

Washington State Weekly Drought Monitoring Report

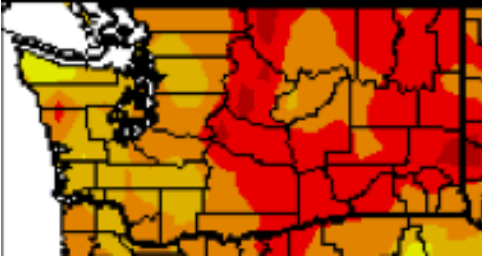
Thursday, July 16, 2015

Issue 13

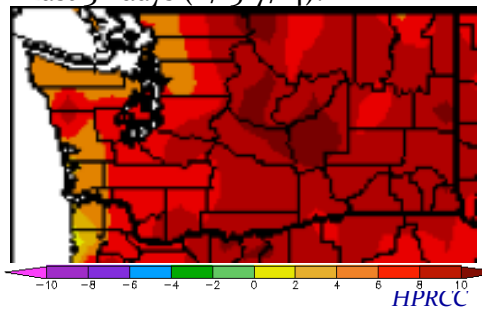
Statewide Overview

Mean Temperature Anomalies (°F)

Weekly (7/8-7/14):

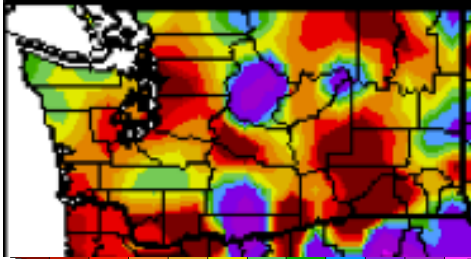


Last 30 days (6/15-7/14):

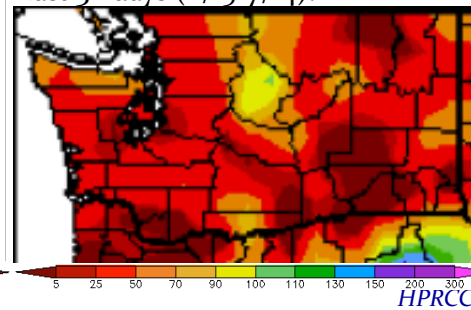


Precipitation Percent of Normal (%)

Weekly (7/8-7/14):

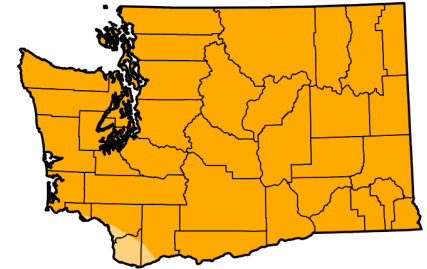


Last 30 days (6/15-7/14):



Drought Monitor, and Long-term Streamflow

US Drought Monitor (7/14):



NDMC



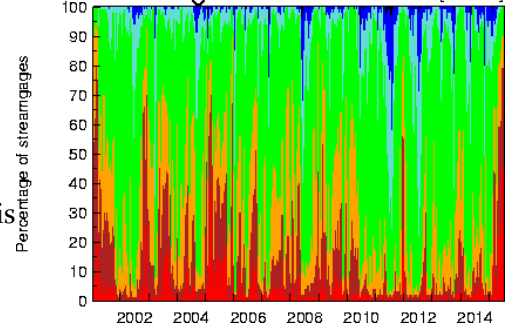
Streamflow Time Series (7/15):

There are very low streamflows for most watercourses in WA state. The chart below illustrates the percentage of sites in the various flow categories. About 70% of the gauges are showing flows in the lowest 10 percentile, which is without precedent in the record back to 2001. As shown above, the US Drought Monitor now indicates severe drought for 98.6% of WA.

Since January 16, 2001

Washington

[99 sites]



Explanation - Percentile classes						
Low	<10	10-24	25-75	76-90	>90	High
	Much below normal	Below normal	Normal	Above normal	Much above normal	

The recent weather for WA state is summarized above in the form of maps of temperature and precipitation anomalies over the last 7 days, and over the last 30 days. The period of 8-14 July included positive temperature anomalies of 2-6 °F in the western portion of the state, and 6-8 °F for most of eastern Washington. This 7-day period included just the very end of the prolonged heat wave that gripped WA state from late June into July. The effects of this heat wave are reflected in the 30-day temperature anomaly map for the period of 15 June through 14 July, which shows temperatures for much of the state were more than 6 °F above normal, with some regions of eastern WA checking in with anomalies exceeding 10 °F. The last 7 days has featured spatial variations in precipitation with regions on the east slopes of the Cascades and in the far eastern portion of WA receiving much above normal amounts and other regions, notably the Puget Sound region and lower Columbia Basin receiving little or no precipitation. A more consistent story is shown in the map for the percentage of precipitation relative to normal for the 30-day period of 15 June through 14 July. With the exception of one location in Chelan County on the east side of the Cascade Mountains, the entire state was drier than normal, with most stations receiving less than 25% of their usual amounts. The precipitation deficiency was especially pronounced in portions of eastern WA, where some locations received less than 2% of normal rainfall.

