Online Access to USGS Water-Resources Data

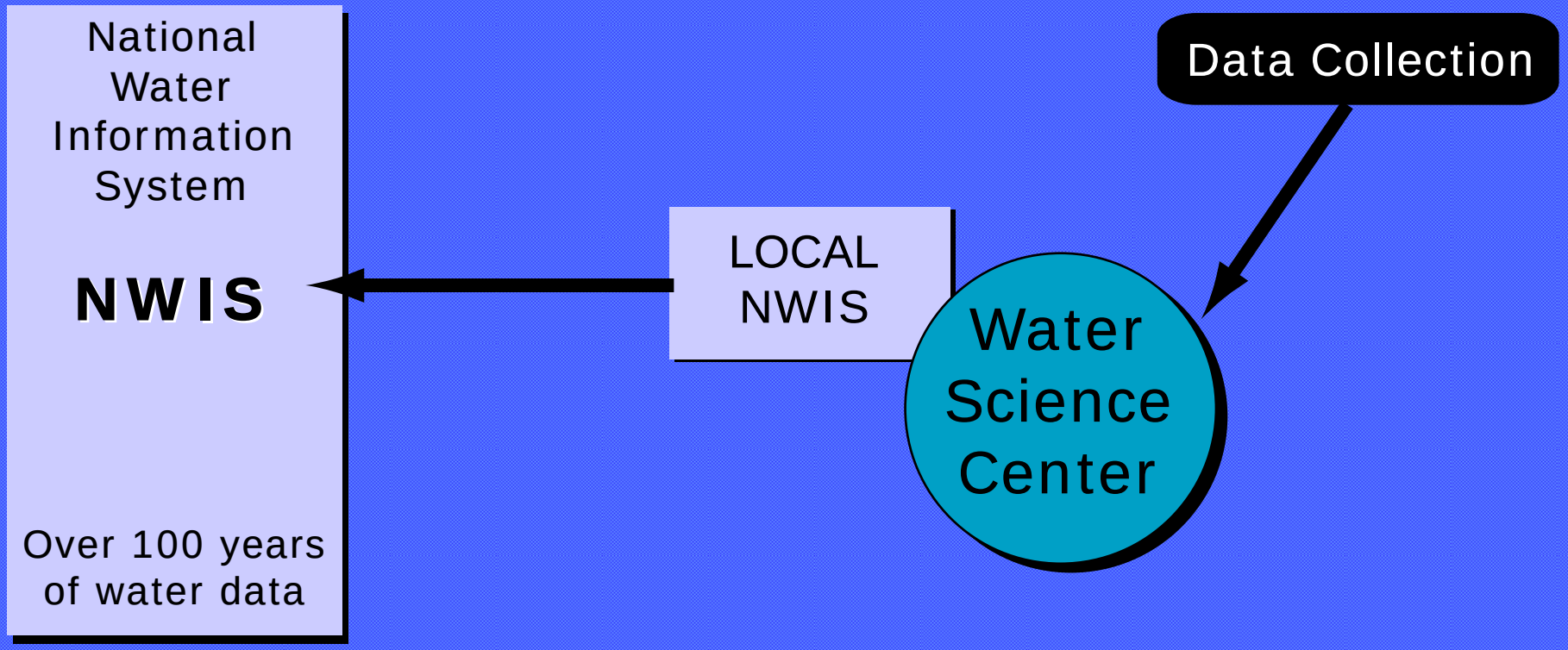
Gary T. Fisher, Baltimore, MD
David S. McCulloch, Madison, WI
Edward E. Fischer, Iowa City, IA

USGS and Water-Resources Data

The USGS investigates the occurrence, quantity, quality, distribution, and movement of surface and underground waters and disseminates the data to the public, State and local governments, public and private utilities, and other Federal agencies involved with managing our water resources.

