

National Weather Service Medford

2021: December Climate Summary



*These data are preliminary and have not undergone final QC by NCEI. Therefore, these data are subject to revision. Final and certified climate data can be accessed at the [National Centers for Environmental Information \(NCEI\)](#).



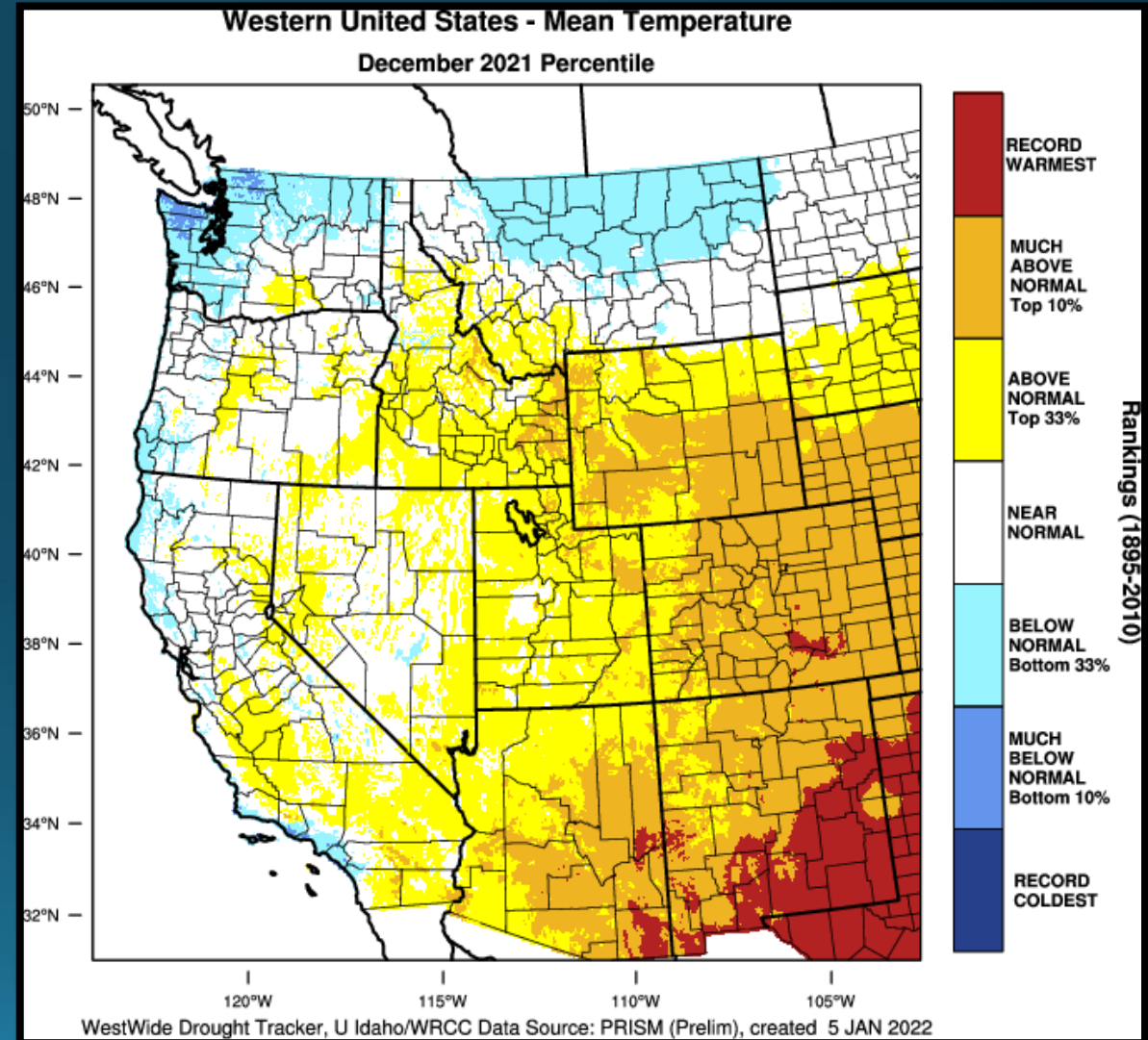
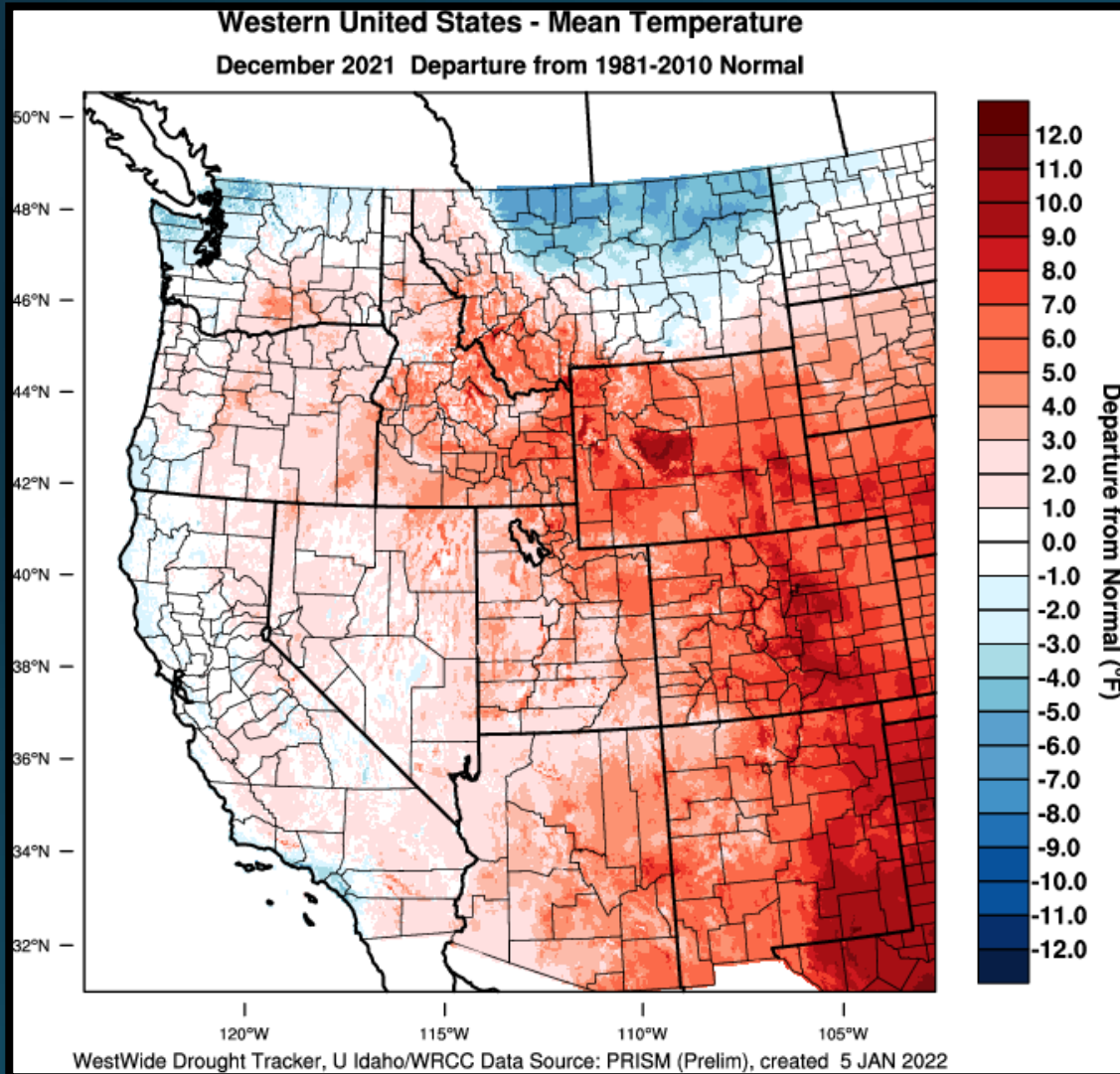
December 2021 Weather Review

The month began quiet, with above normal temperatures under high pressure. A few weak systems moved through the area, producing light rain, but much of the first week of the month was marked by daily episodes of fog and mist for west side valleys. The ridge finally gave way to persistent upper level troughing around the 10th, ushering in several wet systems. Initially, the upper level trough was positioned over the eastern Pacific Ocean, which opened the door for southerly flow systems through the middle of the month. This brought periods of heavy rain to the coast, strong winds in the Rogue/Shasta Valleys and east of the Cascades, and heavy upslope snow in the Mt Shasta area. As this trough shifted inland around the 15th, snow fell down to valley floors, and the Medford Airport recorded it's first snowfall of the season with 0.7".

A period of quiet weather followed this trough as upper level ridging moved through the area. Low pressure settled off the coast of OR/CA the week of the 19th, and active weather returned, which brought more beneficial rain and snow. Much colder air moved into the region around the 23rd, and this brought snow levels down to valley floors. With ongoing active weather, many lower elevation locations experienced a "White Christmas", defined as having one inch of snow on the ground on Christmas Day. This cold air lingered until around the 29th, and most locations across west side valleys recorded daily accumulating snowfall during this time. Active weather persisted into the New Year, but the air mass moderated and snow levels rose to above valley floors during the last few days of the month.



