

# The Month In Review

**June 2020**

National Weather Service  
Pendleton, Oregon

# June, 2020 Climate Summary

June of 2020 was considered to be a benign month with very little severe or significant weather activity. There were only two thunderstorm events which resulted in reports of severe thunderstorm criteria. They were on June 5<sup>th</sup>, and again on June 11<sup>th</sup>. There were several amplified upper low pressure systems which resulted in cool temperatures, but this was offset by upper ridges, resulting in temperatures not being too far from normal. The highest and lowest maximum and minimum temperatures for the month for select cities were near normal. However, overall, despite a monthly average, upper trough over the region, there were more warmer than normal temperatures than what would have been expected. Precipitation was also below normal, than would have been expected to be higher than normal due to the average 500 MB trough pattern for the month. There was a brilliant display of noctilucent clouds early in the morning at the end of the month. Below are a few photos showing typical conditions for the month.



**Noctilucent clouds during the early morning twilight.**



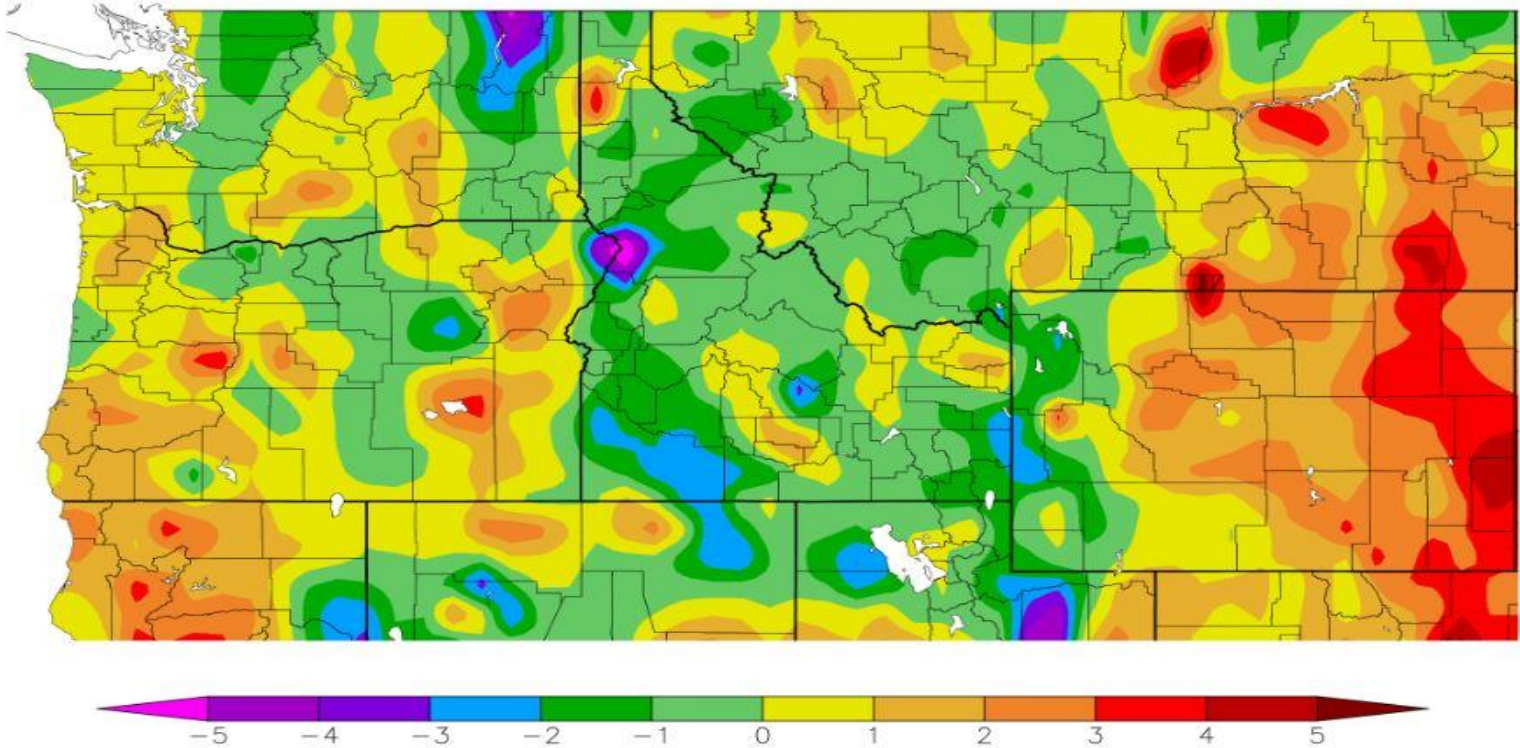
**A bright sunny day with fresh green trees and grass growing during spring.**



