Oregon
Water Conditions Report
April 8, 2019

OREGON
WATER RESOURCES
DEPARTMENT

Snow water equivalent (SWE) values measured at NRCS SNOTEL across the state continue to be near normal to well above normal levels. The current statewide SWE value is 118 percent of normal. The John Day basin currently has the highest percent of normal snowpack measuring 168 percent of normal. The Hood, Sandy, and Lower Deschutes basin is measuring the least amount of snowpack and stands at 84 percent of normal.

Recent storms have increased Oregon statewide water year precipitation at NRCS SNOTEL sites to 96 percent of normal. The highest percent of normal values for 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 basin at 81 percent of normal for the water year.

The NRCS Basin Outlook Report for April is now available. This report is published monthly from January through June. The most recent edition points out that despite an overall dry March, a season's worth of snow fell during February and early March.

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 warmer than normal with the exception of the central Cascades south and southeast across Lake County where temperature were normal to below-normal. For the month of March, temperatures were below normal for almost the entire state.

Over the next 8 to 14 days, the NOAA Climate Prediction Center is forecasting equal chances of above or below-normal temperatures along with the same forecast (equal chances) for precipitation across 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 March were 83 percent of normal. While still below normal this is up significantly from the 61 percent seen in February. Regionally for March, streamflow conditions were about 90 percent east of the Cascades and 72 percent of normal to the west. More recent data indicate that flows are responding to regional rain and snow melt events and are flowing at above-normal rates for this time of year.

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 93 percent full and 3 percent above rule curve. The Lost Creek project is at 94 percent and 2 percent above rule curve, with outflows of about 6,000 cfs with inflows currently over 14,000 cfs. Applegate is at 87 percent, 10 percent above rule curve. Applegate outflows are 3,200 cfs with inflows now at 6,800cfs.

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 9 percent above rule curve. Project inflows are currently about 450 cfs; outflows are 425 cfs to main current fill.

Willamette: The project is currently at 85 percent of capacity and 9 percent above rule curve. The flows in the Willamette River at Albany are about 51,000 cfs and flows at Salem are about 88,700 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 91 percent full. Reclamation's runoff forecast shows the runoff season inflow volume could come in at 137 percent of average due to high snowpack values in and around the basin. It is a virtual certainty that McKay reservoir will refill given the forecast. Releases have been and will remain in flux as water managers attempt to maintain space in the reservoir, manage refill, and at the same time prevent large increases in streamflow downstream of the dam. Average inflows this past March were 520cfs.

Deschutes River Basin: Ochoco and Prineville reservoirs are at 46 percent and 81 percent full respectively. Reclamation's forecast shows the runoff season inflow volume could come in at 145 percent of average due to high snowpack values in and around the basin. Despite the good forecast there is still a chance that Ochoco reservoir could miss refill while Prineville reservoir has a very good chance of refilling. This is mainly due to really low carry-over storage at the beginning of this water year. Ochoco reservoir is still releasing minimum flows close to 5cfs while Prineville reservoir is currently undergoing flood control operations due to elevated inflows. Average inflows this past March were 150cfs, and 700cfs for Ochoco and Prineville respectively.

Malheur River Basin: Warm Springs, Beulah, and Bully Creek reservoirs are at 43 percent, 72 percent, and 94 percent full respectively. Reclamation's forecast shows the runoff season inflow volume could come in at around 155 percent of average due to high snowpack values in and around the basin. Warm Springs and Beulah are currently releasing minimums at or close to 0cfs while Bully Creek has been undergoing flood control operations for the better part of March. Flood control operations are likely for Beulah for this upcoming month. Average inflows this past March were 550cfs, 250cfs, and 240cfs for Warm Springs, Beulah, and Bully Creek respectively.

Owyhee River Basin: Owyhee reservoir is currently 68 percent full. Reclamation's forecast shows the runoff season inflow volume could come in at around 134 percent of average due to high snowpack values in and around the basin. Owyhee reservoir is currently releasing 60cfs with average inflows this past March coming in at 2100cfs.

Burnt and Powder River Basins: Philips and Unity reservoirs are at 24 percent and 75 percent full. Reclamation's forecast shows the runoff season inflow volume could come in at around 140 percent of average due to high snowpack values in and around the basin. Philips is releasing 6cfs with March average inflows of 90cfs while Unity is releasing 200cfs with March average inflows of 140cfs. Unity is currently undergoing space and refill management measures due to elevated inflows and shrinking storage space. It is likely that Unity will refill this spring.

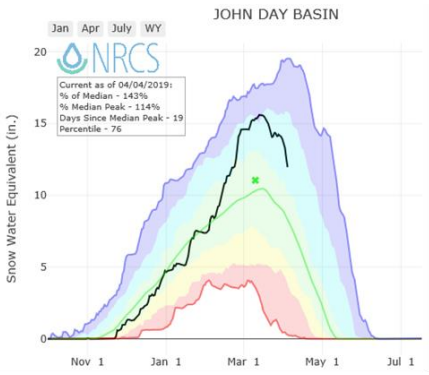
Tualatin River Basin: Scoggins reservoir is currently 96 percent full and releasing 16cfs with average March inflows of 215cfs. There have been no flood control operations or releases set Scoggins since it has stayed below its required flood control curve. This is likely to change this month as space runs out and water managers are forced to more closely manage inflows, space, and downstream flow requirements.

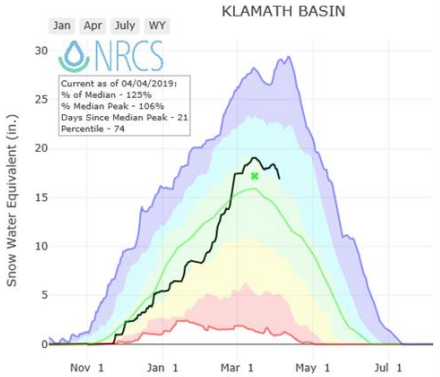
The most recent update to the US Drought Monitor has been showing slight improvement over the past few weeks. D2 (Severe Drought) and D3 (Extreme Drought) are no longer present anywhere in the state. The report indicates that 40 percent of the state is now listed as in D1 (Moderate Drought) and 82 percent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

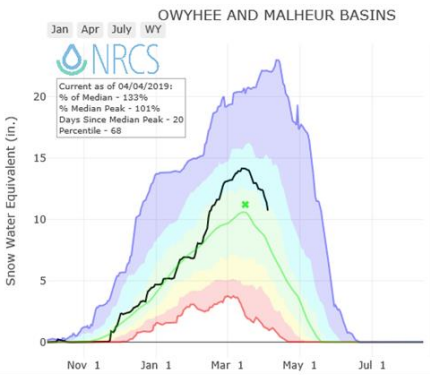
Wildfire potential for April is predicted to be above normal across the northwest corner of the state. According to the National Significant Wildland Fire Potential Outlook, the nation remained below average in March. The next update is scheduled for May 1, 2019. More information can also be accessed 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.

