



Flood Characterization and Notification Tools:

USGS WaterWatch and WaterAlert

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WaterWatch

Compares today's conditions with **the same calendar day** of past recorded years.

WaterWatch

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[Toolkit \(internal\)](#)

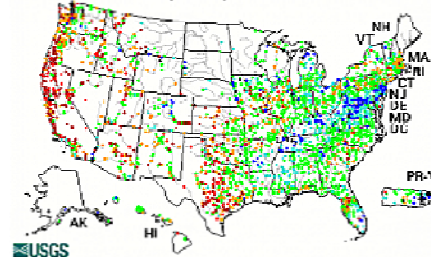
[Annual Summaries](#)

[Additional Information](#)

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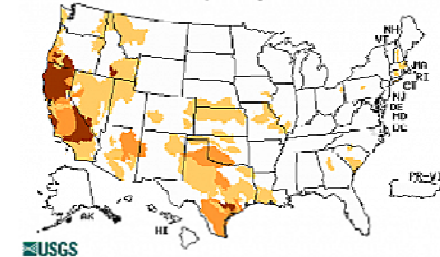
Current Streamflow

Friday, February 07, 2014 11:30ET



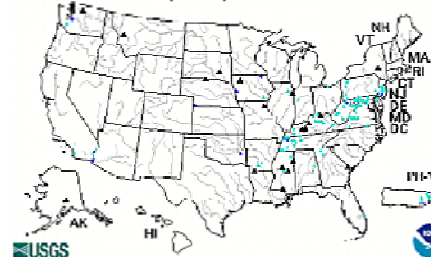
Drought

Thursday, February 06, 2014



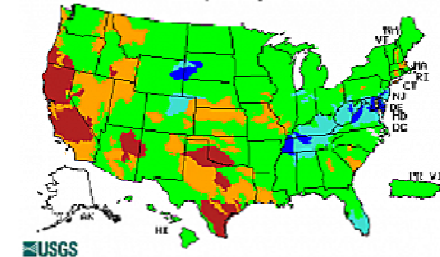
Flood

Friday, February 07, 2014 11:30ET



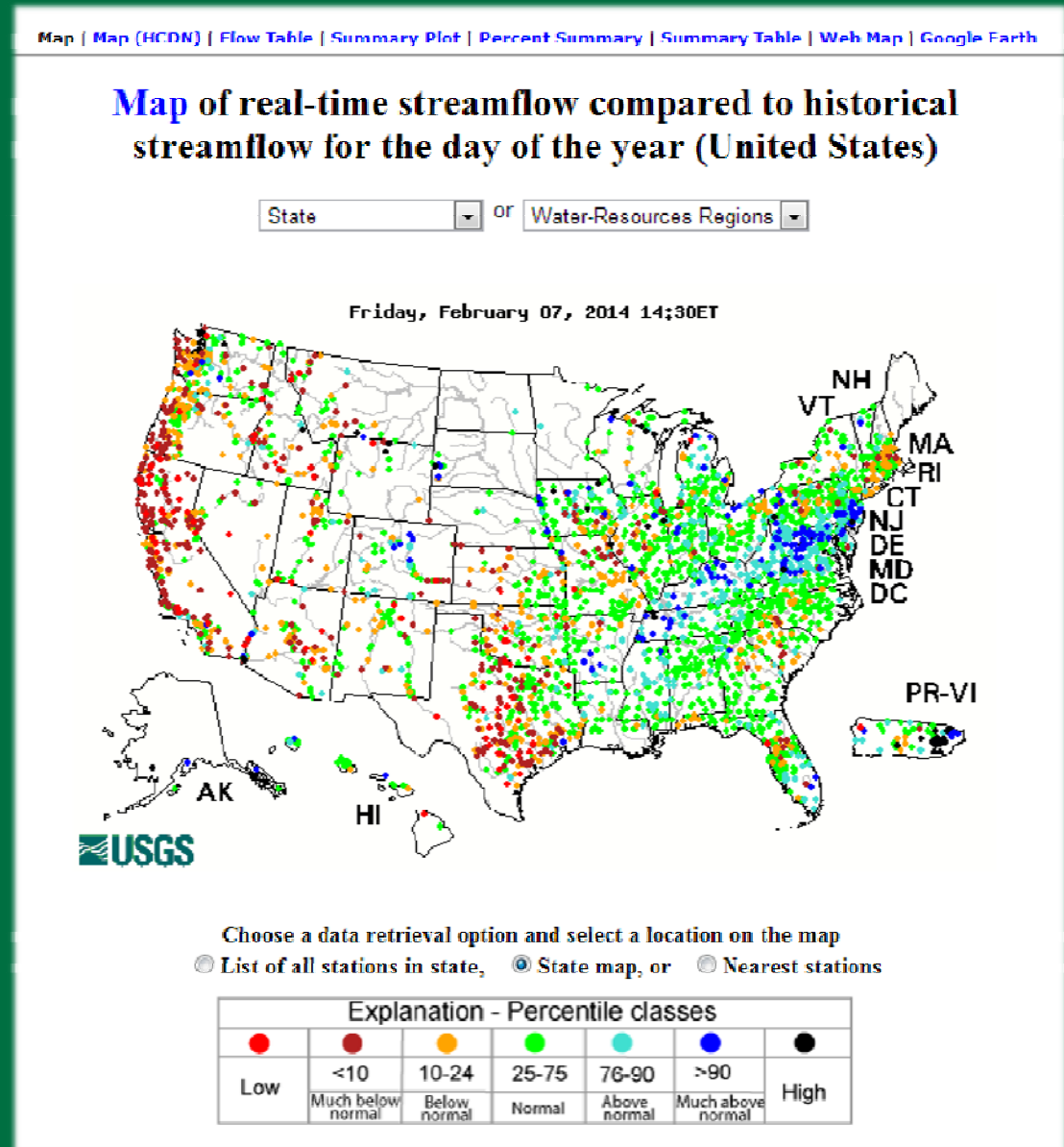
Past Flow/Runoff

Thursday, February 06, 2014



WaterWatch: Current Streamflow

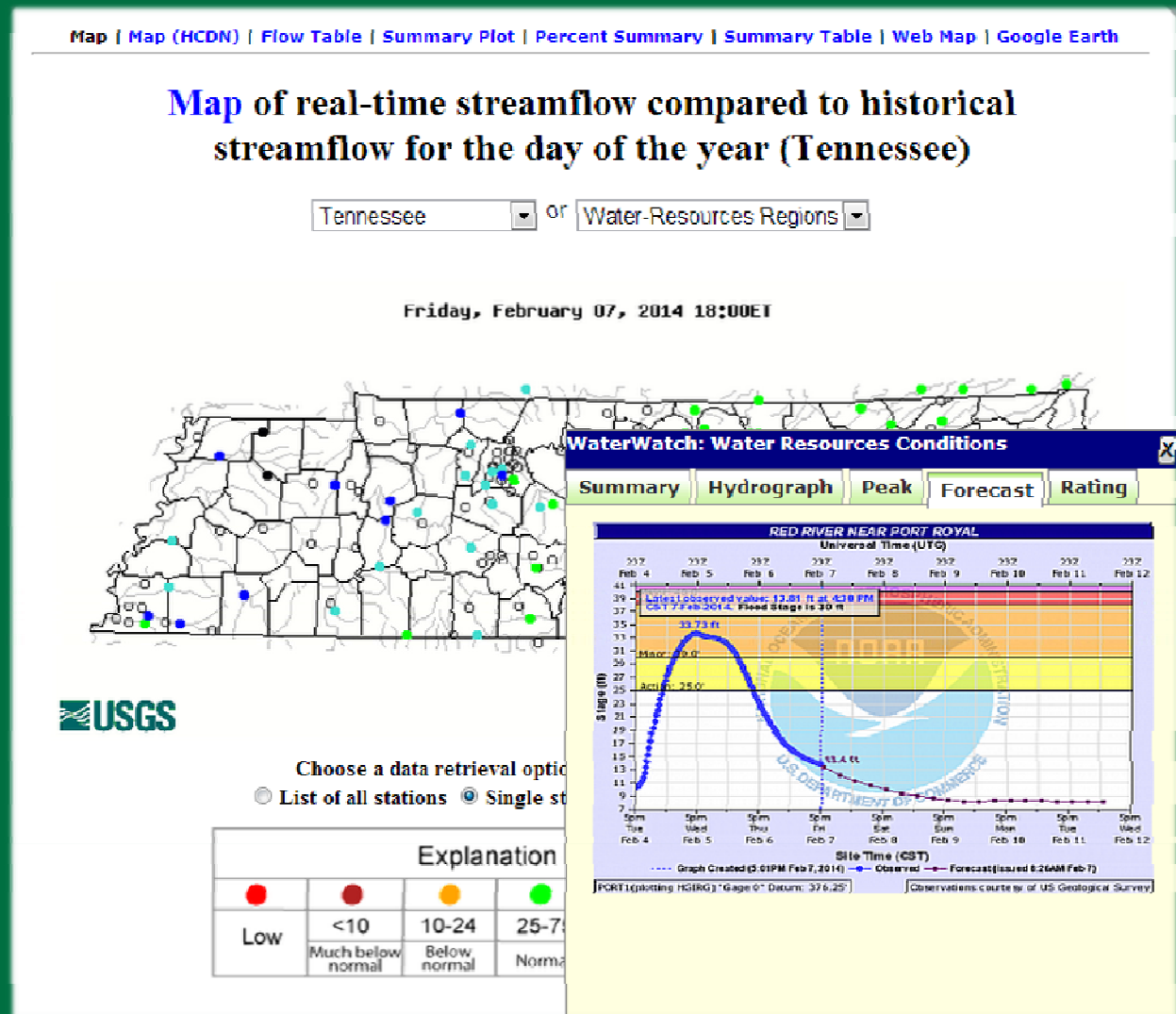
Uses a color range to show current streamflow relative to the calendar-date history of streamflow at each station:



WaterWatch: Current Streamflow

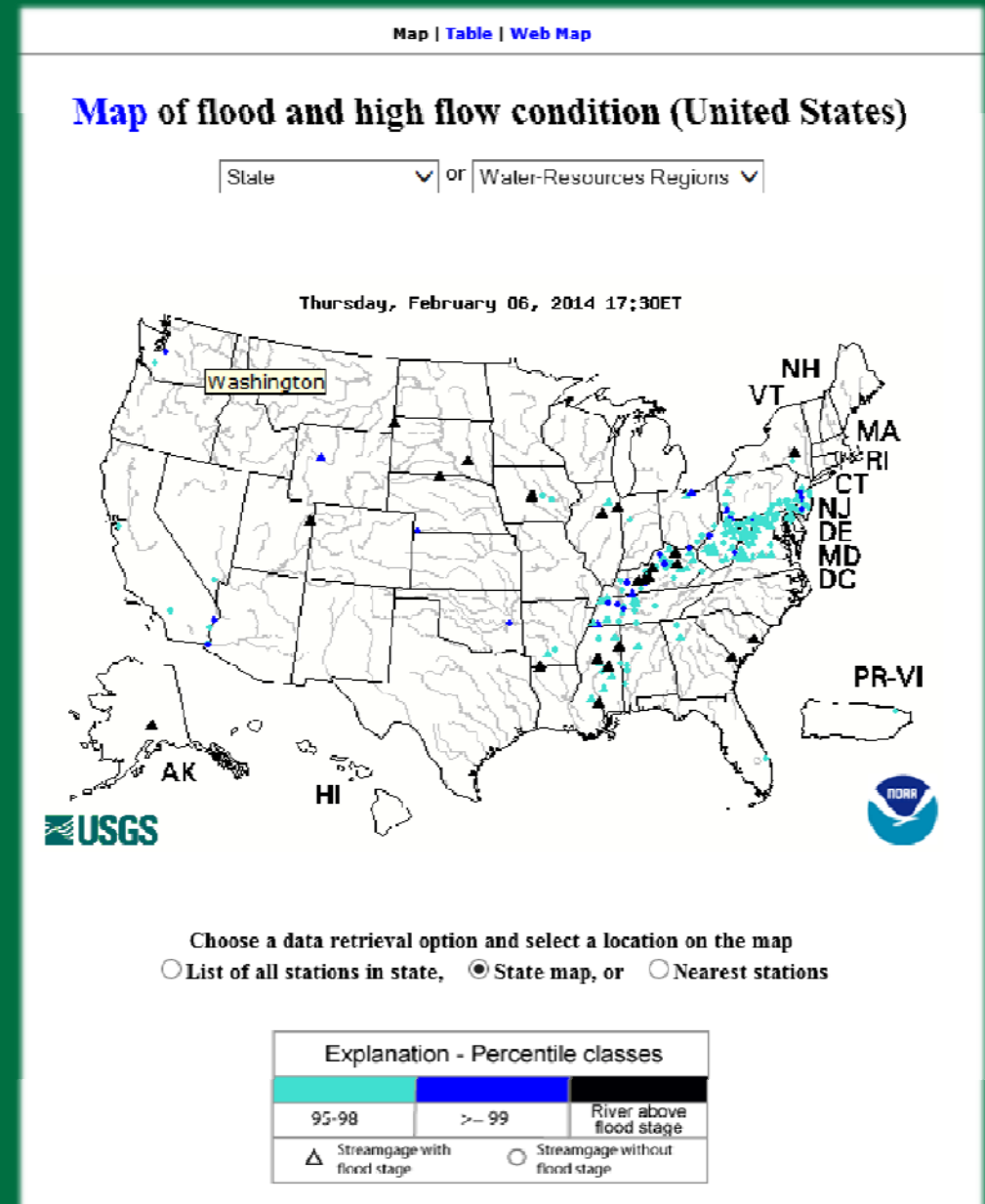
Additional information available for sites:

- Summary
- Hydrograph
- Peak comparison
- NWS forecast
- Rating curve



WaterWatch: Flood

Displays stations where the current streamflow exceeds 95% of past recorded streamflows of the same calendar date:

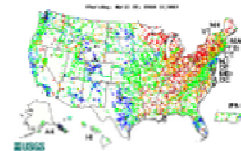


WaterWatch: Toolkit

Build many
different views
of the data:

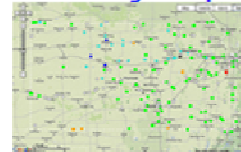
USGS WaterWatch Toolkit

Streamflow Conditions Map Builder



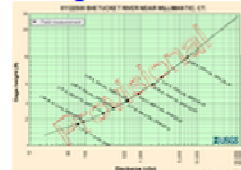
This builder is used to customize the streamflow conditions maps in size and color.

State Google Map Builder



A Google Maps version of the streamflow conditions map can be created in users web sites.

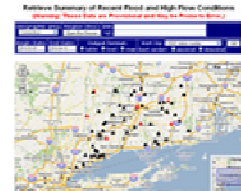
Rating Curve Builder



The rating curve builder is used to create a USGS streamflow rating curve. The rating table is from the USGS ratings depot. Field

measurements can also be appended to the curve.

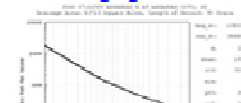
Flood Table Builder



This tool summarizes the flood and high flow conditions for a state or a region for a given time period. Tables and Google Maps are used to summarize conditions and to show

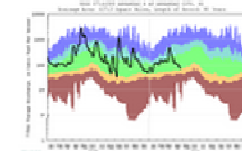
locations, respectively.

Streamgage Statistics Retrieval Tool



The "streamgage statistics" retrieval tool provides a list of basic summary statistics and

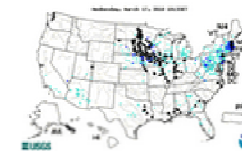
Duration Hydrograph Builder



streamgages.

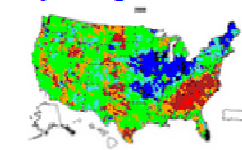
The builder is used to present a time-history of streamflow for the past two years along with historical streamflow percentiles for individual

Streamflow Map Animation Builder



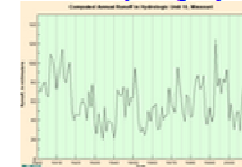
This tool is to create a streamflow map animation for a time period for real-time streamflow and flood-and-high flow maps, respectively.

Hydrologic Unit Runoff Maps



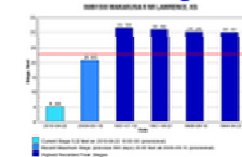
Hydrologic unit runoff and runoff condition maps since 1901 are available.

Runoff Hydrograph



Monthly, quarterly, and annual HUC runoff time-seris plots are available in a HUC area and a state.

Flood Tracking Chart



A URL is provided to create flood-tracking chart which shows current state, recent peak stage, historical highest peaks, and

WaterWatch: Flood Table

Build a table of flood data including:

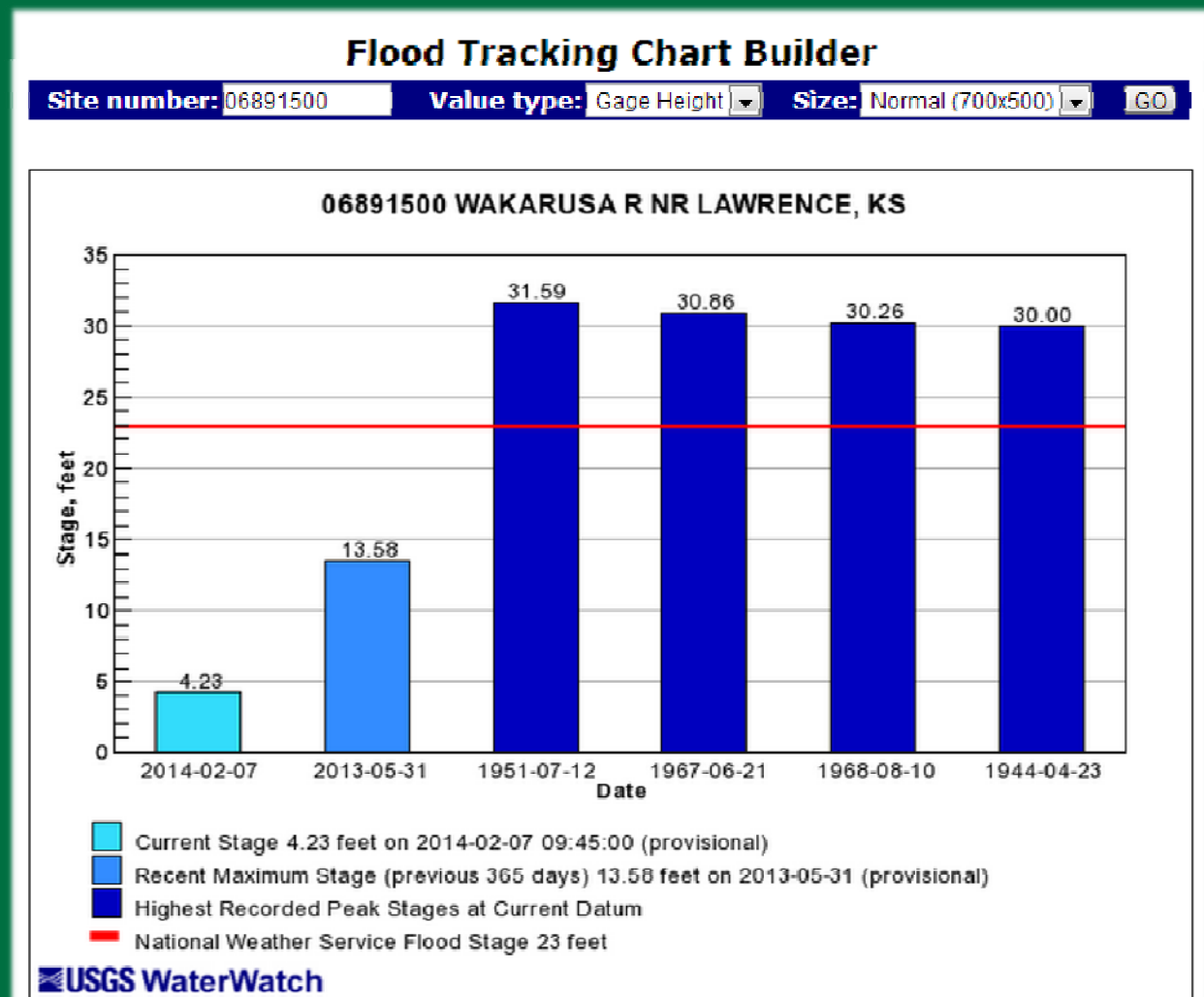
- Stage
- Streamflow
- Historic rank
- Years of record