**Moderate cumulus developing in the distance west of Pendleton, Oregon.**

# June 2020, Departure from Normal of Average Temperatures

Departure from Normal Temperature (F)  
6/1/2020 – 6/30/2020



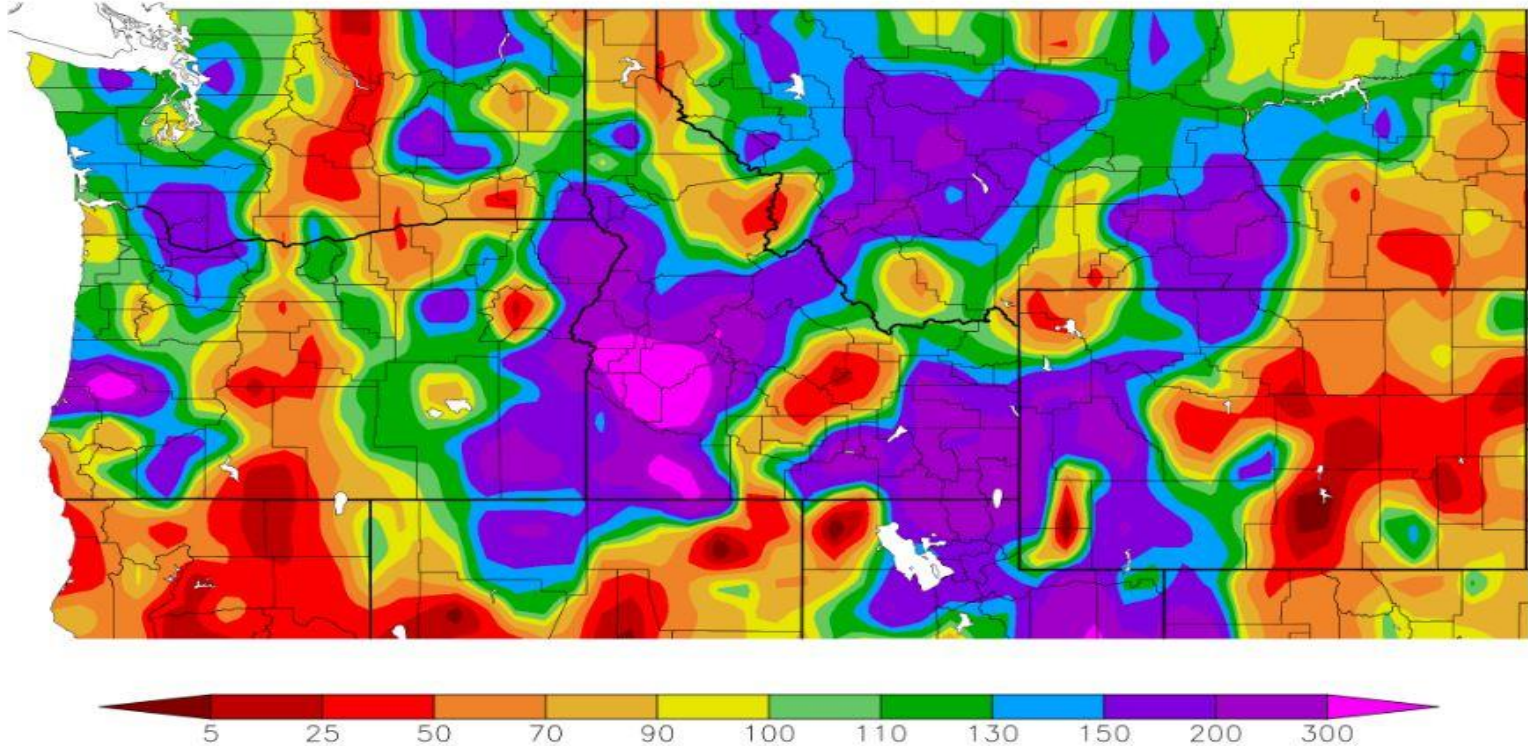
Generated 7/1/2020 at HPRCC using provisional data.

NOAA Regional Climate Centers

**NE Oregon and SE Washington experienced areas of both above and below normal temperatures. The below normal areas included north central Oregon southeast to the John Day Highlands, and also the Northwest Blue Mountains in SE Washington. The Lower Columbia Basin and the southern and central Blue Mountains, and central Oregon were above normal.**

# June 2020, Percent of Normal of the Average Precipitation

Percent of Normal Precipitation (%)  
6/1/2020 – 6/30/2020



Generated 7/1/2020 at HPRCC using provisional data.

