

The Month In Review

May 2021

National Weather Service
Pendleton, Oregon

Photo: View of the Grande Ronde Valley, OR

May 2021, Climate Summary

The weather in May 2021 was quite benign, compared to a typical month of May in northeast Oregon and southeast Washington. There was only one report of a severe weather event (a non-thunderstorm wind gust of 60 mph at Ellensburg, WA), and there were no records reported. There were very few thunderstorms during the month, which is quite unusual, since May is typically one of the greatest thunderstorm months of the year in the forecast area. One thing that has not changed though, since March and April, is that May was significantly drier than normal again in most areas of the region. In fact, during the last 3 months, many stations ranked in the top ten driest 3 month periods on record, and some stations reported the 1st driest three month period on record. Temperature anomalies were not that great either with all stations having reported only a few degrees that were either above or below normal. Mountain snow melt continued only gradually, which reduced the threat of flooding in the forecast area, especially when combined with the low precipitation amounts. Below are images of typical scenes across the area during the month.



A light spring rain event over Pendleton, Oregon.



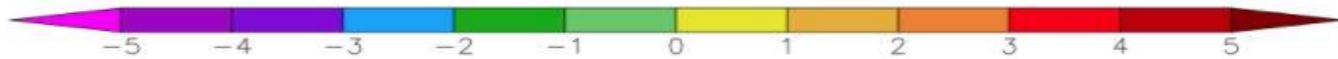
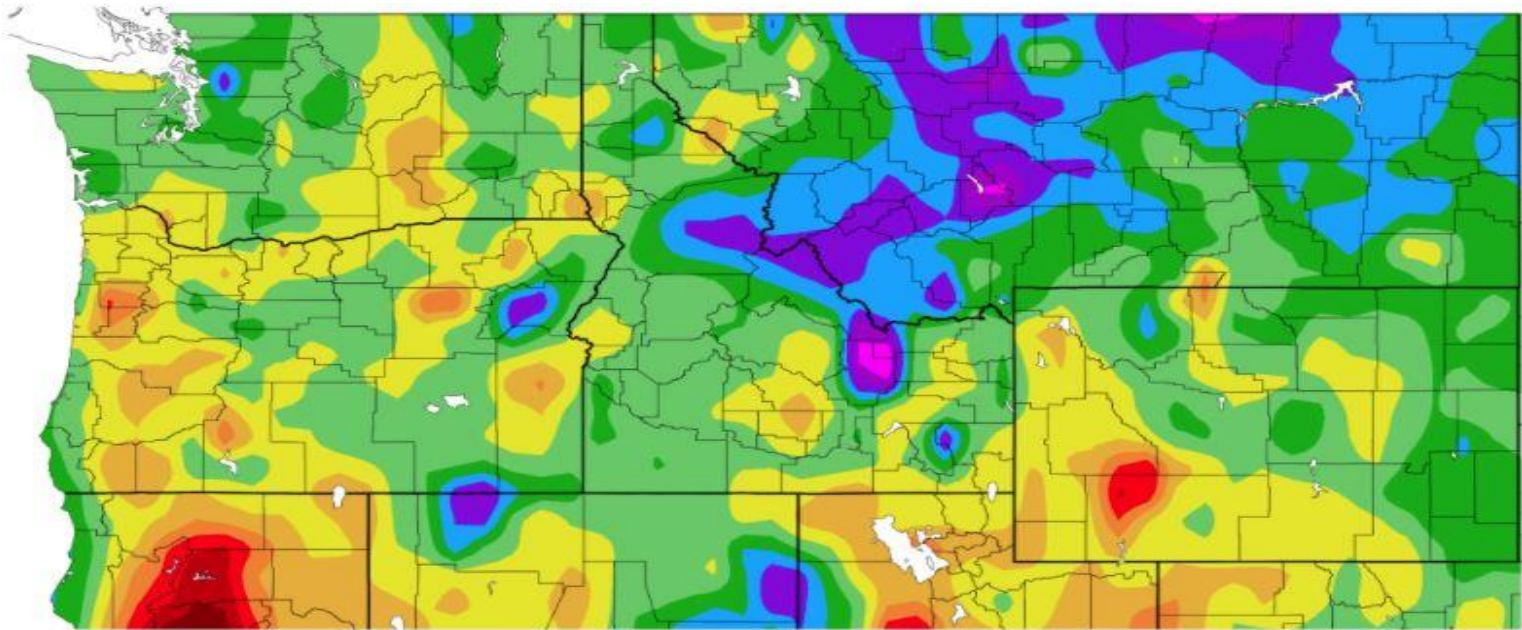
Spring snow melting at 7000 feet MSL in the Elkhorn Mountains, in northeast Oregon.



A beautiful spring day in the northern Blue Mountains of Oregon early in the month. Note the lack of snow in the image.