| USGS station number | USGS station name | Drain. area [mi ²] | NWS flood stage [ft] | No. of days above flood stage | NWS flood class | Highest peak from 2013-08-01 to 2013-09-30 | | | | Historical Peaks | |
|---------------------|--|--------------------------------|----------------------|-------------------------------|-----------------|--|------------|---|------|------------------|----------------------------------|
| | | | | | | Date | Stage [ft] | Stream flow (date) [ft ³ /s] | Rank | No. of years | Max. (year) [ft ³ /s] |
| 06709000 | PLUM CREEK NEAR SEDALIA, CO. | 274 | 8 | 1 | ▲ | 2013-09-14 | 8.87 | 1260 | 4 | 28 | 7700 (1945) |
| 06752260 | CACHE LA POUDE RIVER AT FORT COLLINS, CO | 1127 | 10.5 | 1 | ▲ | 2013-09-13 | 10.79 | 8120 | 1 | 38 | 7710 (1999) |
| 07105500 | FOUNTAIN CREEK AT COLORADO SPRINGS, CO | 392 | 8 | 2 | ▲ | 2013-09-12 | 10.66 | 8670 | 3 | 37 | 10100 (1994) |
| 07106300 | FOUNTAIN CREEK NEAR PINON, CO | 865 | 7 | 1 | ▲ | 2013-09-13 | 8.68 | 11800 | 3 | 40 | 19100 (1999) |
| 07109500 | ARKANSAS RIVER NEAR AVONDALE, CO. | 6327 | 7 | 3 | ▲ | 2013-09-14 | 9.46 | 11100 | 11 | 61 | 50000 (1965) |
| 07124200 | PURGATOIRE RIVER AT MADRID, CO. | 505 | 7 | 1 | ▲ | 2013-08-04 | 7.09 | 6130 | 7 | 40 | 14300 (1976) |
| 07128500 | PURGATOIRE RIVER NEAR LAS ANIMAS, CO. | 3318 | 9 | 4 | ▲ | 2013-08-10 | 9.54 | 2200 | 55 | 74 | 70000 (1955) |

WaterWatch: Flood-Tracking Chart

Compare the current stage to:

- NWS flood stage
- peak of the past 365 days
- 4 highest peaks of record.



