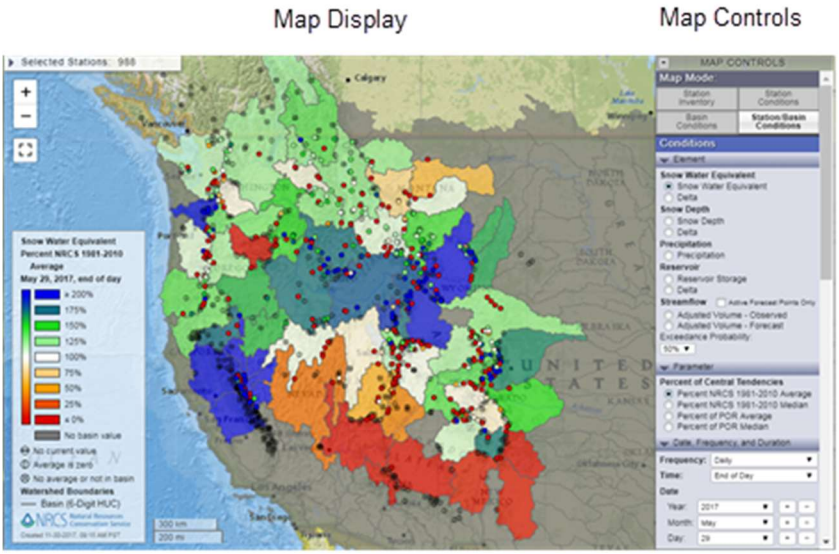
# Interactive Map Guide to Views and Controls

The National Water and Climate Center's Interactive Map displays both current and historic hydrometeorological data in an easy-to-use, visual interface. The information on the map comes from many sources. Natural Resources Conservation Service snowpack and precipitation data are derived from manually-collected snow courses and automated Snow Telemetry (SNOTEL) and Soil Climate Analysis Network (SCAN) stations. Other data sources include precipitation, streamflow, and reservoir data from the U.S. Bureau of Reclamation (BoR), the Applied Climate Information System (ACIS), the U.S. Geological Survey (USGS), and other hydrometeorological monitoring entities.

The Interactive Map has two regions: the map display (on the left) and the map controls (on the right). You use the map controls to determine both the display mode and the types of data and stations to show on the map.

This page contains an overview of the features and capabilities of the Interactive Map.




## Contents

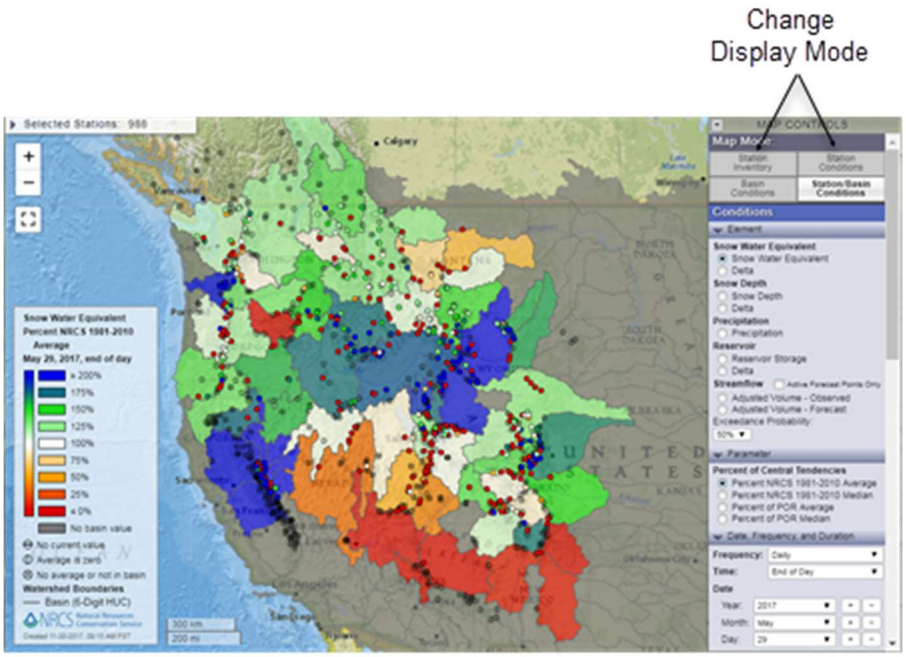
## Display Modes

The Interactive Map has four display modes:

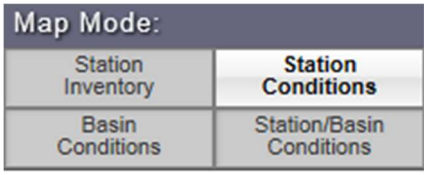
**Station and Basin Conditions** modes display stations, basins, or both stations and basins based on four criteria you supply:

1. Element, such as Precipitation.
2. Parameter, such as Period of Record (POR)
3. Hydrologic Unit Code (HUC) level (for basins only)
4. Frequency and Duration

Once these are selected, you can drill down to more information by simply hovering over or clicking on a station.




**Station Inventory** mode is a site-selector, allowing you to filter the display of stations by climatic Element, Location, and Data Collection Network.

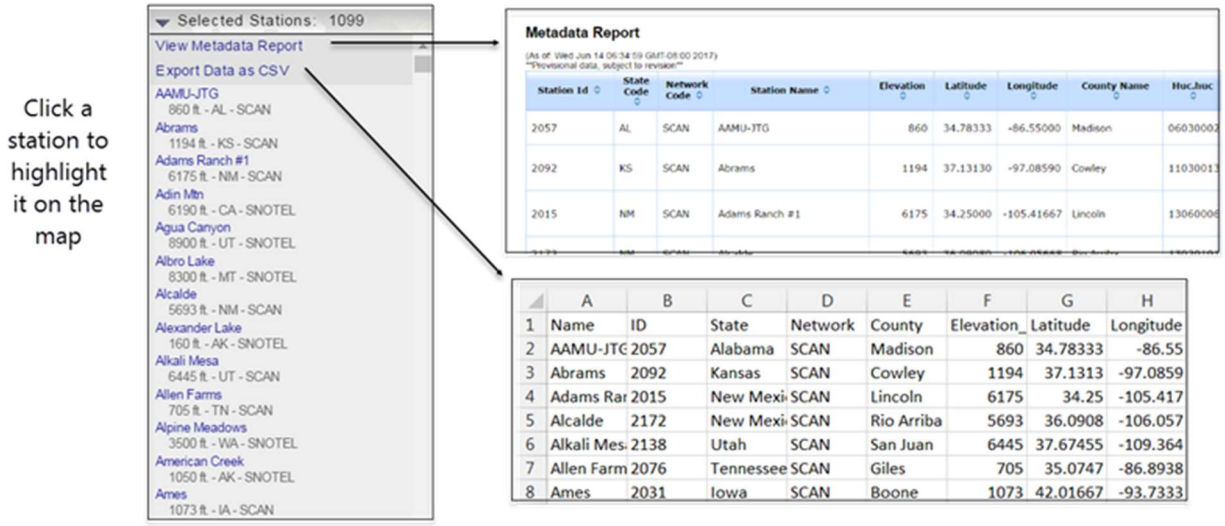


## Map Components

The map displays on the left portion of the page. Here are some tips for navigating the map.

