Retrieving Data from the STORET Warehouse

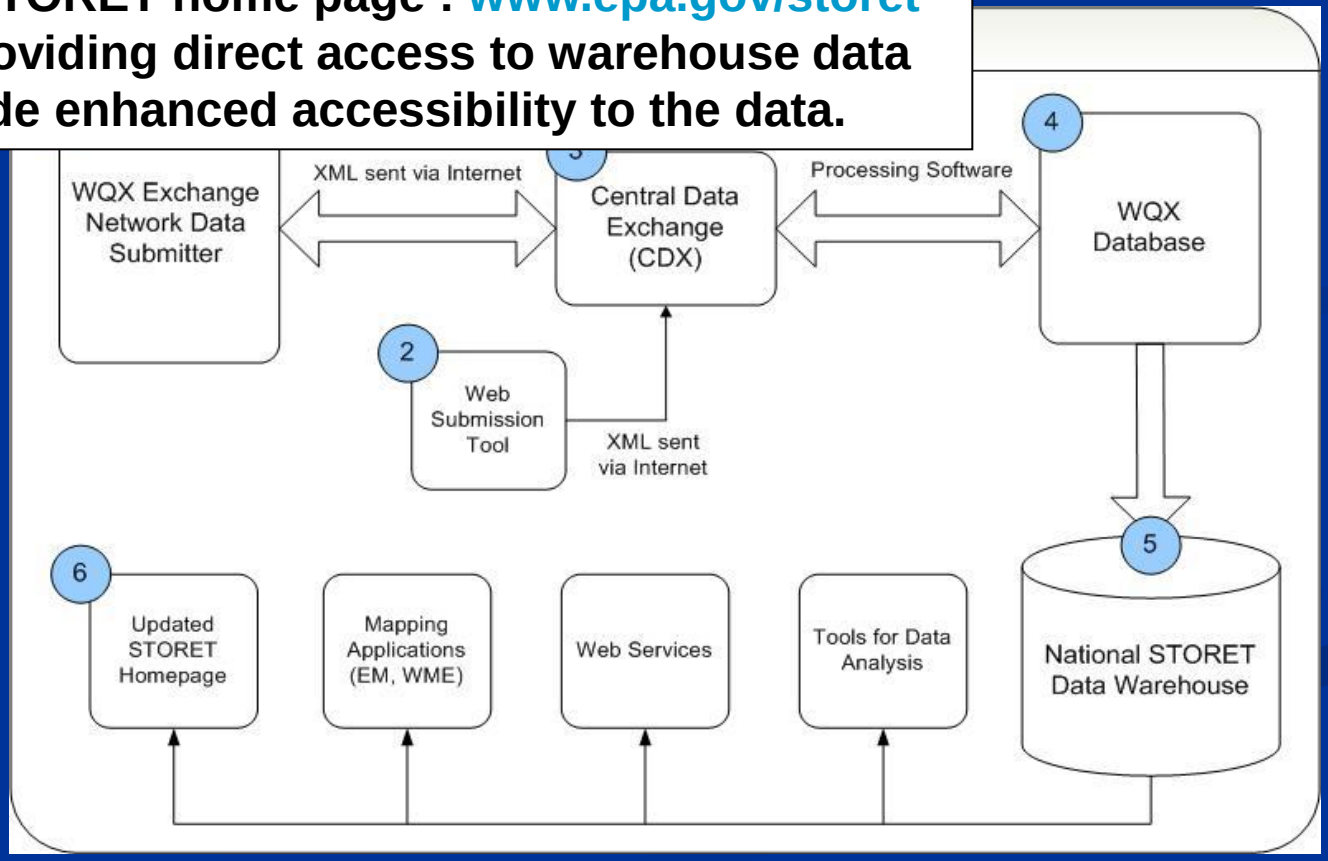
R9 STORET/WQX Workshop for Tribes

August 24, 2010

Accessing Data

The National STORET Data Warehouse serves as the national repository for Modern STORET data as well as WQX data. Users may obtain data from the warehouse through the STORET home page : www.epa.gov/storet

Web services providing direct access to warehouse data also provide enhanced accessibility to the data.



Data Access Methods

- STORET Data Warehouse Query
- Watershed Summary Tool
- Surf Your Watershed
- STORET Web Services
- Spreadsheet Tool
- Assessment TMDL Tracking and Implementation System (ATTAINS) Webpage
- EnviroMapper for Water
- MyEnvironment

| STORET| US EPA - Windows Internet Explorer

http://www.epa.gov/STORET/

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| STORET| US EPA

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STORET/ WQX

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- About STORET/ WQX
- Data download
- Online Tutorials
- Data Submittal
- Useful Internet Links
- Support
- Tools/ Web Services
- Frequent Questions

Welcome to STORET and WQX, EPA's repository and framework for sharing water monitoring data.

