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Where's the Data? Improvements in Access to USGS Water Data

Gary T. Fisher, Baltimore, MD
Yvonne E. Stoker, Tampa, FL

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Water-Resources Data Collection

National Water Information System

NWIS

Over 100 years of water data

LOCAL NWIS

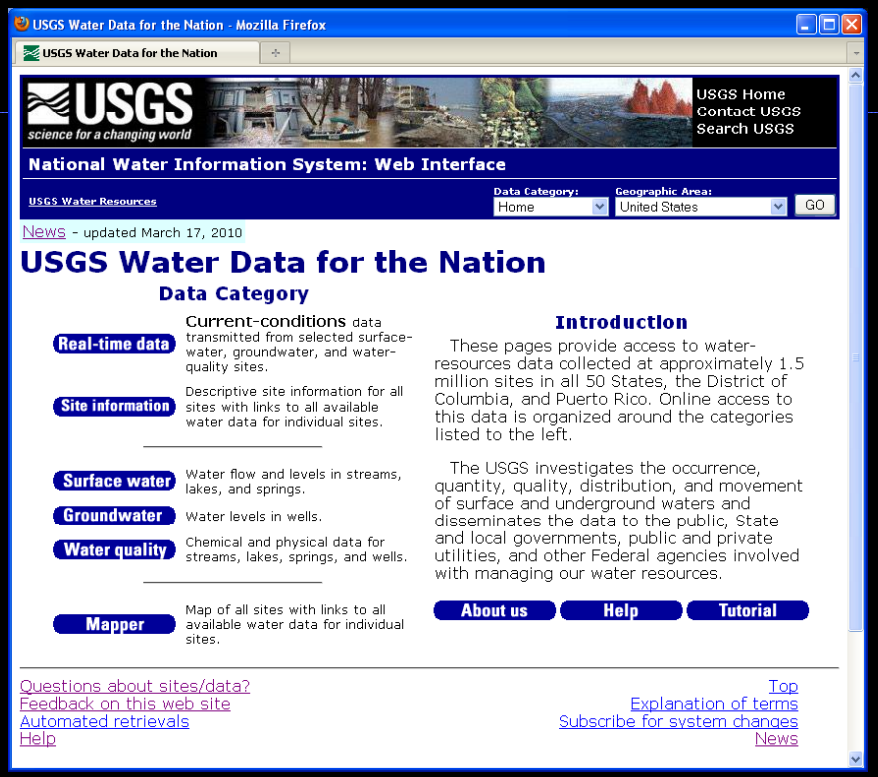
Water Science Center

Data Collection

Data Distribution - NWIS

NWIS → Web Interface

http://waterdata.usgs.gov/nwis



USGS Water-Resources Data

- 1.5 million sites
  - 377,000 sites with water-quality data
  - 4.8 million water-quality samples
  - 89 million discrete results

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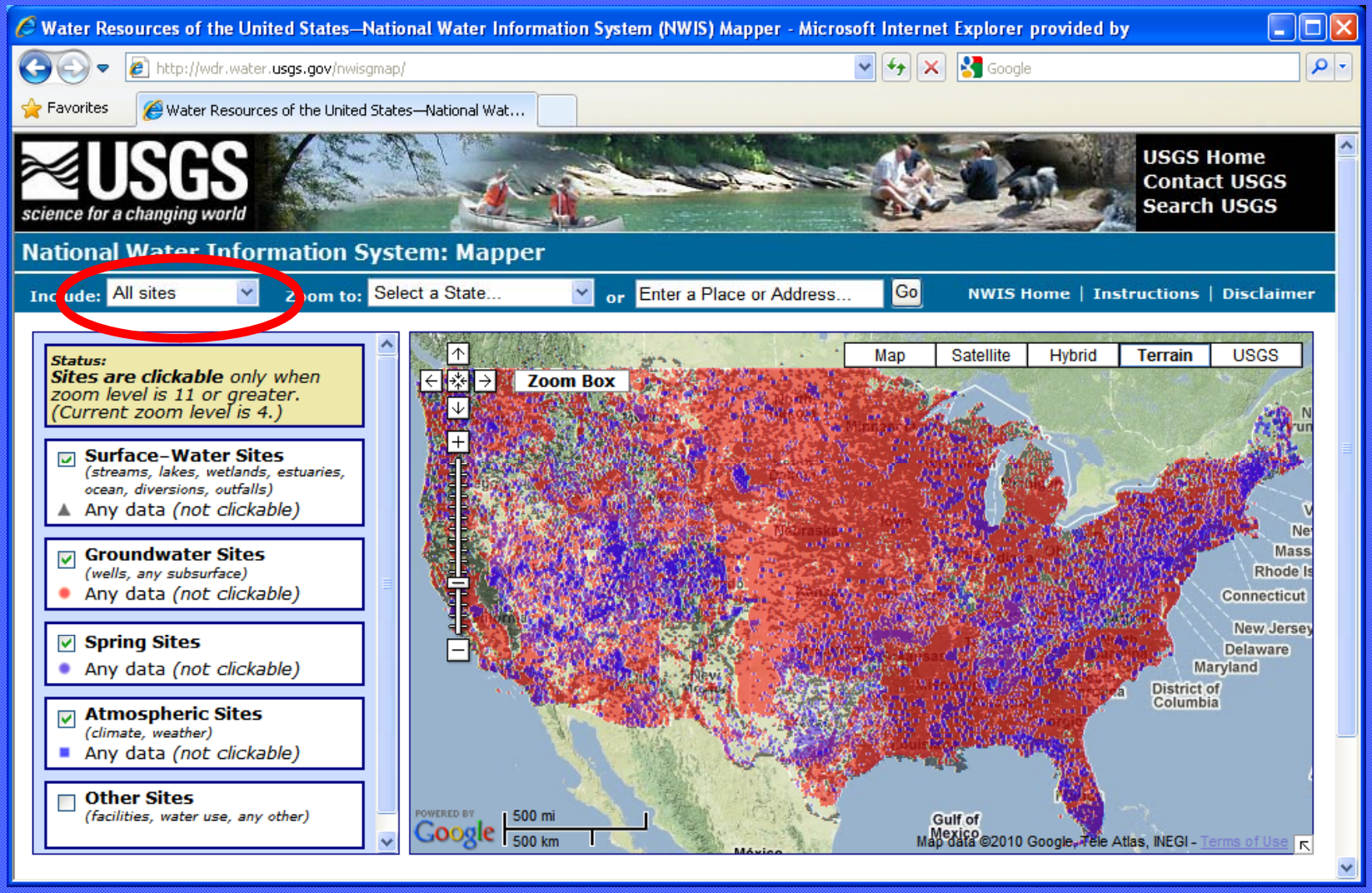


