

The Month In Review

October 2018

National Weather Service
Pendleton, Oregon

October, 2018 Climate Summary

The month of October can be summarized as a fairly normal autumn month with cooling temperatures, changing colors of the leaves, and some frosty mornings. The average monthly temperature for Pendleton was slightly cooler than normal at the Pendleton Airport. However, the departure from normal was only -1.1 degrees for the month. Precipitation for the month, for example, at the Pendleton Airport was significantly greater than normal with the departure being +0.62 of an inch above normal. This report will show other cities as well as Pendleton. Below are some scenes from the month of October in northeast Oregon.



Autumn leaves turned brilliant yellows. There were also some reds in other parts of town.



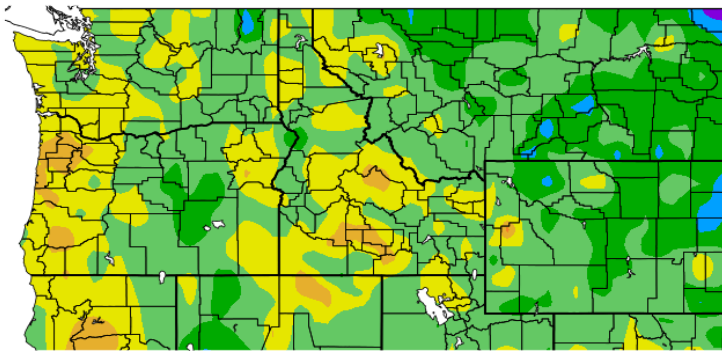
An autumn scene, view of Pendleton from the South Hill.



The corn harvest in October presented itself some fun. This photo is of a corn maze in Echo, Oregon.

October, 2018 Departure from Normal Temperatures

Departure from Normal Temperature (F)
10/1/2018 – 10/31/2018

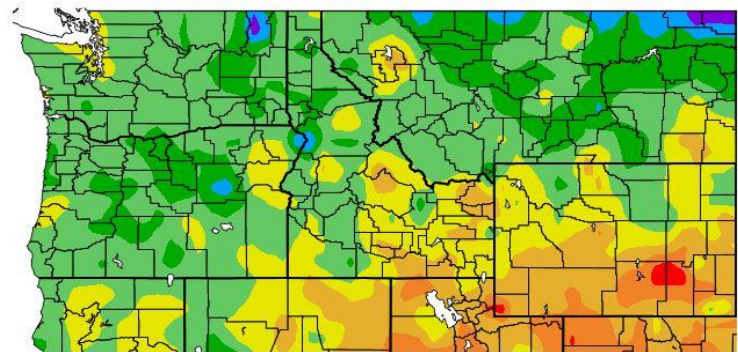


Generated 11/1/2018 at HPRCC using provisional data.

NOAA Regional Climate Centers

Departure from normal for October, 2018

Departure from Normal Temperature (F)
9/1/2018 – 9/30/2018



Generated 10/2/2018 at HPRCC using provisional data.

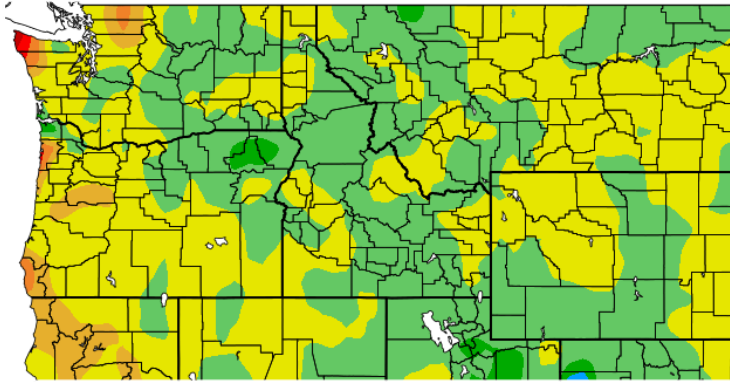
NOAA Regional Climate Centers

Departure from normal for September, 2018

The images above show a comparison of the departure from normal of the average temperature for October vs. September, 2018. These images show that most of the forecast area had slightly below normal temperatures for the month, but the departure was not quite as much as shown for September (lower image).