NOAA Regional Climate Centers

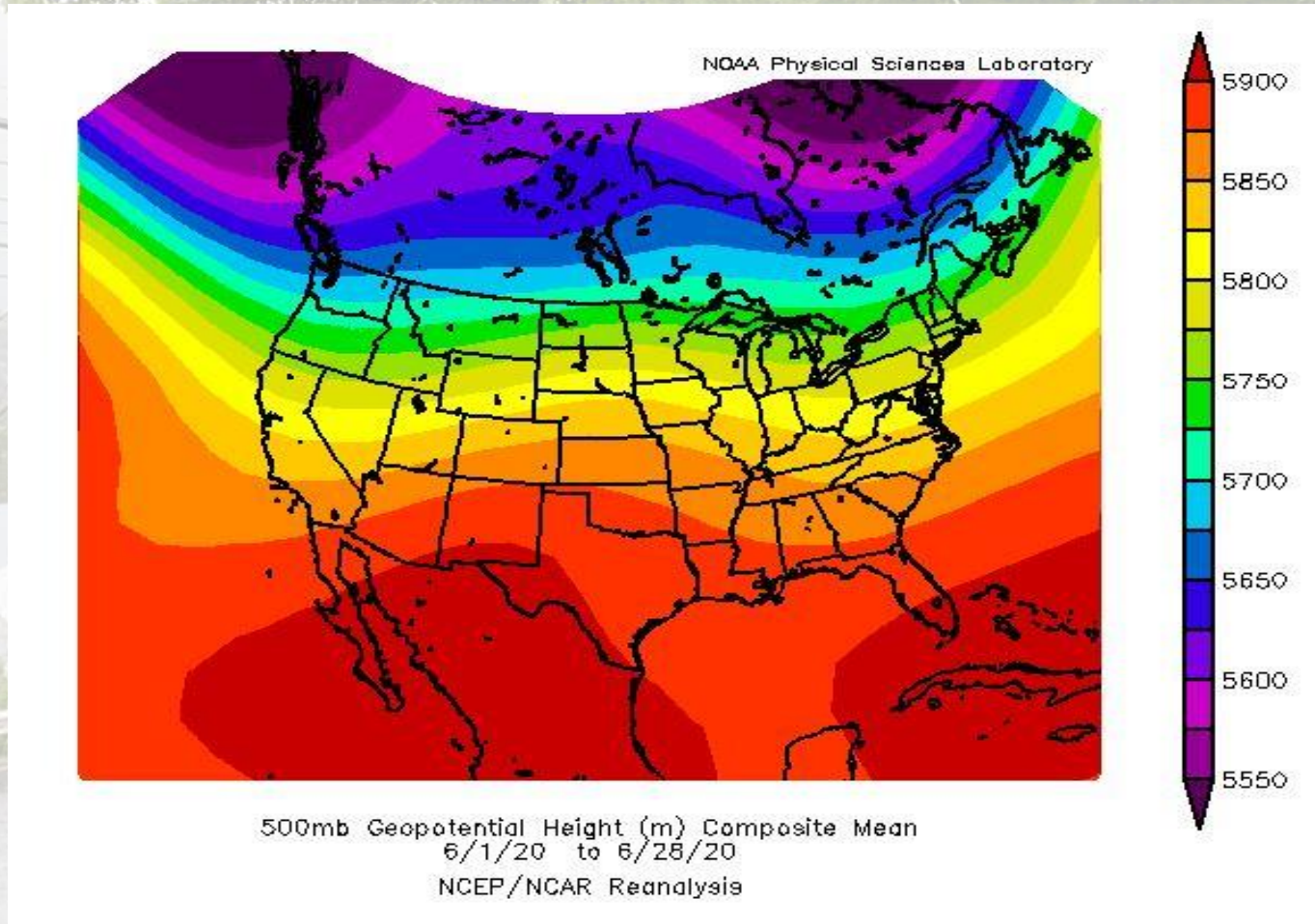
**Much like the departure from normal temperature, the percent of normal precipitation were not uniformly distributed across NE Oregon and SE Washington. The wettest areas were about 100-200 % above normal (cool colors), and the dry areas ranged from 25 to 90% below normal (the warm colors). Wallowa County was the wettest area in the forecast area.**

# June 2020, Departures from Normal of the Averages for Select Cites

	Max T	Max T D	Min T	Min T D	Ave T	Ave T D	PCPN	PCPN D
Yakima	80.8	1.3	52.3	4.0	66.6	2.7	0.24	-0.38
Kennewick	82.2	0.6	56.8	0.7	69.5	0.7	0.58	0.07
Walla Walla	77.0	-1.8	54.5	0.3	65.8	-0.7	0.70	-0.58
The Dalles	78.6	-0.5	55.6	0.8	67.1	0.1	0.26	-0.52
Redmond	76.9	0.8	45.1	4.1	61.0	2.5	0.42	-0.22
Pendleton Airport	79.4	1.2	52.5	1.0	65.9	1.0	0.71	-0.27
La Grande	73.1	-1.6	48.1	-0.6	60.6	-1.1	1.64	0.10

There was close to an even split for the mean average high temperatures (blue vs orange). Most of the mean average minimum temperatures were above normal (orange) and only La Grande was below normal (blue). The mean of the average daily temperatures were mostly above normal, except for Walla Walla, and La Grande, which were below normal. All of the stations had below normal precipitation, except for Kennewick. This is a bit surprising since the previous slide showed a mean trough over the Pacific Northwest for the Month. However, not all troughs produce significant precipitation. There are other factors that need to be there to create significant precipitation. Overall, June was a benign month.

# June 2020 Average 500 MB Weather Pattern



The average 500 MB pattern was an overall upper trough over the Pacific Northwest (Oregon and Washington). This was a result of some upper troughs that moved across the region which either outnumbered the number of upper ridges, or that they were more amplified than the upper ridges. In the previous slide it was shown that the select cities across the forecast area were mostly drier than normal and slightly warmer than normal overall. Most of the weather systems and their associated troughs that moved through the region in June were not overly wet, or cold.