NWISWeb: New and Enhanced Features

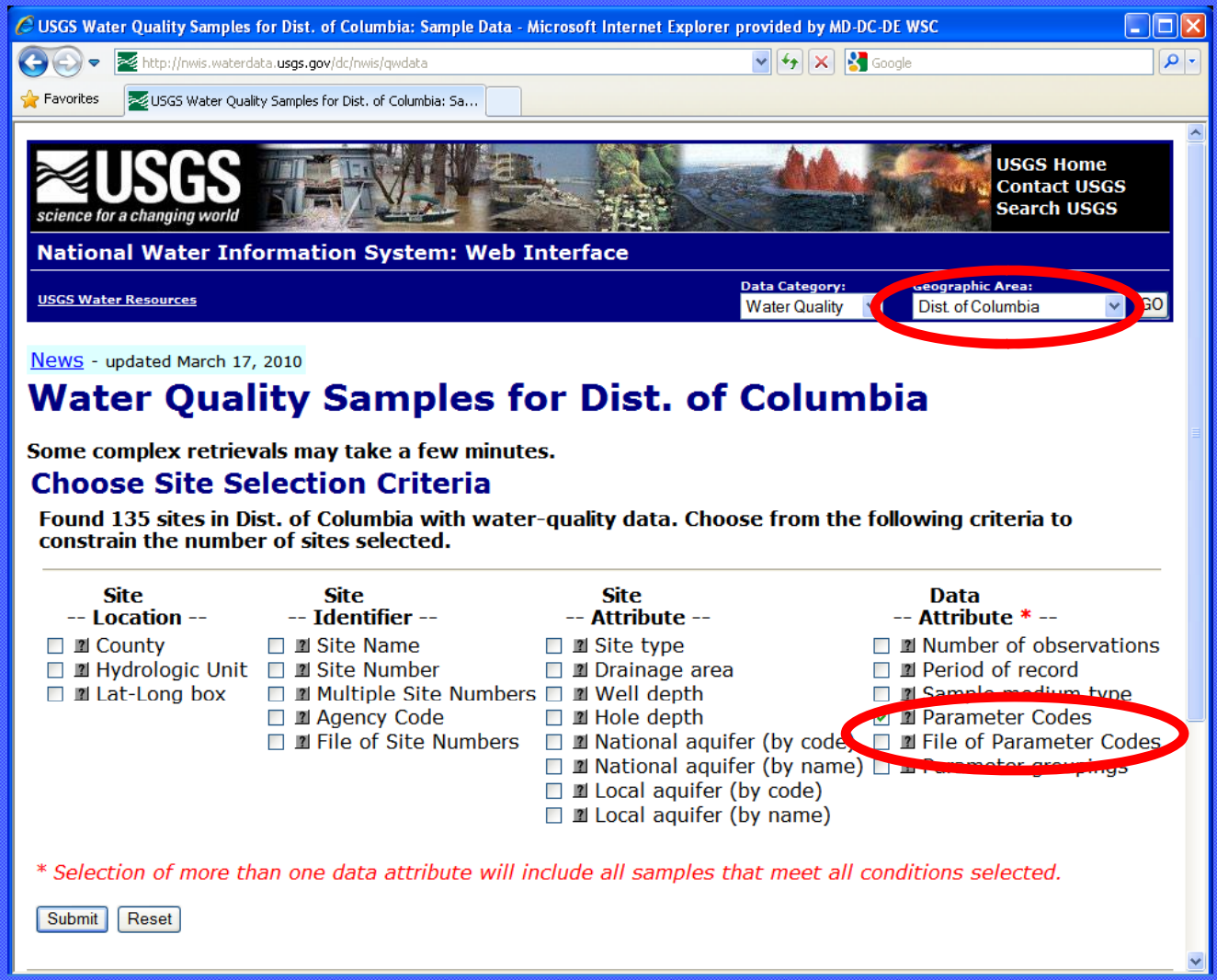
- Redesigned site types
- Search by parameter code
- Search by parameter group
- NWIS Mapper
- Time zone included with real-time data
- 120 days of real-time values

Redesigned Site Types

- Indicates location in hydrologic cycle
- Primary + optional secondary site types
  - Stream
    - Canal
    - Ditch
    - Tidal
- Aligns with USEPA site types

Search by Parameter Code

- USGS Parameter Code
  - Help finding codes:
    - Common name
    - American Chemical Society Registry Number
    - USEPA Substance Registry Services Name
  - Interactive or file submission


USGS Water Quality Samples for Dist. of Columbia: Sample Data - Microsoft Internet Explorer provided by MD-DC-DE WSC
http://nwis.waterdata.usgs.gov/dc/nwis/qwdata
Google
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USGS Water Quality Samples for Dist. of Columbia: Sa...
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Search USGS
National Water Information System: Web Interface
USGS Water Resources
Data Category:
Water Quality
Geographic Area:
Dist. of Columbia
GO
News - updated March 17, 2010
Water Quality Samples for Dist. of Columbia
Some complex retrievals may take a few minutes.
Choose Site Selection Criteria
Found 135 sites in Dist. of Columbia with water-quality data. Choose from the following criteria to constrain the number of sites selected.
Site -- Location --
County
Hydrologic Unit
Lat-Long box
Site -- Identifier --
Site Name
Site Number
Multiple Site Numbers
Agency Code
File of Site Numbers
Site -- Attribute --
Site type
Drainage area
Well depth
Hole depth
National aquifer (by code)
National aquifer (by name)
Local aquifer (by code)
Local aquifer (by name)
Data -- Attribute * --
Number of observations
Period of record
Parameter Codes
File of Parameter Codes
* Selection of more than one data attribute will include all samples that meet all conditions selected.
Submit
Reset

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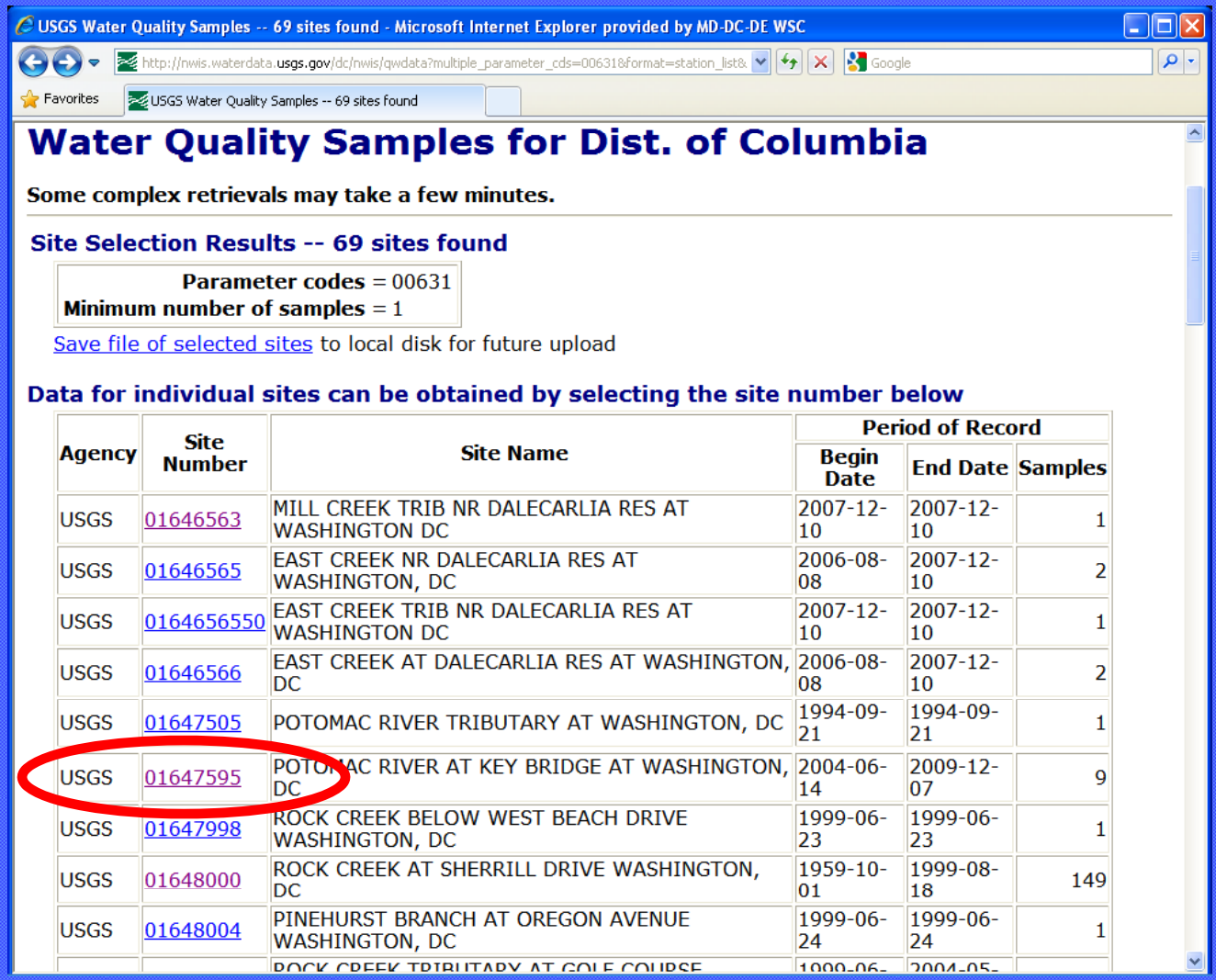


Water Quality Samples for Dist. of Columbia

Some complex retrievals may take a few minutes.