USGS

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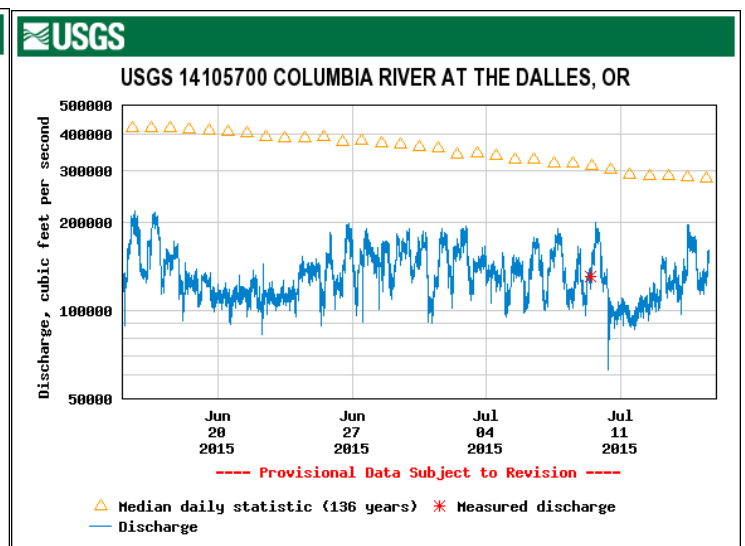
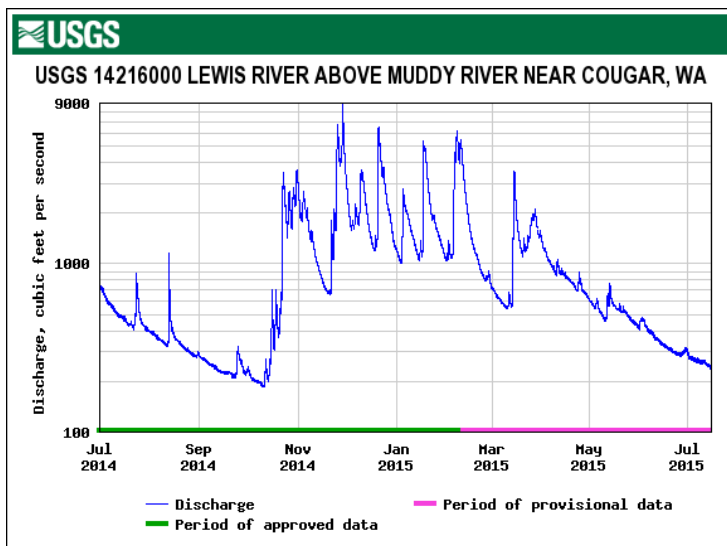
Statewide Drought Declared

On May 15, Governor Inslee declared a statewide drought; more information can be found at WA State [Department of Ecology](#). This section highlights issues that have developed in various regions of the state.

Clark County

As discussed in the statewide perspective, low stream flows are occurring throughout WA state. The situation in Clark County of southwest WA is summarized in an excellent video featuring Jim Bryne of the Washington Department of Fish and Game. Area streams will almost certainly continue to dwindle, and warm, over the remainder of this summer. Particularly worrisome are the conditions of the streams at the end of summer in terms of the quality of their habitats for resident fish and adult salmon returning to spawn. For example, the Lewis River is flowing at about one-third of its normal rate, and its present rate of discharge (streamflow) is now comparable to that at the end of the dry season of 2014, as illustrated in the figure below at left. Managers are taking steps to minimize the damage to freshwater ecosystems, but adverse impacts are already happening and liable to worsen.

[Video](#)



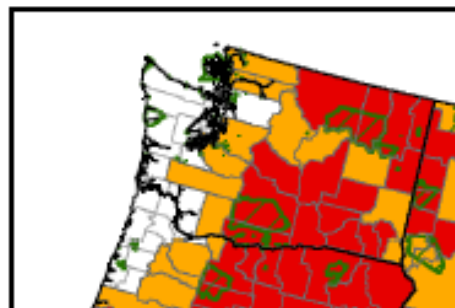
Columbia River

Low flows are not just impacting smaller streams in WA state but also the Columbia River. The figure at upper right shows the discharge during the period of 15 June through 14 July on the Columbia River at The Dalles, OR, with the orange triangles indicating median daily values. Present conditions, including elevated temperatures and low oxygen concentrations, may be related to the recent occurrence of unusually high sturgeon mortality. [Sturgeon](#) The flows on the Columbia River are controlled with multiple (hydropower, recreational, environmental, etc.) objectives in mind. Juggling these multiple objectives represents a special challenge when the total amount of water available is reduced as is currently the case.

