Oregon
Water Conditions Report
March 25, 2019

OREGON
WATER RESOURCES
DEPARTMENT

Snow water equivalent (SWE) values measured at NRCS SNOTEL sites across the state continue to be near normal to well above normal levels. The current statewide SWE value is 121 percent of normal. The Umatilla, Walla Walla, and Willow Creek basin and the John Day basin currently have the highest amount of snowpack measuring 161 percent of normal. The Hood, Sandy, and Lower Deschutes basin is measuring the least amount of snowpack and stands at 93 percent of normal.

Oregon statewide water year precipitation at NRCS SNOTEL sites is 91 percent of normal. The highest amounts of water year precipitation have been in the John Day basin with 112 percent of normal, while the lowest value is in the Hood, Sandy, and Lower Deschutes basin at 78 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.

The NRCS Snow Survey continues to publish weekly condition reports on three areas affected by wildfire in eastern Oregon. After exposure to high heat, soils in these burned areas can't absorb as much water. As a result, these watersheds can experience a higher risk for flash flooding. The reports can be accessed at:
https://www.nrcs.usda.gov/wps/portal/nrcs/detailfull/or/snow/?cid=nrcseprd854607

Temperatures over the past two weeks have been cooler than normal across the central, north central and northeast regions of the state. Temperatures in the south central and eastern regions of the state were about normal but most of western Oregon has been warmer than normal. For the month of February, temperatures were below normal for almost the entire state. So far this month temperatures have been about normal with the exception of the central, north central, and northeast regions where temperatures have been well below normal.

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 drier than normal probabilities across the northwest two thirds of the state with equal chances of above or below normal precipitation for the rest of the entire state. The next long-term outlook will be issued on April 18, 2019.

Weak El Niño conditions are present and are likely to continue through the spring of 2019. El Niño conditions strengthened during February as above-average sea surface temperatures increased across the equatorial Pacific Ocean. For a more complete report, refer to the March 14, 2019 diagnostic discussion issued by the Climate Prediction Center.

The next diagnostics discussion is scheduled for April 11, 2019. Another source of information is the latest ENSO blog on the climate.gov website.

Statewide streamflows for February were 61 percent of normal. This is 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 in western Oregon, ranging from 40 percent in the Mid Coast to over 100 percent in the Umpqua. East of the Cascades flows are well over 100 percent of normal in many areas as some of the recent low elevation snow is experiencing some melt out and ensuing runoff. In light of the much improved snowpack conditions, spring and summer streamflows across most of the state are forecast to be near average to above average.

USACE Reservoirs: Rogue: Currently the system is 81 percent full close to rule curve. The Lost Creek project is at 85 percent and 1 percent below rule curve, maintaining outflows of about 1,050 cfs with inflows currently at about 2,200 cfs. Applegate is at 62 percent and 1 percent below rule curve. Applegate outflows are right at 200 cfs with inflows now at 670 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 full and spilling at over 60 percent above rule curve. Project inflows are currently about 385 cfs; outflows are over 285 cfs to slow down the current fill rate.

Willamette: The project is currently at 49 percent of capacity and 15 percent below rule curve. The flows in the Willamette River at Albany are about 14,500 cfs and flows at Salem are about 22,000 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 elevations are 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 77 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 currently 200 cfs 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 27 percent and 54 percent of capacity and are filling at a higher 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 over 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 22 percent, 42 percent, and 74 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 54 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 12 percent and 46 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.

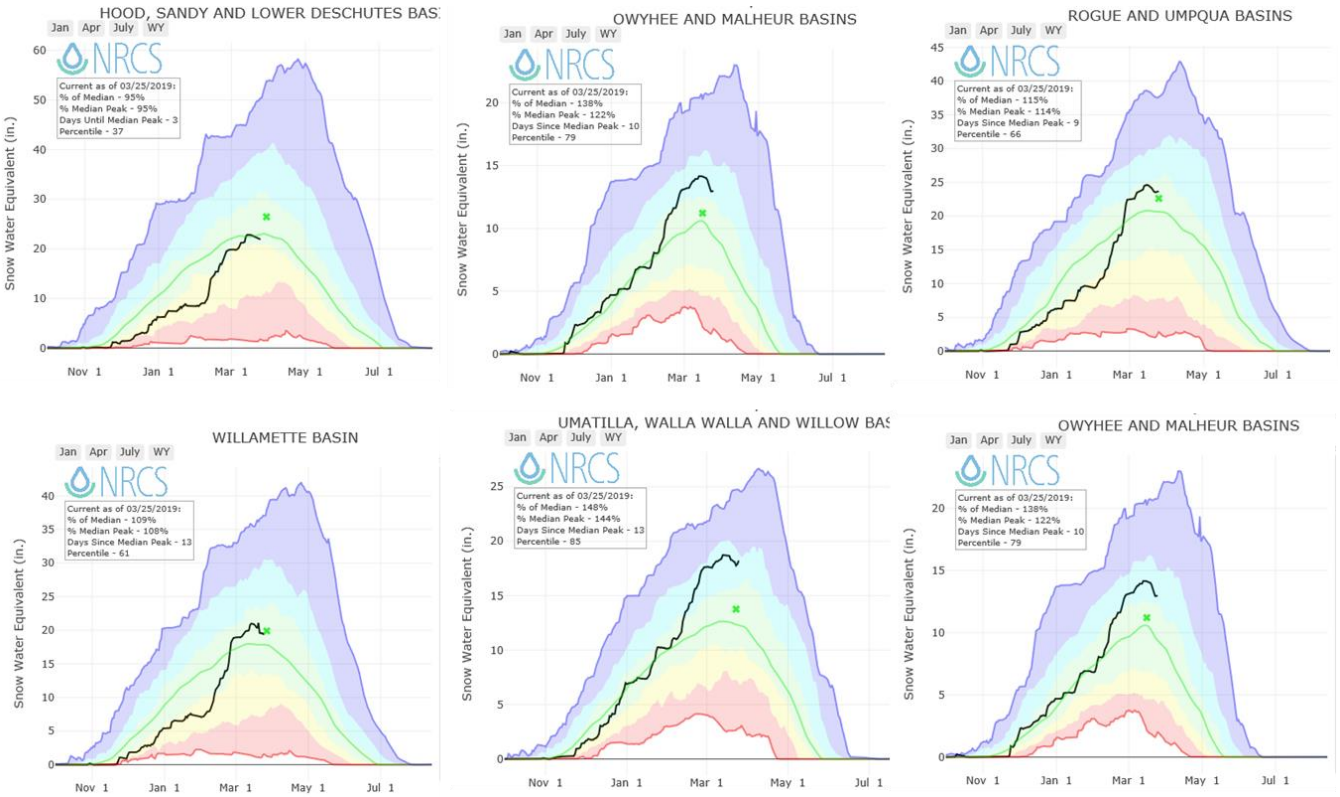
Tualatin River Basin: Scoggins reservoir is currently 90 percent full and releasing almost 20 cfs with average February inflows of 215 cfs. There have been no flood control operations or releases set for Scoggins since it has stayed below its required flood control curve.

