

Oregon

Water Conditions Report

December 16, 2019



Current Oregon statewide snow water equivalent (SWE) is 56 percent of normal. Basin values vary from 31 percent of normal in the Hood, Sandy, Lower Deschutes basin to 143 percent of normal in the Owyhee basin. The majority of SNOTEL sites are reporting values less than 5.0 inches SWE.

Current Oregon statewide water year precipitation at NRCS SNOTEL sites is 50 percent of normal. Basin precipitation values range from 43 percent of normal in the Willamette basin to 79 percent in the Owyhee basin.

Despite recent weather events, precipitation over the [past two weeks](#) has been well below normal, especially west of the Cascades where precipitation ranged from 2 to 5 inches below-normal in parts of southwestern Oregon. For the [month of November](#), precipitation was below-normal across much of the state. In areas west of the Cascades and in southeast Oregon anomalies ranged between 5 and 25 percent of normal. In the northwest corner of the state November 2019 was one of the top 5 driest months of record.

Temperatures over the [past two weeks](#) have been below-normal across much of central and eastern Oregon. West of the Cascades, temperatures ranged from up to 6 degrees higher than normal in Jackson County to almost six degrees cooler than normal in parts of the mid coast and western Willamette Valley. For the [month of November](#), temperatures were above-normal across most of the state. Especially in the southern Cascades and southwest Oregon where temperatures were up to 7 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 temperatures across the state. The precipitation probability for the same period ranges from below-normal in northwest and north central regions of the state to above-normal in the southeast. The most recent [three month outlook](#) indicates increased probability of above-normal temperatures across the state. The precipitation outlook for the same period is for equal chances of above or below normal probability across southwestern Oregon with above-normal probability for the rest of the state. The next long-term outlook will be issued on December 19, 2019.

[ENSO-neutral](#) is favored during the Northern Hemisphere winter 2019-2020 (70 percent chance), continuing through spring 2020 (~65 percent chance). Above-average sea surface temperatures (SSTs) were observed in the central tropical Pacific Ocean during November, with regions of above and below average SSTs observed farther east. For a more complete report, refer to the December 19, 2019 [diagnostic discussion](#) issued by the Climate Prediction Center. The next diagnostic discussion is scheduled for January 9, 2020. Another source of information is the latest [ENSO blog](#) on the climate.gov website.

Statewide streamflows for November were 49 percent of normal. This is considerably lower than the 107 percent seen in October. Regionally for November, streamflow

conditions were about 70 percent of normal east of the Cascades and only about 15 percent to the west. Flows in the South Coast were the lowest at well below 10 percent of normal while the highest flows were in the Owyhee and Malheur Lake at 95 and 97 percent of normal respectively. Stream flow in many streams in western Oregon have continued to experience extremely low flow conditions over the past two weeks. While there has been recent improvement, some streams in the Willamette Valley are flowing at rates close to 15 percent of normal. It is likely that the wet [weather forecast](#) for later this week will increase streamflow in some areas.

[USACE Reservoirs:](#) **[Willamette:](#)** The Willamette system is 4 percent below minimum conservation pool. System-wide inflow is 2566 cfs and outflow is 4550 cfs. Green Peter is 15 feet and Detroit is 10 feet into the power pool. Detroit spillway trunnion pin was removed Friday, Dec 6th. The weather and flow conditions continue to be monitored but as of Tuesday December 12, the status remains a go. Rainfall is expected to bring elevated inflows later this week which would help refill several projects that have fallen below the rule curve. Flows in the Willamette River at [Albany](#) are 7,350 cfs with flows at [Salem](#) at 12,400 cfs.

[Rogue:](#) The Rogue system is currently 31 percent full and 6 percent below rule curve. Lost Creek will continue holding flows at 1,150 cfs. Applegate will hold releases at 115 cfs over the next week. The ten day forecast shows significant precipitation with increasing inflows to both projects. 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 34 percent full and 12 percent below Rule Curve. The current project objectives are to pass 2 cfs of inflow, as well as meeting the current irrigation demand of 1 cfs. Current project inflow is at 7.3 cfs.

[USBR Reservoirs:](#) Despite drier than normal conditions, 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. Reclamation reservoirs are currently releasing minimum or zero flows and most currently have *flat-lined* storage levels as we wait for inflows to increase. 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 20 percent of capacity. Outflows are close to 11 cfs with inflows of about 22 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 just under 95 cfs with inflows of about 72 cfs. Crescent Lake is at 51 percent, Wickiup is at 41 percent and Crane Prairie is at 75 percent of capacity.

[Malheur River Basin:](#) Warm Springs, Beulah, and Bully Creek reservoirs are at 55, 35, and 48 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 66 percent. Inflows are currently about 276 cfs.

[Burnt and Powder River Basins](#): Phillips and Unity reservoirs are at 23 percent and 38 percent full respectively. Phillips is releasing about 16 cfs with inflows around 12 cfs while Unity is releasing about 14 cfs.

[Tualatin River Basin](#): Scoggins reservoir is at 33 percent of capacity and releasing 20 cfs.

The most recent update to the [US Drought Monitor](#) now indicates that over 98 percent of the state is listed in D0 (abnormally dry) conditions.

