

### Update on Drought Conditions and Impacts for Oregon as of September 11<sup>th</sup>, 2015

Drought conditions across Oregon range from moderate to extreme, as identified by the [U.S. Drought Monitor](#). Drought conditions have intensified and expanded across the state over the past several months, due to two main factors:

1 - A winter with record-low or near-record-low snowpack caused by a combination of below-average precipitation and much-above-average temperatures.

2 - A dry and hot spring and summer, with periods of record-high temperatures in May, June, and July, especially in western and north-east Oregon. Overall it was the hottest June on record for most of Oregon and one of the hottest Julys on record. The meteorological summer, June through August, was also the hottest on record for many locations of Oregon.

Precipitation and cooler temperatures in late August and early September have provided some relief for extreme fire conditions and caused minor increases in streamflow for northwest Oregon rivers.

Visit [drought.gov](http://drought.gov) for more details on drought conditions and categories in Oregon and the Pacific Northwest.

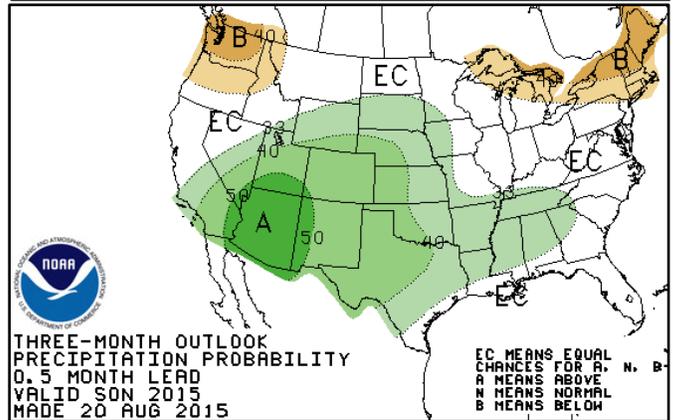
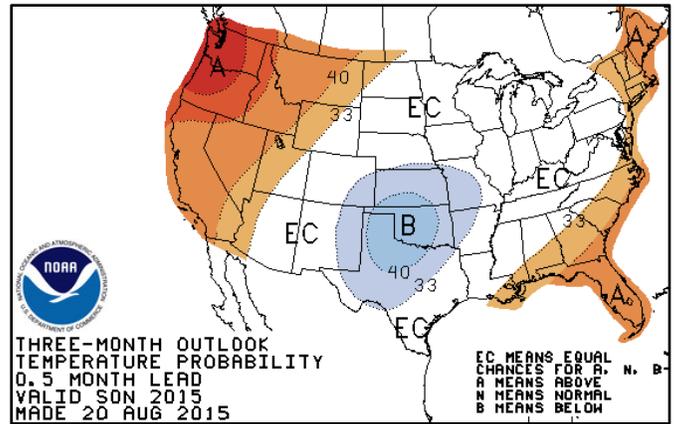
State drought declarations have been issued for many counties, too many to list here. Affected counties include all those in southwest, southeast, and north-central Oregon. For details, visit the Oregon Water Resources Drought Watch at [www.Oregon.gov/owrd/pages/wr/drought.aspx](http://www.Oregon.gov/owrd/pages/wr/drought.aspx).

US Dept of Agriculture drought disaster declarations are also in effect for most Oregon counties, except for a handful of counties in extreme northwest Oregon. Visit [usda.gov](http://usda.gov) for more information on disaster declarations and assistance programs for drought-impacted areas.

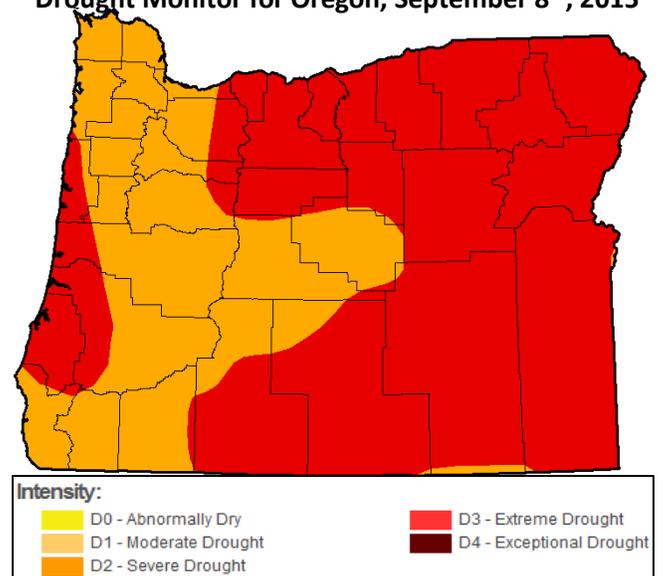
For much of southern Oregon, this is the second or third year of drought, and drought impacts continue to intensify. However, the areal extent and severity of this year's drought exceed the two previous years for the state as a whole.

