

The Month In Review

August 2018

National Weather Service
Pendleton, Oregon

August, 2018 Climate Summary

The month of August was, like July, hot (and smoky from area wildfires). Temperatures were above average for most of the month. There were only a couple brief cool downs. At the end of the month there was a more significant cool down. However, for the most part, the month was hot and dry with numerous wildfires. Every single station that is presented here had above normal average temperatures, and in some cases much above normal, and below normal precipitation. There were also numerous wildfires during the month due to mostly lightning ignitions during the middle of the month. This report will not only describe the climate for August 2018 in the Forecast Area, but will also list many of the wildfires across the Forecast Area during the month.



Low visibility in dense smoke over Pendleton, OR



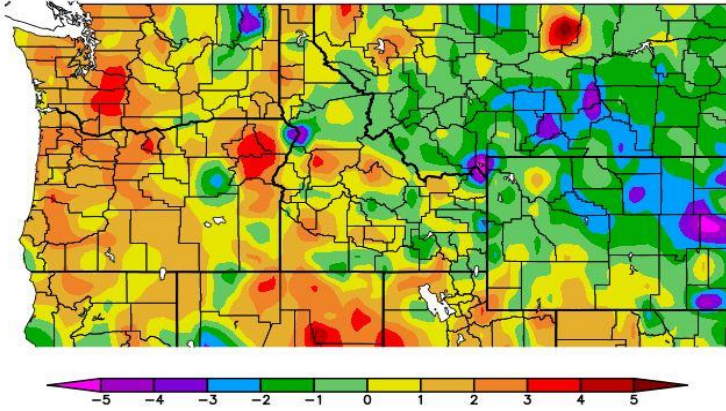
Smoke above the valleys which affected the higher elevations near the Miriam Fire.



Very dim sun due to thick smoke due to regional wildfires.

August 2018 Departure from Normal Temperatures

Departure from Normal Temperature (F)
8/1/2018 – 8/31/2018

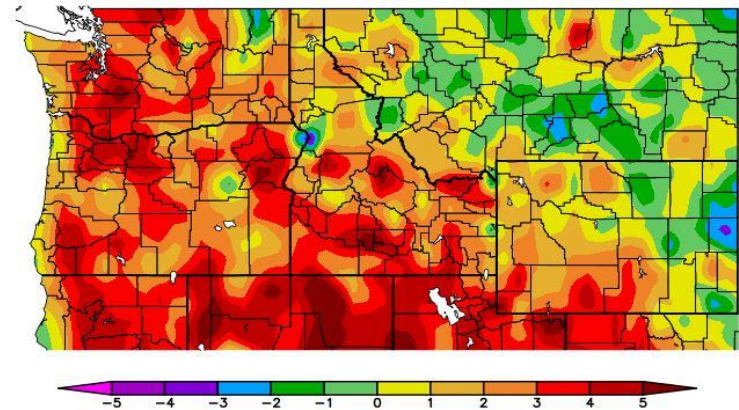


Generated 9/2/2018 at HPRCC using provisional data.

NOAA Regional Climate Centers

Departure from normal for August, 2018

Departure from Normal Temperature (F)
7/1/2018 – 7/31/2018



Generated 8/6/2018 at HPRCC using provisional data.

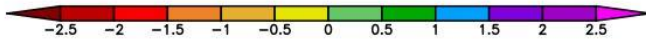
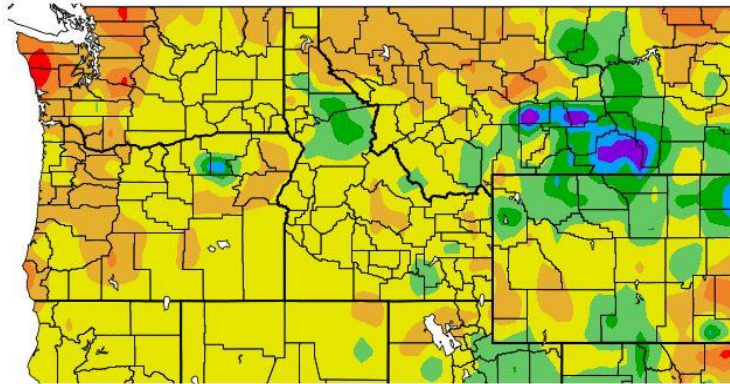
NOAA Regional Climate Centers

Departure from normal for July, 2018

The images above show a comparison of the departure from normal of the average temperatures for August vs. July, 2018. As the images show, August average temperatures (upper left) were not as much above normal as they were July (lower right) for Oregon and Washington.