USGS
science for a changing world

Water-Resources Data Collection

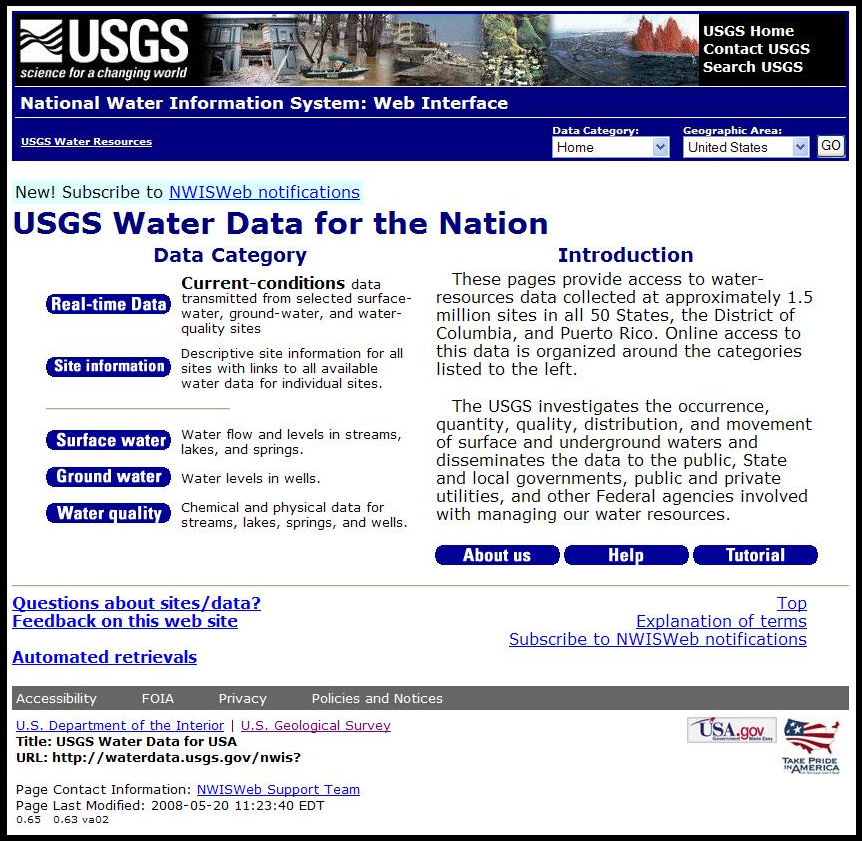


USGS
science for a changing world

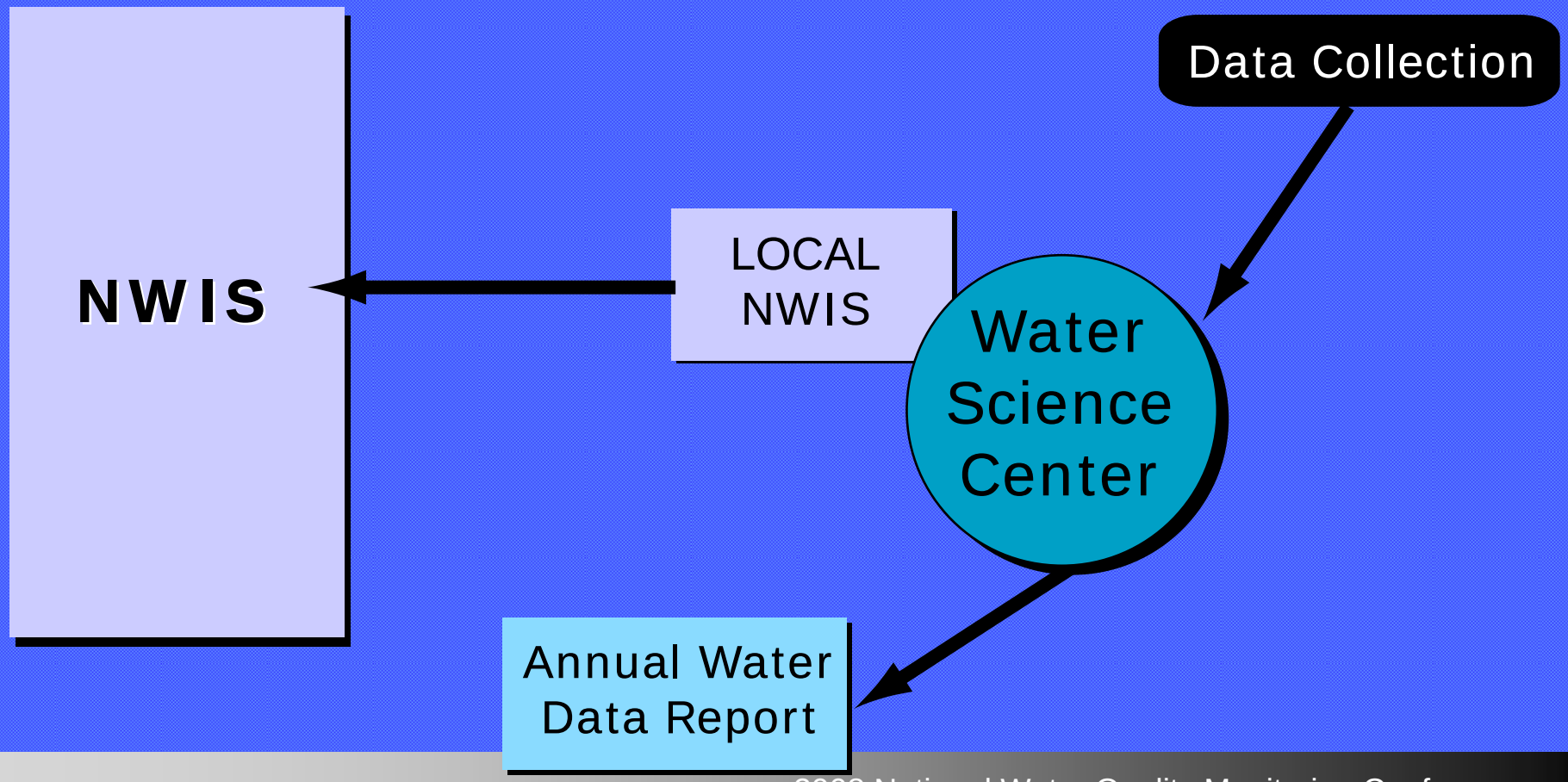
Data Distribution - NWIS

NWIS → NWISWeb

http://waterdata.usgs.gov/nwis

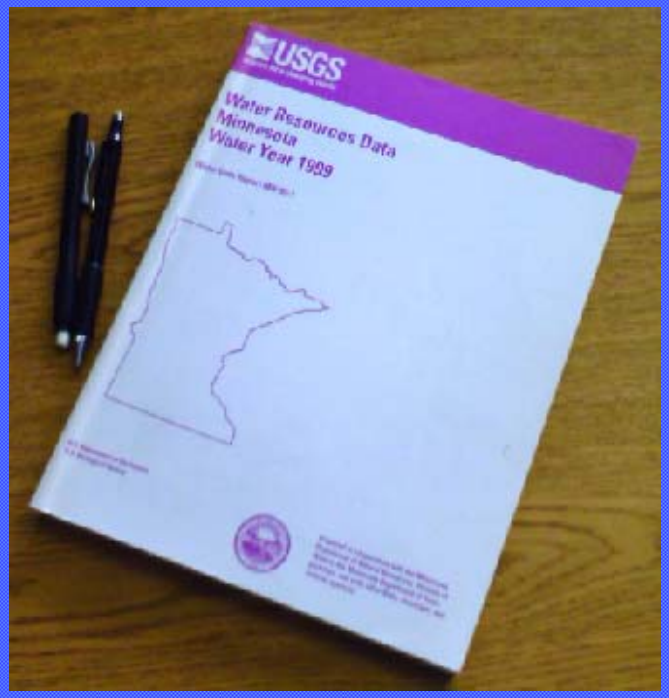


Data Distribution – Annual Report



Annual Water Data Report

- AWDR was traditionally a series of book-like, paper products, produced by a Water Science Center, with sites aggregated by logical units such as watershed or county



USGS
science for a changing world

Site Data Sheets

USGS
science for a changing world

Water-Data Report 2007

01478000 CHRISTINA RIVER AT COOCHS BRIDGE, DE

Lower Delaware Basin
Brandywine-Christina Subbasin

LOCATION.--Lat 39°38'14.6", long 75°43'40.4" referenced to North American Datum of 1983, New Castle County, DE, Hydrologic Unit 02040205, on right bank 60 ft downstream from highway bridge, 0.5 mi southeast of Coochs Bridge, 3.3 mi south of Newark, 3.6 mi upstream from Belltown Run, and 22.6 mi upstream from mouth.

DRAINAGE AREA.--20.5 mi².

SURFACE-WATER RECORDS

PERIOD OF RECORD.--April 1943 to current year.

REVISED RECORDS.--WDR MD-DE-79-1: 1943-78(P). WDR MD-DE-87-1: 1980-82(P).

GAGE.--Water-stage recorder. Datum of gage is 25.54 ft above National Geodetic Vertical Datum of 1929. Prior to Sept. 14, 1944, nonrecording gage on upstream side of bridge at same datum. Sept. 14, 1944, to May 13, 1969, recording gage at site on left bank at downstream side of highway bridge at same datum. May 26, 1969, to Dec. 5, 1973, recording gage on left bank 62 ft downstream from highway bridge at same datum.

REMARKS.--Records good except those for estimated daily discharges (missing record), which are poor. Low and medium flow regulated by mill upstream from station. U.S. Geological Survey satellite collection platform at station. Several measurements of water temperature were made during the year. Water-quality records for some prior periods have been collected at this location.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 1,000 ft³/s and (or) maximum (*):

Date	Time	Discharge (ft³/s)	Gage height (ft)
Oct 28	0915	1,370	11.35
Nov 8	1115	1,450	11.45
Jan 1	1100	1,350	11.33
Mar 2	0845	1,530	11.54
Apr 15	1300	*1,770	*11.79

Minimum discharge, 2.0 ft³/s, Sept. 26, 27.

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

Water-Data Report 2007

01478000 CHRISTINA RIVER AT COOCHS BRIDGE, DE—Continued

DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2006 TO SEPTEMBER 2007
DAILY MEAN VALUES
[e, estimated]

Day	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1	14	15	17	405	13	21	19	14	9.7	7.8	e4.8	2.8
2	12	22	18	33	14	534	19	14	9.9	7.3	5.1	2.6
3	11	16	16	21	14	36	19	14	33	7.2	4.9	2.6
4	11	15	15	19	13	27	62	13	72	11	4.7	2.6
5	10	14	15	20	12	23	27	14	14	12	6.8	2.5
6	37	14	15	20	12	20	22	14	11	8.3	14	2.7
7	22	14	15	19	12	20	21	14	10	7.4	6.3	2.6
8	15	545	14	168	12	19	20	14	10	7.0	5.5	2.5
9	13	42	14	29	12	19	19	14	11	6.9	14	2.3
10	12	23	14	21	12	20	19	14	9.4	e5.6	15	2.3
11	13	19	14	18	12	21	19	14	13	e7.4	6.5	3.4
12	12	21	14	18	12	19	122	16	12	e7.9	5.4	3.0
13	11	30	16	17	13	19	30	16	10	e5.0	e4.0	2.4
14	11	23	16	18	21	19	23	12	9.5	6.3	e3.4	2.3
15	11	19	15	17	16	21	1,030	12	9.3	6.4	e3.5	3.1
16	11	100	14	16	14	224	333	29	9.1	8.1	4.8	e2.6
17	32	54	14	15	14	58	32	17	8.8	8.9	4.8	e2.5
18	25	22	14	15	14	45	22	13	8.6	12	4.5	e2.4
19	15	19	14	15	13	43	20	12	8.4	29	6.3	e2.3
20	70	17	13	15	15	44	18	12	11	10	16	e2.2
21	20	16	13	14	56	30	17	12	8.7	6.4	29	2.1
22	15	20	18	15	34	27	16	11	8.1	5.6	6.6	3.7
23	14	42	73	15	25	42	16	11	7.9	5.4	4.4	2.5
24	13	29	21	15	17	43	15	11	7.7	5.3	3.9	2.2
25	12	20	34	14	16	28	15	11	11	5.7	3.7	2.1
26	12	18	54	14	50	24	15	11	8.7	5.9	3.5	2.1
27	15	17	21	14	35	23	67	11	8.0	9.3	3.3	e2.2
28	479	17	17	14	24	22	20	11	11	8.9	3.2	e2.2
29	27	16	16	14	---	21	17	11	10	8.3	3.1	2.1
30	19	16	16	14	---	20	15	10	8.7	9.3	3.0	2.1
31	16	---	15	14	---	20	---	9.8	---	6.2	2.9	---
Total	1,010	1,255	595	1,076	527	1,552	2,109	411.8	379.5	257.8	206.9	75.0
Mean	32.6	41.8	19.2	34.7	18.8	50.1	70.3	13.3	12.7	8.32	6.67	2.50
Max	479	545	73	405	56	534	1,030	29	72	29	29	3.7
Min	10	14	13	14	12	19	15	9.8	7.7	5.0	2.9	2.1
Cfsm	1.59	2.04	0.94	1.69	0.92	2.44	3.43	0.65	0.62	0.41	0.33	0.12
In.	1.83	2.28	1.08	1.95	0.96	2.82	3.83	0.75	0.69	0.47	0.38	0.14

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1943 - 2007, BY WATER YEAR (WY)

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Mean	15.8	25.0	35.1	38.9	41.7	48.3	37.0	30.0	22.7	21.7	17.6	18.4
Max	62.9	82.8	122	165	154	121	107	77.6	92.0	165	117	107
(WY)	(1972)	(1973)	(1997)	(1979)	(1979)	(1978)	(1983)	(1990)	(2003)	(1989)	(1967)	(1999)
Min	2.25	2.76	3.98	5.35	6.95	8.35	10.5	8.10	4.57	2.48	1.29	2.50
(WY)	(1964)	(1966)	(1966)	(1981)	(2002)	(1981)	(1963)	(1965)	(1966)	(1963)	(1966)	(2007)

