

The Month In Review

November 2020

National Weather Service
Pendleton, Oregon

Photo: First Snow of The Season in the Blue Mountains

November 2020, Climate Summary

November can be characterized as a month of mostly **greater than normal temperatures** and **precipitation**. However, the **average minimum temperatures** had an equal split of either above or below normal readings. There were several events during the month, of moderate or heavy snow, and a high wind event. The snow events occurred on the 8th, and the 13th through the 14th of the month. The high wind event, which was either a non-thunderstorm wind gust event or a high sustained wind event. These high wind events occurred on the 16th, and the 17th of the month.

Record setting events were mostly either record high or low temperatures, or high precipitation amounts. **High temperature** events occurred on the 2nd, and 3rd of the month and again on the 5th and the 17th of the month. **Record low temperatures** occurred on the 9th of the month. A **high precipitation** event occurred on the 5th, and 6th of the month, and a record **high snow** event occurred on the 8th of the month. Below are scenes from the month.



An early season snowfall up in the Northern Blue Mountains.



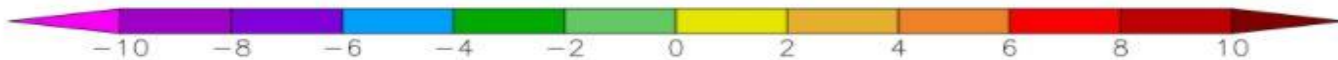
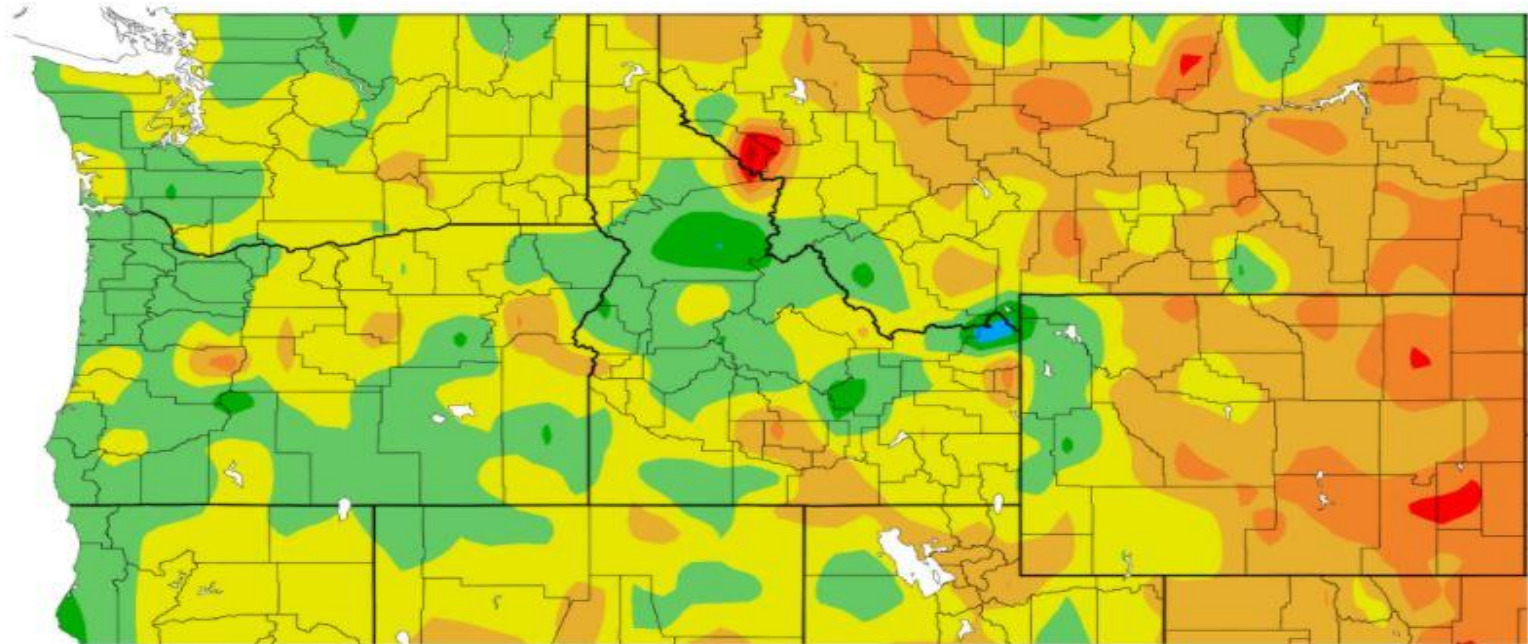
Quiet evening over Pendleton, Oregon with mostly clear skies and light winds.



City lights under valley fog in southeast Washington. Photo by: Michael T. Smith.