October, 2018 Departure from Normal Precipitation

Departure from Normal Precipitation (in)
10/1/2018 – 10/31/2018

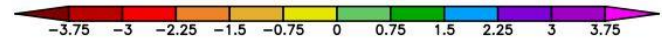
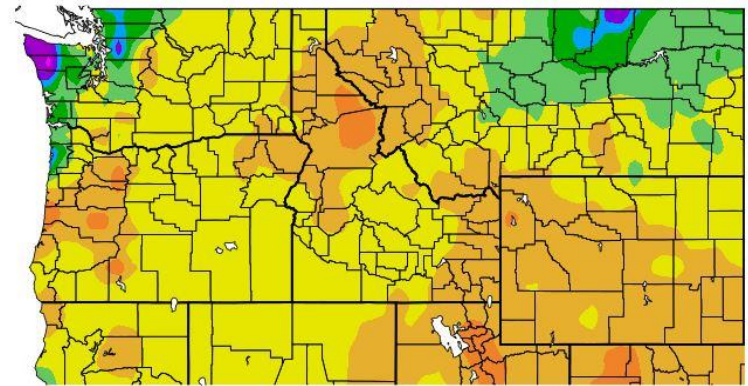


Generated 11/1/2018 at HPRCC using provisional data.

NOAA Regional Climate Centers

Departure from normal precipitation for October

Departure from Normal Precipitation (in)
9/1/2018 – 9/30/2018



Generated 10/2/2018 at HPRCC using provisional data.

NOAA Regional Climate Centers

Departure from normal precipitation for September

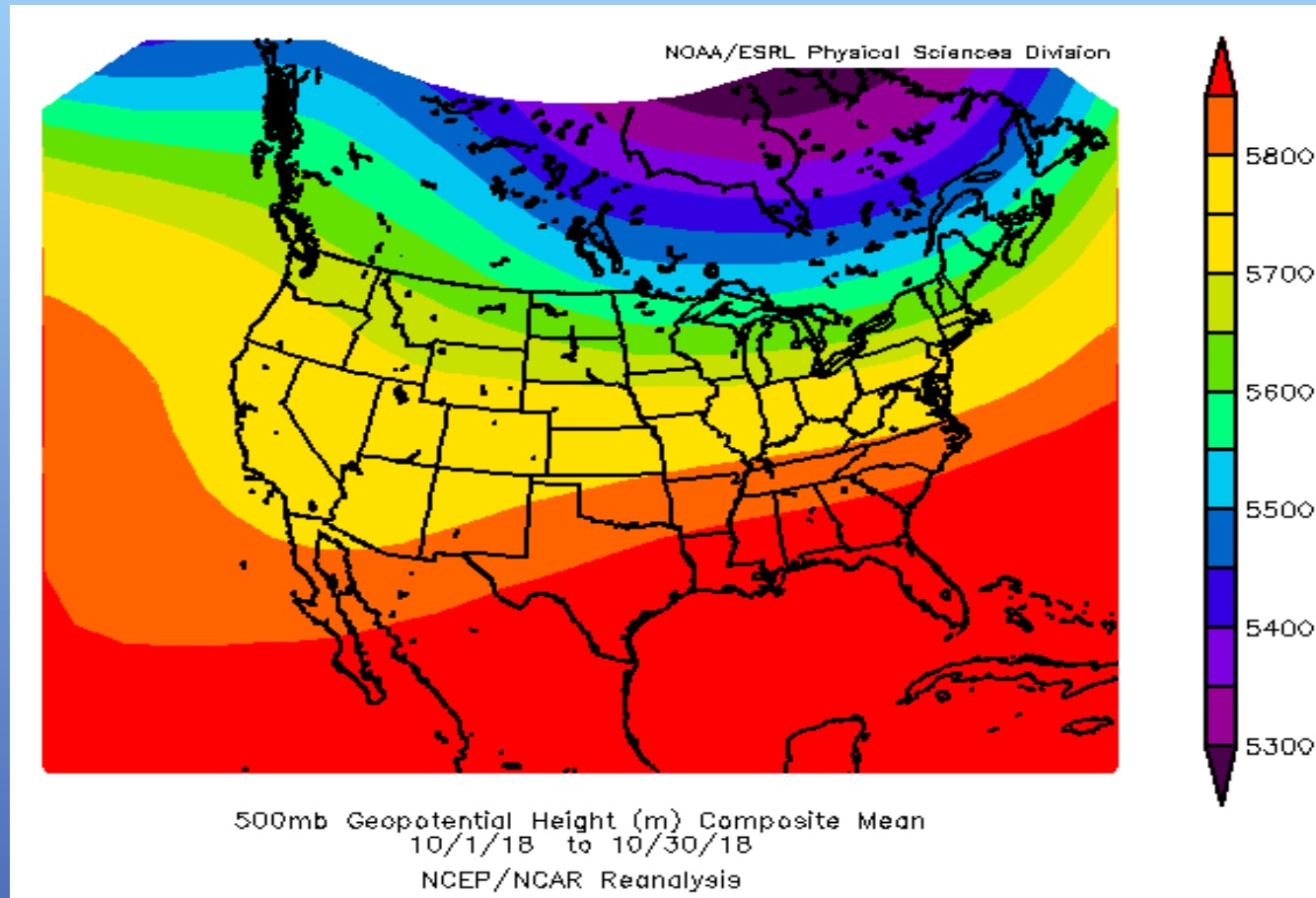
The above images show a comparison of October vs. September, 2018 average precipitation departure from normal. In the upper image, the map shows that October had mainly near to slightly above normal precipitation, except for a bulls eye of a greater departure from normal over the Northern Blue Mountains (Union and Wallowa Counties). This is opposite from September which was all drier normal (lower image).