**Selected Stations list**

The **Selected Stations** list at the top left portion of the map contains all the stations from the selected data collection networks (such as SNOTEL, SCAN, reservoir, and streamflow stations) meeting the selection criteria. Click the right arrow (►) to expand the list. All the stations meeting the selection criteria will be displayed alphabetically. Select a station in the list to jump to that station on the map and display metadata, site information, and access to reports. The **View Metadata Report** link at the top of the Selected Stations list creates a downloadable report with metadata for all the stations in the list. The **Export Data as CSV** link downloads a file in comma-separated value format.




**Zoom and Pan**

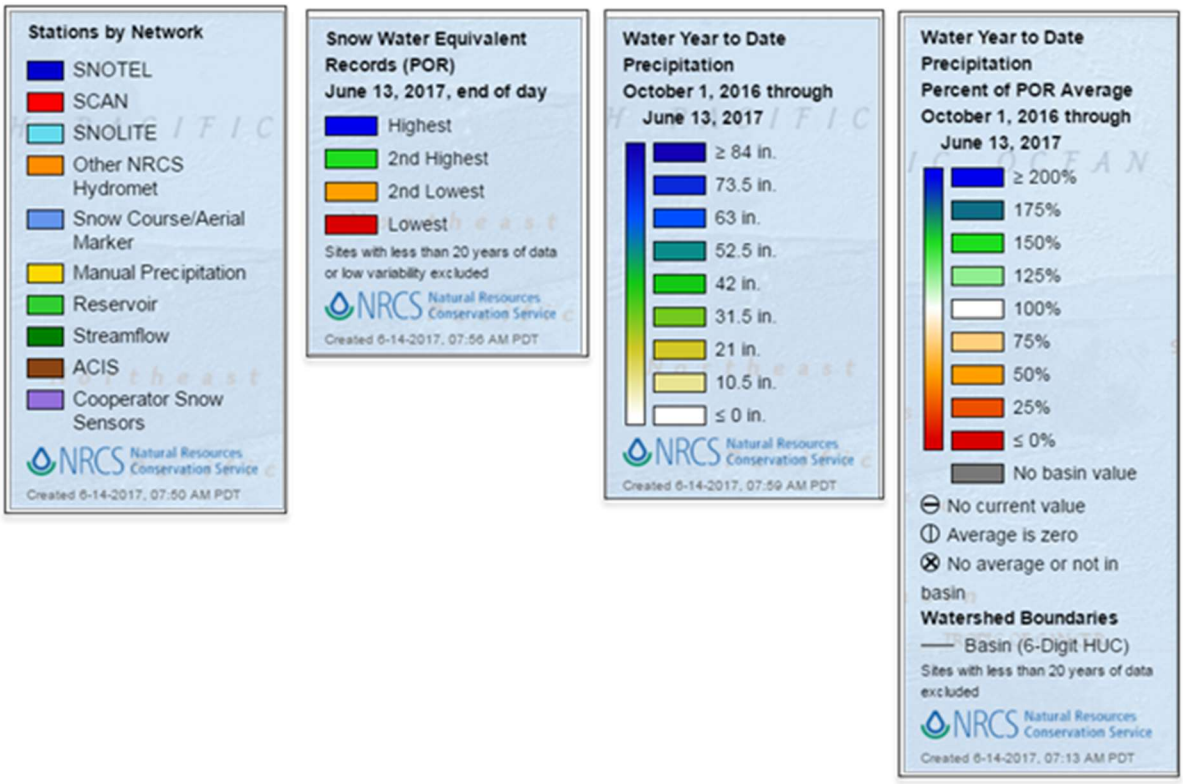
The Zoom (+) and Pan (-) controls let you focus your view of the Interactive Map. Zoom in or pan out to your area of interest. To move the map, simply left-click your mouse and slide to direct it to your desired location.

**Full Screen Display**

To view the map full-screen, click the  icon. The map will expand to the full extent of the monitor or display. To return to normal view, click the  icon, or select the **Esc** key.

**Legends**

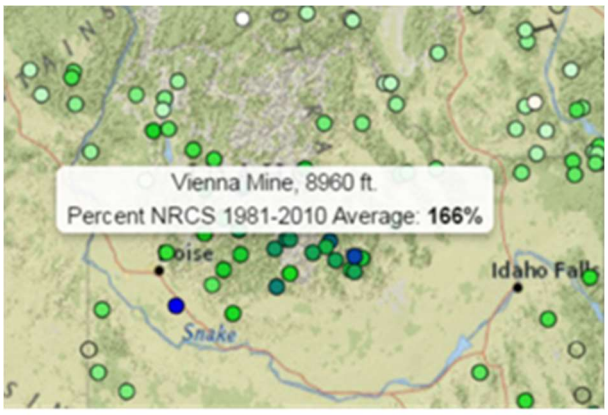
Map legends change depending on what view you're in, the selected elements and value types, and any overlays displayed. Here are four examples of legends. The first example depicts a typical legend when you're in **Station Inventory** view. The other examples show legends while in **Station Conditions** and **Basin Conditions** views.




The legend contains a label describing the type of data displayed on the map. The legend also contains the date and time the map was created.

