Oregon
Water Conditions Report
January 13, 2020

OREGON
WATER RESOURCES
DEPARTMENT

Current Oregon statewide snow water equivalent is 79 percent of normal, improved from 45 percent over the last two weeks due to several mountain storms, particularly impacting the western and northern regions of the state. Basin values vary from 69 percent of normal in the Klamath basin to 115 percent of normal in the Owyhee basin. The Hood, Sandy, Lower Deschutes basin has increased from 25 percent of normal reported on December 30, 2019 to 84 percent today.

Current Oregon statewide water year precipitation at NRCS SNOTEL sites is 66 percent of normal, still well below normal, but improved from 50 percent reported on December 30, 2019. Basin precipitation values range from 58 percent of normal in the Klamath, Rogue, and Umpqua basins to 80 percent of normal in the Owyhee, Grande Ronde, and Powder, Burnt, Imnaha basins.

The first NRCS Basin Outlook Report of the year is now available. This report is published monthly from January through June. The most recent edition points out that the southeastern third of the state fared better with higher than normal amounts of accumulating snow, while the northwestern two thirds of the state received amounts of SWE well below normal. Storm impacts were generally only in the southern regions of the state during the fall with much of the precipitation falling as rain instead of snow, particularly at lower elevations.

Precipitation over the past two weeks has been below-normal for much of central and eastern Oregon. The highest anomalies were in the north coast where precipitation ranged from 1.5 to over 4 inches above normal. The Cascades and parts of western Oregon also experienced normal to above-normal precipitation with values of up to 3 inches above normal. For the month of December, precipitation was below-normal across much of the state with the exception of Lake and Harney Counties. In areas west of the Cascades and in southeast Oregon anomalies ranged between 50 and 70 percent of normal.

Temperatures over the past two weeks have been mostly above-normal especially in north central and eastern Oregon where temperatures ranged from 2 to 10 degrees above-normal. For the month of December, temperatures were above-normal across most of the state, especially in north central and eastern Oregon where temperatures were up to 6 degrees warmer than normal for this time of year.

Over the next 8 to 14 days, the NOAA Climate Prediction Center is forecasting an increased probability of below-normal temperature along with below-normal precipitation probability across the state. The most recent three month outlook indicates increased probability of above-normal temperatures across most of the state. The precipitation outlook for the same period is for equal chances of above or below normal probability across the state. The next long-term outlook will be issued on January 16, 2020.

ENSO-neutral is favored during the Northern Hemisphere spring 2020 (~60 percent chance), continuing through summer 2020 (~50 percent chance). During December 2019,

near-to-above-average sea surface temperatures were evident over the equatorial Pacific Ocean. For a more complete report, refer to the January 9, 2020 diagnostic discussion issued by the Climate Prediction Center. The next diagnostic discussion is scheduled for February 13, 2020. Another source of information is the latest ENSO blog on the climate.gov website.

December streamflow was 53 percent of normal. This is a little higher than the 48 percent seen in November. Regionally for December, streamflow conditions were about 60 percent of normal east of the Cascades and only about 42 percent to the west. Overall flows in the Umpqua were the lowest at around 22 percent of normal while the highest flows were in the Malheur basin at over 85 percent of normal. Recent weather events have brought marked improvement in streamflow in western Oregon, with many streams flowing at rates well over 100 percent of normal.

USACE Reservoirs: **Willamette:** The Willamette system is 3 percent full and 3 percent above rule curve. System-wide inflow and outflow are both close to 11,000 cfs. The pin was successfully reinstalled in the Detroit spillway gate and the pool range restriction has been increased to 1,450 ft. Outflow was lowered and refill to 1,450 ft began last week. Winter precipitation is in the forecast but all rivers are forecast below bankfull. Recent weather has helped to elevate inflows and bring several projects closer to rule curve. Flows in the Willamette River at Albany are 35,800 cfs with flows at Salem at 59,900 cfs.

Rogue: The Rogue system is currently 33 percent full and 6 percent below rule curve. The current 10-day forecast shows significant precipitation across the basin. However, due to the low freezing levels it is expected to see minimal runoff but shows potential for building snow pack which is currently well below average across the basin. Lost Creek will continue holding flows at 1,150 cfs and capture the majority of the forecasted inflows. While Applegate will hold releases at 115 cfs through the week. Current fisheries goals are minimizing the dewatering of spring chinook redds in 2019-2020, and minimizing early emergence by spring chinook in the spring of 2020.

Willow Creek: The Willow Creek Project is currently 40 percent full and 6 percent below rule curve. The current project objectives are to pass 3 cfs of the current inflow, as the project continues to slowly fill back to rule curve.

USBR Reservoirs: Reclamation reservoirs in Oregon continue to have higher than average storage levels thanks to higher than average carryover at the start of the Water Year. Most reservoirs have shown very little increase in storage over the past two weeks. Water Managers continue to actively monitor potential precipitation events since some reservoirs (Prineville, Bully Creek, Warm Springs, and Scoggins) are potentially a decent rainstorm away from exceeding maximum winter storage requirements as set by flood control regulations.

Umatilla River Basin: McKay reservoir is at 21 percent of capacity. Outflows are close to 10 cfs with inflows of about 33 cfs.

Deschutes River Basin: Ochoco and Prineville reservoirs are at 45 percent and 57 percent full respectively. Ochoco reservoir is releasing less than 5 cfs while Prineville reservoir is currently releasing about 100 cfs with inflows of about 70 cfs. Crescent Lake is at 51 percent, Wickiup is at 50 percent and Crane Prairie is at 79 percent of capacity.

Malheur River Basin: Warm Springs, Beulah, and Bully Creek reservoirs are at 57, 41, and 51 percent full respectively. All three are above normal for this time of year, increasing the chance of available carryover for next year.

Owyhee River Basin: Owyhee reservoir is well above normal at 68 percent. Inflows are currently about 250 cfs.

Burnt and Powder River Basins: Phillips and Unity reservoirs are at 23 percent and 45 percent full respectively. Phillips is releasing about 17 cfs with inflows around 14 cfs while Unity is releasing about 11 cfs.

Tualatin River Basin: Scoggins reservoir is at 58 percent of capacity and releasing just over 20 cfs.

