstract

The High Plains aquifer underlies 111.8 million acres (about 175,000 square miles) in parts of eight States—Colorado, Kansas, Nebraska, New Mexico, Oklahoma, South Dakota, Texas, and Wyoming. Water-level declines began in parts of the High Plains aquifer soon after the beginning of substantial irrigation with groundwater in the aquifer area (about 1950). This report presents water-level changes and change in recoverable water in storage in the High Plains aquifer from predevelopment (about 1950) to 2015 and from 2013 to 2015.

The methods to calculate area-weighted, average water-level changes; change in recoverable water in storage; and total recoverable water in storage used geospatial data layers organized as rasters with a cell size of 500 meters by 500 meters, which is an area of about 62 acres. Raster datasets of water-level changes are provided for other uses.

Water-level changes from predevelopment to 2015, by well, ranged from a rise of 84 feet to a decline of 234 feet. Water-level changes from 2013 to 2015, by well, ranged from a rise of 24 feet to a decline of 33 feet. The area-weighted, average water-level changes in the aquifer were an overall decline of 15.8 feet from predevelopment to 2015 and a decline of 0.6 feet from 2013 to 2015. Total recoverable water in storage in the aquifer in 2015 was about 2.91 billion acre-feet, which was a decline of about 273.2 million acre-feet since predevelopment and a decline of 10.7 million acre-feet from 2013 to 2015.

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- **Colorado Public Radio (CPR) : September 18, 2017**

“After Decades Of Plenty, The Ogallala Aquifer Is Running Dry”

http://www.cpr.org/news/story/after-decades-of-plenty-the-ogallala-aquifer-is-running-dry

Groundwater declines are linked to changes in Great Plains stream fish assemblages

http://www.pnas.org/content/114/28/7373.abstract

[3rd author is USGS]

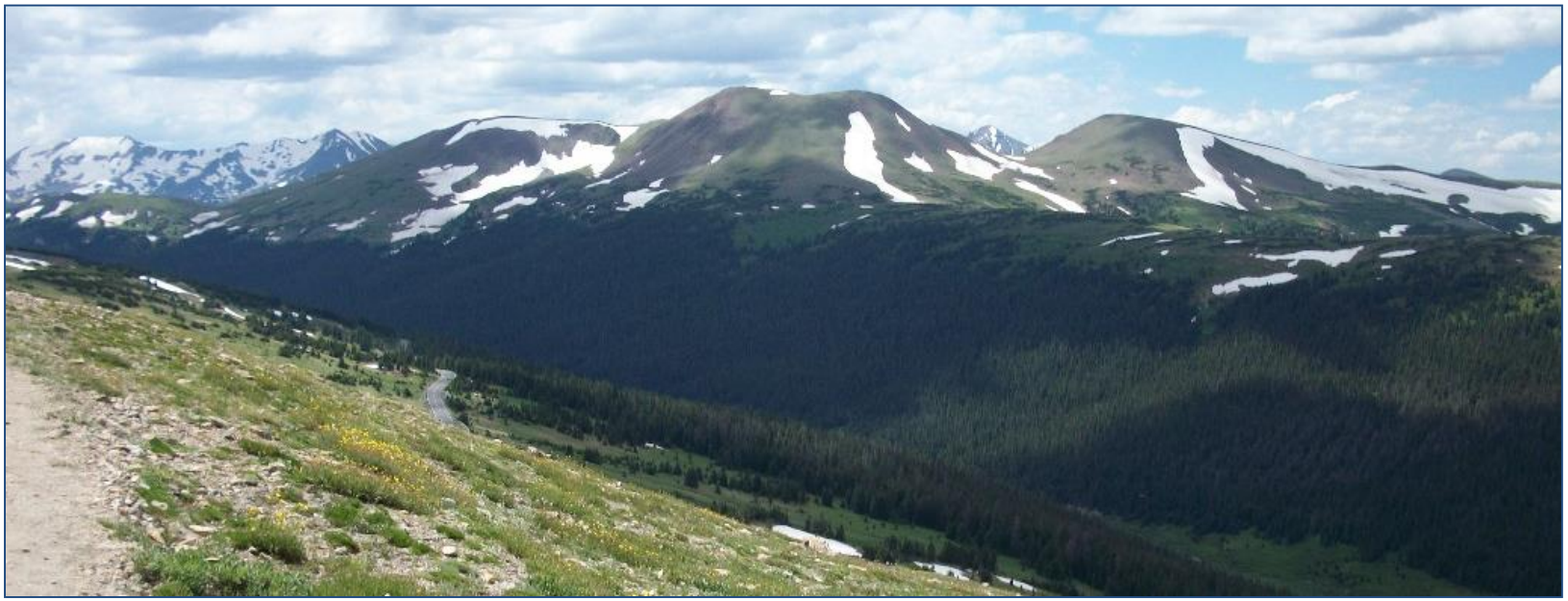
From CPR (Image From NASA): “Green crop circles cover what was once shortgrass prairie in southwestern Kansas. Like crops throughout large sections of the U.S. Midwest, these crops are partly fed by water from the Ogallala Aquifer, a giant layer of underground water. ”

USGS

Thank You!

Emily C. Wild, Librarian (Physical Scientist)
U.S. Geological Survey Library, Denver, Colorado
303-236-1003 or ecwild@usgs.gov
Emily Wild - USGS Staff Profile

Next Session : ???



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