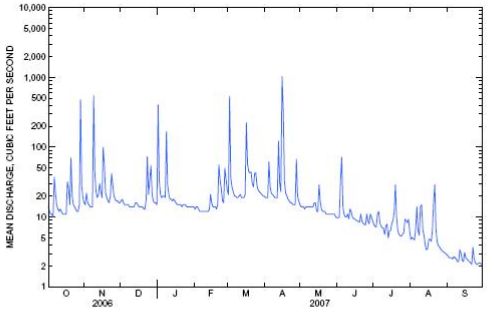
Water-Data Report 2007

01478000 CHRISTINA RIVER AT COOCHS BRIDGE, DE—Continued

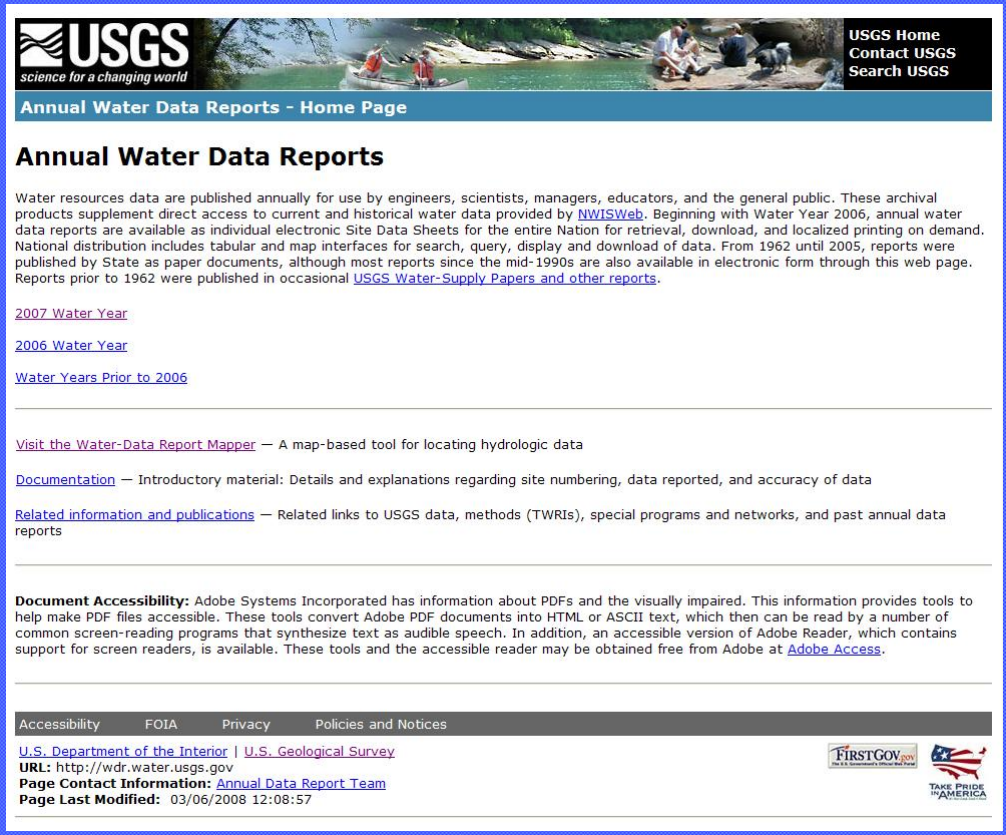
SUMMARY STATISTICS

	Calendar Year 2006		Water Year 2007		Water Years 1943 - 2007	
Annual total	10,069.5		9,455.0			
Annual mean	27.6		25.9		29.3	
Highest annual mean					56.6	2004
Lowest annual mean					10.4	2002
Highest daily mean	629	Jun 28	1,030	Apr 15	2,650	Sep 16, 1999
Lowest daily mean	5.9	Jun 22	2.1	Sep 21[a]	0.20	Aug 7, 1966[b]
Annual seven-day minimum	6.4	Jun 16	2.1	Sep 24	0.50	Aug 25, 1966
Maximum peak flow			1,770	Apr 15	[c]7,050	Sep 16, 1999
Maximum peak stage			11.79	Apr 15	13.73	Sep 16, 1999
Instantaneous low flow			2.0	Sep 26[d]	0.15	Aug 20, 1966
Annual runoff (cfsm)	1.35		1.26		1.43	
Annual runoff (inches)	18.27		17.16		19.40	
10 percent exceeds	35		31		48	
50 percent exceeds	15		14		13	
90 percent exceeds	9.8		3.5		4.3	

[a] Sept. 21, 25, 26, 29, 30.
[b] Aug. 7, 17, 18, 21, 27, 28, 1966.
[c] From rating curve extended above 1,500 ft³/s.
[d] Sept. 26, 27.



Annual Water Data Report



USGS science for a changing world

USGS Home
Contact USGS
Search USGS

Annual Water Data Reports - Home Page

Annual Water Data Reports

Water resources data are published annually for use by engineers, scientists, managers, educators, and the general public. These archival products supplement direct access to current and historical water data provided by NWISWeb. Beginning with Water Year 2006, annual water data reports are available as individual electronic Site Data Sheets for the entire Nation for retrieval, download, and localized printing on demand. National distribution includes tabular and map interfaces for search, query, display and download of data. From 1962 until 2005, reports were published by State as paper documents, although most reports since the mid-1990s are also available in electronic form through this web page. Reports prior to 1962 were published in occasional USGS Water-Supply Papers and other reports.

2007 Water Year

2006 Water Year

Water Years Prior to 2006

Visit the Water-Data Report Mapper — A map-based tool for locating hydrologic data

Documentation — Introductory material: Details and explanations regarding site numbering, data reported, and accuracy of data

Related information and publications — Related links to USGS data, methods (TWRIs), special programs and networks, and past annual data reports

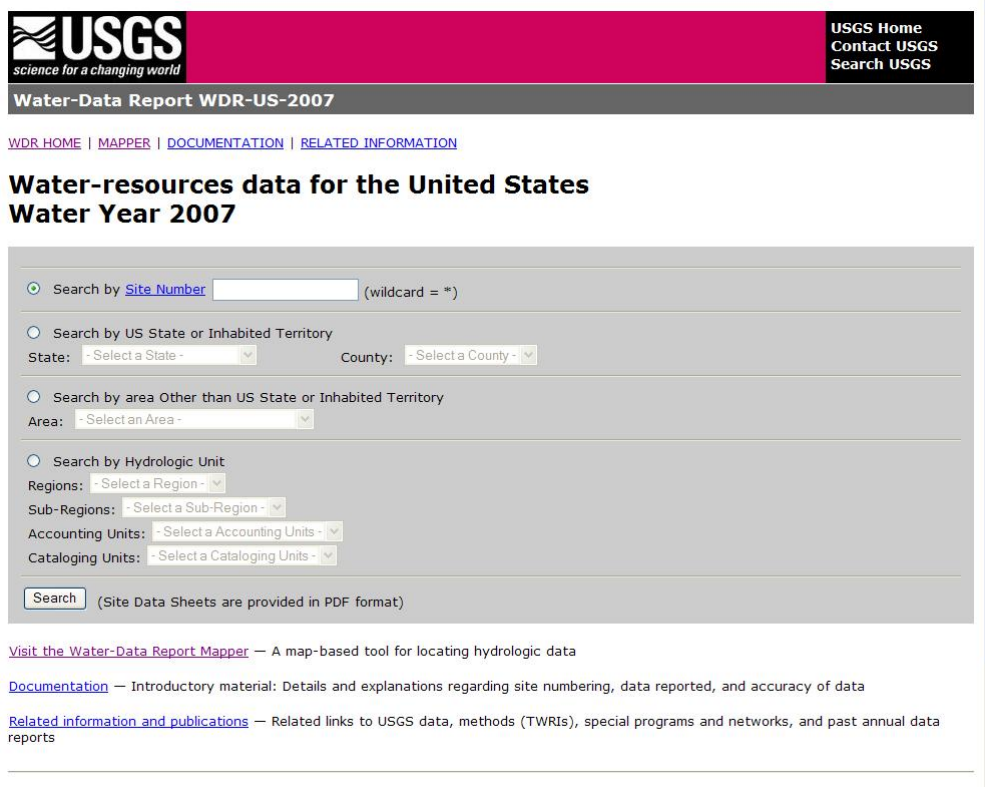
Document Accessibility: Adobe Systems Incorporated has information about PDFs and the visually impaired. This information provides tools to help make PDF files accessible. These tools convert Adobe PDF documents into HTML or ASCII text, which then can be read by a number of common screen-reading programs that synthesize text as audible speech. In addition, an accessible version of Adobe Reader, which contains support for screen readers, is available. These tools and the accessible reader may be obtained free from Adobe at Adobe Access.

Accessibility FOIA Privacy Policies and Notices

U.S. Department of the Interior | U.S. Geological Survey
URL: http://wdr.water.usgs.gov
Page Contact Information: Annual Data Report Team
Page Last Modified: 03/06/2008 12:08:57