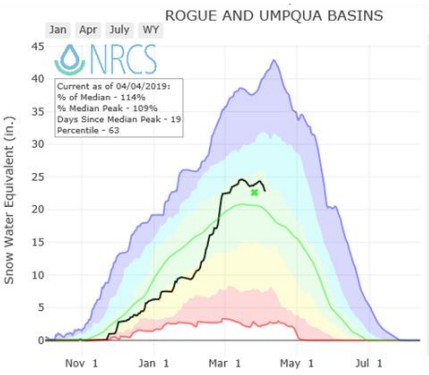
Data & Products: Page:

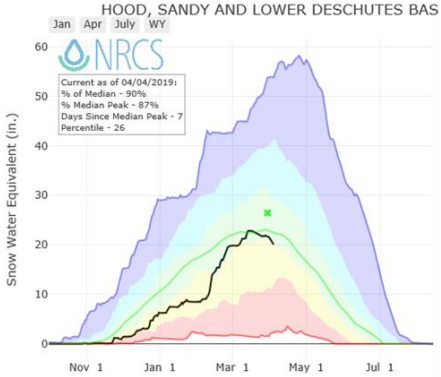
Snowpack Graphs – April, 2019

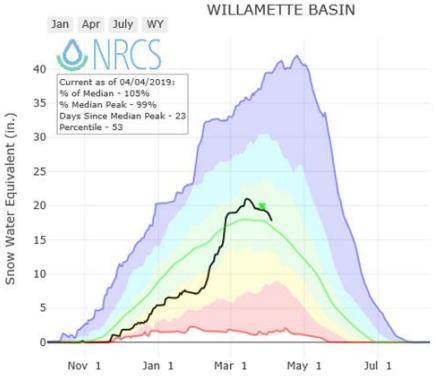




