



The Inland Northwest Informer

Information For Storm Spotters, Cooperative Observers And Everyone

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Fall/Winter 2017 - Volume 21

Winter Weather Outlook 2017-18

By Michael Murphy, Meteorologist

After experiencing one of the coldest and snowiest winters on record last year, many may be wondering what the upcoming winter has in store for the Pacific Northwest.

The main player in the atmosphere which can be a predictor for the average, overall weather pattern through the winter months is an index called ENSO. ENSO is an abbreviation for El Niño Southern Oscillation index, and a main component of this index is the sea surface temperature anomalies in the tropical Pacific Ocean. If above average sea surface temperatures are present, then after reaching certain thresholds (+0.5°C), an El Niño is declared. The opposite is true for La Niña; sea surface temperatures in the tropical Pacific Ocean must reach at least 0.5°C below average for a period of time for a La Niña to be declared. NOAA's Climate Prediction Center is indicating higher



Figure 1. Deep snowfall, Binghamton, NY in March 2017. The area received 30+ inches of snow in a two day period from a powerful Nor'easter. Photo by J. Murphy

probabilities for La Niña to develop in the Pacific Ocean this coming winter.

There is now a 60% chance for La Niña to develop in the coming months, as sea surface temperatures in much

of the tropical Pacific are already running at below average levels. The coldest sea surface temperatures compared to average are now found over the eastern tropical Pacific, mainly east of 140W (closer to S. American coast). This area is known as Niño regions 1, 2 and 3. One of the most telling observations is the upper ocean heat content (0-300 meter depth), which continues to show increasing negative (cold) anomalies. Therefore, now that we know confidence in a weak to moderate La Niña event is increasing, what does this potentially indicate for the local weather patterns this upcoming winter?

Although it is true that last winter also featured a weak La Niña event in the Pacific, it is important to remember that ENSO is not the only factor in determining the winter weather patterns here in the Northwest.

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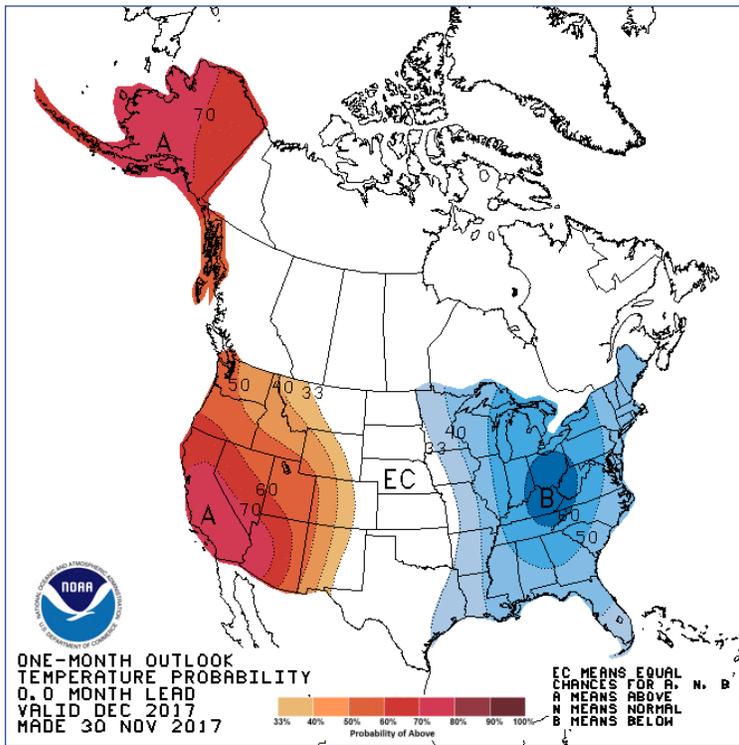
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Banner Image by T.W. Earle

Also, no two ENSO events are identical, and therefore can have different impacts over the continental US from year to year. With this in mind, let's look at the official winter outlooks for temperature and precipitation.