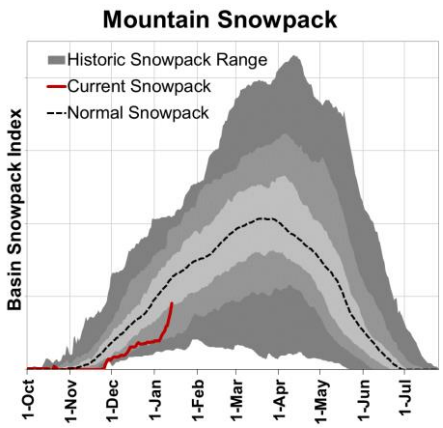
The most recent update to the US Drought Monitor continues to indicate that over the past two weeks, almost 98 percent of the state is in D0 (abnormally dry) conditions, with almost 25 percent of the state listed as in D1 (moderate drought). This is likely to improve in response to recent weather events.

The Oregon Office of Emergency Management has assembled a new hydrology/meteorology dashboard featuring many of the data sources used to generate this report.

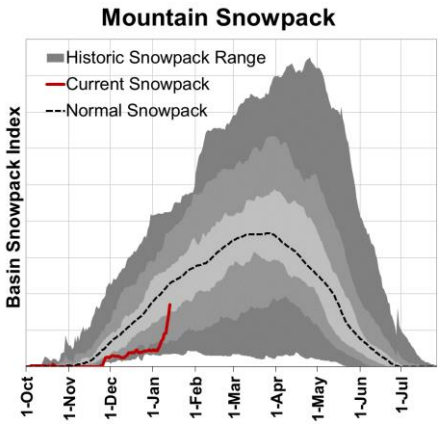
Data & Products: Page:

Snowpack Graphs – January 2020

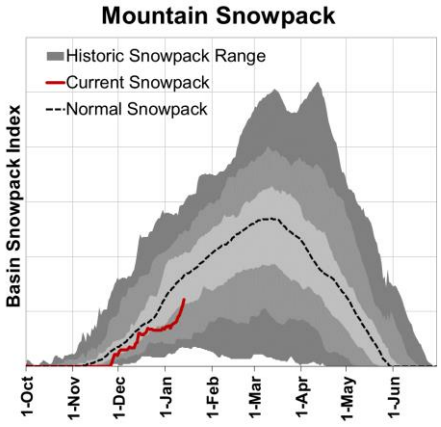
Deschutes



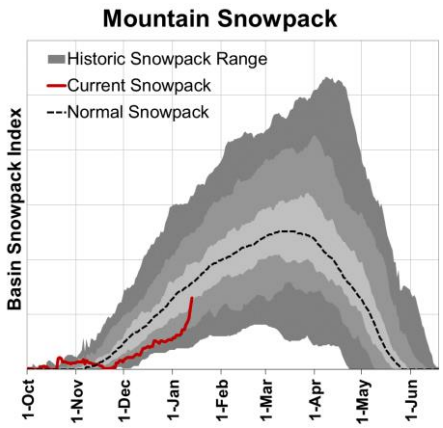
Willamette



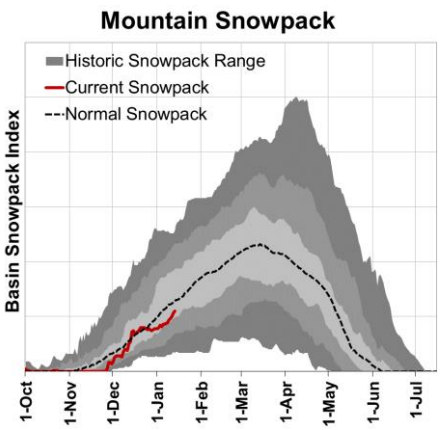
Klamath



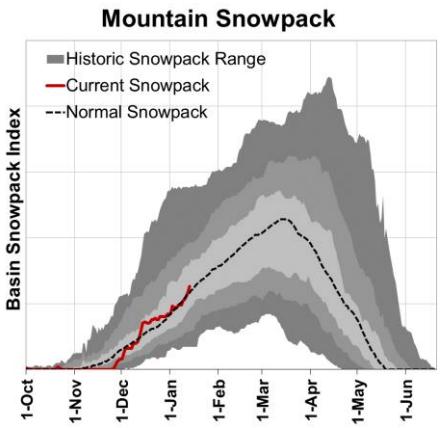
Umatilla



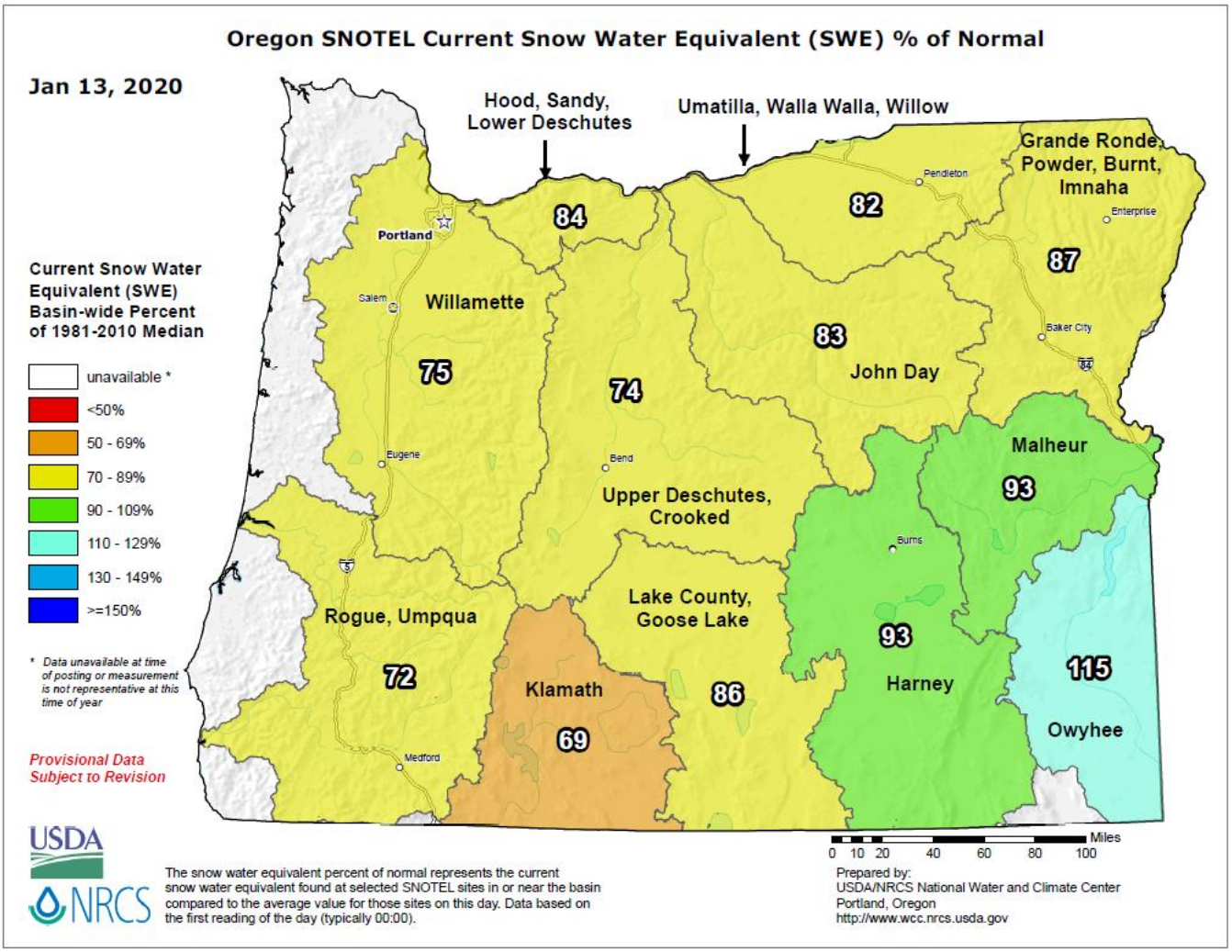
Lake



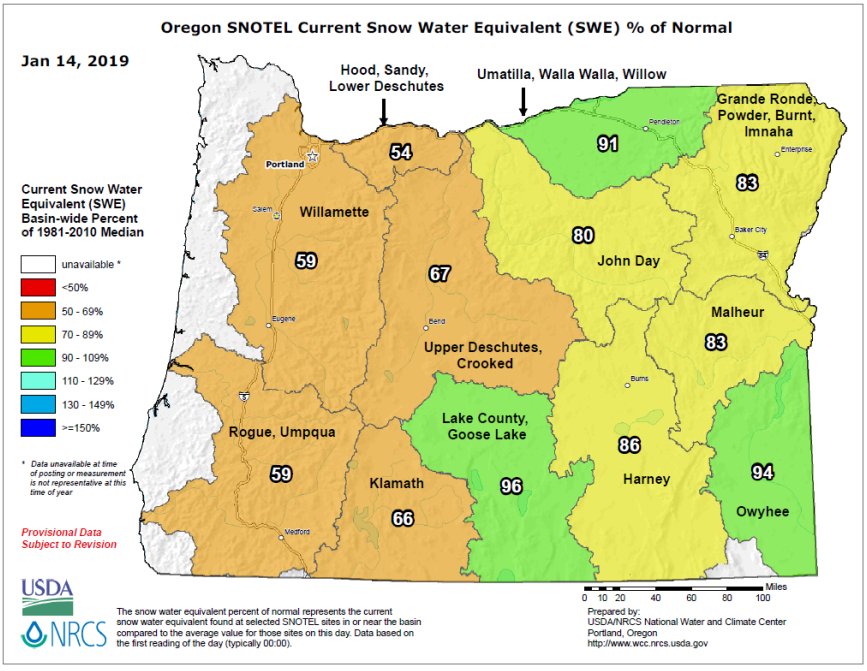
Owyhee



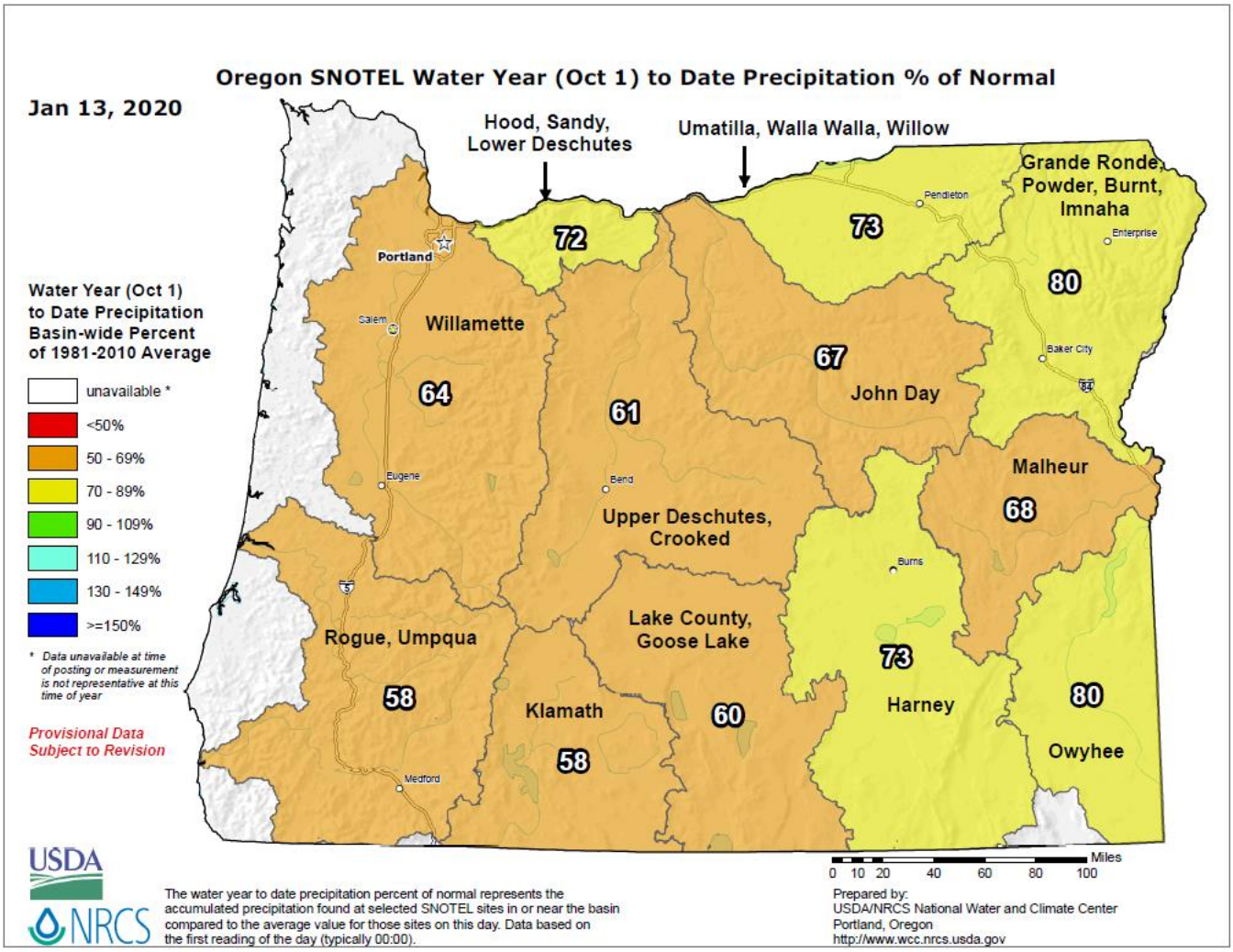
Snow Water Equivalent (SWE) - Percent of Normal