[USGS](#)

US Department of Agriculture Disaster and Drought Assistance

The number of counties in WA state eligible for disaster assistance related to the drought was expanded as of 15 July 2015. More information is available from the USDA at the following website: [USDA](#)



Secretarial Drought Designations for 2015

Disaster Incidents as of July 15, 2015

- State Boundary
- County Boundary
- Tribal Lands
- Primary Counties: 390
- Contiguous Counties: 186

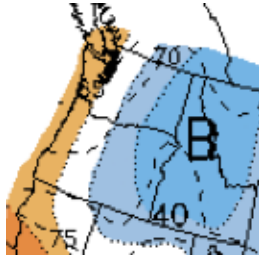
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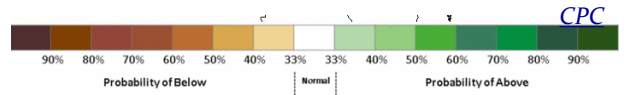
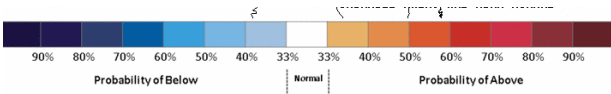
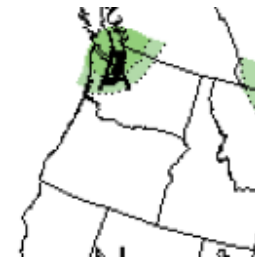
Temperature

Extended Outlook

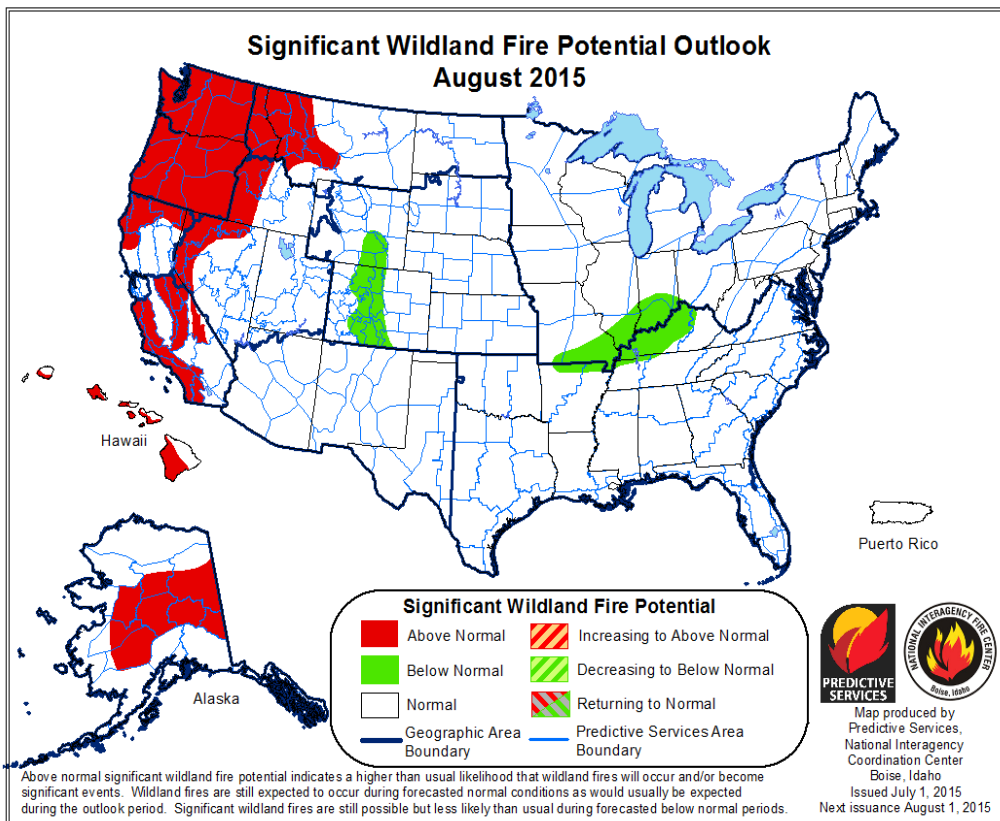
Precipitation



8-14 Day CPC Outlook



The 8-14 day forecast from NOAA/CPC for 23-29 July indicates slightly higher probabilities of above normal temperatures in western WA and below normal temperatures in eastern WA. There is a higher probability of above normal precipitation in the northwestern corner of the state. There is substantial inconsistency among the individual numerical weather prediction model runs used in making these forecasts. Therefore, the confidence in this particular outlook is relatively low, especially with regards to the precipitation forecast. The mean regional circulation for the period features slightly enhanced flow from the west, which tends to be associated with moderate temperatures and light precipitation for most of the state. Exceptions are west-facing slopes at higher elevations, which can receive substantial amounts of rain during these situations.



A higher than usual likelihood of wild land fires in the Pacific Northwest is predicted for August by Predictive Services of the National Interagency Fire Center. This outlook is based on higher than normal temperatures and already dry fuels. Only minimal amounts of precipitation are expected that could alleviate the generally dry landscape. From a shorter-term perspective, the relatively mild temperatures, and potential for wetting rains, during the next week or two suggests there is likely to be a lull in new fire starts. While the wild fire season in WA state has gotten off to an early and active start, the details in how the weather plays out over the remainder of summer will ultimately determine its overall severity.

NIFC