August 2018 Departure from Normal Precipitation

Departure from Normal Precipitation (in)
8/1/2018 – 8/31/2018

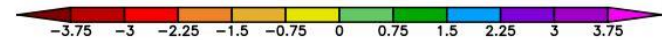
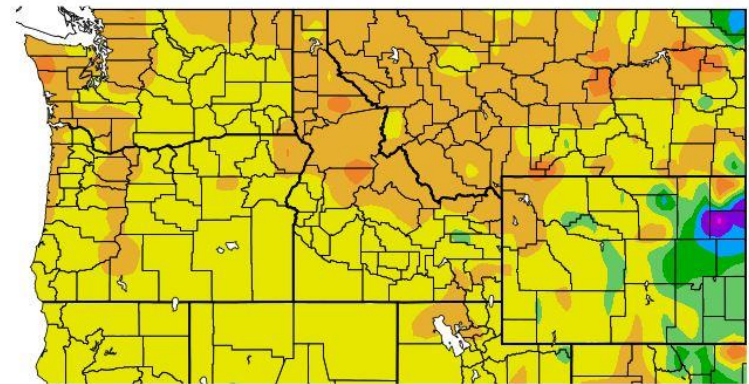


Generated 9/2/2018 at HPRCC using provisional data.

NOAA Regional Climate Centers

Departure from normal precipitation for August

Departure from Normal Precipitation (in)
7/1/2018 – 7/31/2018



Generated 8/6/2018 at HPRCC using provisional data.

NOAA Regional Climate Centers

Departure from normal precipitation for July

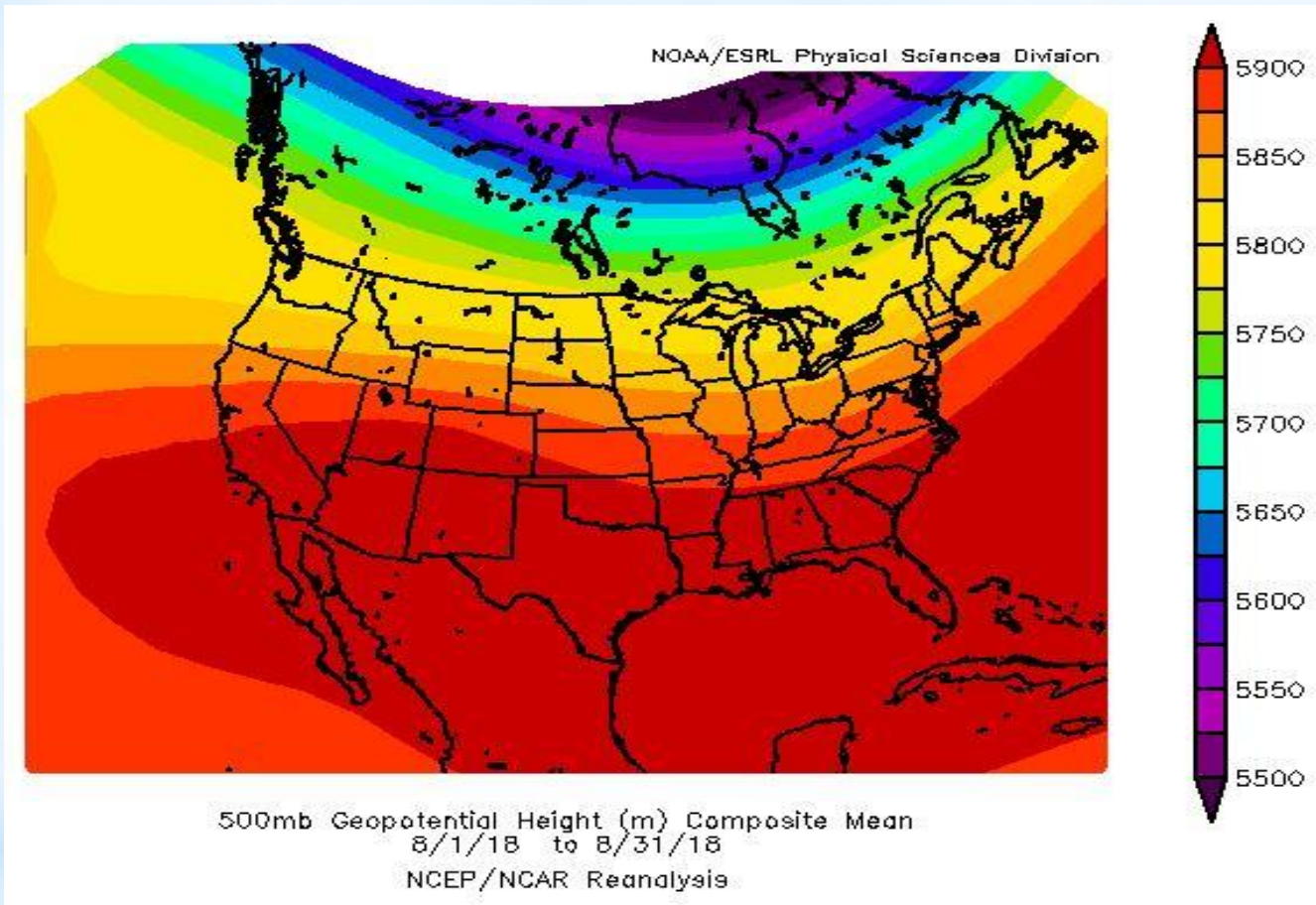
The above images show a comparison of August vs. July 2018 precipitation departure from normal. July and August were similar (below normal precipitation), except for a small portion of northeast Oregon in August where the precipitation was a little above normal. This was likely due to a thunderstorm event during the month of August.