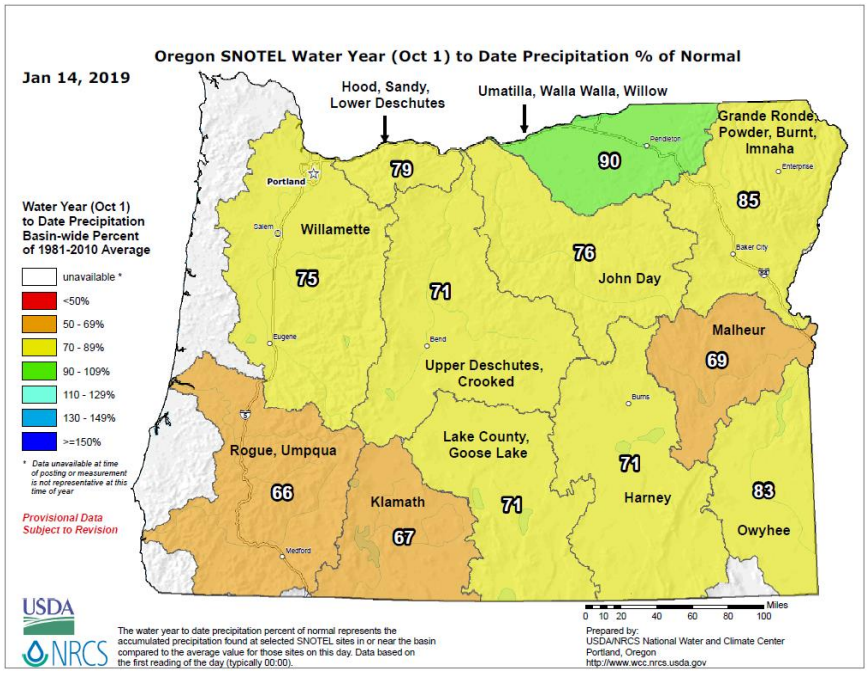
Compared to this time <u>last year</u>:



Precipitation (Mountain) - Percent of Normal



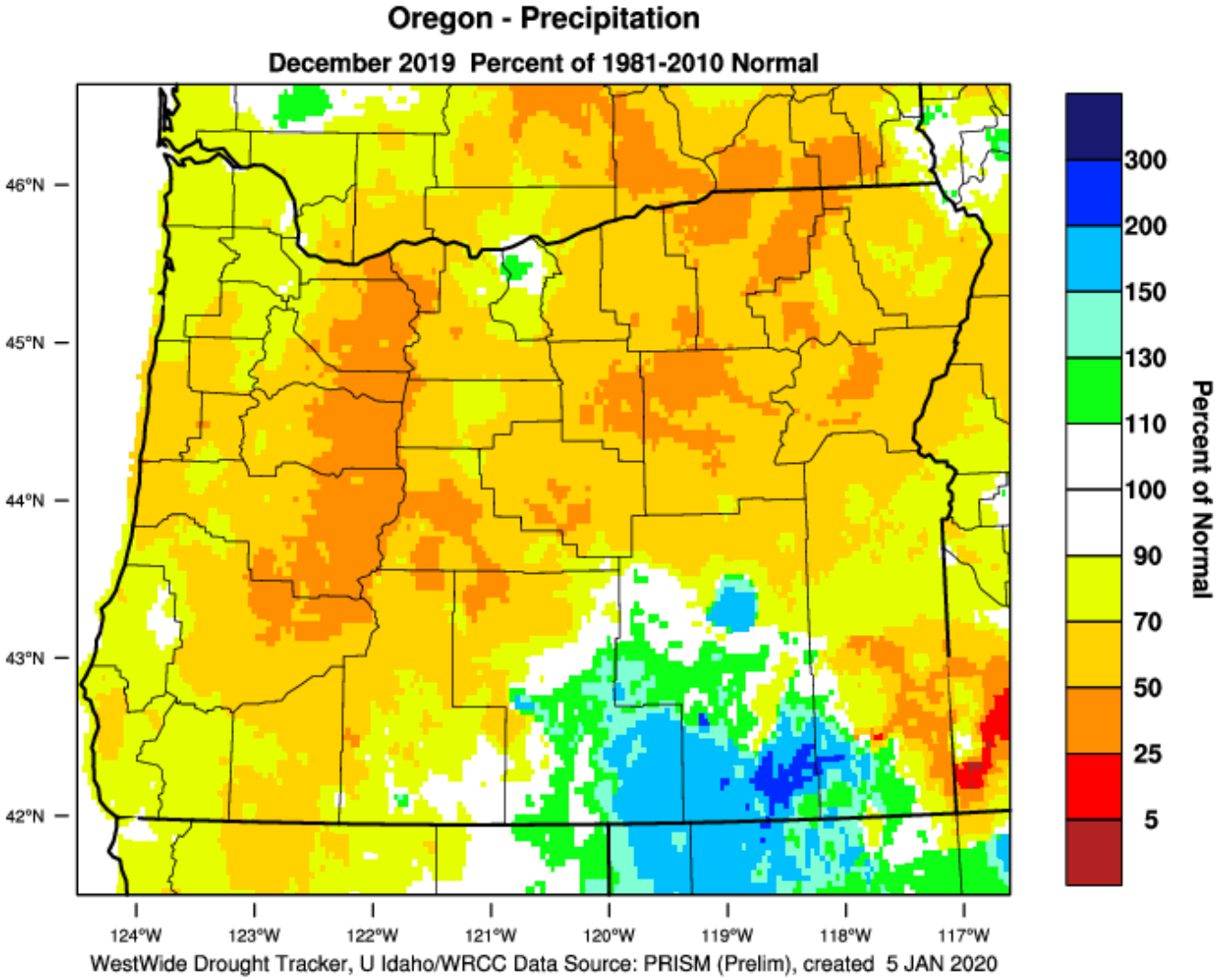
Compared to this time <u>last year</u>:



Precipitation – (1 Month) Percent of Normal

Website: https://wrcc.dri.edu/wwdt/index.php?folder=pon1

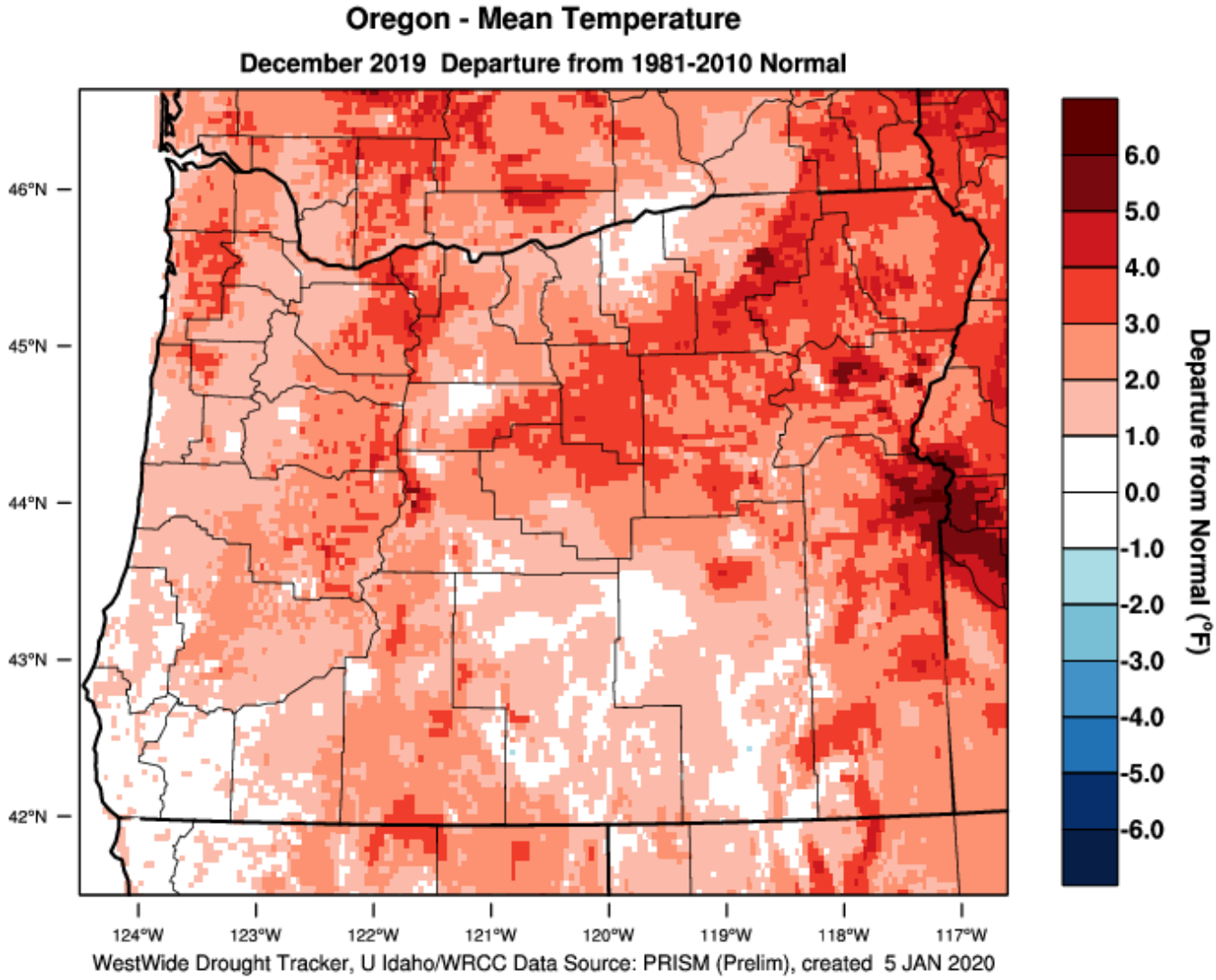
PRISM > Precipitation Anomaly 1 Month > Oregon