The STORET (short for STOrage and RETrieval) Data Warehouse is a repository for water quality, biological, and physical data and is used by state environmental agencies, EPA and other federal agencies, universities, private citizens, and many others. Take a minute to browse around our site or click on the water drop to retrieve monitoring data!

Features

- Download Data
- Watershed Summary
- WQX and WQX Web
- Fact Sheets
- STORET Web Services
- WQX Web Tutorial Videos
- Distributed STORET Archives

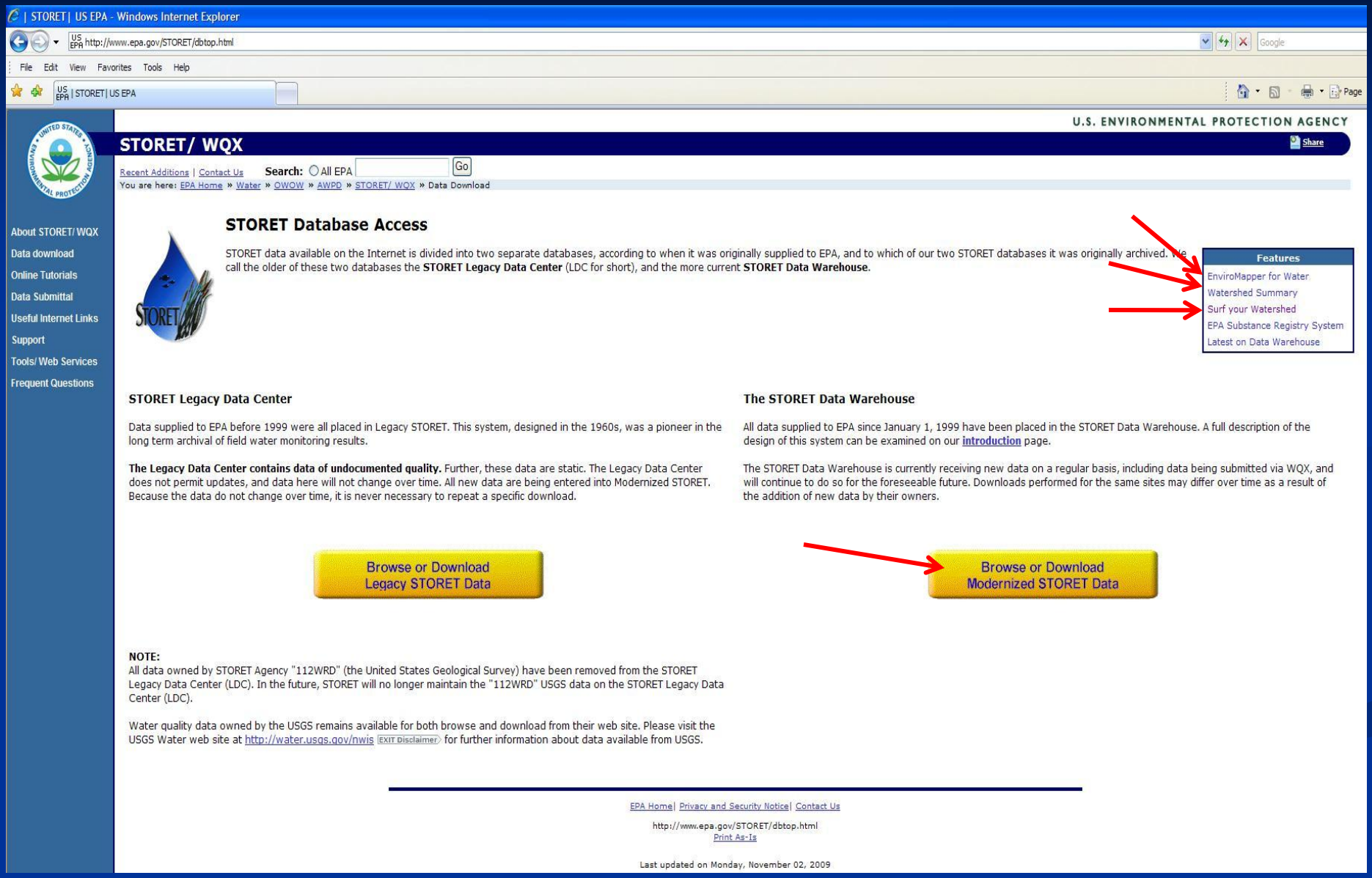
About STORET/ WQX | Support for Data Owners | Obtaining Water Quality Data | Useful Links | Commonly Asked Questions

If you have a question or comments on this website or on the STORET system,
please call STORET User Assistance at 1-800-424-9067,
or send us an email at STORET@epa.gov.