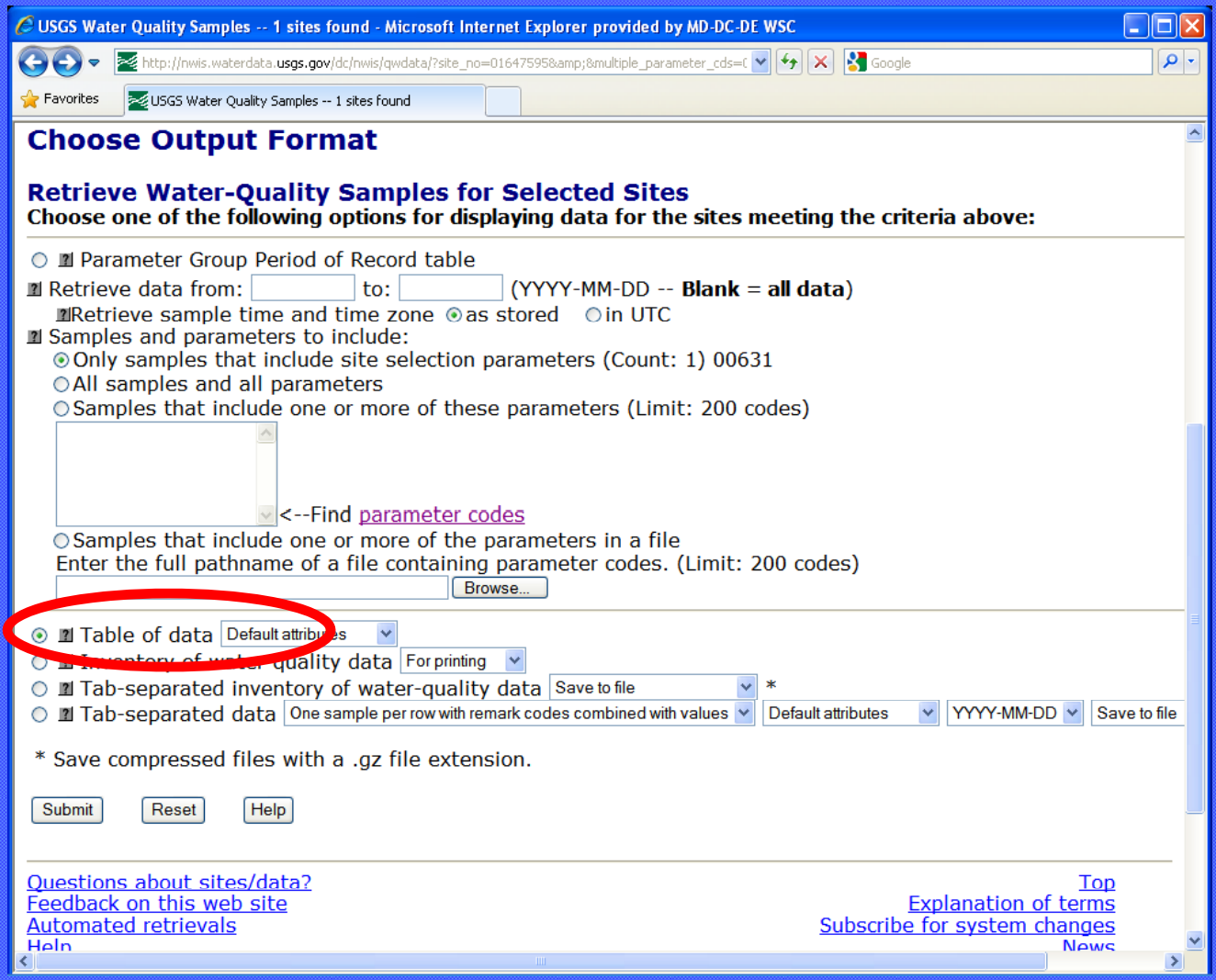
Site Selection Results -- 69 sites found

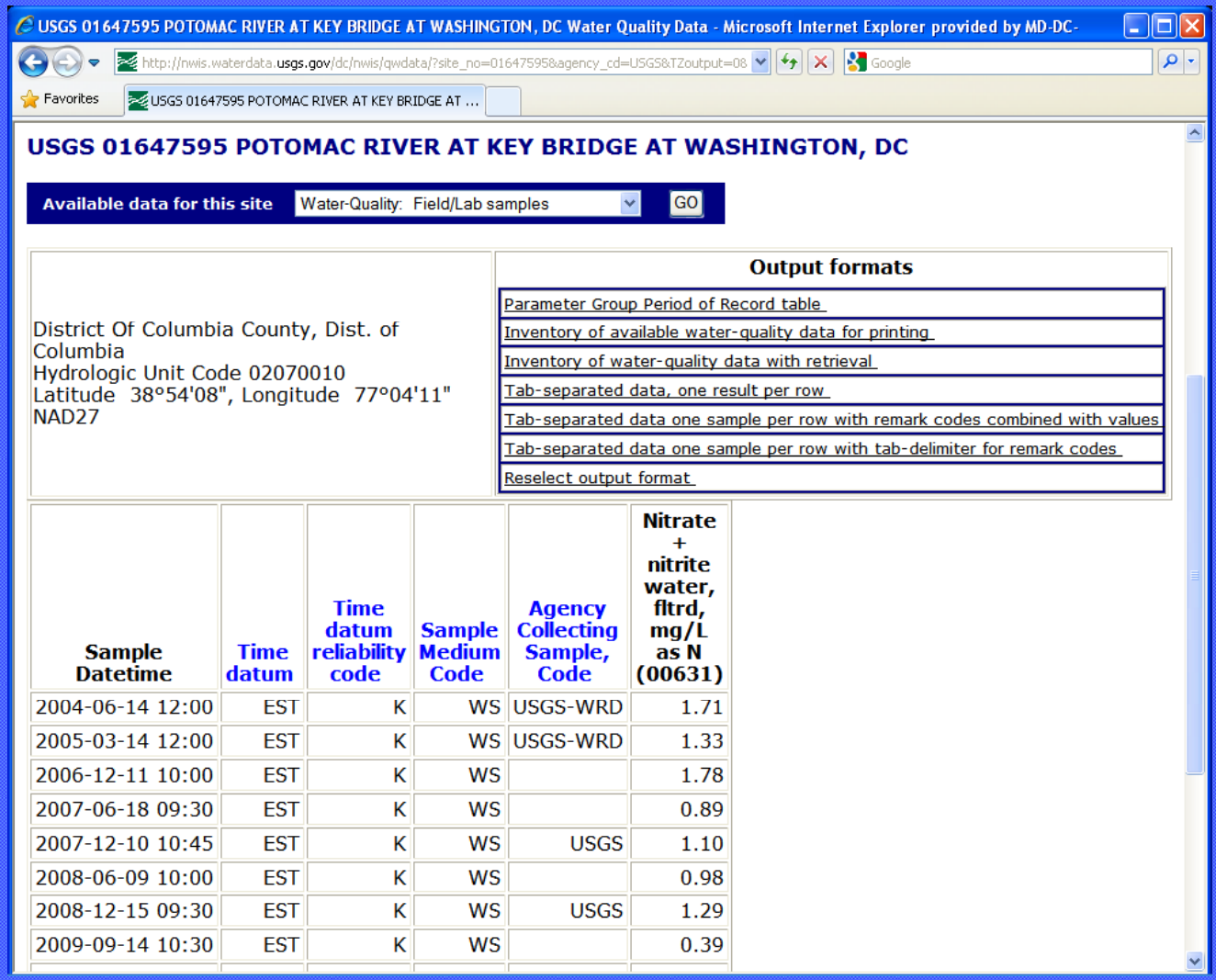
Parameter codes = 00631
Minimum number of samples = 1