November 2020, Departure from Normal Average Temperatures

Departure from Normal Temperature (F)
11/1/2020 – 11/30/2020



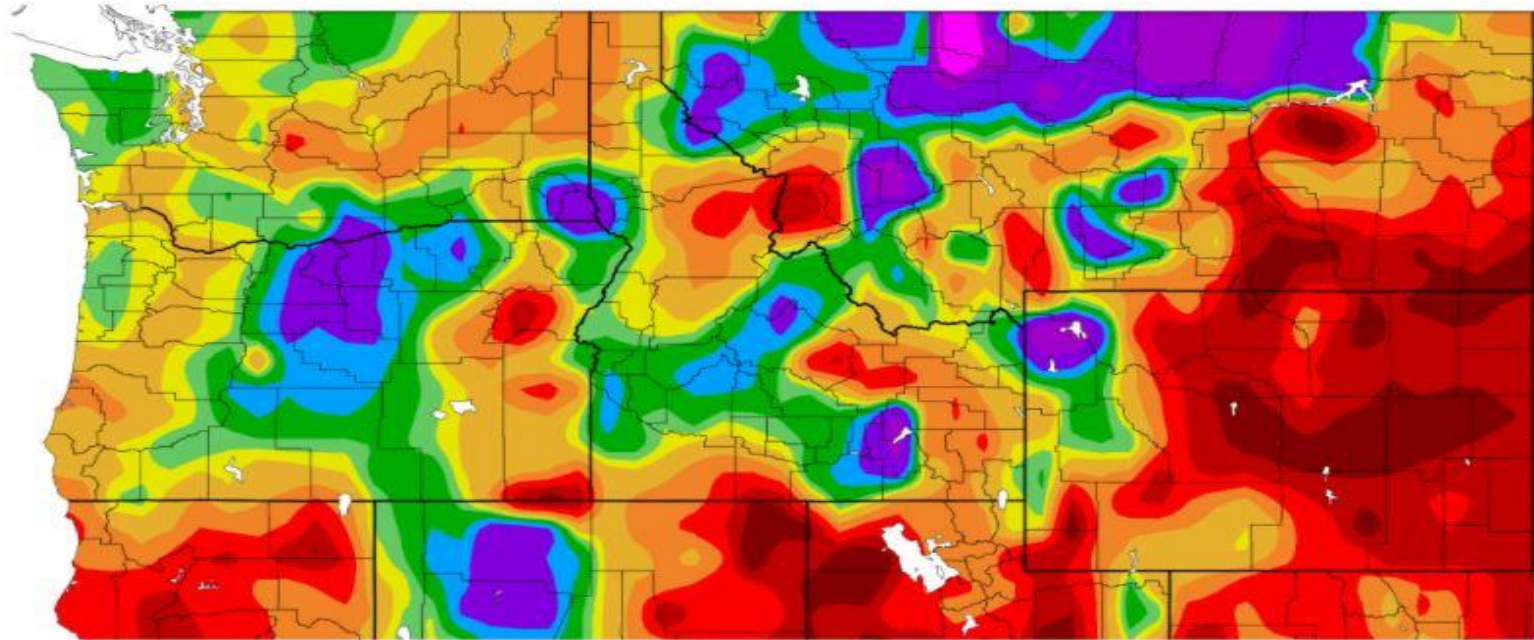
Generated 12/1/2020 at HPRCC using provisional data.

NOAA Regional Climate Centers

Most of the northeast Oregon and southeast Washington had slightly above normal average temperatures for the month. Areas that had below normal average temperatures were in south and central Grant County, the northern Blue Mountains and Wallowa County, Oregon.

November 2020, Percent of Normal Precipitation

Percent of Normal Precipitation (%)
11/1/2020 – 11/30/2020



Generated 12/1/2020 at HPRCC using provisional data.

NOAA Regional Climate Centers

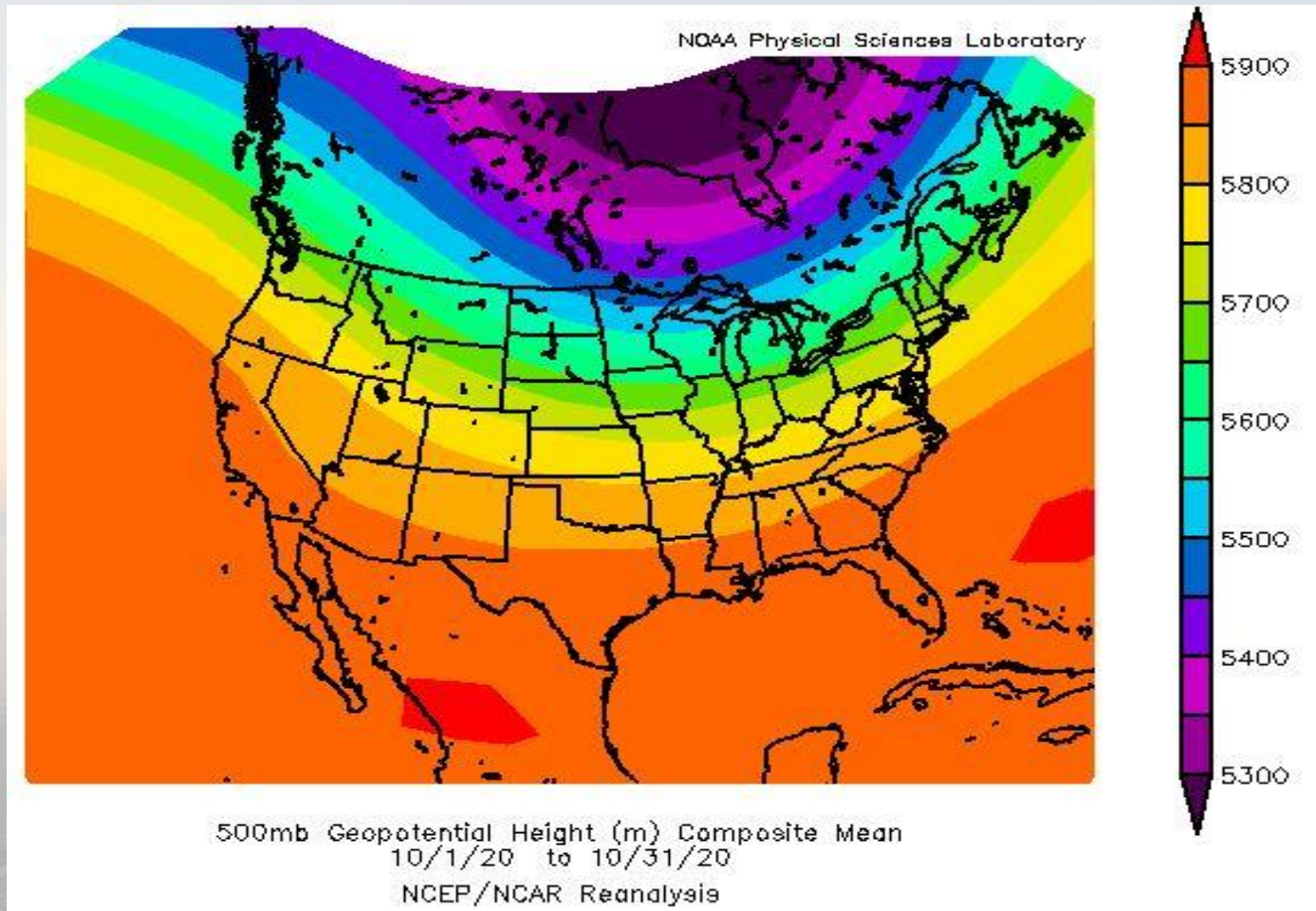
North Central Oregon, and extreme southeast Washington had 150-200% of normal precipitation for the month. Other areas had mostly between 100-150% of normal precipitation. The Yakima and Kittitas Valleys of Washington, and the Northern Blue Mountains had mostly between 70-90% percent of normal precipitation for the month.

