# Oregon
# Water Conditions Report
## March 11, 2019

OREGON
WATER RESOURCES
DEPARTMENT

**Continued storm impacts through early March have maintained snow water equivalent (SWE) values** across the state at near normal to well above normal levels. The current statewide SWE value is 120 percent of normal, increased from 109 percent of normal on February 25, 2019. The Lake County, Goose Lake basin currently has the highest amounts of snowpack, measuring 153 percent of normal. The Hood, Sandy, and Lower Deschutes basins are measuring the least amount of snowpack and stand at 93 percent of normal, increased from 88 percent on February 25.

**Oregon statewide water year precipitation at NRCS SNOTEL sites** is 93 percent of normal, increased from 91 percent on February 25. The highest amounts of water year precipitation have been in the John Day basin with 114 percent of normal, while the lowest value is in the Hood, Sandy, and Lower Deschutes basins at 81 percent of normal for the water year.

**The NRCS Basin Outlook Report for March is now available.** This report is published monthly from January through June. The most recent edition underscores the dramatic increase in snowpack across most of the state over the past month.

**Temperatures over the past two weeks have been cooler than normal** especially across the north central and central regions of the state. Temperatures were a little warmer than normal in the southeast corner of the state. For the month of February, temperatures were below normal for almost the entire state.

**Over the next 8 to 14 days, the NOAA Climate Prediction Center** is forecasting above-normal temperatures along with above-normal precipitation across most of the state. The most recent three month outlook indicates increased chances of above-normal temperatures. The precipitation outlook for the same period is for equal chances of above or below normal precipitation for the entire state. The next long-term outlook will be issued on March 21, 2019.

**Weak El Niño conditions are present and are expected to continue through the spring of 2019.** El Nino conditions formed during January 2019, based on the presence of above-average sea surface temperatures across most of the equatorial Pacific Ocean. For a more complete report, refer to the February 14, 2019 diagnostic discussion issued by the Climate Prediction Center. The Climate Prediction Center provides updates on a regular basis. The next diagnostics discussion is scheduled for March 14, 2019. Another excellent source of information is the latest ENSO blog on the climate.gov website.

**Statewide streamflows for February were 61 percent of normal**. This similar to the 62 percent seen in January. Regionally for February, streamflow conditions were about 50 percent east of the Cascades and 80 percent to the west. More recent data indicate that flows remain lower than normal, ranging from less than 30 percent in the Sandy, Hood, Malheur,

and Powder basins to 80 percent in the Owyhee. One exception is the Umpqua at over 100 percent of normal. In light of the much improved snowpack conditions, spring & summer streamflows across most of the state are forecast to be near average to above average.

**USACE Reservoirs:** Rogue: Currently the system is 72 percent full and 4 percent below rule curve. The Lost Creek project is at 77 percent and 5 percent below rule curve, maintaining outflows of about 1,040 cfs with inflows currently at about 1,640 cfs. Applegate is at 49 percent and slightly below rule curve. Applegate outflows are right at 200 cfs with inflows now at 400 cfs as it continues to refill.

Current fisheries objectives in the project area include minimizing dewatering of spring chinook redds, enhancement of rearing conditions for juvenile fall Chinook salmon, as well as minimizing early emergence by spring Chinook fry in spring 2019.

Willow Creek: The project is 82 percent full and 8 percent above rule curve. Project inflows are currently over 20 cfs; outflows will be increased to 15 cfs to slow down the current fill rate. Current Project goals are to continue refill, and to ensure that requests for live flow are met.

Willamette: The project is currently over 30 percent of capacity and 22 percent below rule curve. The flows in the Willamette River at Albany are about 14,200 cfs and flows at Salem are about 20,400 cfs. System-wide inflow is 9,700 cfs and outflow is 7,560 cfs. Due to the concern for refill, USACE Water Management was able to develop a deviation plan (which was approved by the NW Division Office) that allows reservoir elevations to be maintained slightly above the rule curve. This is why you will notice elevations consistently higher than rule curve for Cottage Grove, Dorena, and Fern Ridge during the current refill season. The larger storage projects that provide summer flow augmentation continue to be well below rule curve while still on minimum outflow.

USBR Reservoirs: **Umatilla River Basin**: McKay reservoir is 59 percent full and is continuing to fill at a normal pace. Reclamation's runoff forecast shows the runoff season inflow volume could come in at over 160 percent of average due to high snowpack values in and around the basin. In light of this, it appears likely that McKay reservoir will refill. Releases are scheduled to increase to between 75 to 150 cfs over the next few days in an attempt to maintain space in the reservoir and to manage refill while at the same time preventing large increases in streamflow downstream of the dam.

**Deschutes River Basin:** Ochoco and Prineville reservoirs are at 16 percent and 41 percent of capacity and are filling at a less than normal pace. The forecast shows the runoff season inflow volume could come in at well over 100 percent of average due to high snowpack values in and around the basin. Despite the good forecast there is still a chance that Ochoco could miss refill while Prineville has a good chance of refilling. This is mainly due to low carry-over storage at the beginning of this water year. Ochoco reservoir is still releasing minimum flows close to 5 cfs while Prineville reservoir has increased its releases to 80 cfs which is higher than the previously set winter minimum of 50 cfs. There have been no flood control operations or releases set at the basin reservoirs at this time since they are all below their required flood control curves.

**Malheur River Basin**: Warm Springs, Beulah, and Bully Creek reservoirs are at 116 percent, 33 percent, and 51 percent full and are filling at a normal pace. The forecast

indicates that the runoff season inflow volume could come in at around 140 to 160 percent of average due to high snowpack values in and around the basin. All three reservoirs are currently releasing minimums at or close to 0cfs. There have been no flood control operations or releases set at the basin reservoirs at this time since they are all below their required flood control curves.

**Owyhee River Basin**: Owyhee reservoir is currently 48 percent full and is filling at a normal pace. The forecast shows the runoff season inflow volume could come in at around 144 percent of average due to high snowpack values in and around the basin.

**Burnt and Powder River Basins**: Philips and Unity reservoirs are at 10 percent and 40 percent full and are filling at a normal pace. The forecast shows the runoff season inflow volume could come in at around 130 percent of average due to high snowpack values in and around the basin.

**Tualatin River Basin**: Scoggins reservoir is currently 85 percent full and releasing 20 cfs with average February inflows of 215 cfs. There have been no flood control operations or releases set for Scoggins since it has stayed below its required flood control curve.