October, 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	63.6	-0.3	35.4	1.3	49.5	0.5	1.07	0.53
Kennewick	64.5	-1.3	42.5	0.4	53.5	-0.4	0.86	0.26
Walla Walla	62.8	-0.7	44.0	0.9	53.4	0.1	1.93	0.25
The Dalles	65.9	0.2	41.2	-1.1	53.5	-0.5	0.95	-0.04
Redmond	65.2	1.7	31.3	0.0	48.2	0.8	0.29	-0.36
Pendleton Airport	62.2	-1.5	39.4	-0.7	50.8	-1.1	1.63	0.62
La Grande	63.0	0.7	34.7	-0.5	49.1	0.4	2.33	1.04

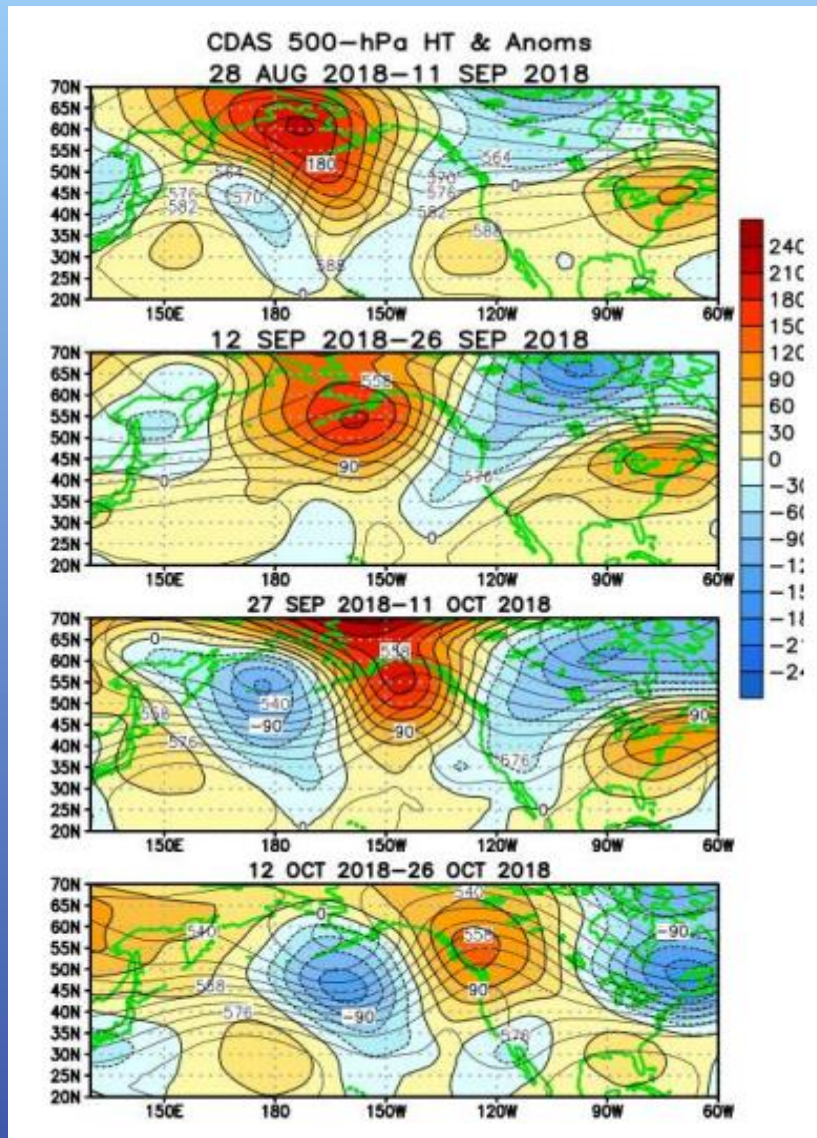
The data above shows that there was a mixture of above and below normal average temperatures and precipitation for the month. There were not any significant departures from normal temperatures. The greatest above normal temperature was +1.7 degrees max T departure at Redmond, and the greatest below normal temperature was at -1.5 degrees at the Pendleton Airport for max T. As for Precipitation the departure from normal averages for the month ranged from -0.36 at Redmond (the driest location during the month) to +2.33 at La Grande. Overall these select cities had both temperatures and precipitation that were not too far from normal for October, 2018.