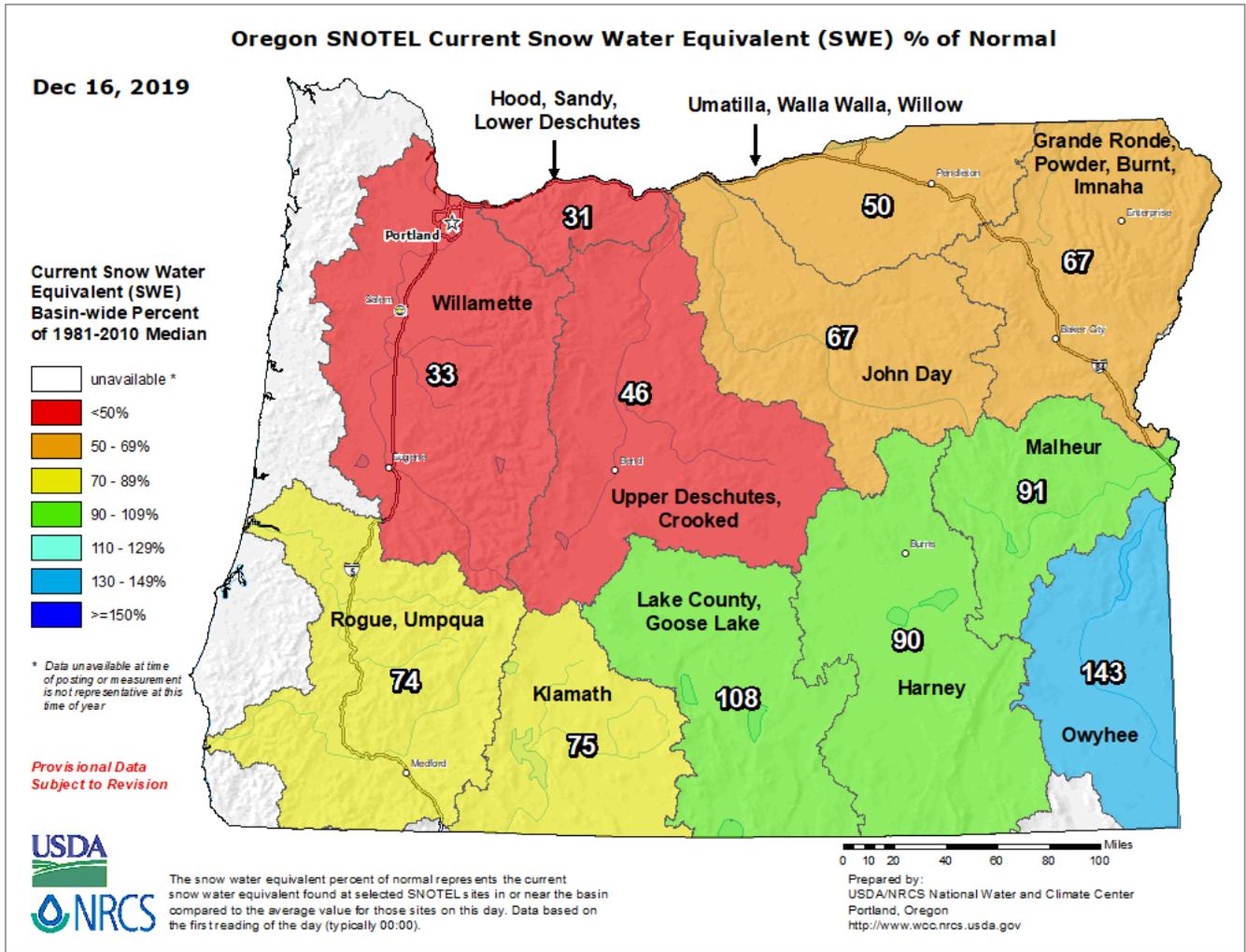
Wildfire potential through December is predicted to be normal across Oregon.

According to the [National Significant Wildland Fire Potential Outlook](#), large fire activity has been limited across the Northwest Geographic Area this fire season and should continue to be limited the rest of 2019. At the current time, there are no large fires ongoing in the region. More information can also be accessed through the Northwest Interagency Coordination Center [website](#). Another recommended resource is the Oregon Office of Emergency Management’s [RAPTOR](#) incident mapping program which includes current situational information, such as wildfire perimeters, thermal satellite, fire evacuation boundaries, and air quality info.

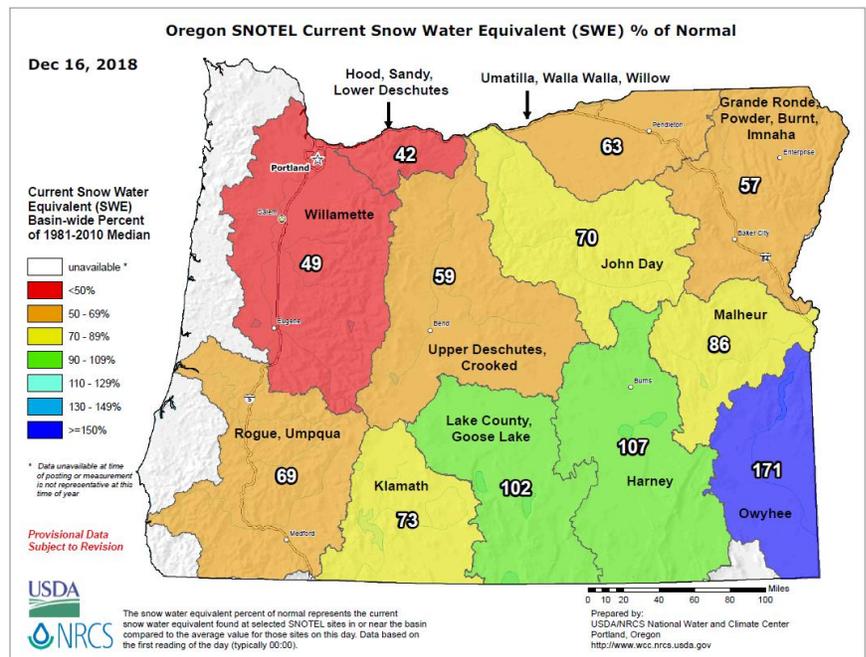
The Oregon Office of Emergency Management has put together a new [hydrology/meteorology dashboard](#) featuring many of the data sources used to generate this report.