EPA Home| Privacy and Security Notice| Contact Us

http://www.epa.gov/STORET/
Print As-Is

Last updated on Monday, November 02, 2009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http://www.epa.gov/STORET/dbtop.html
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STORET Database Access
STORET data available on the Internet is divided into two separate databases, according to when it was originally supplied to EPA, and to which of our two STORET databases it was originally archived. We call the older of these two databases the STORET Legacy Data Center (LDC for short), and the more current STORET Data Warehouse.
Features
EnviroMapper for Water
Watershed Summary
Surf your Watershed
EPA Substance Registry System
Latest on Data Warehouse
STORET Legacy Data Center
Data supplied to EPA before 1999 were all placed in Legacy STORET. This system, designed in the 1960s, was a pioneer in the long term archival of field water monitoring results.
The Legacy Data Center contains data of undocumented quality. Further, these data are static. The Legacy Data Center does not permit updates, and data here will not change over time. All new data are being entered into Modernized STORET. Because the data do not change over time, it is never necessary to repeat a specific download.
Browse or Download Legacy STORET Data
The STORET Data Warehouse
All data supplied to EPA since January 1, 1999 have been placed in the STORET Data Warehouse. A full description of the design of this system can be examined on our introduction page.
The STORET Data Warehouse is currently receiving new data on a regular basis, including data being submitted via WQX, and will continue to do so for the foreseeable future. Downloads performed for the same sites may differ over time as a result of the addition of new data by their owners.
Browse or Download Modernized STORET Data
NOTE:
All data owned by STORET Agency "112WRD" (the United States Geological Survey) have been removed from the STORET Legacy Data Center (LDC). In the future, STORET will no longer maintain the "112WRD" USGS data on the STORET Legacy Data Center (LDC).
Water quality data owned by the USGS remains available for both browse and download from their web site. Please visit the USGS Water web site at http://water.usgs.gov/nwis EXIT Disclaimer for further information about data available from USGS.
EPA Home| Privacy and Security Notice| Contact Us
http://www.epa.gov/STORET/dbtop.html
Print As-Is
Last updated on Monday, November 02, 2009

STORET Data Warehouse: Main Steps for Querying Data

- Go to STORET main page: http://www.epa.gov/storet/
- Click the **Download Data** link
- Click the Browse or Download Modernized STORET Data Button
- **Define your query**
- **Request the data from your query results**
- **Receive e-mails and use link to download results**
- **Unzip text file from download**
- **Import the data into Excel or Access, or other software**
- **Sort the data**
- **Analyze the data**
- http://www.epa.gov/STORET/archive/Downloading_STORET_Data.pdf

EPA > STORET > Database Access > STORET Central Warehouse - Windows Internet Explorer provided by EPA

http://www.epa.gov/storet/dw_home.html

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EPA > STORET > Database Access > STORET Central...

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- About STORET
- Data Owner's Corner
- Updates/Downloads
- Obtaining Water Quality Data
- Useful Internet Links
- Commonly Asked Questions
- Recent Additions

STORET Data Warehouse

Data refreshed as of March 25, 2009

Query Options: NEW!

STORET Warehouse Watershed Summary

Summary of Results by Watershed

STORET Central Warehouse (stormod_)

STORET Station Descriptions

- Stations by Geographic Location
- Stations by Organization and Station ID

STORET Results

(Physical/Chemical, Biological and Habitat Result Data)

- Results by Geographic Location
- Results by Station
- Results by Project

Help

Tell Us What You Think!

What's New with the STORET Data Warehouse?
This page offers information about the recent changes made to STORET Warehouse.

How to Query and Download Data
This exercise gives step by step instructions on how to generate, download, export (to Microsoft Excel or Access), and analyze a data query from the STORET Data Warehouse as well as the new Watershed Summary.
* Adobe Acrobat® Reader required.

Watershed Summary Tool

- Provides Access to Summary Data about 8-Digit USGS HUC
- Good Tool to find out:
  - Organizations that Conduct Monitoring Activities in Watershed
  - Stations that are Monitored in Watershed
  - Characteristics that have been Analyzed in Watershed
- http://www.epa.gov/STORET/wtshd_summary.html

STORET

Results by Watershed

Drainage Basin/HUC

18010212 - South Fork Trinity. *

Search By

(•) **Organization** ( ) **Characteristic Type**

Query

3 Organizations, 10 Stations, 323 Characteristics, 23,222 Results

Organization
( ) All Organizations of the Watershed
( ) CADWR - California Department of Water Resources 01/14/1992 - 03/04/2002 (60) Records • 1 Stations • 60 Physical,
( ) CALSWAMP - CA Surface Water Monitoring Program (California) 02/26/2002 - 06/18/2002 (349) Records • 2 Stations

Surf Your Watershed

- Allows you to find out what 8-digit HUC your area of interest is in
- Can retrieve data from STORET Data Warehouse through Surf Your Watershed by clicking the link: "Water quality monitoring data from this watershed"
- http://cfpub.epa.gov/surf/locate/index.cfm

Surf Your Watershed | Surf Your Watershed | US EPA - Windows Internet Explorer

http://cfpub.epa.gov/surf/locate/index.cfm

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Surf Your Watershed

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- Surf Your Watershed Home
- Adopt Your Watershed
- Help

Our Web site will be operating at diminished capacity because of scheduled maintenance on Saturday, August 7, 2010. We apologize for any inconvenience.