August 2018 Departures from normal for select cites

	Max T	Max T D	Min T	Min T D	Ave T	Ave T D	PCPN	PCPN D
Yakima	88.9	2.1	53.2	1.4	71.1	1.8	Trace	-0.26
Kennewick	91.3	2	61.4	0.6	76.3	1.3	Trace	-0.18
Walla Walla	88.9	0.8	62.4	2	75.6	1.4	0.09	-0.48
The Dalles	89.6	2.3	61.7	2.2	75.6	2.2	0	-0.23
Redmond	87.5	2.7	46.6	1.4	67.1	2.1	Trace	-0.50
Pendleton Airport	88.6	1.8	57	0.2	72.8	1.0	0.03	-0.35
La Grande	90.8	5.1	53.8	1.5	72.3	3.3	0.21	-0.64

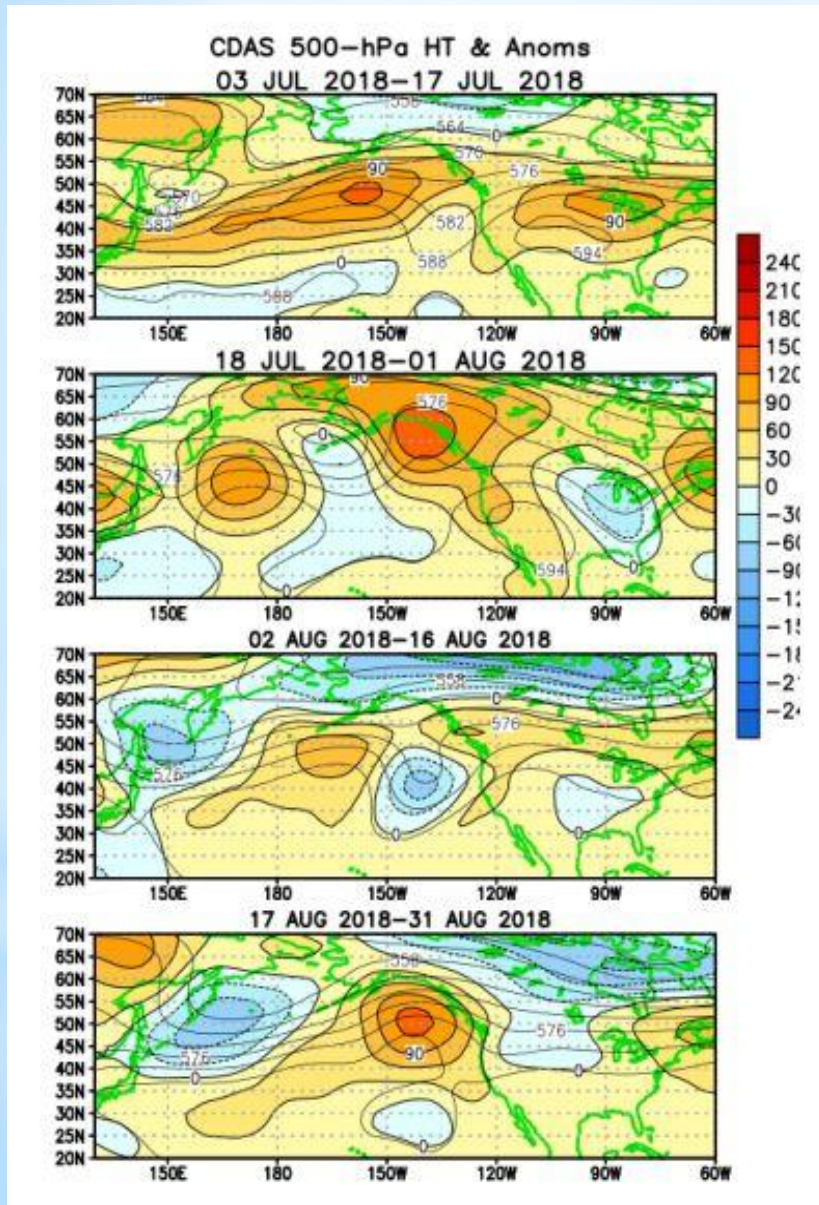
The data above shows that ALL locations had higher than normal mean monthly high temperatures, mean monthly low temperatures and higher than normal mean monthly average temperatures for August. In addition, every station had below normal precipitation. In comparison with July, the departure from normal temperatures were not as great in August as it was in July. There was no precipitation at any station in the month of July, except for a trace at Redmond, OR. However, in August, every station shown here had either a trace or more of precipitation, except The Dalles, which had zero precipitation. However, every station still had below normal precipitation amounts. The continued higher than normal temperatures and below normal precipitation led to another active month of wildfires.

