

Interactive Map Glossary

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Element Definitions

- **Snow Water Equivalent (SWE)** – A measurement of the amount of water contained in snowpack. It can be considered as the depth of water that would theoretically result if the whole snowpack instantaneously melts. Snow water equivalent is the product of snow depth and snow density. Daily and monthly values are defined as the instantaneous observation at the beginning or end of the selected period.
- **Snow Water Equivalent Delta** – Change in snow water equivalent for a user-selected duration.
- **Snow Water Equivalent Water Year Peak** – Maximum daily snow water equivalent for a given water year. Current Water Year Peak is defined as maximum daily snow water equivalent to date. *Not calculated if more than 10 daily observations are missing between January 1 and May 31.*
- **Snow Water Equivalent Date of Water Year Peak** – Date within a water year when peak daily snow water equivalent is reached (latest date if peak occurs on more than one date). *Not calculated if more than 10 daily observations are missing between January 1 and May 31.*
- **Snow Depth** – Actual depth of snow from the snow surface to the ground. Daily and monthly values are defined as the instantaneous observation at the beginning or end of the selected period.
- **Snow Depth Delta** – Change in snow depth for a user-specified duration.
- **Snow Depth Water Year Peak** – Maximum daily snow depth for a given water year. Current Water Year Peak is defined as maximum daily depth to date.
- **Snow Depth Date of Water Year Peak** – Date within a water year when peak daily snow depth is reached (latest date if peak occurs on more than one date).
- **Snow Density** – Mass of snow per volume as compared to the mass of water for the same volume. Snow Water Equivalent/Snow Depth. *Not calculated if SWE value < 1".* Daily and monthly values are defined as the instantaneous observation at the beginning or end of the selected period.
- **Snow Density Delta** – Change in snow density for a user-specified duration.
- **Precipitation** – Any type of water that forms in the Earth's atmosphere and then drops onto the surface of the Earth under the force of gravity. The most common types of precipitation are rain, hail, and snow.
- **Soil Moisture** – percent volumetric soil moisture for user-specified depth. . Daily values are defined as the instantaneous observation at the beginning or end of the selected day, not the daily average value.
- **Soil Moisture Delta** – Change in soil moisture for a user-specified duration.

- **Soil Moisture Water Year Peak** – Maximum daily soil moisture for a given water year. Current Water Year Peak is defined as maximum daily snow water equivalent to date. *Not calculated if more than 10 daily observations are missing between January 1 and May 31.*
- **Soil Moisture Date of Water Year Peak** – Date within a water year when peak daily soil moisture is reached (latest date if peak occurs on more than one date). *Not calculated if more than 10 daily observations are missing between January 1 and May 31.*
- **Soil Temperature** – Temperature of soil in Fahrenheit at user-specified depth. Daily values are defined as the instantaneous observation at the beginning or end of the selected day, not the daily average value.
- **Soil Temperature Delta** – Change in soil temperature for a user-specified duration.
- **Soil Temperature Water Year Peak** – Maximum daily soil temperature for a given water year. Current Water Year Peak is defined as maximum daily snow water equivalent to date. *Not calculated if all daily data prior to January 1 is missing.*
- **Soil Temperature Date of Water Year Peak**
- **Reservoir Storage** – Volume of usable water stored in a reservoir. Monthly values are defined as the instantaneous observation at the beginning or end of the selected month.
- **Reservoir Storage Delta** – Change in reservoir storage for a user-specified duration.
- **Streamflow – Adjusted Volume–Observed** – Volume of streamflow that would occur without the influences of major upstream reservoirs or diversions, otherwise known as *unregulated* or *naturalized flow*. Reservoirs and diversions are used as an adjustment based on size of reservoir/diversion relative to total streamflow volume and availability of historical records. Adjusted Volume datasets include streamflow points that are:
 - Adjusted due to the presence of major upstream reservoirs/diversions with historical records.
 - Not adjusted due to lack of major upstream reservoirs/diversions.
 - Not adjusted or partially adjusted due to lack of historical records for all major upstream reservoirs/diversions.

Volumetric Natural Resources Conservation Service (NRCS) water supply forecasts are for Adjusted Volume.
- **Streamflow – Adjusted Volume–Forecast** – Volumetric seasonal streamflow forecasts as issued by the NRCS Snow Survey and Water Supply Forecasting (SSWSF) Program.
- **Streamflow – Observed Volume** – Volume of streamflow as observed at a gaging station. In a watershed with major reservoir storage and/or diversions, the observed volume can be significantly different from the adjusted volume.
- **Streamflow – Diversion Discharge** – Flow rate as measured in or along a diversion structure.
- **Streamflow – Forecast Point** – Point within a watershed for which volume, threshold, and/or stage forecasts are published by the NRCS Snow Survey and Water Supply Forecasting Program.