Surf Your Watershed

Find your watershed using the form below. Once you locate your watershed, simply click on the first link, "citizen-based groups at work in this watershed," to find a listing of organizations that are working to protect water quality. You may wish to contact one of these groups to find out about cleanups, monitoring activities, restoration projects and other activities.

Find Your Watershed
Enter your ZIP:
GO
More info

Add this widget to your page

Find your watershed

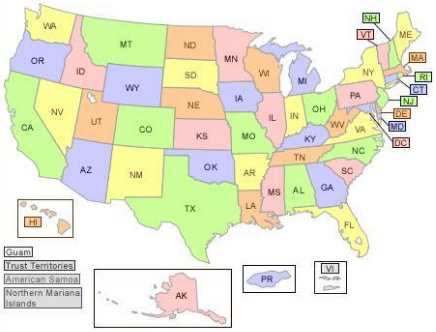
Step 1) Pick your geographic unit:

- Zip Code (5 digit number)
- City Name
- Watershed Name (Name associated with 8 digit HUC code)
- State (2-character state abbreviation)
- Stream (Stream name and state abbr., e.g., Fall Creek, NC)

Step 2) Enter your geographic information: Submit Reset

Locate by state

Choose a state or territory from the map below or the list to the right. Alabama GO



Add your watershed group to our searchable database of citizen-based watershed groups.

Internet 100%

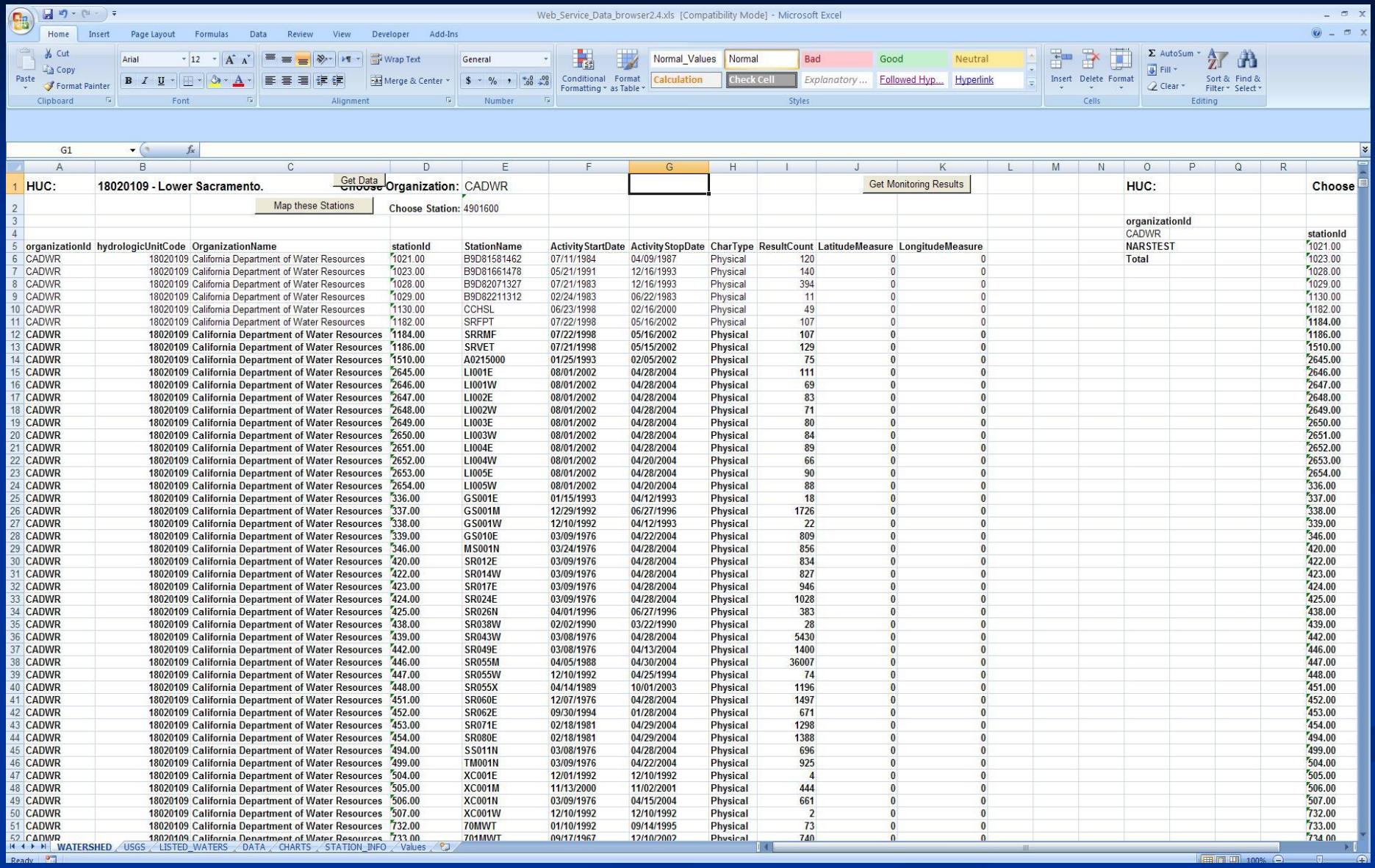
start | Inbox - Microsoft Out... | C:\Documents and Se... | Microsoft PowerPoint ... | Re: SFO Slide shows ... | Surf Your Watershed ... | STORETWebpage2.3... | 100% | 9:10 PM