December 2021 Observed Temperatures





Average Temperatures

| | Average (°F) | Departure from Normal | Average Max (°F) | Departure from Normal | Average Min (°F) | Departure from Normal |
|---------------------|--------------|-----------------------|------------------|-----------------------|------------------|-----------------------|
| North Bend | 45.5 | -1.2° | 50.3 | -2.6° | 40.7 | 0.3° |
| Roseburg | 42.6 | 0.1° | 47.5 | -0.7° | 37.8 | 1.0° |
| Medford | 39.0 | -0.4° | 43.5 | -2.6° | 34.5 | 1.9° |
| Klamath Falls | 30.1 | -0.3° | 39.9 | -0.4° | 20.3 | -0.3° |
| Montague, CA | 35.4 | -0.4° | 43.7 | -2.0° | 27.2 | 1.3° |
| Mt. Shasta City, CA | 35.3 | 0.4° | 42.5 | 0.4° | 28.2 | 0.6° |
| Alturas, CA | 28.8 | -1.7° | 40.2 | -0.8° | 17.4 | -2.6° |



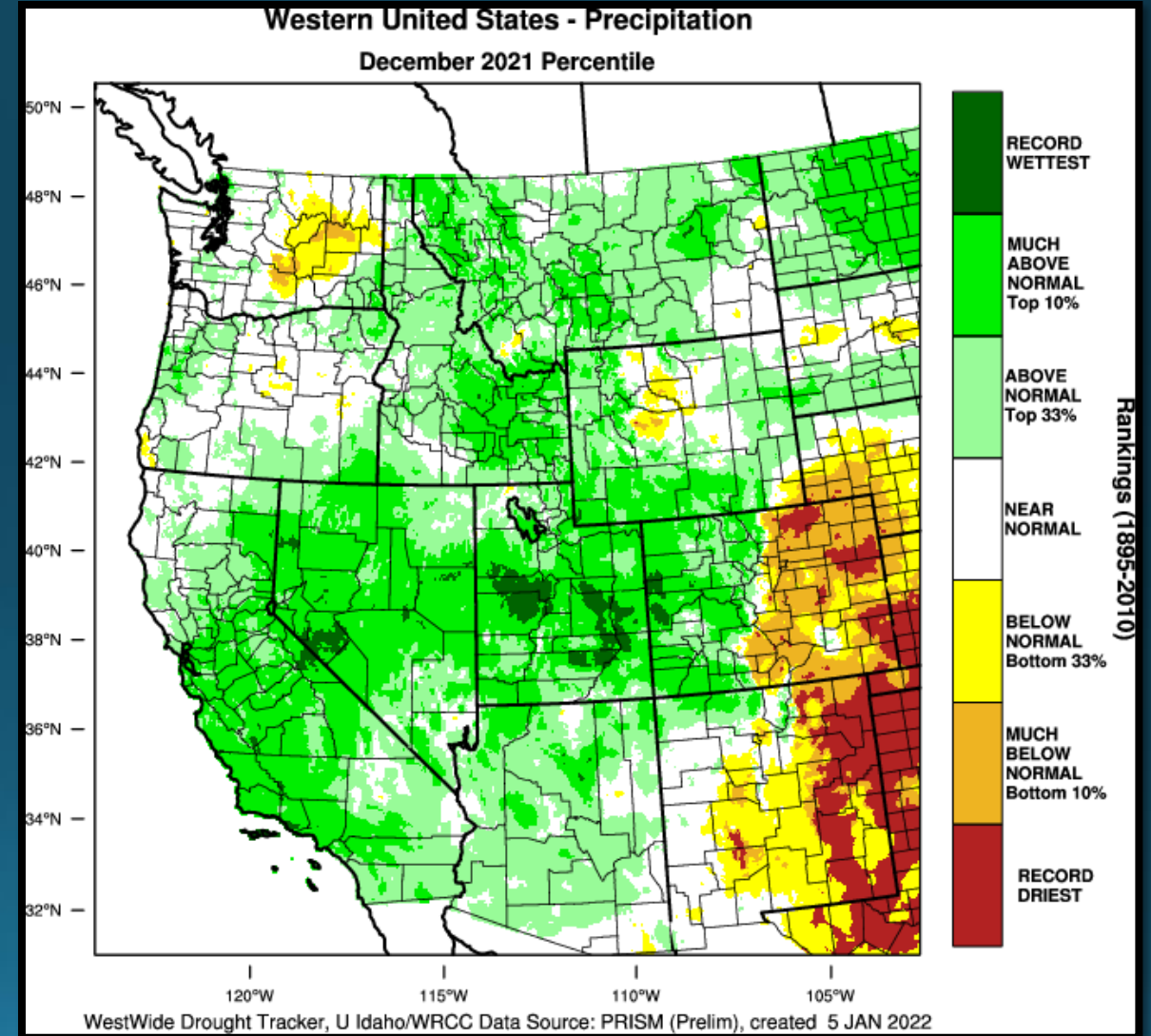
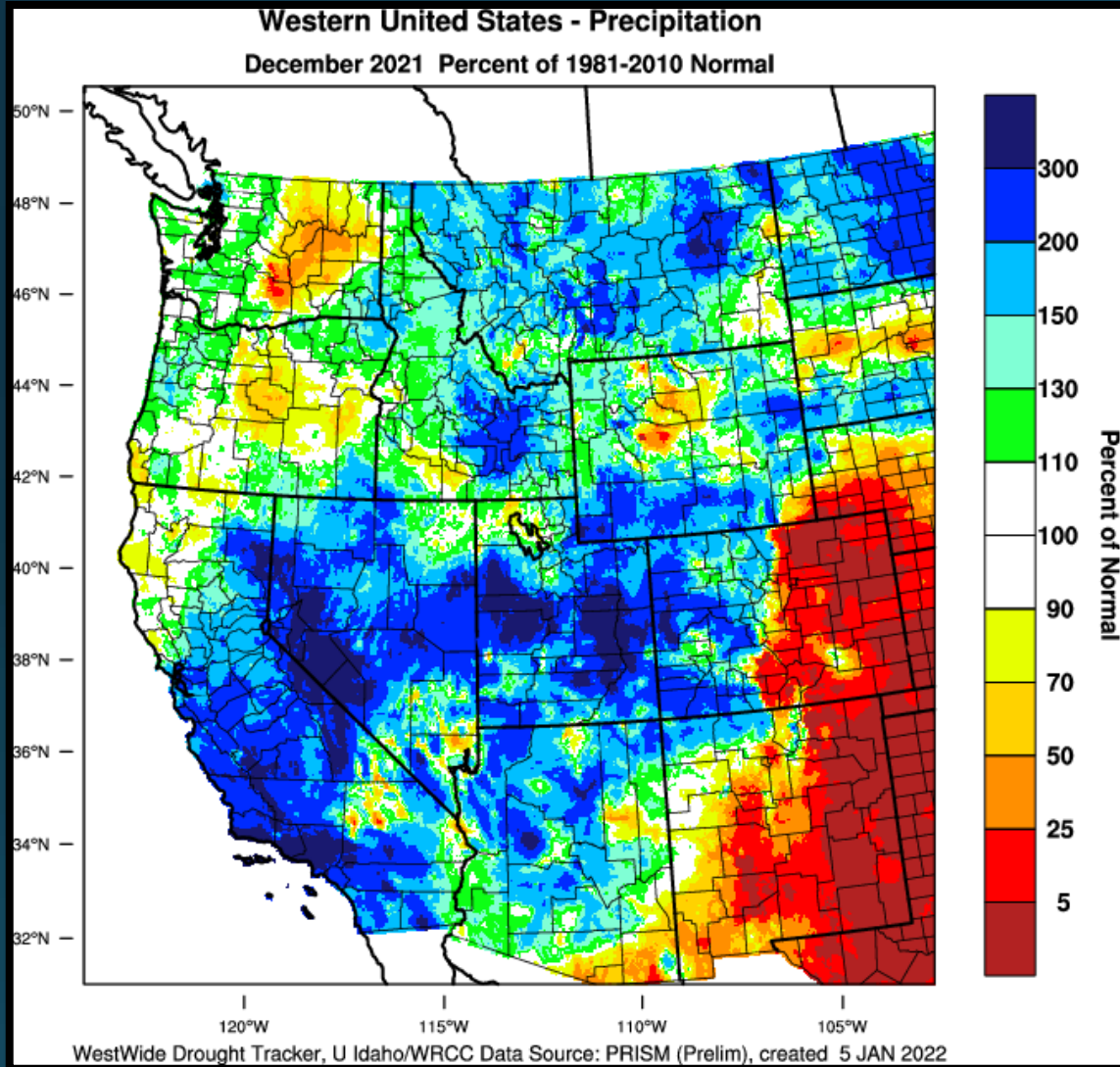
Monthly Max & Min Temperatures

| | Max (°F) | Date(s) | Min (°F) | Date(s) |
|----------------------------|-----------------|--|-----------------|--|
| <i>North Bend</i> | 62° | 1st | 32° | 29th |
| <i>Roseburg</i> | 60° | 1st | 27° | 27th |
| <i>Medford</i> | 54° | 20th | 30° | 14th & 28th |
| <i>Klamath Falls</i> | 58° | 2nd | 3° | 31st |
| <i>Montague, CA</i> | 57° | 2nd | 17° | 29th |
| <i>Mt. Shasta City, CA</i> | 63° | 1st & 2nd | 15° | 30th |
| <i>Alturas, CA</i> | 66° | 1st | -2° | 31st |

| | <i>Date</i> | <i>Record High</i> | <i>Old Record/Year</i> |
|-----------------------|-----------------|--------------------|------------------------|
| <i>Alturas</i> | 1 st | 66° | 65° / 1969 |
| <i>Klamath Falls</i> | 4 th | 57° | 56° / 1949 |
| <i>Mt Shasta City</i> | 1 st | 63° | Ties w/ 2013 |
| | 2 nd | 63° | Ties w/ 1958 |