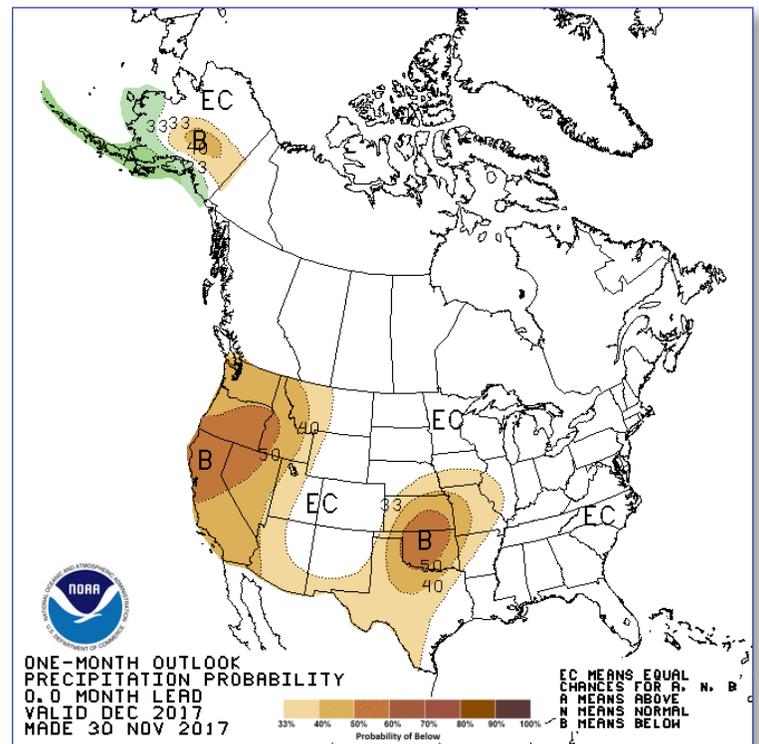
The latest outlook from NOAA's Climate Prediction Center expects a large ridge of high pressure to remain in place over the Pacific Northwest through much of December. Therefore, there are higher probabilities for above average temperatures and below average precipitation amounts through the month. However, there could still be a few shorter periods of colder, potentially stormier weather in the Northwest...especially heading into the latter part of December.



Oregon there are equal chances for above, below or near normal temperatures through the winter season.

As is typically the case in most La Niña winters, there is a greater chance for above average precipitation amounts over portions of northeast Oregon and eastern Washington. Back toward west-central Oregon and Washington, there is an equal chance for above, below or near average precipitation amounts through the December–January–February period.

Overall, odds seem to be tilted, at least somewhat toward colder and wetter than average weather for the upcoming winter season, across much of the Pacific Northwest region. As for snowfall: using past La Niña winters as a guide, it would indicate a slightly better chance (near 60%) for either near to above average snowfall this season

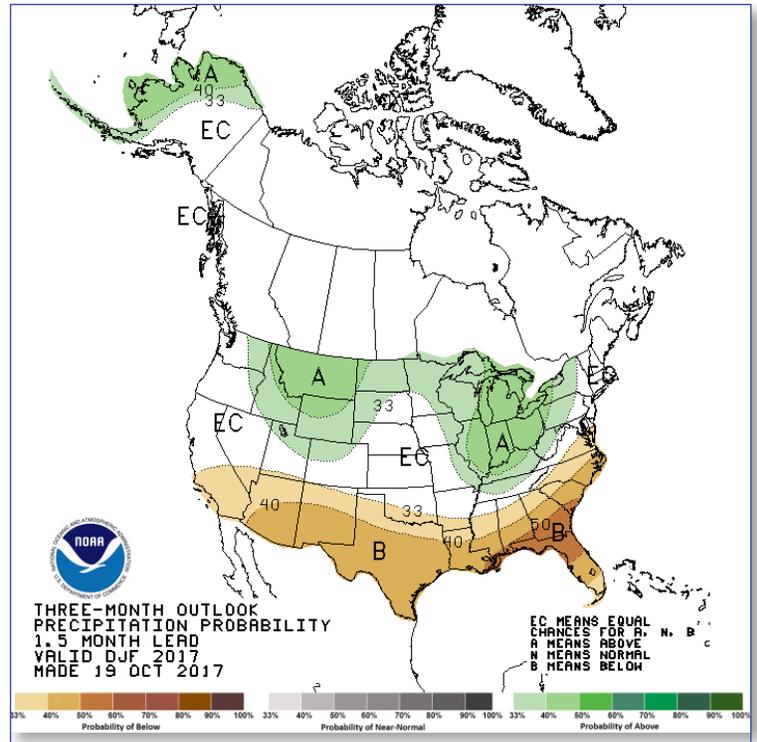
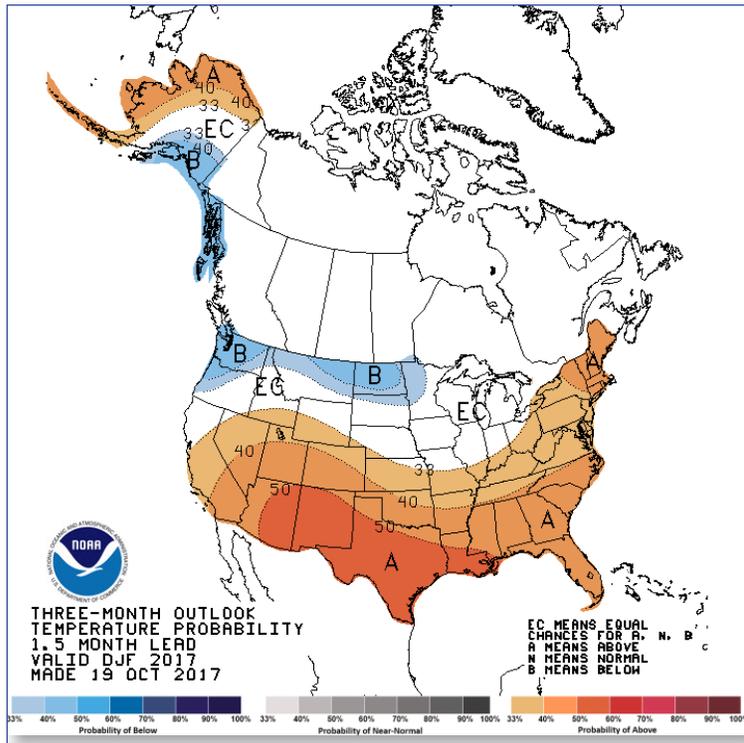