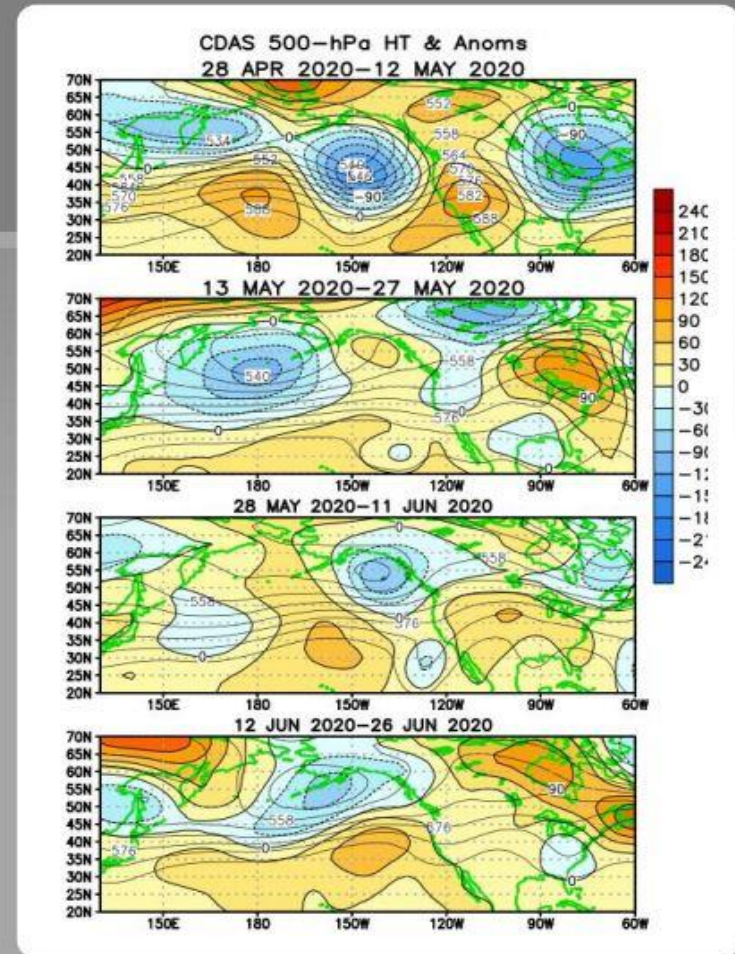
# More Detailed 500 MB Plots for June 2020

## Atmospheric anomalies over the North Pacific and North America During the Last 60 Days

From late April to mid May, heights and temperatures were mostly below average over the eastern United States and mostly above average over the western United States.

During late May into early June, heights and temperatures were above average across the U.S.

From mid to late June, heights and temperatures were mostly above-average across the U.S. except for near-to-below average conditions over the southeastern U.S.



In addition to the above text, specifically for NE Oregon and SE Washington, May had mostly a ridge pattern over the region, and then that transitioned to a trough pattern at the end of May, and then it became more of a zonal westerly flow during by the latter half of June. The land areas are outlined on the map in green.

# Significant Weather Events for June, 2020

Significant Weather Events				
Event	Date	Report	Where	Source
Hail	June 5, 2020	M 0.75 inch	ESE Enterprise, OR	Trained Spotter
Hail	June 11, 2020	E 0.75 inch	3 S Fossil, OR	Trained Spotter
Hail	June 11, 2020	M 0.50 inch	9 WNW Ruggs, OR	Trained Spotter
Hail	June 11, 2020	E 1.00 inch	8 NW Warm Springs, OR	Public
Hail	June 11, 2020	E 1.25 inches	La Pine, OR	Public
Hail	June 11, 2020	E 1.75 inches (later report)	La Pine, OR	Public

There were only two thunderstorm events which resulted in severe criteria, which were all reports of large hail. The more significant event was on June 11<sup>th</sup>, and it mainly affected central and north central Oregon. The June 5<sup>th</sup> event affected only Wallowa County in northeast Oregon.

## Record Weather Events for June, 2020

Record Weather Reports					
Event	Date	Where	Previous Record	New Record	Records Began

# No Records Were Set This Month

There were no record reports for the month. It was a benign month. However, at the end of the month, there was a day in which maximum temperatures were only in the 40s to mid 50s in the mountains, and mid 50s to near 70 lower elevations. This was close to setting a record low maximum temperature at some locations.



# June 2020 Observed Monthly Max & Min Temperatures

Location	Highest Maximum Temperature	Lowest Minimum Temperature
Pendleton, OR	97	44
Redmond, OR	97	28
Pasco, WA	102	45
Yakima, WA	98	40
Walla Walla, WA	95	47
Bend, OR	93	33
Ellensburg, WA	97	43
Hermiston, OR	101	46
John Day, OR	98	41
La Grande, OR	90	38
The Dalles, OR	101	44
MT Adams RS, WA	89	33

**Only 3 stations reached the century mark or higher (Pasco WA, Hermiston OR, & The Dalles OR). All other stations reached the 90s, except for the Mt. Adams Ranger Station, WA which only got to 89. These values are a bit lower than normal. Usually by June most stations on the list would have reached 100 by now. The lowest minimums were typical, with only Redmond, OR falling to below freezing.**