Temperature – (1 Month) Departure from Normal

Website: https://wrcc.dri.edu/wwdt/index.php?region=or

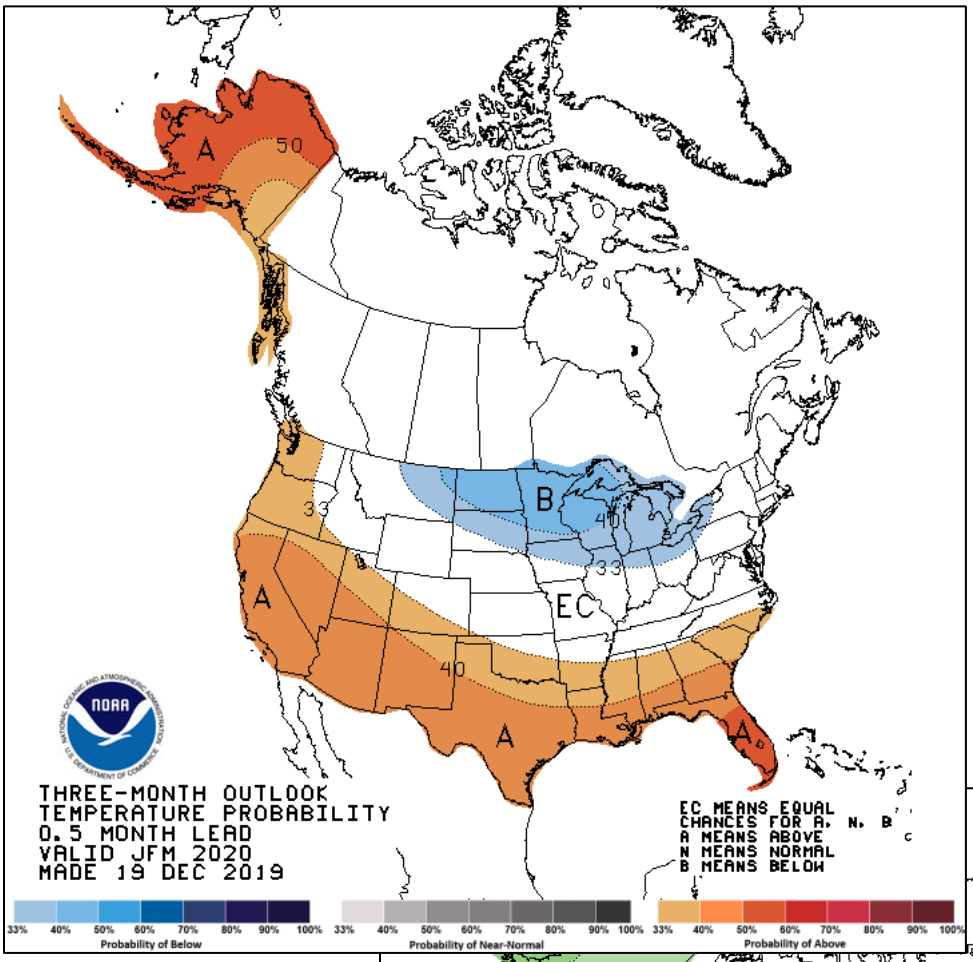
PRISM > Temperature Anomaly 1 Month > Oregon

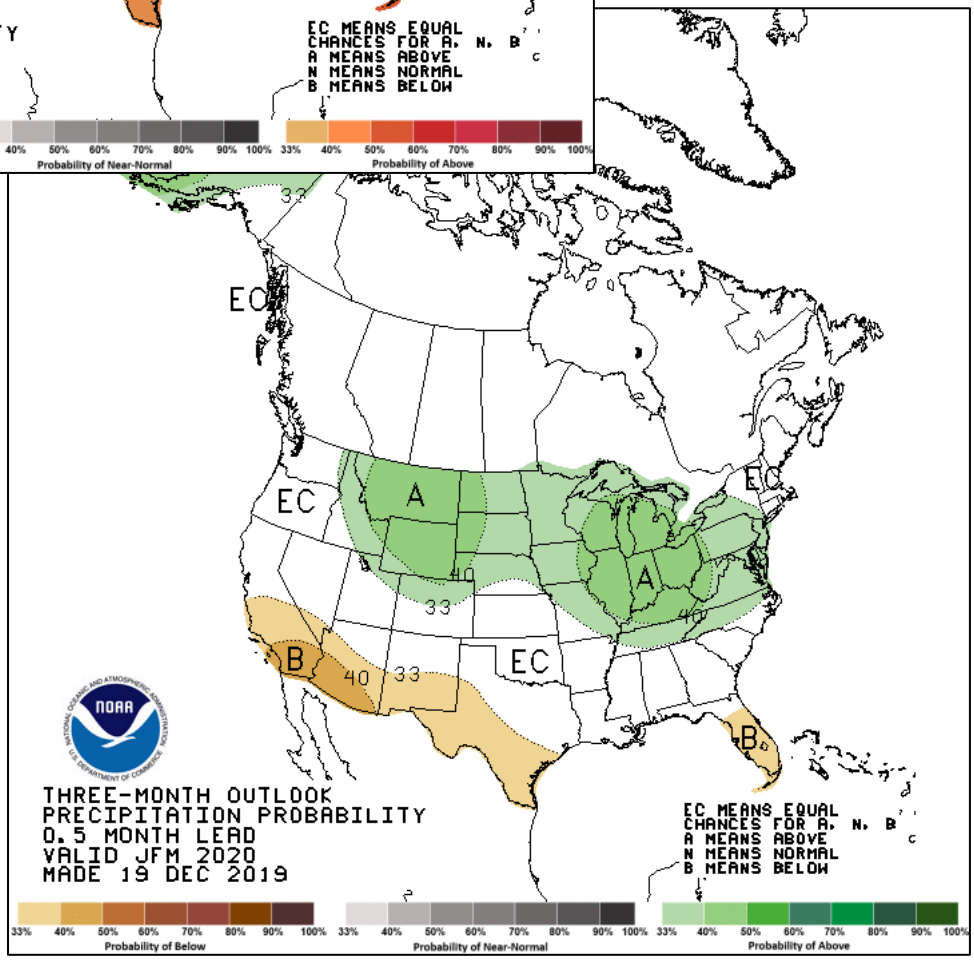


Three Month Temperature and Precipitation Outlook

January through March

Website: http://www.cpc.ncep.noaa.gov/products/predictions/long_range/seasonal.php?lead=1