The most recent update to the US Drought Monitor is showing a continued improvement in conditions in Oregon over the past few weeks. D2 (Severe Drought) and D3 (Extreme Drought) are no longer present anywhere in the state. The report also indicates that 40 percent is now listed as in D1 (Moderate Drought) and 82 percent of the state is listed as D0 (Abnormally Dry).

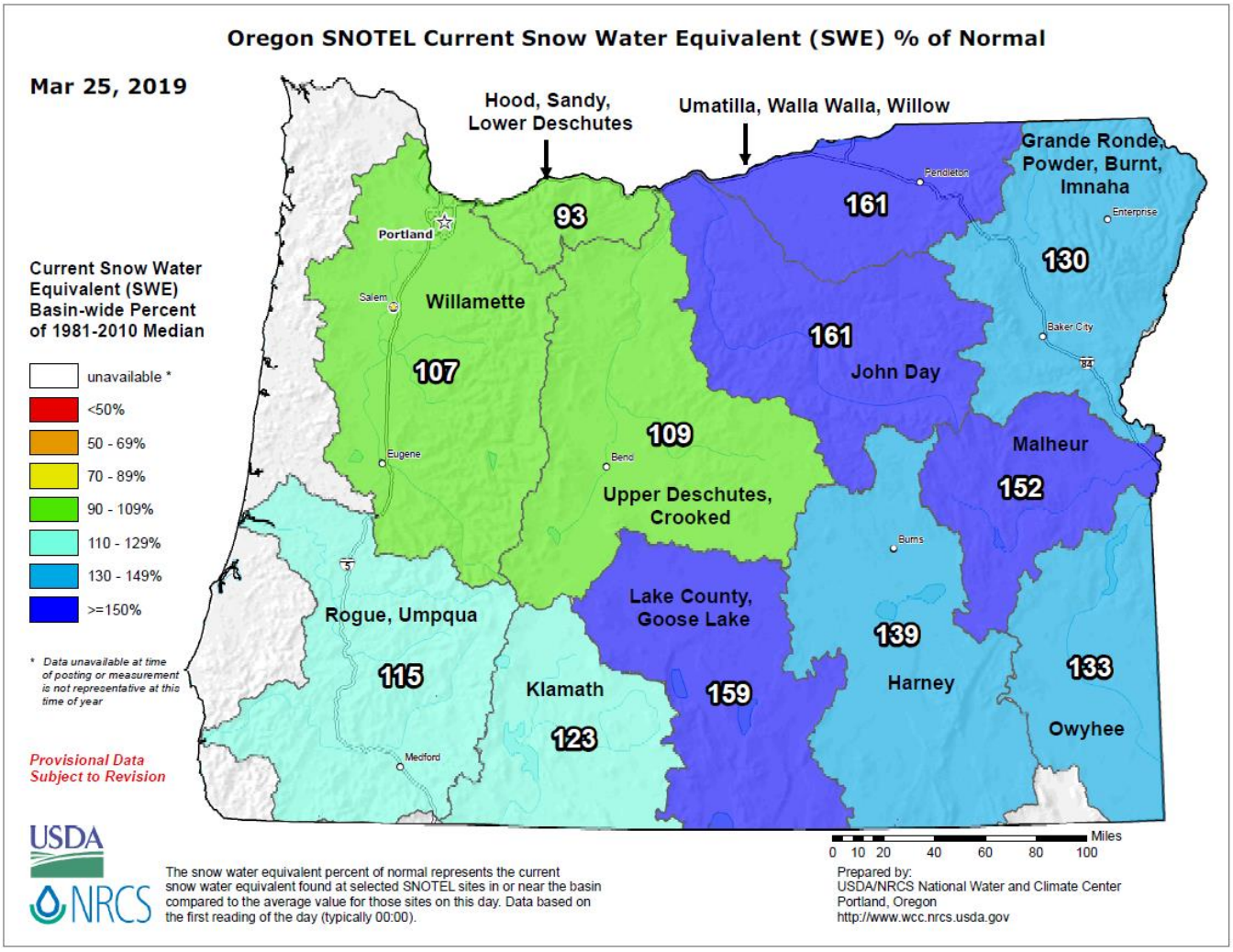
Wildfire conditions across the state are now at low levels. According to the National Significant Wildland Fire Potential Outlook, the nation remained largely out of fire season in February. The next outlook update is scheduled for April 1, 2019. More information can also be accessed through the Northwest 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:

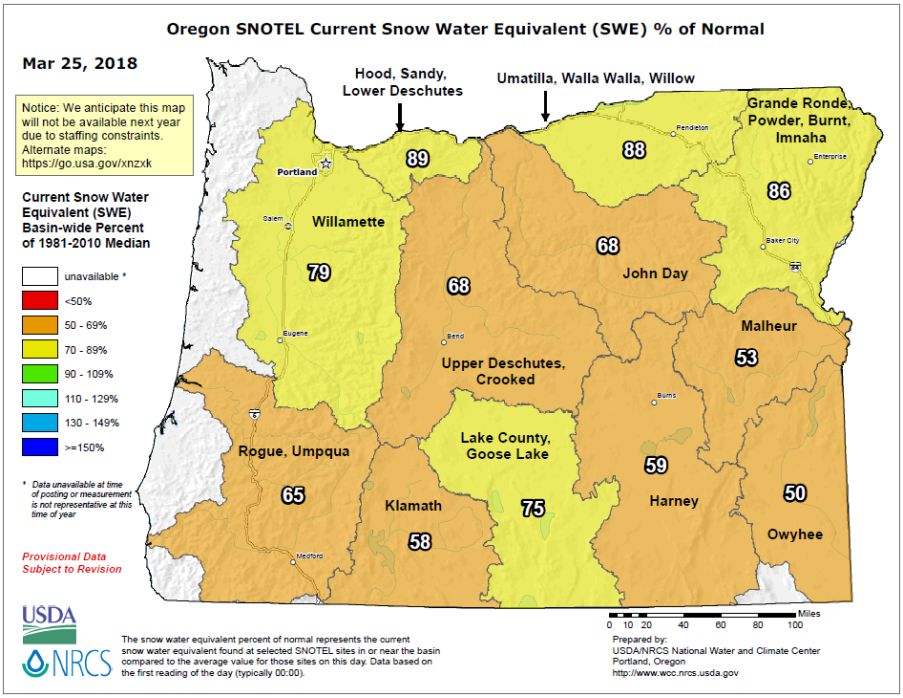
Snowpack Graphs – March, 2019



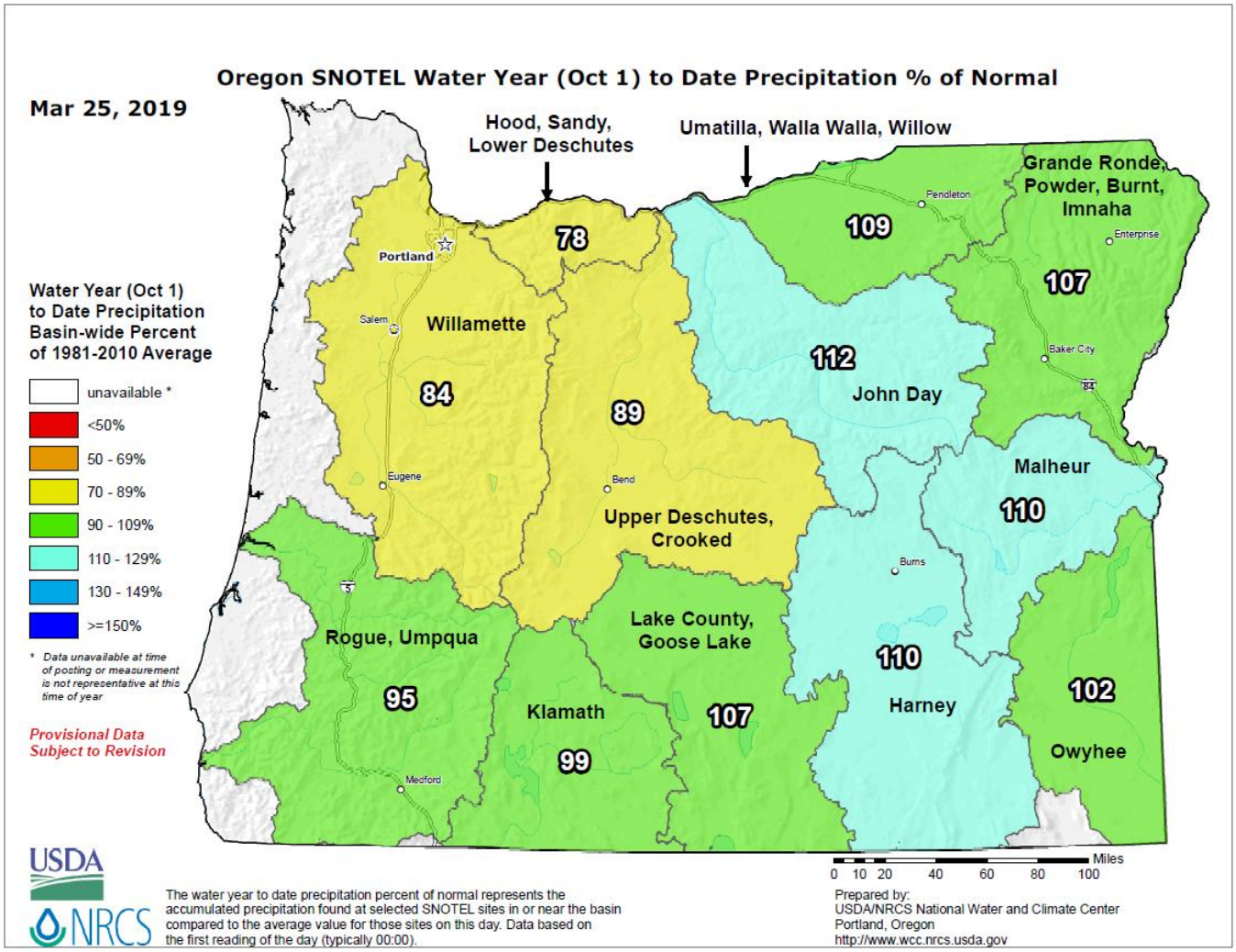
Snow Water Equivalent - Percent of Normal