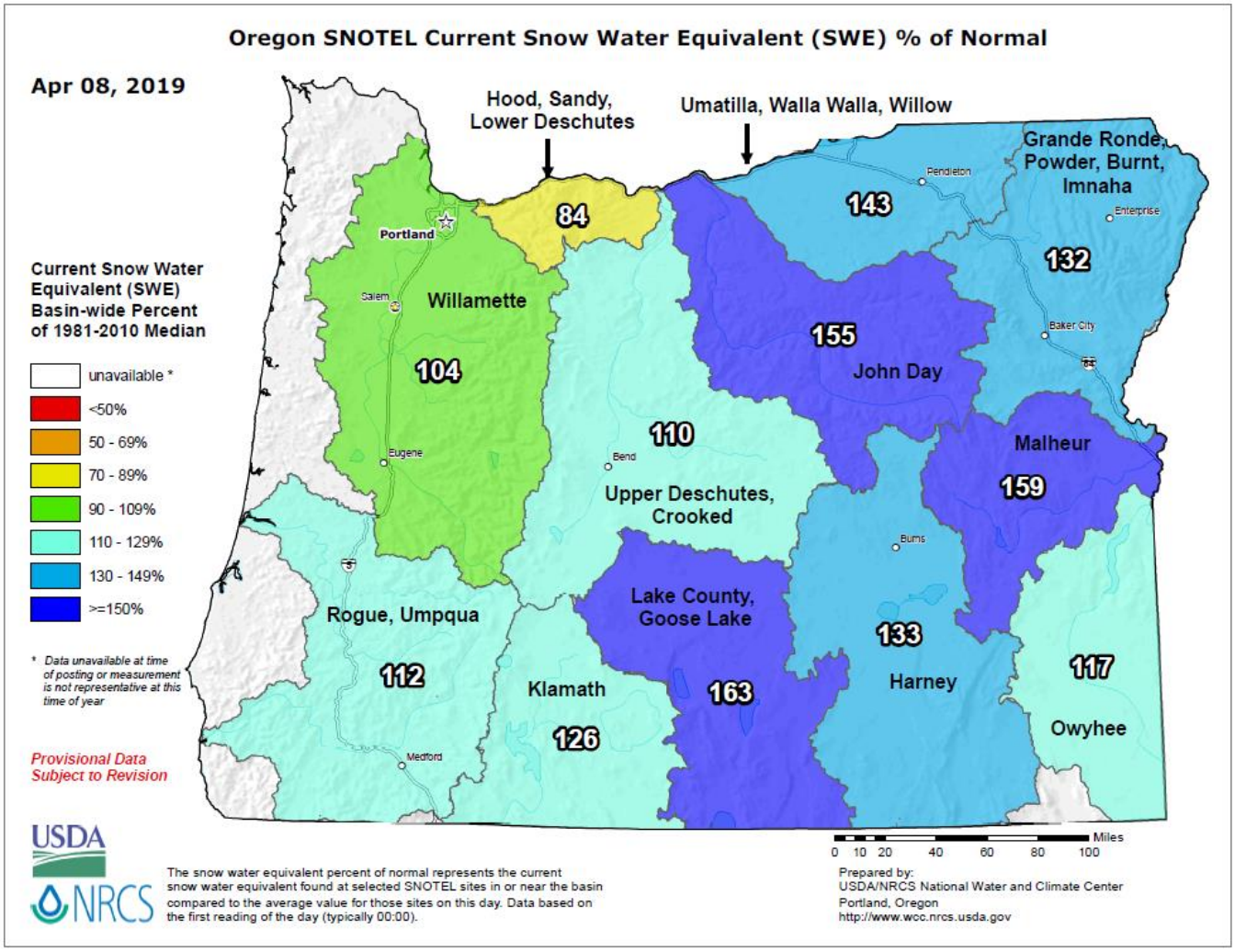




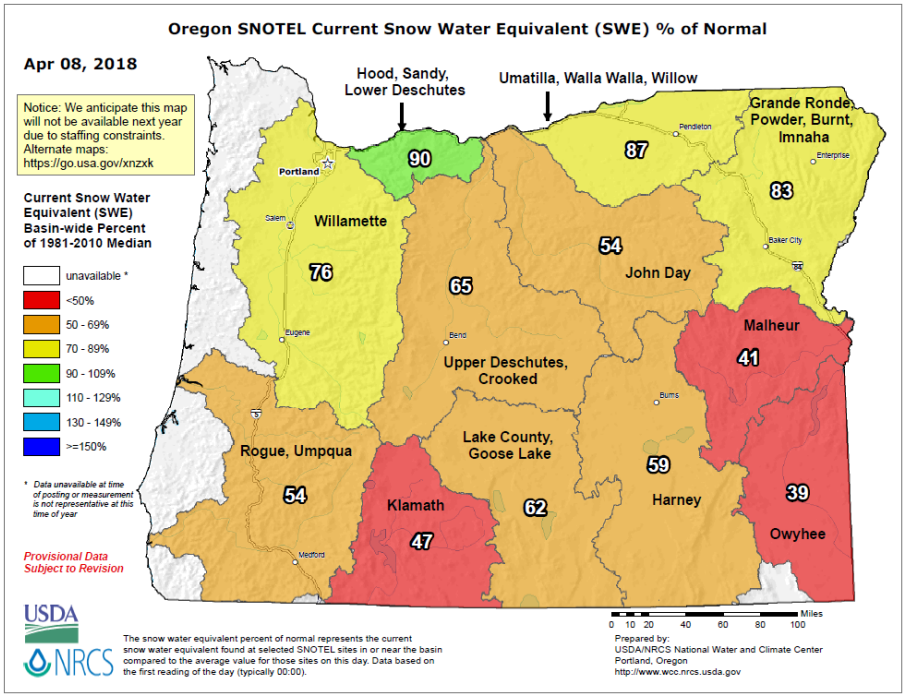




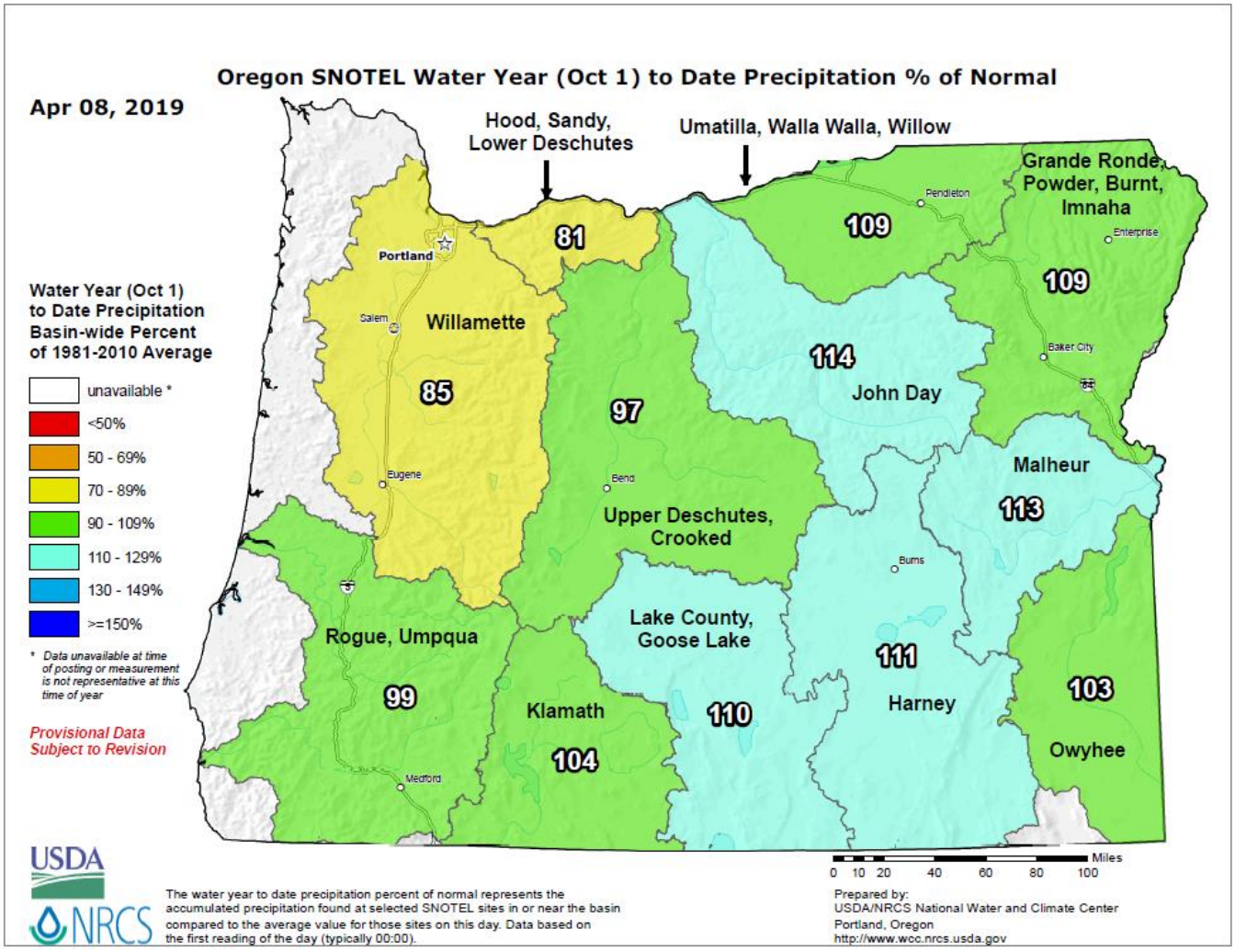
Snow Water Equivalent - Percent of Normal