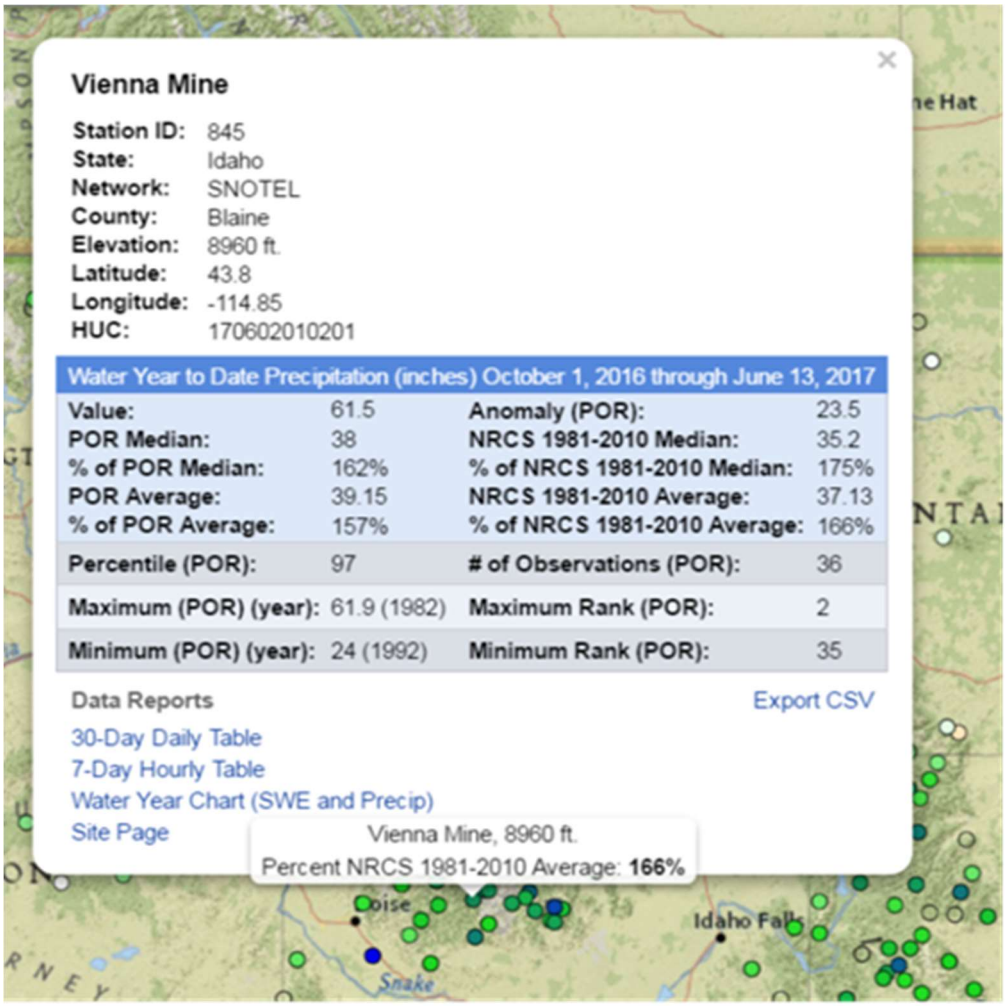
**Display Station Information**

The Interactive Map lets you display either abbreviated station information or drill down to more data and reports associated with the station. To display abbreviated information (such as site name and elevation), simply hover over the station with your mouse.




To display more information about the station, click on it. Depending on which view you're in and the selection criteria you've defined, the Interactive Map will display metadata, a table of related summary data for the station, and a selection of pre-defined data reports. You can also jump to the **Site Page** for the selected station, providing access to even more reports and data. In this example, the **Export**

**CSV** link downloads the Water Year to Date Precipitation data for the station in comma-separated value (CSV) format.



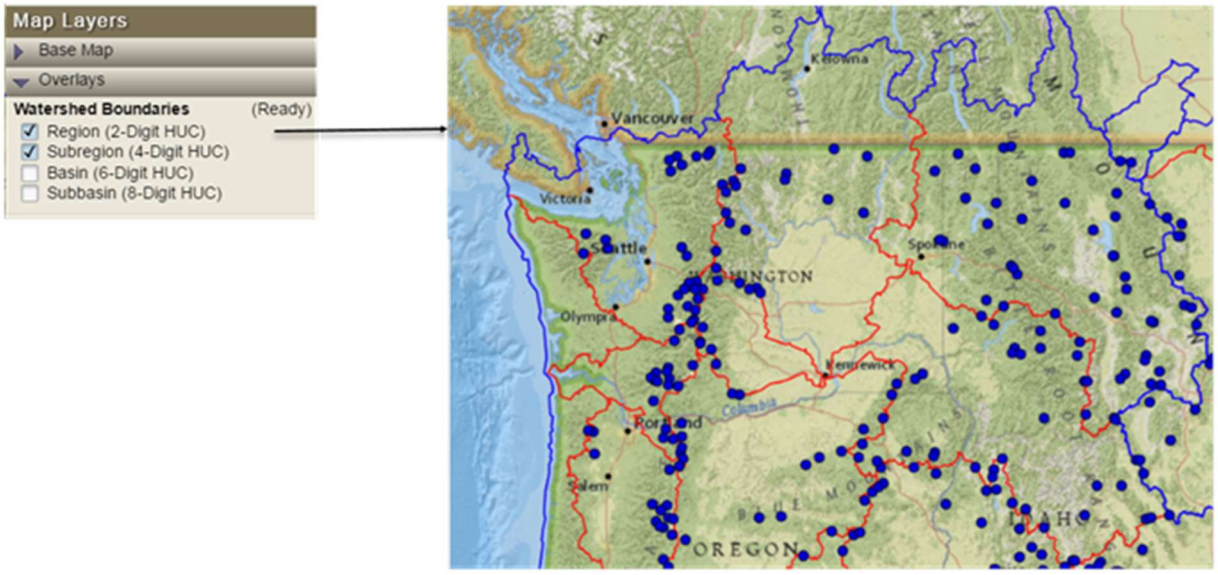

**Comparing Map Views**

The Interactive Map lets you display geographical regions using a variety of overlays and display options. The Interactive Map Boundary Views section shows what displays on the Interactive Map, depending on the view and label options you select.

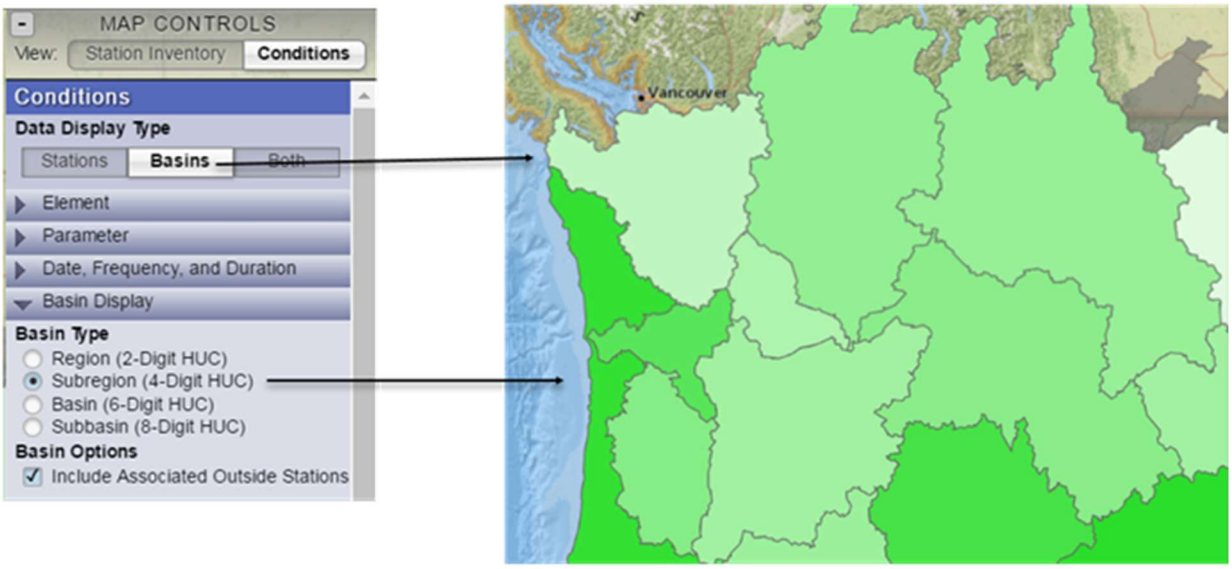
**Interactive Map Boundary Views**

There are several ways to view stations and watershed boundaries with the Interactive Map.