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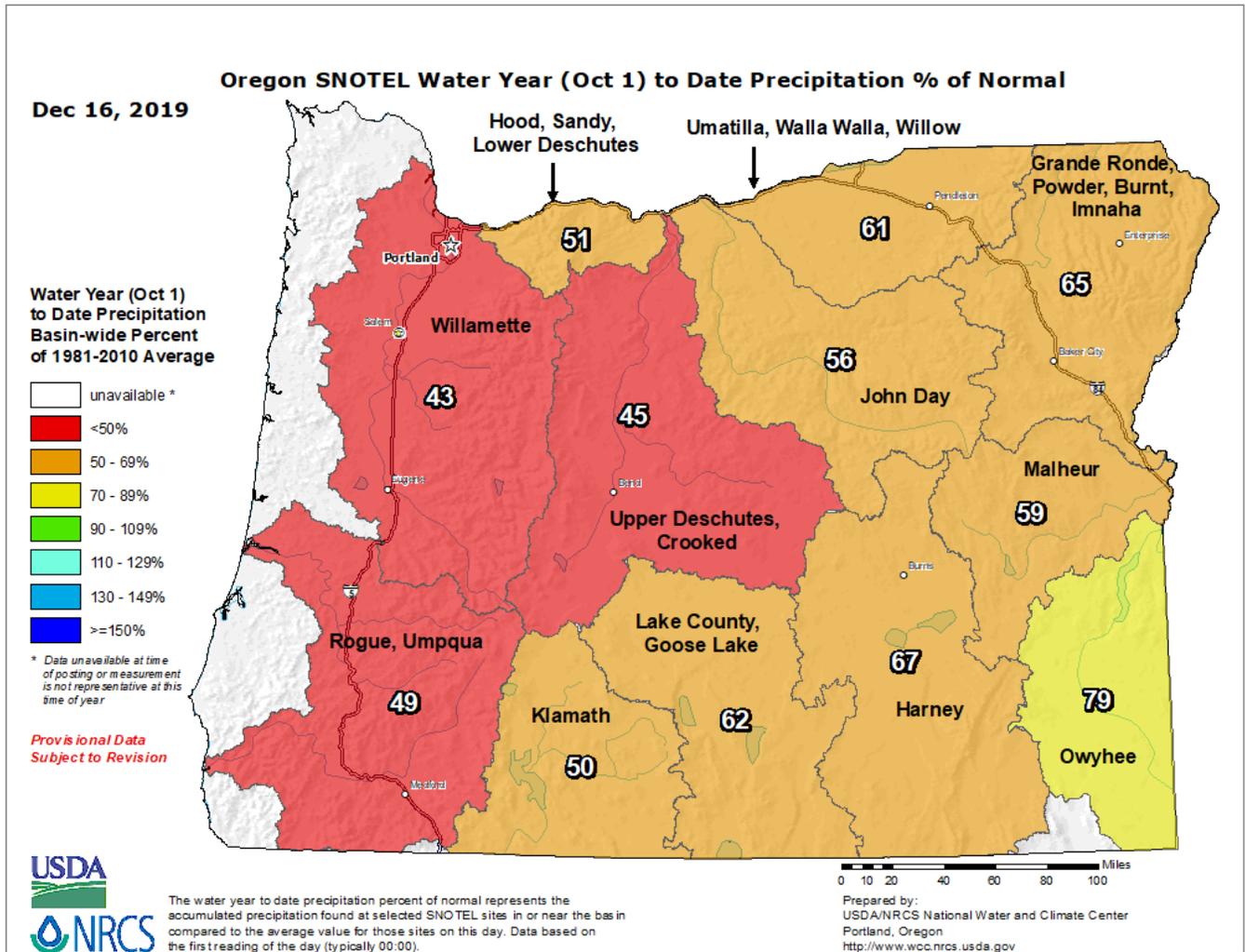
Snow Water Equivalent (SWE) - Percent of Normal