October, 2018 Average 500 MB Weather Pattern



The image above shows an overall mean broad trough over the eastern and central USA and an overall northwest flow on the east side of an upper ridge over the eastern Pacific and the Pacific NW. The lack of a significant trough or a significant ridge over the Pacific Northwest resulted in a month with near to only slightly above or below normal Temperature or precipitation values for the month for the month of October, 2018.

More Detailed 500 MB Plots - September through most of October, 2018



These graphics show roughly a bi-weekly comparison of the 500 MB weather patterns beginning on August 28th and ending on October 26th 2018. Land boundaries are in green.

In the first image (top) there was mostly a zonal westerly flow with only a slight trough pattern over the Pacific Northwest. Then in the latter part of September (second image from the top), the trough over the Pacific Northwest was more amplified resulting in cooler temperatures.

The bottom two images shows a more detailed weather pattern for mainly October. In the third image from the top there was an overall trough over the Pacific Northwest resulting in cooler and wetter than normal conditions. Then during the latter part of October (the bottom most image), there was a pronounced upper ridge over the Pacific Northwest which resulted in a dry period with valley and basin inversions and mostly clear cold nights and mostly sunny days. During this time period, the lower valleys and the Lower Columbia Basin experienced the first Air Stagnation event for the coming cold season due to the upper ridge over the region and the resultant valley inversions.

Record Weather Events for the Month of October, 2018

During the month of October, there were several days where a record was broken (or tied). During the beginning of the month, these were record precipitation events. Then as high pressure aloft settled over the region during the middle and latter part of the month, there was a record low and a record high (tied) temperature event. The table below shows these records.

<u>RECORD WEATHER EVENTS FOR OCTOBER, 2018</u>				
	STATION	PREVIOUS RECORD	NEW RECORD	RECORDS BEGAN
OCTOBER 9TH, 2018				
RECORD PRECIPITATION				
	COVE, OR	0.64 / 1956	0.93	1917
	HEPPNER, OR	0.63 / 1983	1.15	1889
	LA GRANDE (CITY), OR	0.4 / 1970	1.05	1887
	PENDLETON (ES), OR	0.51 / 1983	0.57	1932
	UKIAH, OR	0.67 / 1983	0.69	1922
	UNION (ES), OR	0.34 / 1911	0.56	1911
	KENNEWICK, WA	0.37 / 1947	0.57	1884
OCTOBER 10, 2018				
RECORD PRECIPITATION				
	MEACHAM, OR	1.45 / 1970	2.08	1929
	PENDLETON (ARPT), OR	0.67 / 1983	0.67	1934
OCTOBER 14, 2018				
RECORD LOW TEMP				
	MEACHAM, OR	19 / 2002	18	1929
OCTOBER 26, 2018				
RECORD HIGH TEMP				
	YAKIMA, WA	69 / 1992	69 (TIED)	1909