November 2020, Departures from Normal Avg/Sums for Select Cites

| | Max T | Max T D | Min T | Min T D | Ave T | Ave T D | PCPN | PCPN D |
|----------------------|-------|---------|-------|---------|-------|---------|------|--------|
| Yakima | 50.2 | 2.3 | 27.1 | 0.3 | 38.6 | 1.3 | 1.15 | 0.10 |
| Kennewick | 53.2 | 2.6 | 35.8 | 0.3 | 44.5 | 1.5 | 1.32 | 0.32 |
| Walla Walla | 50.1 | 1.6 | 34.5 | -0.7 | 42.3 | 0.5 | 2.44 | -0.43 |
| The Dalles | 51.1 | 1.1 | 34.2 | -1.1 | 42.8 | 0.2 | 2.80 | 0.66 |
| Redmond | 53.3 | 4.4 | 28.2 | 2.4 | 40.8 | 3.4 | 1.54 | 0.58 |
| Pendleton Airport | 50.7 | 1.5 | 32.7 | -0.7 | 41.7 | 0.4 | 2.43 | 0.91 |
| La Grande | 47.3 | 1.1 | 29.1 | -0.8 | 38.2 | 0.2 | T | 0.00 |

All of the mean maximum temperatures had departures from normal that were greater than the average max temperatures for the month. The departures from normal average minimums were about an equal split of either above normal or below normal, with the greatest departure being 2.4 degrees above the normal average min temperature for the month at Redmond, OR. All of the mean average temperatures for the month had a departure from normal that were greater than normal for the month. Every station had above normal precipitation, except for Walla Walla, WA, which was below normal by -0.43 inches.

November 2020, Average 500 MB Weather Pattern

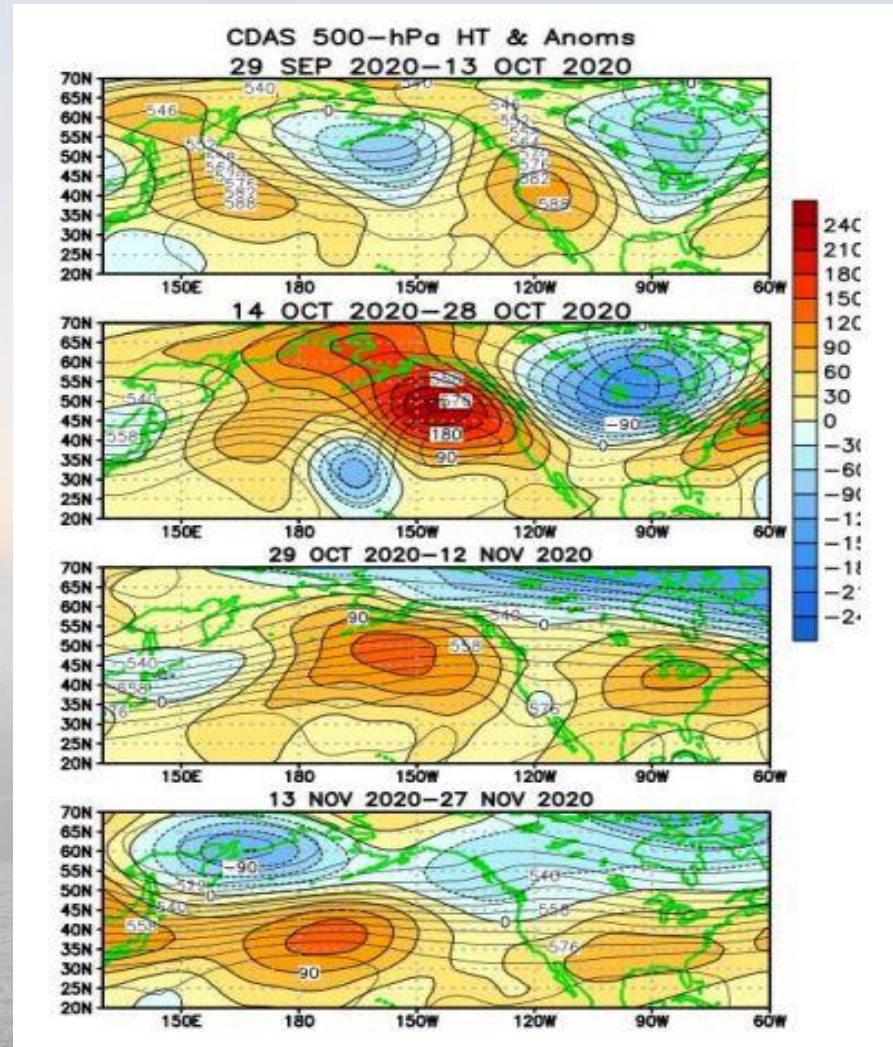


The average 500 MB pattern was an overall northwest flow on the east side of a broad upper ridge over the northeast Pacific. This resulted in overall mostly dry conditions and near normal temperatures for the month.