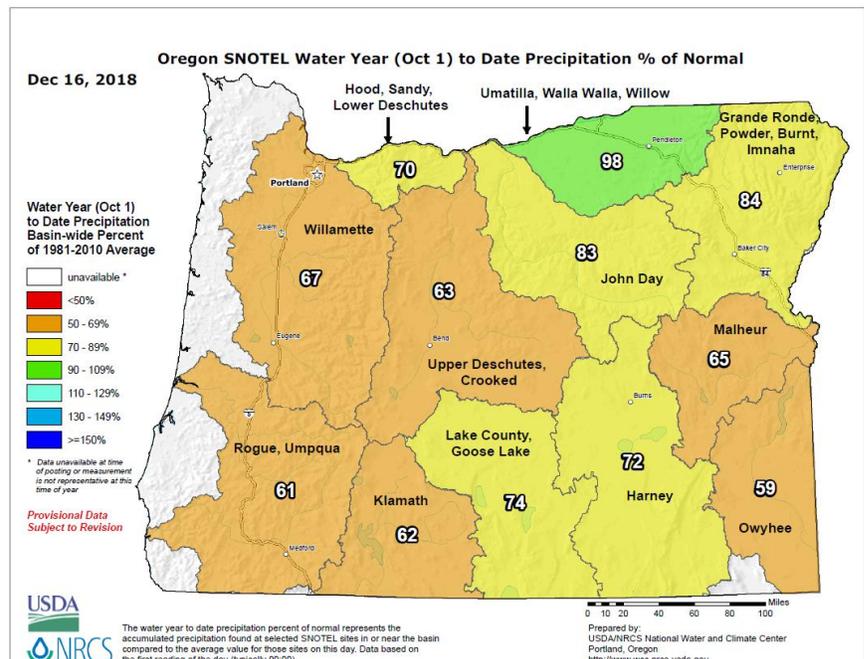
Compared to this time last year:



Precipitation (Mountain) - Percent of Normal



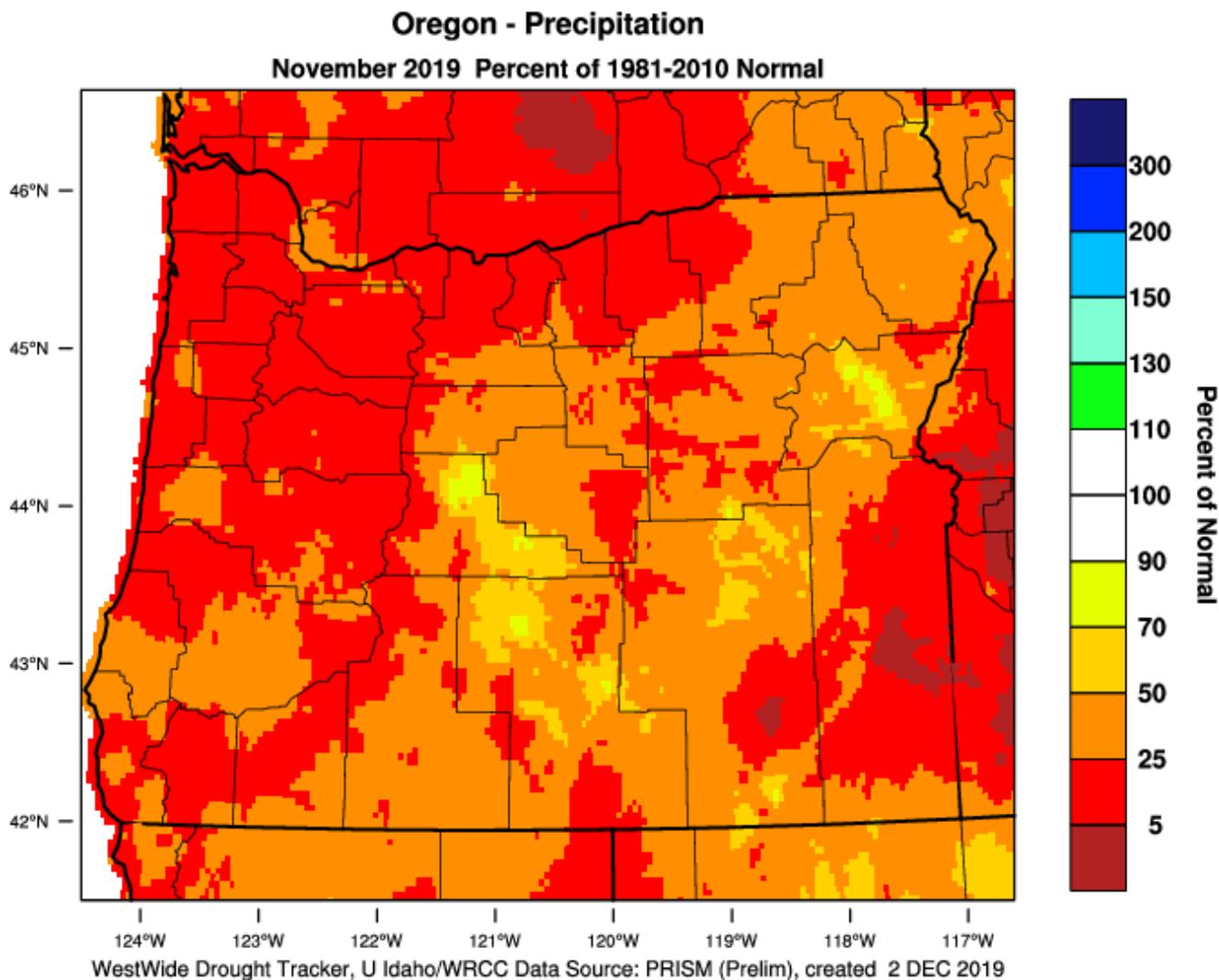
Compared to this time last year:



Precipitation – (1 Month) Percent of Normal

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

PRISM > Precipitation Anomaly 1 Month > Oregon



[Download PRISM Precipitation Anomaly 1 Month NETCDF Data for United States](#)

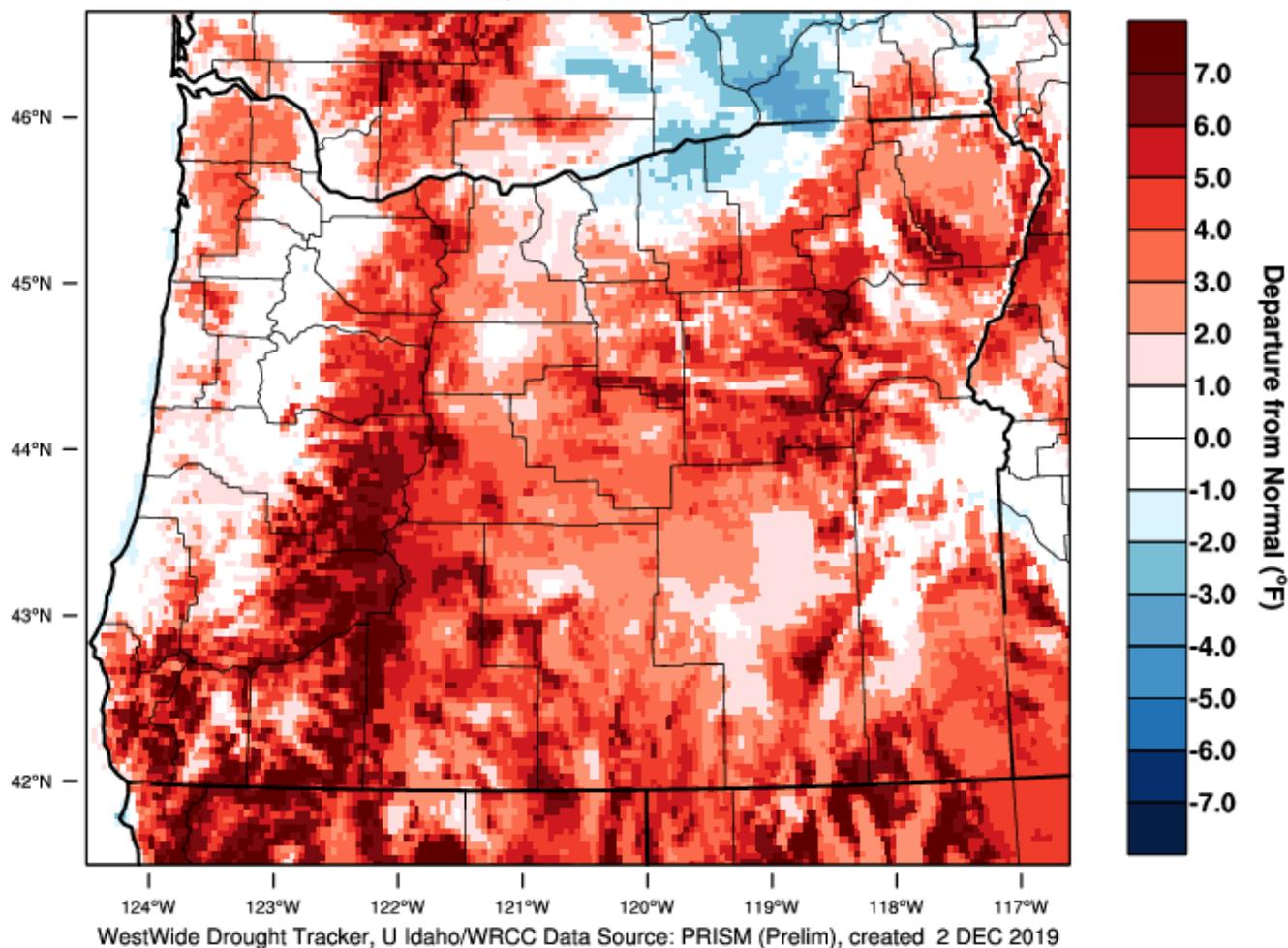
Temperature – (1 Month) Departure from Normal