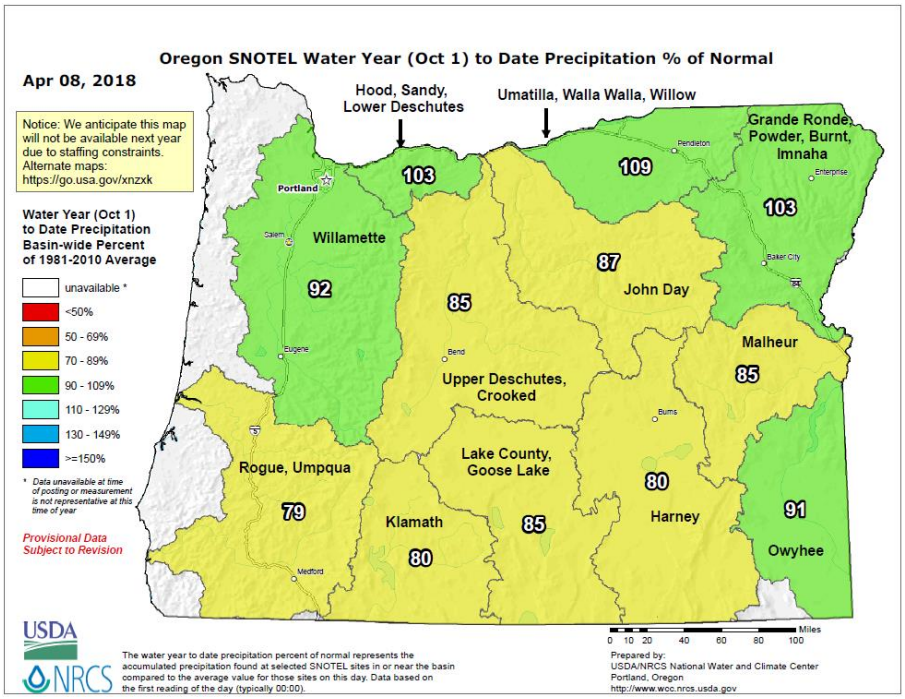
Compared to this time last year -



Precipitation (Mountain) - Percent of Normal



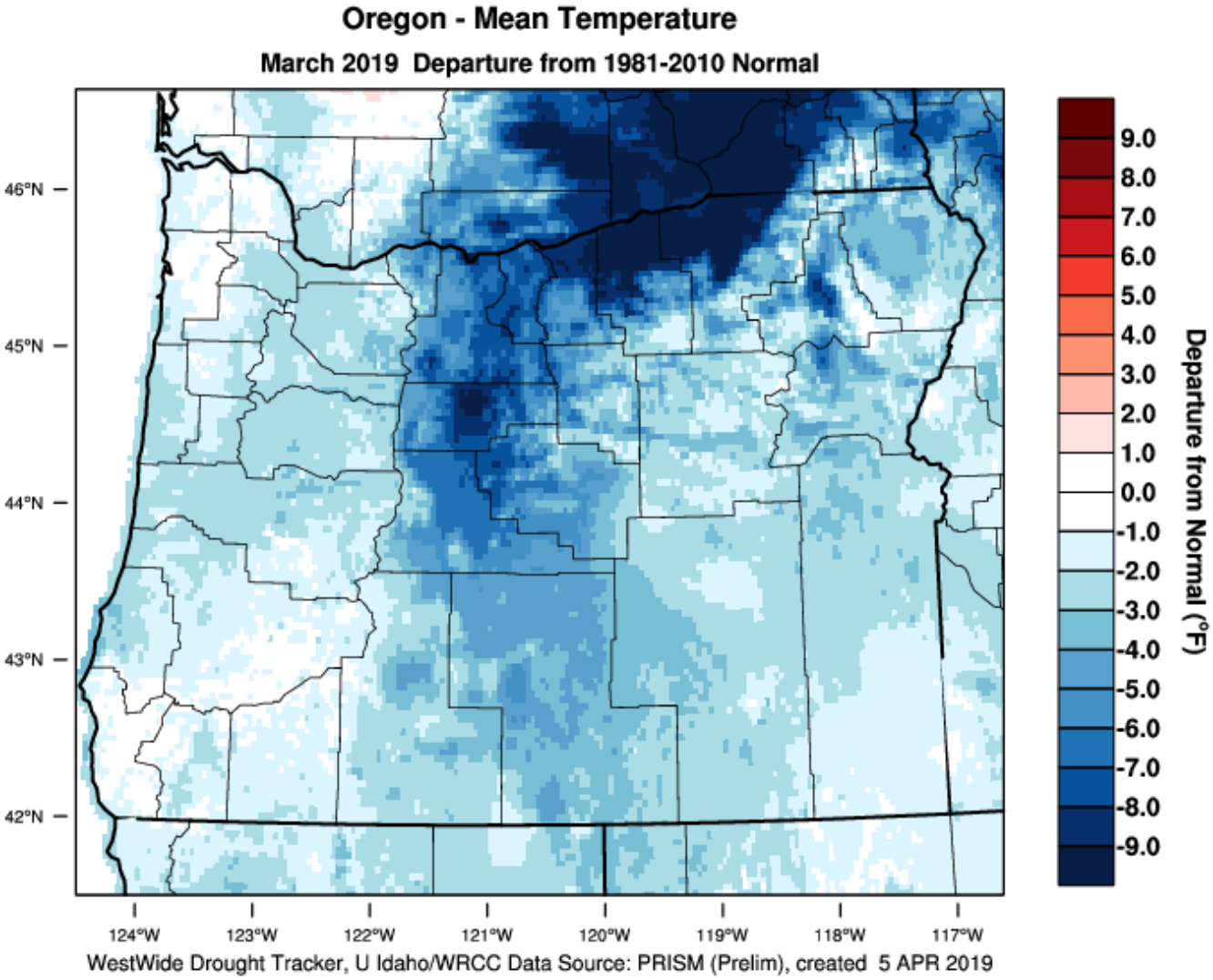
Compared to this time last year –



Temperature – (1 Month) Departure from Normal

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