http://wdr.water.usgs.gov/

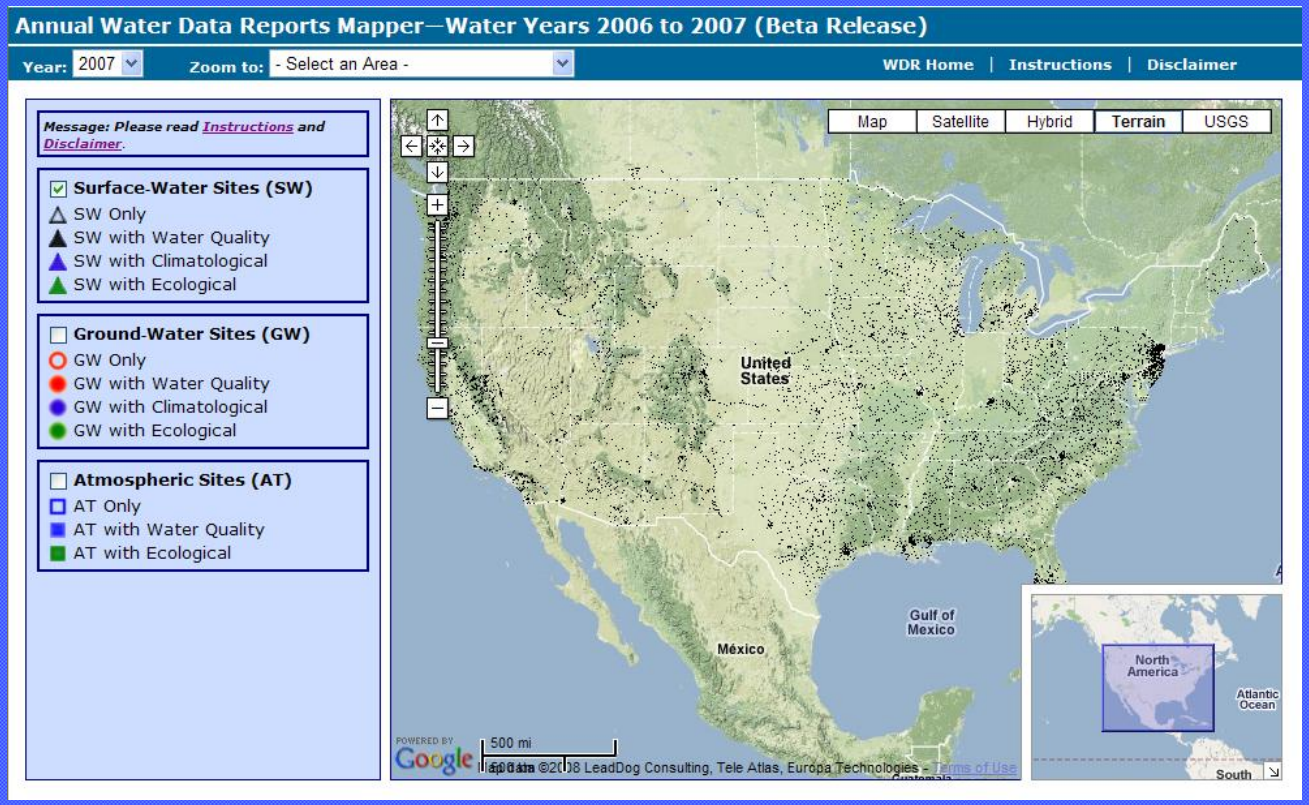
Annual Water Data Report



http://wdr.water.usgs.gov/

USGS
science for a changing world

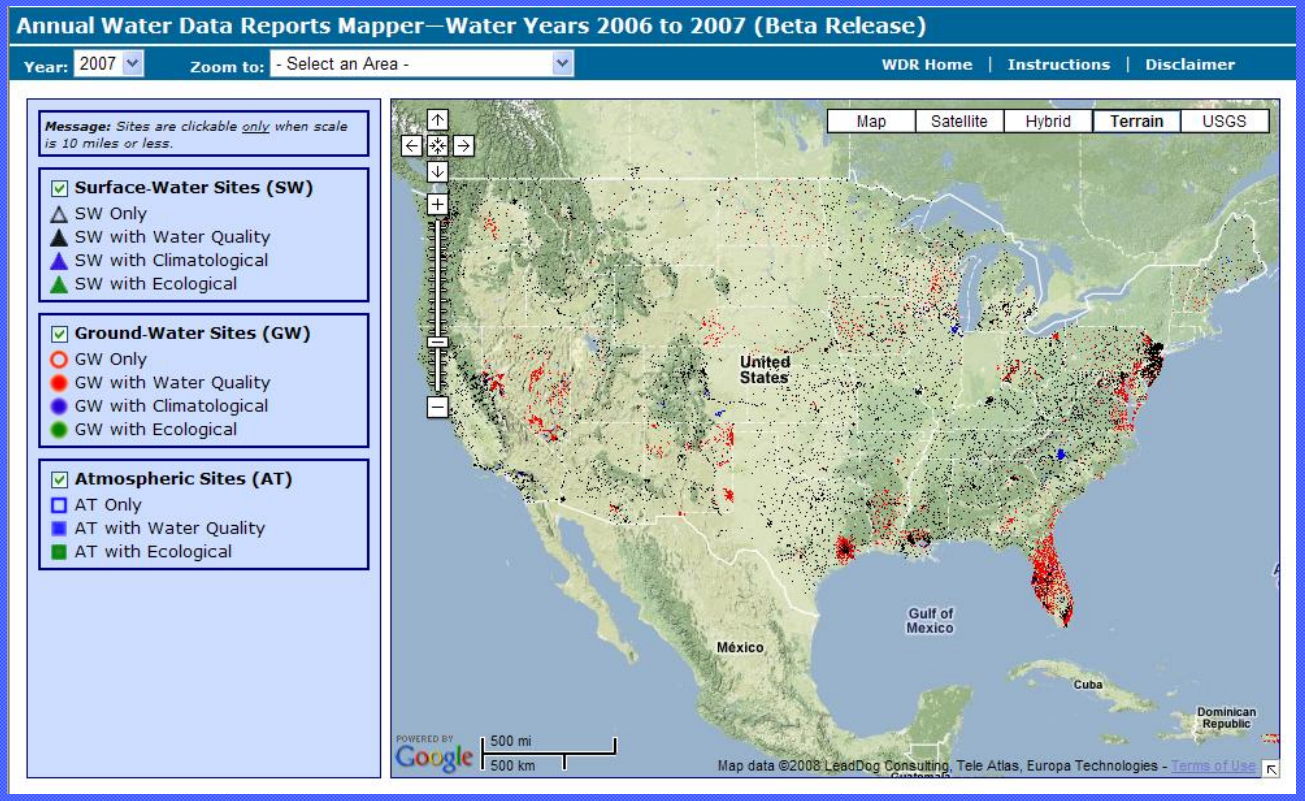
WDR Mapper



http://wdr.water.usgs.gov/

USGS
science for a changing world

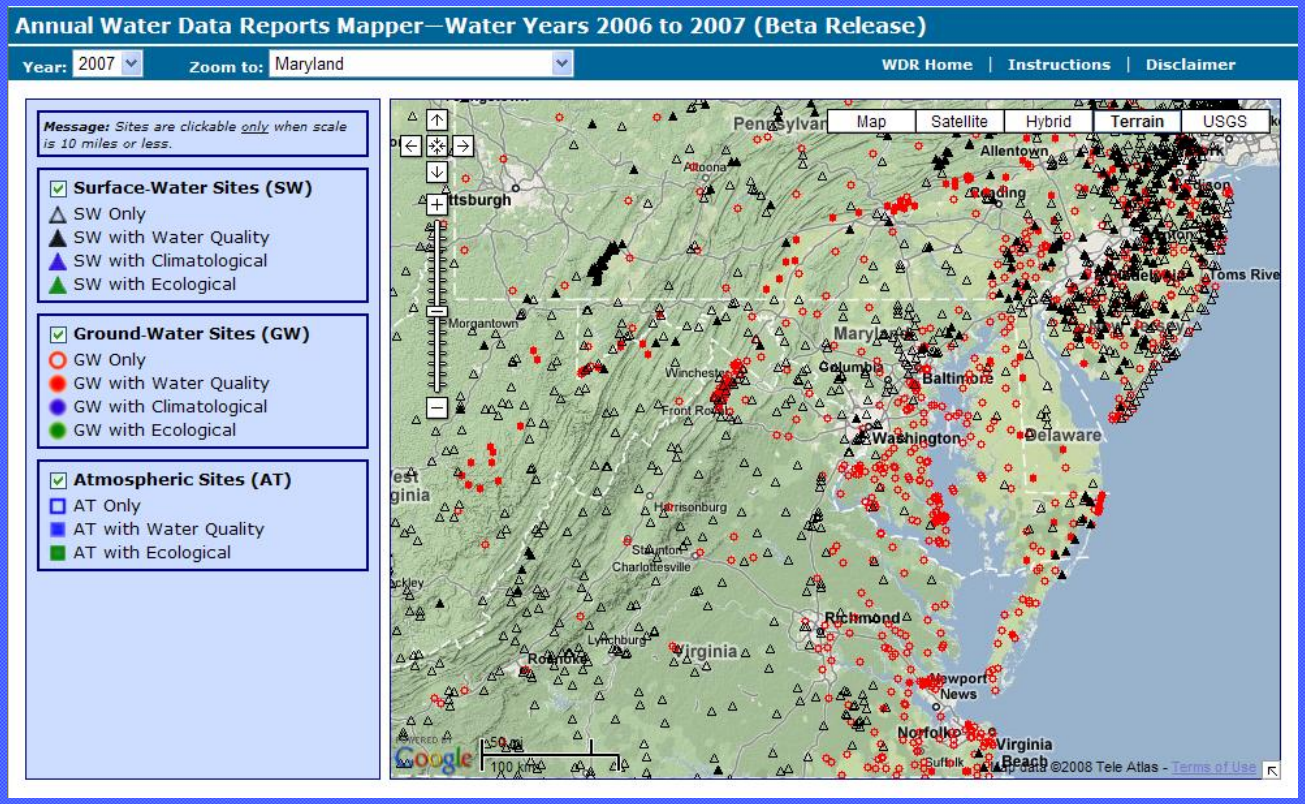
WDR Mapper



http://wdr.water.usgs.gov/

USGS
science for a changing world

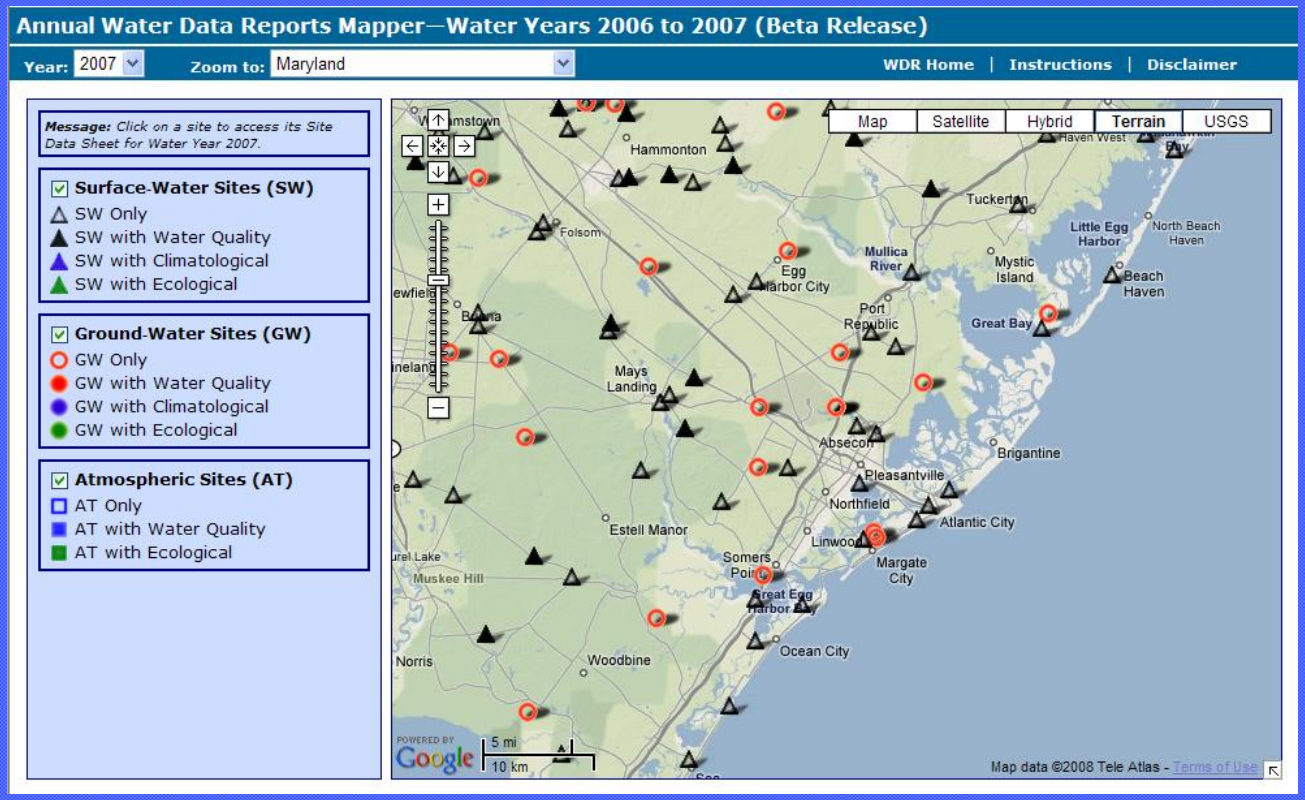
WDR Mapper



http://wdr.water.usgs.gov/

USGS
science for a changing world

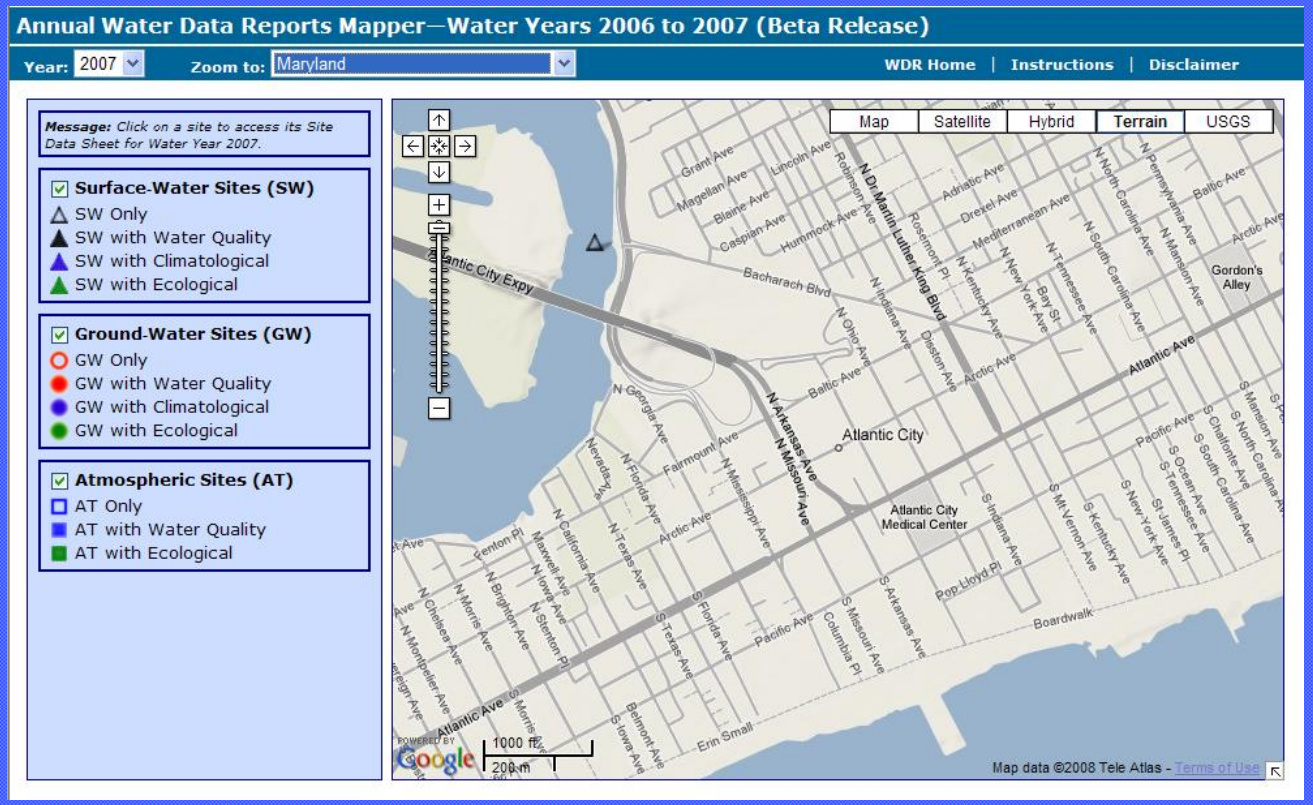
WDR Mapper



http://wdr.water.usgs.gov/

USGS
science for a changing world

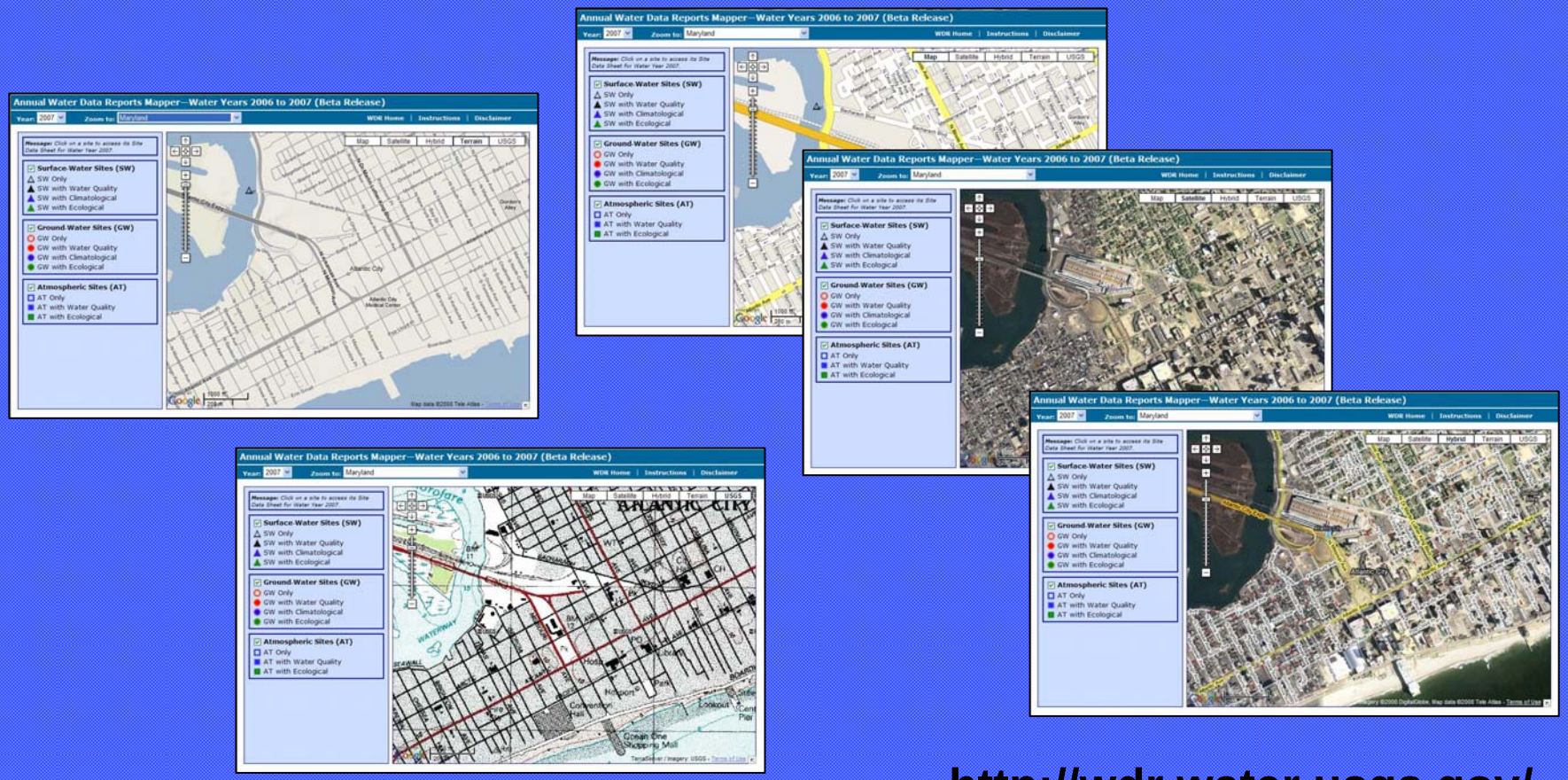
WDR Mapper



http://wdr.water.usgs.gov/

USGS
science for a changing world

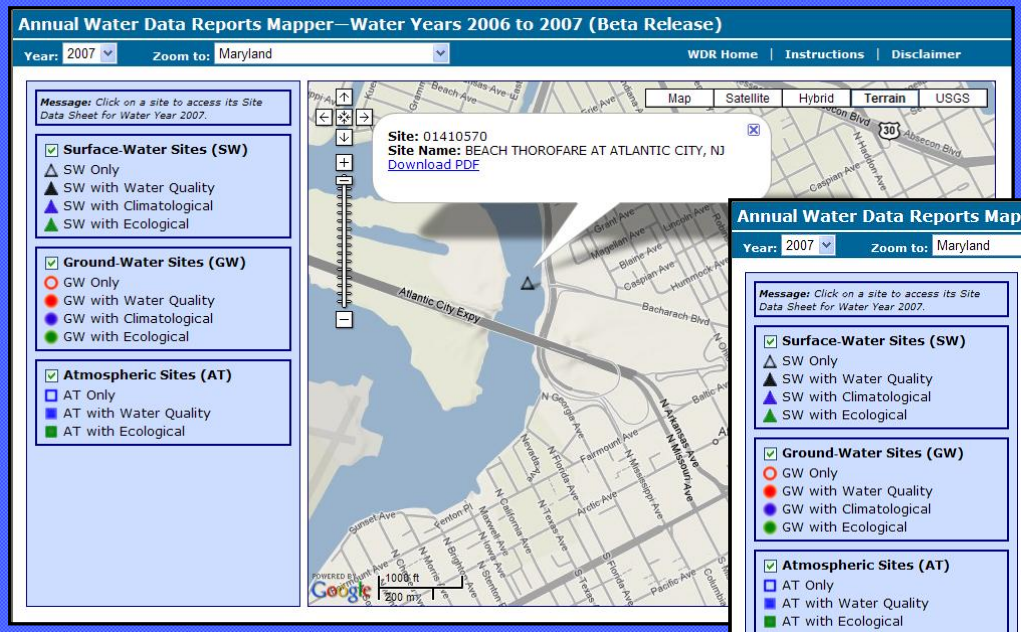
WDR Mapper

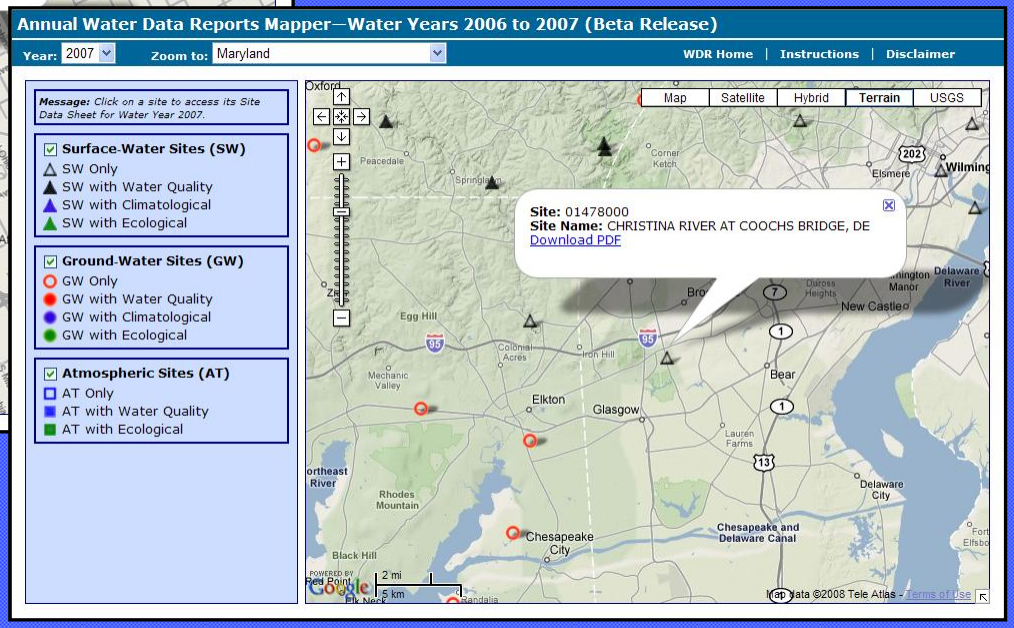


http://wdr.water.usgs.gov/

USGS
science for a changing world

Annual Water Data Report





http://wdr.water.usgs.gov/

USGS
science for a changing world

Site Data Sheets

USGS
science for a changing world

Water-Data Report 2007

01478000 CHRISTINA RIVER AT COOCHS BRIDGE, DE

Lower Delaware Basin
Brandywine-Christina Subbasin

LOCATION.--Lat 39°38'14.6", long 75°43'40.4" referenced to North American Datum of 1983, New Castle County, DE, Hydrologic Unit 02040205, on right bank 60 ft downstream from highway bridge, 0.5 mi southeast of Coochs Bridge, 3.3 mi south of Newark, 3.6 mi upstream from Belltown Run, and 22.6 mi upstream from mouth.

DRAINAGE AREA.--20.5 mi².

SURFACE-WATER RECORDS

PERIOD OF RECORD.--April 1943 to current year.