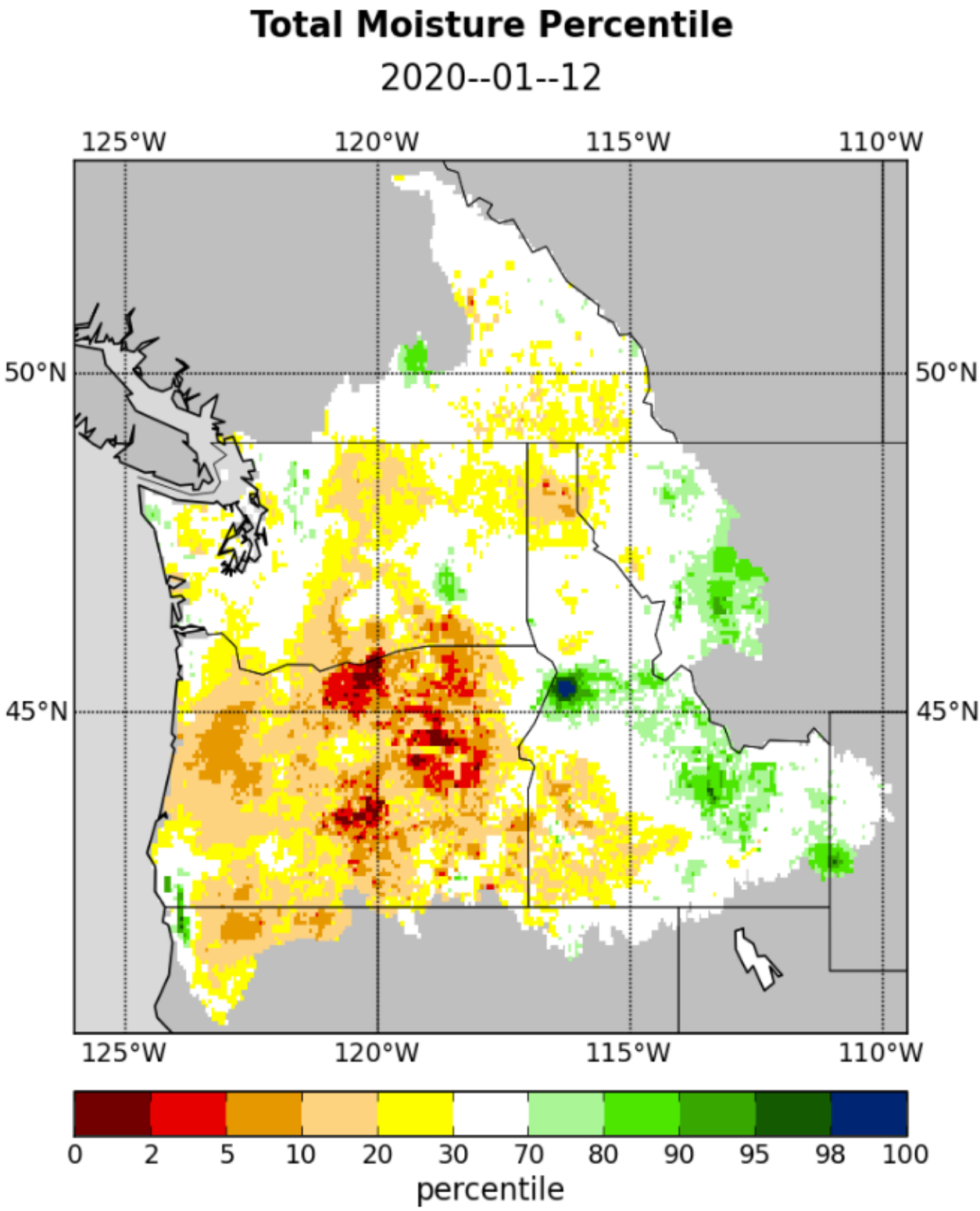




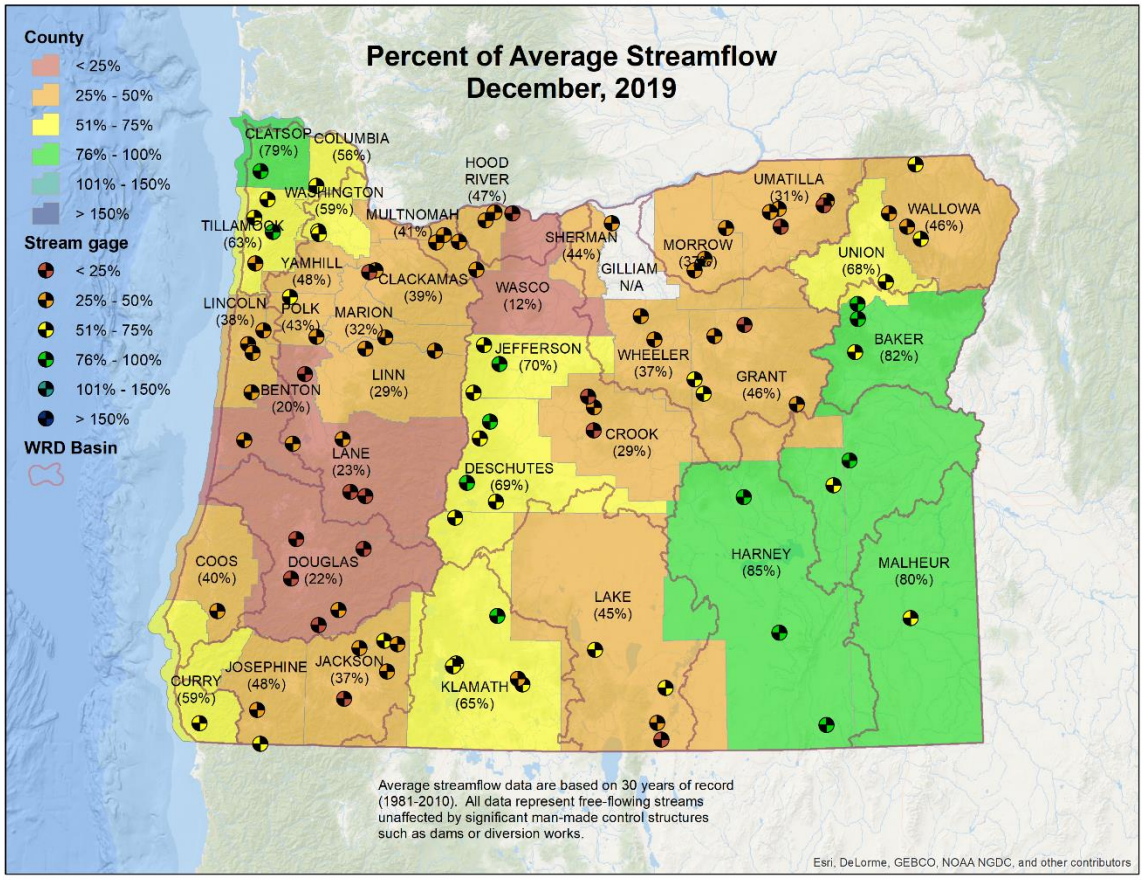
Total Moisture - Percentile

Total Moisture (STOT) is a moisture index calculated by adding Soil Moisture and Snow Water Equivalent. STOT represents the total water content of a region.