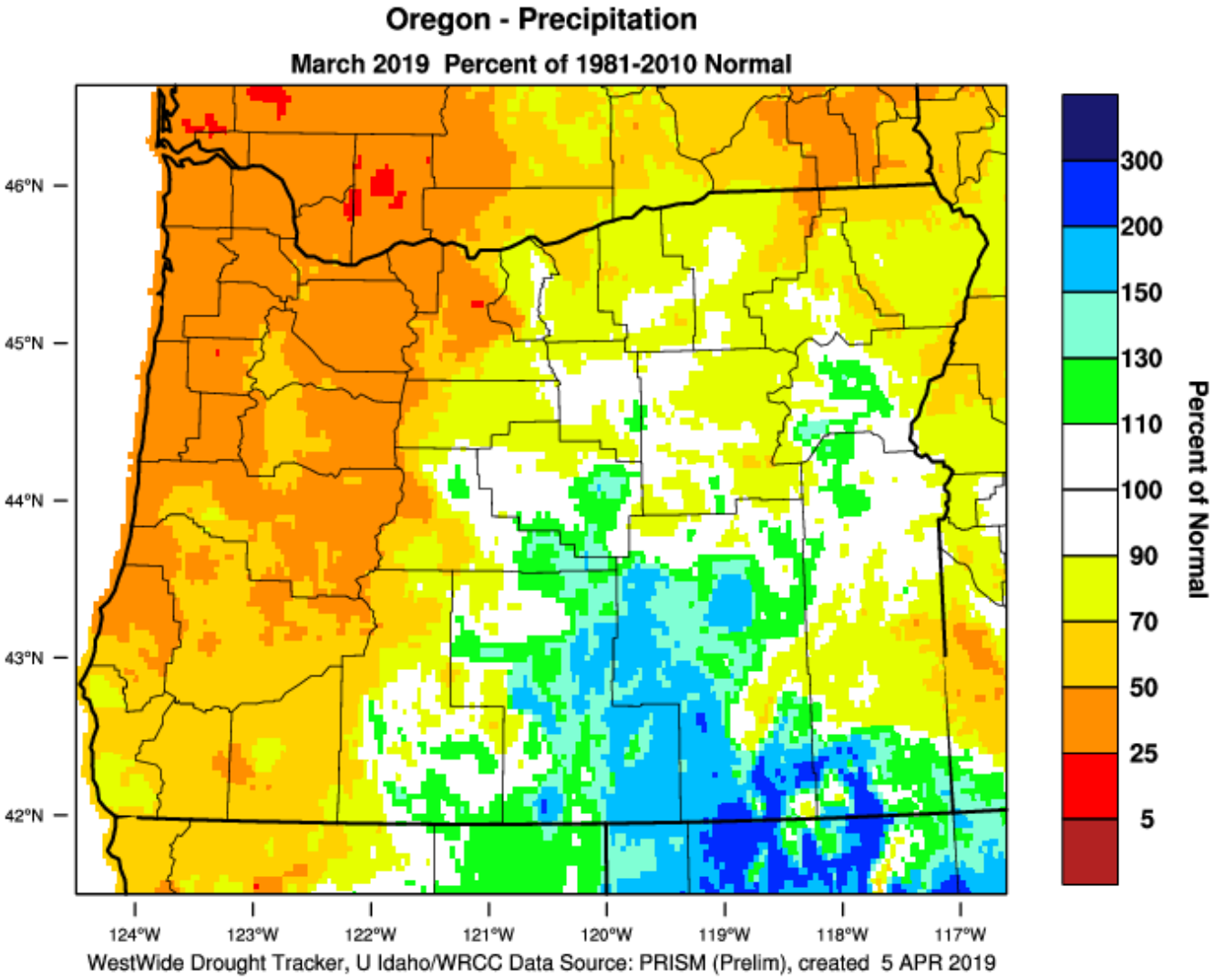
PRISM > Temperature Anomaly 1 Month > Oregon



Precipitation – (1 Month) Percent of Normal

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

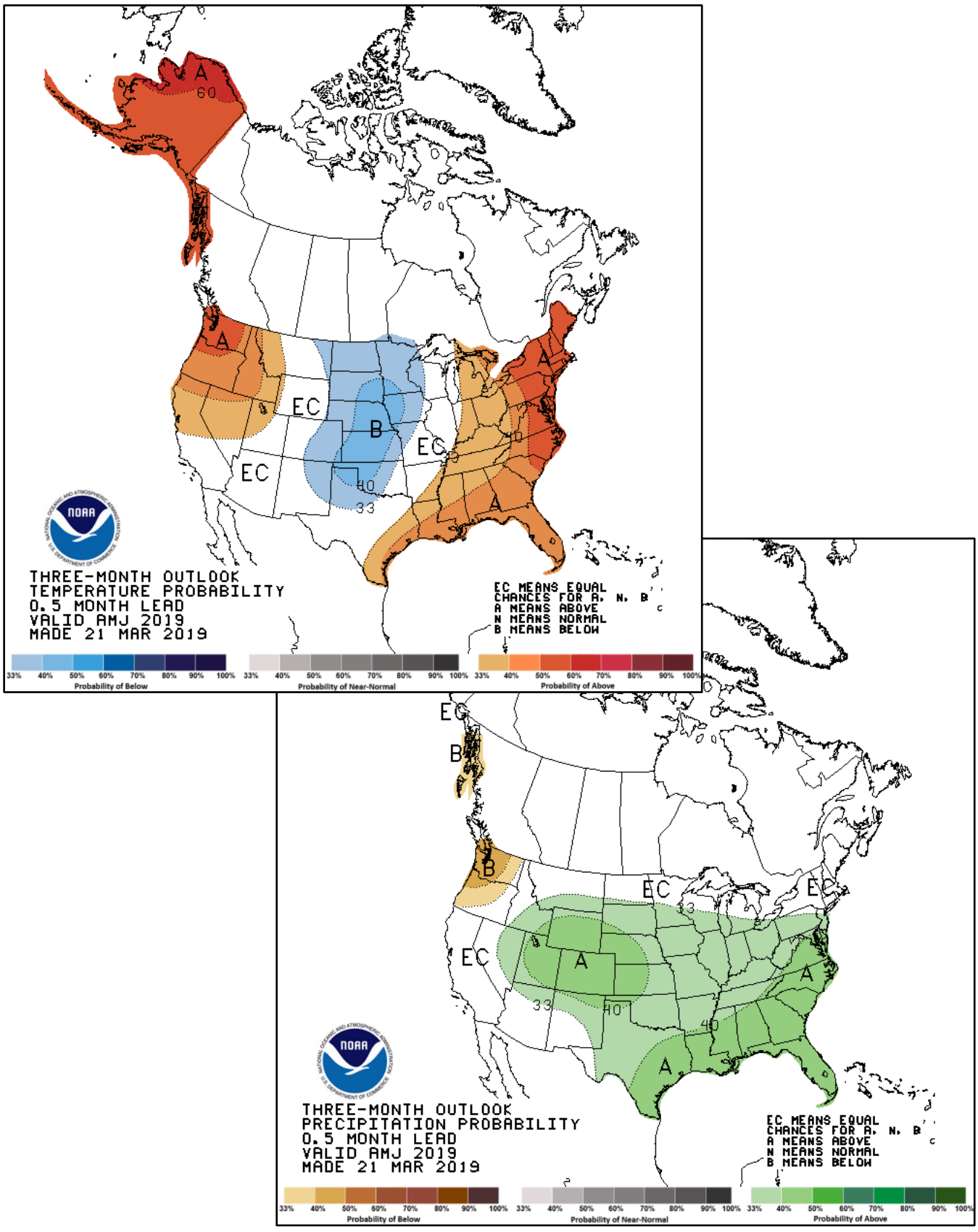
PRISM > Precipitation Anomaly 1 Month > Oregon