Save file of selected sites to local disk for future upload

Data for individual sites can be obtained by selecting the site number below

Agency	Site Number	Site Name	Period of Record		
			Begin Date	End Date	Samples
USGS	01646563	MILL CREEK TRIB NR DALECARLIA RES AT WASHINGTON DC	2007-12-10	2007-12-10	1
USGS	01646565	EAST CREEK NR DALECARLIA RES AT WASHINGTON, DC	2006-08-08	2007-12-10	2
USGS	0164656550	EAST CREEK TRIB NR DALECARLIA RES AT WASHINGTON DC	2007-12-10	2007-12-10	1
USGS	01646566	EAST CREEK AT DALECARLIA RES AT WASHINGTON, DC	2006-08-08	2007-12-10	2
USGS	01647505	POTOMAC RIVER TRIBUTARY AT WASHINGTON, DC	1994-09-21	1994-09-21	1
USGS	01647595	POTOMAC RIVER AT KEY BRIDGE AT WASHINGTON, DC	2004-06-14	2009-12-07	9
USGS	01647998	ROCK CREEK BELOW WEST BEACH DRIVE WASHINGTON, DC	1999-06-23	1999-06-23	1
USGS	01648000	ROCK CREEK AT SHERRILL DRIVE WASHINGTON, DC	1959-10-01	1999-08-18	149
USGS	01648004	PINEHURST BRANCH AT OREGON AVENUE WASHINGTON, DC	1999-06-24	1999-06-24	1
		ROCK CREEK TRIBUTARY AT GOLF COURSE	1999-06-	2004-05-	


USGS Water Quality Samples -- 1 sites found - Microsoft Internet Explorer provided by MD-DC-DE WSC
http://nwis.waterdata.usgs.gov/dc/nwis/qwdata/?site_no=01647595&&multiple_parameter_cds=(
Google
Favorites
USGS Water Quality Samples -- 1 sites found
Choose Output Format
Retrieve Water-Quality Samples for Selected Sites
Choose one of the following options for displaying data for the sites meeting the criteria above:
Parameter Group Period of Record table
Retrieve data from: to: (YYYY-MM-DD -- Blank = all data)
Retrieve sample time and time zone as stored in UTC
Samples and parameters to include:
Only samples that include site selection parameters (Count: 1) 00631
All samples and all parameters
Samples that include one or more of these parameters (Limit: 200 codes)
<--Find parameter codes
Samples that include one or more of the parameters in a file
Enter the full pathname of a file containing parameter codes. (Limit: 200 codes)
Browse...
Table of data Default attributes
Inventory of water-quality data For printing
Tab-separated inventory of water-quality data Save to file *
Tab-separated data One sample per row with remark codes combined with values Default attributes YYYY-MM-DD Save to file
* Save compressed files with a .gz file extension.
Submit
Reset
Help
Questions about sites/data?
Feedback on this web site
Automated retrievals
Help
Top
Explanation of terms
Subscribe for system changes
News



USGS 01647595 POTOMAC RIVER AT KEY BRIDGE AT WASHINGTON, DC

Available data for this site: Water-Quality: Field/Lab samples — GO

District Of Columbia County, Dist. of Columbia
Hydrologic Unit Code 02070010
Latitude 38°54'08", Longitude 77°04'11"
NAD27

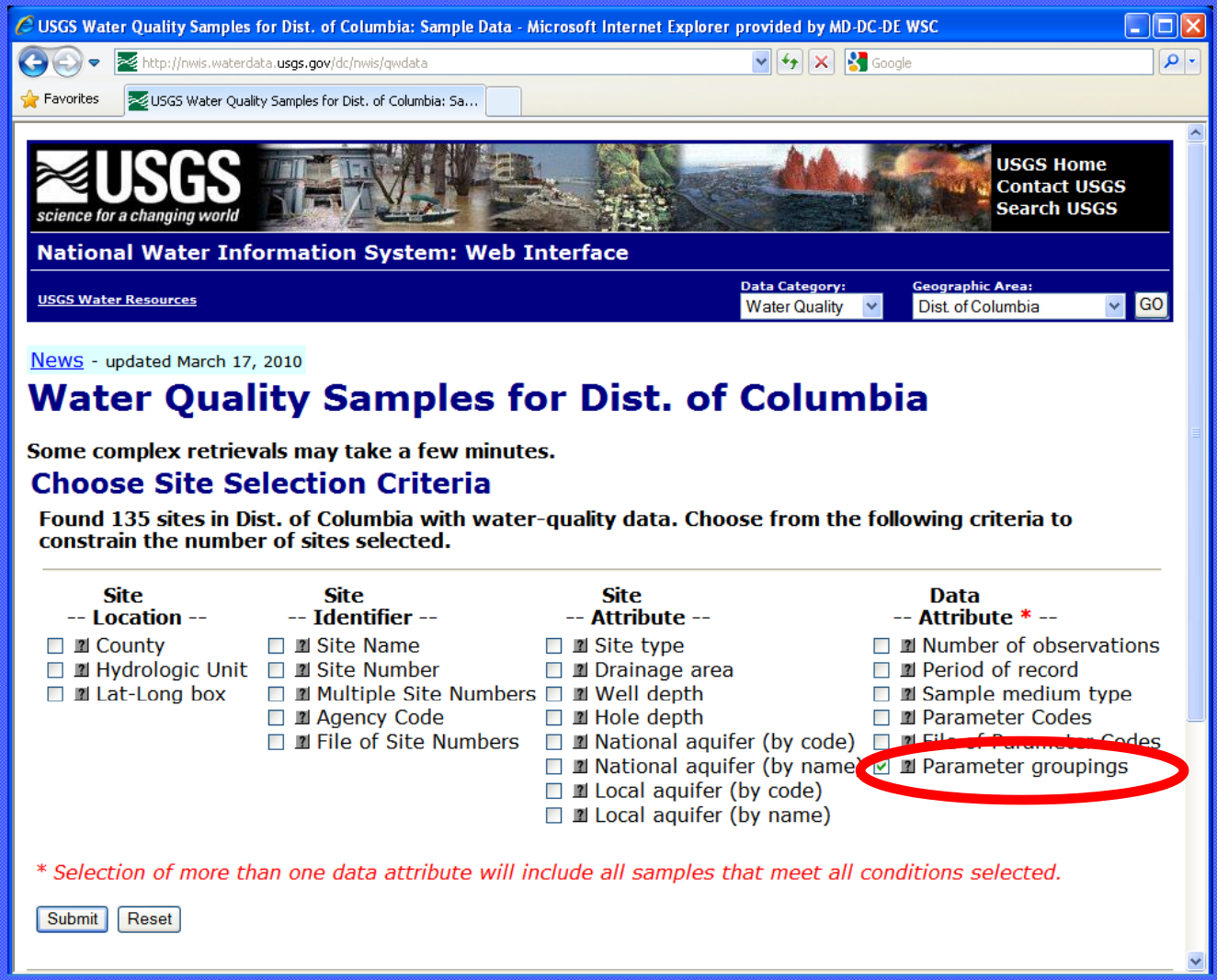
Output formats

- Parameter Group Period of Record table
- Inventory of available water-quality data for printing
- Inventory of water-quality data with retrieval
- Tab-separated data, one result per row
- Tab-separated data one sample per row with remark codes combined with values
- Tab-separated data one sample per row with tab-delimiter for remark codes
- Reselect output format

Sample Datetime	Time datum	Time datum reliability code	Sample Medium Code	Agency Collecting Sample, Code	Nitrate + nitrite water, fltrd, mg/L as N (00631)
2004-06-14 12:00	EST	K	WS	USGS-WRD	1.71
2005-03-14 12:00	EST	K	WS	USGS-WRD	1.33
2006-12-11 10:00	EST	K	WS		1.78
2007-06-18 09:30	EST	K	WS		0.89
2007-12-10 10:45	EST	K	WS	USGS	1.10
2008-06-09 10:00	EST	K	WS		0.98
2008-12-15 09:30	EST	K	WS	USGS	1.29
2009-09-14 10:30	EST	K	WS		0.39