Drought impacts will evolve and change through the fall and may persist into next winter. The much-publicized onset of a strong El Niño in the tropical Pacific Ocean may provide some drought relief for Oregon, especially the southern half, this coming winter.

Recent major drought impacts include active wildfires in various parts of the state, and major die-offs for sturgeon and migrating salmon due to the low streamflow and very warm water temperatures. Ongoing drought impacts also include:

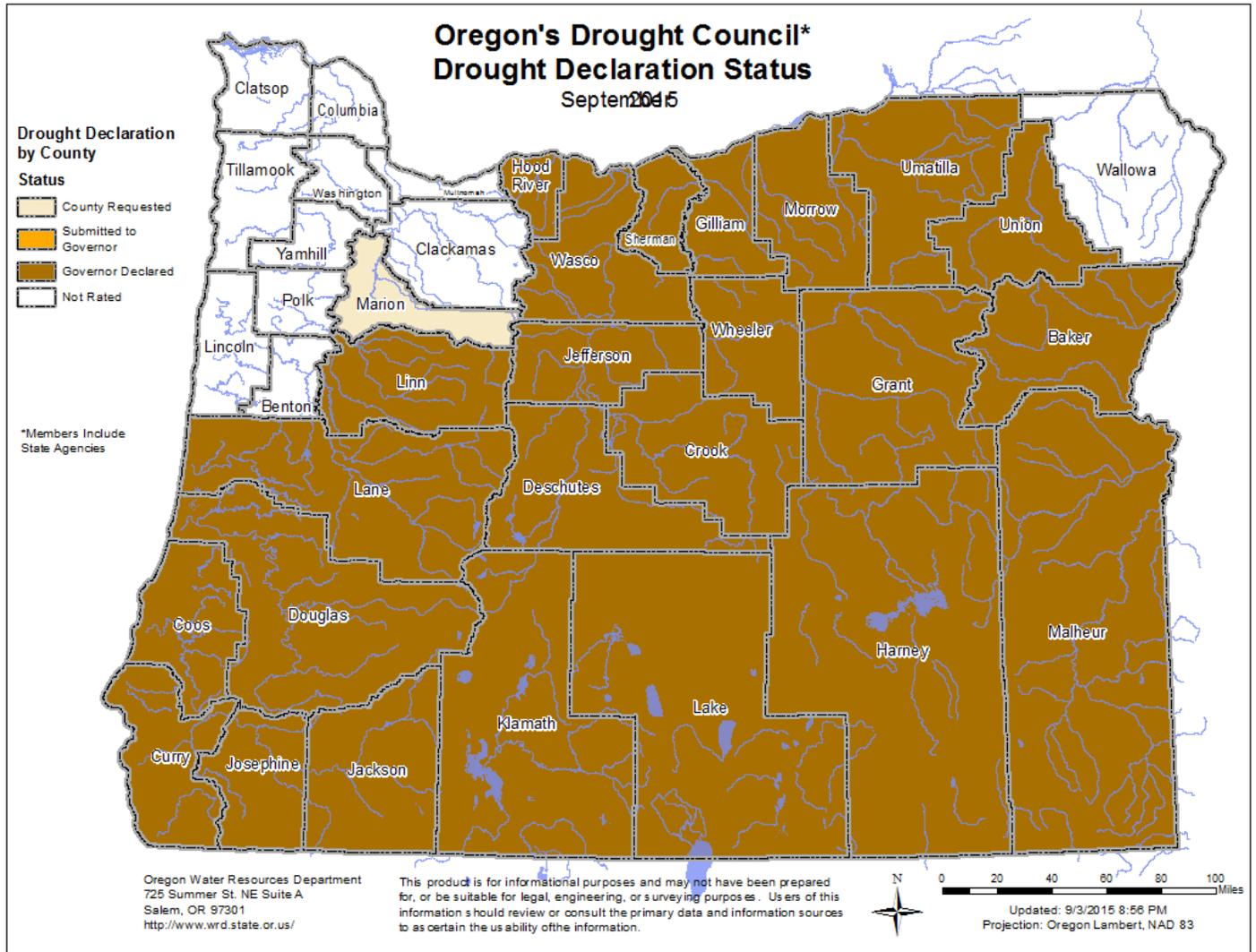


Drought Monitor for Oregon, September 8<sup>th</sup>, 2015



drastically-reduced water allocations for irrigators in some basins, reduced water supply for communities especially where dependent on natural streamflow only, reduced acreage and overall production for many field crops, poor range conditions and water availability for cattle and other animals, and reduced recreation access for many Oregon reservoirs.