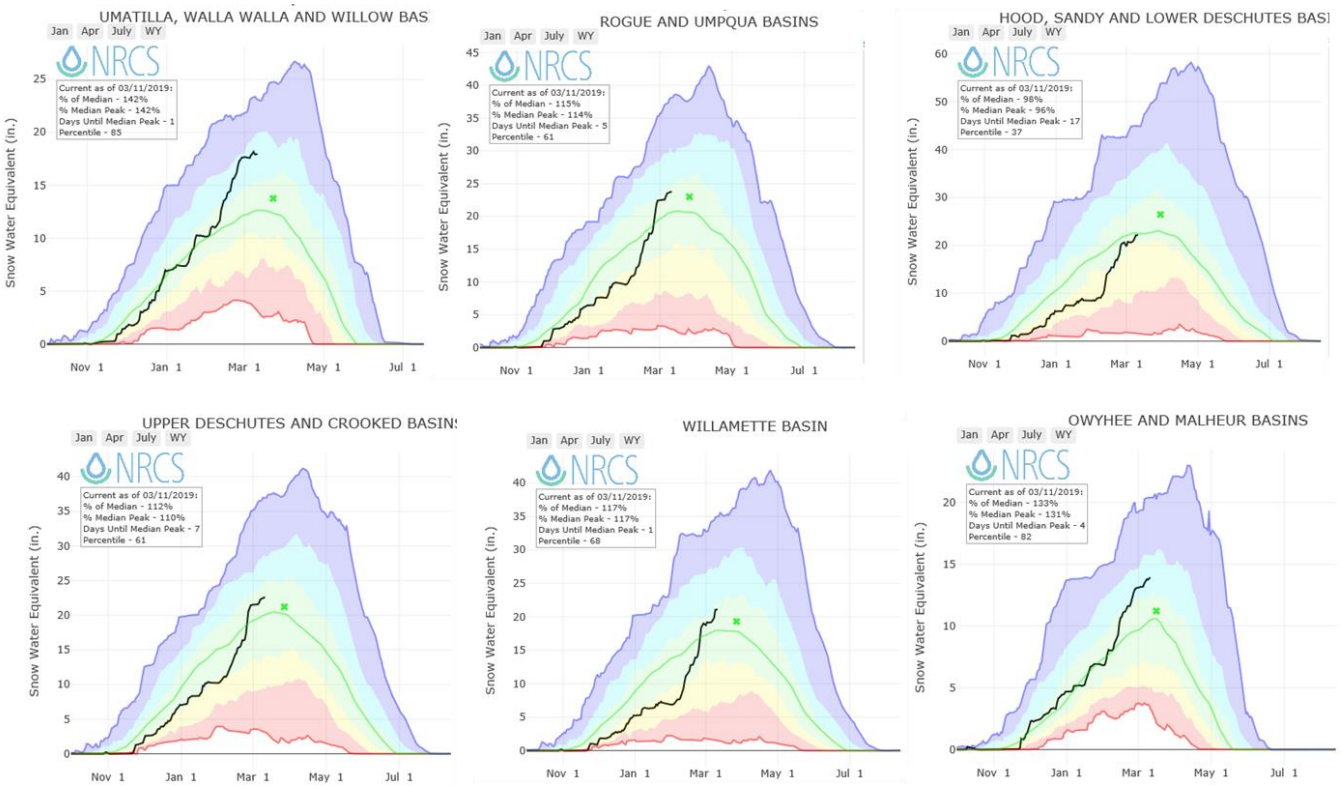
**The most recent update to the US Drought Monitor** is showing a continued improvement in conditions in Oregon over the past few weeks. D3 (Extreme Drought) is no longer present anywhere in the state. The report also indicates that that 26 percent of the state is in D2 (Severe Drought), 64 percent is listed as in D1 (Moderate Drought) and 84 percent of the state is listed as D0 (Abnormally Dry). More improvements are likely in the coming weeks.

**Wildfire conditions across the state are now at low levels.** The nation remained largely out of fire season in February. The next wildland fire outlook update is scheduled for April 1, 2019. 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.

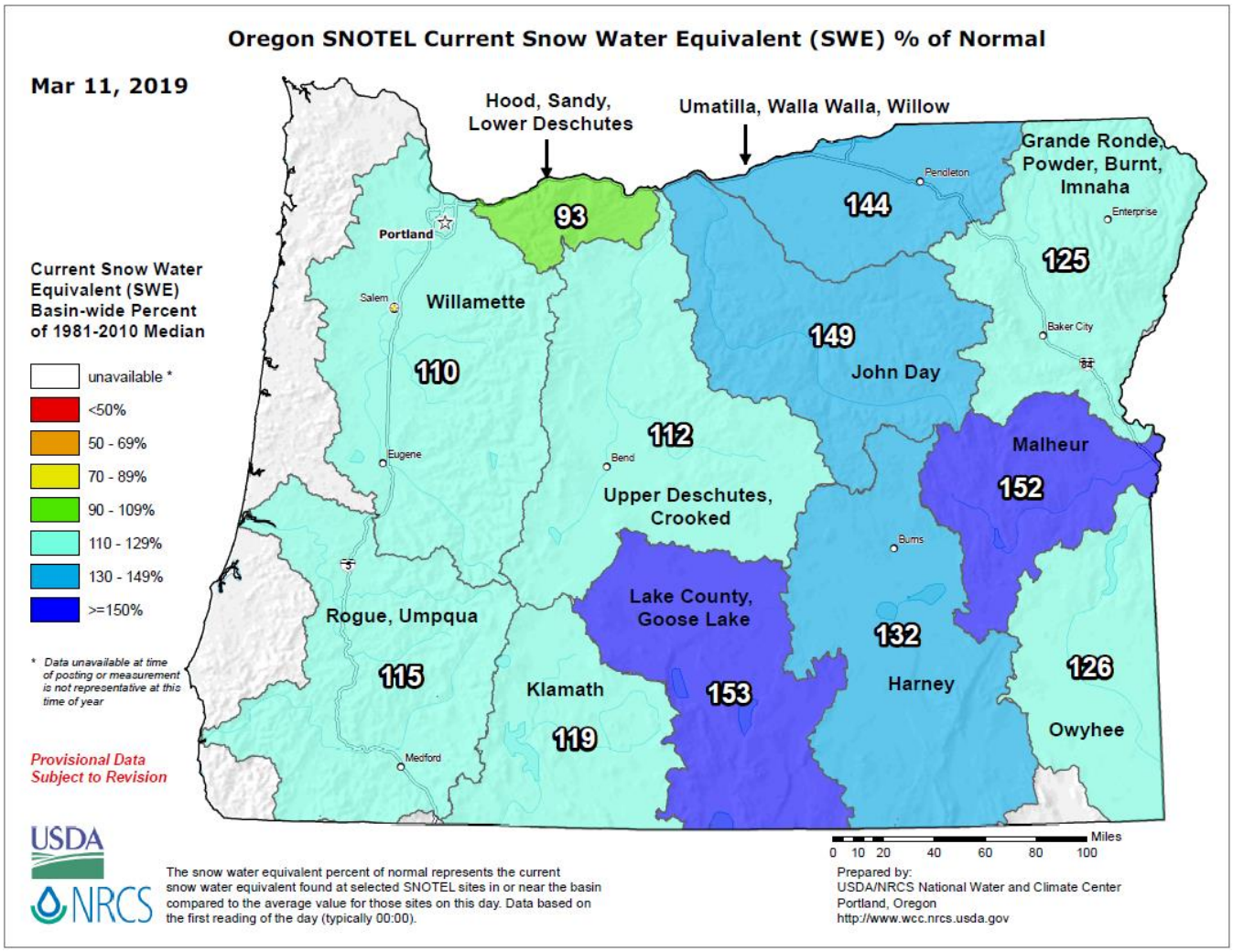
## Data & Products: Page:



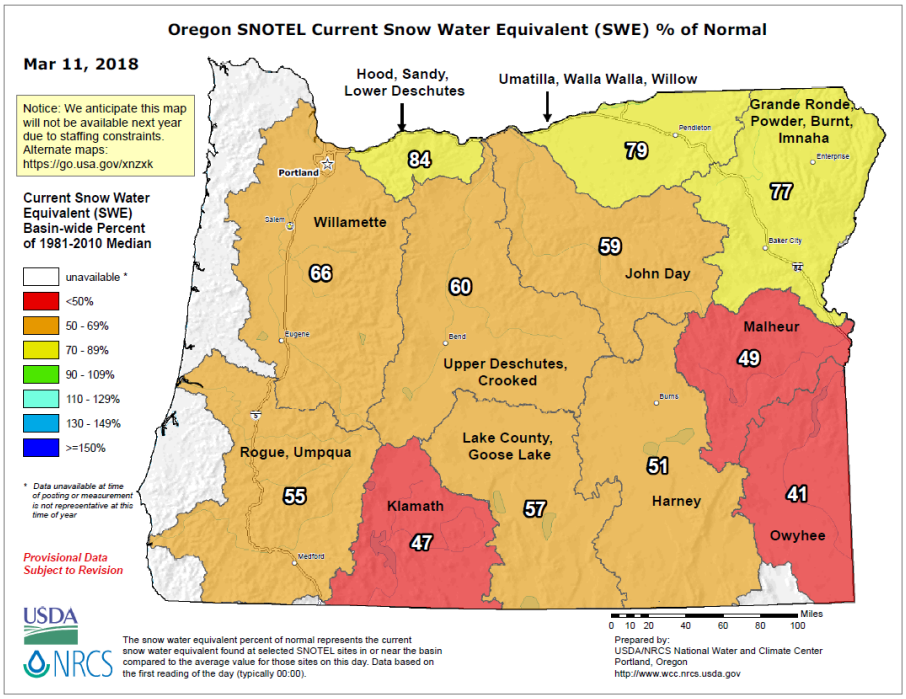
## Snowpack Graphs – March, 2019



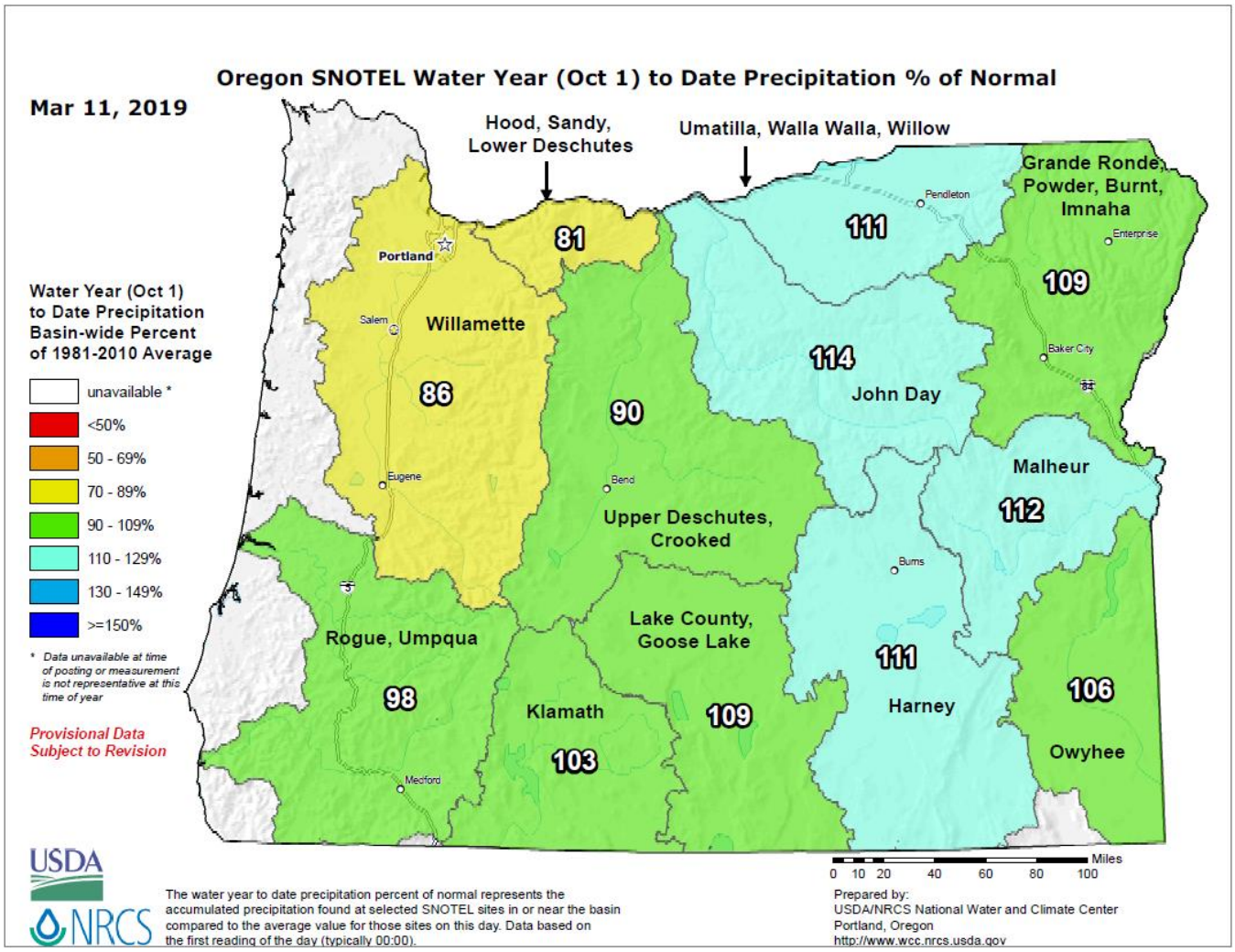
## Snow Water Equivalent - Percent of Normal