REVISED RECORDS.--WDR MD-DE-79-1: 1943-78(P). WDR MD-DE-87-1: 1980-82(P).

GAGE.--Water-stage recorder. Datum of gage is 25.54 ft above National Geodetic Vertical Datum of 1929. Prior to Sept. 14, 1944, nonrecording gage on upstream side of bridge at same datum. Sept. 14, 1944, to May 13, 1969, recording gage at site on left bank at downstream side of highway bridge at same datum. May 26, 1969, to Dec. 5, 1973, recording gage on left bank 62 ft downstream from highway bridge at same datum.

REMARKS.--Records good except those for estimated daily discharges (missing record), which are poor. Low and medium flow regulated by mill upstream from station. U.S. Geological Survey satellite collection platform at station. Several measurements of water temperature were made during the year. Water-quality records for some prior periods have been collected at this location.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 1,000 ft³/s and (or) maximum (*):

Date	Time	Discharge (ft³/s)	Gage height (ft)
Oct 28	0915	1,370	11.35
Nov 8	1115	1,450	11.45
Jan 1	1100	1,350	11.33
Mar 2	0845	1,530	11.54
Apr 15	1300	*1,770	*11.79

Minimum discharge, 2.0 ft³/s, Sept. 26, 27.

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

Water-Data Report 2007

01478000 CHRISTINA RIVER AT COOCHS BRIDGE, DE—Continued

DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2006 TO SEPTEMBER 2007
DAILY MEAN VALUES
[e, estimated]

Day	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1	14	15	17	405	13	21	19	14	9.7	7.8	e4.8	2.8
2	12	22	18	33	14	534	19	14	9.9	7.3	5.1	2.6