Search by Parameter Group

- Information
- Physical
- Inorganics, Major, Metals
- Inorganics, Major Non-metals
- Nutrient
- Microbiological
- Biological
- Inorganics, Minor, metals
- Inorganics, Minor, Non-metals
- Organics, pesticide
- Organics, PCBs
- Organics, other
- Radiochemistry
- Stable Isotopes
- Sediment
- Population/Community
- Habitat
- Toxicity
- Other


USGS Water Quality Samples for Dist. of Columbia: Sample Data - Microsoft Internet Explorer provided by MD-DC-DE WSC
http://nwis.waterdata.usgs.gov/dc/nwis/qwdata
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USGS Water Resources
Data Category:
Water Quality
Geographic Area:
Dist. of Columbia
GO
News - updated March 17, 2010
Water Quality Samples for Dist. of Columbia
Some complex retrievals may take a few minutes.
Choose Site Selection Criteria
Found 135 sites in Dist. of Columbia with water-quality data. Choose from the following criteria to constrain the number of sites selected.
Site -- Location --
County
Hydrologic Unit
Lat-Long box
Site -- Identifier --
Site Name
Site Number
Multiple Site Numbers
Agency Code
File of Site Numbers
Site -- Attribute --
Site type
Drainage area
Well depth
Hole depth
National aquifer (by code)
National aquifer (by name)
Local aquifer (by code)
Local aquifer (by name)
Data -- Attribute * --
Number of observations
Period of record
Sample medium type
Parameter Codes
Parameter groupings
* Selection of more than one data attribute will include all samples that meet all conditions selected.
Submit
Reset

USGS Water Quality Samples for Dist. of Columbia: Sample Data - Microsoft Internet Explorer provided by MD-DC-DE WSC
http://nwis.waterdata.usgs.gov/dc/nwis/qwdata?search_criteria=param_group&submitted_form=introc
Google
Favorites
USGS Water Quality Samples for Dist. of Columbia: Sa...
Water Quality Samples for Dist. of Columbia
Some complex retrievals may take a few minutes.
Select sites and/or samples which meet the following criteria:
Define one or more values for each of the following site-selection criteria: --- or select new criteria
Parameter groupings -- select one or more
All -- include all parameter groups
Physical
Inorganics Major Metals
Nutrient
Choose Output Format
Display Summary of Selected Sites
Choose one of the following options for displaying descriptions of the sites meeting the criteria above:
Table of sites sorted by Site number grouped by
Scroll list of sites -- allows selection of data for multiple sites
Brief descriptions -- allows selection of data for multiple sites
Site-description information displayed in table format
Agency
Site identification number
Site name
Site type
<--Select fields to include in site-description output
Save file of selected sites to local disk for future upload
Retrieve Water-Quality Samples for Selected Sites

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Water Quality Samples for Dist. of Columbia

Some complex retrievals may take a few minutes.

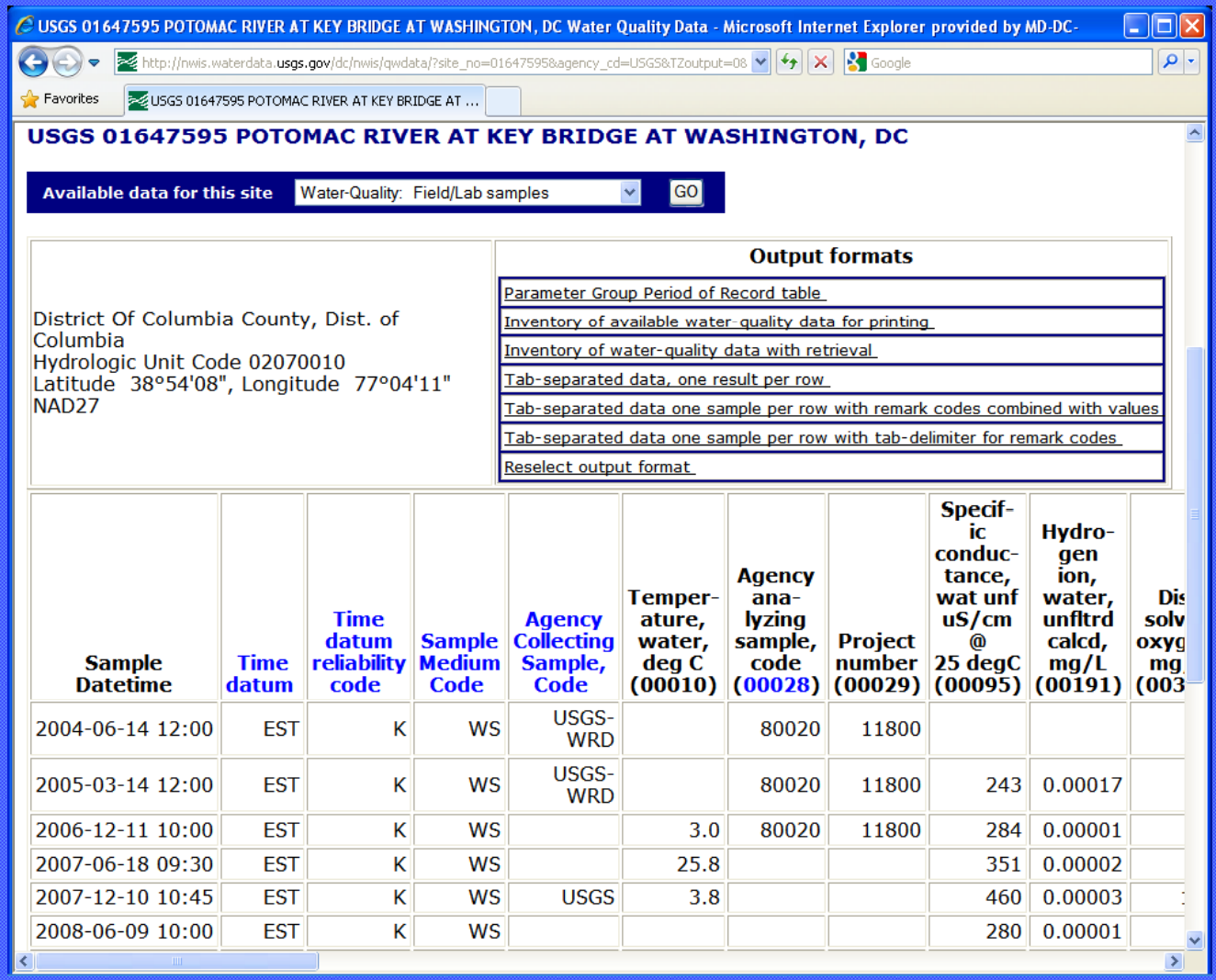
Site Selection Results -- 124 sites found

Parameter Groups = [PHY] Physical
Minimum number of samples = 1

Save file of selected sites to local disk for future upload

Data for individual sites can be obtained by selecting the site number below

Agency	Site Number	Site Name	Period of Record		
			Begin Date	End Date	Samples
USGS	01646563	MILL CREEK TRIB NR DALECARLIA RES AT WASHINGTON DC	2007-12-10	2007-12-10	1
USGS	01646565	EAST CREEK NR DALECARLIA RES AT WASHINGTON, DC	2006-08-08	2007-12-10	2
USGS	0164656550	EAST CREEK TRIB NR DALECARLIA RES AT WASHINGTON DC	2007-12-10	2007-12-10	1
USGS	01646566	EAST CREEK AT DALECARLIA RES AT WASHINGTON, DC	2006-08-08	2007-12-10	2
USGS	01647505	POTOMAC RIVER TRIBUTARY AT WASHINGTON, DC	1994-09-21	1994-09-21	1
USGS	01647595	POTOMAC RIVER AT KEY BRIDGE AT WASHINGTON, DC	2004-06-14	2009-12-07	9
USGS	01647994	ROCK CREEK AT MD/DC BOUNDRY AT WASHINGTON DC	2007-06-27	2007-06-27	3
USGS	01647996	TRIB TO FENWICK BR AT RED BUD LANE, WASHINGTON DC	2007-06-27	2007-06-27	1
USGS	01647997	PORTAL BRANCH AT NORTH PORTAL DR, WASHINGTON, DC	1999-08-19	2008-07-29	5
		FENWICK BRANCH ABOVE ROCK CREEK AT	2007-06-	2008-07-	