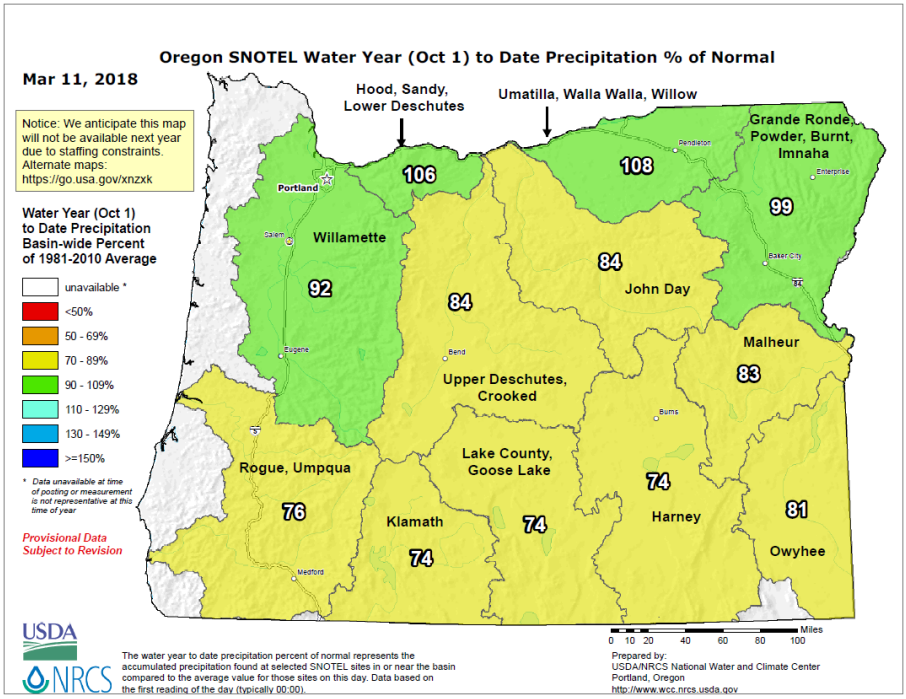

**Compared to this time last year -**



## Precipitation (Mountain) - Percent of Normal



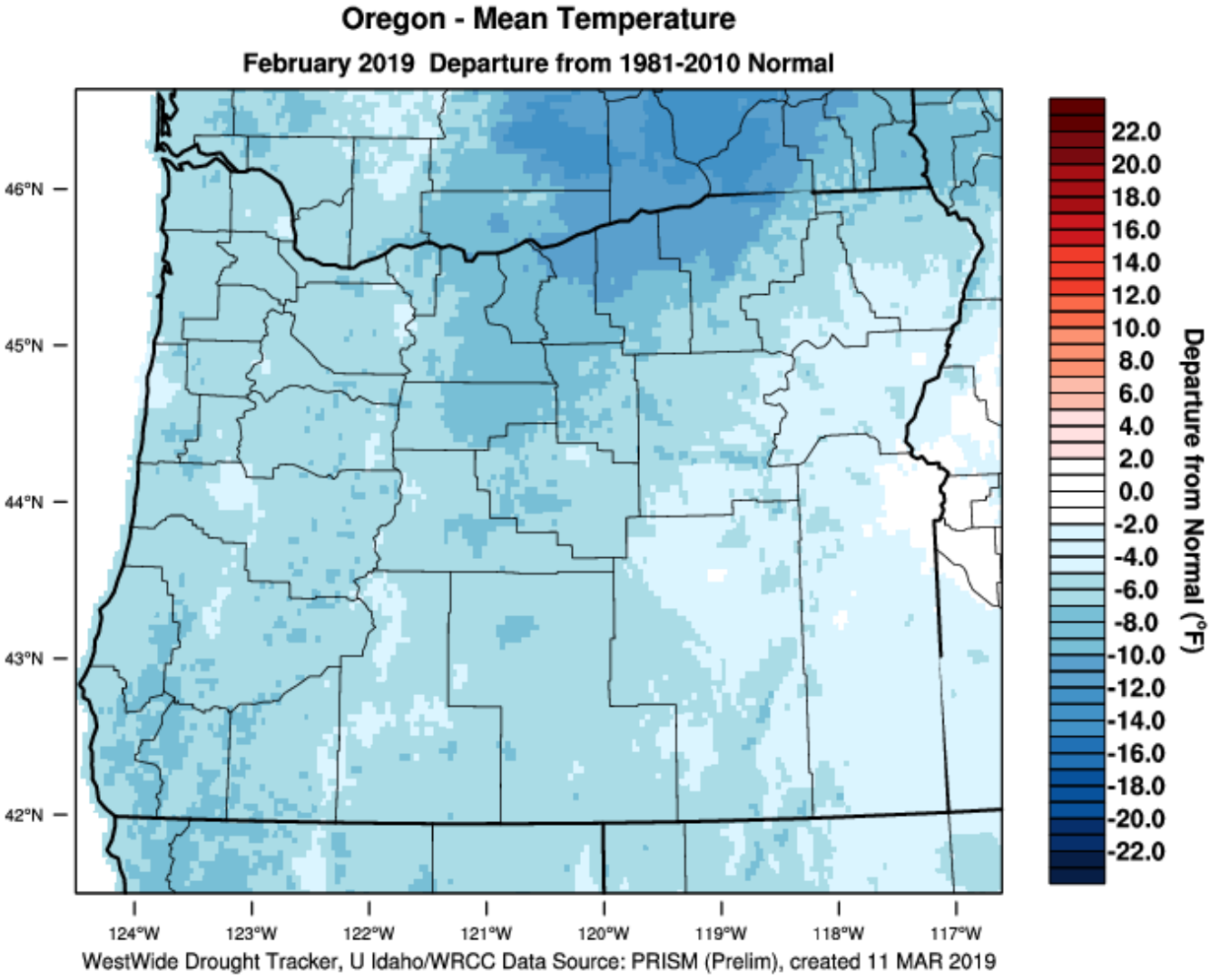

**Compared to this time last year –**



## Temperature – (1 Month) Departure from Normal

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