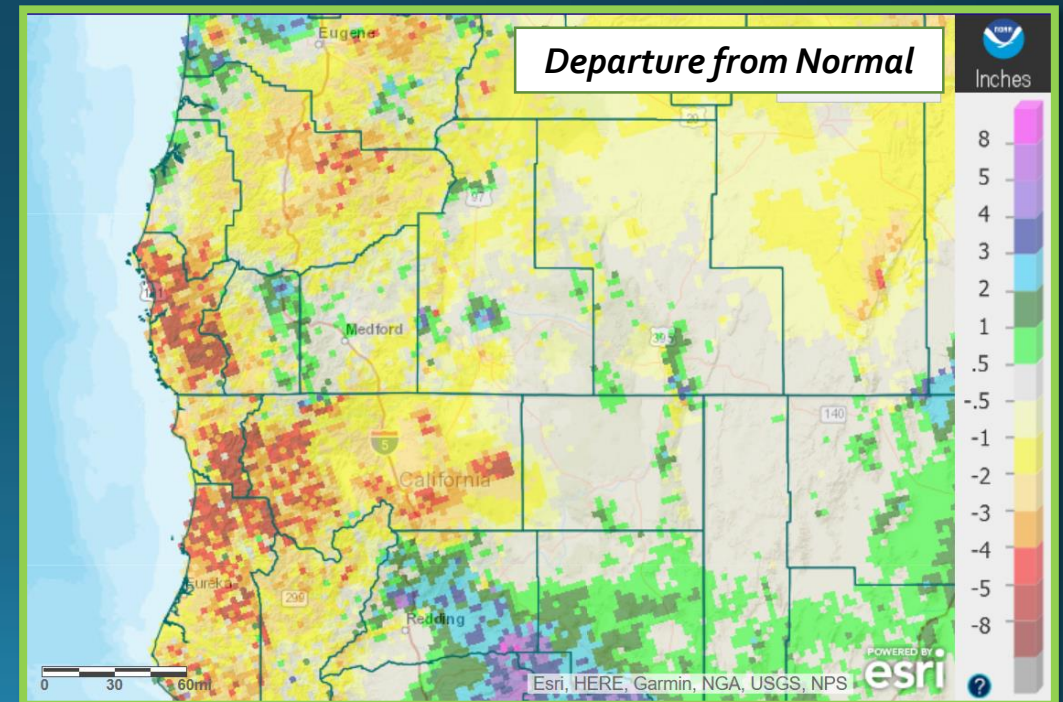
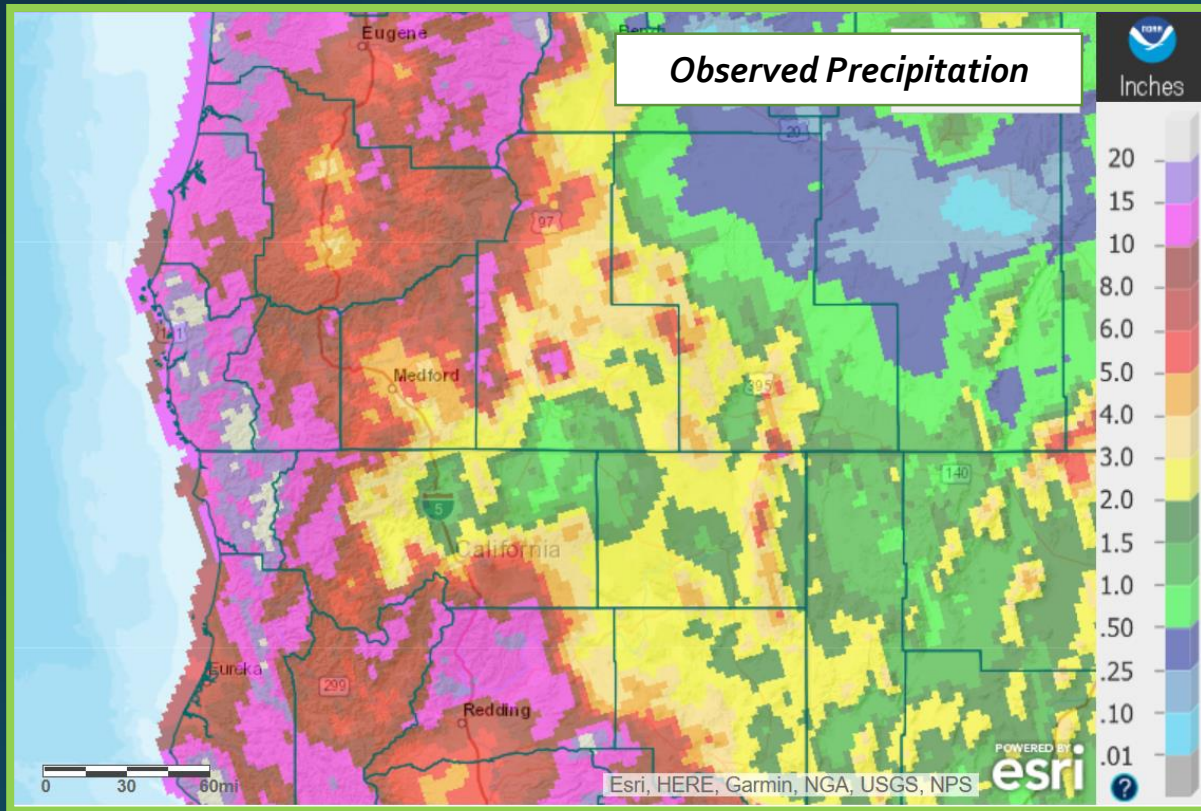
December 2021 Observed Precipitation





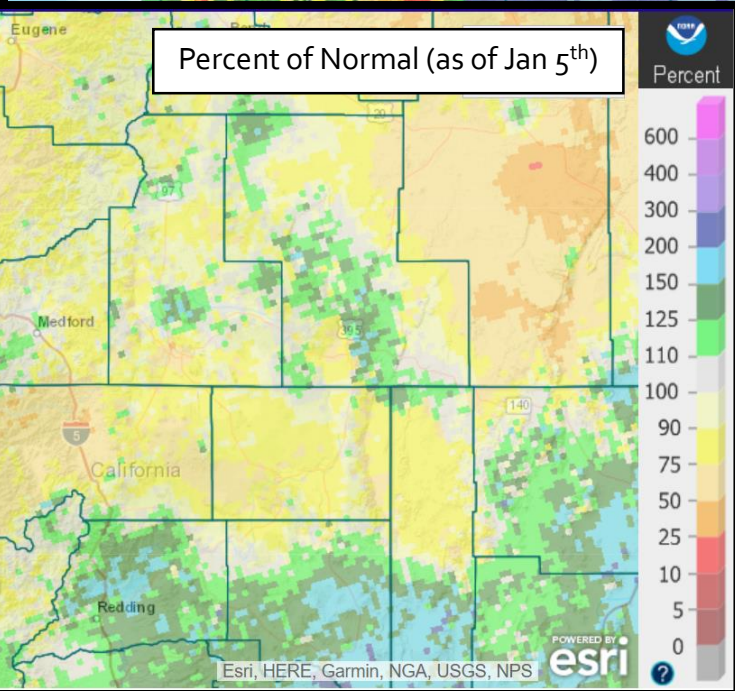
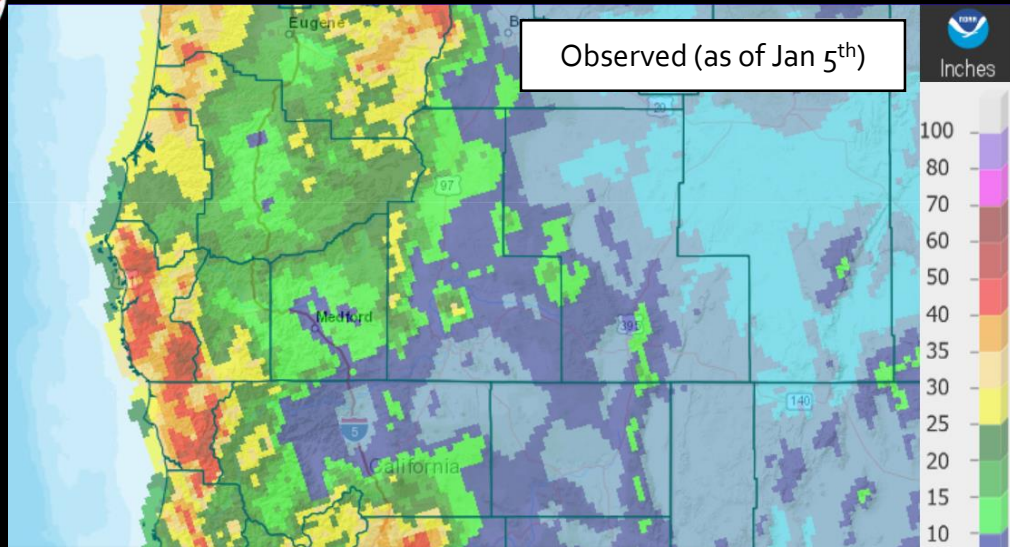
December Precipitation

| | Total | Departure from Normal | Greatest 24-hr Total | Date(s) |
|---------------------|--------|-----------------------|----------------------|-------------------------------------|
| North Bend | 10.92" | 0.45" | 1.84" | 18 th – 19 th |
| Roseburg | 5.77" | -0.28" | 1.07" | 11 th – 12 th |
| Medford | 4.00" | 0.47" | 0.85" | 24 th – 25 th |
| Klamath Falls | 0.65" | -1.15" | 0.30" | 22 nd – 23 rd |
| Montague, CA | 0.96" | -1.29" | 0.39" | 22 nd – 23 rd |
| Mt. Shasta City, CA | 4.05" | -2.56" | 1.63" | 12 th – 13 th |
| Alturas, CA | 1.79" | 0.32" | 0.54" | 13 th – 14 th |



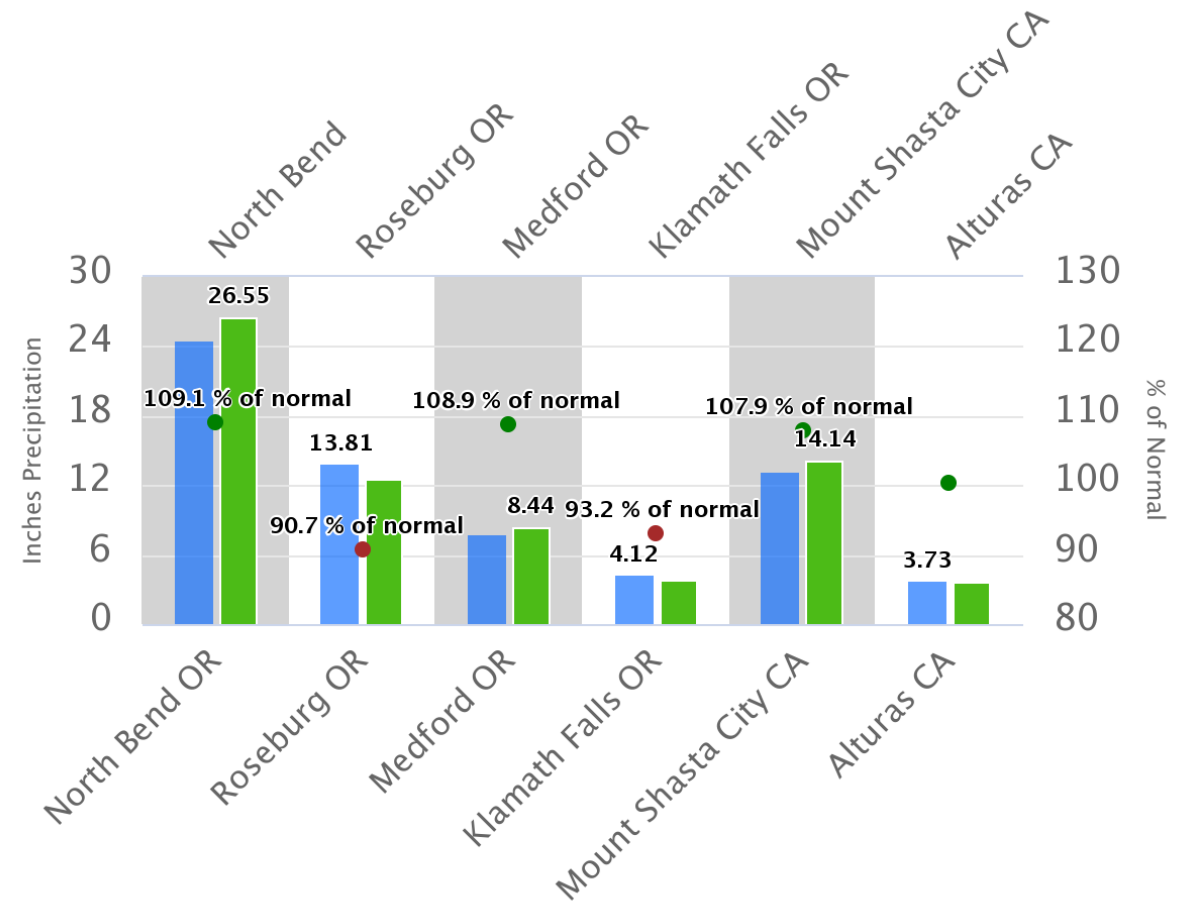


2021-2022 Water Year Status (as of Jan 5th)