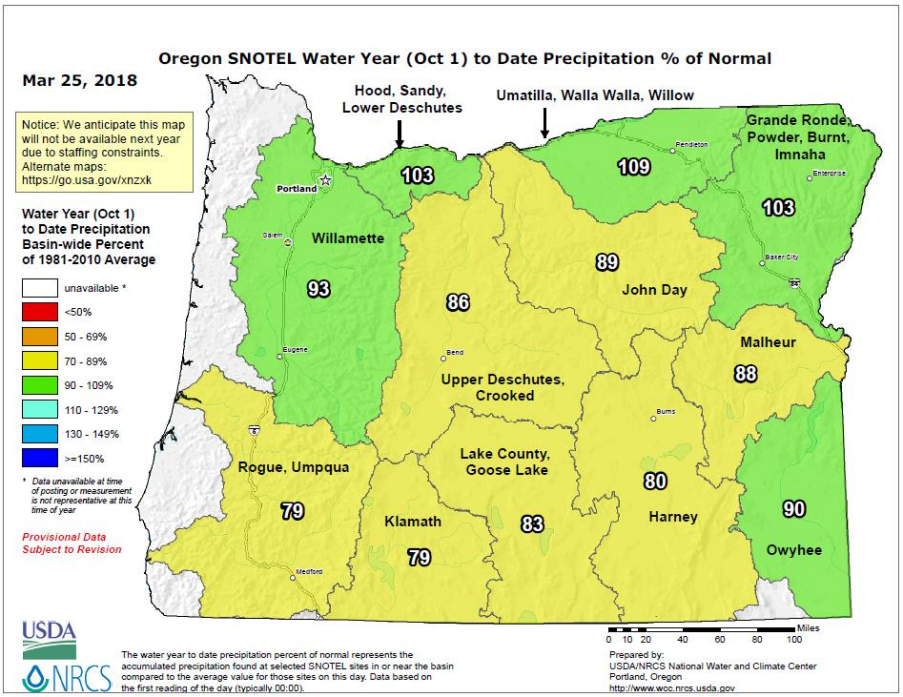
Compared to this time last year -



Precipitation (Mountain) - Percent of Normal



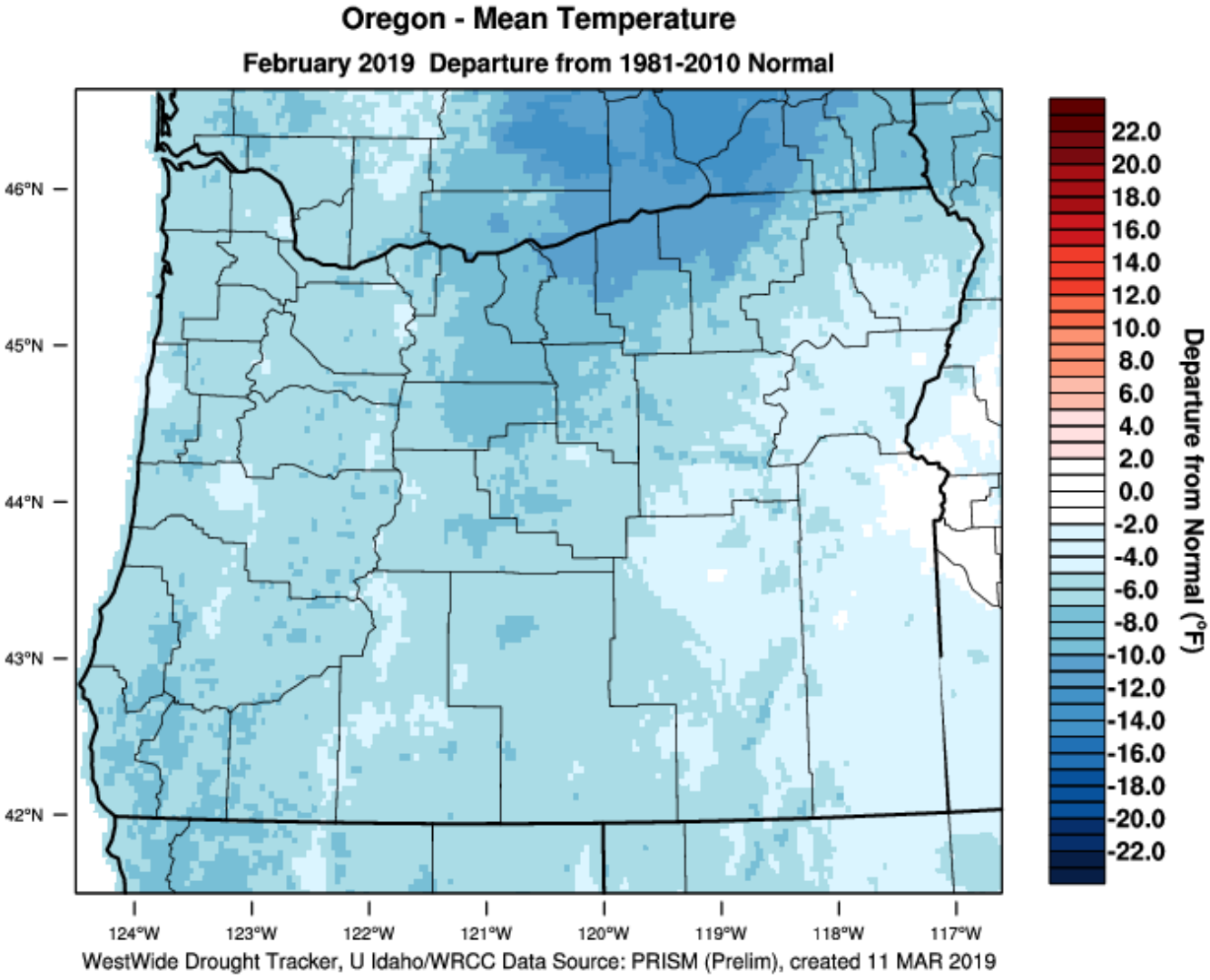
Compared to this time last year –



Temperature – (1 Month) Departure from Normal

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

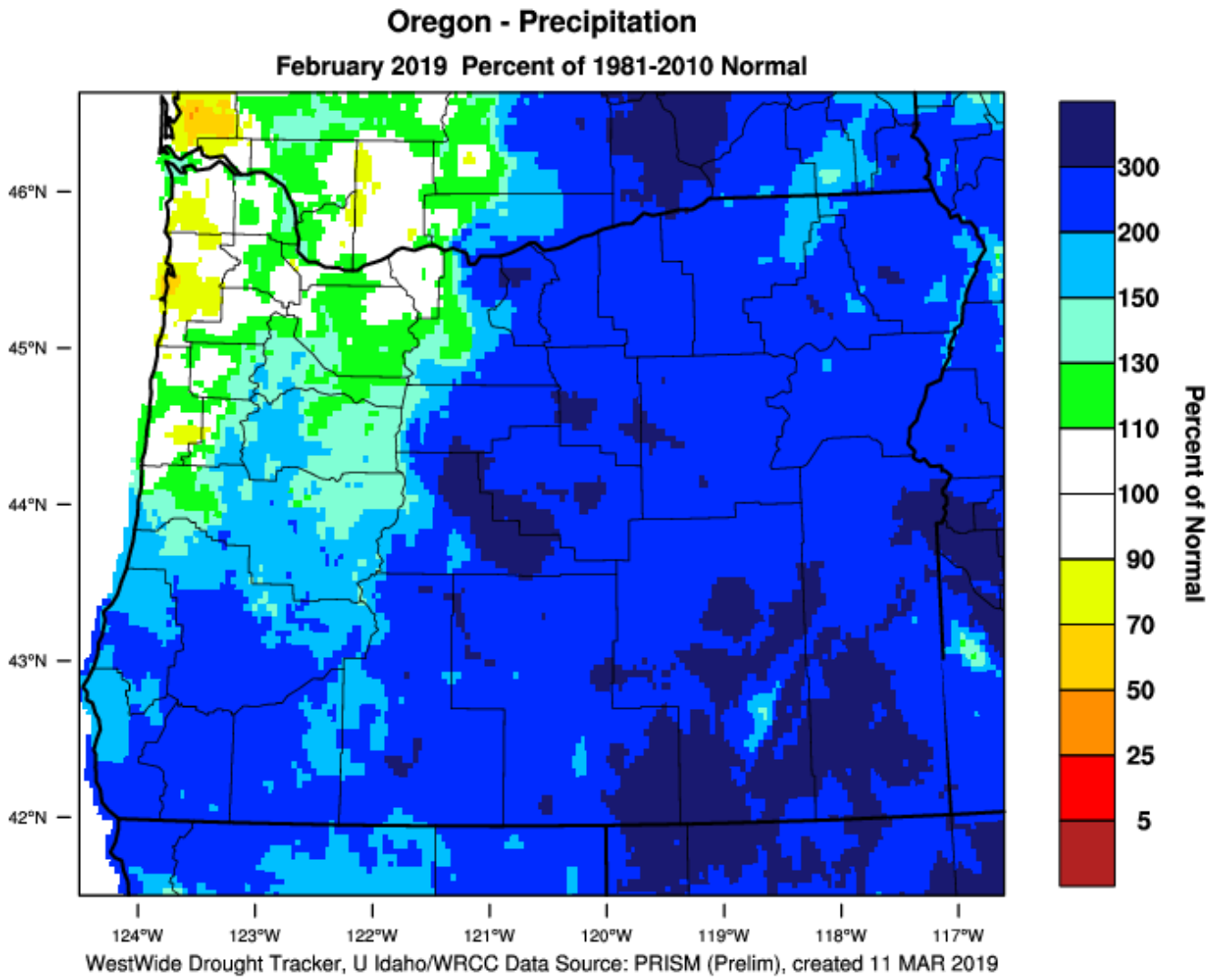
PRISM > Temperature Anomaly 1 Month > Oregon