More Detailed 500 MB Plots for October - November 2020

These are more detailed semi-monthly average 500 mb pattern plots, which were from the following periods: Sept 29th to November 27th.

The land boundaries are shown in green. Yellow, orange, and red colors represent areas of high pressure at 500 mb and the cooler shades of blue color show areas of low pressure at 500 mb.



An upper ridge pattern existed from late September - mid October. Then a strong upper high pressure ridge developed in late October, from the 14th – 28th. Then from October 29th through November 27th, the flow was mostly zonal westerly. This resulted in an overall northwest flow for the month. The high pressure in the eastern Pacific is an indicator of La Nina conditions.

Significant Weather Events for November, 2020

| Significant Weather Events | | | | |
|----------------------------|-------------------|---------------|-------------------------------|------------------|
| Event | Date | Report | Where | Source |
| Snow | November 8, 2020 | M 3.0 inches | SE Ruggs, OR | Trained Spotter |
| Snow | November 8, 2020 | M 3.0 inches | 1 ENE Pilot Rock, OR | Trained Spotter |
| Snow | November 8, 2020 | M 4.5 inches | 4 ESE Pilot Rock, OR | Trained Spotter |
| Snow | November 8, 2020 | M 3.0 inches | 4 N Bingham Springs, OR | Trained Spotter |
| Snow | November 8, 2020 | M 3.0 inches | 3N Joseph, OR | Trained Spotter |
| Heavy Snow | November 13, 2020 | M 14.0 inches | 2 SSE Snoqualmie Pass, WA | Co-Op Observer |
| Heavy Snow | November 13, 2020 | M 10.0 inches | 7 SSW Goose Prairie, WA | Meso-Net |
| Heavy Snow | November 13, 2020 | M 10.0 inches | 9 SW Ski Bluewood, WA | Meso-Net |
| Heavy Snow | November 13, 2020 | M 16.0 inches | WNW Tollgate, OR | Trained Spotter |
| Heavy Snow | November 13, 2020 | M 7.0 inches | 6 SSW Kamela, OR | Meso-Net |
| Heavy Snow | November 13, 2020 | M 10.0 inches | 3 NNW Ski Bluewood, WA | Meso-Net |
| Heavy Snow | November 13, 2020 | M 9.0 inches | 13 SW Mitchell, OR | Meso-Net |
| Heavy Snow | November 13, 2020 | M 9.0 inches | 17 ENE Seneca, OR | Meso-Net |
| Heavy Snow | November 13, 2020 | M 7.5 inches | SSE Granite, OR | Trained Spotter |
| Heavy Snow | November 13, 2020 | M 16.0 inches | WNW Tollgate, OR | Trained Spotter |
| Heavy Snow | November 13, 2020 | E 6.0 inches | 3 SE Flora, OR | Dept of Highways |
| Heavy Snow | November 14, 2020 | M 15.0 inches | 7 SSW Goose Prairie, WA | Meso-Net |
| Heavy Snow | November 14, 2020 | M 13.0 inches | 11 WNW Black Butte Rancho, OR | Meso-Net |
| Heavy Snow | November 14, 2020 | E 8.0 inches | La Pine, OR | Dept of Highways |
| Non-TSTM Wind Gust | November 16, 2020 | M 60 mph | 1 WNW Cayuse, OR | Meso-Net |
| Non-TSTM Wind Gust | November 17, 2020 | E 59 mph | 5 ESE Dixie, WA | Meso-Net |
| High Sustained Winds | November 17, 2020 | M 46 mph | 4 SSW Mission, OR | Meso-Net |
| Non-TSTM Wind Gust | November 17, 2020 | M 79 mph | 3 N Joseph, OR | Trained Spotter |

Significant weather events were either moderate or heavy snow events. There was also a high wind event, with either non-thunderstorm wind gusts or high sustained winds. The heavy snow events occurred on November 8th, 13th, and the 14th. The high wind events occurred on November 16th – 17th, 2020. These events are not uncommon during the month of November, which is one of the coldest, wettest, and windiest months of the year for this region.

Record Weather Reports for November, 2020

| Record Weather Reports | | | | | |
|------------------------|-------------------|---------------------|-----------------|------------|---------------|
| Event | Date | Where | Previous Record | New Record | Records Began |
| High Temp | November 2, 2020 | Meacham, OR | 63 / 1949 | 69 | 1929 |
| High Temp | November 2, 2020 | Redmond, OR | 74 / 1981 | 80 | 1941 |
| High Temp | November 3, 2020 | Meacham, OR | 65 / 1949 | 68 | 1929 |
| High Temp | November 4, 2020 | Meacham, OR | 67 / 1949 | 68 | 1929 |
| High Temp | November 4, 2020 | The Dalles, OR | 69 / 2007 | 70 | 1929 |
| High Temp | November 4, 2020 | Yakima, WA | 71 / 2014 | 71 (tied) | 1909 |
| High Precip | November 5, 2020 | Heppner, OR | 0.33 / 1966 | 0.83 | 1889 |
| High Precip | November 5, 2020 | Long Creek, OR | 0.55 / 1986 | 0.64 | 1908 |
| High Precip | November 5, 2020 | Pendleton E.S., OR | 0.33 / 2016 | 1.11 | 1932 |
| High Precip | November 5, 2020 | Prineville, OR | 0.33 / 1973 | 0.47 | 1897 |
| High Precip | November 5, 2020 | Kennewick, WA | 0.21 / 2006 | 0.64 | 1884 |
| High Precip | November 5, 2020 | Whitman Mission, WA | 0.35 / 1999 | 0.98 | 1926 |
| High Precip | November 5, 2020 | Hermiston, OR | 0.37 / 1985 | 0.57 | 1906 |
| High Precip | November 5, 2020 | Pendleton, OR | 0.50 / 1991 | 0.53 | 1934 |
| High Temp | November 5, 2020 | Yakima, WA | 71 / 2014 | 71 (tied) | 1909 |
| High Temp | November 5, 2020 | Pasco, WA | 75 / 1983 | 75 (tied) | 1942 |
| High Precip | November 6, 2020 | Hermiston, OR | 0.45 / 1973 | 0.54 | 1906 |
| High Precip | November 6, 2020 | Meacham, OR | 1.19 / 2006 | 1.37 | 1929 |
| High Precip | November 6, 2020 | Pendleton, OR | 0.28 / 1980 | 1.00 | 1934 |
| High Precip | November 6, 2020 | Redmond, OR | 0.15 / 1983 | 0.22 | 1941 |
| High Precip | November 6, 2020 | The Dalles, OR | 0.47 / 2006 | 0.74 | 1929 |
| High Snow | November 8, 2020 | Pendleton, OR | 0.4 / 1966 | 0.8 | 1934 |
| Low Temp | November 9, 2020 | Long Creek, OR | 13 / 2005 | 13 (tied) | 1908 |
| Low Temp | November 9, 2020 | Walla Walla, WA | 24 / 1986 | 23 | 1930 |
| Low Temp | November 9, 2020 | Yakima, WA | 18 / 1975 | 16 | 1909 |
| High Temp | November 17, 2020 | Walla Walla, WA | 67 / 2009 | 68 | 1930 |