May 2021, Departure from Normal of Average Temperatures

Departure from Normal Temperature (F)
5/1/2021 – 5/31/2021



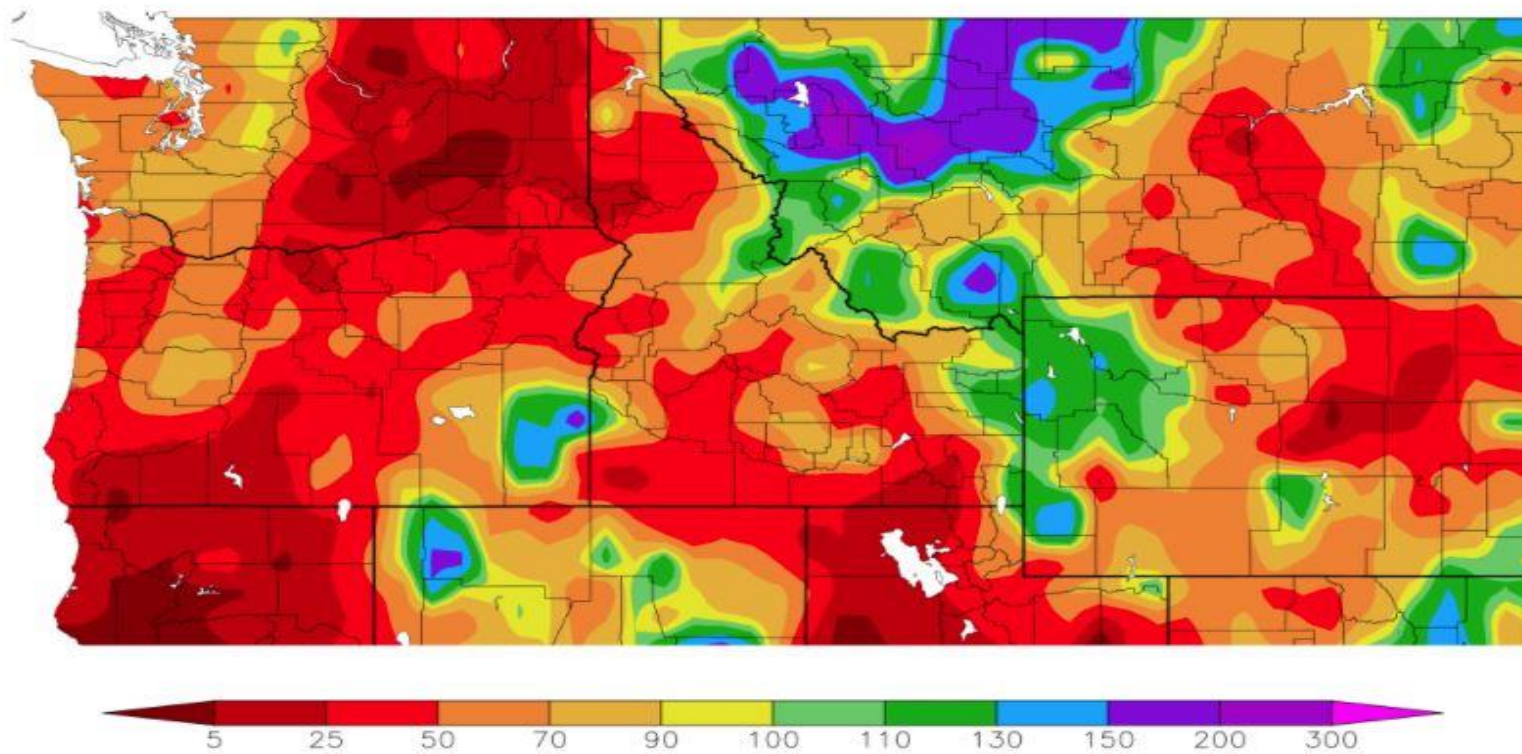
Generated 6/1/2021 at HPRCC using provisional data.

NOAA Regional Climate Centers

Most of the forecast area (central-northeast Oregon and south central-southeast Washington) near to above normal temperatures on average. The warmest areas were the Blue Mountains and the Yakima and Kittitas Valleys. The coolest areas were the Blue Mountain Foothills and the Cascades, as well as a portion of central Oregon.

May 2021, Percent of Normal of Precipitation

Percent of Normal Precipitation (%)
5/1/2021 – 5/31/2021



Generated 6/1/2021 at HPRCC using provisional data.