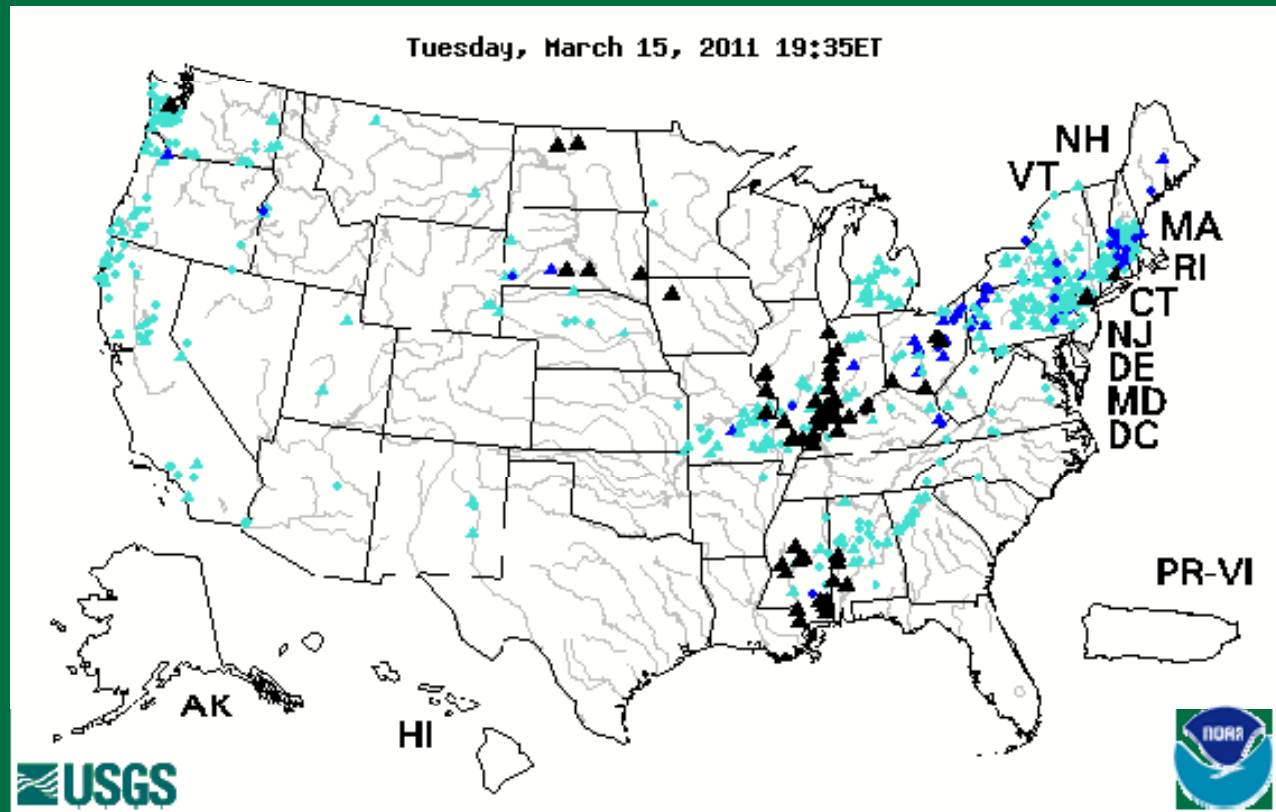
Additional Information

- [USGS real-time streamflow data](#)
- [USGS peak streamflow](#)



WaterWatch: Animation

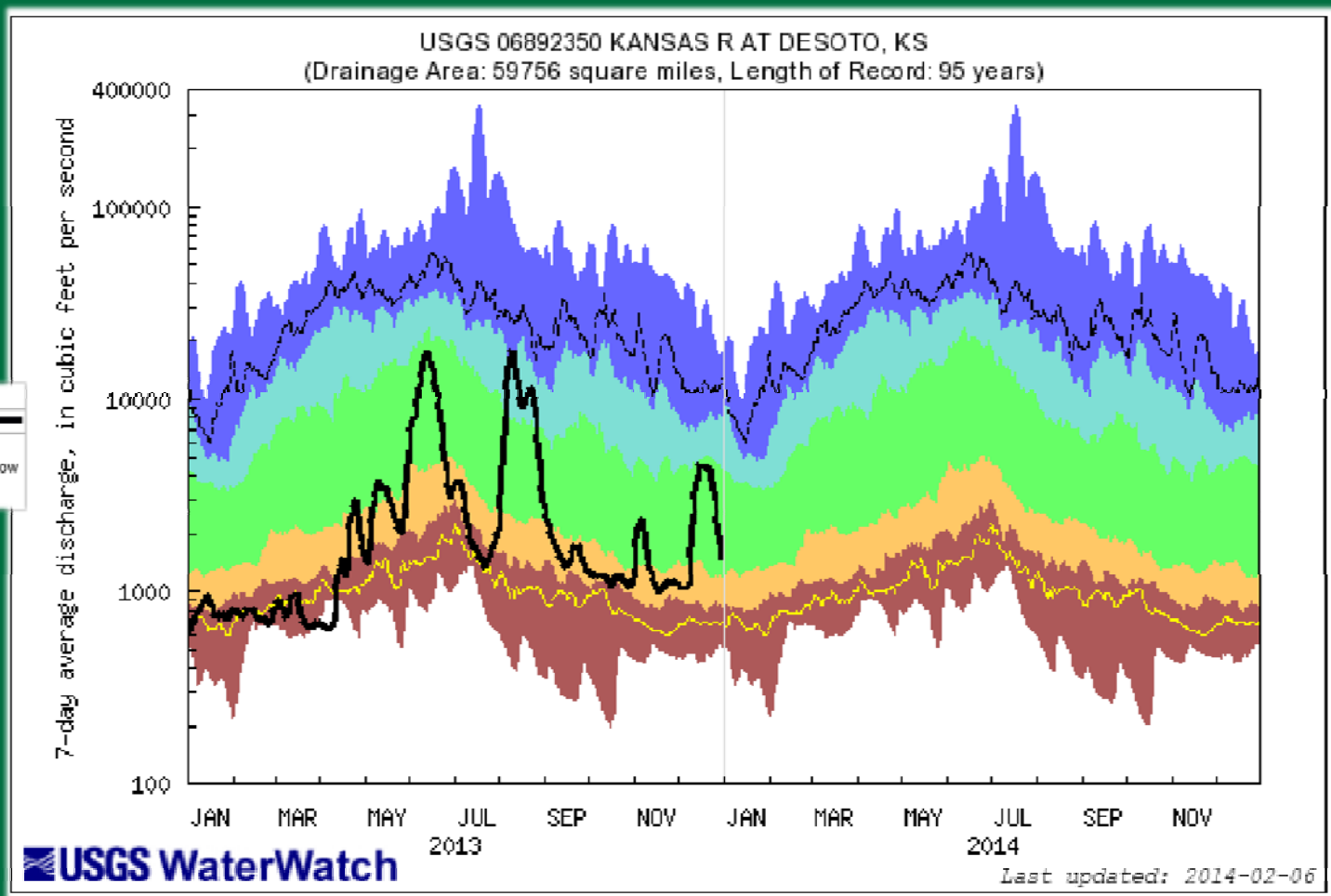
Create a visual
time-series of
daily conditions