All of the record events were reports of either record low temperatures, record high temperatures, or record high precipitation events. There was also a record high snow amount event on the 8th of the month at the Pendleton, OR Airport. These kinds of records are not uncommon for the month of November.

November 2020, Observed Monthly Max & Min Temperatures

| Location | Highest Maximum Temperature | Lowest Minimum Temperature |
|-----------------|-----------------------------|----------------------------|
| Pendleton, OR | 72 | 20 |
| Redmond, OR | 80 | 16 |
| Pasco, WA | 75 | 22 |
| Yakima, WA | 71 | 16 |
| Walla Walla, WA | 71 | 23 |
| Bend, OR | 76 | 17 |
| Ellensburg, WA | 65 | 18 |
| Hermiston, OR | 70 | 22 |
| John Day, OR | 76 | 24 |
| La Grande, OR | 71 | 16 |
| The Dalles, OR | 70 | 25 |
| MT Adams RS, WA | 59 | 20 |

Most of the stations in the list had a maximum monthly high temperature in the 60s to 70s, except for Redmond, OR which had a monthly maximum of 80, and the Mt Adams Ranger Station had a monthly maximum of 59 degrees. Every station in the list has a monthly minimum temperature between 15 to 25 degrees. These values are typical for November, and were close to normal.

November 2020, Monthly Precipitation and Snowfall/Hail Totals

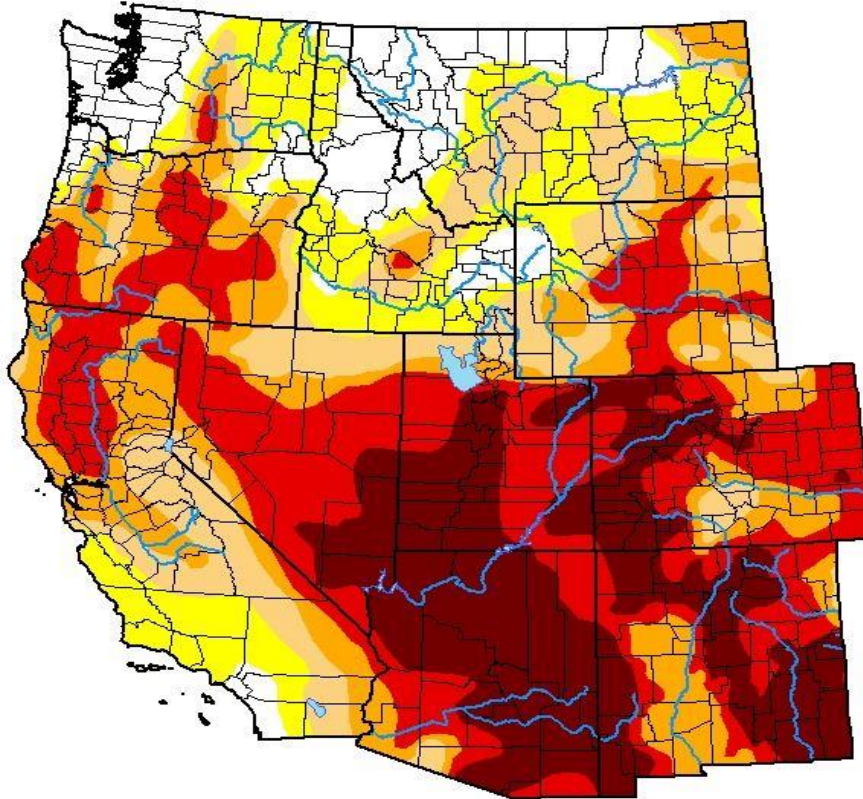
| Location | Total Monthly Precip (inches) | Total Snowfall/Hail (inches) |
|---------------------|-------------------------------|------------------------------|
| Pendleton, OR | 2.43 | 1.2 |
| Redmond, OR | 1.54 | M |
| Pasco, WA | 1.21 | M |
| Yakima, WA | 1.15 | M |
| Walla Walla, WA | 2.44 | M |
| Bend, OR | 1.20 | 0.0 |
| Ellensburg, WA | 0.75 | M |
| Hermiston, OR | 0.56 | M |
| John Day, OR (RAWS) | 1.65 | M |
| La Grande, OR | 1.89 | M |
| The Dalles, OR | T | M |
| Mt Adams RS, WA | 2.80 | 7.0 |

Precipitation amounts were greater than an inch, except for Ellensburg, WA, Hermiston, OR, and The Dalles, OR. The Dalles only reported a trace for the month. The highest amounts were at the Pendleton, OR airport, with 2.43 inches, and the Mt Adams Ranger Station, WA, with 2.80 inches. Snowfall amounts were mostly missing, except for the Pendleton, OR airport, with 1.2 inches for the month, zero snowfall at Bend, OR, and 7.0 inches at the Mt Adams Ranger Station. These precipitation values were mostly above normal, and snowfall amounts were mostly below normal.