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Available data for this site: Water-Quality: Field/Lab samples — GO

District Of Columbia County, Dist. of Columbia
Hydrologic Unit Code 02070010
Latitude 38°54'08", Longitude 77°04'11"
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Output formats

- Parameter Group Period of Record table
- Inventory of available water-quality data for printing
- Inventory of water-quality data with retrieval
- Tab-separated data, one result per row
- Tab-separated data one sample per row with remark codes combined with values
- Tab-separated data one sample per row with tab-delimiter for remark codes
- Reselect output format

Sample Datetime	Time datum	Time datum reliability code	Sample Medium Code	Agency Collecting Sample, Code	Temperature, water, deg C (00010)	Agency analyzing sample, code (00028)	Project number (00029)	Specific conductance, wat unf uS/cm @ 25 degC (00095)	Hydrogen ion, water, unfltrd calcd, mg/L (00191)	Dis solv oxyg mg (003
2004-06-14 12:00	EST	K	WS	USGS-WRD		80020	11800			
2005-03-14 12:00	EST	K	WS	USGS-WRD		80020	11800	243	0.00017	
2006-12-11 10:00	EST	K	WS		3.0	80020	11800	284	0.00001	
2007-06-18 09:30	EST	K	WS		25.8			351	0.00002	
2007-12-10 10:45	EST	K	WS	USGS	3.8			460	0.00003	
2008-06-09 10:00	EST	K	WS					280	0.00001	

NWIS Mapper

- Search by
  - Location (State, address)
  - One or more site types
  - Active, inactive, and real-time sites
- Multiple output options
  - Click on site and access data
  - List of sites
  - KML file output

NWIS Mapper

- Multiple map overlays
  - USGS topographic map
  - Satellite image
  - Street map
  - Terrain map

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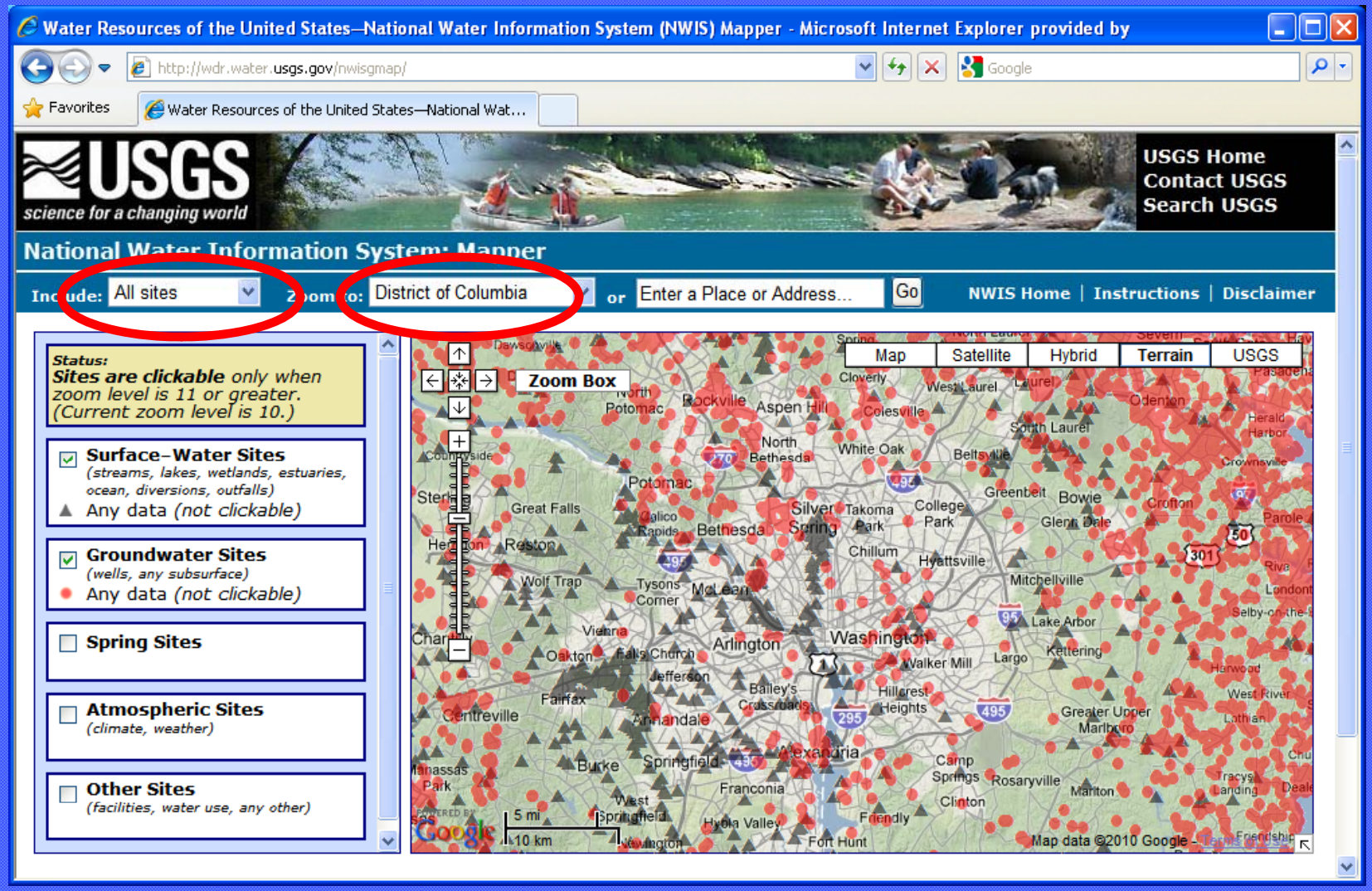

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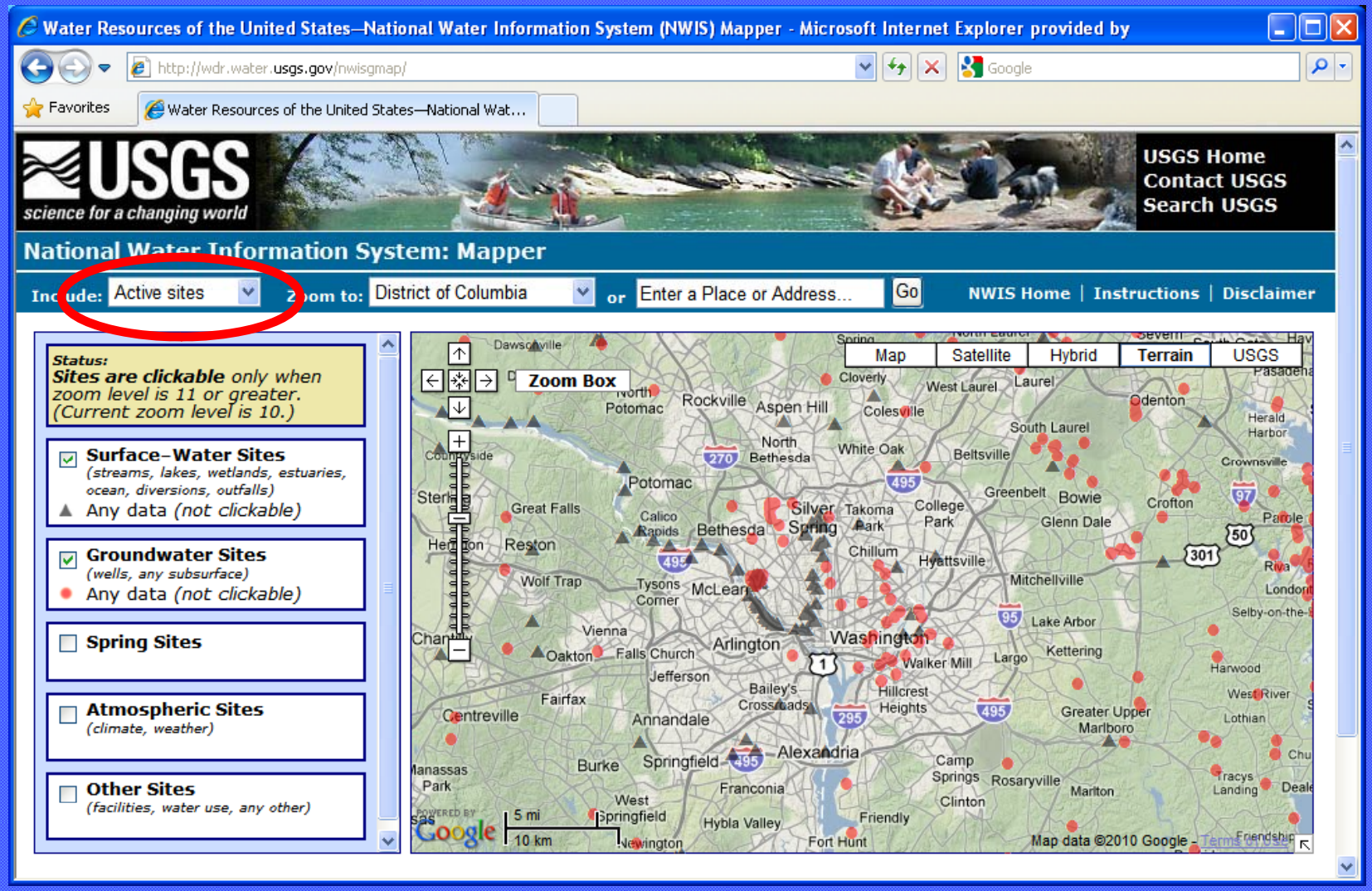