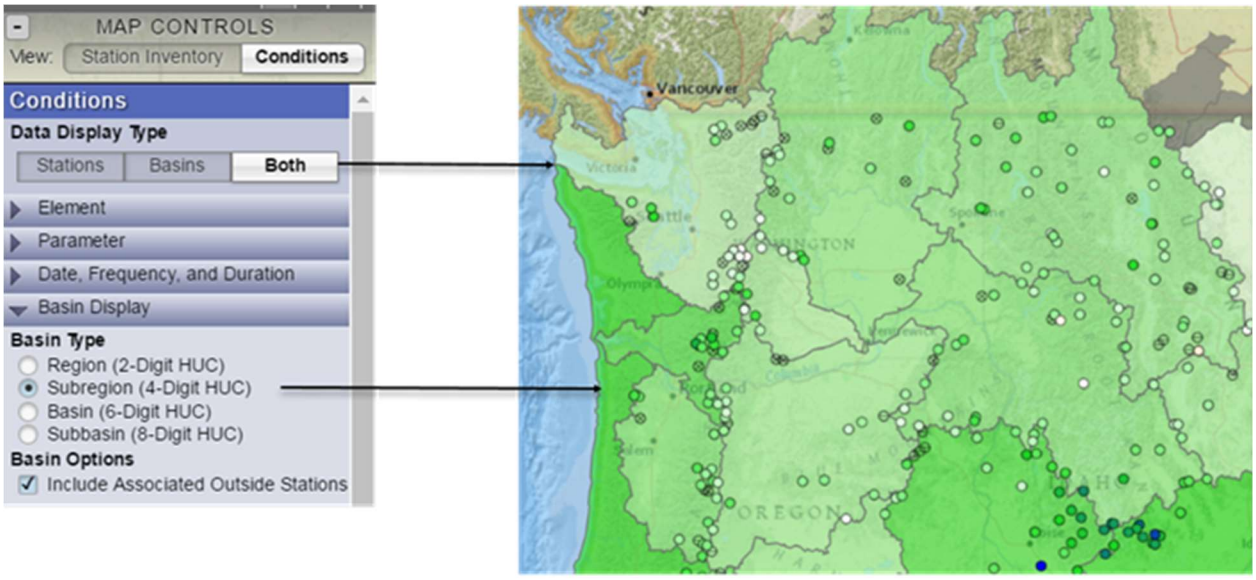
To display boundaries as outlines, at the bottom of the map controls, click the right arrow (►) on the Overlays list to expand it. Click the checkbox next to any or all of the hydrological unit code (HUC) boundaries levels you wish to display. The example uses both Region (2-Digit HUC) and Subregion (4-Digit HUC) boundaries.



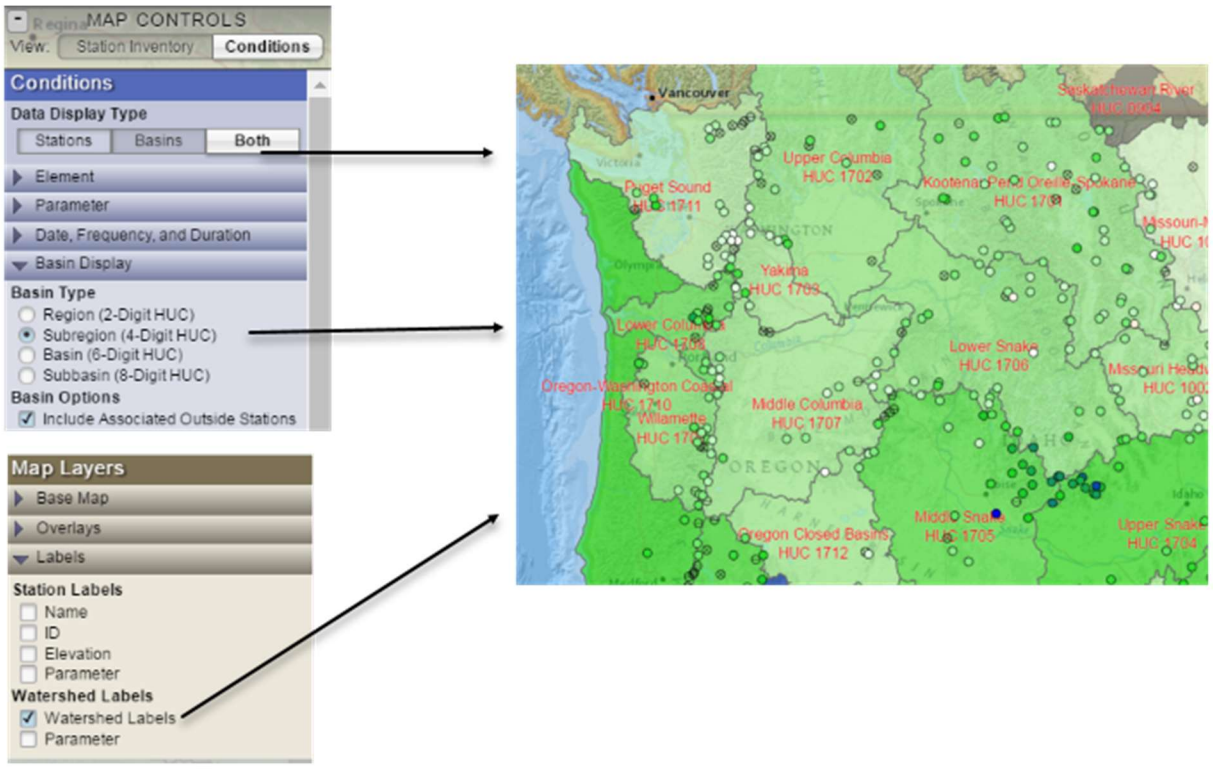

To show watershed boundaries as shaded regions only, go to Conditions View, select the Basins Data Display Type, then select the Basin Type, in this example, Subregion (4-Digit HUC).




To display both stations and shaded watershed boundaries, go to Conditions View, select the Both Data Display Type, then select the Basin Type, in this example, Subregion (4-Digit HUC).




To show labels associated with either stations or watershed boundaries, expand the Map Layers control and then select the Labels to display. This example uses Watershed Labels.