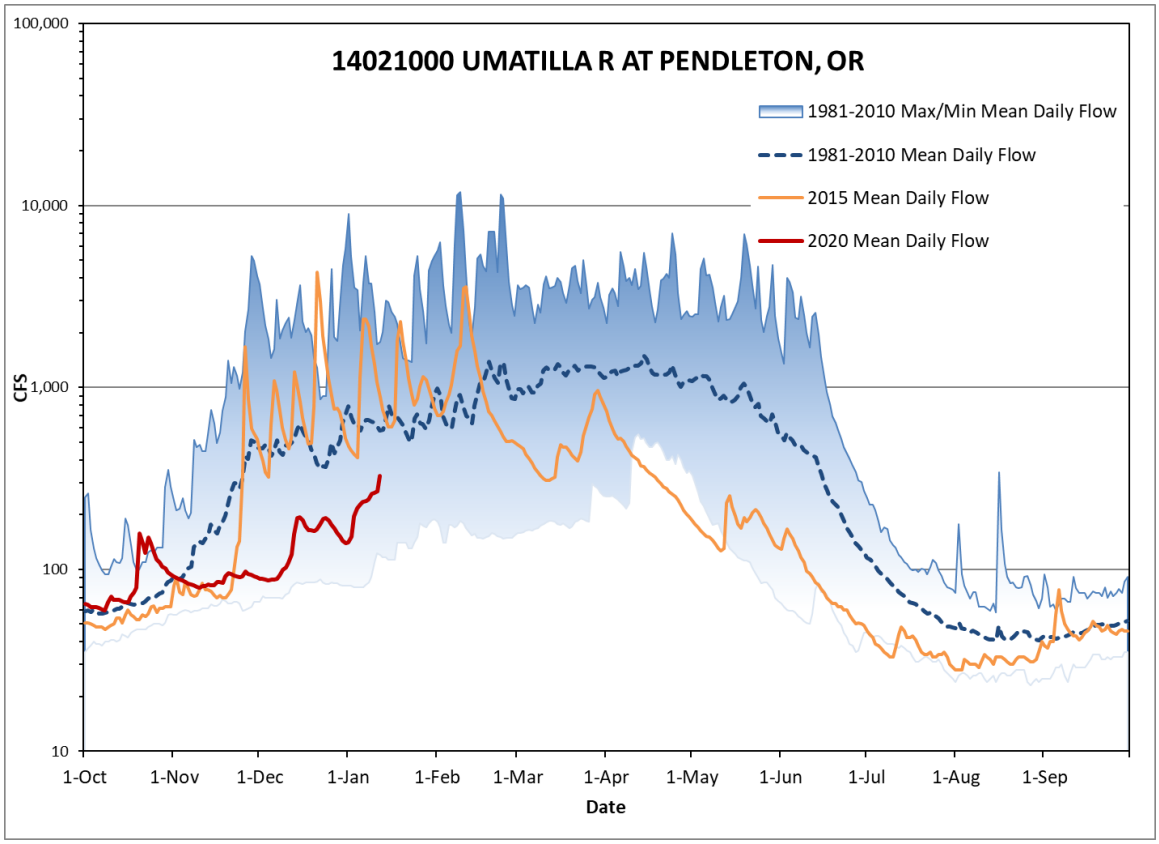
Website: http://www.hydro.ucla.edu/SurfaceWaterGroup/forecast/monitor_pnw/index.shtml



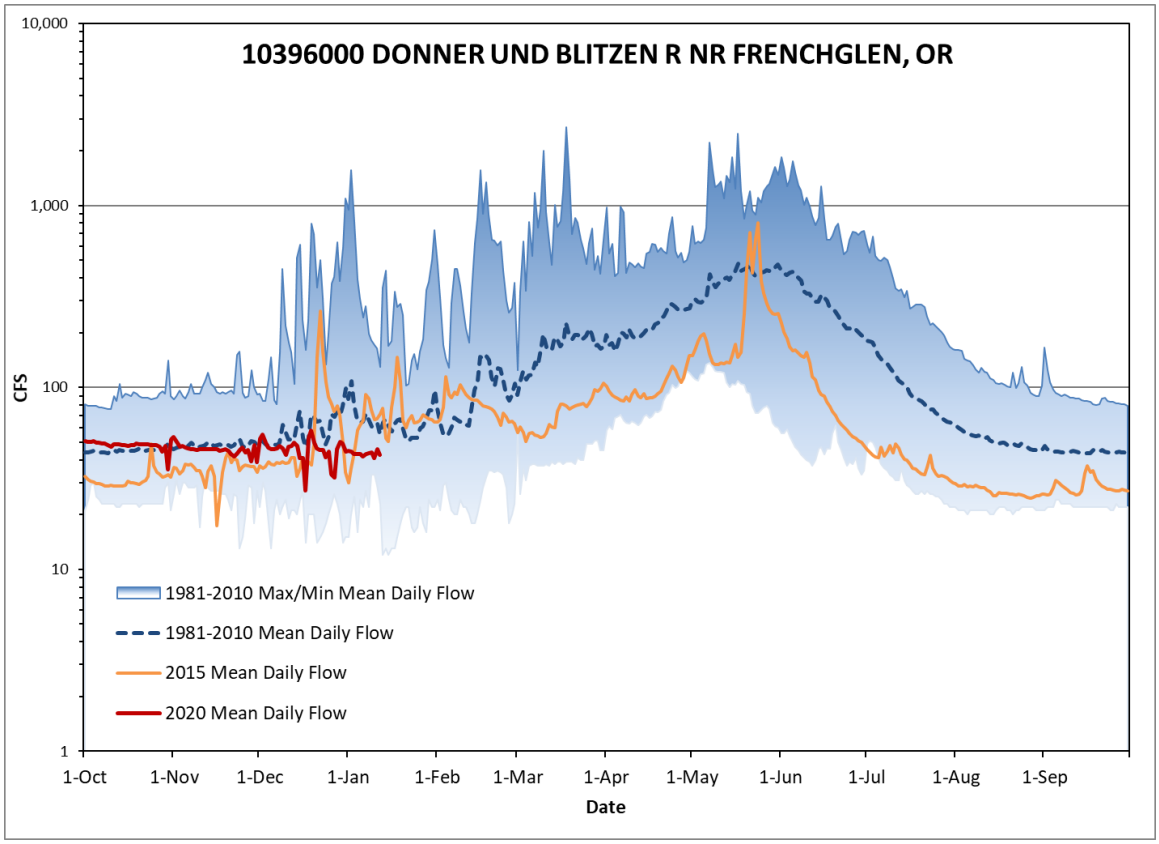
Streamflow Conditions by County – December, 2019



Streamflow Conditions – Umatilla Basin (Umatilla County)



Streamflow Conditions – Malheur Lake Basin (Harney County)



Streamflow Conditions – Hood Basin (Hood River County)