WaterWatch: Duration Hydrograph

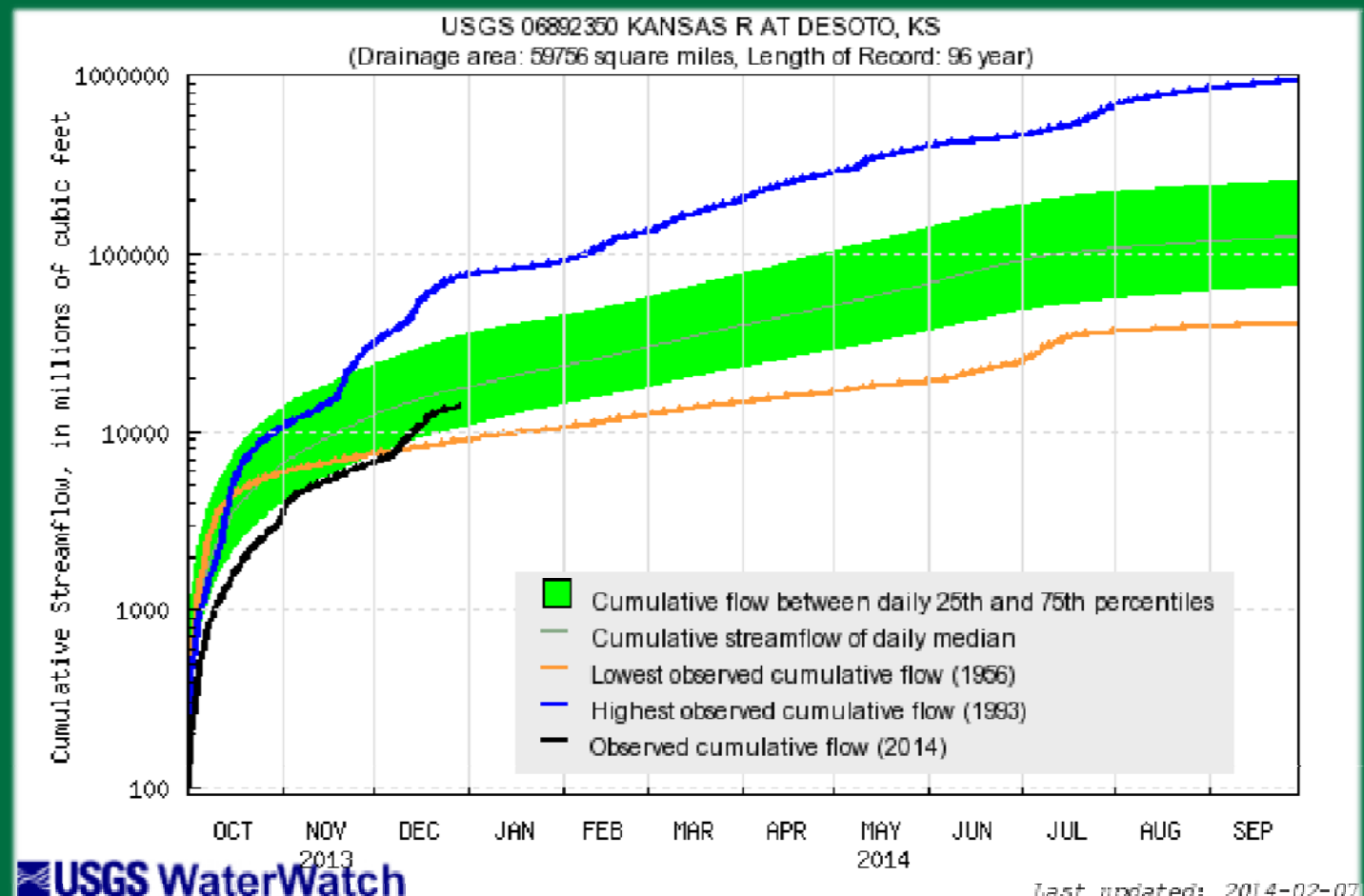
Time-history of streamflow for past 2 years with historical streamflow percentiles:

| Explanation - Percentile classes | | | | | | Flow |
|----------------------------------|--------------|--------|--------------|-------------------|---------------------------|------|
| lowest-10th percentile | 5 | 10-24 | 25-75 | 76-90 | 95 | |
| Much below Normal | Below normal | Normal | Above normal | Much above normal | 90th percentile - highest | |



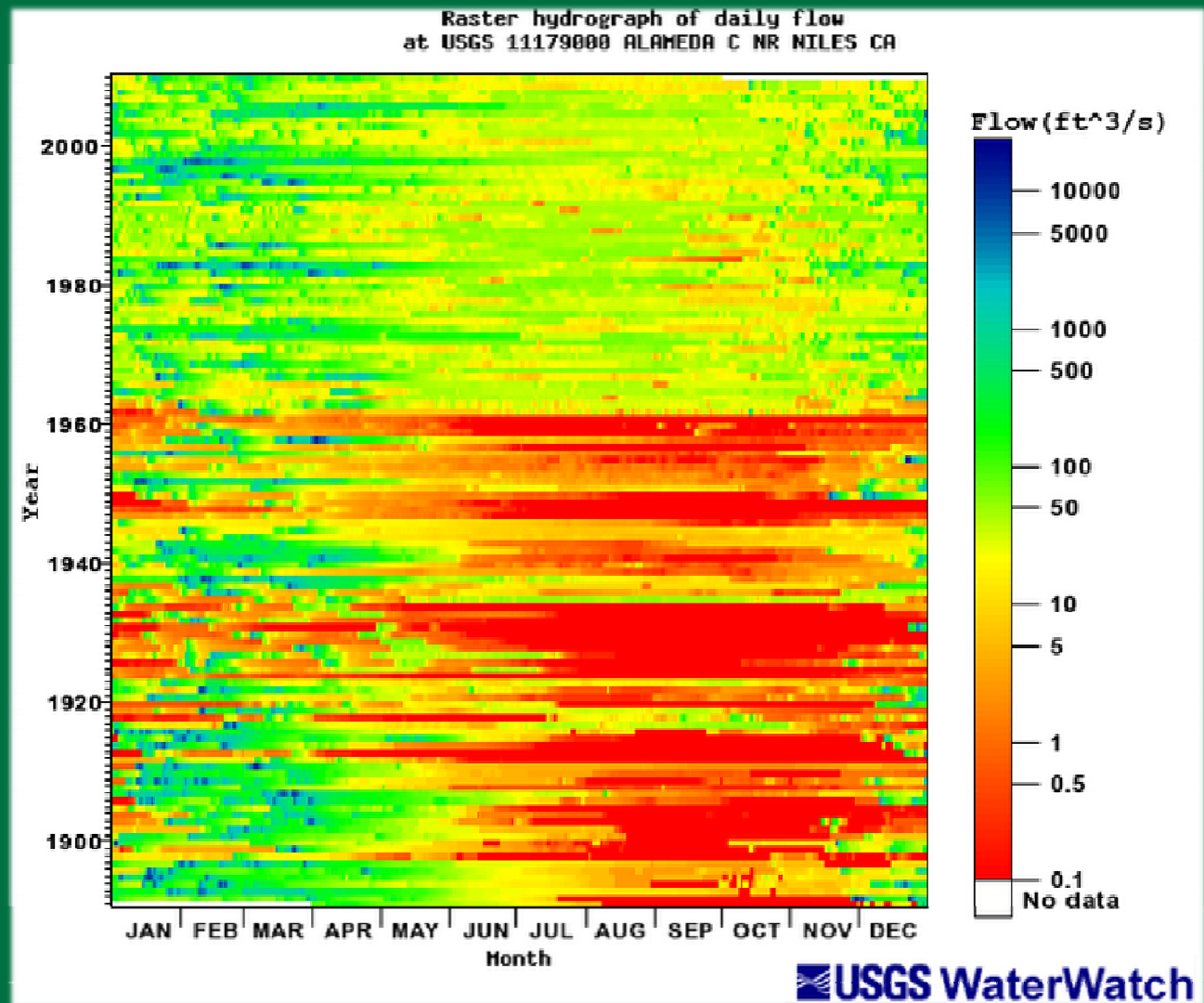
WaterWatch: Cumulative Streamflow Hydrograph