NOAA Regional Climate Centers

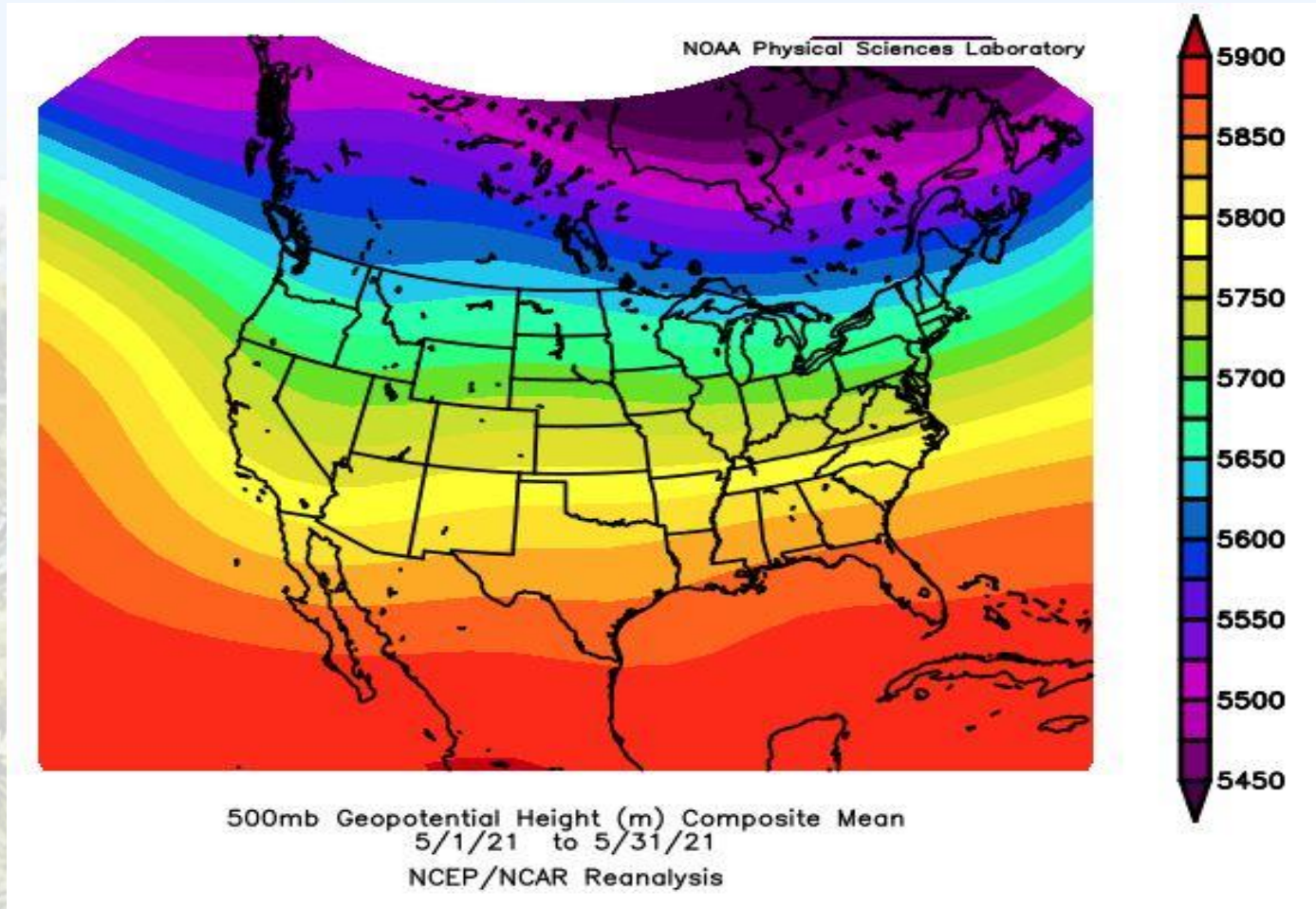
May was again significantly drier than normal with the percent of normal precipitation ranging from 5 to 70 percent of normal. The driest areas were the Lower Columbia Basin, north central Oregon, the Cascades, and the northern Blue Mountains. The least dry areas were the southern Blue Mtns, and a portion of the Ochoco Mountains. This is 3 months in a row of much drier than normal.

May 2021, Departures from Normal Averages/Sums for Select Cities

	Max T	Max T D	Min T	Min T D	Ave T	Ave T D	PCPN	PCPN D	Driest Rank
Yakima	75.3	2.9	43.2	1.3	59.2	2.1	0.05	-0.53	6th
Kennewick	76.7	2.2	50.4	0.9	63.6	1.6	0.04	-0.60	7th
Walla Walla	72.5	2.1	47.9	-0.4	60.2	0.8	0.30	-1.83	2nd
The Dalles	76.6	3.7	49.8	1.2	63.2	2.4	0.10	-0.59	6th
Redmond	71.2	3.7	36.8	1.4	54.0	2.6	0.60	-0.43	27th
Pendleton Airport	72.6	2.6	43.8	-1.8	58.2	0.4	0.47	-0.88	23rd
La Grande Co-Op	68.9	1.1	39.2	-3.3	54.0	-1.2	0.35	-1.89	1st
John Day Co-Op	72.0	5.6	43.6	6.5	57.8	6.0	0.56	-1.27	7th

The table above shows that all of the average maximum temperatures were above normal by about 1 to 4 degrees on average. The average minimum temperatures had a split of above or below normal values. The mean average temperatures were all above normal, except for the La Grande (Co-Op) station, which was -1.2 degrees cooler than normal for the mean average temperature. Precipitation amounts were again all significantly below normal this month, with a range of -0.43 at Redmond, OR to as much as -1.89 inches at the La Grande (Co-Op) station, which ranked the 1st driest May on record since records began there.