August 2018 Average 500 MB Weather Pattern



The image above shows a slight mean southwest flow over the Pacific Northwest (Oregon and Washington) with overall ridging over the Four Corners region. This flow and upper ridge kept the Forecast Area warmer than average, but not too significantly warmer than average since it was not too amplified of a pattern. It also let some weather systems to move through the region, mainly during the latter part of the month, to provide some light rainfall.

More Detailed 500 MB Plots for July & August, 2018



These graphics show roughly a bi-weekly comparison of the 500 MB weather patterns beginning on July 3rd and ending on August 31st. This represents generally the bi-weekly weather patterns of July and August, 2018. Land boundaries are in green.

In the first image there was an overall upper trough pattern off the coast with a southwest flow over the Pacific Northwest. This led to above normal temperatures and little to no precipitation in the first half of July. Not much change happened (second image: July 18 – August 1st) except that the southwest USA high pressure center became more prominent, which kept the forecast area hot and dry as the upper ridging extended into the Pacific Northwest. In August (the last two images) the upper ridge persisted until the 16th over the western USA with continued warmer and drier than normal weather. After that (August 17th – 31st) the upper ridge retrograded off the coast and allowed a trough into the Pacific Northwest to develop, which allowed for some cooling and some convective precipitation during the latter half of the month.

Record Temperatures

During the month of August, 2018, even though the departure from normal temperature were not as great as in July, 2018, there were more high temperature records broken for the month. These took place during a 3 day period of very hot conditions from August 8th through the 10th. There were no record low temperatures for the month.

Record High Temperatures

STATION	PREVIOUS RECORD RECORD / YEAR	NEW RECORD	RECORDS BEGAN
AUGUST 8, 2018			
MEACHAM, OR	98 / 1972	99 / 2018	1929
REDMOND, OR	104 / 1972	104 (TIED) / 2018	1941
SATUS PASS, WA	96 / 2000	96 (TIED) / 2018	1967
WALLA WALLA, WA	108 / 1972	108 (TIED) / 2018	1930
AUGUST 9, 2018			
BEND (CITY), OR	97 / 1981	100 / 2018	1901
LA GRANDE (CITY), OR	102 / 1972	102 (TIED) / 2018	1887
LONG CREEK, OR	100 / 1996	104 / 2018	1908
MEACHAM, OR	92 / 2017	102 / 2018	1929
REDMOND, OR	100 / 1971	103 / 2018	1941
GOLDENDALE, WA	103 / 1996	103 (TIED) / 2018	1905
JOHN DAY (CITY), OR	103 / 1971	103 (TIED) / 2018	1891
AUGUST 10, 2018			
HANFORD STATION, WA	109 / 1996	109 (TIED) / 2018	1945
LONG CREEK, OR	100 / 1996	104 / 2018	1908
JOHN DAY (CITY)	103 / 1971	103 (TIED) / 2018	1891
BEND (CITY)	97 / 1986	97 (TIED) / 2018	1901
MEACHAM, OR	94 / 2017	94 (TIED) / 2018	1929

Significant Weather Events & Some Major Wildfires

During the month of August, 2018, there was one thunderstorm event. There were also numerous large wildfires in the Forecast Area.