Precipitation – (1 Month) Percent of Normal

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

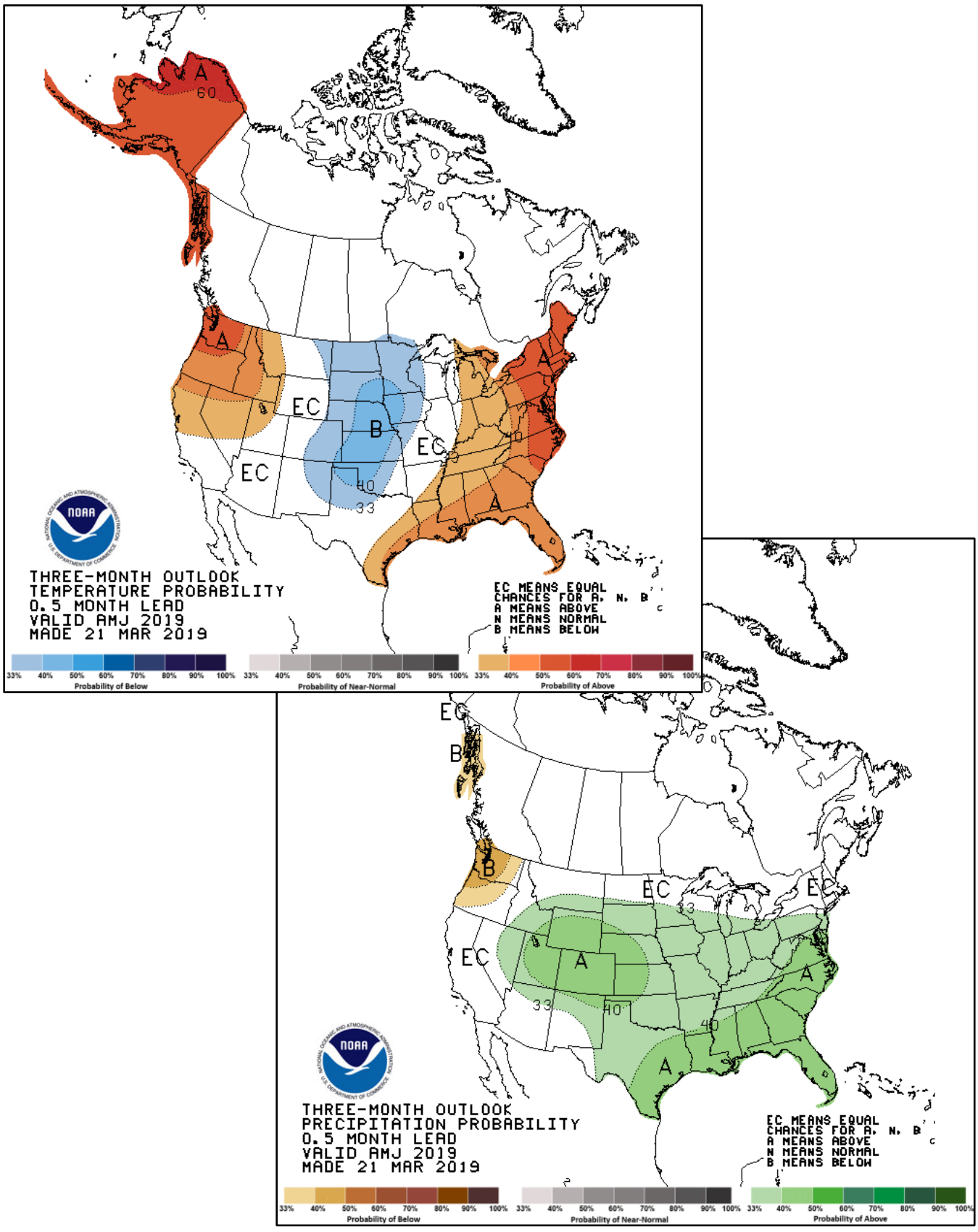
PRISM > Precipitation Anomaly 1 Month > Oregon