May 2021 Average 500 MB Pattern

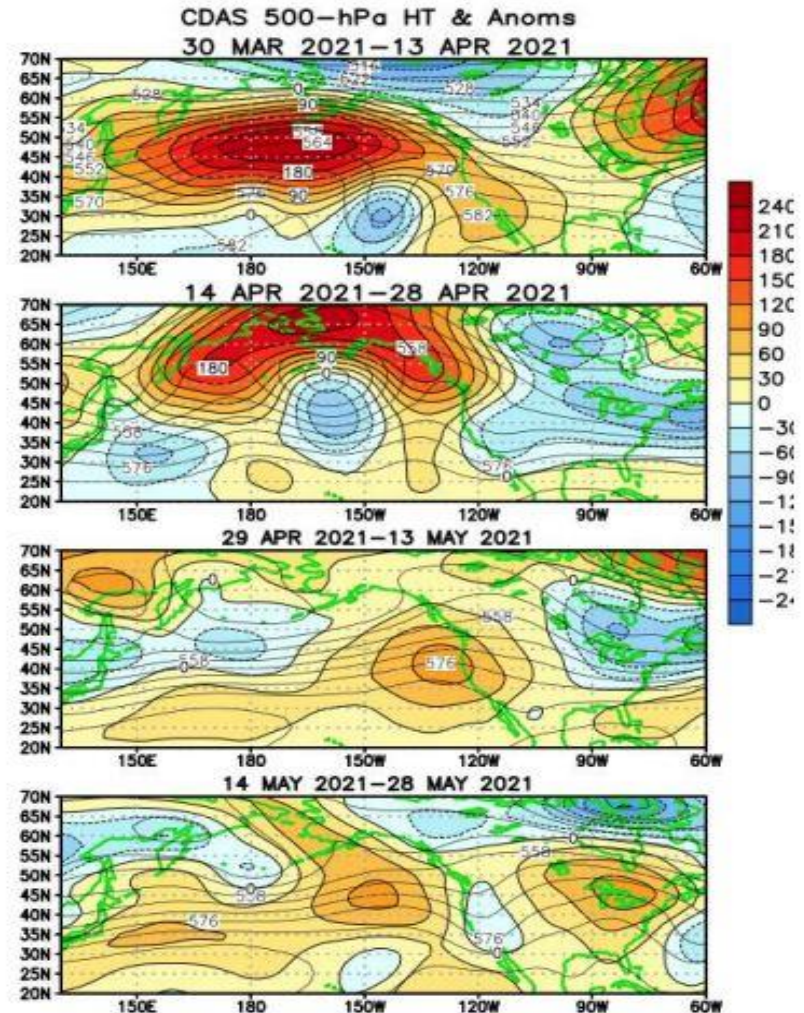


The average 500 MB pattern was an overall westerly to northwest flow over the Pacific Northwest. This is typically a dry pattern for eastern Oregon and Washington as any flow perpendicular to the Cascades results in a dry downslope flow over most of the forecast area. Since the average flow was not an amplified ridge or trough, temperatures were not too far from normal, either warm or colder.

Two Month, Bi-weekly 500 MB Plots for April and May 2021

These are more detailed semi-monthly average 500 mb pattern plots, which was from the following period: 30th March 2021 through 28th of May 2021.

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



Only the period from the May 14th – May 28th had an overall trough over the Pacific Northwest, while each bi-weekly period from the end of March to the middle of May had an overall upper ridge pattern over the Pacific Northwest, especially in April, which was one of the driest months on record (the top 2 images). The top 2 images had a significant height anomalies compared to May.

Significant Weather Events for May 2021

Significant Weather Events				
Event	Date	Report	Where	Source
None-tstm wind gust	May 1, 2021	M 60 mph	Ellensburg, WA	ASOS

There was only one significant weather event during the month, which occurred on the 1st of the month. It was a non-thunderstorm wind gust of 60 mph at Ellensburg, WA, measured by the ASOS at Ellensburg. The rest of May 2021 was benign with no other significant weather events.

Record Weather Event Reports for May 2021

Record Weather Reports					
Event	Date	Where	Previous Record	New Record	Records Began
No Records Were Observed for May 2021					

There were no record reports anywhere in the forecast area for May 2021, which again shows that May was a benign month weatherwise.

May 2021, Observed Monthly Max & Min Temperatures

Location	Highest Maximum Temperature	Lowest Minimum Temperature
Pendleton, OR	88	38
Redmond, OR	89	25
Pasco, WA	93	36
Yakima, WA	92	33
Walla Walla, WA	88	40
Bend, OR	80	24
Ellensburg, WA	90	33
Hermiston, OR	92	36
John Day, OR Co-Op	83	28
La Grande, OR Co-Op	88	33
The Dalles, OR	96	42
MT Adams RS, WA	87	31

All of these stations had maximum highest temperatures that ranged from the lower 80s to mid 90s. These values are not that unusual for May, when record high temperatures were all higher than the highest reported maximum temperatures. The same can be said for the lowest minimum temperature readings for the month, which ranged from 25 at Redmond, OR to 40 at Walla Walla, WA.