Three Month Temperature and Precipitation Outlook

April through June

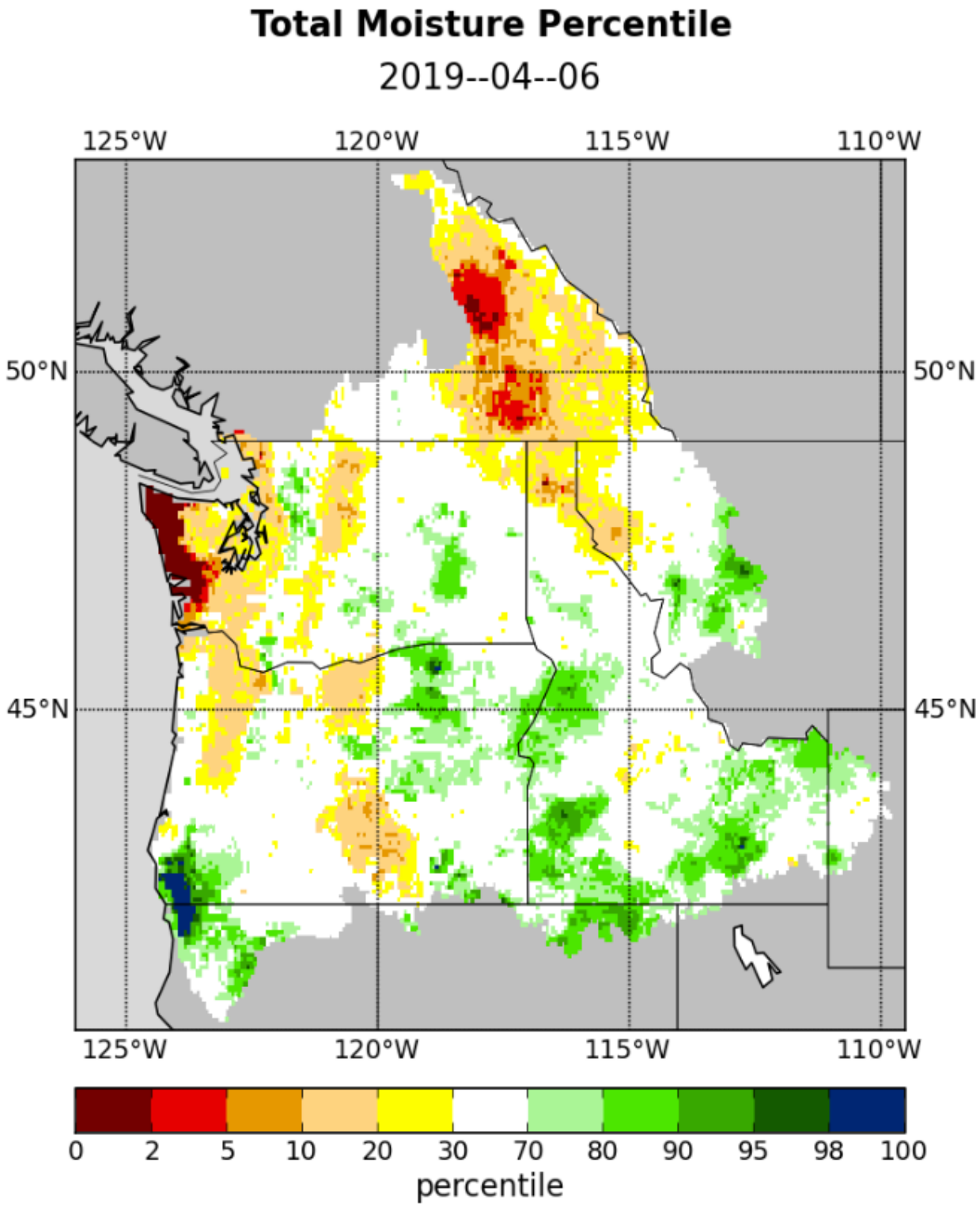
Website: http://www.cpc.ncep.noaa.gov/products/predictions/long_range/seasonal.php?lead=1



Total Moisture - Percentile

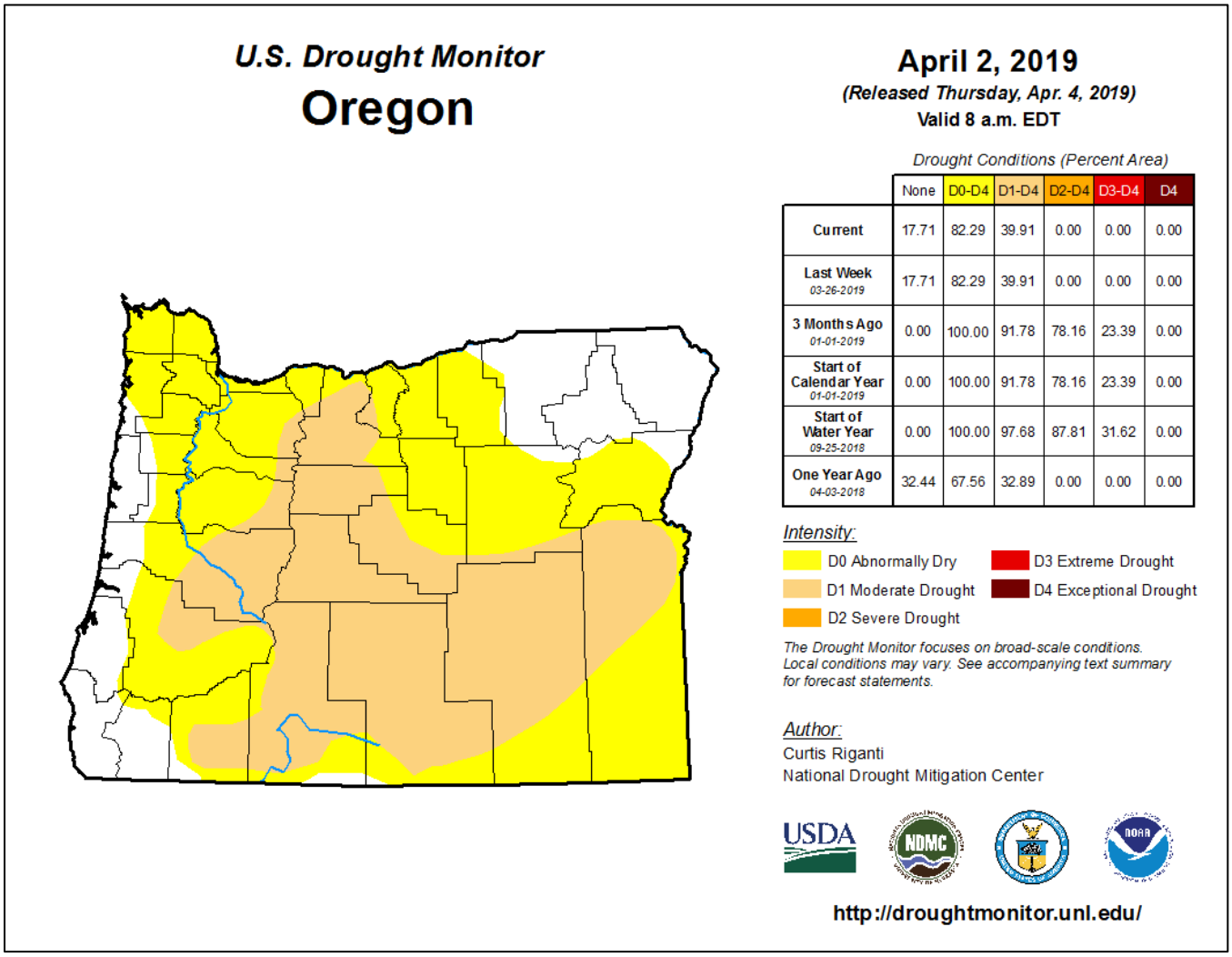
Total Moisture (STOT) is a moisture index calculated by adding Soil Moisture and Snow Water Equivalent. STOT represents the total water content of a region.