Climate Sites Water Year Precipitation (Since Oct 1) and Percent of Normal as of 1245AM JAN05

■ Normal Precipitation Since Oct 1 ■ Precipitation Since Oct 1



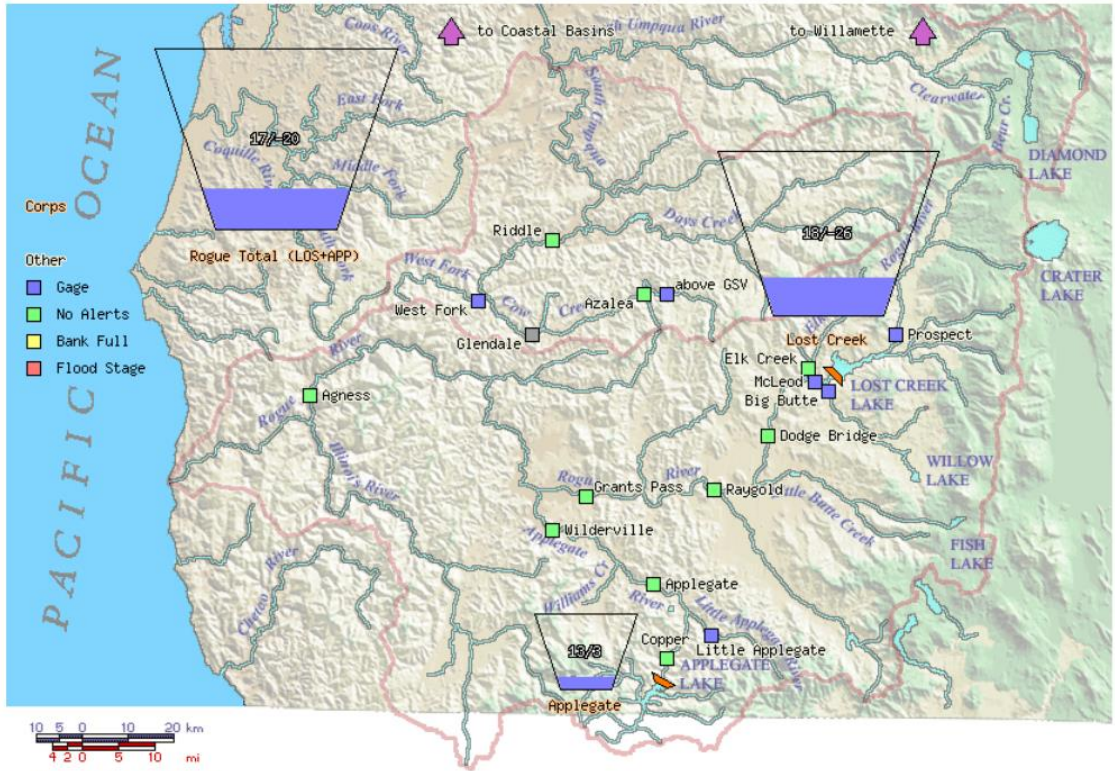


Reservoir Status

Data courtesy of [US Army Corps of Engineers](#)

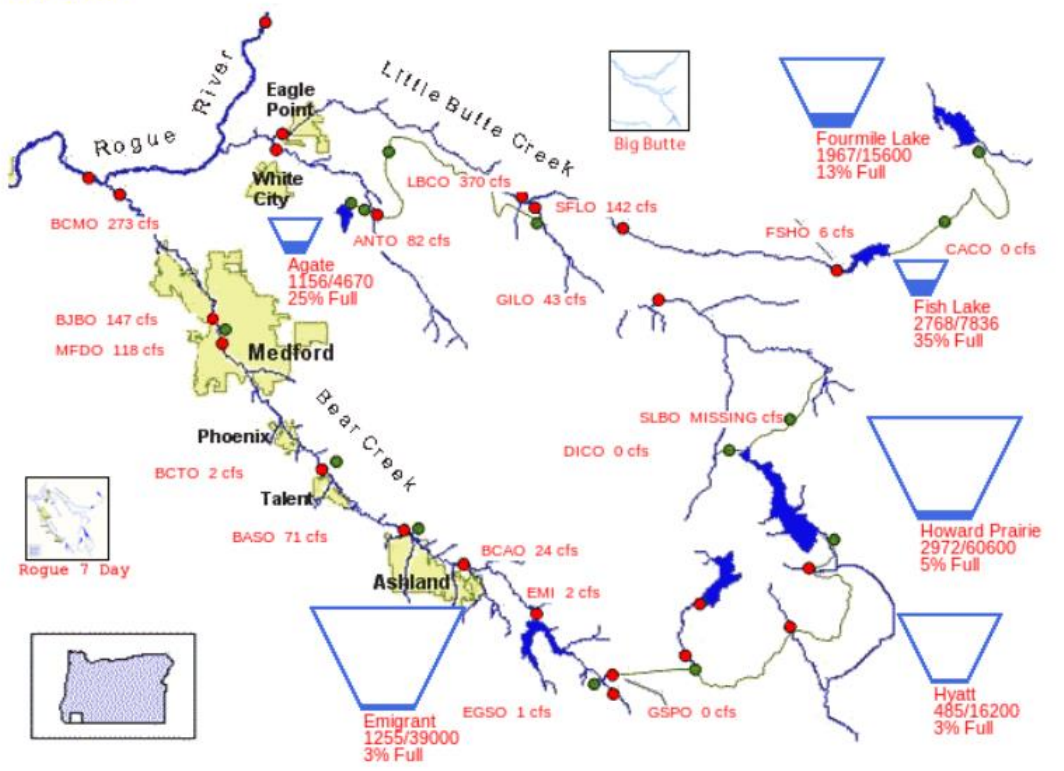
Data courtesy of [Bureau of Reclamation](#)

Rogue Basin Teacup Diagram



Created: Wed Jan 5 12:40:47 2022
WCD: Water Control Diagram
Project numbers: percent full / percent above WCD, where
percent full = (current storage - minimum conservation storage) / (maximum conservation storage - minimum conservation storage)
percent above water control diagram = (current storage - WCD storage) / (maximum conservation storage - minimum conservation storage)

01/04/2022



PROVISIONAL DATA - SUBJECT TO CHANGE!

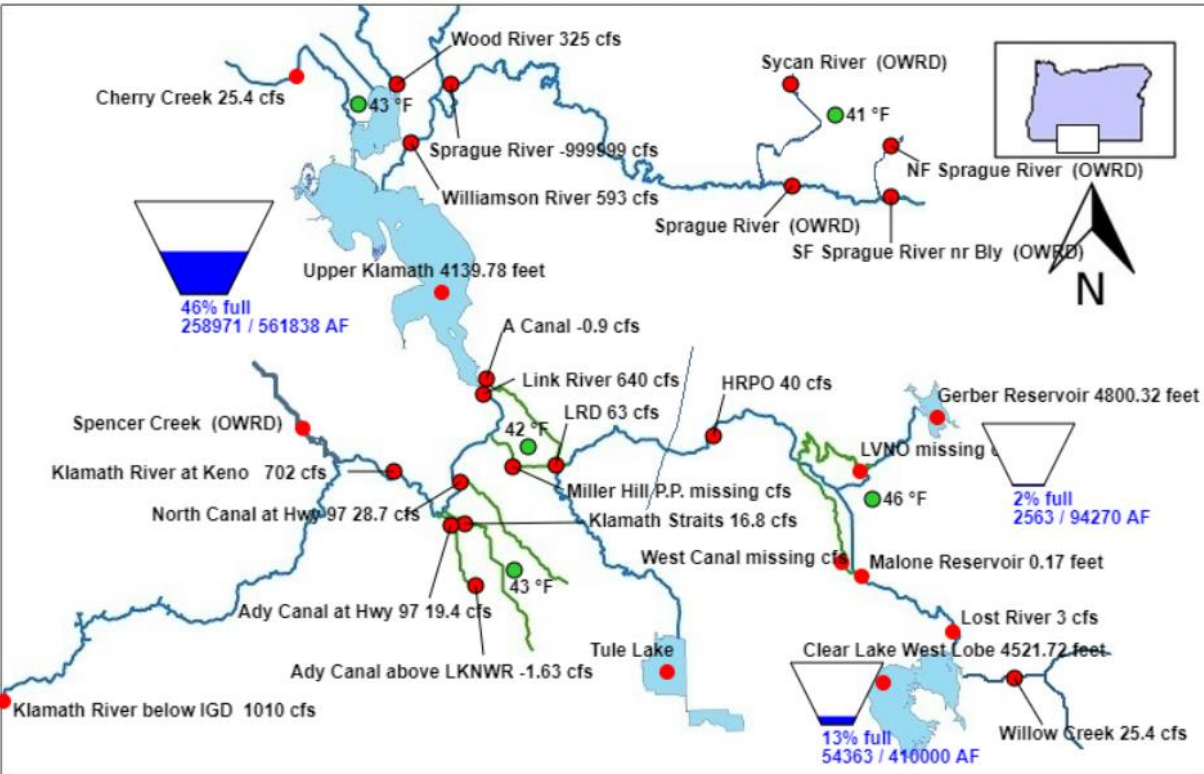


Reservoir Status

Klamath River Basin. Data courtesy of [Bureau of Reclamation](#)

Bureau of Reclamation, Mid Pacific Region
Major Storage Reservoirs in the Klamath River Basin

Wed Jan 05 2022 12:53:34 GMT-0800 (Pacific Standard Time)



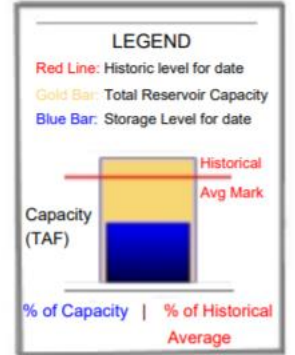
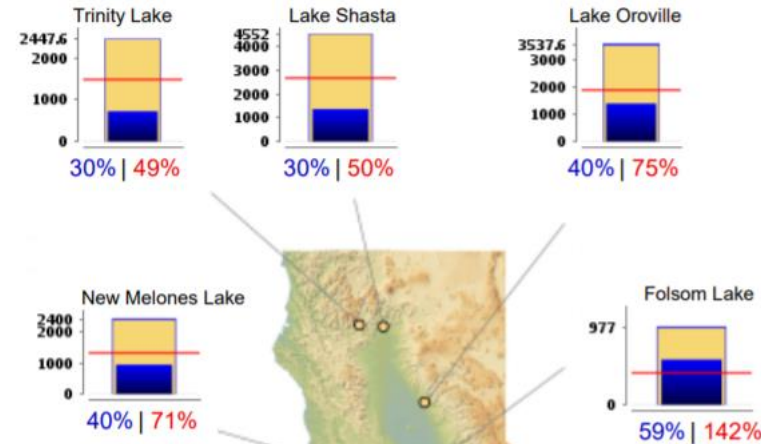
PROVISIONAL DATA - SUBJECT TO CHANGE!