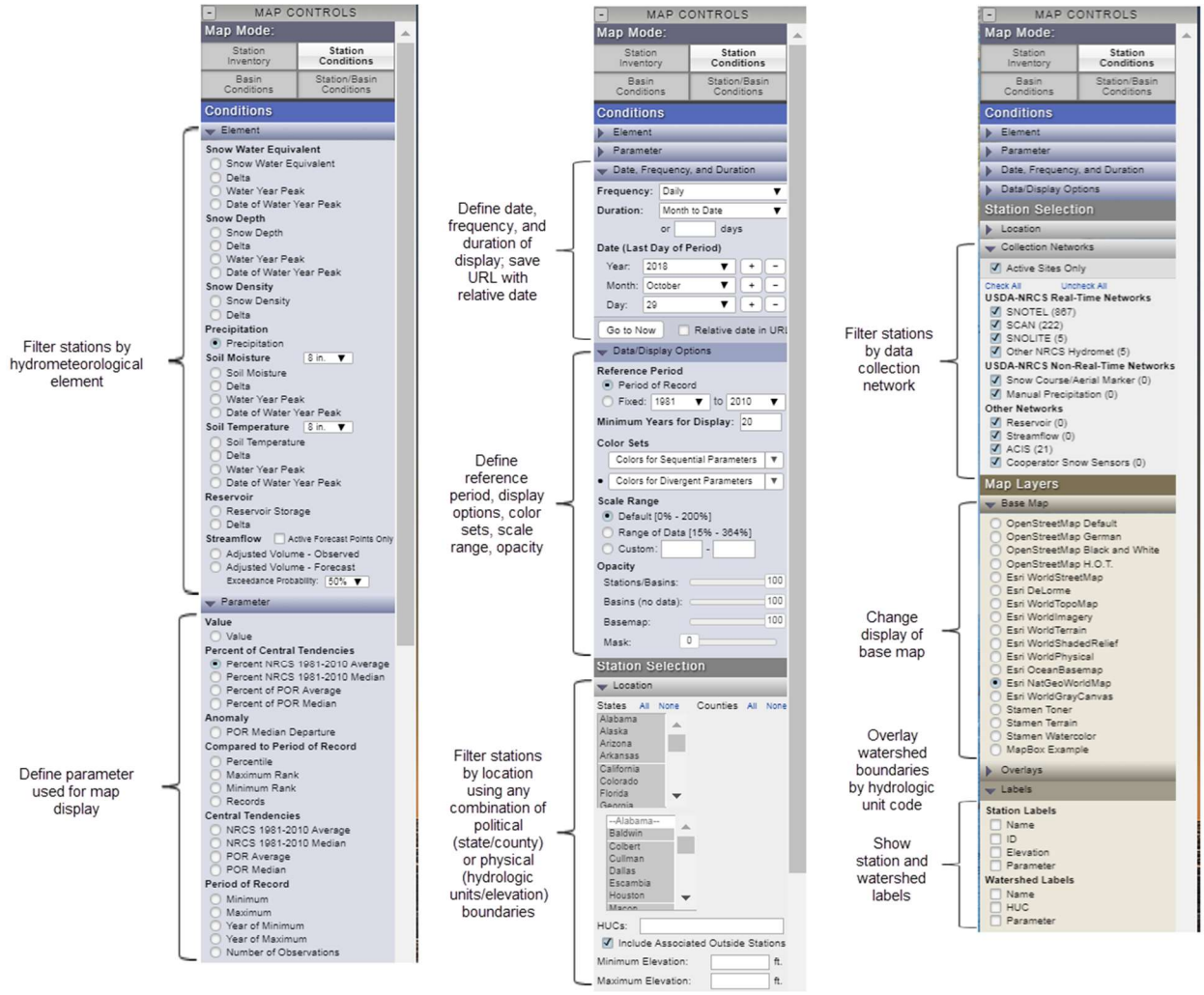



**Map Controls**

The Interactive Map controls display on the right side of the map.