Compare the current cumulative runoff to historic annual runoff:



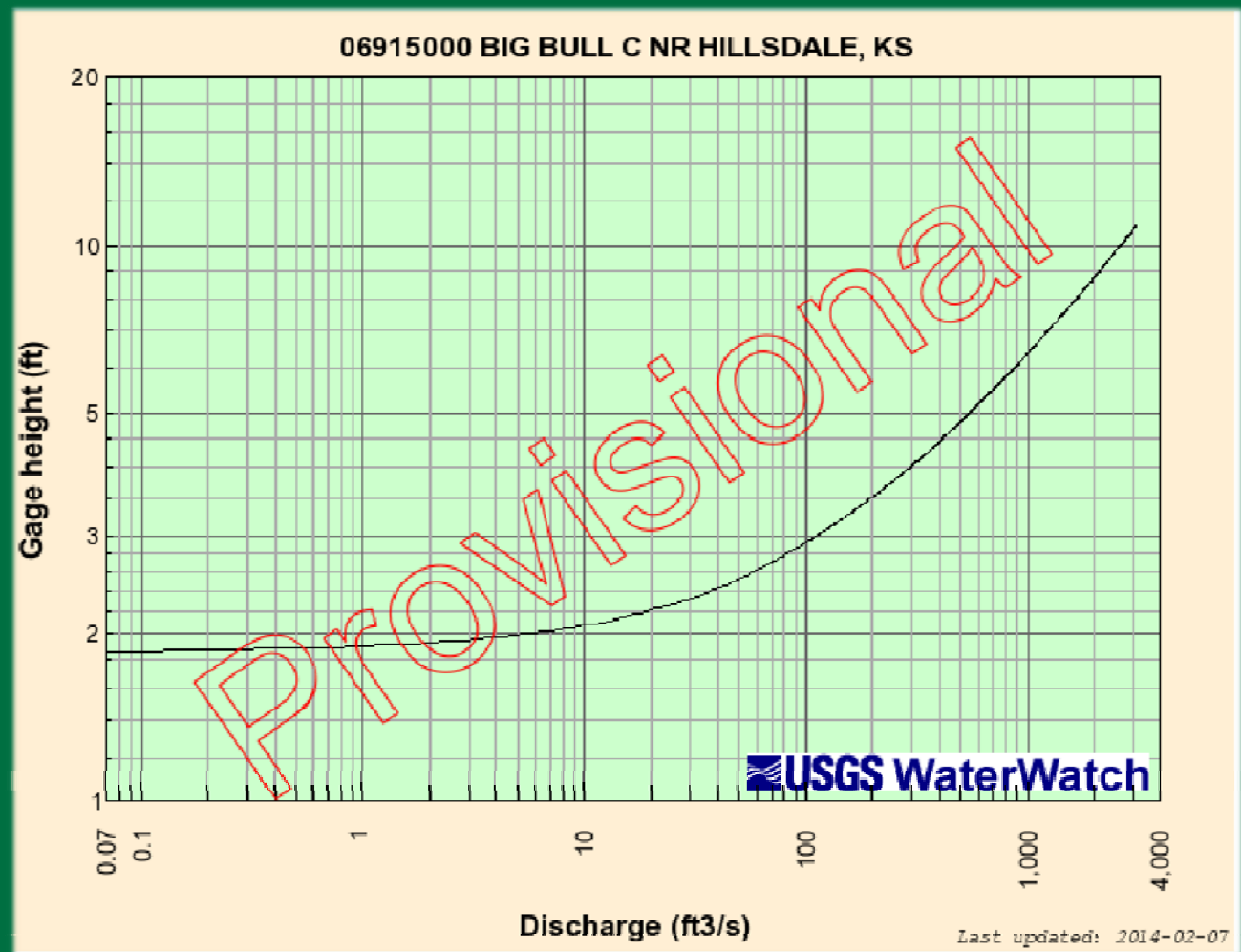
WaterWatch: Raster Hydrograph

View seasonal and annual trends in the entire daily record



WaterWatch: Rating curve

Find rating curves for active USGS streamgages



WaterAlert

Map-based utility where users can create custom mobile text or email notifications for stream conditions that they define.

The screenshot displays the WaterAlert web application. On the right, a map of North America shows the United States and parts of Canada and Mexico. A sidebar on the left contains a 'Select Location' section with a 'News' button and a date 'updated September 30, 2013'. Below this is a 'Search by Street Address' field with a green arrow button. The main content area is titled 'USGS WaterAlert' and contains a 'Subscription Form'. The form includes sections for 'Site Info', 'Send Notification To', 'Notification Frequency', 'Streamflow Parameter(s)', and 'Threshold Condition'. The 'Site Info' section shows 'Site Number: 07010000', 'Site Name: Mississippi River at St. Louis MO', 'Agency: USGS', and 'Transaction ID: qg9fq'. The 'Send Notification To' section has radio buttons for 'My mobile phone' and 'My email address'. The 'Notification Frequency' section has radio buttons for 'Hourly' and 'Daily'. The 'Streamflow Parameter(s)' section has a 'Recent value' of '-1.48' and a 'Discharge, DDS (cfs)' of '76600'. The 'Threshold Condition' section has radio buttons for 'Greater than (>)', 'Less than (<)', 'Outside a range (< and >)', and 'Inside a range (> and <)'. A 'Real-time value is greater than:' field is set to 'ft'. At the bottom, there is a checkbox for 'I have read and acknowledge the Provisional Data Statement and Disclaimer.' and a 'Select Data Type' checkbox. A footer section contains links for 'About WaterAlert', 'How To Use WaterAlert', and 'Related Information'.