May 2021, Observed Monthly Precipitation and Snowfall/Hail Totals

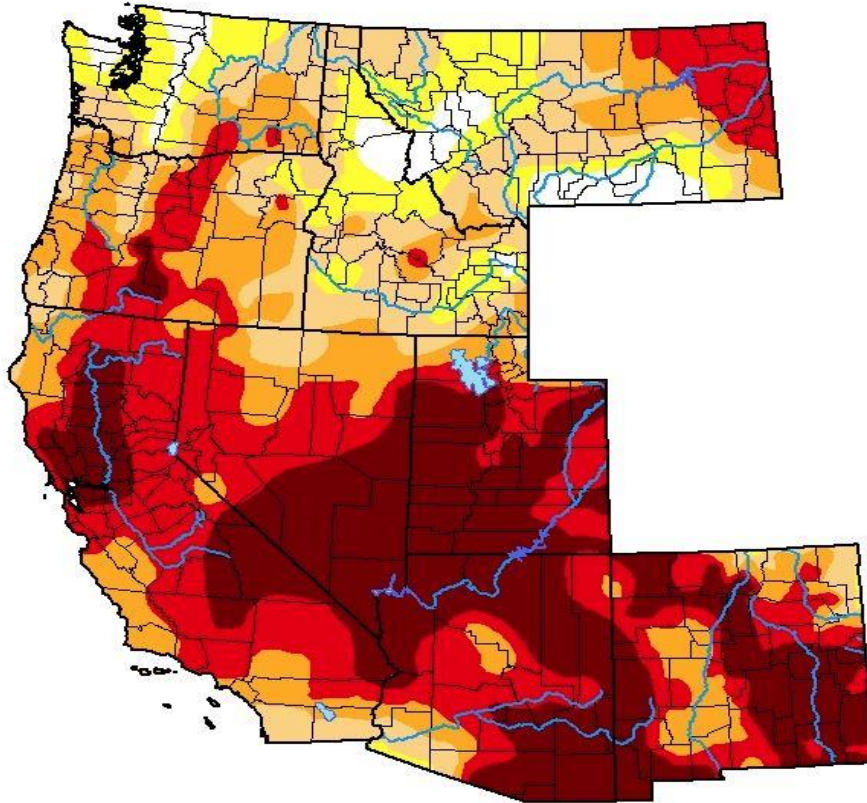
Location	Total Monthly Precipitation (inches)	Total Snowfall/Hail (inches)
Pendleton, OR	0.47	0.0
Redmond, OR	0.60	M
Pasco, WA	0.19	M
Yakima, WA	0.05	M
Walla Walla, WA	0.30	M
Bend, OR	1.00	0.0
Ellensburg, WA	0.14	M
Hermiston, OR	0.42	M
John Day, OR Co-Op	0.56	M
La Grande, OR Co-Op	0.35	0.0
The Dalles, OR	0.10	M
Mt Adams RS, WA	0.33	0.0

Monthly precipitation totals in the list ranged from a minimum of 0.05 of an inch at Yakima, WA to as much as an inch at Bend, OR. These were mostly all below normal values, indicating that May was again another very dry month at most locations. There was not any snow reported at any of these stations, which is normal, nor were there any reports of hail with thunderstorms. In fact, there were very few thunderstorms at all for the month of May, which is typically one of the months with the greatest number of thunderstorms in the forecast area.

May 2021 - Drought Monitor

U.S. Drought Monitor West

May 25, 2021
(Released Thursday, May 27, 2021)
Valid 8 a.m. EDT



Drought Conditions (Percent Area)

	None	D0-D4	D1-D4	D2-D4	D3-D4	D4
Current	3.79	96.21	87.12	71.34	52.88	26.92
Last Week 05-18-2021	3.47	96.53	87.56	71.74	52.63	25.14
3 Months Ago 02-23-2021	8.64	91.36	75.63	58.28	42.49	22.94
Start of Calendar Year 12-29-2020	13.52	86.48	75.49	63.25	45.40	23.76
Start of Water Year 09-29-2020	9.96	90.04	73.14	51.29	32.19	2.50
One Year Ago 05-26-2020	40.31	59.69	40.36	15.35	1.71	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:

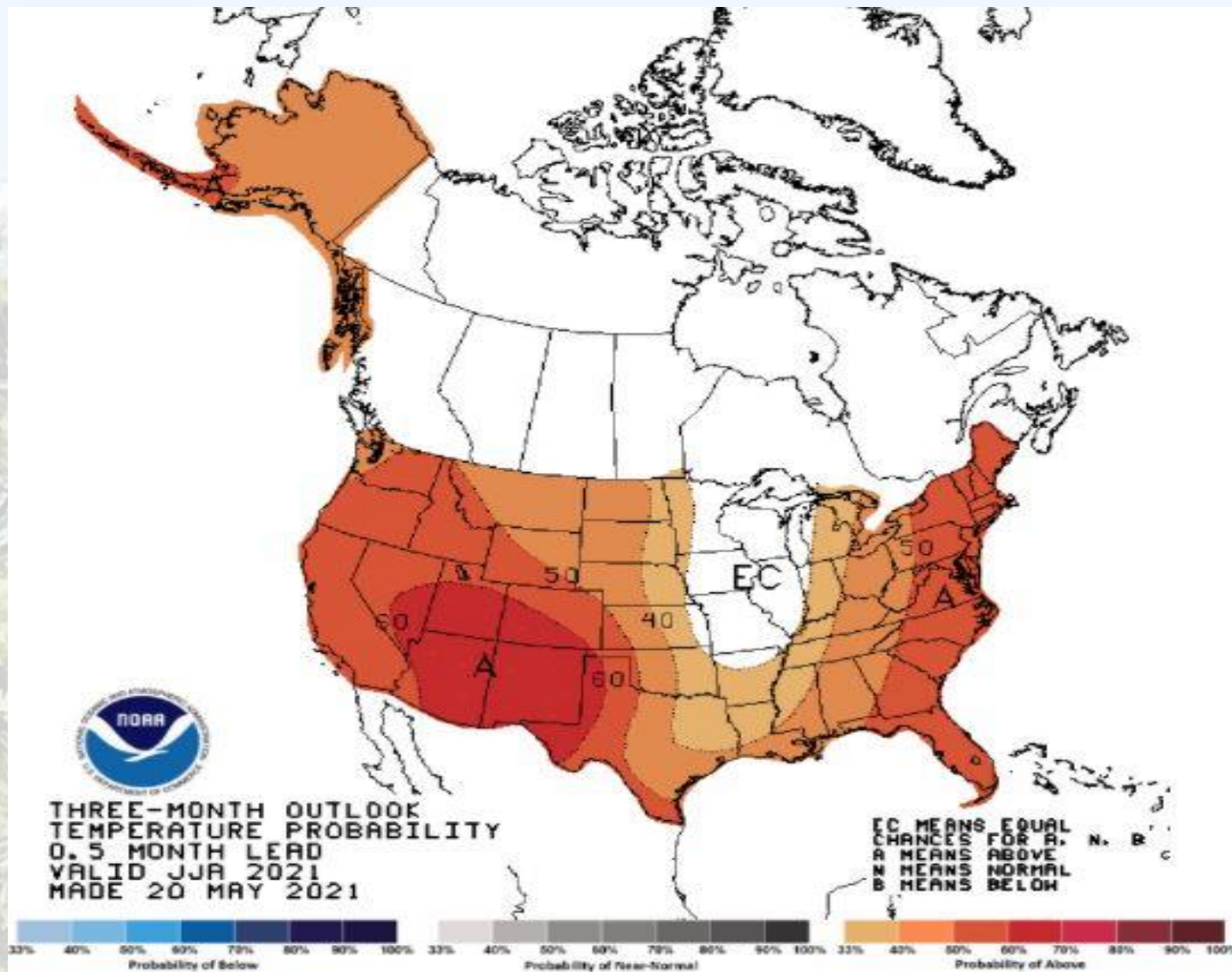
Adam Hartman
NOAA/NWS/NCEP/CPC



droughtmonitor.unl.edu

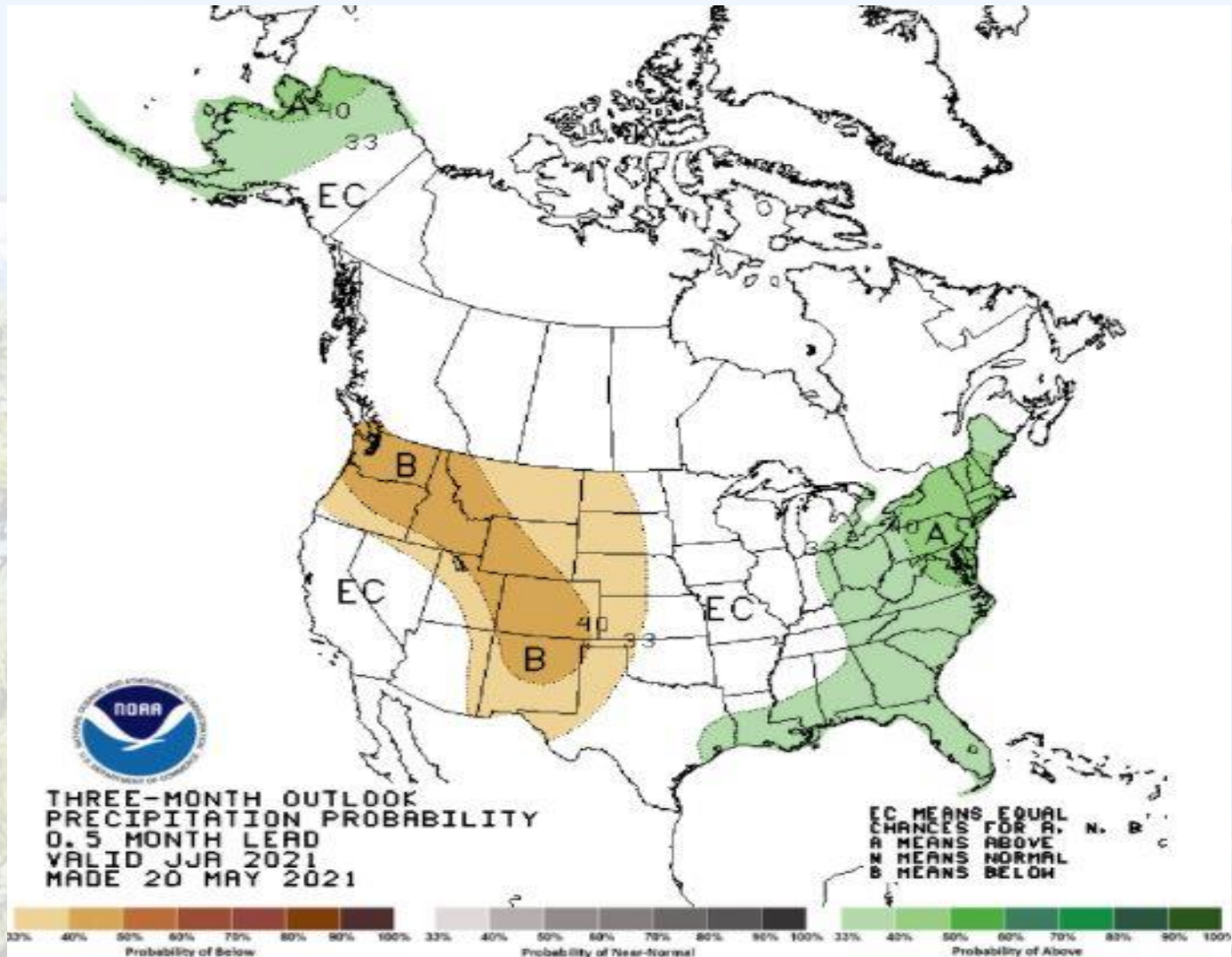
As of May 25th, all of the forecast area are in a category of drought with no neutral or “none” drought intensities. The Cascades have the greatest drought intensity (mostly “D3” to “D4”, or Extreme to Exceptional drought conditions). The least drought intensity was over the northern Blue Mountains and Foothills, which