# June 2020, Monthly Precipitation and Snowfall Totals

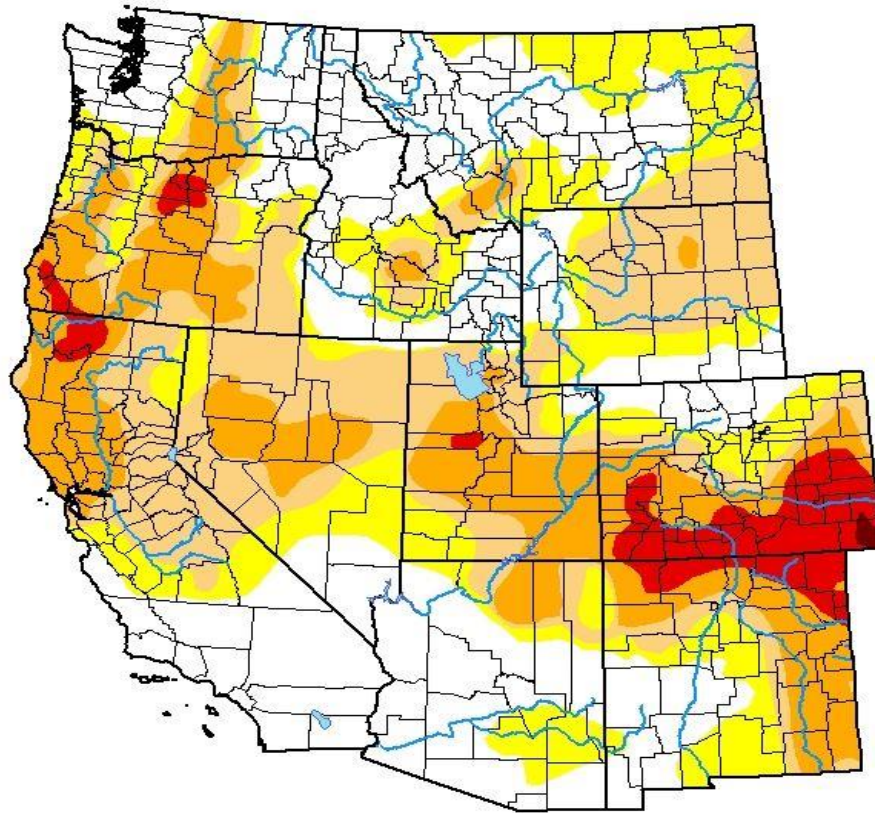
Location	Total Monthly Precip (inches)	Total Snowfall (inches)
Pendleton, OR	0.71	0
Redmond, OR	0.42	0
Pasco, WA	0.55	0
Yakima, WA	0.24	0
Walla Walla, WA	0.70	0
Bend, OR	0.31	Missing
Ellensburg, WA	0.37	Missing
Hermiston, OR	0.04	0
John Day, OR (RAWS)	0.96	Missing
La Grande, OR	1.64	Missing
The Dalles, OR	0.26	Missing
Mt Adams RS, WA	0.96	0

**Precipitation amounts were on the light side, with all stations receiving less than an inch, or even a half inch. Only La Grande, OR had more than an inch of precipitation. These values were mostly below normal. Snowfall this time of year would only be greater than 0.0 if there was hail, though heavy accumulations of snow has happened before in the mountains, mainly above 4500 ft MSL.**

# June 2020 - Drought Monitor

## U.S. Drought Monitor West

**June 30, 2020**  
(Released Thursday, Jul. 2, 2020)  
Valid 8 a.m. EDT



Drought Conditions (Percent Area)

	None	D0-D4	D1-D4	D2-D4	D3-D4	D4
<b>Current</b>	35.15	64.85	45.24	22.93	5.00	0.12
<b>Last Week</b> 06-23-2020	33.43	66.57	46.04	21.34	4.86	0.00
<b>3 Months Ago</b> 03-31-2020	51.87	48.13	27.82	4.20	0.00	0.00
<b>Start of Calendar Year</b> 12-31-2019	59.17	40.83	18.17	7.12	0.00	0.00
<b>Start of Water Year</b> 10-01-2019	68.40	31.60	16.32	3.16	0.00	0.00
<b>One Year Ago</b> 07-02-2019	86.89	13.11	5.53	1.24	0.00	0.00

Intensity:

- None
- 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. For more information on the Drought Monitor, go to <https://droughtmonitor.unl.edu/About.aspx>

Author:

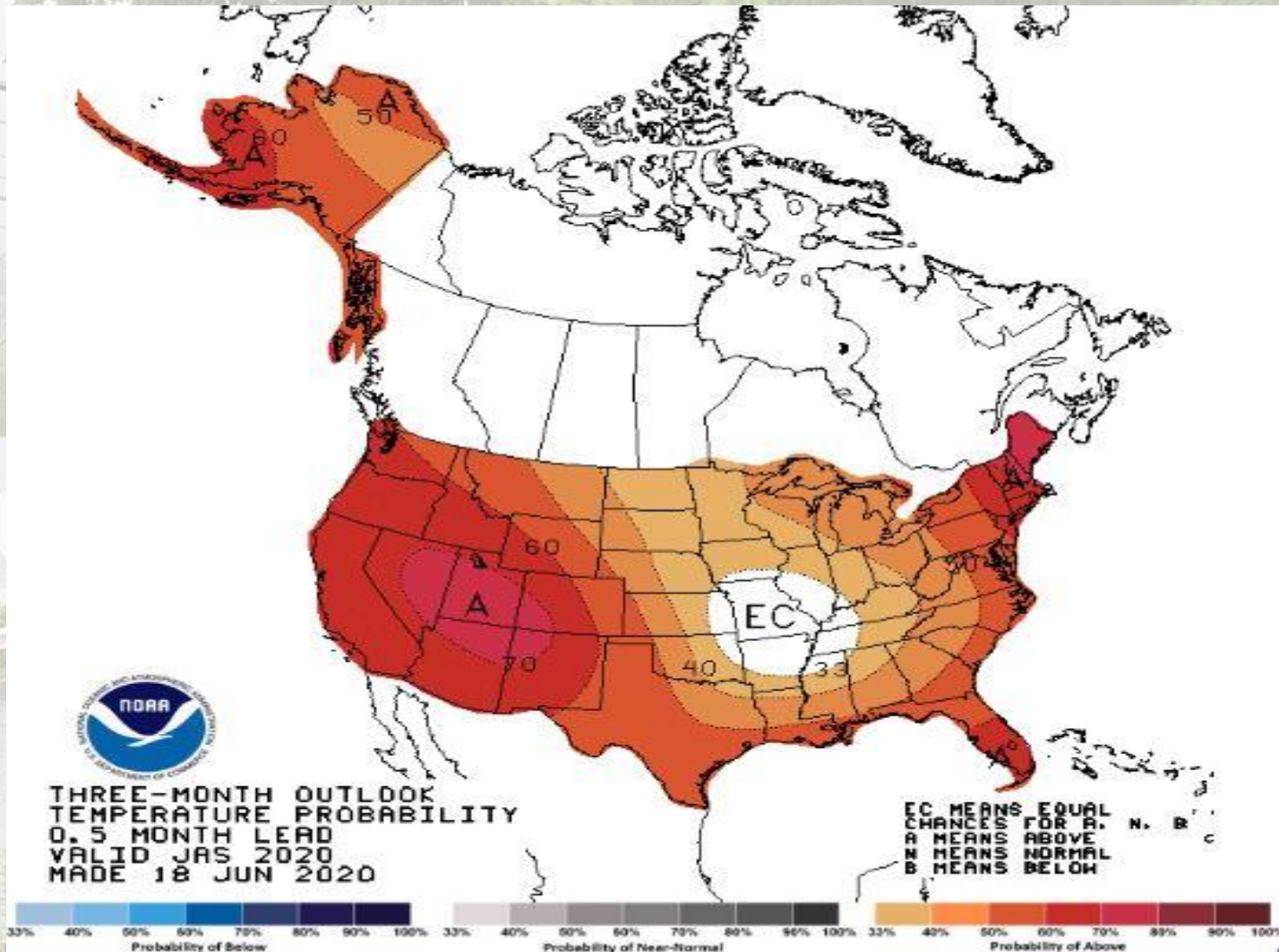
Adam Hartman  
NOAA/NWS/NCEP/CPC



[droughtmonitor.unl.edu](https://droughtmonitor.unl.edu)