Three Month Temperature and Precipitation Outlook

April through June

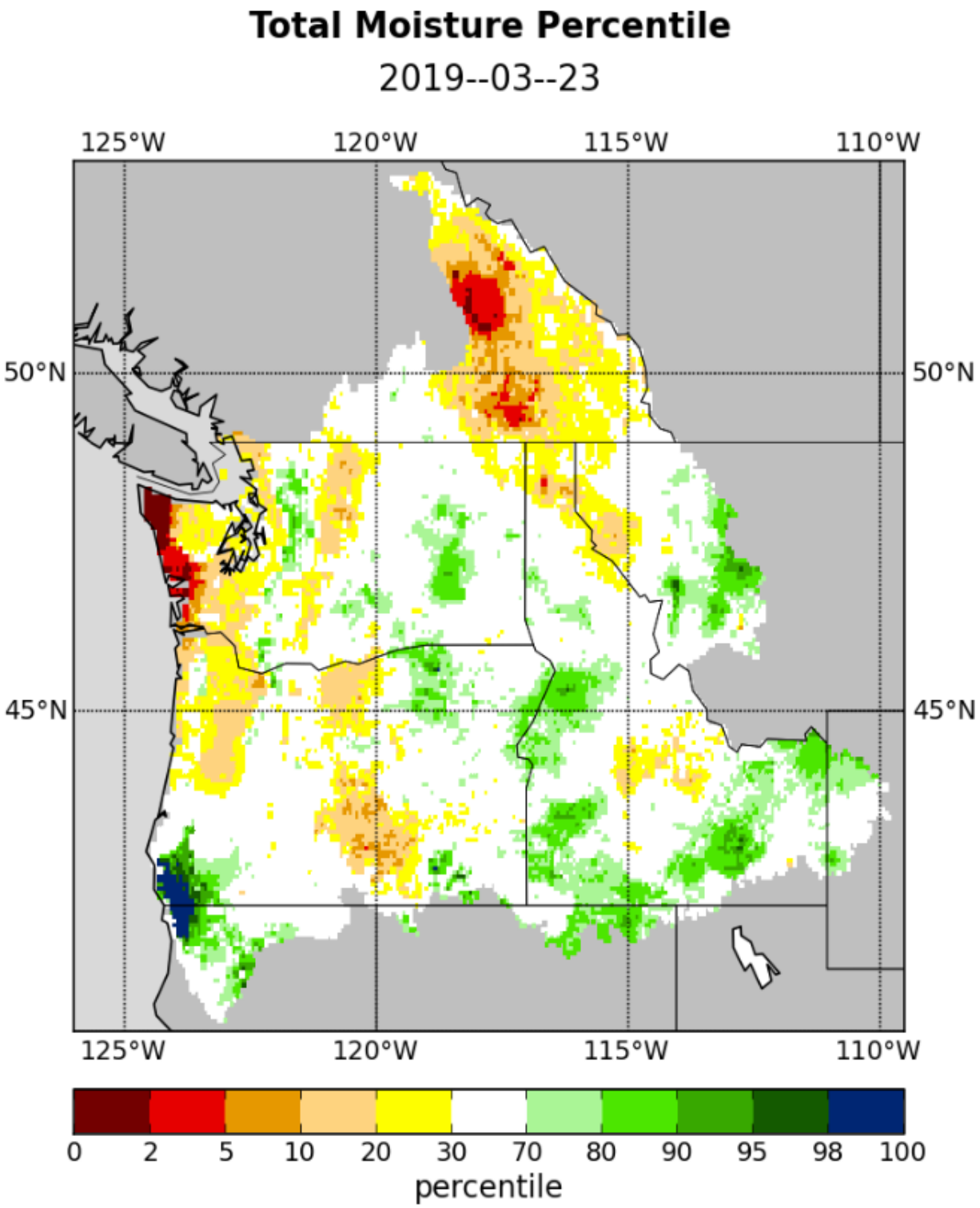
Website: http://www.cpc.ncep.noaa.gov/products/predictions/long_range/seasonal.php?lead=1



Total Moisture - Percentile

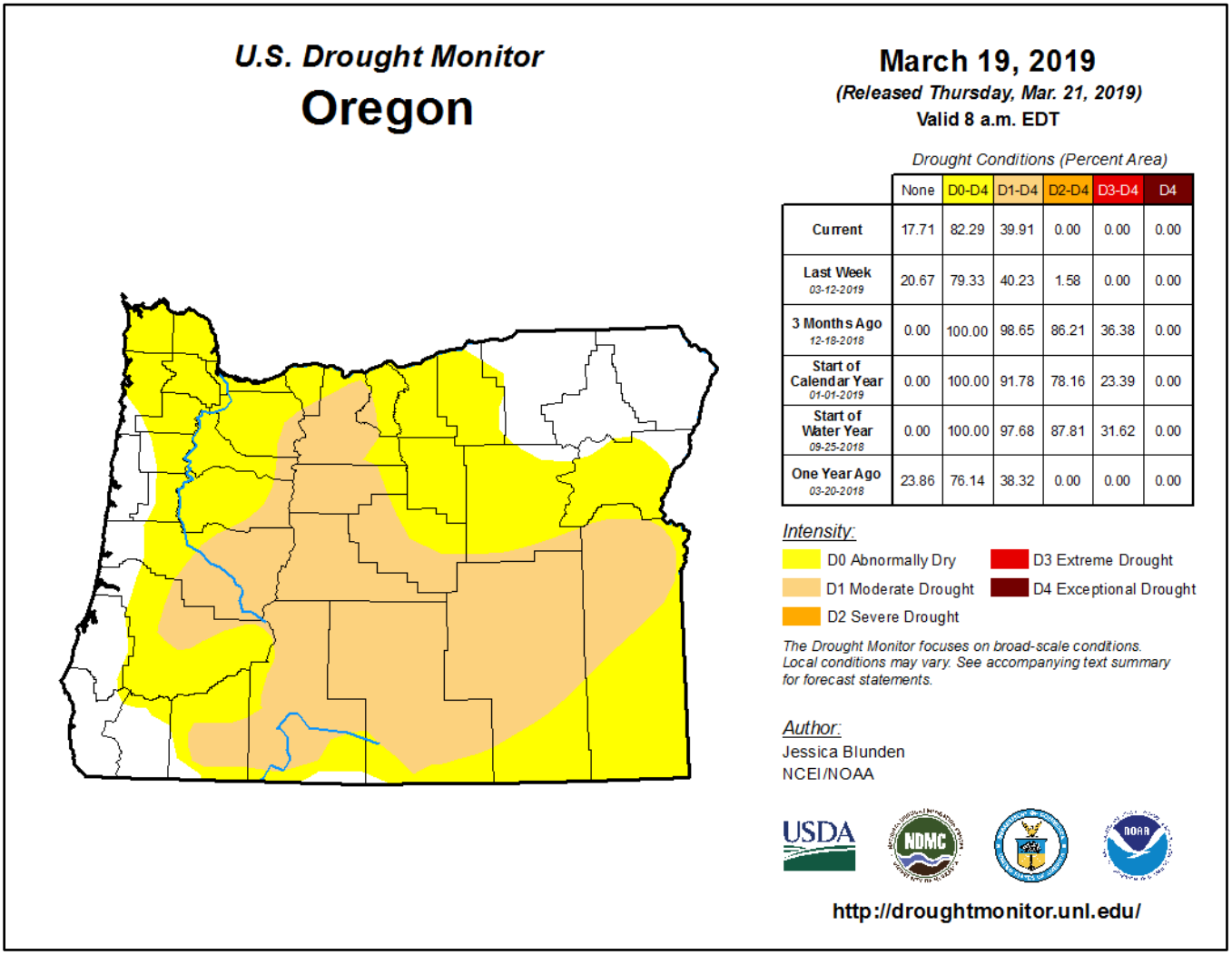
Total Moisture (STOT) is a moisture index calculated by adding Soil Moisture and Snow Water Equivalent. STOT represents the total water content of a region.