had a drought intensity of “D0” to “D1” (Abnormally Dry to Moderate Drought).

USA Three Month Temperature Outlook



The temperature outlook for the next 3 months (June - August) is for a greater chance of above normal temperatures.

USA Three Month Precipitation Outlook

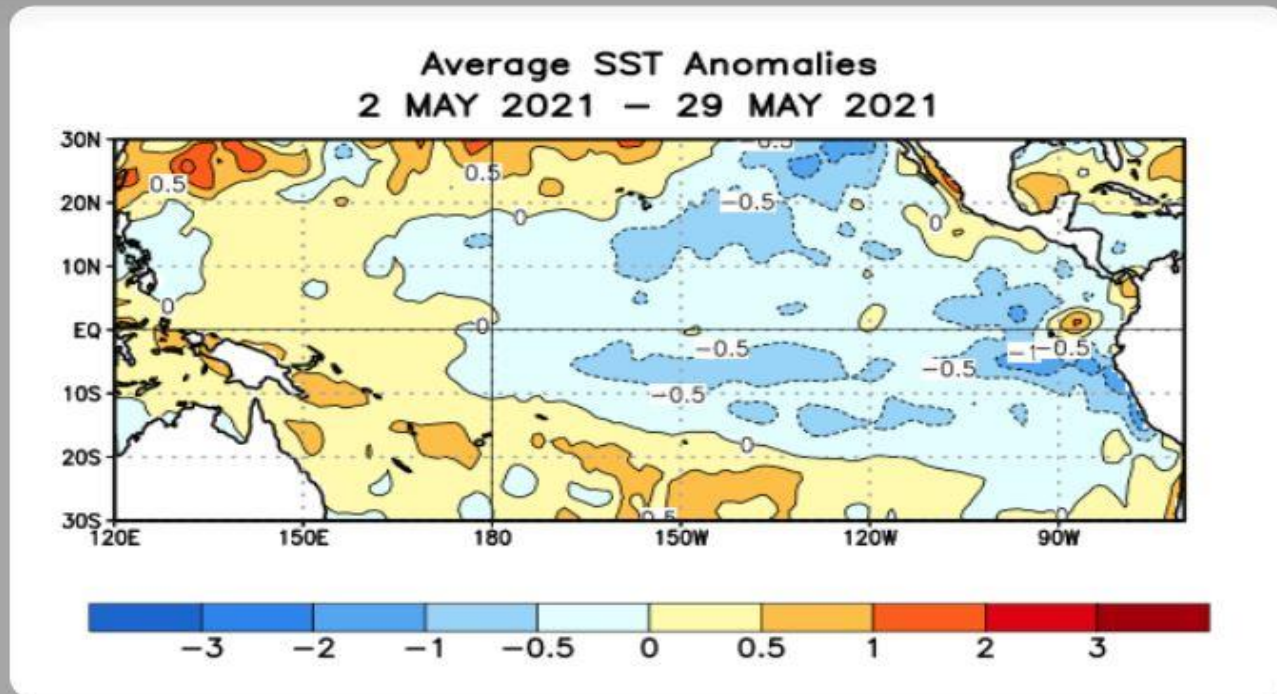


The forecast area is expected to have a greater chance of below normal precipitation for the next three months (June – August).