CURRENT RESERVOIR CONDITIONS

SELECTED WATER SUPPLY RESERVOIRS

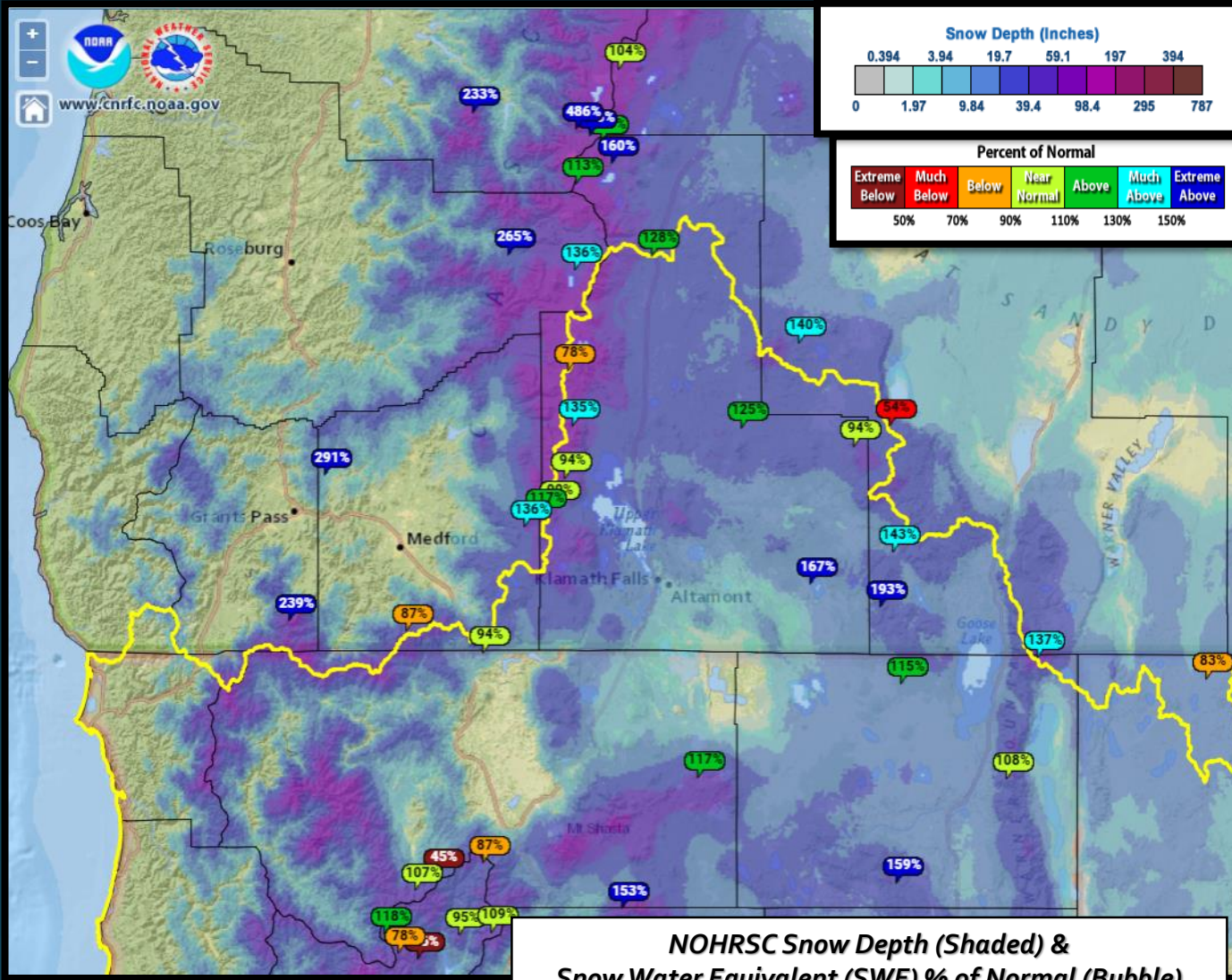
Midnight: January 4, 2022



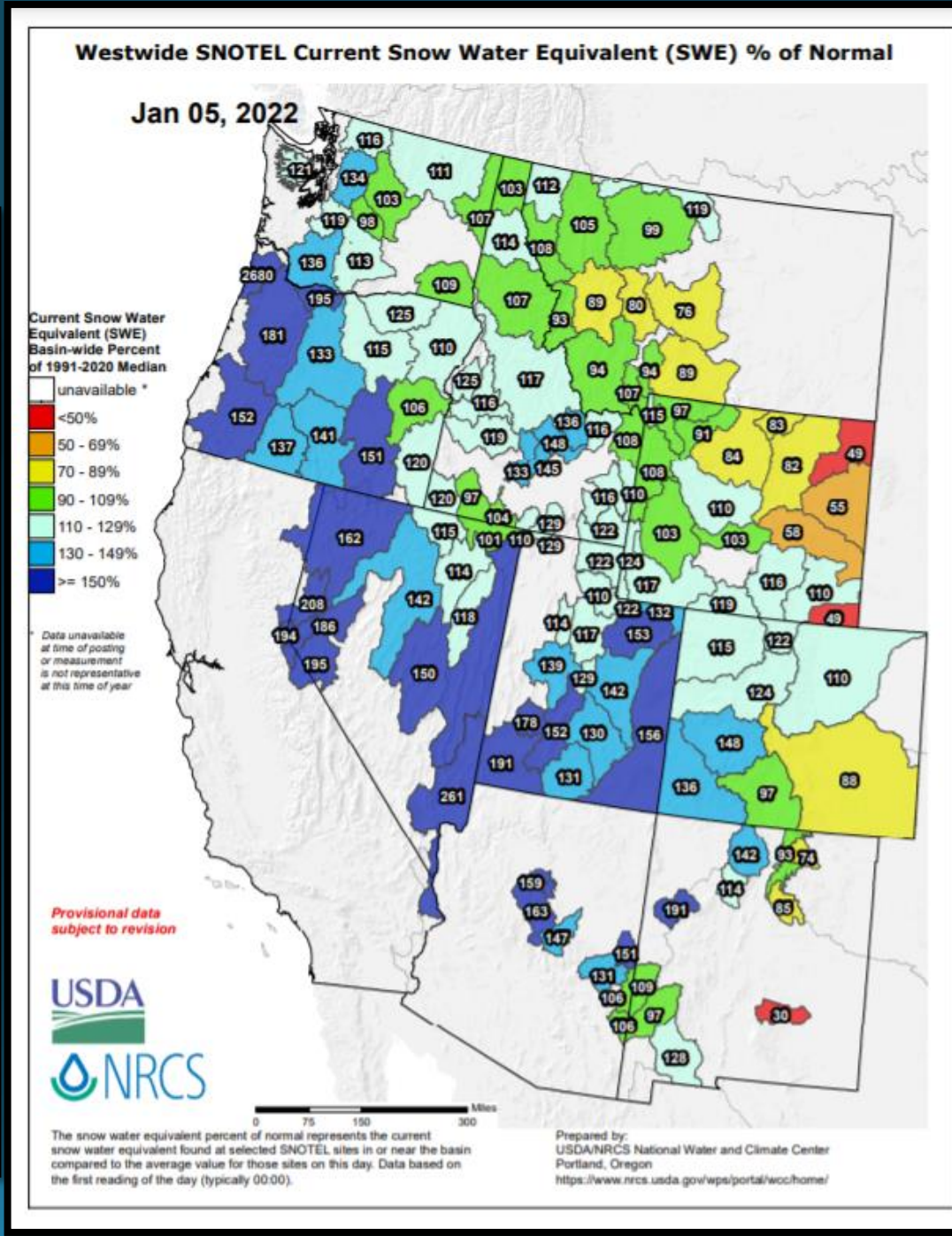
Northern California. [California Data Exchange Center](#)