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

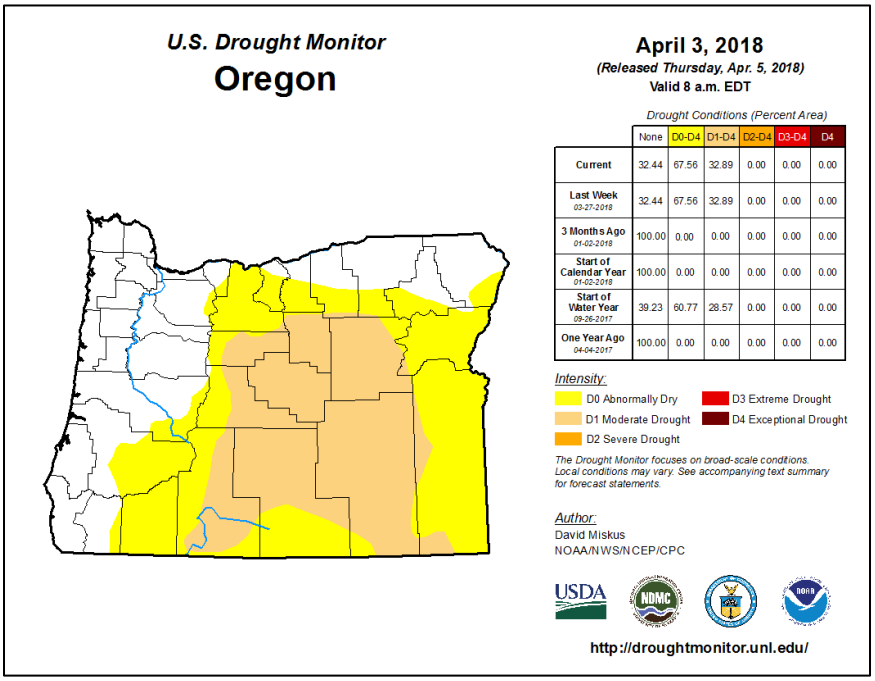


U.S. Drought Monitor for Oregon

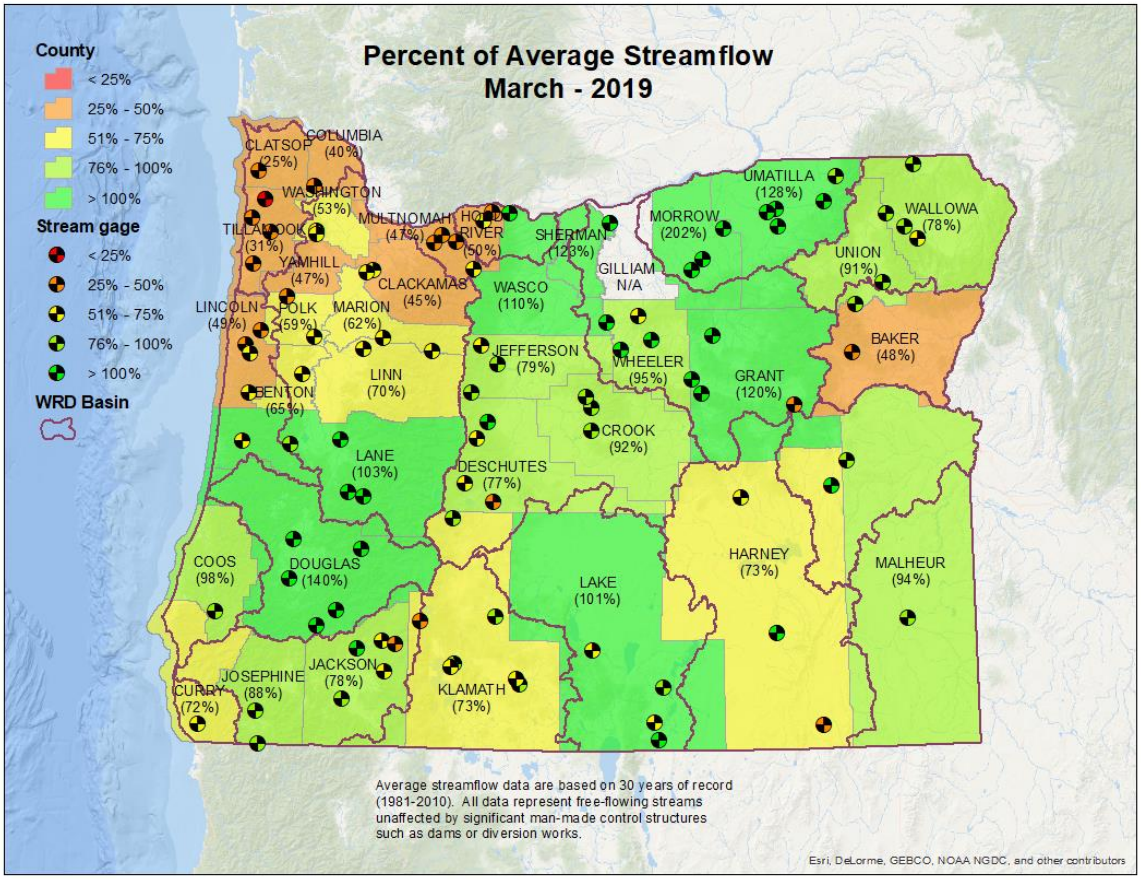
Website: https://droughtmonitor.unl.edu/CurrentMap/StateDroughtMonitor.aspx?OR