Sea Surface Temperature (SST) Anomalies for May 2021

SST Departures ($^{\circ}\text{C}$) in the Tropical Pacific During the Last Four Weeks

In the last four weeks, equatorial SSTs were below average in parts of the eastern Pacific Ocean and near average across the rest of the Pacific Ocean.



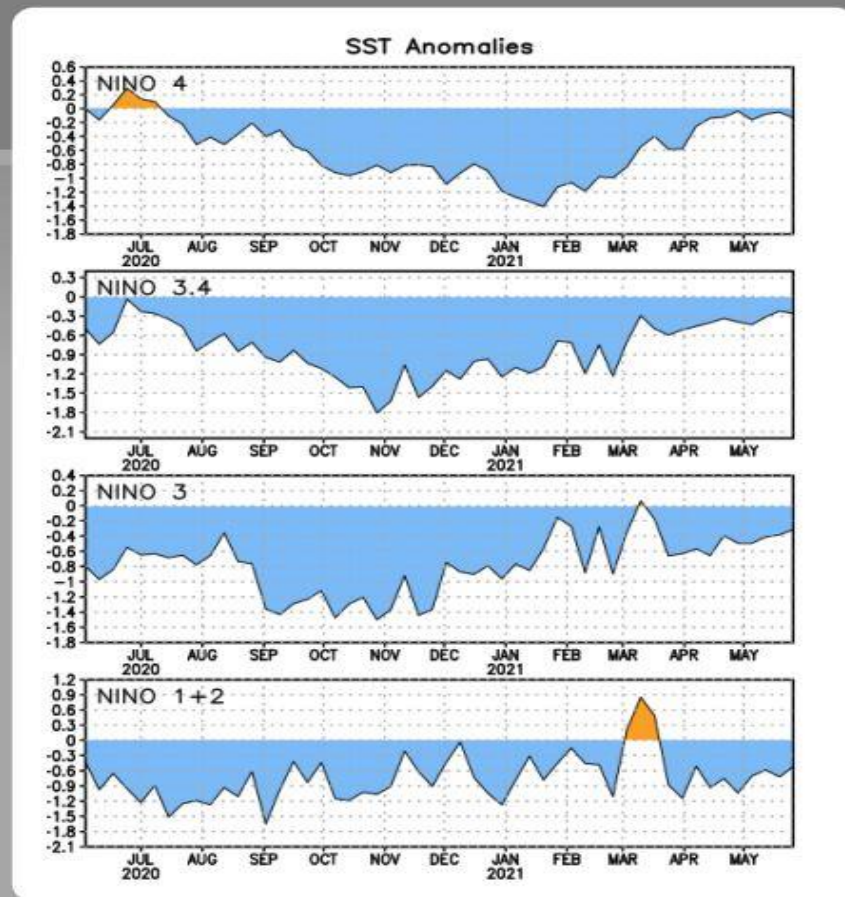
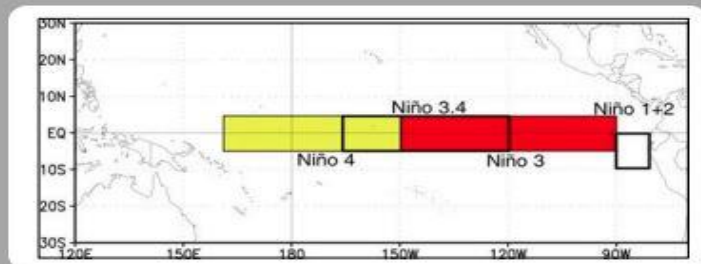
SSTs were near to below average from May 2nd to May 29th over most of the eastern tropical Pacific. There were a few pockets of warmer than average SST anomalies along, or near the central and south American coasts. These anomalously cooler waters were not as cool as in previous months, indicating that the recent La Nina event has decreased further since April.

El Niño/La Niña Regions, Showing SST Anomalies for Each Niño Region

Niño Region SST Departures (°C) Recent Evolution

The latest weekly SST departures are:

Niño 4	-0.1°C
Niño 3.4	-0.3°C
Niño 3	-0.3°C
Niño 1+2	-0.5°C



All Niño Regions are still showing below normal SST's during this past month. However, the magnitude of the below normal SST's has decreased again since April 2021 and are not as "cooler than normal" in all Niño Regions. This also indicates that the recent La Niña event has decreased further since last month.

Current ENSO (El Nino Southern Oscillation) Alert System Status

Summary

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

ENSO-neutral conditions are present.*

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

ENSO-neutral likely to continue through the Northern Hemisphere summer (67% chance in June-August 2021).*

The current ENSO status is now: “**Final La Nina Advisory**”, since the ENSO conditions are now ENSO-neutral. ENSO-neutral conditions are expected to continue through the summer, with a 67% chance from June – August 2021.



Thank You!