Snowpack Status

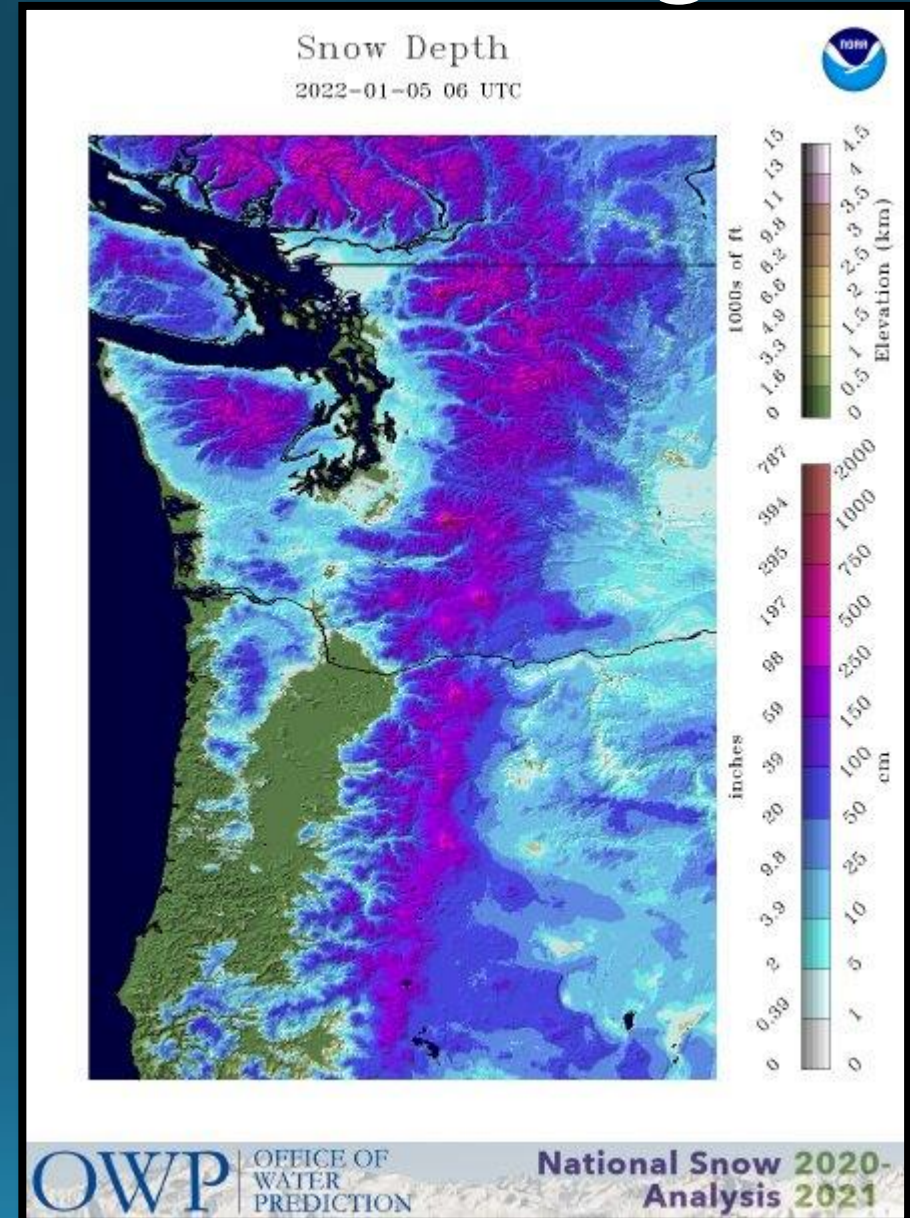
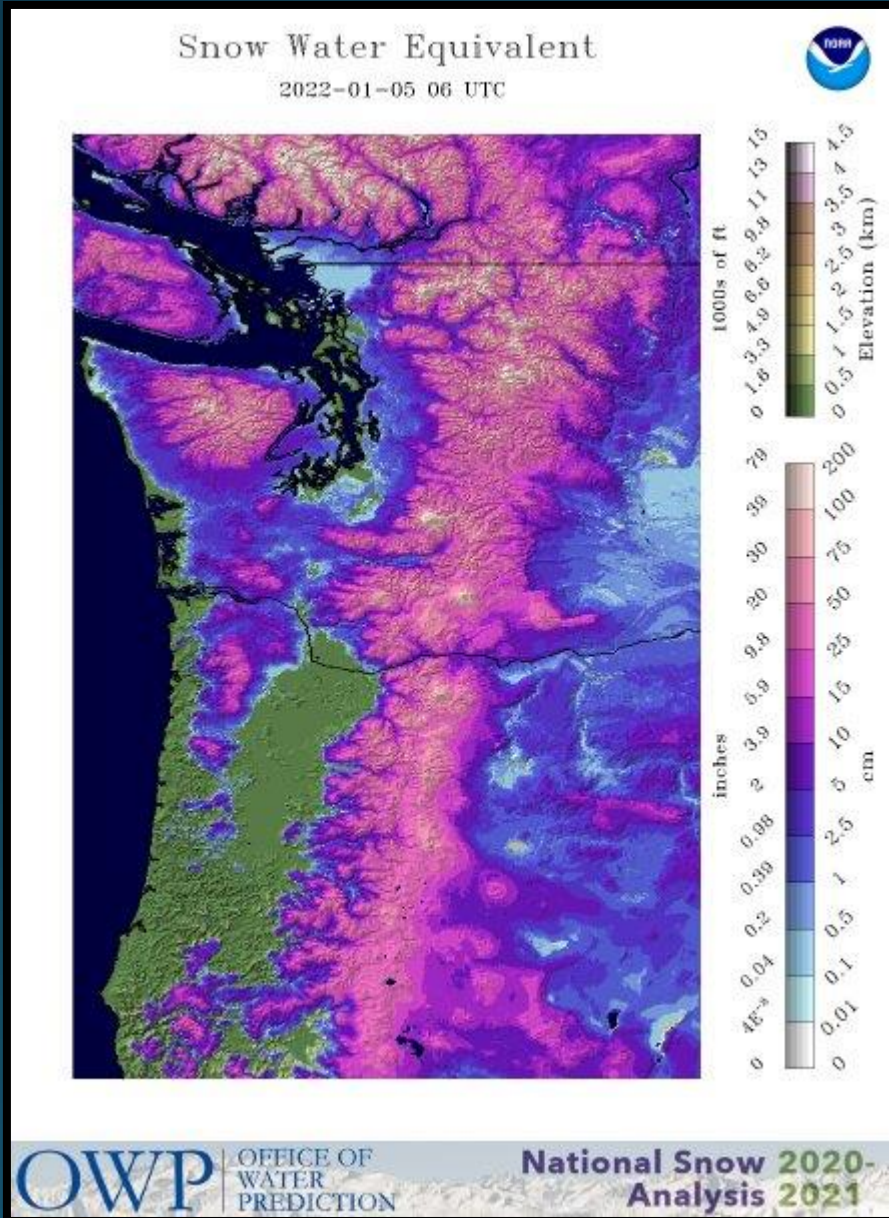


NOHRSC Snow Depth (Shaded) & Snow Water Equivalent (SWE) % of Normal (Bubble) as of 1/5/2022



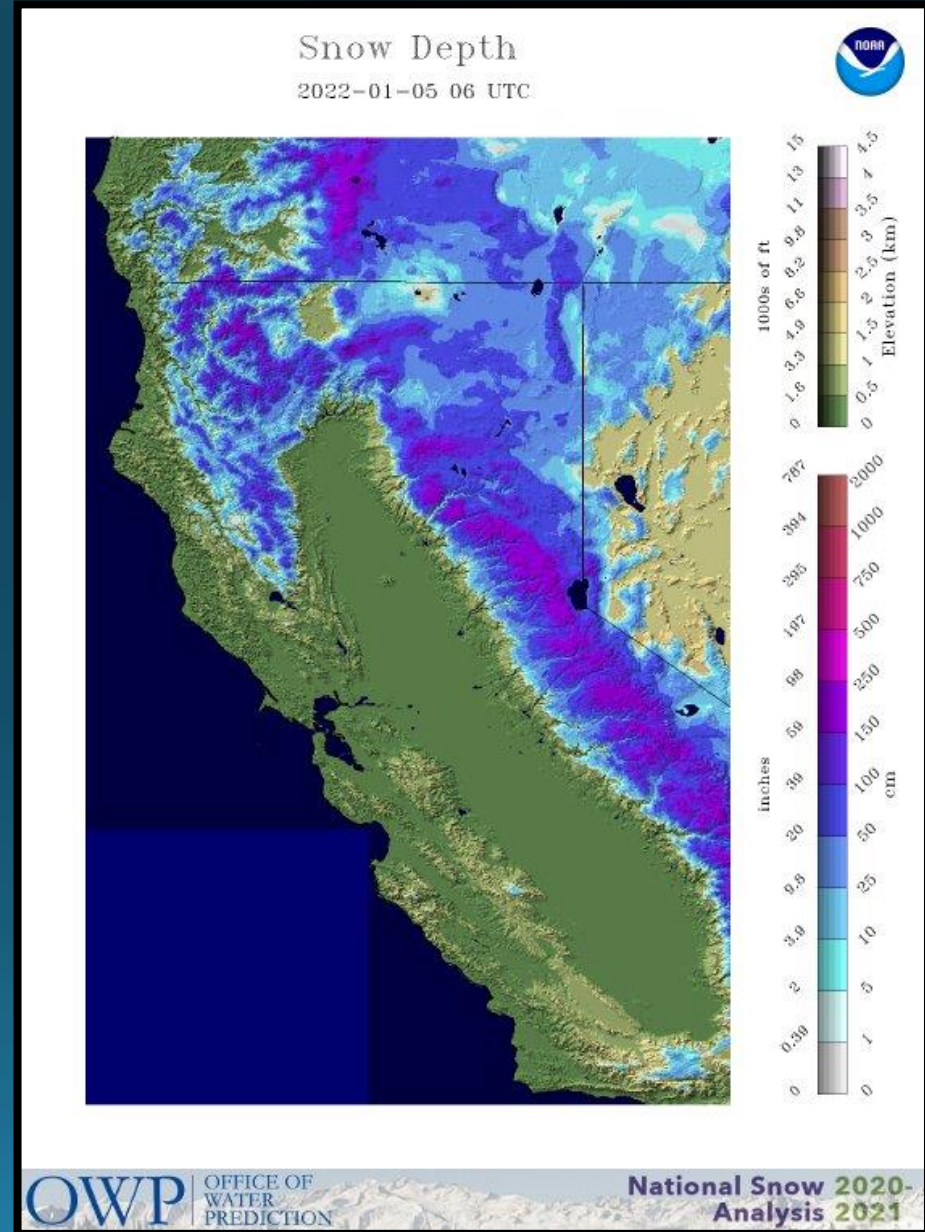
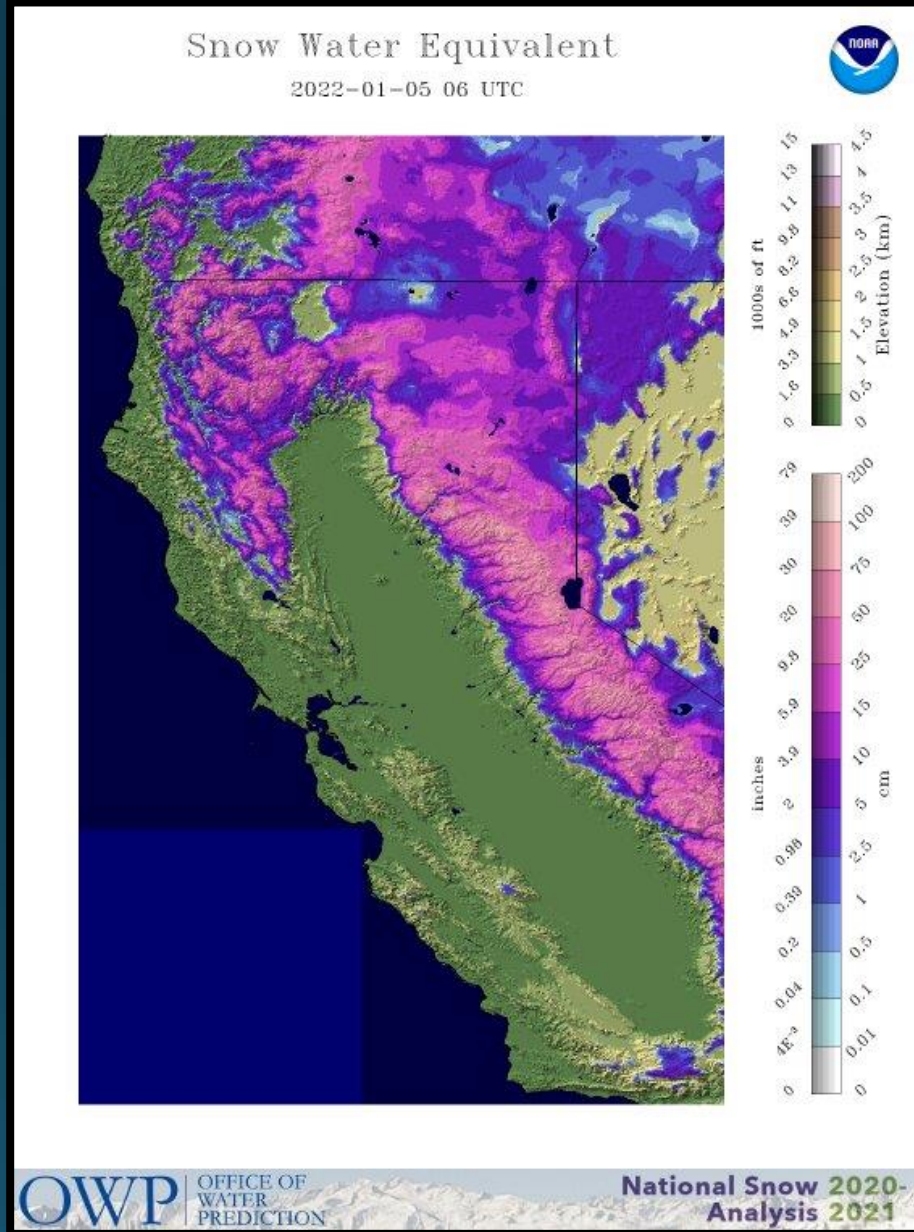