STORET Webservices

- Protocol that allows computers to share data over the internet in an automated way
- Can be called from user created programs and applications
- STORET Webservices do not require any authentication
- http://www.epa.gov/STORET/web_services.html

Spreadsheet Tool

- Pulls data from STORET Data Warehouse using Webservices
- Provides ability to filter and graph STORET data
- Available on STORET Webservices webpage


Web_Service_Data_browser2.4.xls [Compatibility Mode] - Microsoft Excel
Home
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Formulas
Data
Review
View
Developer
Add-Ins
Paste
Cut
Copy
Format Painter
Clipboard
Arial
12
Font
Wrap Text
Merge & Center
Alignment
General
Number
Conditional Formatting
Format as Table
Normal_Values
Normal
Bad
Good
Neutral
Calculation
Check Cell
Explanatory ...
Followed Hyp...
Hyperlink
Styles
Insert
Delete
Format
Cells
AutoSum
Fill
Clear
Sort & Filter
Find & Select
Editing
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HUC:
18020109 - Lower Sacramento.
Get Data
Choose Organization:
CADWR
Map these Stations
Choose Station:
4901600
Get Monitoring Results
HUC:
Choose
organizationId
CADWR
NARSTEST
Total
stationId
organizationId
hydrologicUnitCode
OrganizationName
stationId
StationName
ActivityStartDate
ActivityStopDate
CharType
ResultCount
LatitudeMeasure
LongitudeMeasure
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CADWR 18020109 California Department of Water Resources 1023.00 B9D81661478 05/21/1991 12/16/1993 Physical 140 0 0
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CADWR 18020109 California Department of Water Resources 1029.00 B9D82211312 02/24/1983 06/22/1983 Physical 11 0 0
CADWR 18020109 California Department of Water Resources 1130.00 CCHSL 06/23/1998 02/16/2000 Physical 49 0 0
CADWR 18020109 California Department of Water Resources 1182.00 SRFPT 07/22/1998 05/16/2002 Physical 107 0 0
CADWR 18020109 California Department of Water Resources 1184.00 SRRMF 07/22/1998 05/16/2002 Physical 107 0 0
CADWR 18020109 California Department of Water Resources 1186.00 SRVET 07/21/1998 05/15/2002 Physical 129 0 0
CADWR 18020109 California Department of Water Resources 1510.00 A0215000 01/25/1993 02/05/2002 Physical 75 0 0
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CADWR 18020109 California Department of Water Resources 2646.00 LI001W 08/01/2002 04/28/2004 Physical 69 0 0
CADWR 18020109 California Department of Water Resources 2647.00 LI002E 08/01/2002 04/28/2004 Physical 83 0 0
CADWR 18020109 California Department of Water Resources 2648.00 LI002W 08/01/2002 04/28/2004 Physical 71 0 0
CADWR 18020109 California Department of Water Resources 2649.00 LI003E 08/01/2002 04/28/2004 Physical 80 0 0
CADWR 18020109 California Department of Water Resources 2650.00 LI003W 08/01/2002 04/28/2004 Physical 84 0 0
CADWR 18020109 California Department of Water Resources 2651.00 LI004E 08/01/2002 04/28/2004 Physical 89 0 0
CADWR 18020109 California Department of Water Resources 2652.00 LI004W 08/01/2002 04/20/2004 Physical 66 0 0
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CADWR 18020109 California Department of Water Resources 337.00 GS001M 12/29/1992 06/27/1996 Physical 1726 0 0
CADWR 18020109 California Department of Water Resources 338.00 GS001W 12/10/1992 04/12/1993 Physical 22 0 0
CADWR 18020109 California Department of Water Resources 339.00 GS010E 03/09/1976 04/22/2004 Physical 809 0 0
CADWR 18020109 California Department of Water Resources 346.00 MS001N 03/24/1976 04/28/2004 Physical 856 0 0
CADWR 18020109 California Department of Water Resources 420.00 SR012E 03/09/1976 04/28/2004 Physical 834 0 0
CADWR 18020109 California Department of Water Resources 422.00 SR014W 03/09/1976 04/28/2004 Physical 827 0 0
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CADWR 18020109 California Department of Water Resources 424.00 SR024E 03/09/1976 04/28/2004 Physical 1028 0 0
CADWR 18020109 California Department of Water Resources 425.00 SR026N 04/01/1996 06/27/1996 Physical 383 0 0
CADWR 18020109 California Department of Water Resources 438.00 SR038W 02/02/1990 03/22/1990 Physical 28 0 0
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CADWR 18020109 California Department of Water Resources 442.00 SR049E 03/08/1976 04/13/2004 Physical 1400 0 0
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CADWR 18020109 California Department of Water Resources 507.00 XC001W 12/10/1992 12/10/1992 Physical 2 0 0
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1021.00
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1029.00
1130.00
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1510.00
2645.00
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734.00
WATERSHED
USGS
LISTED_WATERS
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CHARTS
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Values
Ready
100%