WaterAlert [Help] [Info]

Sites [Map]

Select Location

News updated September 30, 2013

Search by Street Address:

Enter Street Address: [button]

USGS WaterAlert

Subscription Form

Site Info:

Site Number: 07010000

Site Name: Mississippi River at St. Louis MO

Agency: USGS

Transaction ID: qg9fq

Send Notification To: [about this...]

☐ My mobile phone

☐ My email address

Notification Frequency: [about this...]

Hourly ☐

Daily ☒

Streamflow Parameter(s): [about this...]

Gage height, DDS (ft) ☒ Recent value: -1.48 [peak chart] [flow flood stage = 40]

Discharge, DDS (cfs) ☐ 76600 [peak chart]

Threshold Condition: [about this...]

☒ Greater than (>)

☐ Less than (<)

☐ Outside a range (< and >)

☐ Inside a range (> and <)

Real-time value is greater than: [] ft

☐ I have read and acknowledge the [Provisional Data Statement](#) and [Disclaimer](#).

☒ Select Data Type

[About WaterAlert](#)

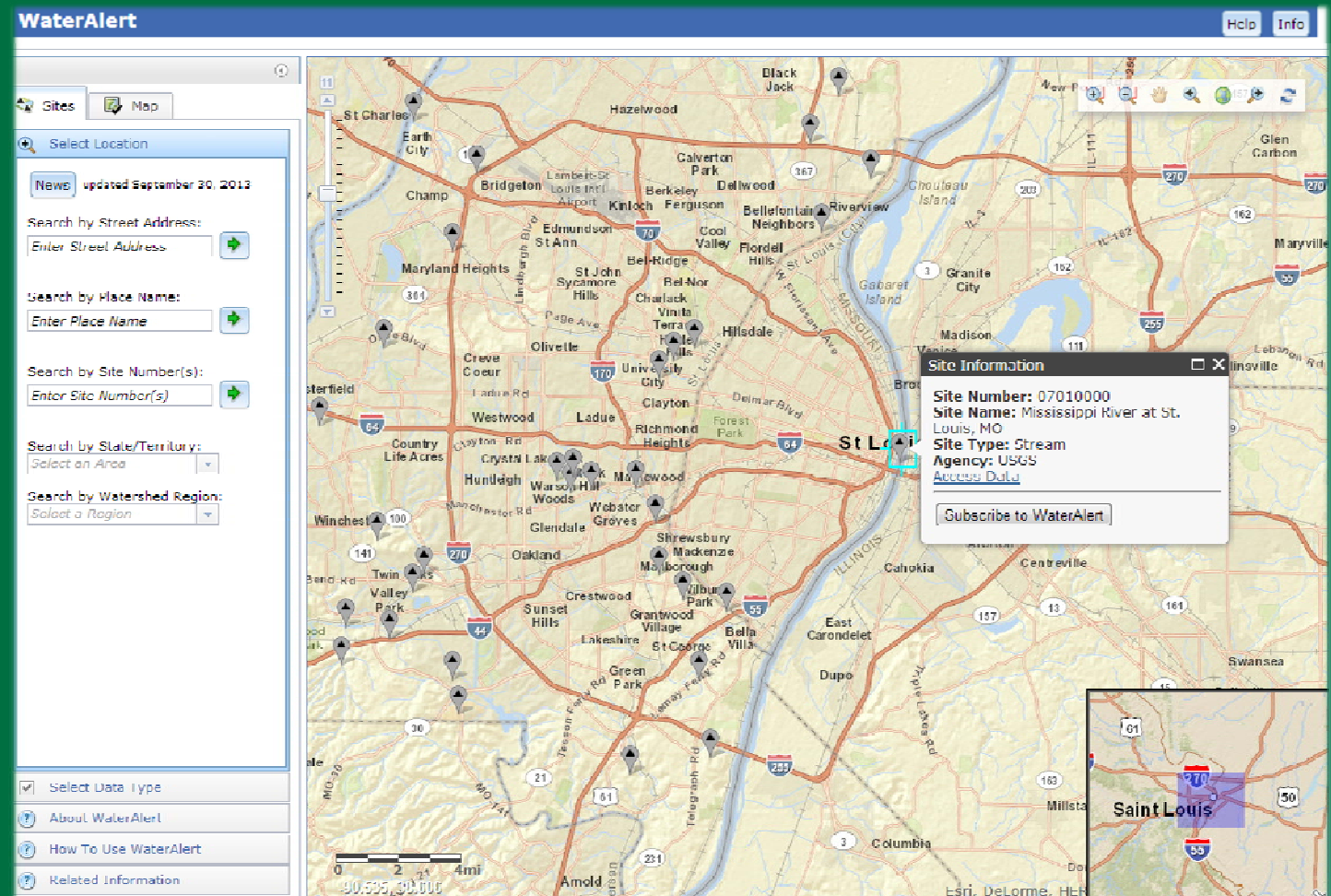
[How To Use WaterAlert](#)

[Related Information](#)



WaterAlert

Users can zoom in to gage locations with the map or type in place names or site numbers.



WaterAlert: subtopic

Users choose:

- Station
- Hourly / Daily repetition
- Stage thresholds
- Discharge thresholds

USGS WaterAlert [version 1.3]

Subscription Form

Site Info:

Site Number: 07010000
Site Name: Mississippi River at St. Louis MO
Agency: USGS
Transaction ID: qq9fq

Send Notification To: [about this...](#)

☐ My mobile phone
☐ My email address

Notification Frequency: [about this...](#)

Hourly ☐
Daily ☒

Streamflow Parameter(s): [about this...](#) Recent value:

Gage height, DD2 (ft) ☒ -1.48 [[peak chart](#) | [NWS flood stage = 30](#)]
Discharge, DD5 (cfs) ☐ 76600 [[peak chart](#)]

Threshold Condition: [about this...](#)

☒ Greater than ($>$)
☐ Less than ($<$)
☐ Outside a range ($<$ or $>$)
☐ Inside a range ($>$ and $<$)

Real-time value is greater than: ft

☐ I have read and acknowledge the [Provisional Data Statement](#) and [Disclaimer](#).

USGS WaterWatch and WaterAlert

<http://waterwatch.usgs.gov>

<http://maps.waterdata.usgs.gov/mapper/wateralert/>