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

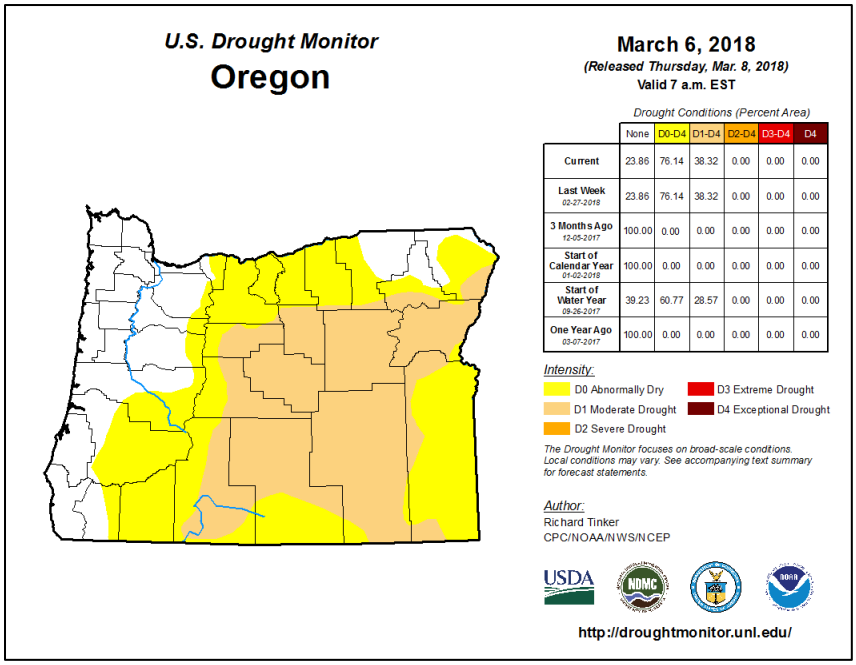


U.S. Drought Monitor for Oregon

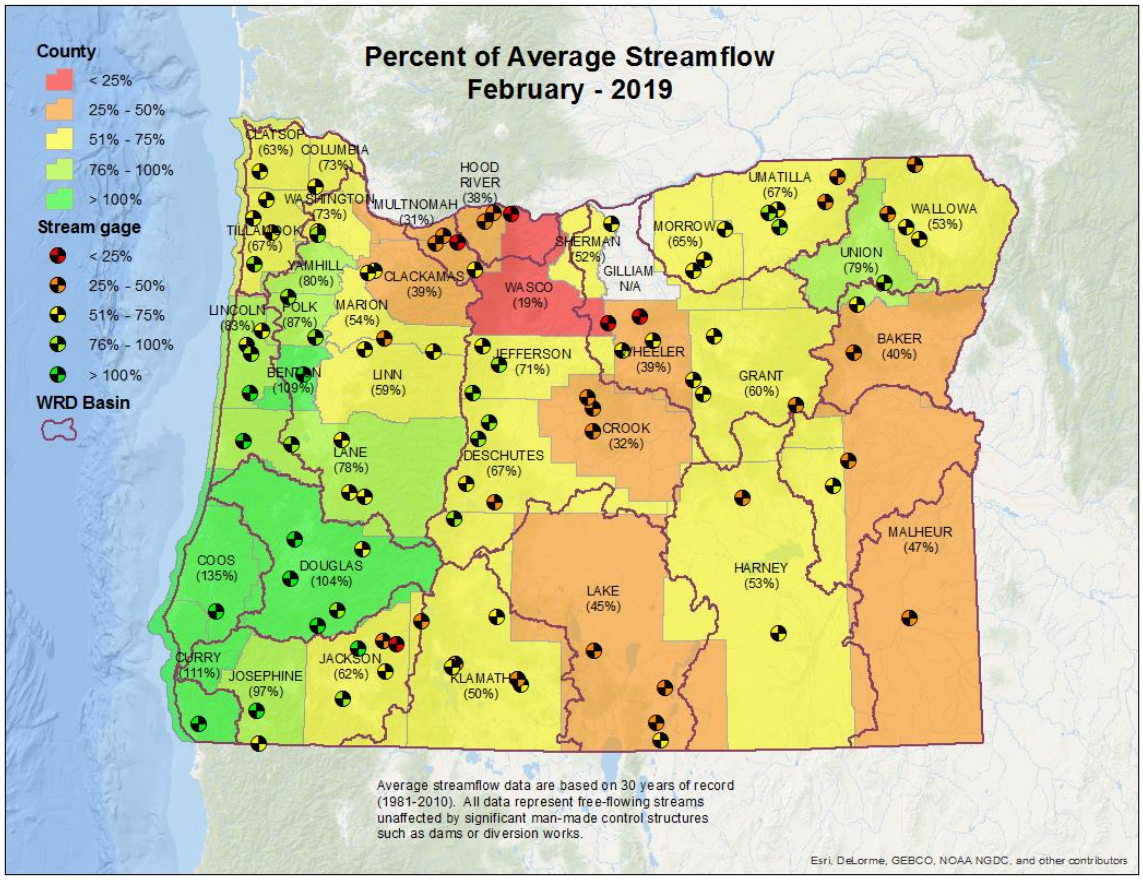
Website: https://droughtmonitor.unl.edu/CurrentMap/StateDroughtMonitor.aspx?OR