ATTAINS

- Assessment TMDL Tracking and Implementation System
- Integrated Reporting Data – Surface Waterbody Assessments and TMDLs
- Also allows downloading of available watershed summary information and monitoring data for that watershed from the STORET Warehouse
- http://www.epa.gov/waters/ir/index.html

Water Quality Assessment and TMDL Information (ATTAINS) | WATERS | US EPA - Windows Internet Explorer

http://www.epa.gov/waters/ir/index.html

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Watershed Assessment, Tracking & Environmental ResultS

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  - Architecture
- Tools
- Data
- Documents
- Reporting

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Water Quality Assessment and Total Maximum Daily Loads Information (ATTAINS)

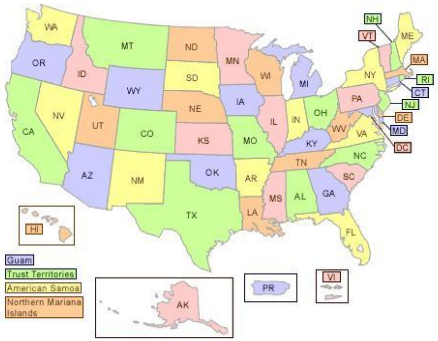
The Assessment Total Maximum Daily Load (TMDL) Tracking and Implementation System (ATTAINS) provides information reported by the states to EPA about the conditions in their surface waters. This information is required every two years under Clean Water Act Sections 305(b) and 303(d).

Because of differences in state assessment methods, the information in this site should not be used to compare water quality conditions between states or to determine water quality trends. Check out the Frequent Questions box on the right to learn more.

Frequent Questions

- About This Database (Integrated Report)
- Assessing Water Quality (Questions and Answers)
- 2006 Integrated Reporting Guidance
- Previous National Water Quality Reports
- EnviroMapper for Water
- AskWATERS
- EPA WATERS Homepage
- Statewide Statistical Surveys

Which state reports are available? National Summary of State Information



Search for Water Quality Information

Click on the above map for a state's most recent data, or use the pull down boxes below to:

- Select data for a reporting cycle (e.g. most current available data, 2006, 2004)
- Select data for a particular state, EPA Region, or the nation as a whole
- Select data for a particular waterbody, such as Bear River (first choose the state, then type in the name of the waterbody)

Reporting Year: Most Current Available

Nation/Region/State: Nation

Waterbody Name:

All Information

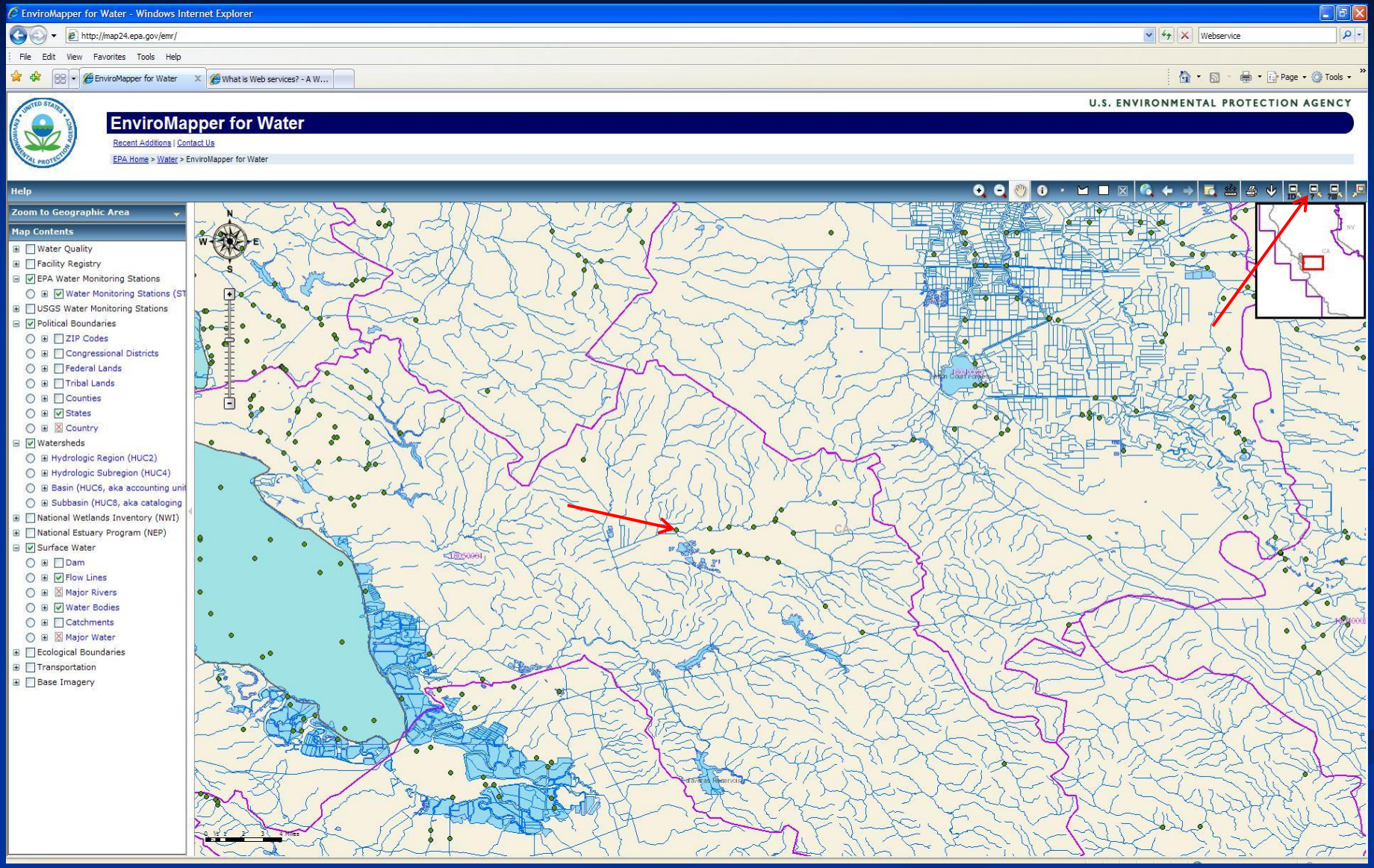
Impaired Waters and TMDL Information

Reset Search

Use the radio buttons on the right to limit the results of your search. (Note: Total Maximum Daily Loads, or TMDLs, are pollutant "budgets" developed to restore waters that are impaired).

EnviroMapper for Water

- Provides mapping of waters based on NHDPlus
- Can display STORET Monitoring Stations
- Monitoring data may be pulled from STORET by:
  - Clicking on Station points
  - Using the Report Query Builder
- http://map24.epa.gov/emr/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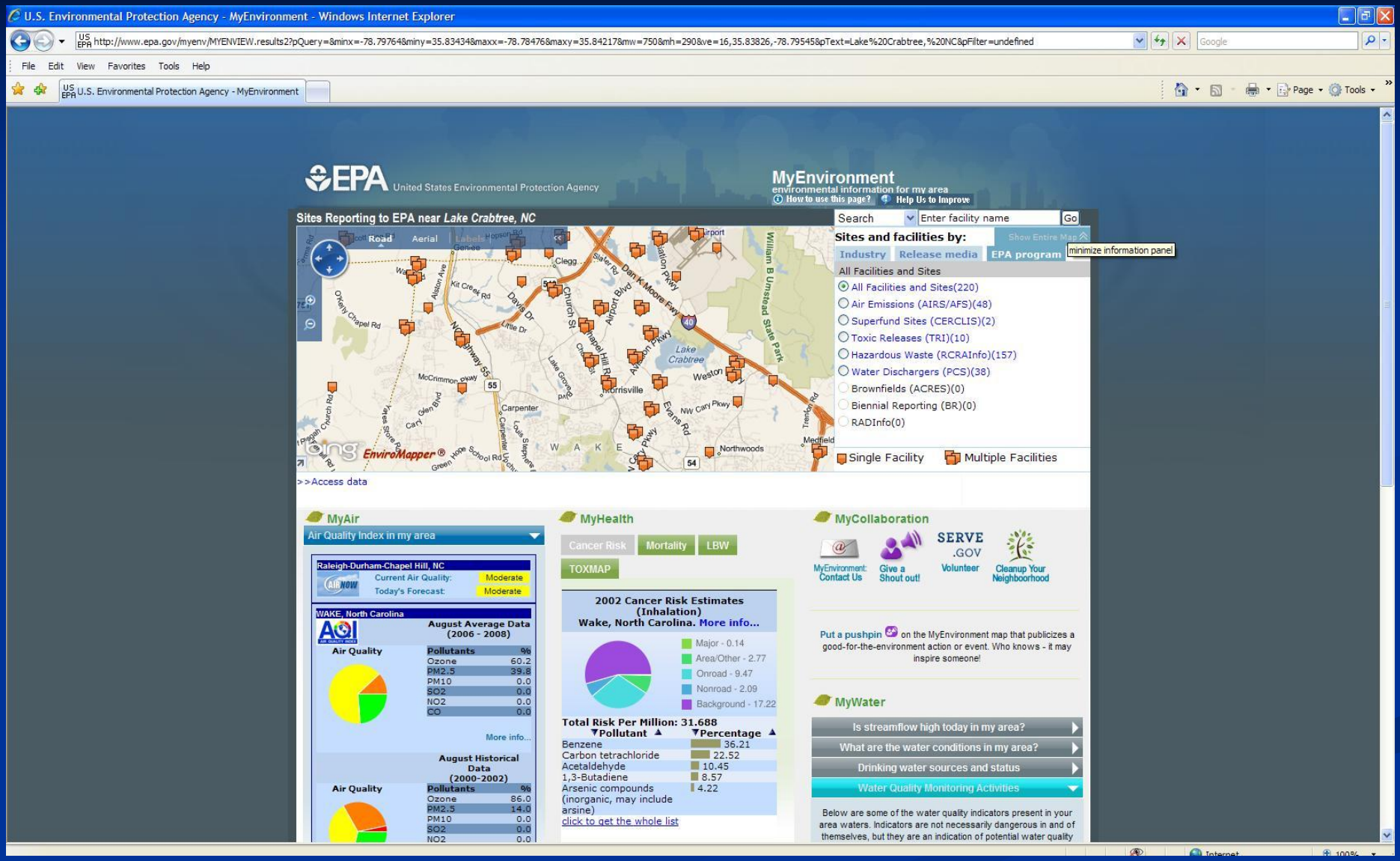
Congressional Districts
Federal Lands
Tribal Lands
Counties
States
Country
Watersheds
Hydrologic Region (HUC2)
Hydrologic Subregion (HUC4)
Basin (HUC6, aka accounting unit
Subbasin (HUC8, aka cataloging
National Wetlands Inventory (NWI)
National Estuary Program (NEP)
Surface Water
Dam
Flow Lines
Major Rivers
Water Bodies
Catchments
Major Water
Ecological Boundaries
Transportation
Base Imagery
N
W
E
S
CA