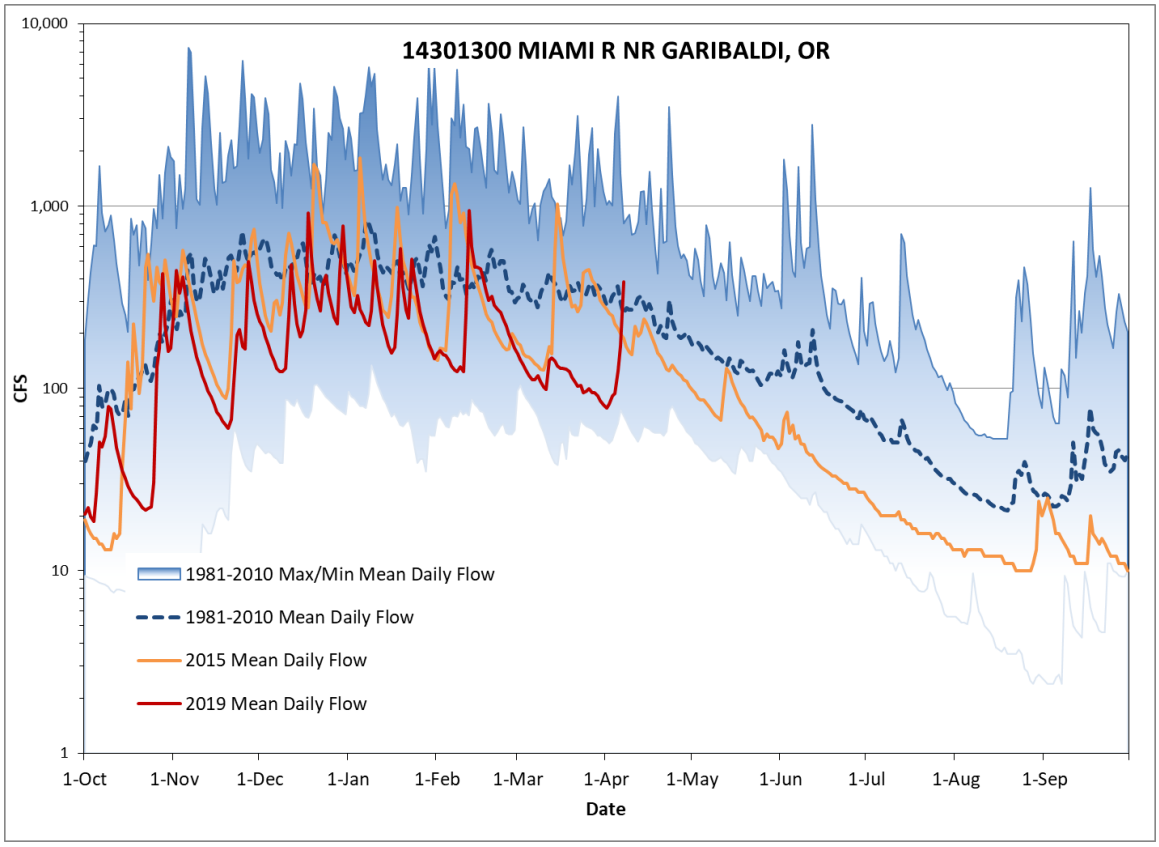
Compared to this time last year:



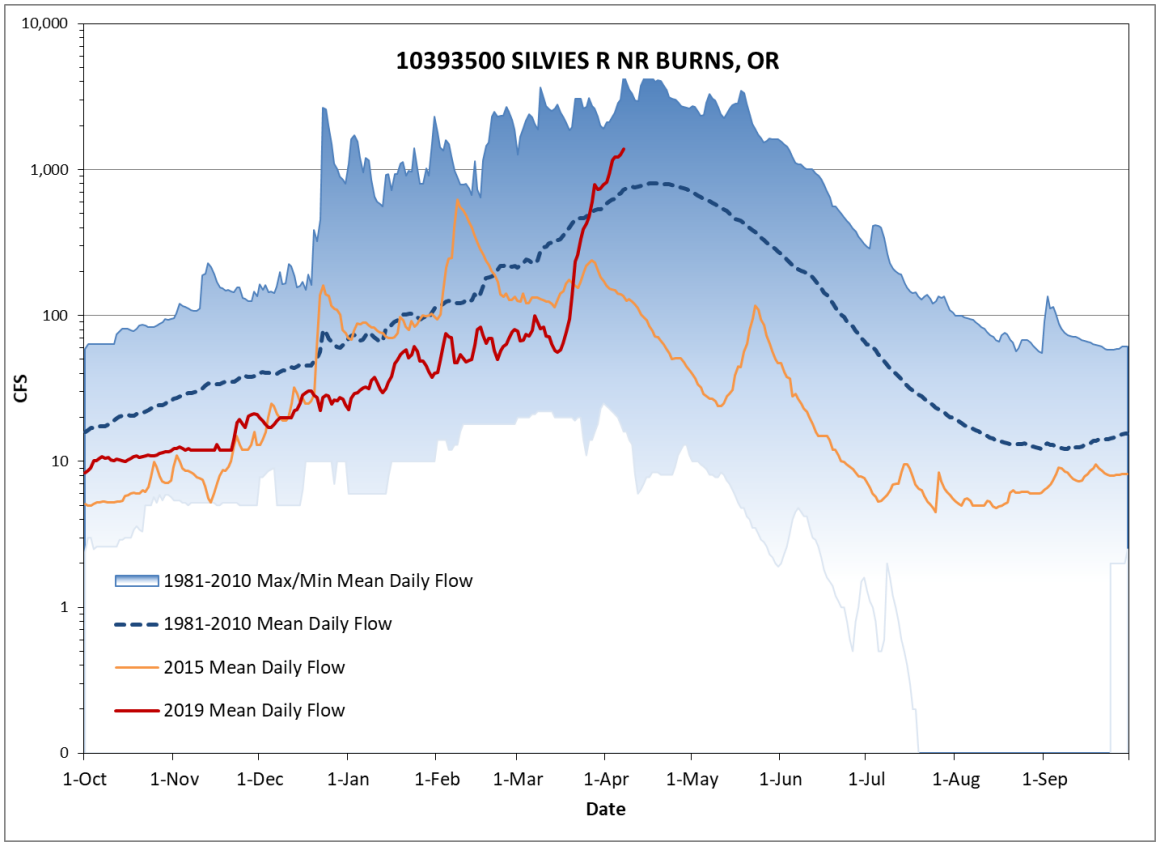
Streamflow Conditions by County - March



Streamflow Conditions – North Coast Basin (Tillamook County)



Streamflow Conditions – Malheur Lake Basin (Harney County)



Streamflow Conditions – Powder Basin (Baker County)