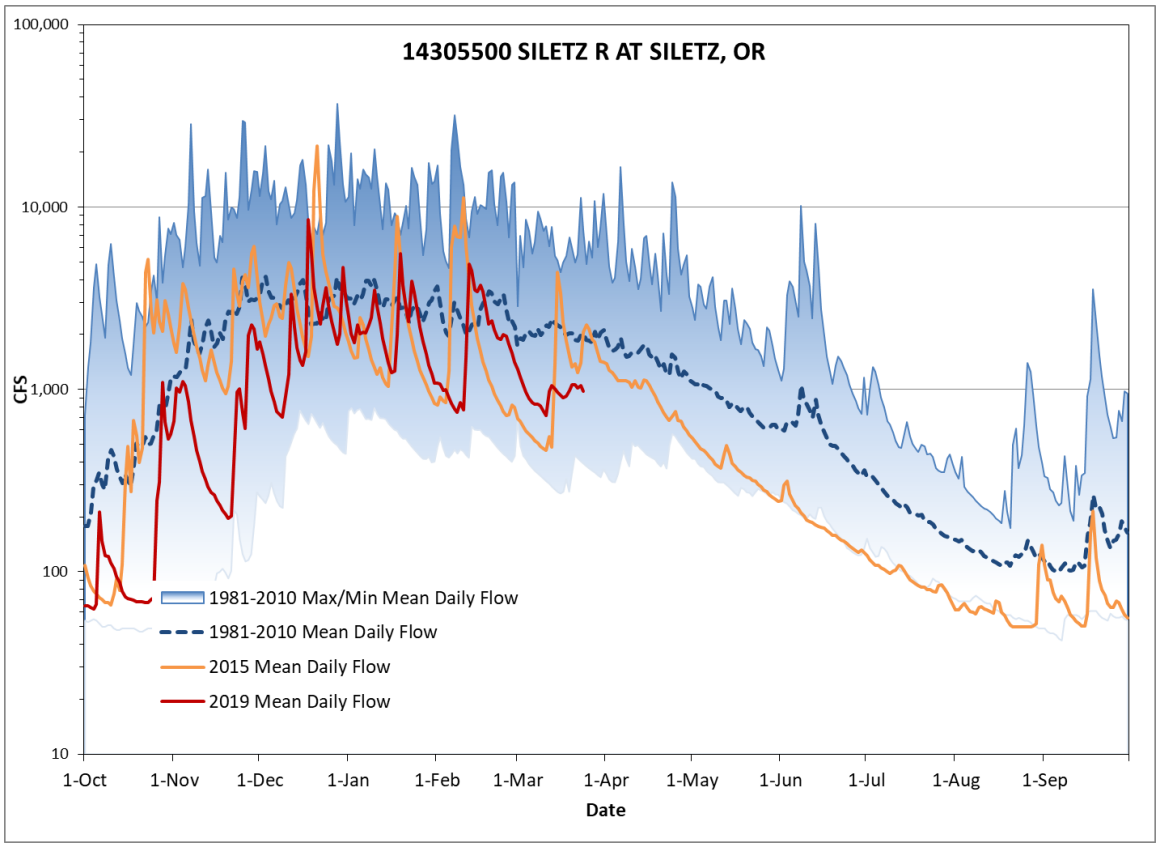
Compared to this time last year:



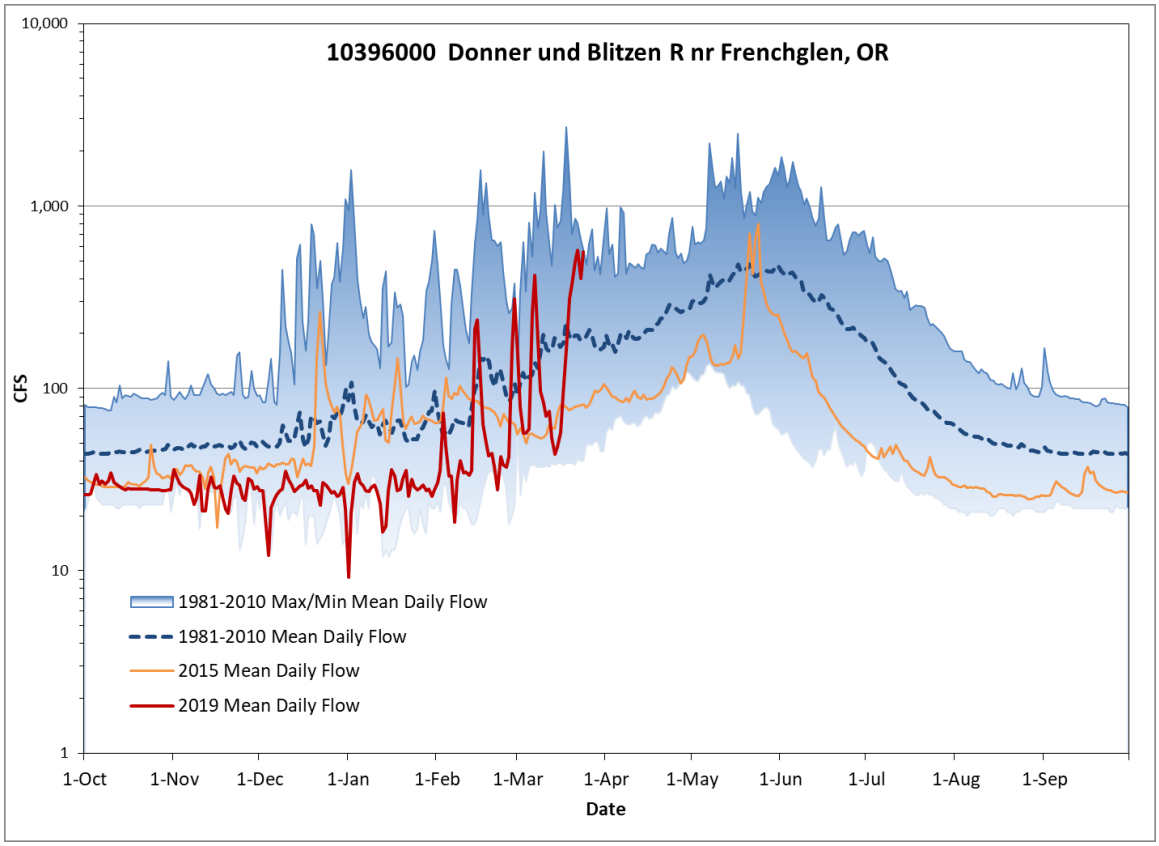
Streamflow Conditions by County - February



Streamflow Conditions – Mid Coast Basin (Lincoln County)



Streamflow Conditions – Malheur Lake Basin (Harney County)



Streamflow Conditions – John Day Basin (Grant County)