A Significant Weather Event (Severe Thunderstorm with Large Hail)

PRELIMINARY LOCAL STORM REPORT				
NATIONAL WEATHER SERVICE PENDLETON OR				
1047 AM PDT FRI AUG 17 2018				
..TIME...	...EVENT...	...CITY LOCATION...	...LAT.LON...	
..DATE...MAG....	..COUNTY LOCATION..ST..SOURCE....	
..REMARKS..				
0600 PM	HAIL	5 SE SISTERS	44.24N 121.47W	
08/16/2018	M1.00 INCH	DESCHUTES	OR	FIRE DEPT/RESCUE
VIDEO POSTED TO SOCIAL MEDIA SHOWING NICKEL TO QUARTER SIZED HAIL FALLING AT THE CLOVERDALE FIRE STATION 5 MILES SE OF SISTERS. CALLED FIRE STATION AND VERIFIED HAIL SIZE. ALSO REPORTED VERY HEAVY RAIN WITH PARKING LOT FLOODING DURING THE STORM.				

Some Significant Wildfires

Wildfires	Size (Acres)
Miriam Fire (continued from July)	Over 75,000 +
Stubblefield Fire	54,209 +
South Valley	Over 20,000 +
Jennies Peak	45,973 +
Porcupine II	485 +
Tenino Fire	9,424 +
Seale 1045 RN Fire	23,595 +
Boffer	4,998 +
Lake Wallula	12,377 +
Cemetery	1,414 +
Hawk Fire	700 +

August, 2018 Observed Monthly Max & Min Temperatures

Location	Highest Maximum Temperature	Lowest Minimum Temperature
Pendleton, OR	106	43
Redmond, OR	104	33
Pasco, WA	106	47
Yakima, WA	105	43
Walla Walla, WA	108	51
Bend, OR	100	38
Ellensburg, WA	107	45
Hermiston, OR	105	43
John Day, OR	103	35
La Grande, OR	106	39
The Dalles, OR	106	49
MT Adams RS, WA	98	37

Most stations had maximum temperatures over 100 degrees, but all had at least 1 cool night.

August 2018, Monthly Total Precipitation and Snowfall Totals

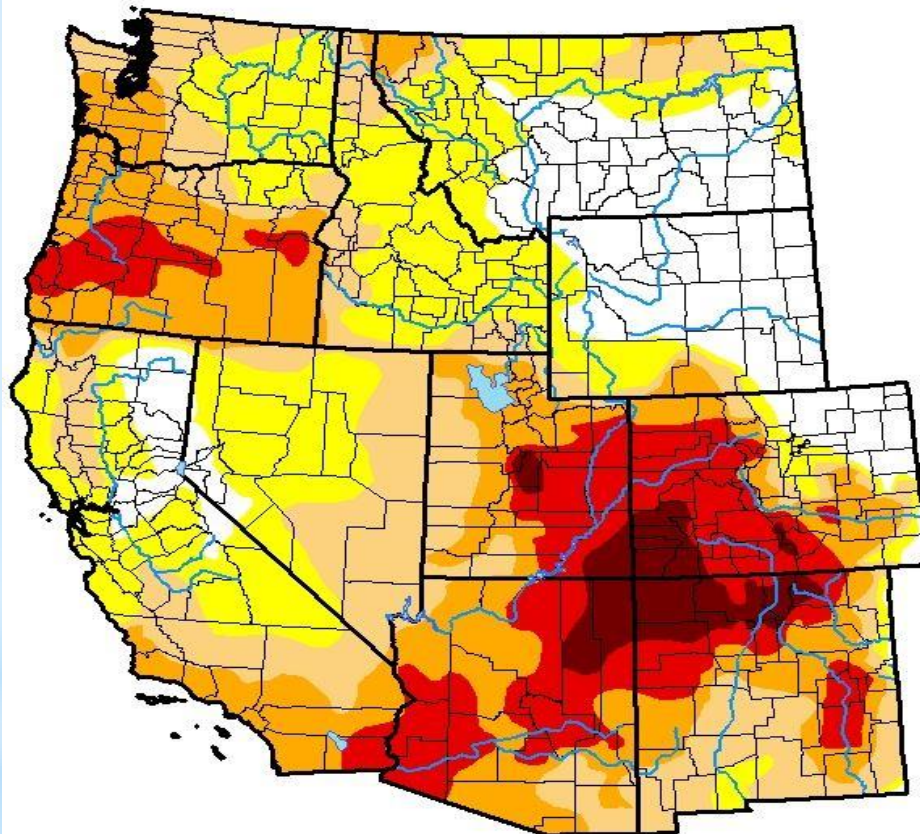
Location	Total Monthly Precip	Total Snowfall (hail)
Pendleton, OR	0.03	0
Redmond, OR	Trace	0
Pasco, WA	Trace	0
Yakima, WA	Trace	0
Walla Walla, WA	0.09	0
Bend, OR	0.19	0
Ellensburg, WA	Trace	0
Hermiston, OR	0.05	0
John Day, OR	0.08	0
La Grande, OR	0.21	0
The Dalles, OR	0.00	0
Mt Adams RS, WA	0.20	0

All stations reported at least a trace of rainfall, except The Dalles which had 0.00” rain. There was no snow (hail in the summer) reported in August at any station.