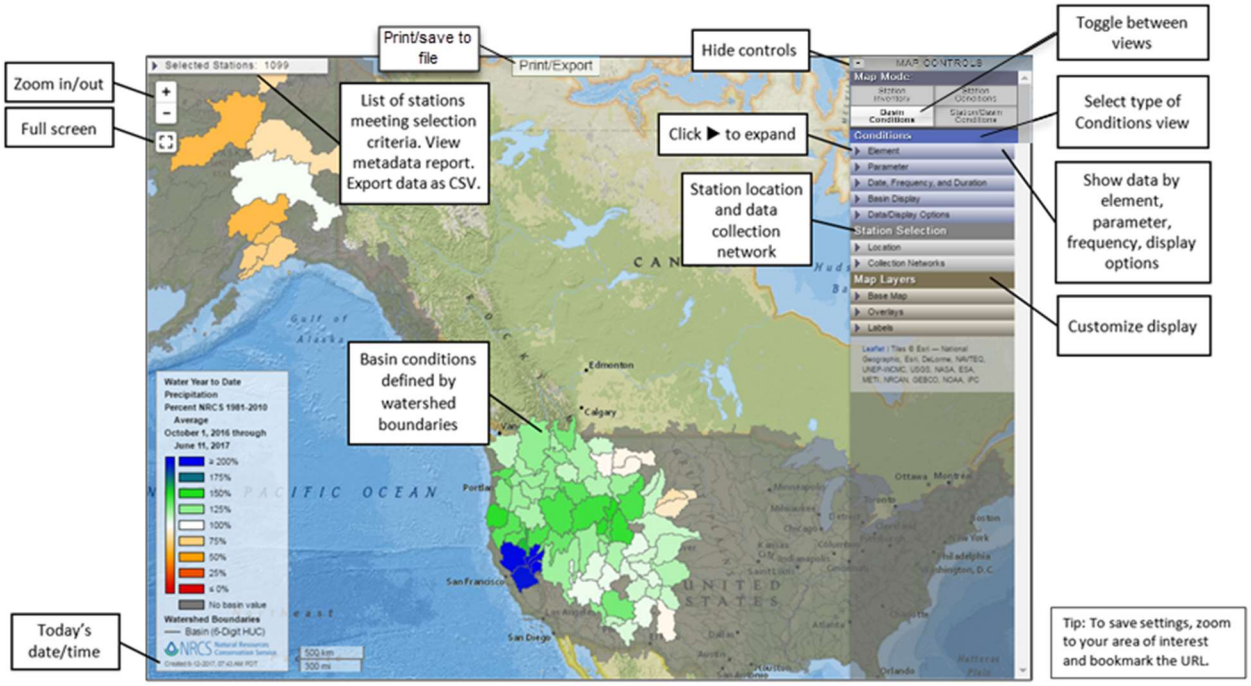
# Station Conditions Controls

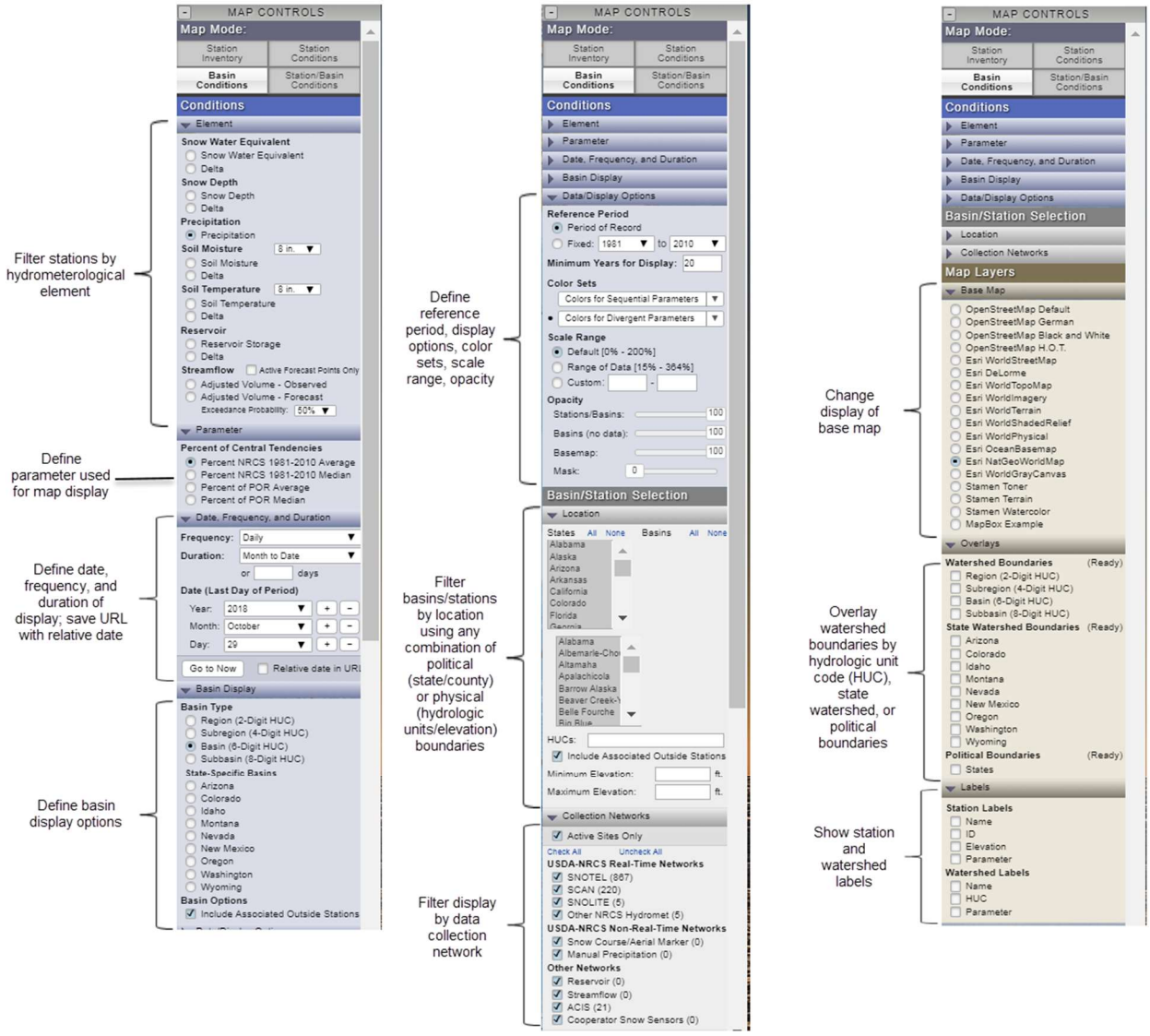
**Station Conditions view** displays stations based on three criteria you supply: the Element (such as Precipitation), the Parameter (such as Period of Record), and the desired Frequency and Duration. To minimize the display of any set of controls, select the down arrow (▼) next to the control name. Click the right arrow (►) to expand a list.



## Basin Conditions Controls

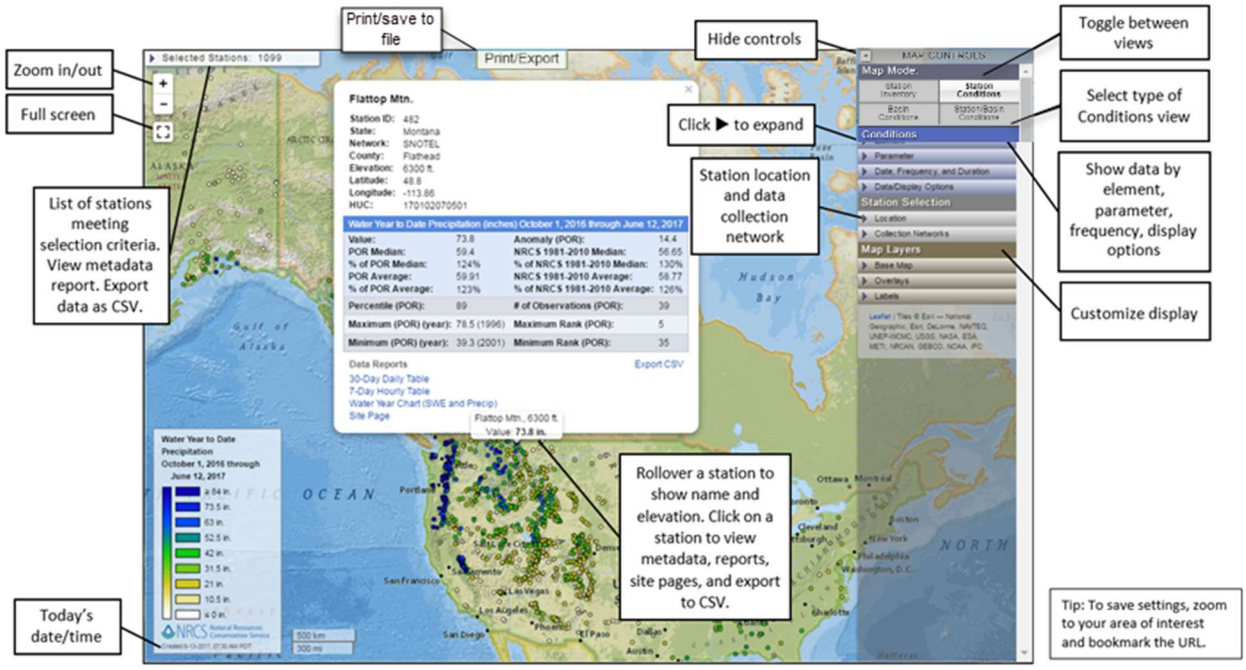
**Basin Conditions view** displays river basins and watersheds based on four criteria you supply: the Element (such as Precipitation), the Parameter (such as Period of Record), the Hydrologic Unit Code (HUC) level, and the desired Frequency and Duration. To minimize the display of any set of controls, select the down arrow (▼) next to the control name. Click the right arrow (►) to expand a list.