PacNW SWE & SD as of 1/5/22





California SWE & SD as of 1/5/22



Crater Lake

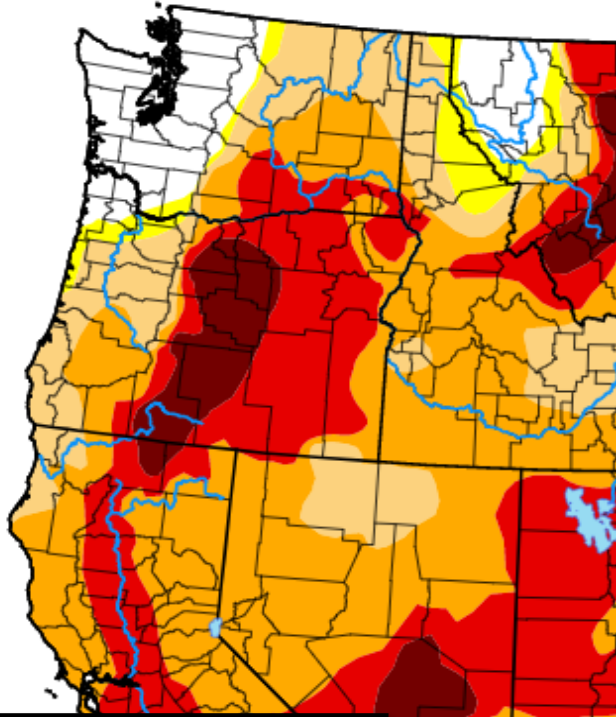
Image Courtesy: NPS



| | Average Max Temp (°F) | Average Min Temp (°F) | Total Precipitation | Total Snowfall | Snow Depth as of: 12/31/21 | Highest Max/ Lowest Min |
|--------------------|-----------------------|-----------------------|---------------------|----------------|----------------------------|--|
| December | 30.7° | 20.3° | 11.13" | 150.7" | 66" | 57° on 2 nd / 9° on 28 th |
| Normal (1991-2021) | 32.7° | 19.1° | 11.28" | 90.6" | 61" | N/A |

Drought Monitor (Current) & Outlook (January)

United States Drought Monitor



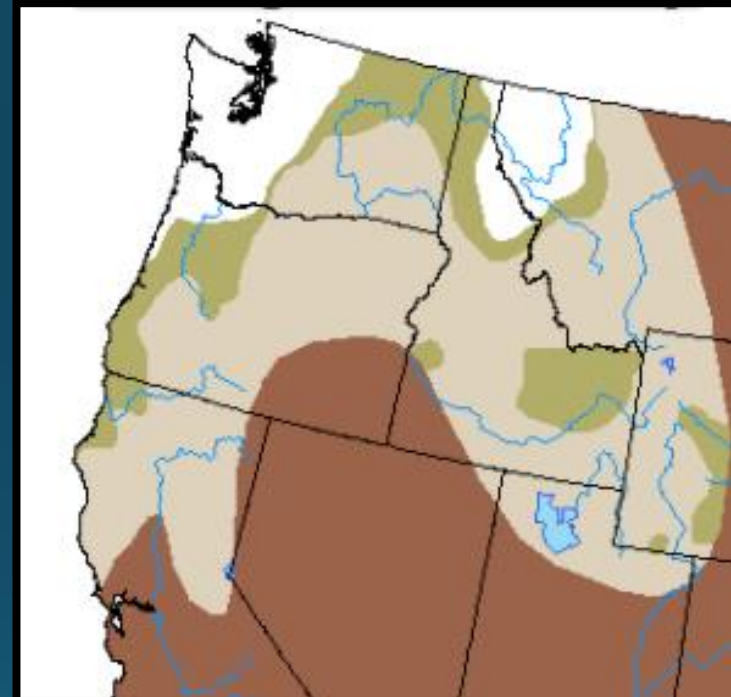
Map released: Thurs. December 30, 2021

Data valid: December 28, 2021 at 7 a.m. EST

Intensity

- None
- D0 (Abnormally Dry)
- D1 (Moderate Drought)
- D2 (Severe Drought)
- D3 (Extreme Drought)
- D4 (Exceptional Drought)
- No Data

U.S. Monthly Drought Outlook
Drought Tendency During the Valid Period



Valid for January 2022
Released December 31, 2021

- Drought persists
- Drought remains but improves
- Drought removal likely
- Drought development likely



Notable Weather Events

A strong trough with a very cold air mass settled over the western US towards the end of December. This resulted in very low snow levels, and with continued active weather, many valleys west of the Cascades saw multiple days of snowfall beginning around Christmas and lasting through the end of the month. In fact, the streak of daily snowfall at the Medford Airport tied 2nd place for greatest number of consecutive days with daily snowfall of ≥ 0.1 ".

Multiple Days of Low Elevation Snowfall

Number of Consecutive Days Snowfall ≥ 0.1 for Medford Area, OR (ThreadEx)
 Click column heading to sort ascending, click again to sort descending.

| Rank | Run Length | Dates |
|------|------------|-------------------------------|
| 1 | 8 | 1969-01-25 through 1969-02-01 |
| 2 | 5 | 2021-12-25 through 2021-12-29 |
| - | 5 | 1981-12-31 through 1982-01-04 |
| - | 5 | 1972-12-03 through 1972-12-07 |
| 5 | 4 | 2017-01-01 through 2017-01-04 |
| - | 4 | 2007-12-25 through 2007-12-28 |
| - | 4 | 1971-02-25 through 1971-02-28 |
| - | 4 | 1971-01-11 through 1971-01-14 |
| - | 4 | 1965-01-06 through 1965-01-09 |
| - | 4 | 1964-12-27 through 1964-12-30 |

Last value also occurred in one or more previous years.
 Period of record: 1911-04-01 to 2022-01-05



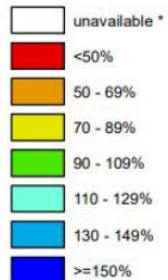
NWS Medford Office after a hefty shower delivered a half inch of snow on December 27th. Photo Credit: Connie Clarstrom

What a difference a month makes!

Oregon SNOTEL Current Snow Water Equivalent (SWE) % of Normal

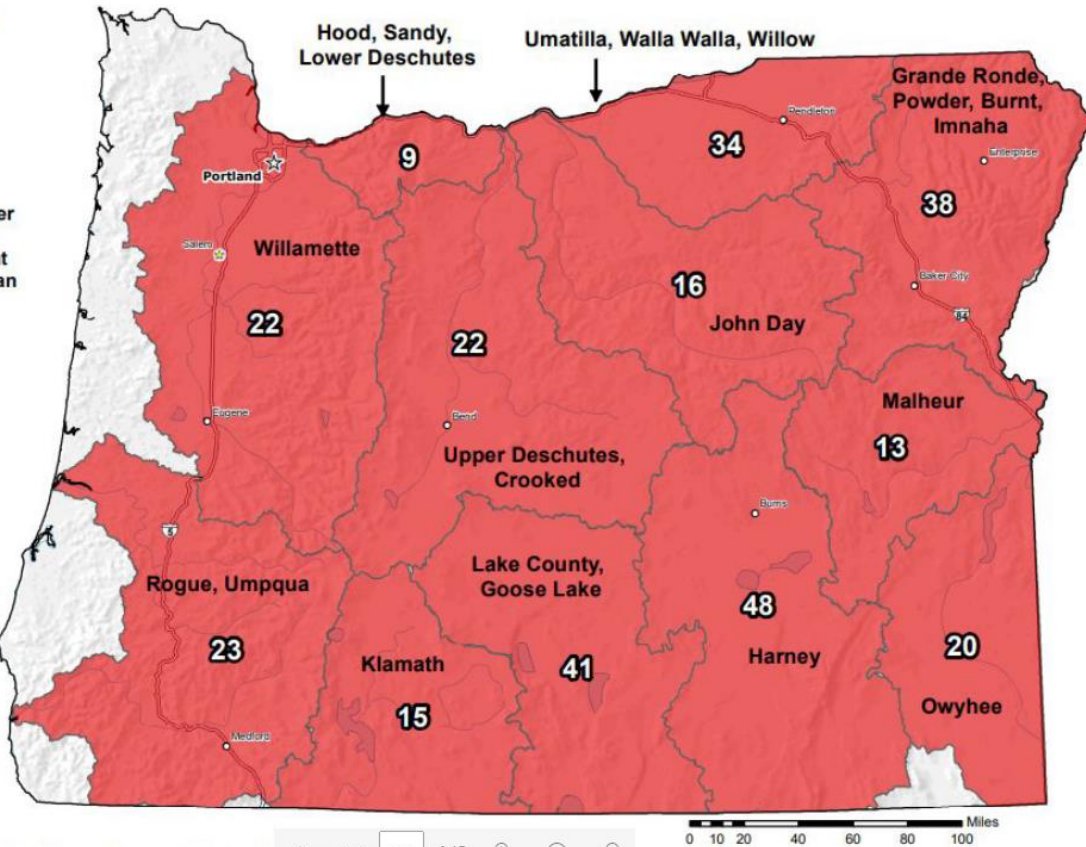
Dec 01, 2021

Current Snow Water Equivalent (SWE) Basin-wide Percent of 1991-2020 Median



* Data unavailable at time of posting or measurement is not representative at this time of year