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

PRISM > Temperature Anomaly 1 Month > Oregon

Oregon - Mean Temperature

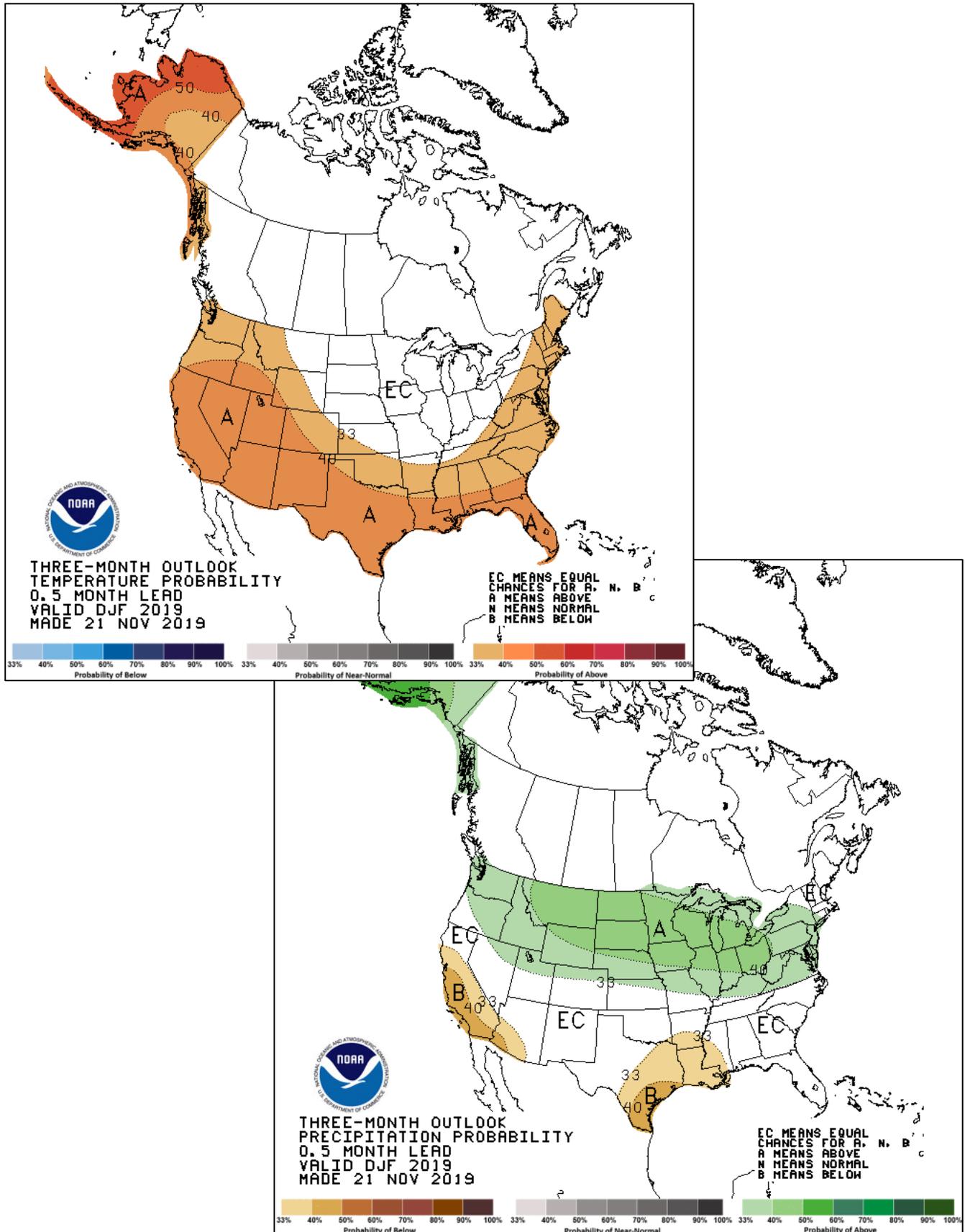
November 2019 Departure from 1981-2010 Normal