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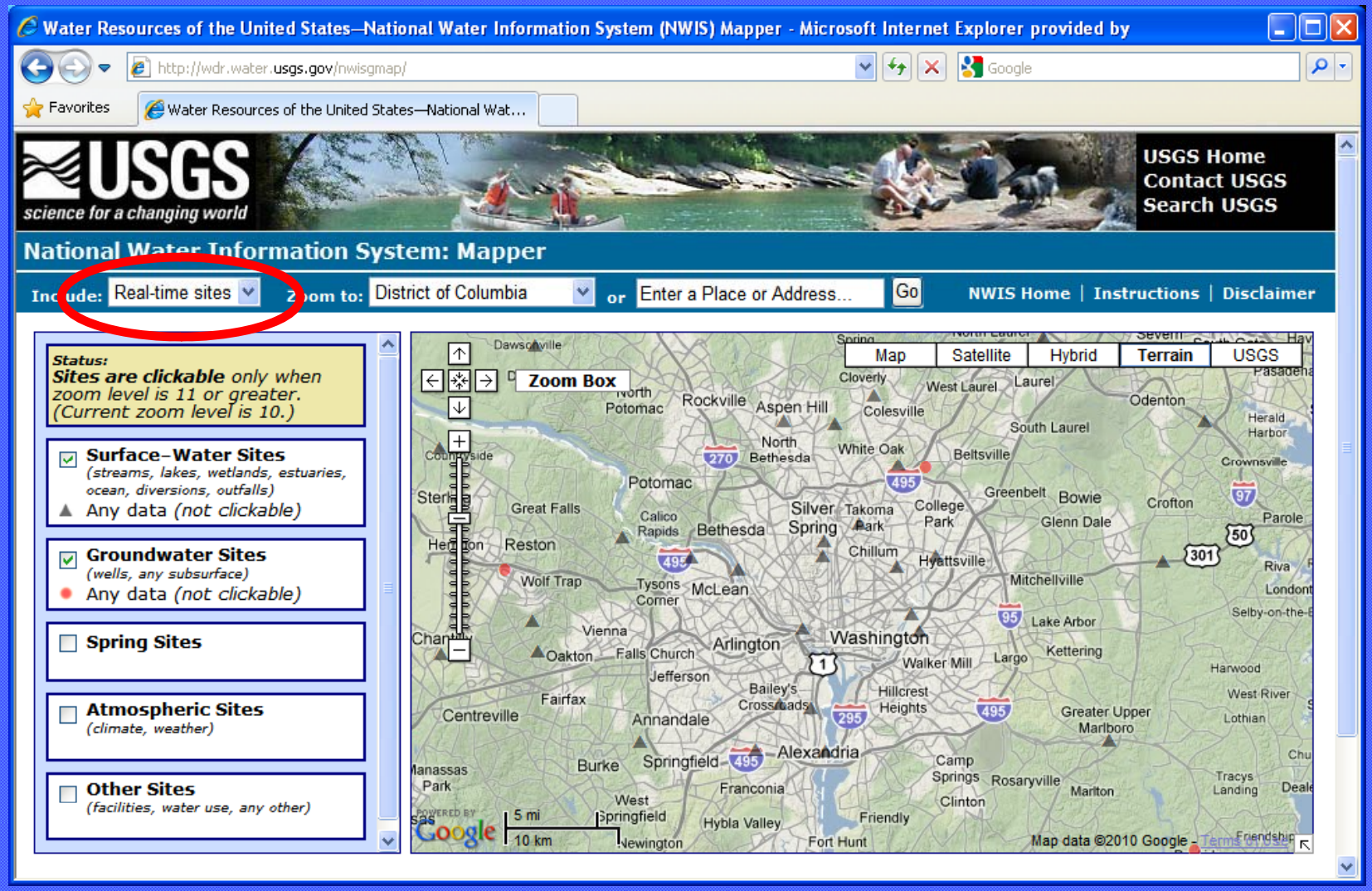