October, 2018 Observed Monthly Max & Min Temperatures

Location	Highest Maximum Temperature	Lowest Minimum Temperature
Pendleton, OR	73	31
Redmond, OR	82	18
Pasco, WA	77	27
Yakima, WA	75	27
Walla Walla, WA	74	37
Bend, OR	83	21
Ellensburg, WA	72	29
Hermiston, OR	78	29
John Day, OR	75	21
La Grande, OR	80	24
The Dalles, OR	75	32
MT Adams RS, WA	79	25

These data show that the greatest extremes were in the higher elevation stations that were not affected as much by the lower valley inversions during the latter half of the month.

October, 2018, Monthly Total Precipitation Totals

Location	Total Monthly Precip	Total Snowfall or Hail
Pendleton, OR	1.63	0
Redmond, OR	0.29	0
Pasco, WA	0.80	0
Yakima, WA	1.07	0
Walla Walla, WA	1.93	0
Bend, OR	0.14	0
Ellensburg, WA	1.55	0
Hermiston, OR	1.30	0
John Day, OR	1.46	0
La Grande, OR	2.58	0
The Dalles, OR	0.95	0
Mt Adams RS, WA	3.42	0

Most stations had a considerable amount of precipitation, with the exception of Redmond and Bend, OR, where it was the driest during the rain events at the beginning of the month. Precipitation amounts were greatest in the north and northeast part of the forecast area.

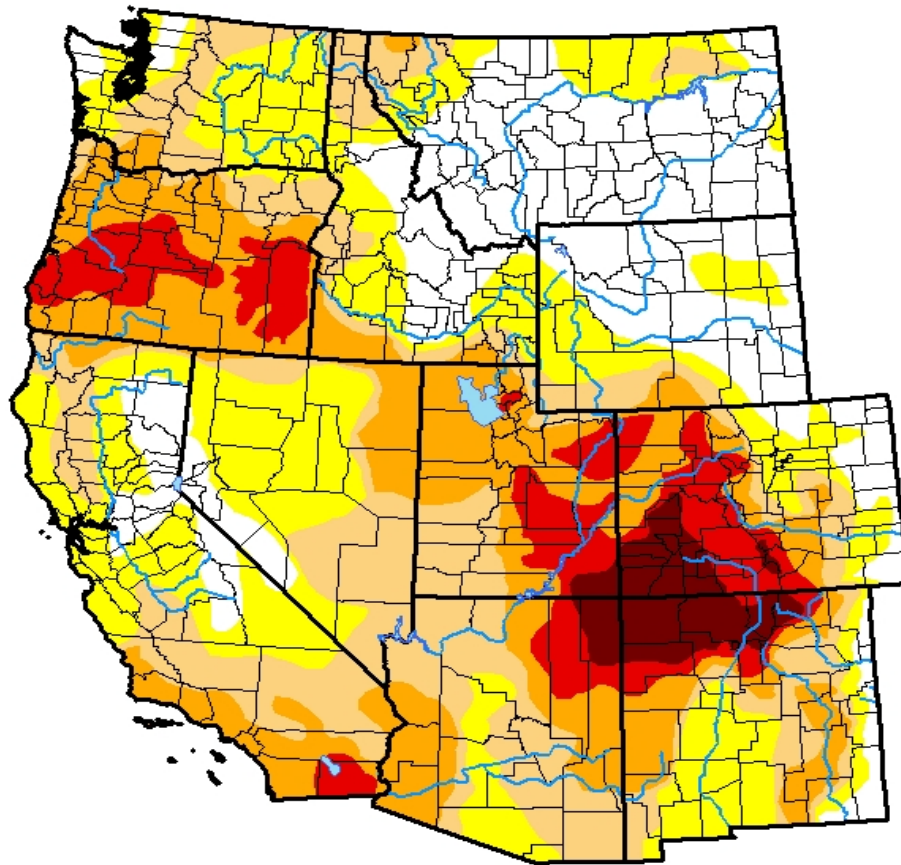
End of October, 2018 - Drought Monitor

U.S. Drought Monitor West

October 30, 2018
(Released Thursday, Nov. 1, 2018)
Valid 8 a.m. EDT

Drought Conditions (Percent Area)

	None	D0-D4	D1-D4	D2-D4	D3-D4	D4
Current	21.83	78.17	52.75	31.31	11.80	3.42
Last Week 10-23-2018	21.10	78.90	56.01	32.48	12.04	3.42
3 Months Ago 07-31-2018	22.11	77.89	54.85	34.72	17.47	4.02
Start of Calendar Year 01-02-2018	48.76	51.24	29.03	8.60	1.52	0.00
Start of Water Year 09-25-2018	13.91	86.09	59.57	39.68	18.15	4.36
One Year Ago 10-31-2017	58.13	41.87	16.48	5.34	1.85	0.00



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.