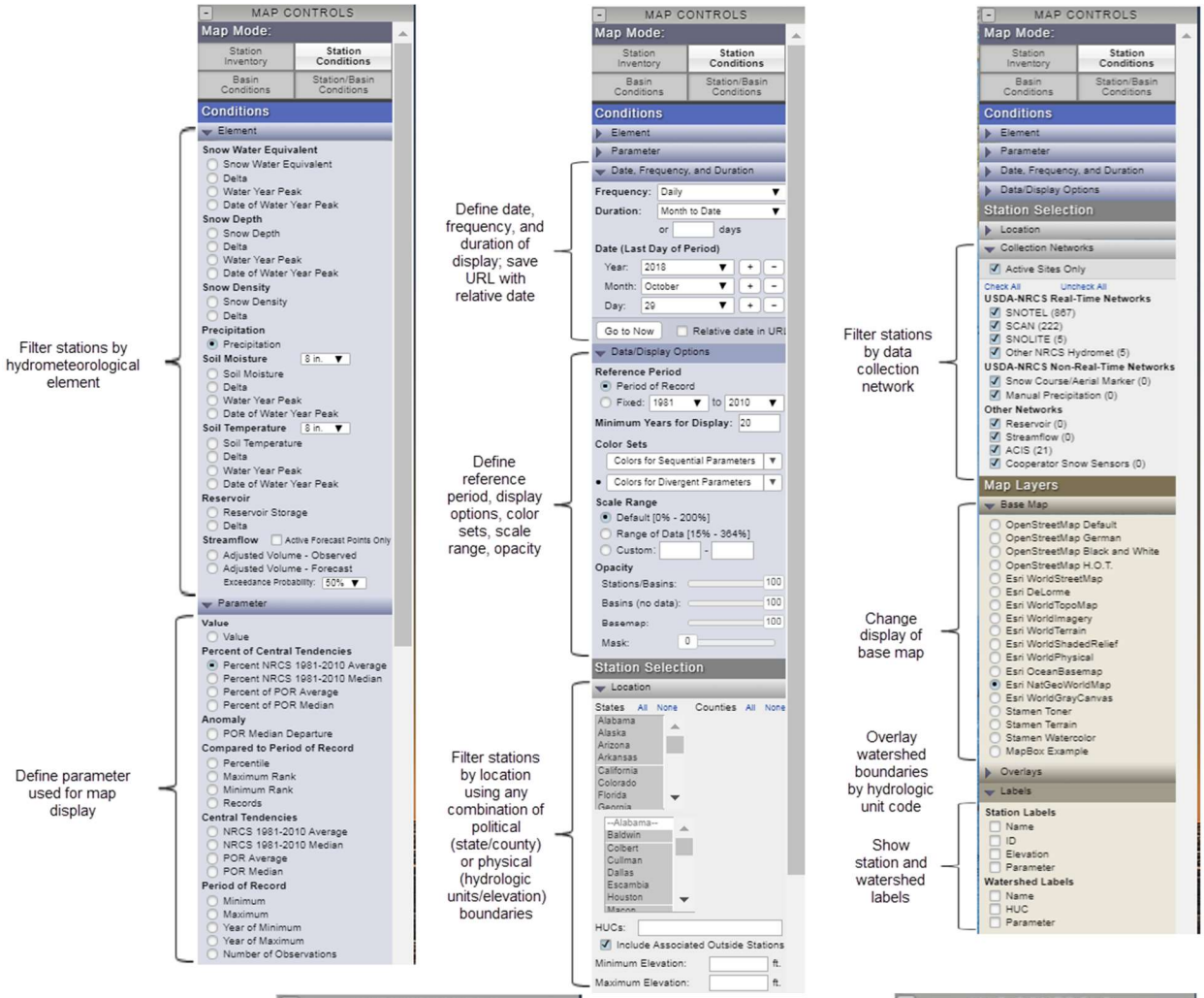


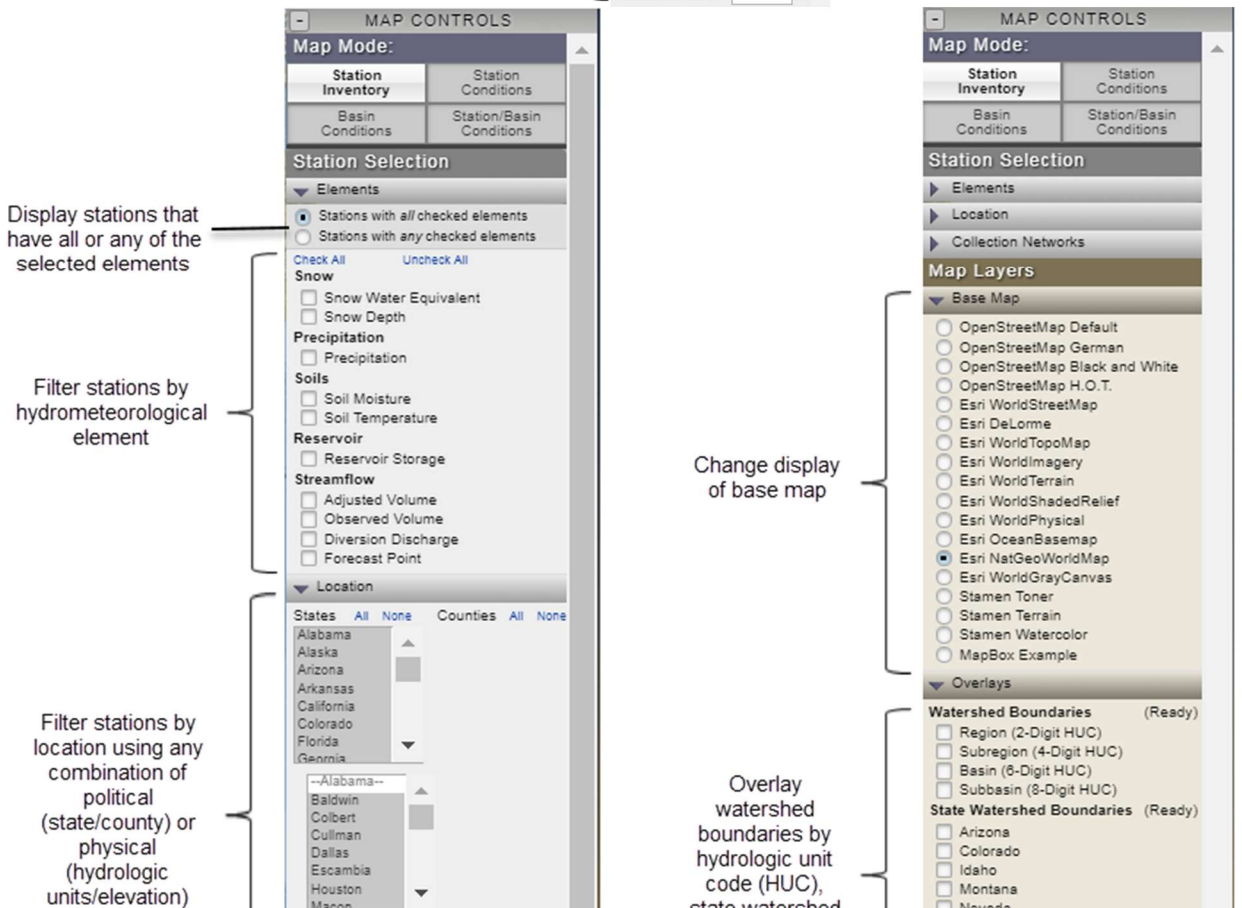

MAP CONTROLS
Map Mode:
Station Inventory
Station Conditions
Basin Conditions
Station/Basin Conditions
Conditions
Element
Snow Water Equivalent
Snow Water Equivalent
Delta
Snow Depth
Snow Depth
Delta
Precipitation
Precipitation
Soil Moisture
8 in.
Soil Moisture
Delta
Soil Temperature
8 in.
Soil Temperature
Delta
Reservoir
Reservoir Storage
Delta
Streamflow
Active Forecast Points Only
Adjusted Volume - Observed
Adjusted Volume - Forecast
Exceedance Probability: 50%
Parameter
Percent of Central Tendencies
Percent NRCS 1981-2010 Average
Percent NRCS 1981-2010 Median
Percent of POR Average
Percent of POR Median
Date, Frequency, and Duration
Frequency: Daily
Duration: Month to Date
or days
Date (Last Day of Period)
Year: 2018
Month: October
Day: 29
Go to Now
Relative date in URL
Basin Display
Basin Type
Region (2-Digit HUC)
Subregion (4-Digit HUC)
Basin (6-Digit HUC)
Subbasin (8-Digit HUC)
State-Specific Basins
Arizona
Colorado
Idaho
Montana
Nevada
New Mexico
Oregon
Washington
Wyoming
Basin Options
Include Associated Outside Stations
Filter stations by hydrometerological element
Define parameter used for map display
Define date, frequency, and duration of display; save URL with relative date
Define basin display options
MAP CONTROLS
Map Mode:
Station Inventory
Station Conditions
Basin Conditions
Station/Basin Conditions
Conditions
Element
Parameter
Date, Frequency, and Duration
Basin Display
Data/Display Options
Reference Period
Period of Record
Fixed: 1981 to 2010
Minimum Years for Display: 20
Color Sets
Colors for Sequential Parameters
Colors for Divergent Parameters
Scale Range
Default [0% - 200%]
Range of Data [15% - 364%]
Custom:
Opacity
Stations/Basins: 100
Basins (no data): 100
Basemap: 100
Mask: 0
Basin/Station Selection
Location
States All None
Alabama
Alaska
Arizona
Arkansas
California
Colorado
Florida
Georgia
Basins All None
Alabama
Albemarle-Choi
Altamaha
Apalachicola
Barrow Alaska
Beaver Creek-Y
Belle Fourche
Big Blue
HUCs:
Include Associated Outside Stations
Minimum Elevation: ft.
Maximum Elevation: ft.
Collection Networks
Active Sites Only
Check All
Uncheck All
USDA-NRCS Real-Time Networks
SNOTEL (867)
SCAN (220)
SNOLITE (5)
Other NRCS Hydromet (5)
USDA-NRCS Non-Real-Time Networks
Snow Course/Aerial Marker (0)
Manual Precipitation (0)
Other Networks
Reservoir (0)
Streamflow (0)
ACIS (21)
Cooperator Snow Sensors (0)
Define reference period, display options, color sets, scale range, opacity
Filter basins/stations by location using any combination of political (state/county) or physical (hydrologic units/elevation) boundaries
Filter display by data collection network
MAP CONTROLS
Map Mode:
Station Inventory
Station Conditions