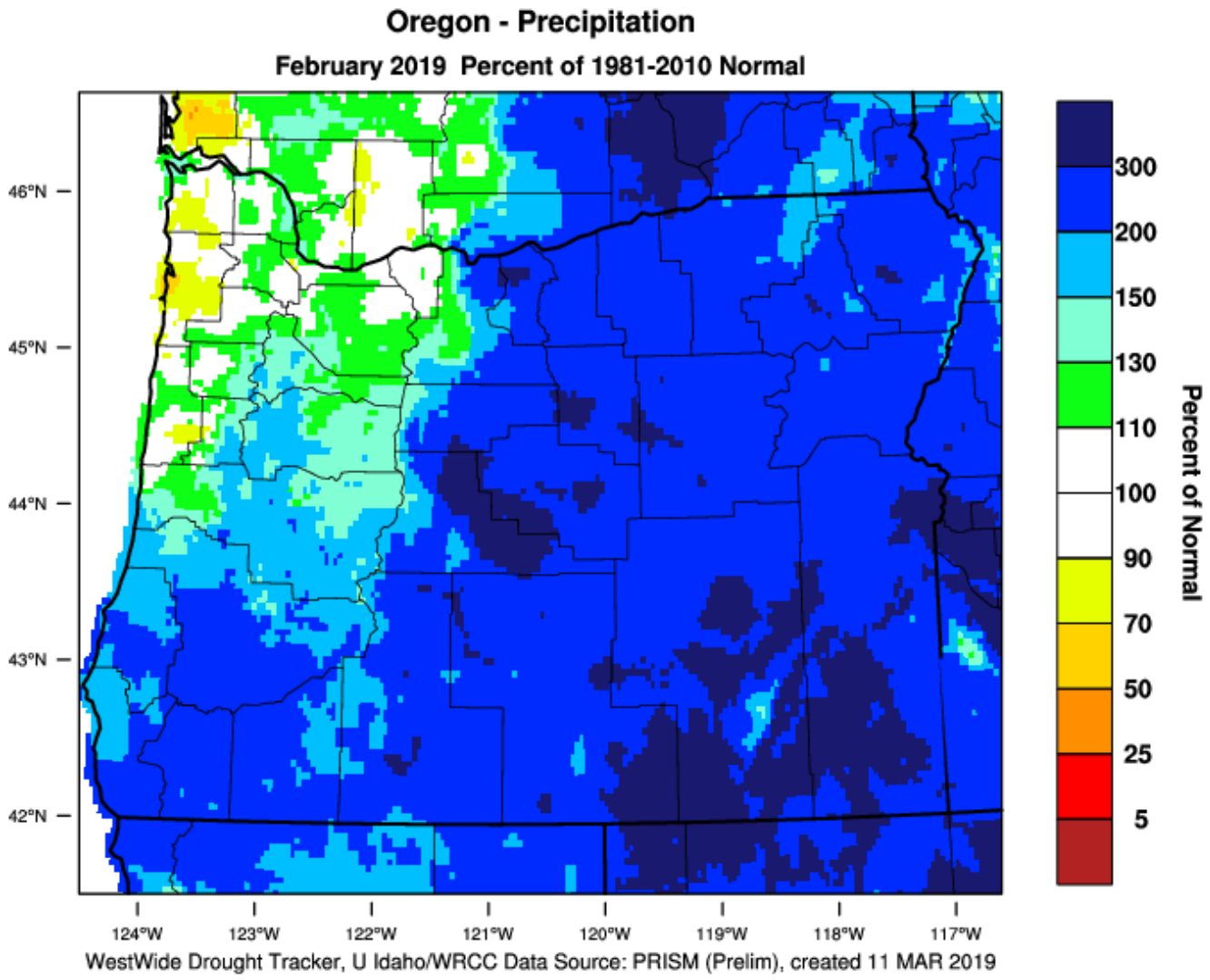
**PRISM > Temperature Anomaly 1 Month > Oregon**



## Precipitation – (1 Month) Percent of Normal

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

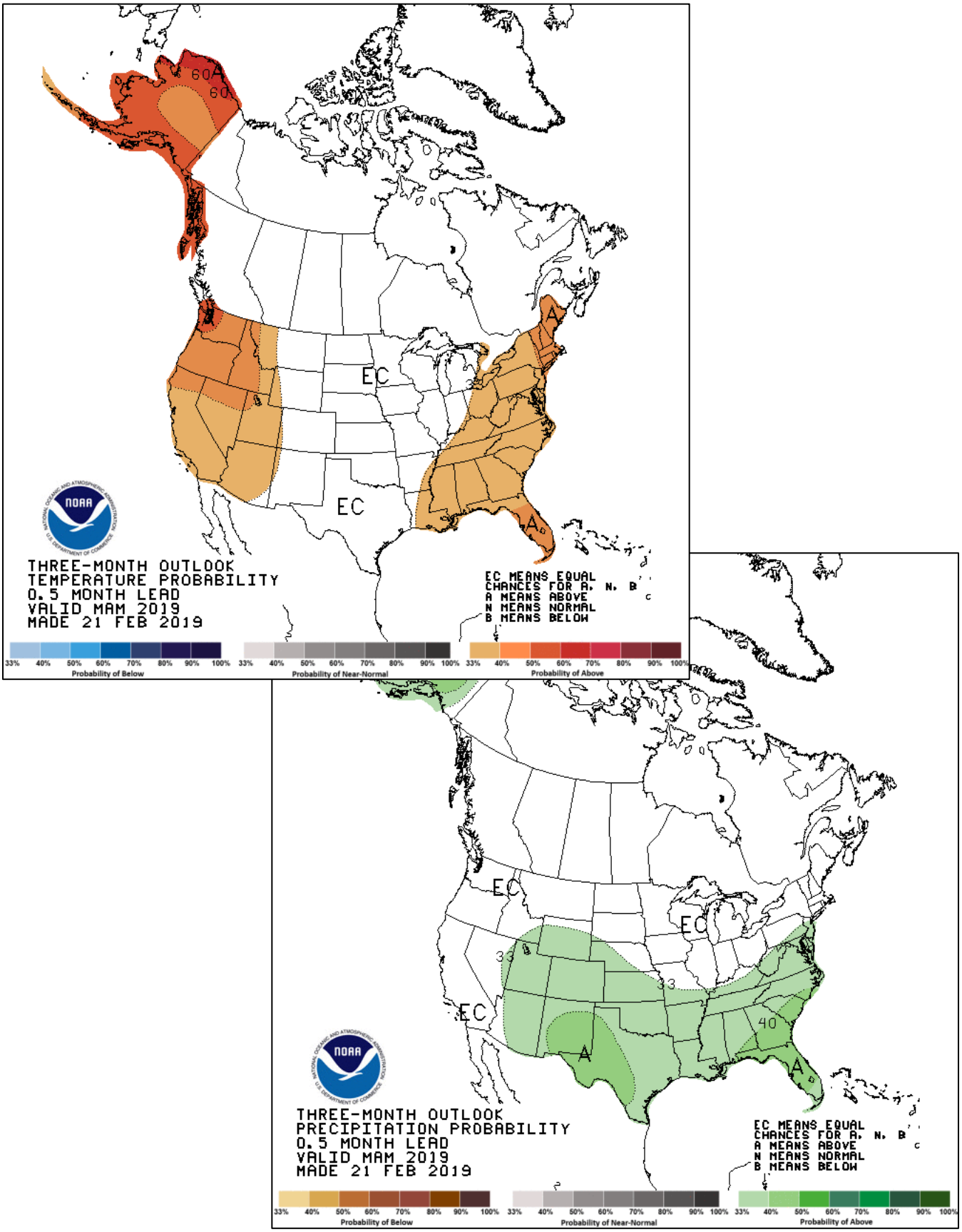
**PRISM > Precipitation Anomaly 1 Month > Oregon**