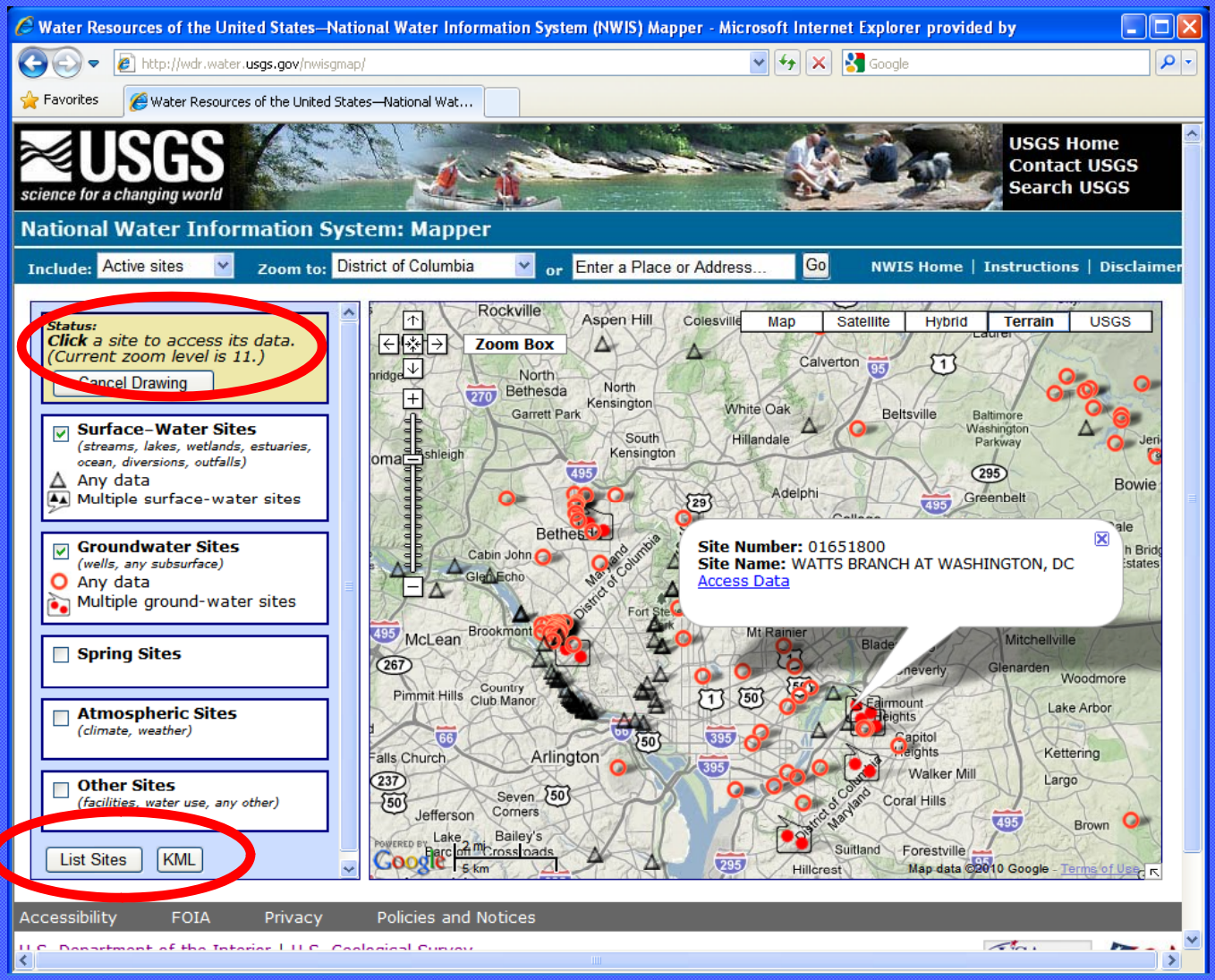
Water Resources of the United States—National Water Information System (NWIS) Mapper - Microsoft Internet Explorer provided by
http://wdr.water.usgs.gov/nwisgmap/
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Search USGS
National Water Information System: Mapper
Include: Active sites
Zoom to: District of Columbia
or
Enter a Place or Address...
Go
NWIS Home | Instructions | Disclaimer
Status:
Click a site to access its data.
(Current zoom level is 11.)
Cancel Drawing
Surface-Water Sites
(streams, lakes, wetlands, estuaries, ocean, diversions, outfalls)
Any data
Multiple surface-water sites
Groundwater Sites
(wells, any subsurface)
Any data
Multiple ground-water sites
Spring Sites
Atmospheric Sites
(climate, weather)
Other Sites
(facilities, water use, any other)
List Sites
KML
Zoom Box
Map
Satellite
Hybrid
Terrain
USGS
Site Number: 01651800
Site Name: WATTS BRANCH AT WASHINGTON, DC
Access Data
Rockville
Aspen Hill
North Bethesda
North Kensington
Garrett Park
White Oak
Calverton
Beltsville
Hillandale
South Kensington
Adelphi
Greenbelt
Bowie
Cabin John
Glen Echo
Brookmont
McLean
Mt Rainier
Pimmit Hills
Country Club Manor
Falls Church
Arlington
Fairmount Heights
Capitol Heights
Kettering
Walker Mill
Largo
Coral Hills
Lake Arbor
Glenarden
Woodmore
Mitchellville
Seven Corners
Jefferson
Bailey's Crossroads
Suitland
Forestville
Hillcrest
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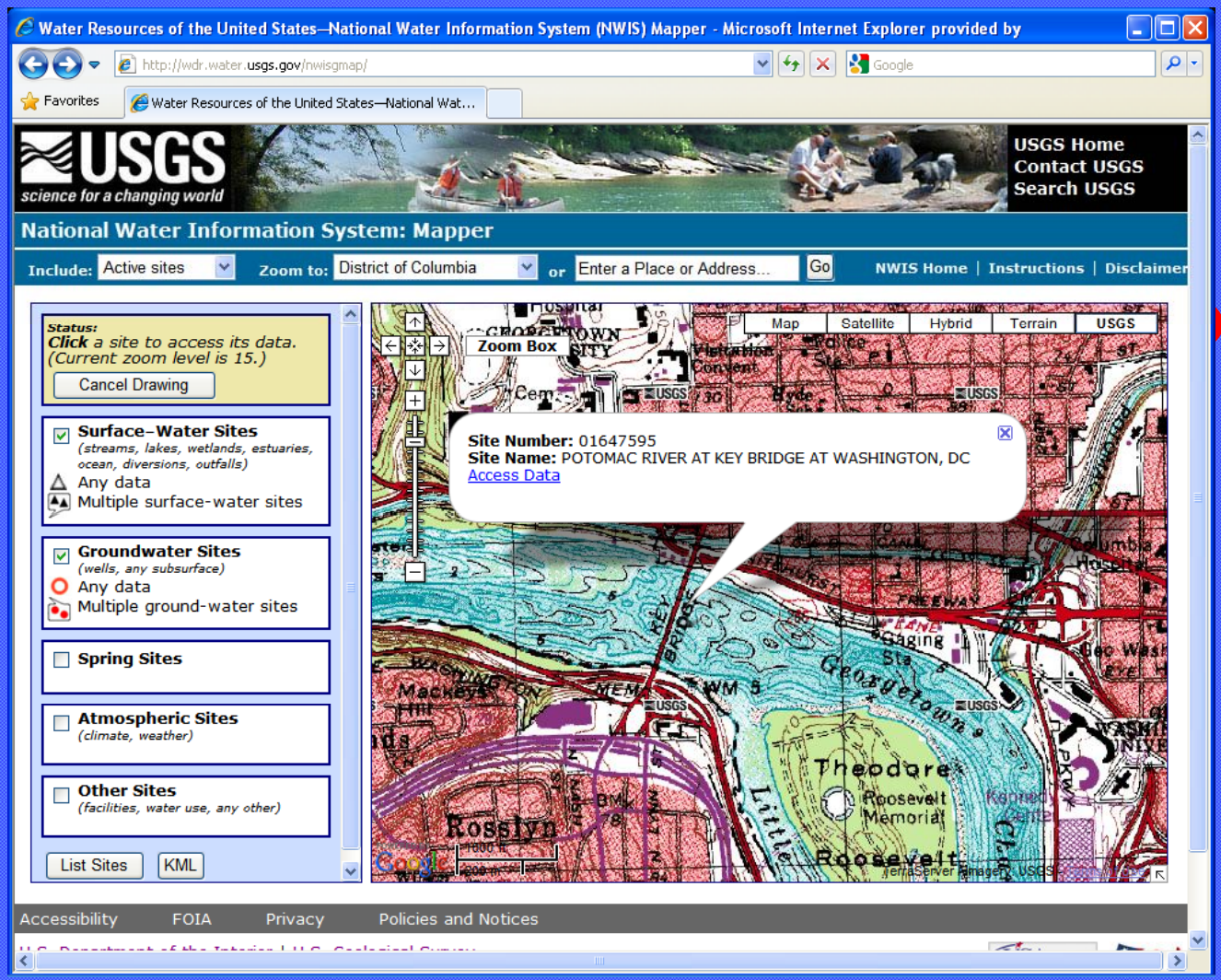
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Include: Active sites
Zoom to: District of Columbia
or Enter a Place or Address...
Go
NWIS Home | Instructions | Disclaimer
Status:
Click a site to access its data.
(Current zoom level is 15.)
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Surface-Water Sites
(streams, lakes, wetlands, estuaries, ocean, diversions, outfalls)
Any data
Multiple surface-water sites
Groundwater Sites
(wells, any subsurface)
Any data
Multiple ground-water sites
Spring Sites
Atmospheric Sites
(climate, weather)
Other Sites
(facilities, water use, any other)
List Sites
KML
Zoom Box
Map
Satellite
Hybrid
Terrain
USGS
Site Number: 01647595
Site Name: POTOMAC RIVER AT KEY BRIDGE AT WASHINGTON, DC
Access Data
Rosslyn
Theodore Roosevelt Memorial
Roosevelt
Accessibility
FOIA
Privacy
Policies and Notices

Other web enhancements

- Daily updates of water-quality data
- Links to USGS real-time water-quality map
- Increase in the allowable download size to 35,000 records
- Water-quality data web services

  http://qwwebservices.usgs.gov/

Stay tuned as
progress continues…

Questions?