End of August, 2018 - Current Drought Monitor

U.S. Drought Monitor West

September 4, 2018
(Released Thursday, Sep. 6, 2018)
Valid 8 a.m. EDT



Drought Conditions (Percent Area)

	None	D0-D4	D1-D4	D2-D4	D3-D4	D4
Current	16.03	83.97	58.74	37.58	16.82	3.69
Last Week <i>08-28-2018</i>	15.89	84.11	58.28	36.50	15.77	3.58
3 Months Ago <i>06-05-2018</i>	35.78	64.22	44.02	31.42	18.87	4.34
Start of Calendar Year <i>01-02-2018</i>	48.76	51.24	29.03	8.60	1.52	0.00
Start of Water Year <i>09-26-2017</i>	55.72	44.28	21.01	8.72	5.30	2.17
One Year Ago <i>09-05-2017</i>	53.52	46.48	20.14	8.77	5.42	3.22

Intensity:

- D0 Abnormally Dry
- D1 Moderate Drought
- D2 Severe Drought
- D3 Extreme Drought
- D4 Exceptional Drought

The Drought Monitor focuses on broad-scale conditions. Local conditions may vary. See accompanying text summary for forecast statements.

Author:

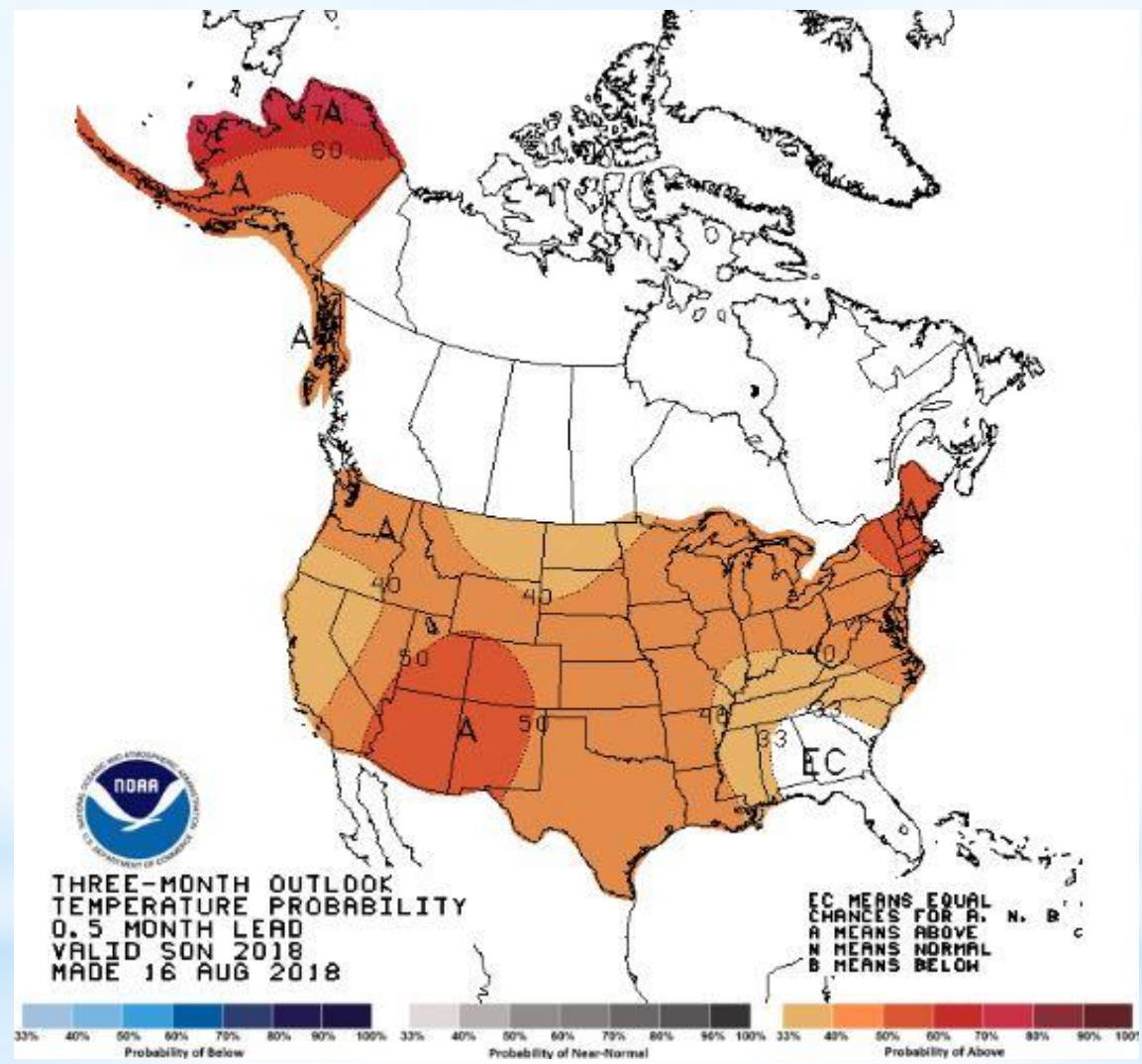
David Miskus
NOAA/NWS/NCEP/CPC



<http://droughtmonitor.unl.edu/>

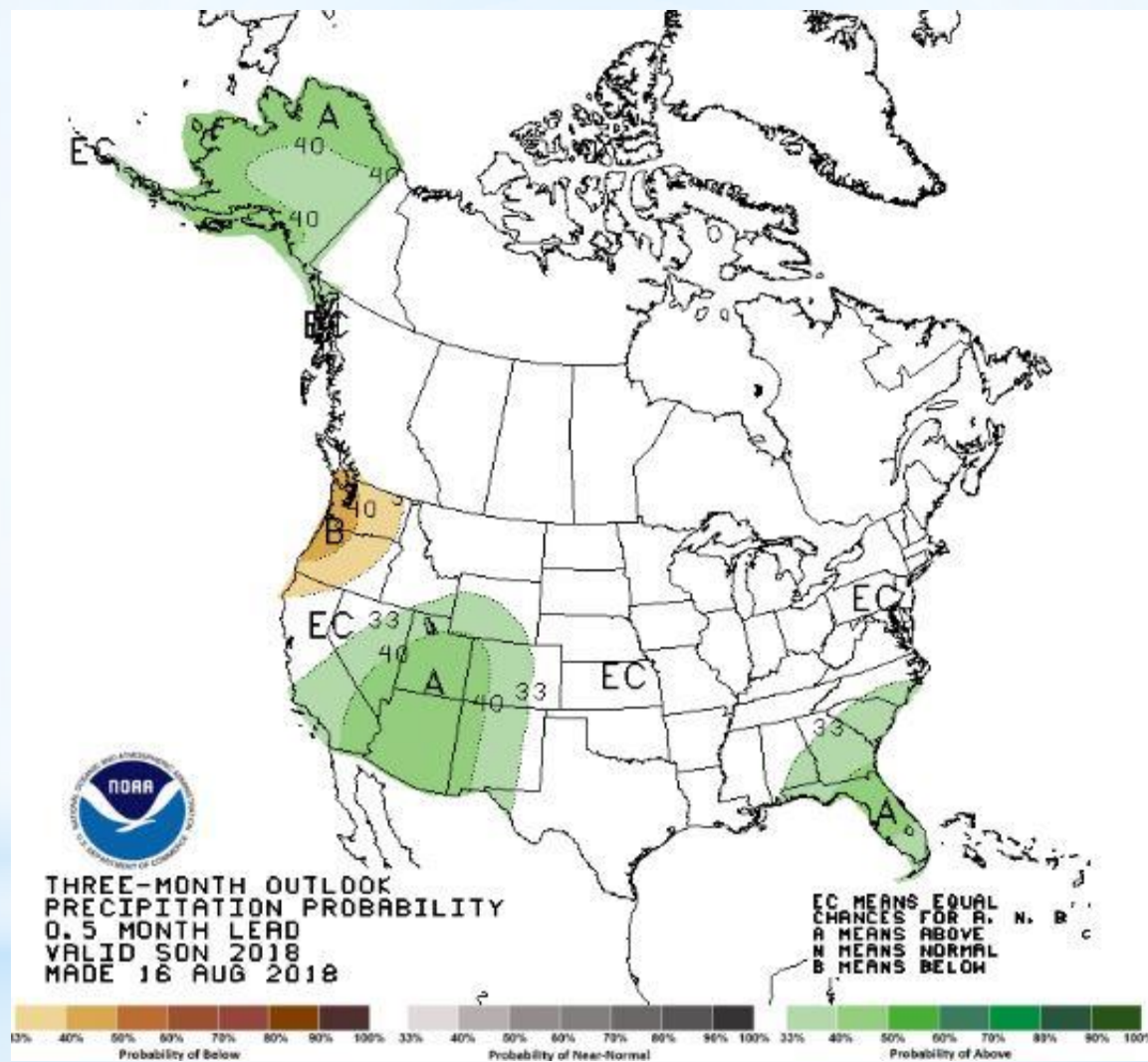
At the end of August (as of September 4th) the northern two thirds of the forecast area had abnormally dry conditions to a moderate drought (D0 – D1). The southern third of the forecast area had a severe to extreme drought (D2 – D3).