Parameter Definitions

- **Value** – Magnitude, quantity, or number of measured or calculated elements for selected date or duration.
- **Percent of Official Average** – Value as a percent of the Official NRCS 30-Year Average for selected date or duration (not available for all elements or stations).
- **Percent of Official Median** – Value as a percent of the Official NRCS 30-Year Median for selected date or duration (not available for all elements or stations).
- **Percent of POR Average** – Value as a percent of the Period of Record (POR) or user-selected reference period average for selected date or duration. Average calculation includes the value for the date being analyzed.
- **Percent of POR Median** – Value as a percent of the Period of Record (POR) or user-selected reference period median for selected date or duration. Median calculation includes the value for the date being analyzed.
- **Percent of Water Year Peak** – Value as a percent of Water Year Peak.
- **Percent of Average Water Year Peak** – Value as a percent of Average Water Year Peak from period of record or user-selected reference period.
- **Percent of Median Water Year Peak** – Value as a percent of Median Water Year Peak from period of record or user-selected reference period.
- **Anomaly – POR Median Departure** – Difference between value and period of record or user-selected reference period median for selected date or duration. Median calculation includes the value for the date being analyzed.
- **Percentile** – Percentage of period of record or user-selected reference period observations that are less than or equal to the value being analyzed for selected date or duration. Percentile = $1 - ((m-1)/(n-1))$ where m=rank and n=number of observations.
- **Maximum Rank** – Rank or position of analyzed value within period of record or user-selected reference period observations for selected date or duration where rank=1 is the maximum value. If more than one value has the same rank, the top rank of that set of values is returned.
- **Minimum Rank** – Rank or position of analyzed value within period of record or user-selected reference period observations for selected date or duration where rank=1 is the minimum value. If more than one value has the same rank, the top rank of that set of values is returned.
- **Records** – Determines whether analyzed value is greater (less) or equal to the highest (lowest) or 2nd highest (2nd lowest) value in the period of record or user-selected reference period for the selected date or duration.
- **Percent of Saturation** – Value as a percent of saturation which is specific to each station and sensor depth. Only available for soil moisture element.
- **Official Average** – Official NRCS 30-Year Average updated every 10 years for selected date or duration. (Currently 1991–2020 average. Not available for all elements or stations.)
- **Official Median** – Official NRCS 30-Year Median updated every 10 years for selected date or duration. (Currently 1991–2020 median. Not available for all elements or stations.)

- **POR Average** – Period of Record (POR) or user-selected reference period average for selected date or duration. For Water Year Peak or Date of Water Year Peak, current Water Year is not included in the calculation.
- **POR Median** – Period of Record (POR) or user-selected reference period median for selected date or duration. For Water Year Peak or Date of Water Year Peak, current Water Year is not included in the calculation.
- **POR Minimum** – Period of Record (POR) or user-selected reference period minimum value for selected date or duration. For Water Year Peak or Date of Water Year Peak, current Water Year is not included in the calculation.
- **POR Maximum** – Period of Record (POR) or user-selected reference period maximum value for selected date or duration. For Water Year Peak or Date of Water Year Peak, current Water Year is not included in the calculation.
- **Year of POR Minimum** – Calendar year(s) of Period of Record (POR) or user-selected reference period minimum value for selected date or duration. For Water Year Peak or Date of Water Year Peak, current Water Year is not included in the calculation.
- **Year of POR Maximum** – Calendar year(s) of Period of Record (POR) or user-selected reference period maximum value for selected date or duration. For Water Year Peak or Date of Water Year Peak, current Water Year is not included in the calculation.
- **Number of Observations** – Number of values in Period of Record or user-selected reference period dataset for selected date or duration. For Water Year Peak or Date of Water Year Peak, current Water Year is not included in the calculation.
- **Saturation** – Conceptually, the maximum percent volumetric soil moisture that is possible for a given soil sampling location. This value is defined as the maximum value in the period of record hourly dataset for each sensor depth. Only available for soil moisture element.
- **Error Value** – Forecast error defined as the forecast value minus the observed value. Forecast error can be unique for each publication date/forecast period combination.
- **Error as Percent of NRCS Average** – Forecast error expressed as a percent of NRCS Official Average for designated forecast period.
- **Error as Percent of NRCS Median** - Forecast error expressed as a percent of NRCS Official Median for designated forecast period.
- **Error as Percent of POR Average** - Forecast error expressed as a percent of Period of Record (POR) or user-selected reference period average for designated forecast period.
- **Error as Percent of POR Median** - Forecast error expressed as a percent of Period of Record (POR) or user-selected reference period median for designated forecast period.
- **Error as Percent of Observed** – Forecast error expressed as a percent of observed volume for designated forecast period.
- **Exceedance Probability Category** – Forecast exceedance probability category that contains the observed volume for designated forecast period. Unique for each publication date/forecast period combination.

Parameter Display Rules

- **Minimum Data Requirements** – User configurable, but default minimum $n=2/3$ of reference period for selected date/duration required for map color display for Percentile, Maximum Rank, Minimum Rank, Records, POR average, Percent of POR Average, POR Median, Percent of POR Median, year of POR Minimum, Year of POR Maximum, and Anomaly–POR Median Departure.
- **Data Variability Rule** – For map color display for Percentile, Maximum Rank, Minimum Rank and Records.

If current value > 0 , then need at least 10% of values in record for selected date/duration (including current value) to be > 0 .

If current value $= 0$, then need at least 80% of values in record for selected date/duration (including current value) to be > 0 .

Basin Display Mode

- Users can select a limited number of elements and parameters in Basin mode. Basin mode aggregates station data into a single index based on the spatial scale of interest (hydrologic unit code level 2, 4, 6, 8, or custom state basins) selected in the Basin Display submenu.
- Basin Index percentages are calculated using only stations associated with the basin that have both a value and a normal for the selected date or date range. Values are summed and divided by the sum of normals for the same set of stations and multiplied by 100. In the case where all stations have a normal=0, no basin index percentage will be calculated.