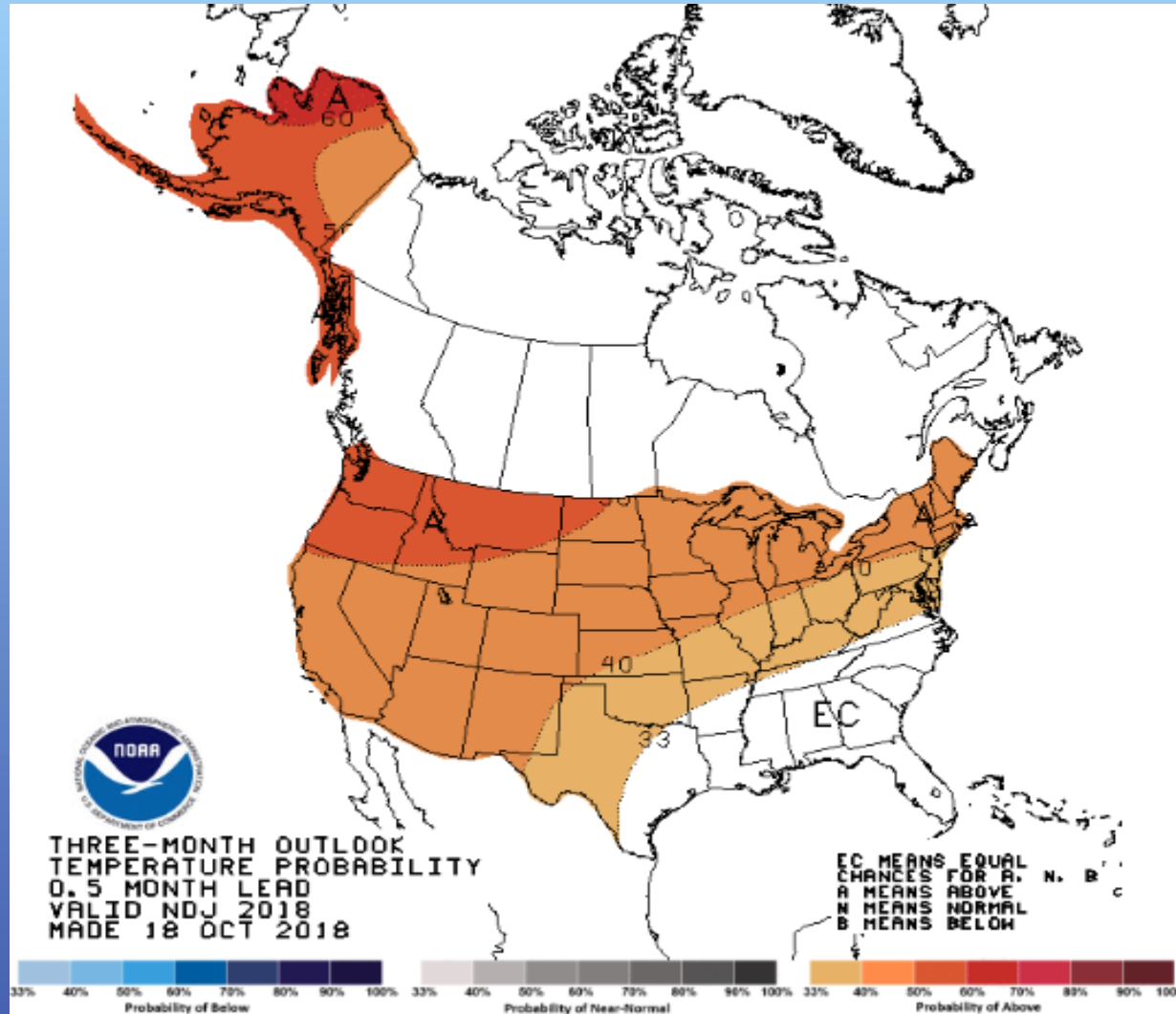
Author:

Deborah Bathke
National Drought Mitigation Center



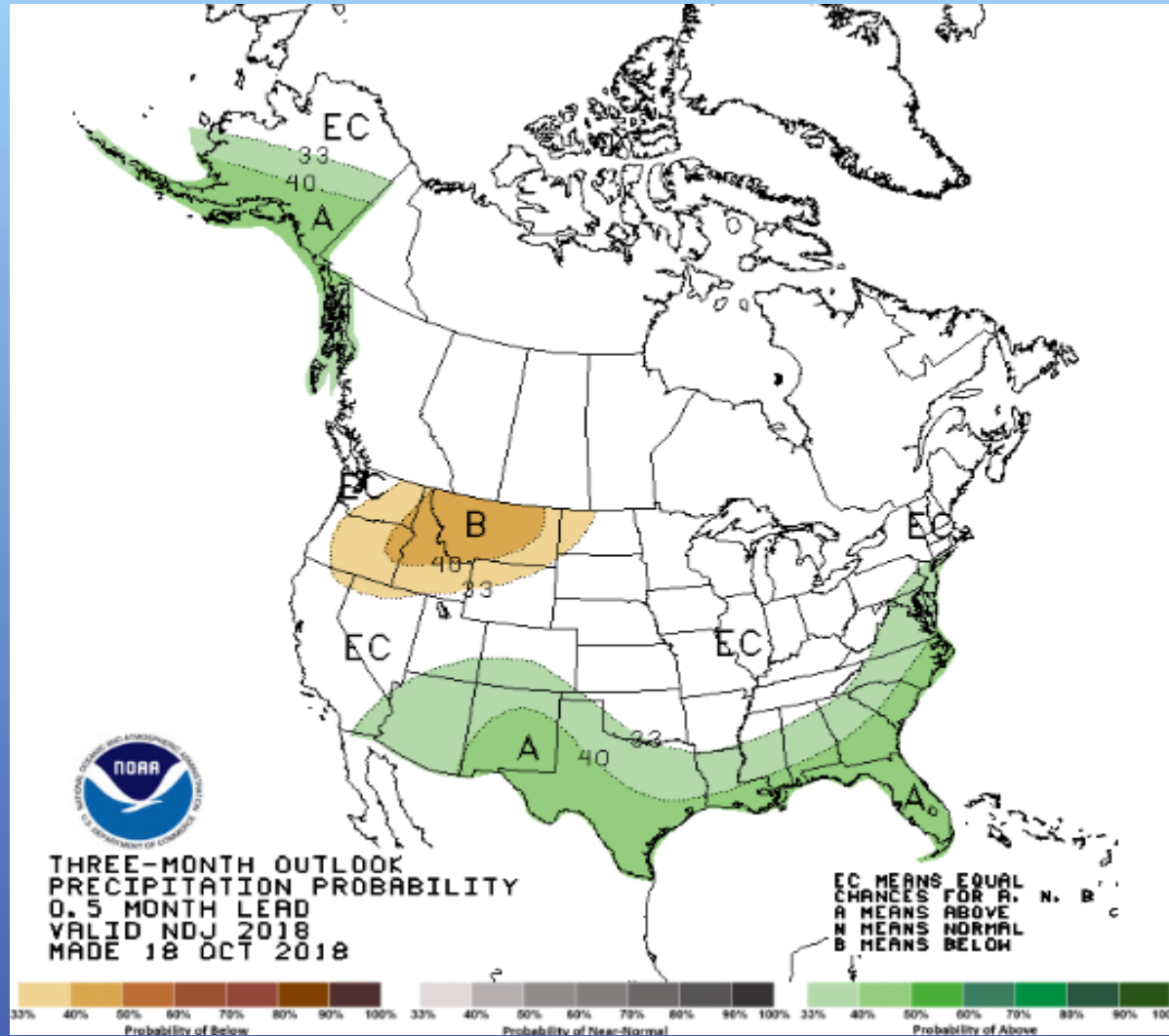
At the end of October, 2018, as of October 30th the drought conditions ranged from abnormally dry (D0-D1) in the northeast CWA to Extreme Drought (D3-D4) in the southwest portion of the CWA (mainly Deschutes County).