November 2020 - Drought Monitor

U.S. Drought Monitor West

November 24, 2020
(Released Wednesday, Nov. 25, 2020)
Valid 7 a.m. EST



Drought Conditions (Percent Area)

| | None | D0-D4 | D1-D4 | D2-D4 | D3-D4 | D4 |
|---------------------------------------------|-------|-------|-------|-------|-------|-------|
| Current | 11.06 | 88.94 | 75.60 | 60.85 | 44.08 | 19.48 |
| Last Week 11-17-2020 | 12.57 | 87.43 | 75.86 | 59.56 | 41.67 | 12.30 |
| 3 Months Ago 08-25-2020 | 17.08 | 82.92 | 66.93 | 48.09 | 16.88 | 0.03 |
| Start of Calendar Year 12-31-2019 | 59.17 | 40.83 | 18.17 | 7.12 | 0.00 | 0.00 |
| Start of Water Year 09-29-2020 | 8.51 | 91.49 | 76.07 | 54.55 | 33.11 | 2.31 |
| One Year Ago 11-26-2019 | 44.19 | 55.81 | 23.84 | 11.57 | 0.24 | 0.00 |

Intensity:



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:

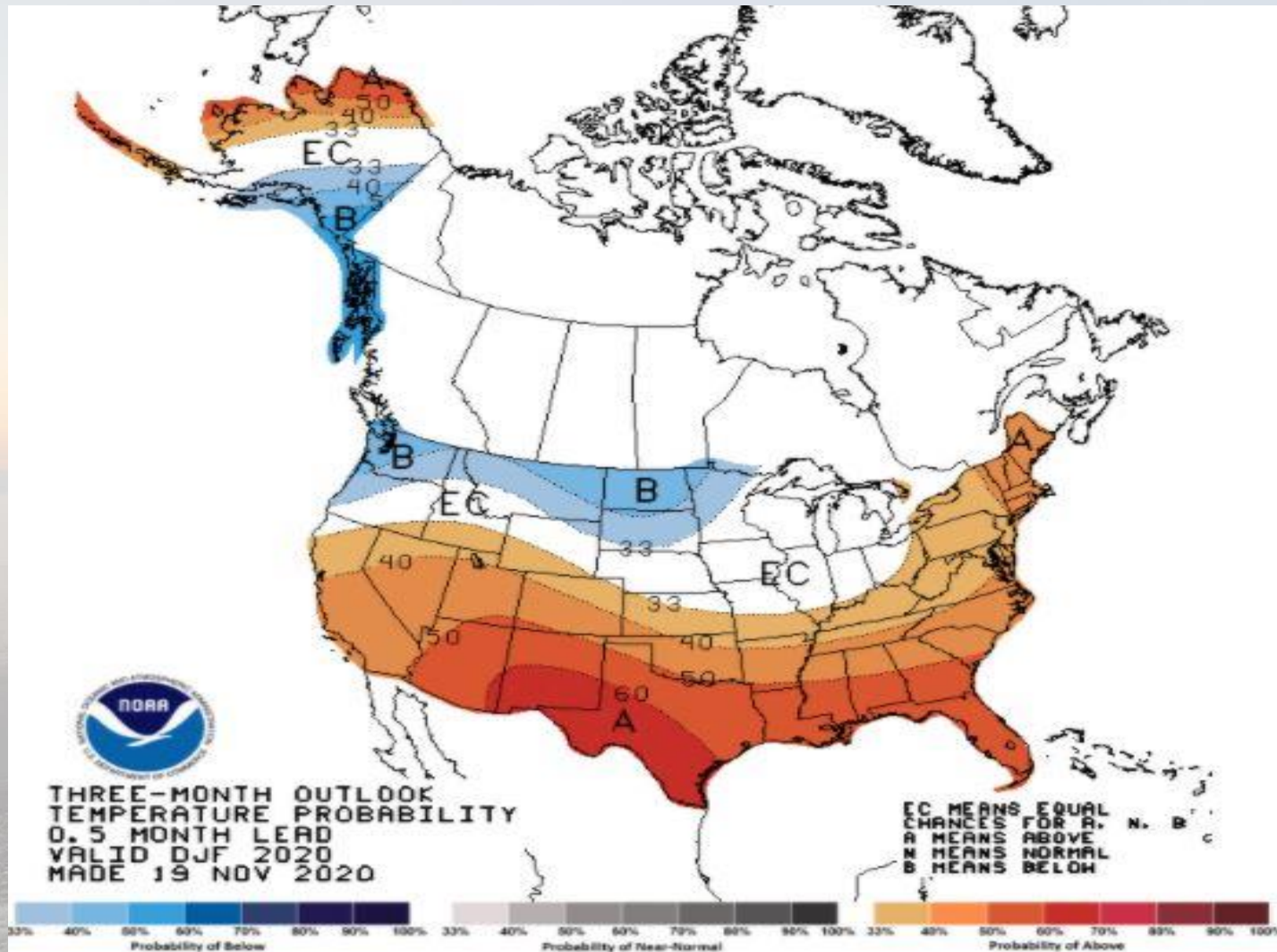
Richard Heim
NCEI/NOAA



droughtmonitor.unl.edu

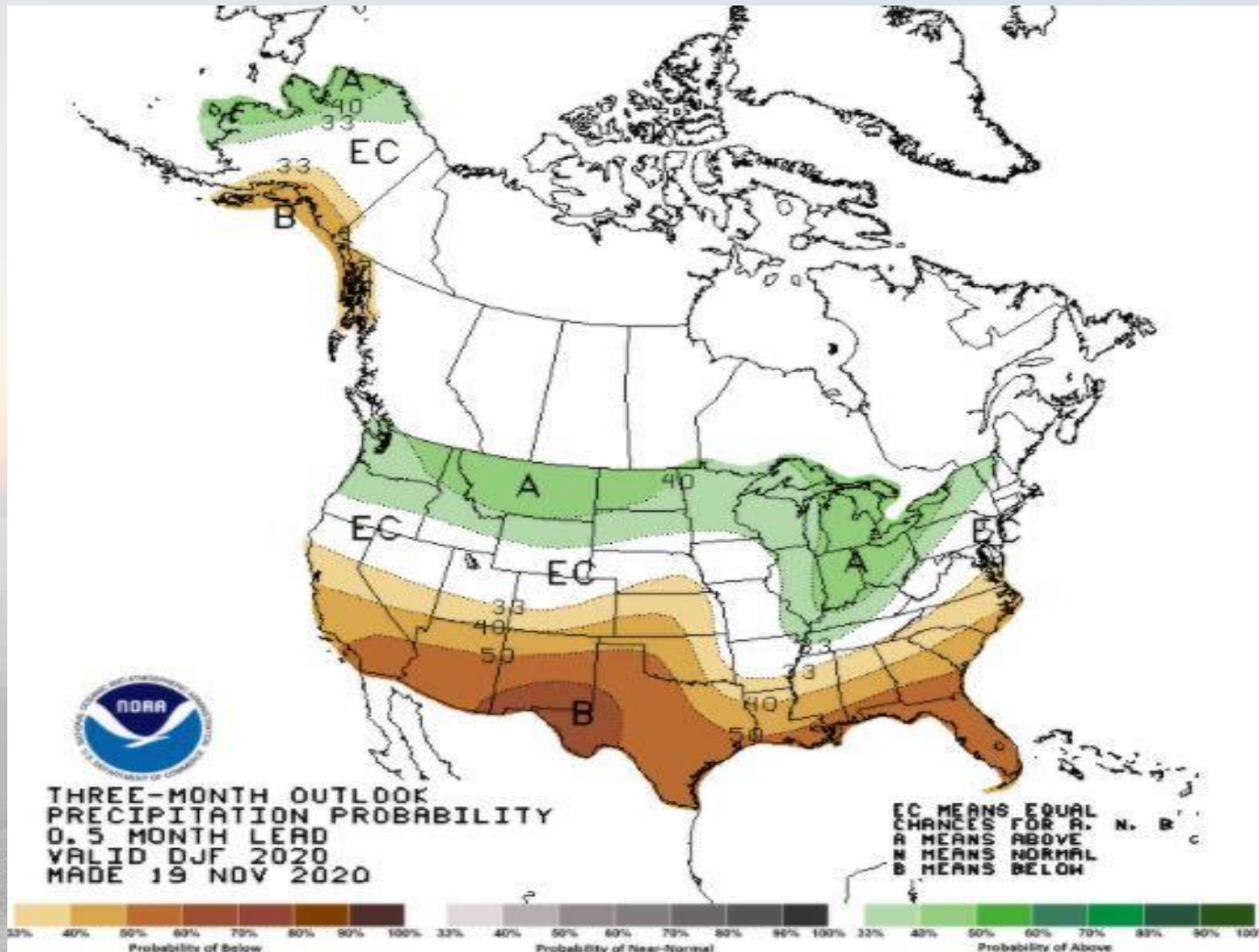
As of November 24th, there continued to be an “Extreme Drought” (D3) east of the OR Cascades and in north to south central Oregon. Also, “Extreme Drought” (D3) conditions existed over south central WA. Elsewhere, in northeast Oregon and extreme southeast Washington, “None” drought conditions existed. Elsewhere, D0 (“Abnormally dry”) to D2 (“Severe Drought”) conditions existed.

USA Three Month Temperature Outlook



The temperature outlook for the next 3 months (December – February) are near to below normal over Oregon and Washington.