3	11	16	16	21	14	36	19	14	33	7.2	4.9	2.6
4	11	15	15	19	13	27	62	13	72	11	4.7	2.6
5	10	14	15	20	12	23	27	14	14	12	6.8	2.5
6	37	14	15	20	12	20	22	14	11	8.3	14	2.7
7	22	14	15	19	12	20	21	14	10	7.4	6.3	2.6
8	15	545	14	168	12	19	20	14	10	7.0	5.5	2.5
9	13	42	14	29	12	19	19	14	11	6.9	14	2.3
10	12	23	14	21	12	20	19	14	9.4	e5.6	15	2.3
11	13	19	14	18	12	21	19	14	13	e7.4	6.5	3.4
12	12	21	14	18	12	19	122	16	12	e7.9	5.4	3.0
13	11	30	16	17	13	19	30	16	10	e5.0	e4.0	2.4
14	11	23	16	18	21	19	23	12	9.5	6.3	e3.4	2.3
15	11	19	15	17	16	21	1,030	12	9.3	6.4	e3.5	3.1
16	11	100	14	16	14	224	333	29	9.1	8.1	4.8	e2.6
17	32	54	14	15	14	58	32	17	8.8	8.9	4.8	e2.5
18	25	22	14	15	14	45	22	13	8.6	12	4.5	e2.4
19	15	19	14	15	13	43	20	12	8.4	29	6.3	e2.3
20	70	17	13	15	15	44	18	12	11	10	16	e2.2
21	20	16	13	14	56	30	17	12	8.7	6.4	29	2.1
22	15	20	18	15	34	27	16	11	8.1	5.6	6.6	3.7
23	14	42	73	15	25	42	16	11	7.9	5.4	4.4	2.5
24	13	29	21	15	17	43	15	11	7.7	5.3	3.9	2.2
25	12	20	34	14	16	28	15	11	11	5.7	3.7	2.1
26	12	18	54	14	50	24	15	11	8.7	5.9	3.5	2.1
27	15	17	21	14	35	23	67	11	8.0	9.3	3.3	e2.2
28	479	17	17	14	24	22	20	11	11	8.9	3.2	e2.2
29	27	16	16	14	---	21	17	11	10	8.3	3.1	2.1
30	19	16	16	14	---	20	15	10	8.7	9.3	3.0	2.1
31	16	---	15	14	---	20	---	9.8	---	6.2	2.9	---
Total	1,010	1,255	595	1,076	527	1,552	2,109	411.8	379.5	257.8	206.9	75.0
Mean	32.6	41.8	19.2	34.7	18.8	50.1	70.3	13.3	12.7	8.32	6.67	2.50
Max	479	545	73	405	56	534	1,030	29	72	29	29	3.7
Min	10	14	13	14	12	19	15	9.8	7.7	5.0	2.9	2.1
Cfsm	1.59	2.04	0.94	1.69	0.92	2.44	3.43	0.65	0.62	0.41	0.33	0.12
In.	1.83	2.28	1.08	1.95	0.96	2.82	3.83	0.75	0.69	0.47	0.38	0.14