Three Month Temperature Outlook (November, December & January)



The temperature outlook for the next three months shows about a 50 - 60% chance of above normal temperatures for all of the Pacific Northwest and the forecast area.

Three Month Precipitation Outlook (November, December & January)

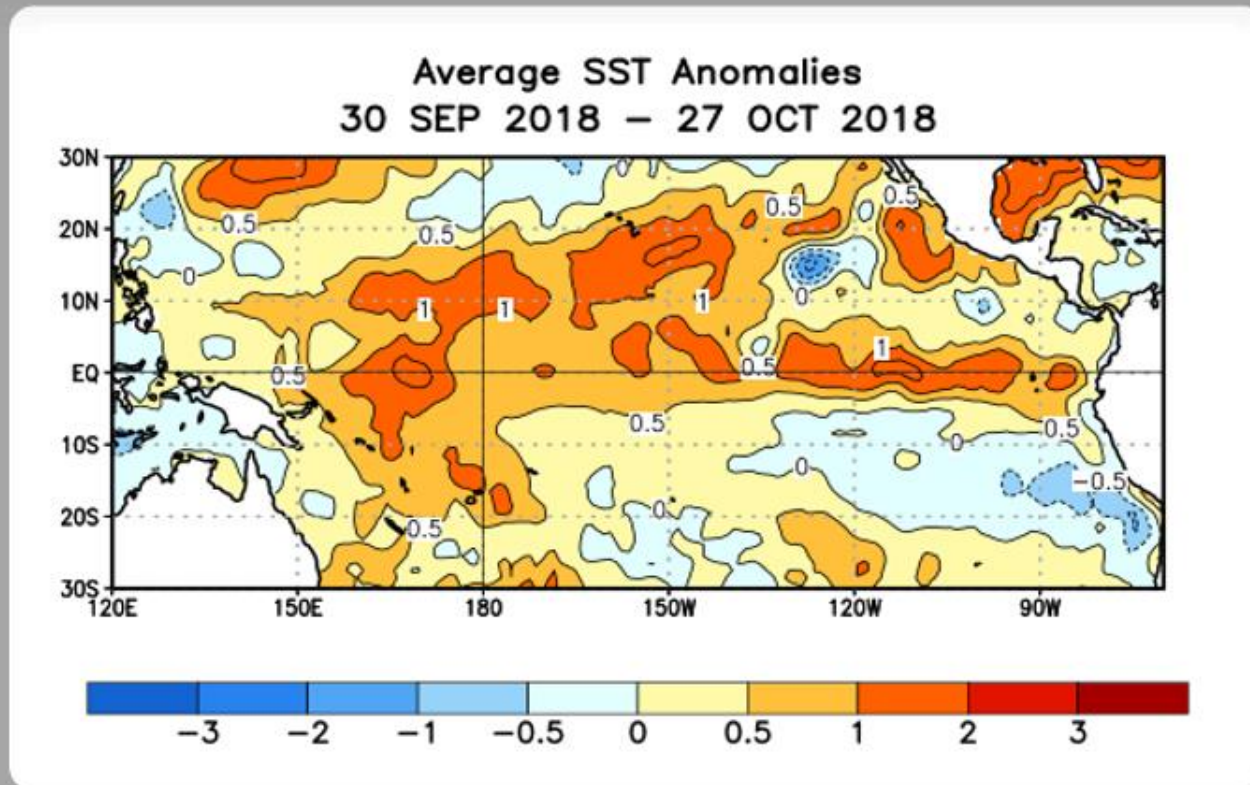


The precipitation outlook for the next three months shows the Pacific Northwest (and the forecast area) to have about a 33 - 50 % chance of below normal precipitation, with the driest in the northeast corner.

El Nino/La Nina Index for 30th September, 2018 – 27th October, 2018

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

During the last four weeks, equatorial SSTs were above average across the Pacific Ocean.



Note that the SST's were above average for most of the tropical eastern Pacific from the equator north to about 25 degrees north latitude. This is indicative of an El-Nino pattern to continue.



Thank You!