## Three Month Temperature and Precipitation Outlook

**March through May**

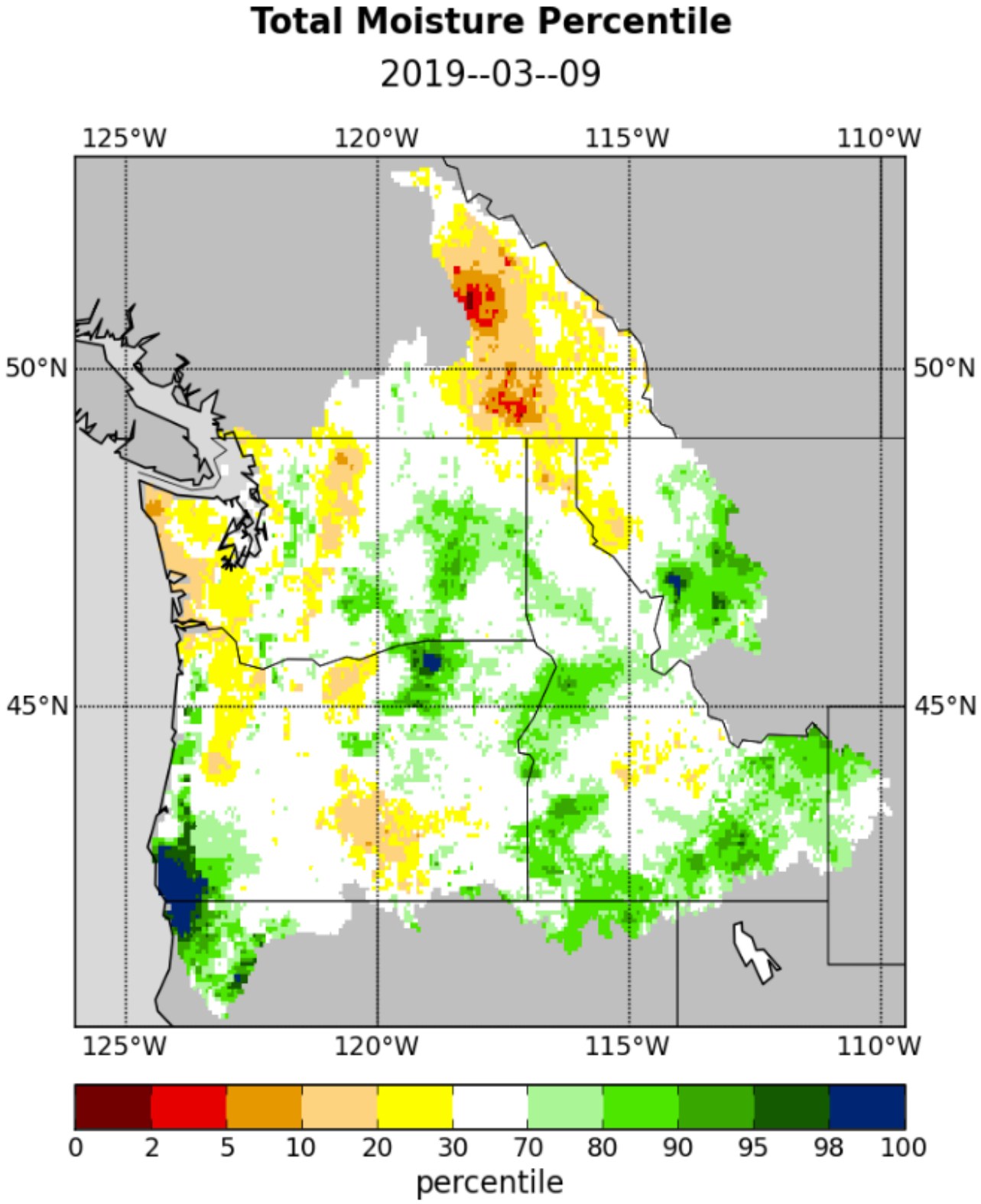
Website: http://www.cpc.ncep.noaa.gov/products/predictions/long_range/seasonal.php?lead=1



## Total Moisture - Percentile

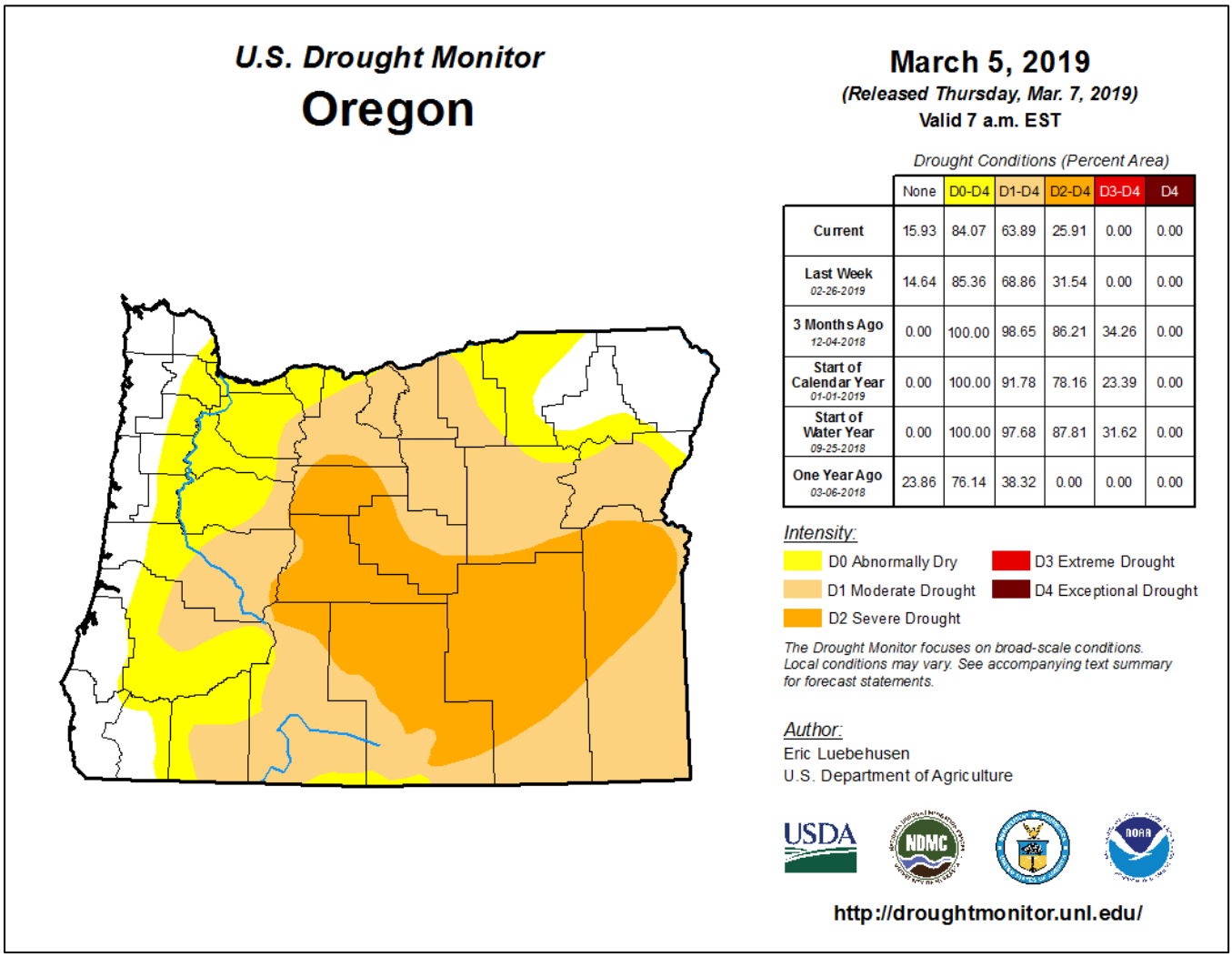
Total Moisture (STOT) is a moisture index calculated by adding Soil Moisture and Snow Water Equivalent. STOT represents the total water content of a region.