Three Month Temperature and Precipitation Outlook

December through February

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



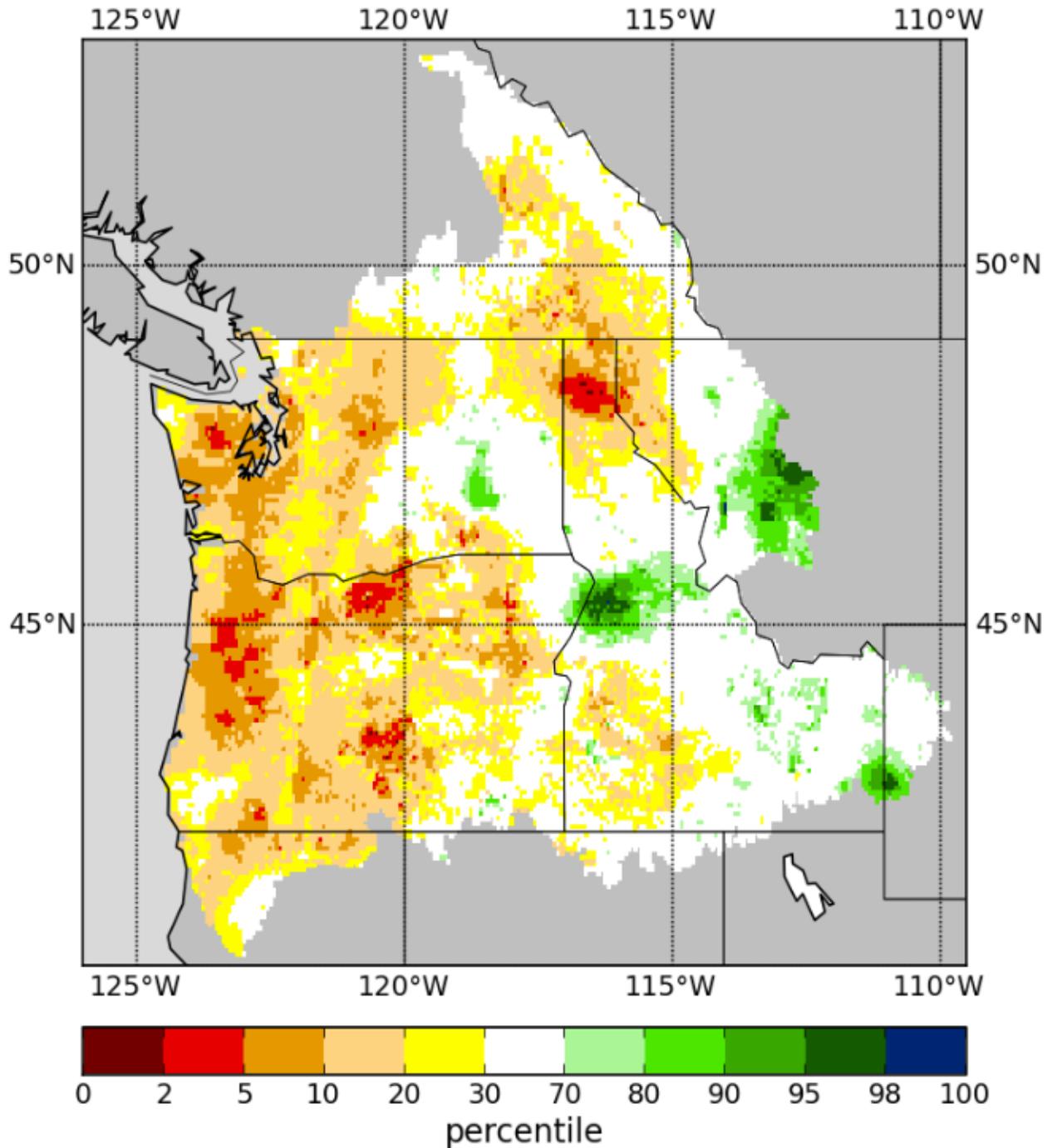
Total Moisture - Percentile

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

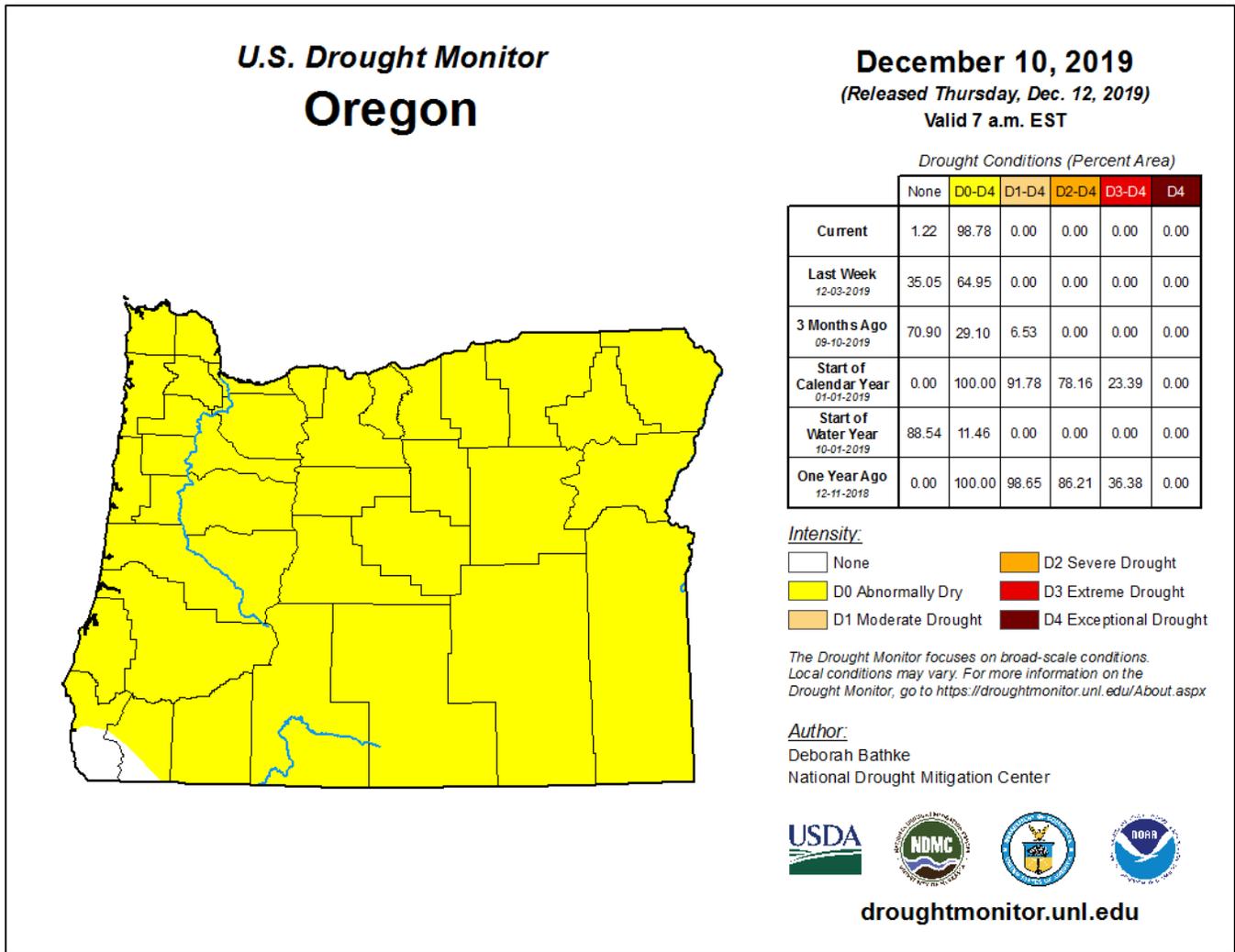
Total Moisture Percentile

2019--12--14