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1943 - 2007, BY WATER YEAR (WY)

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Mean	15.8	25.0	35.1	38.9	41.7	48.3	37.0	30.0	22.7	21.7	17.6	18.4
Max	62.9	82.8	122	165	154	121	107	77.6	92.0	165	117	107
(WY)	(1972)	(1973)	(1997)	(1979)	(1979)	(1978)	(1983)	(1990)	(2003)	(1989)	(1967)	(1999)
Min	2.25	2.76	3.98	5.35	6.95	8.35	10.5	8.10	4.57	2.48	1.29	2.50
(WY)	(1964)	(1966)	(1966)	(1981)	(2002)	(1981)	(1963)	(1965)	(1966)	(1963)	(1966)	(2007)

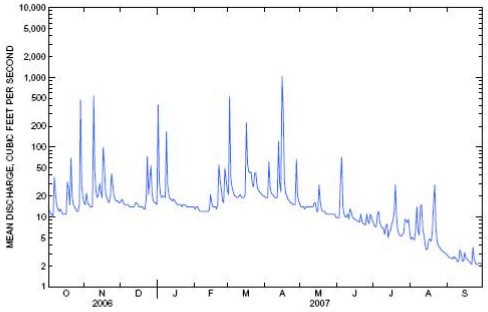
Water-Data Report 2007

01478000 CHRISTINA RIVER AT COOCHS BRIDGE, DE—Continued

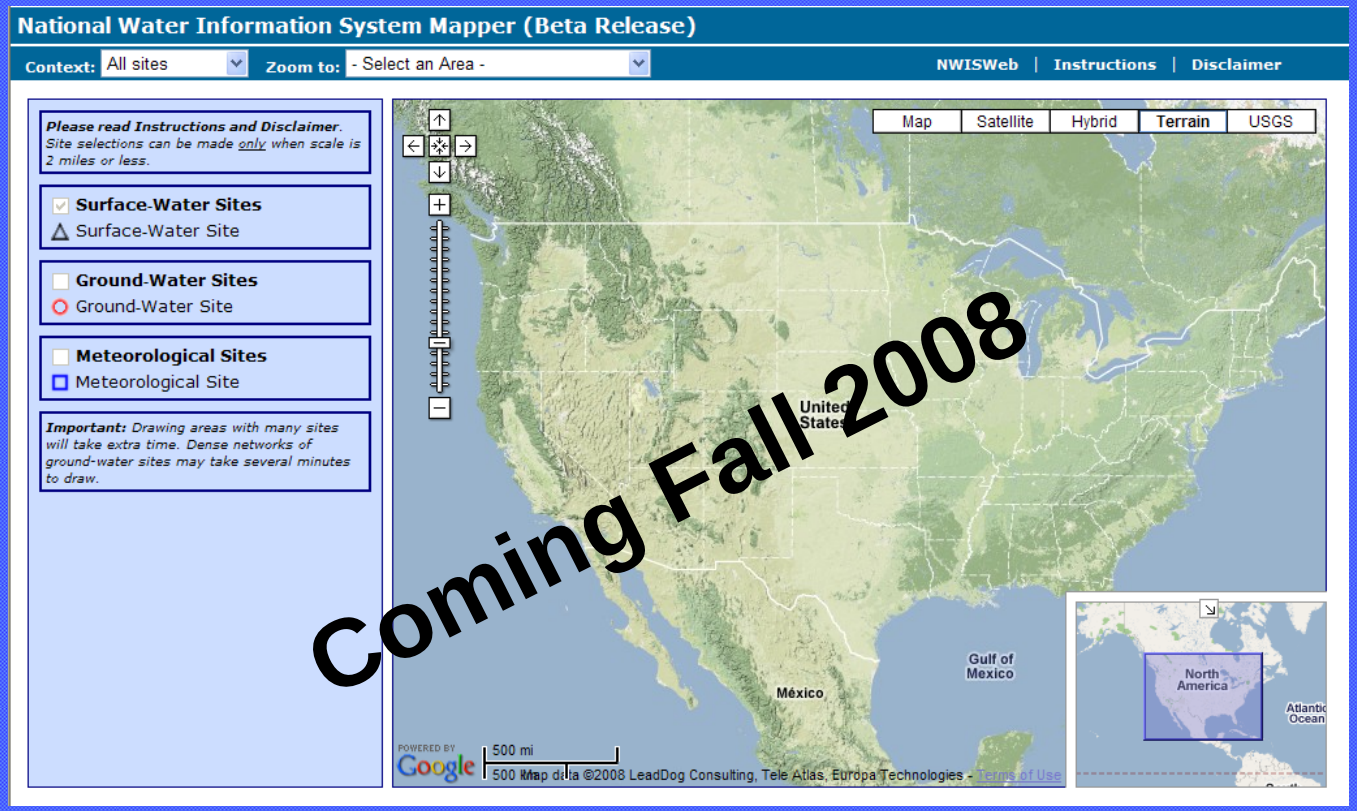
SUMMARY STATISTICS

	Calendar Year 2006		Water Year 2007		Water Years 1943 - 2007	
Annual total	10,069.5		9,455.0			
Annual mean	27.6		25.9		29.3	
Highest annual mean					56.6	2004
Lowest annual mean					10.4	2002
Highest daily mean	629	Jun 28	1,030	Apr 15	2,650	Sep 16, 1999
Lowest daily mean	5.9	Jun 22	2.1	Sep 21[a]	0.20	Aug 7, 1966[b]
Annual seven-day minimum	6.4	Jun 16	2.1	Sep 24	0.50	Aug 25, 1966
Maximum peak flow			1,770	Apr 15	[c]7,050	Sep 16, 1999
Maximum peak stage			11.79	Apr 15	13.73	Sep 16, 1999
Instantaneous low flow			2.0	Sep 26[d]	0.15	Aug 20, 1966
Annual runoff (cfsm)	1.35		1.26		1.43	
Annual runoff (inches)	18.27		17.16		19.40	
10 percent exceeds	35		31		48	
50 percent exceeds	15		14		13	
90 percent exceeds	9.8		3.5		4.3	

[a] Sept. 21, 25, 26, 29, 30.
[b] Aug. 7, 17, 18, 21, 27, 28, 1966.
[c] From rating curve extended above 1,500 ft³/s.
[d] Sept. 26, 27.



NWIS Mapper



Coming Fall 2008

Data Discovery

Water Data Discovery

The USGS has vast holdings of water data that are freely available to everyone. The data extend back to the 19th Century and extend up to data that are only a few minutes old. They include data on streamflow, ground water levels, and the quality of both surface water and ground water. These data holdings, in the USGS National Water Information System Web (NWISWeb) include data from over 1.5 million specific sites around the Nation. Given the vast size of the data system it can often be a daunting task to find the kind of data that one is looking for. Recognizing this challenge, the USGS has recently been developing a variety of "Data Discovery Tools" that are designed to help potential users find the data that might be most useful to them. This web page is intended to direct potential users to one or more of these tools that may help meet their needs.

Let's start at the beginning. This web page is organized according to the type of question you may be asking.