Basin Conditions
Station/Basin Conditions
Conditions
Element
Parameter
Date, Frequency, and Duration
Basin Display
Data/Display Options
Basin/Station Selection
Location
Collection Networks
Map Layers
Base Map
OpenStreetMap Default
OpenStreetMap German
OpenStreetMap Black and White
OpenStreetMap H.O.T.
Esri WorldStreetMap
Esri DeLorme
Esri WorldTopoMap
Esri WorldImagery
Esri WorldTerrain
Esri WorldShadedRelief
Esri WorldPhysical
Esri OceanBasemap
Esri NatGeoWorldMap
Esri WorldGrayCanvas
Stamen Toner
Stamen Terrain
Stamen Watercolor
MapBox Example
Overlays
Watershed Boundaries (Ready)
Region (2-Digit HUC)
Subregion (4-Digit HUC)
Basin (6-Digit HUC)
Subbasin (8-Digit HUC)
State Watershed Boundaries (Ready)
Arizona
Colorado
Idaho
Montana
Nevada
New Mexico
Oregon
Washington
Wyoming
Political Boundaries (Ready)
States
Labels
Station Labels
Name
ID
Elevation
Parameter
Watershed Labels
Name
HUC
Parameter
Change display of base map
Overlay watershed boundaries by hydrologic unit code (HUC), state watershed, or political boundaries
Show station and watershed labels

## Station Inventory View and Controls

**Station Inventory view** is essentially a site-selector, allowing you to filter the display of stations by Climatic Element, Location, and Data Collection Network. To minimize the display of any set of controls, select the down arrow (▼) next to the control name. Click the right arrow (►) to expand a list.




MAP CONTROLS
Map Mode:
Station Inventory
Station Conditions
Basin Conditions
Station/Basin Conditions
Conditions
Element
Parameter
Date, Frequency, and Duration
Data/Display Options
Station Selection
Location
Collection Networks
Map Layers
Base Map
Overlays
Labels
Filter stations by hydrometeorological element
Define parameter used for map display
Define date, frequency, and duration of display; save URL with relative date
Define reference period, display options, color sets, scale range, opacity
Filter stations by location using any combination of political (state/county) or physical (hydrologic units/elevation) boundaries
Filter stations by data collection network
Change display of base map
Overlay watershed boundaries by hydrologic unit code
Show station and watershed labels


MAP CONTROLS
Map Mode:
Station Inventory
Station Conditions
Basin Conditions
Station/Basin Conditions
Station Selection
Elements
Location
Collection Networks
Map Layers
Base Map
Overlays
Display stations that have all or any of the selected elements
Filter stations by hydrometeorological element
Filter stations by location using any combination of political (state/county) or physical (hydrologic units/elevation)
Change display of base map
Overlay watershed boundaries by hydrologic unit code (HUC),

# Interactive Map Mobile View and Controls