MyEnvironment

- Provides cross section of environmental information through map display for various environmental media (Air, Water, Land, Health, Ecology)
- Can map STORET Stations and Download data through clickable map interface
- http://www.epa.gov/myenvironment/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http://www.epa.gov/myenv/MYENVIEW.results2?pQuery=&minx=-78.79764&miny=35.83434&maxx=-78.78476&maxy=35.84217&mw=750&mh=290&ve=16,35.83826,-78.79545&pText=Lake%20Crabtree,%20NC&pFilter=undefined
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EPA United States Environmental Protection Agency
MyEnvironment
environmental information for my area
How to use this page? Help Us to Improve
Sites Reporting to EPA near Lake Crabtree, NC
Road Aerial Labels
EnviroMapper®
Search Enter facility name Go
Sites and facilities by:
Show Entire Map
minimize information panel
Industry Release media EPA program
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All Facilities and Sites(220)
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Superfund Sites (CERCLIS)(2)
Toxic Releases (TRI)(10)
Hazardous Waste (RCRAInfo)(157)
Water Dischargers (PCS)(38)
Brownfields (ACRES)(0)
Biennial Reporting (BR)(0)
RADInfo(0)
Single Facility
Multiple Facilities
>>Access data
MyAir
Air Quality Index in my area
Raleigh-Durham-Chapel Hill, NC
Current Air Quality: Moderate
Today's Forecast: Moderate
WAKE, North Carolina
August Average Data (2006 - 2008)
Air Quality
Pollutants %
Ozone 60.2
PM2.5 39.8
PM10 0.0
SO2 0.0
NO2 0.0
CO 0.0
More info...
August Historical Data (2000-2002)
Air Quality
Pollutants %
Ozone 86.0
PM2.5 14.0
PM10 0.0
SO2 0.0
NO2 0.0
MyHealth
Cancer Risk Mortality LBW
TOXMAP
2002 Cancer Risk Estimates (Inhalation)
Wake, North Carolina. More info...
Major - 0.14
Area/Other - 2.77
Onroad - 9.47
Nonroad - 2.09
Background - 17.22
Total Risk Per Million: 31.688
Pollutant Percentage
Benzene 36.21
Carbon tetrachloride 22.52
Acetaldehyde 10.45
1,3-Butadiene 8.57
Arsenic compounds (inorganic, may include arsine) 4.22
click to get the whole list
MyCollaboration
MyEnvironment: Contact Us
Give a Shout out!
SERVE .GOV Volunteer
Cleanup Your Neighborhood
Put a pushpin on the MyEnvironment map that publicizes a good-for-the-environment action or event. Who knows - it may inspire someone!
MyWater
Is streamflow high today in my area?
What are the water conditions in my area?
Drinking water sources and status
Water Quality Monitoring Activities
Below are some of the water quality indicators present in your area waters. Indicators are not necessarily dangerous in and of themselves, but they are an indication of potential water quality

Demos