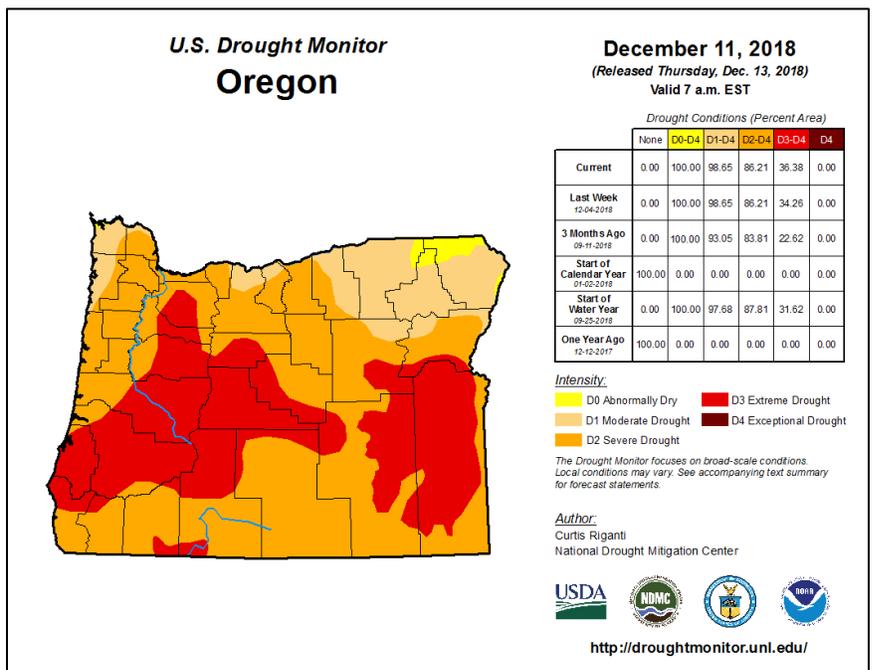


U.S. Drought Monitor for Oregon

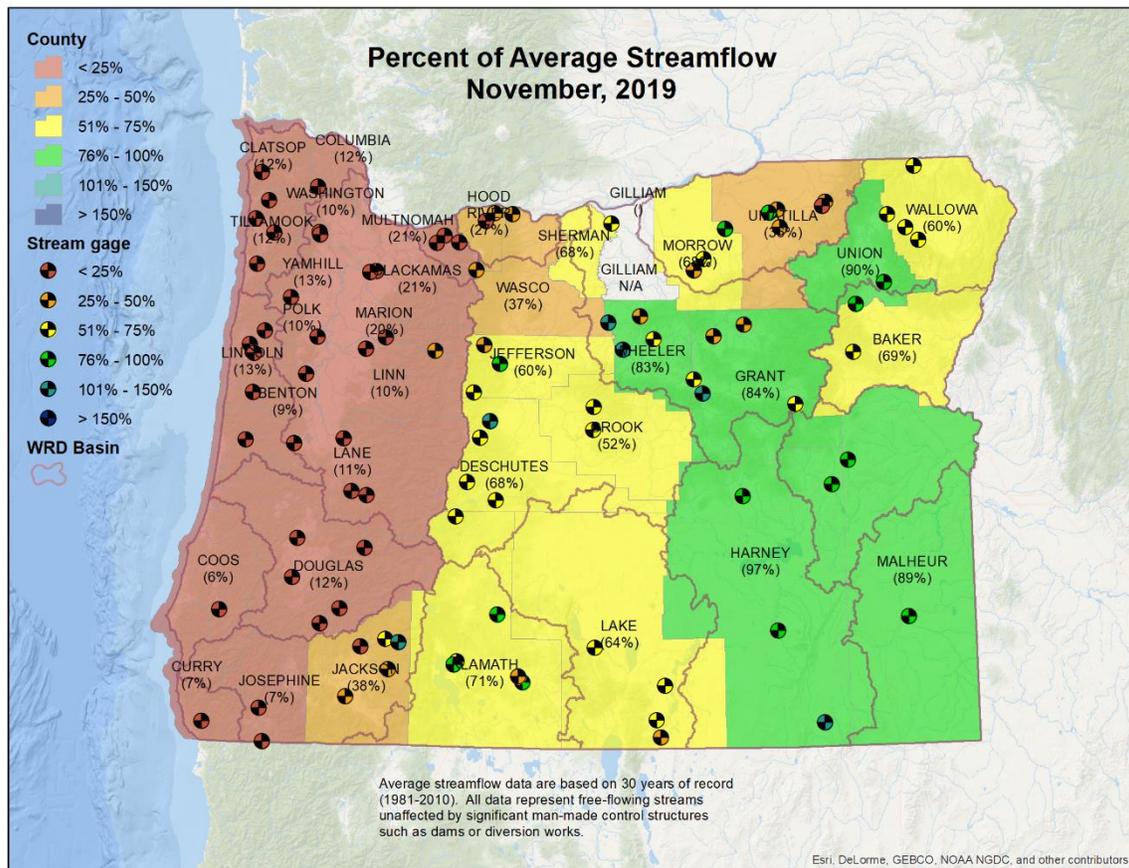
Website: <https://droughtmonitor.unl.edu/CurrentMap/StateDroughtMonitor.aspx?OR>



Compared to this time last year:



Streamflow Conditions by County – November



Streamflow Conditions – Willamette Basin (Linn County)