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

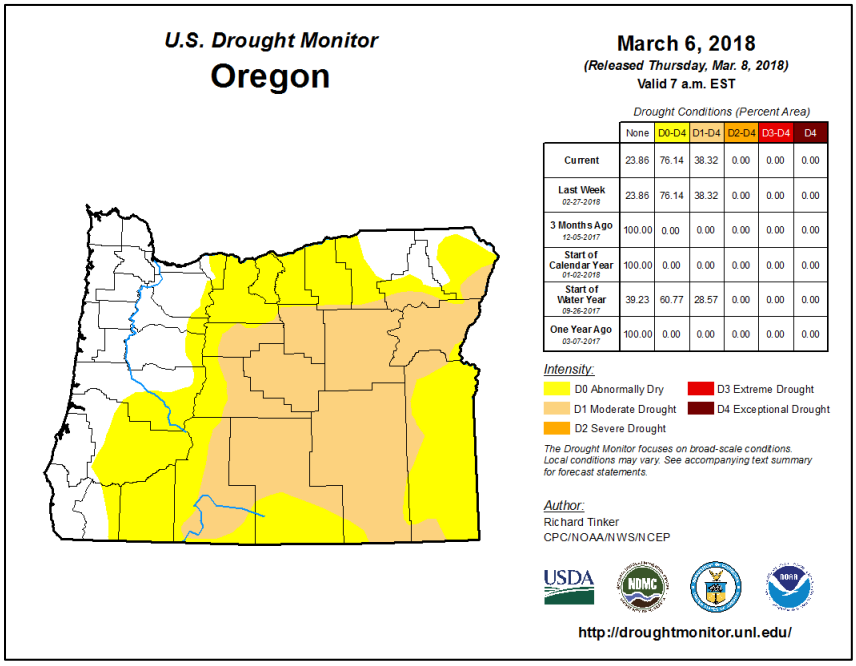


## U.S. Drought Monitor for Oregon

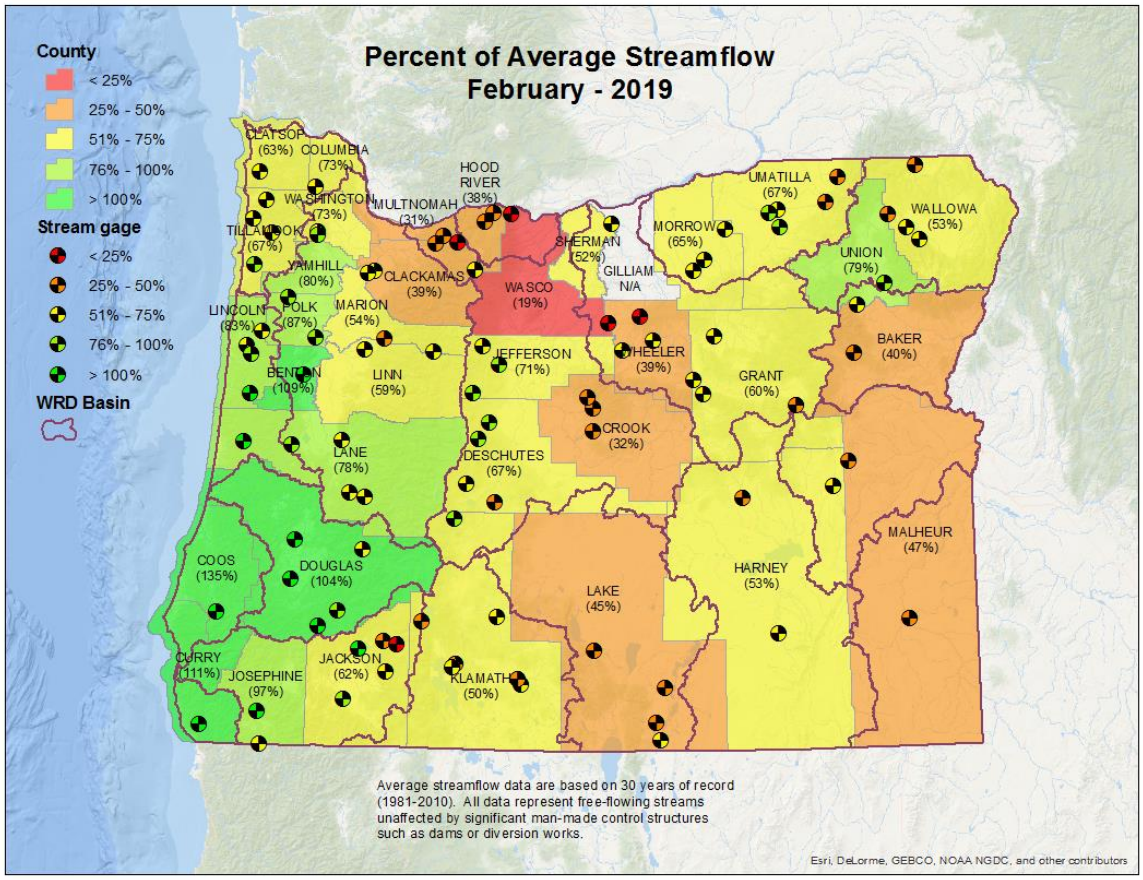
Website: https://droughtmonitor.unl.edu/CurrentMap/StateDroughtMonitor.aspx?OR