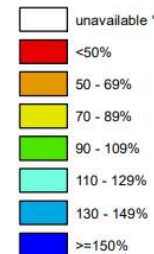
Provisional Data Subject to Revision



Oregon SNOTEL Current Snow Water Equivalent (SWE) % of Normal

Jan 03, 2022

Current Snow Water Equivalent (SWE) Basin-wide Percent of 1991-2020 Median

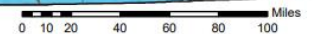


* Data unavailable at time of posting or measurement is not representative at this time of year

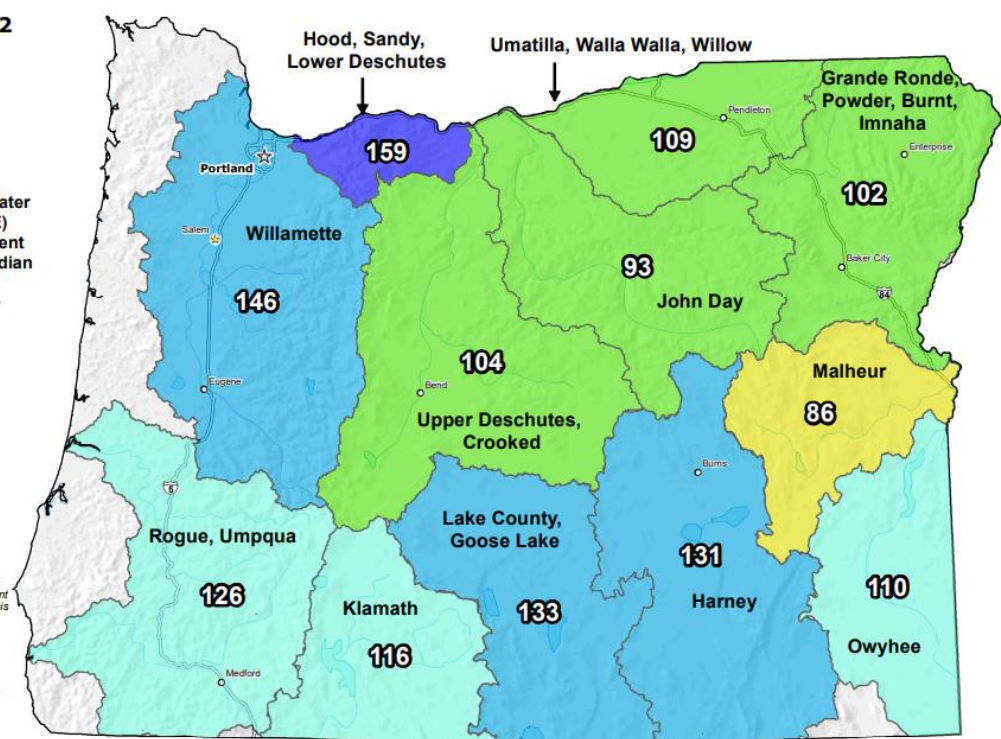
Provisional Data Subject to Revision



The snow water equivalent percent of normal represents the current snow water equivalent found at selected SNOTEL sites in or near the basin compared to the average value for those sites on this day. Data based on the first reading of the day (typically 00:00).



Prepared by: USDA/NRCS National Water and Climate Center Portland, Oregon <https://www.nrcs.usda.gov/wps/portal/wcc/home/>



Although December began on a dry note, a very active month led to a significant increase in snowpack as well as snow water equivalent.

Crater Lake Nat. Park
Steel Visitor Center
Elevation: 6400 feet
December 1, 2021

Normal = 25" snow depth



Crater Lake Visitor Center on
December 1st 2021 (left), and
then on January 3rd 2022 (below).



154.2" of snow fell between the timing
of these two pictures. Snow depth
increased from 1" (Dec 1st) to 60" (Jan
3rd), peaking at 79" on Dec 30th and 31st.

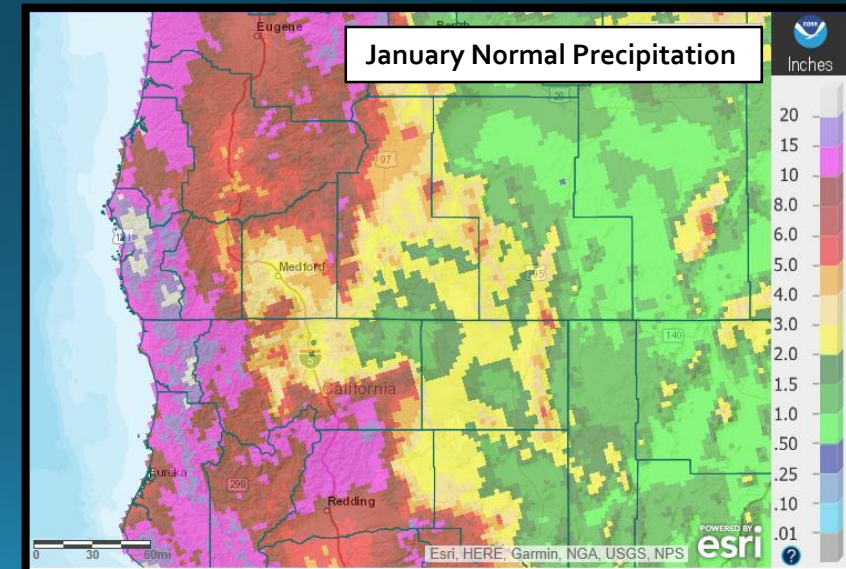
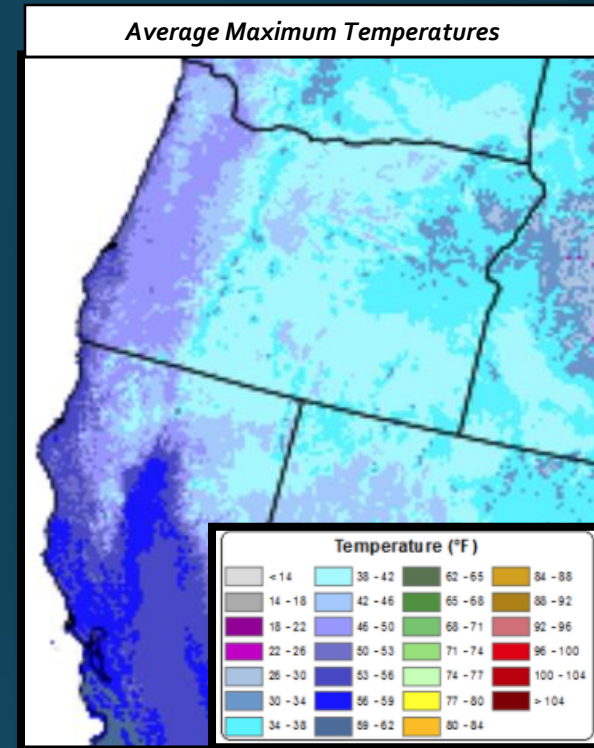
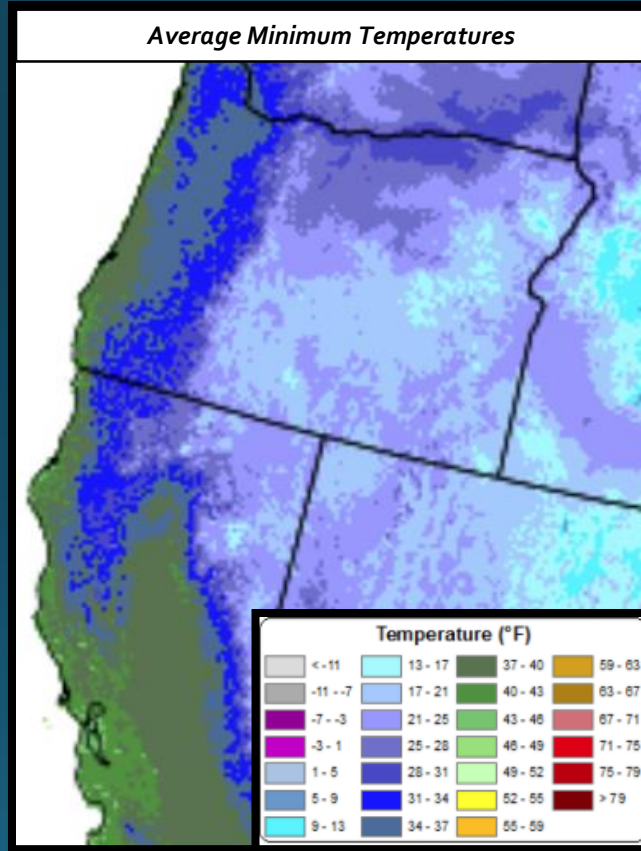


Looking Ahead: Normals for January (1991-2020)

January is, on average, the second coldest and third wettest month of the year for southwestern Oregon and far northern California. Much of the lower terrain of Lake County, the Tule Lake Basin, and parts of the Sprague and Pitt River Basins average 1/2 inch to 2 inches of water, while higher elevations east of the Cascades receive 2-6 inches of water. The Cascades and Mount Shasta receive an average of 5-15 inches. The drier valleys west of the Cascades like the Bear Creek drainage of the Rogue Valley and the Shasta and Scott Valleys in California usually receive 2-5 inches. The remainder of the West Side gets 5-15 inches, except for the wettest portions of Curry County and far western Siskiyou County, which average 15-20+ inches.

Much of this water typically falls as snow above about 4,000 feet MSL. For instance, the 1981-2010 average snowfall for Crater Lake National Park Headquarters is 85.4 inches. Snow depth there averages 68 inches on January 1st and 87 inches on January 31st based on the same average period.

Average daily high temperatures are 30 to near 40 degrees in the mountains above 5000 feet and east of the Cascades and in the mid 40s to mid 50s west of the Cascades. Daily low temperatures are in the mid teens in the coldest locations east of the Cascades and on Mount Shasta, to the upper 20s in and near the Cascades. From the Cascades west to the coast, lower 30s to mid 40s are most typical from east to west.





*A note about Period of Record (POR)

When looking at record setting events, it's important to consider the length and completeness of the site's period of record (POR). For example, a site might have records dating back to the early 1900's, but if there is a significant portion of the record missing, it's possible that the POR is not encompassing another significant event that might have surpassed the event in question. Therefore, "record setting" should be considered relative to the completeness/length of POR. To help keep records in context, the POR for each climate site is listed below:

- **North Bend: 01/1902 – Present**
- **Roseburg: 04/1900 – Present**
 - ❖ *Missing:*
 - 05/1900-01/1901
 - 03/1901-06/1902
 - 08/1902-12/1930
 - 10/1965-06/1997
- **Medford: 03/11/1911 – Present**
- **Klamath Falls: 12/1897 – Present**
- **Montague, CA: 07/1948 – Present**
 - ❖ *Missing:*
 - 08-09/1952
 - 02/1953-06/2000
- **Mount Shasta City, CA: 04/1948 – Present**
- **Alturas, CA: 05/1935 – Present**