Note that this product will be issued on at least a monthly basis in 2015 as long as widespread drought conditions persist in Oregon. The next update will be issued by October 9th.



### Observed Precipitation and Temperatures

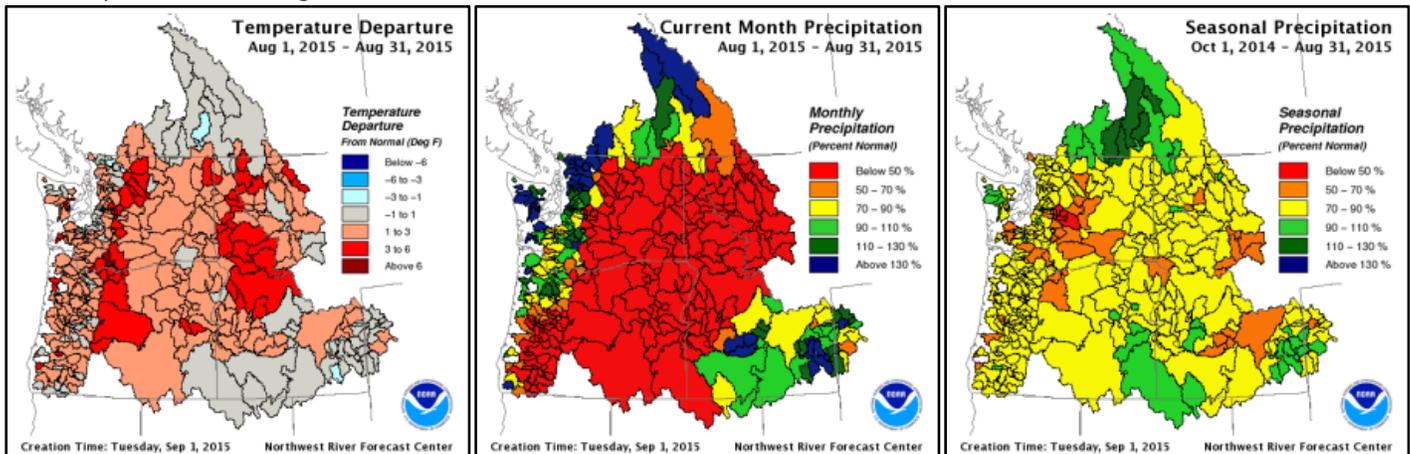
Water-year precipitation (October 2014 - August 2015) is generally 60 to 80 percent of average, except for 80 to 100 percent in far-southeast Oregon. These numbers aren't extreme, but it's worth noting that most of the winter precipitation came in big pulses as tropically-sourced atmospheric rivers, which brought several days of fairly heavy rain interspersed among extended dry periods. This meant that most storms did not produce mountain snow and gradual recharge of soil moisture through the winter. By April and May, most rivers were dropping toward summer baseflow levels instead of the usual spring snowmelt rises. Summer showers and thunderstorms have provided some relief from very dry conditions, especially for portions of south-central and southeast Oregon, and storms in late August and early September brought significant rainfall to northwest Oregon.

Temperatures for the past several months have been notably above-average. Many Oregon cities set new records for the hottest meteorological summer (June, July, and August). Some of the cities include Portland, Salem, Eugene, Roseburg, Medford, and Klamath Falls.

The following table shows August 2015 temperature departure from average, monthly precipitation total and percent of average, and water year precipitation (Oct 2014 - Aug 2015) and percent of average for selected Oregon locations.

LOCATION	AUG AVE TEMP DEP	AUG PRECIP (INCHES)	PERCENT AVERAGE	WY PRECIP (INCHES)	PERCENT AVERAGE
ASTORIA	+2.8	1.34	116	54.74	84
NORTH BEND	+2.8	0.20	32	42.74	67
PORTLAND	+2.9	0.66	100	30.70	89
EUGENE	+3.0	0.23	38	29.69	66
MEDFORD	+2.2	0.04	10	14.32	81
REDMOND	+1.8	0.02	4	8.77	103
PENDLETON	+0.6	0.01	3	9.71	80
KLAM. FALLS	+0.9	0.42	99	12.82	89
ONTARIO	+2.4	0.02	13	9.25	96
BURNS	+1.7	0.21	58	9.28	89

Visit [www.nwrfc.noaa.gov/water\\_supply/wy\\_summary/wy\\_summary.php](http://www.nwrfc.noaa.gov/water_supply/wy_summary/wy_summary.php) for more details on observed precipitation and temperatures in Oregon.