USA Three Month Temperature Outlook (September, October & November)



The temperature outlook for the next three months shows about a 40 percent chance of above normal temperatures for most of the Pacific Northwest and the Forecast Area.

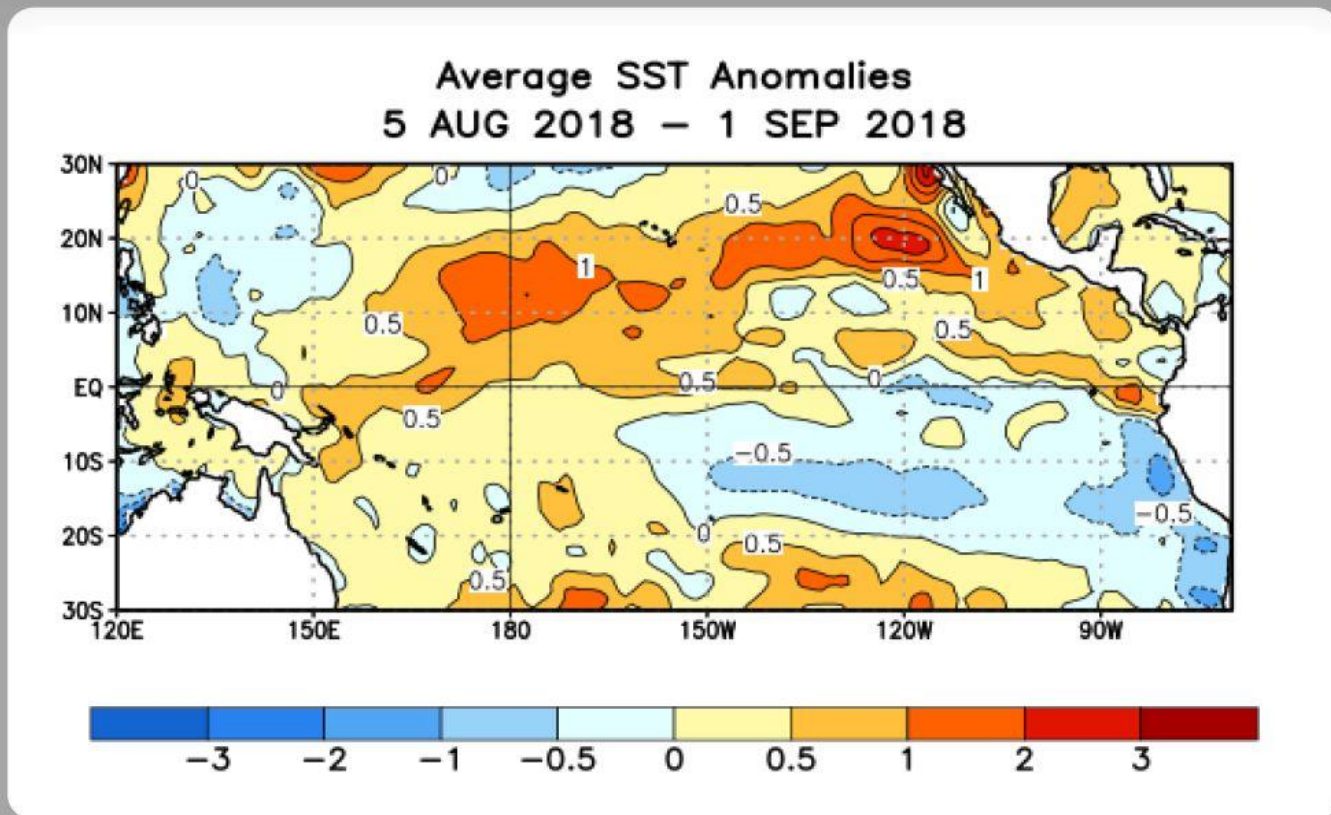
USA Three Month Precipitation Outlook (September, October & November)



The precipitation outlook for the next three months shows most of the Pacific Northwest (and Forecast Area) will have a 33 to 40 percent chance of having below normal precipitation.

SST Departures (°C) in the Tropical Pacific During the Last Four Weeks

During the last four weeks, equatorial SSTs were mostly near average across the east-central Pacific, while remaining above average in the central and western Pacific.



Note that the SST's between 10N - 20N were well above normal. This is likely the reason why there have been more numerous tropical cyclones so far this season in the central and eastern Pacific.



Thank You!