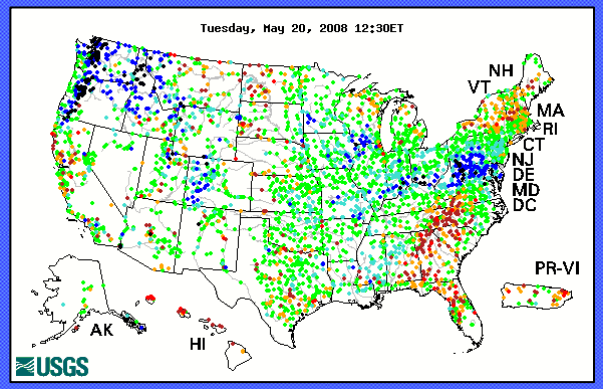
- **What are you looking for?**
  - I'd like to know something about what is happening today... **Water Now**
  - I'd like to know something about what happened in the past... **Water Then**
  - I'd like to know something about what might happen in the future... **Water To Come**

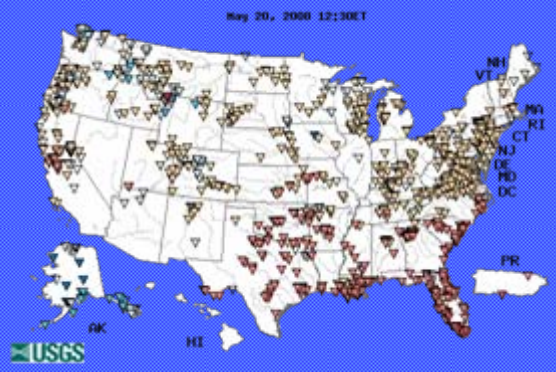
---

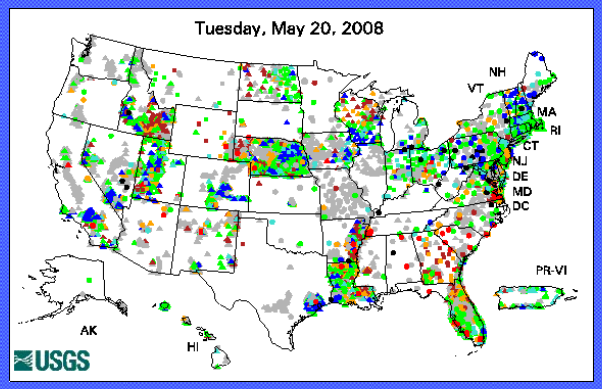
http://water.usgs.gov/data/discovery/

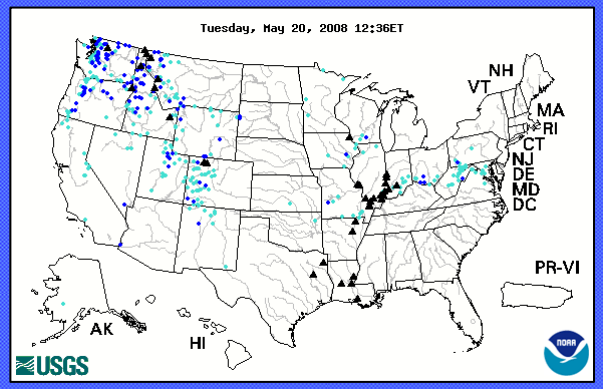
USGS
science for a changing world

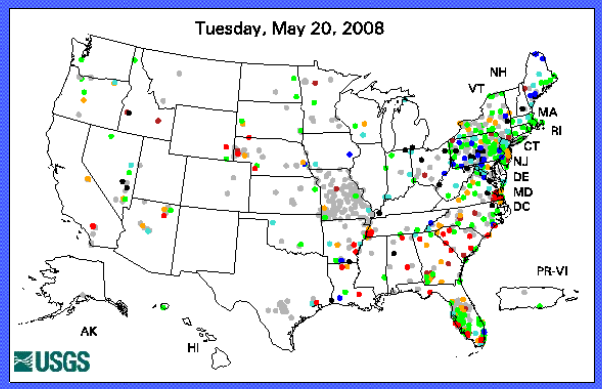
Data Discovery: Water Now







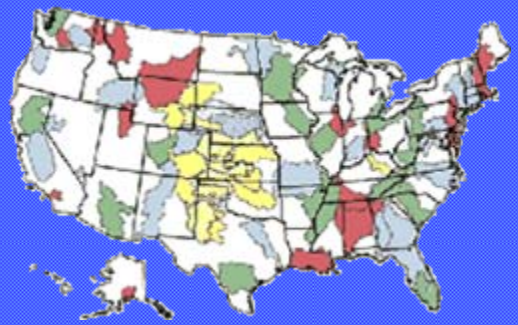


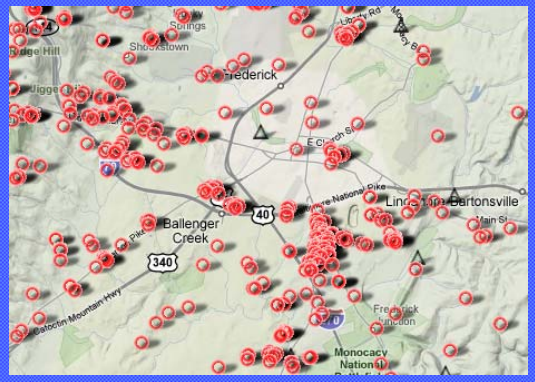


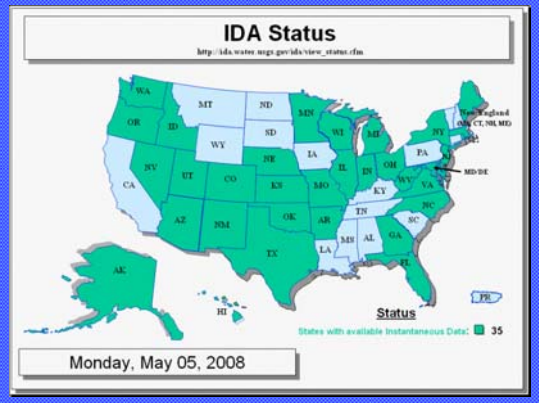
http://water.usgs.gov/data/discovery/

USGS
science for a changing world

Data Discovery: Water Then



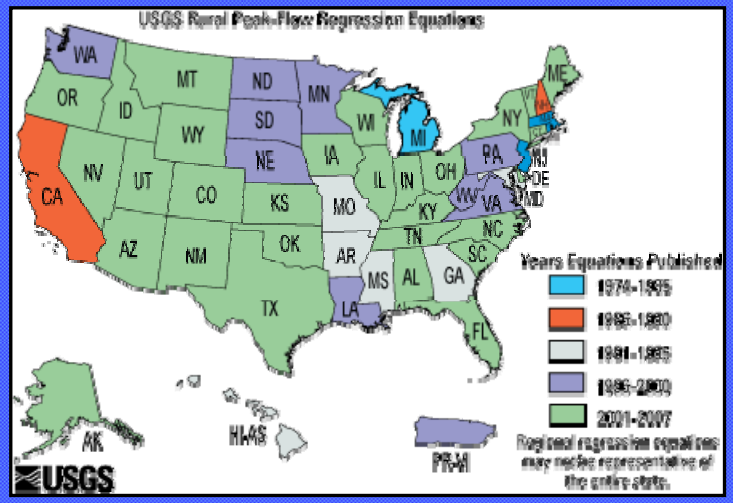


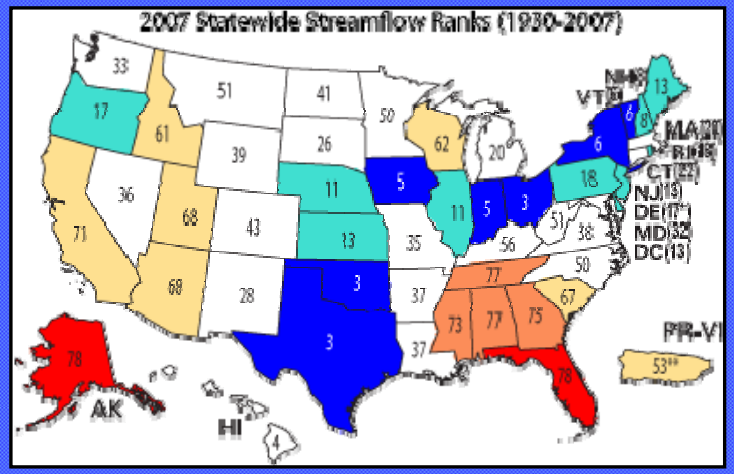


http://water.usgs.gov/data/discovery/

USGS
science for a changing world

Data Discovery: Water To Come

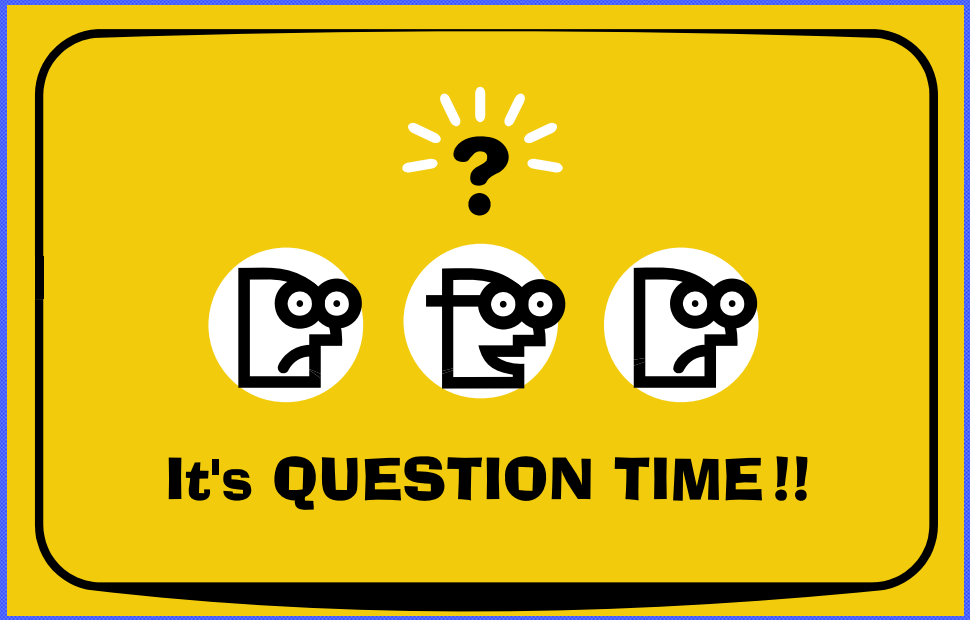




NOAA

NRCS Natural Resources Conservation Service

http://water.usgs.gov/data/discovery/


It's QUESTION TIME!!