### Precipitation and Temperature Outlook for the Next Several Months

The outlook for the rest of September is for a somewhat active storm track affecting Oregon, with above-average precipitation and below-average temperatures likely. However, with the onset of a strong El Niño in the tropical Pacific, the Climate Prediction Center outlook for temperatures shows high likelihood of above-normal temperatures this fall and winter. The outlook for precipitation for the coming fall and winter is more uncertain but leans below-average.

Visit [www.cpc.ncep.noaa.gov](http://www.cpc.ncep.noaa.gov) for more information on seasonal outlooks and evolving El Niño conditions.

### Reservoir Conditions

Several reservoirs in south-central and southeast Oregon have little or no remaining storage as of early September. For example, Warm Springs Reservoir storage is 0 percent of capacity and Owyhee Reservoir is 1 percent of capacity. In other parts of the state, reservoir storage is generally 10 to 50 percent of average, and operators are doing their best to manage the remaining storage for a variety of downstream needs, including irrigation, in-stream fisheries habitat, recreation, and hydro-electric power.

Most of the smaller reservoirs supplying urban areas, such as the Bull Run project operated by Portland Water Bureau, are near normal storage with adequate supply for the fall.

Visit [www.wcc.nrcs.usda.gov/cgibin/resv\\_rpt.pl?state=oregon](http://www.wcc.nrcs.usda.gov/cgibin/resv_rpt.pl?state=oregon) for more information on reservoir conditions.

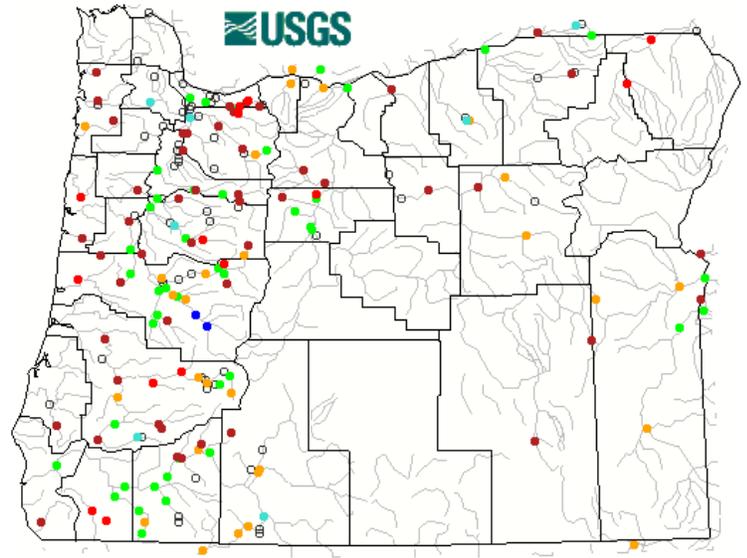
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### Streamflow and Summer Water Supply Volumes

Streamflow in August was below average for most Oregon rivers, but near-average for some central Oregon basins. Many rivers and streams along the Oregon coast and the west slopes of the Cascades approached all-time record low flows but rebounded a little with the late August and early September rainfall.

Water supply volumes for April - September 2015 will be 20 to 60 percent of average across the state, with some basins in eastern Oregon only 10 to 20 percent. Many of these volumes are at or near the previous lowest streamflow volumes on record. The Columbia River at The Dalles, a good index for conditions throughout the Columbia basin, is on track for 68 percent of average for April - September.

Visit [waterwatch.usgs.gov](http://waterwatch.usgs.gov) for details about individual basins and river gages and [www.nwrfc.noaa.gov/ws/](http://www.nwrfc.noaa.gov/ws/) for water supply volumes.



Explanation - Percentile classes							
Low	<10	10-24	25-75	76-90	>90	High	Not-ranked
	Much below normal	Below normal	Normal	Above normal	Much above normal		

Monthly streamflow for August 2015 compared to historical averages

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### Drought Impacts in Oregon

Dry and hot conditions this spring and summer set the stage for a prolonged and intense fire season. Thunderstorms in July and August provided the ignition for many of the large fires that have dominated news headlines across Oregon and the Pacific Northwest in recent weeks.

Another tangible impact of the drought is that many rivers have been at or near record low streamflow for this time of year, leading to restrictions and reductions in water use for many irrigation districts and some communities.

High fish mortality has been seen in many Oregon rivers due to the low flows and warm temperatures, and many rivers have fishing restrictions in place.

If you have questions or comments about this drought information statement please contact:

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Email: [w-pqr.webmaster@noaa.gov](mailto:w-pqr.webmaster@noaa.gov)