USA Three Month Precipitation Outlook

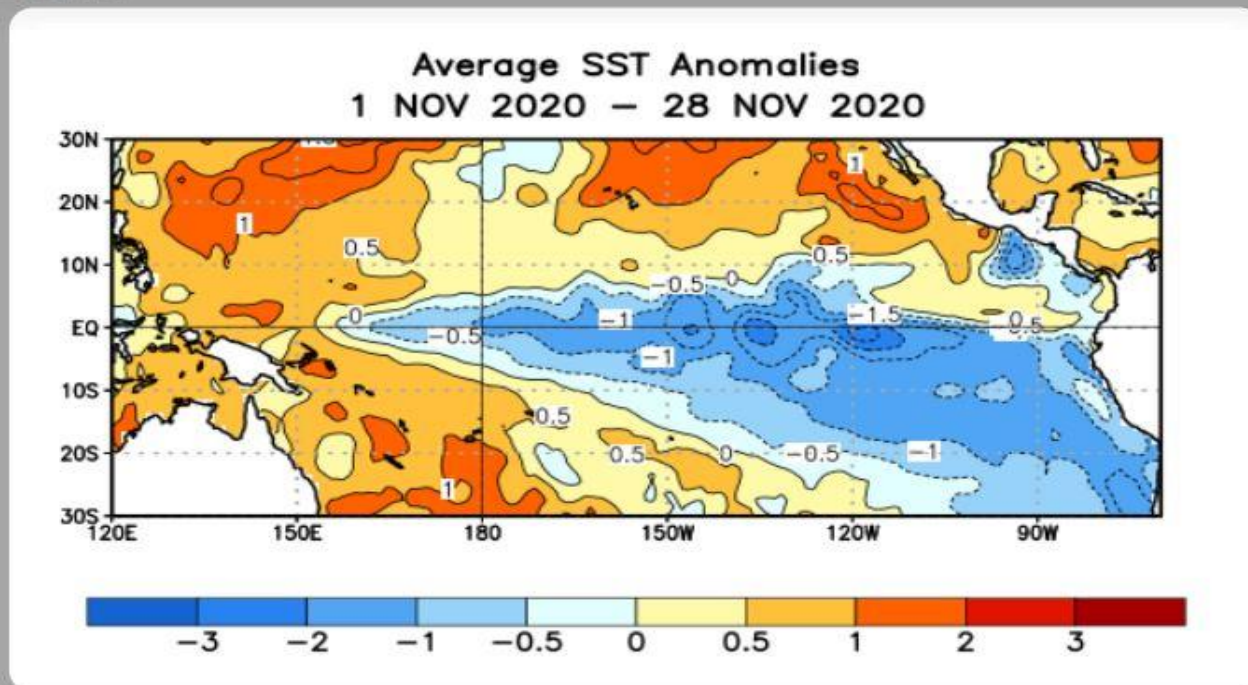


The precipitation outlook for the next 3 months (December – February) shows the Pacific Northwest having mostly a 33 – 40 percent greater chance of being above normal, with southern Oregon having equal chances of above or below normal precipitation.

Average Sea Surface Temperature (SST) Anomalies for November 2020

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

During the last four weeks, equatorial SSTs were below average from west of the Date Line to the eastern Pacific Ocean, and were above average in the far western Pacific Ocean.



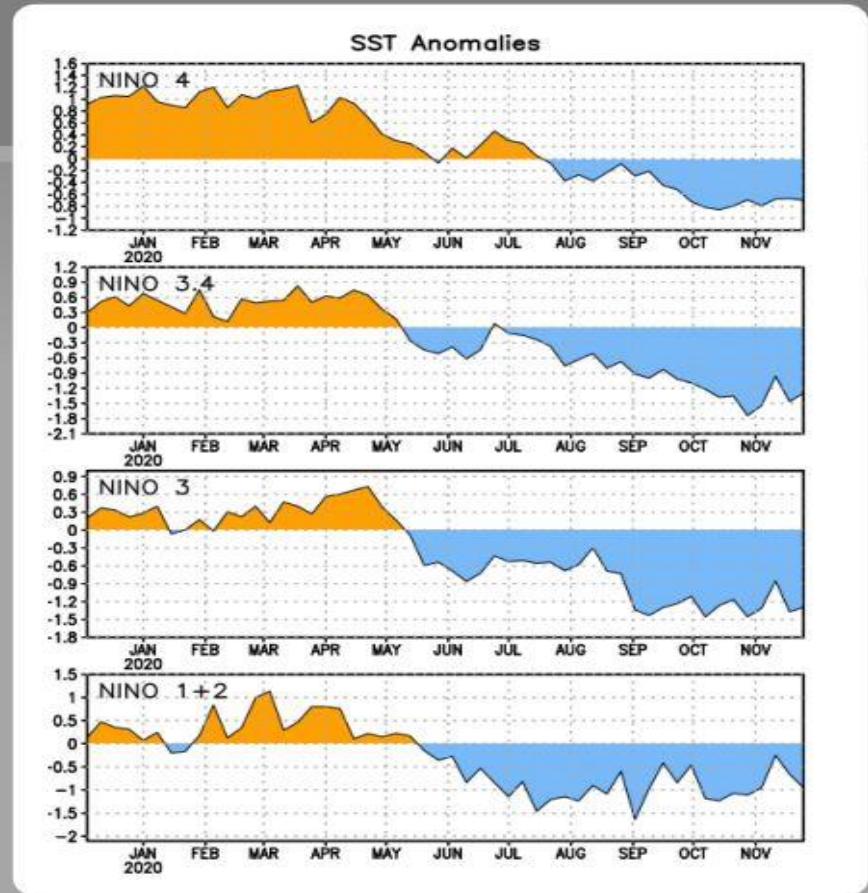
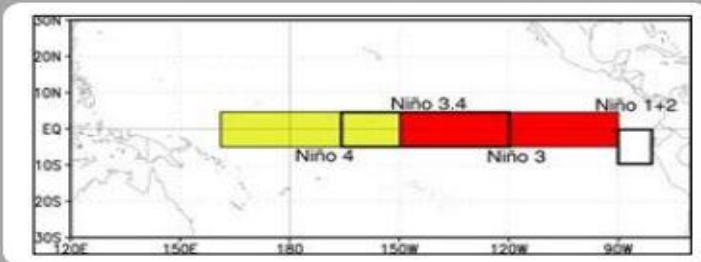
SSTs were again below average in November over the central and eastern tropical Pacific by -0.5 degrees to -2 degrees C. These last few months of below normal SSTs are consistent with a La Nina event which is likely to continue this winter through the spring of 2021. La Nina conditions are then expected to decrease by late spring into the 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 | -0.7°C |
| Niño 3.4 | -1.3°C |
| Niño 3 | -1.4°C |
| Niño 1+2 | -1.0°C |



All Niño Regions continued to show below normal SST's during the past 6 to 7 month. This continued cooling trend, during these months, is consistent with a La Niña event which will continue through this winter into the spring of 2021. In fact, a La Niña Advisory has been in effect for the past couple of months for this coming winter and the spring of 2020 – 2021.

Current ENSO (El Niño Southern Oscillation) Alert System Status

Summary

ENSO Alert System Status: **La Niña Advisory**

La Niña conditions are present.*

Equatorial sea surface temperatures (SSTs) are below average from the west-central to eastern Pacific Ocean.

The tropical atmospheric circulation is consistent with La Niña.

La Niña is likely to continue through the Northern Hemisphere winter 2020-21 (~95% chance during January-March) and into spring 2021 (~65% chance during March-May).*

The current ENSO status is: “**La Nina Advisory**”, which is in effect from now through the winter, into the spring of 2020-2021. The chances for a La Nina event is now about a 95 percent chance through early March, 2021 and then about a 65 percent chance from mid to late March through May of 2021.



Thank You!