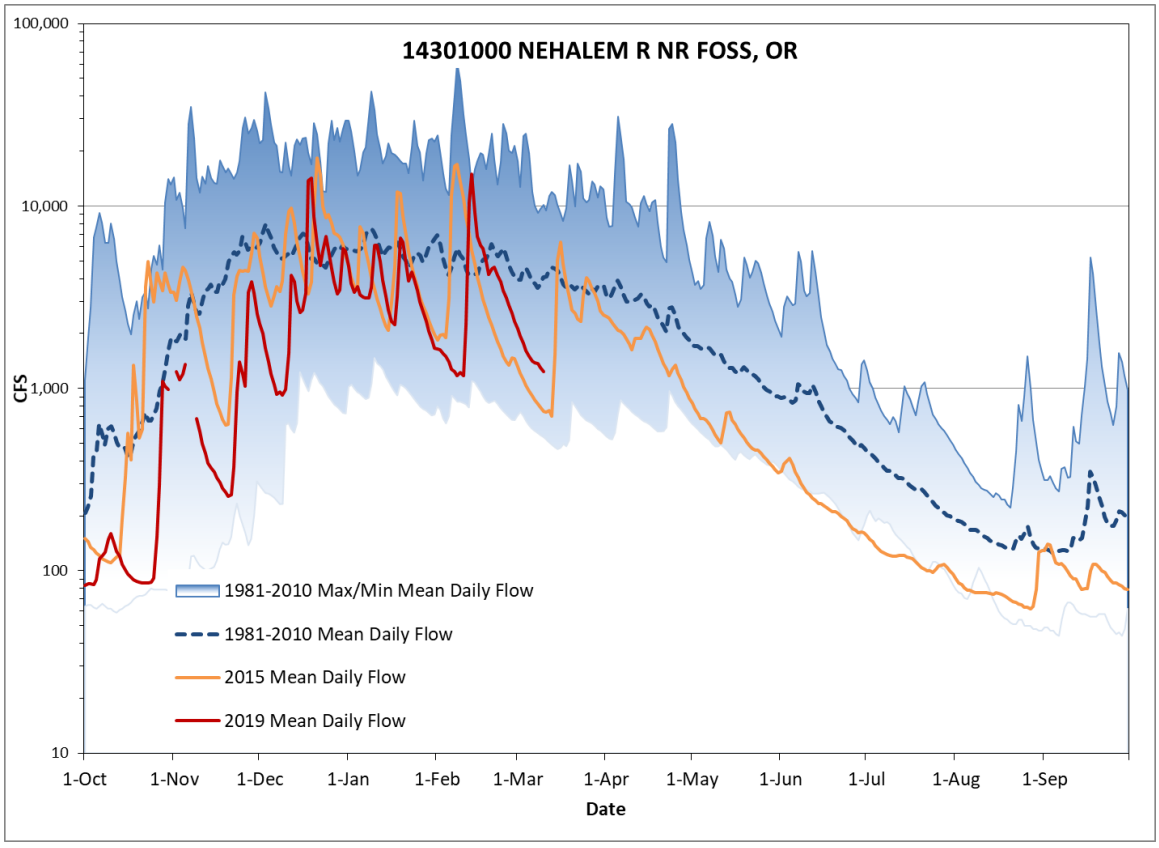

**Compared to this time last year:**



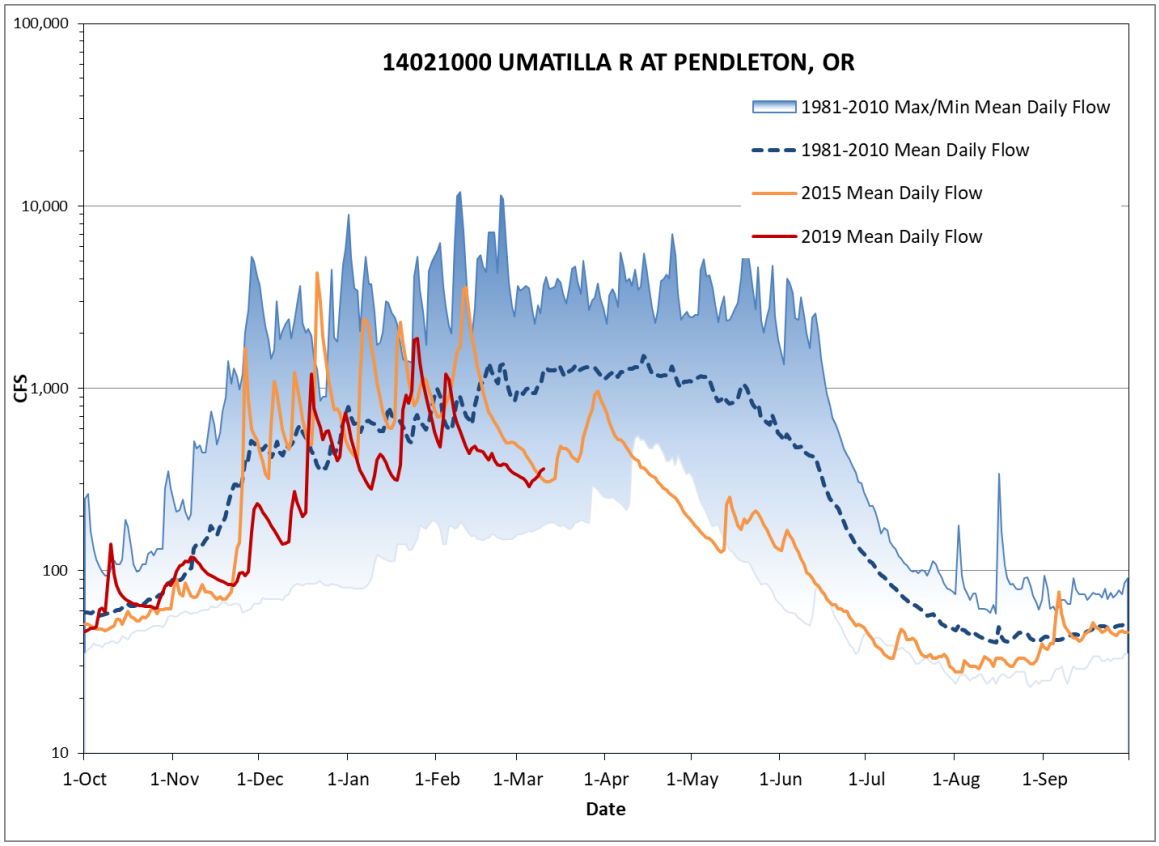
## Streamflow Conditions by County - February




## Streamflow Conditions – North Coast Basin (Clatsop County)



## Streamflow Conditions – Umatilla Basin (Umatilla County)




## Streamflow Conditions – Deschutes Basin (Crook County)