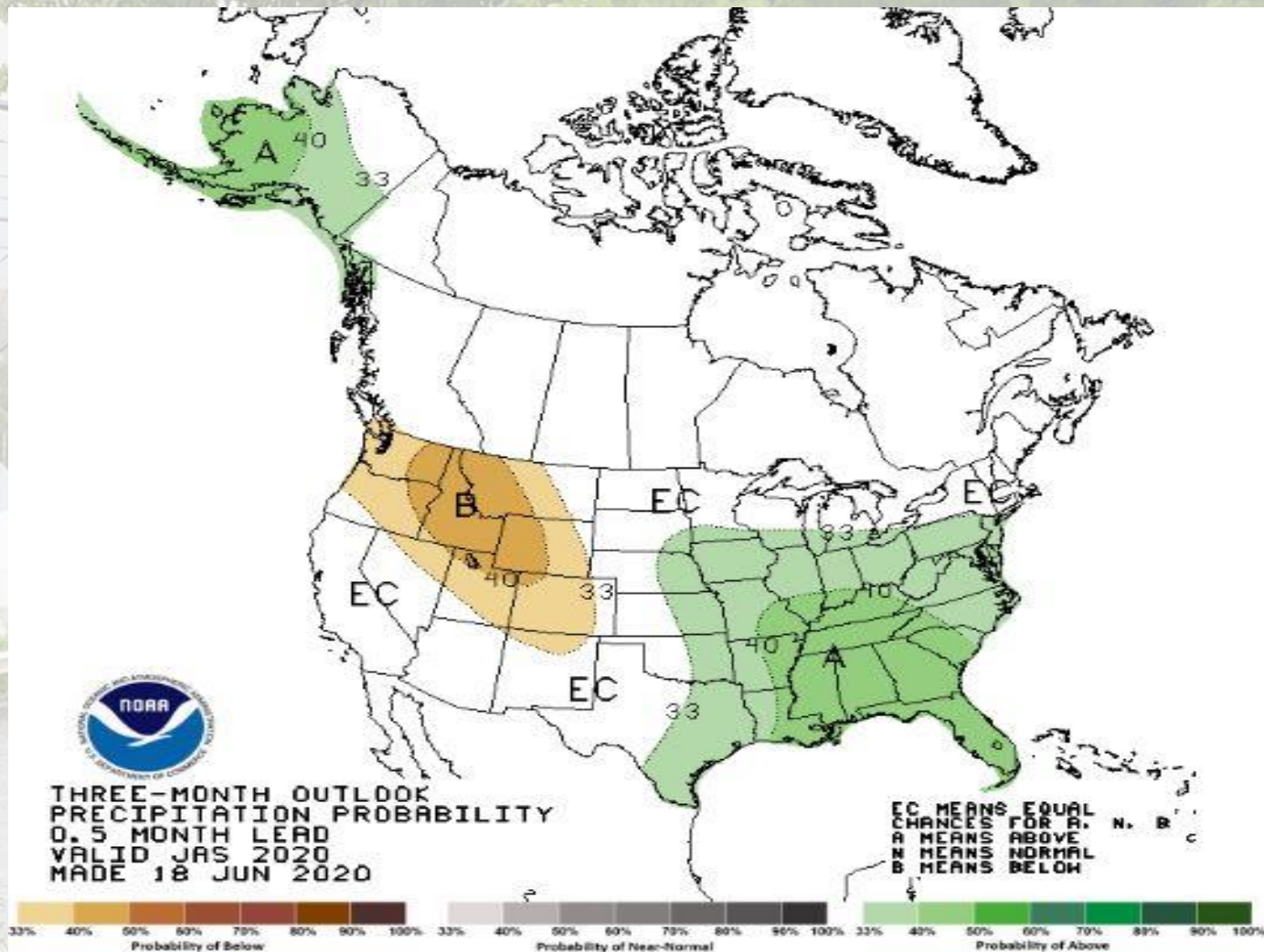
As of the end of June (the 30<sup>th</sup>) most of the NE Oregon and SE Washington had drought conditions that ranged from D0 (abnormally dry) to D3 (extreme drought). The worse of the drought areas was over north central Oregon. Extreme NE Oregon and SE Washington were neutral or “None” on the drought intensity scale, where most of the rain fell during the month.

# USA Three Month Temperature Outlook



The temperature outlook for the three months of July, August & September shows the Entire forecast area (NE Oregon & SE Washington) to have above normal temperatures.

# USA Three Month Precipitation Outlook

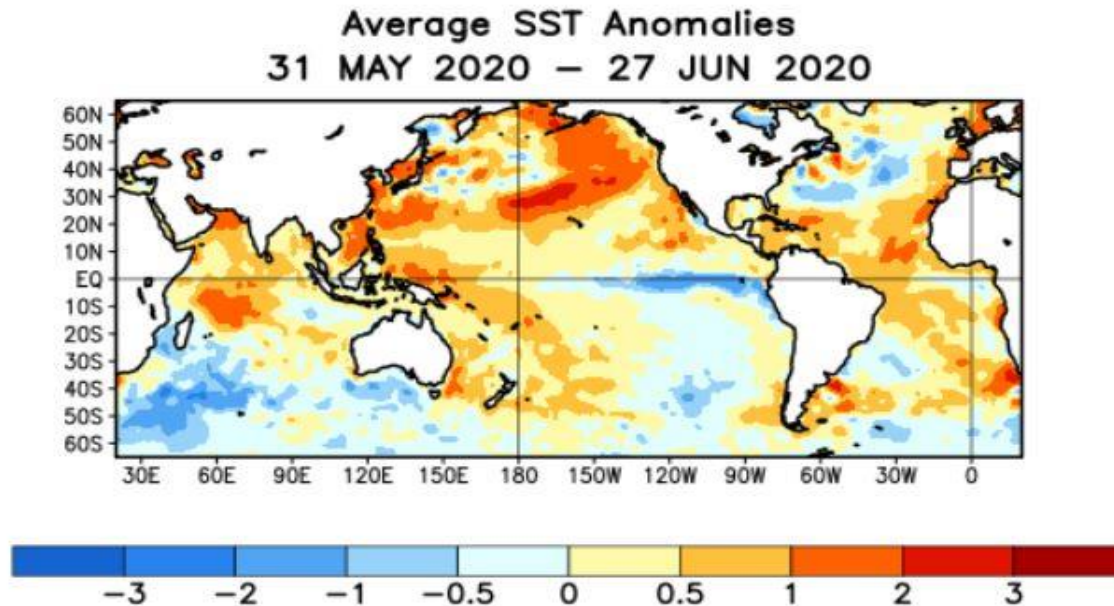


The precipitation outlook for the three months of July, August & September shows that the forecast area will have about a 33-40 percent chance of below normal precipitation for the period.

# Sea Surface Temperature (SST) analysis for June 2020

## Global SST Departures (°C) During the Last Four Weeks

During the last four weeks, equatorial SSTs were above average across the western Pacific Ocean, the western Atlantic Ocean, and the western and central Indian Ocean. They were below average in the east-central and eastern Pacific Ocean.



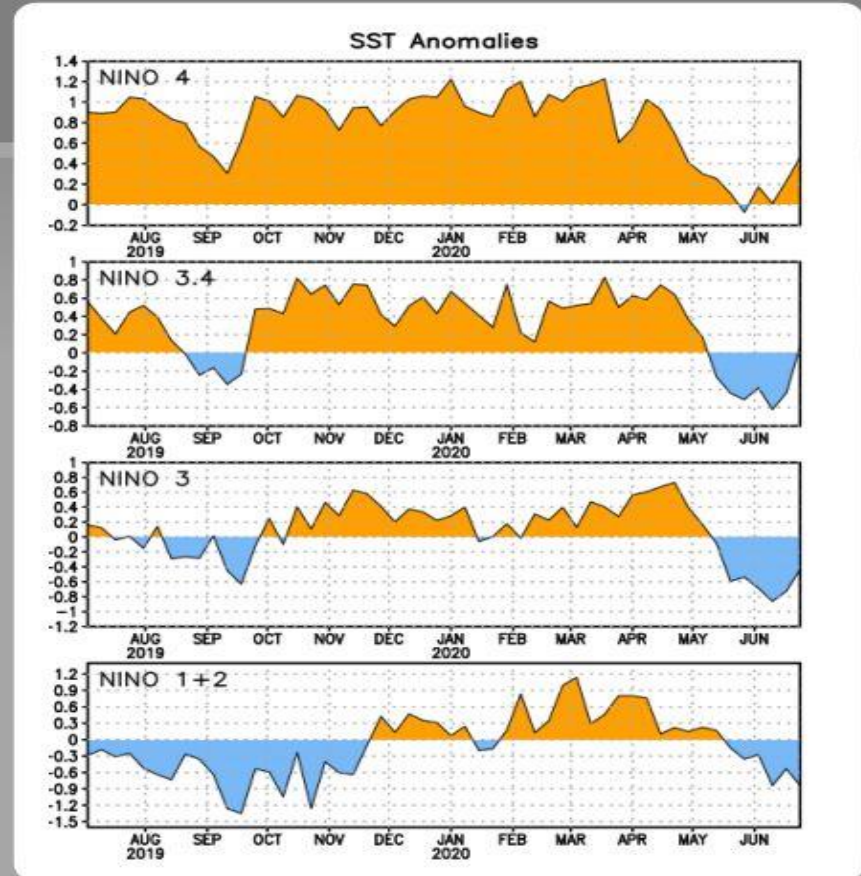
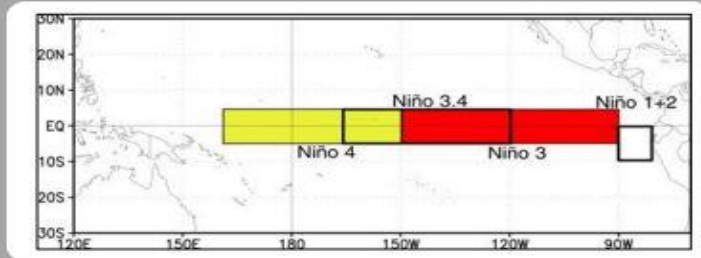
SSTs were below average over the eastern central Pacific Ocean near the equator. This is consistent with last month which also showed the same. The north Pacific SSTs were above normal. This continuation, alone, does not **yet** suggest a change from the current ENSO status of “neutral” to either an El-Nino or La-Nina event this summer.

# El Nino/ La Nina Regions, Showing SST Anomalies for Each Nino Region

## Niño Region SST Departures (°C) Recent Evolution

The latest weekly SST departures are:

Niño 4	0.5°C
Niño 3.4	0.1°C
Niño 3	-0.4°C
Niño 1+2	-0.8°C



All Niño Regions are again this month showing cooler than normal SST anomalies for regions NINO 1 + 2, NINO 3 and NINO 3.4. NINO region 4 shows SSTs going back to above normal since last month (western equatorial Pacific). This continued cooling is consistent with the previous slide of equatorial SST's in the central and eastern Pacific. The region which is mostly at the same longitude as the Pacific Northwest is NINO region 3.4.

# Current ENSO (El Nino Southern Oscillation) Alert System Status

## Summary

ENSO Alert System Status: Not Active

ENSO-neutral conditions are present.\*

Equatorial sea surface temperatures (SSTs) are near-to-below average across the east-central and eastern Pacific Ocean.

The tropical atmospheric circulation is consistent with ENSO-neutral.

There is a ~60% chance of ENSO-neutral during Northern Hemisphere summer 2020, with roughly equal chances (~40-50%) of La Niña or ENSO-neutral during the autumn and winter 2020-21.\*

The current ENSO status, as mentioned in a previous slide, is still “Not Active” or “neutral”. However, as stated in the above summary, the changes taking place in the oceanic SST’s, as well as the tropical atmospheric circulation will keep the ENSO status as “neutral” though the summer (60 percent chance), but then may begin to favor a La-Nina or continued “neutral” status in the autumn and winter of 2020-2021.





Thank You!