Figures 2 & 3. Monthly Outlook for temperature (above) and precipitation (right) for the month of November 2017. Graphics provided by Climate Prediction Center.

Looking further ahead into the heart of the winter season (Dec-Feb), the Climate Prediction Center (CPC) is favoring better chances for below average temperatures across north-central and northwest Oregon, along with much of southern Washington. For Central and southeast

across Central and Eastern Oregon. Of course, this still means there is a 40% chance to end up below average in the snowfall department.

Further north in south-central Washington, the numbers indicate about a 75% chance for at least near to above average snowfall this coming winter...but again, there is still that 25% chance that even here total seasonal snowfall comes up short. At this time, a repeat of last year's impressive, record setting snow totals seems unlikely across a widespread area. ❖



Figures 4 & 5. Seasonal Outlook for temperature (left) and precipitation (above) for the months of December, January, and February 2017-2018. Graphics provided by Climate Prediction Center.

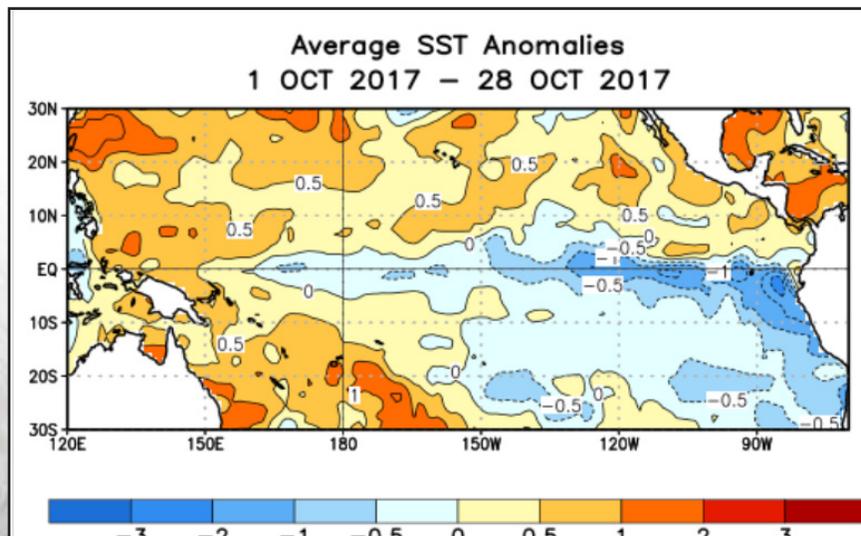


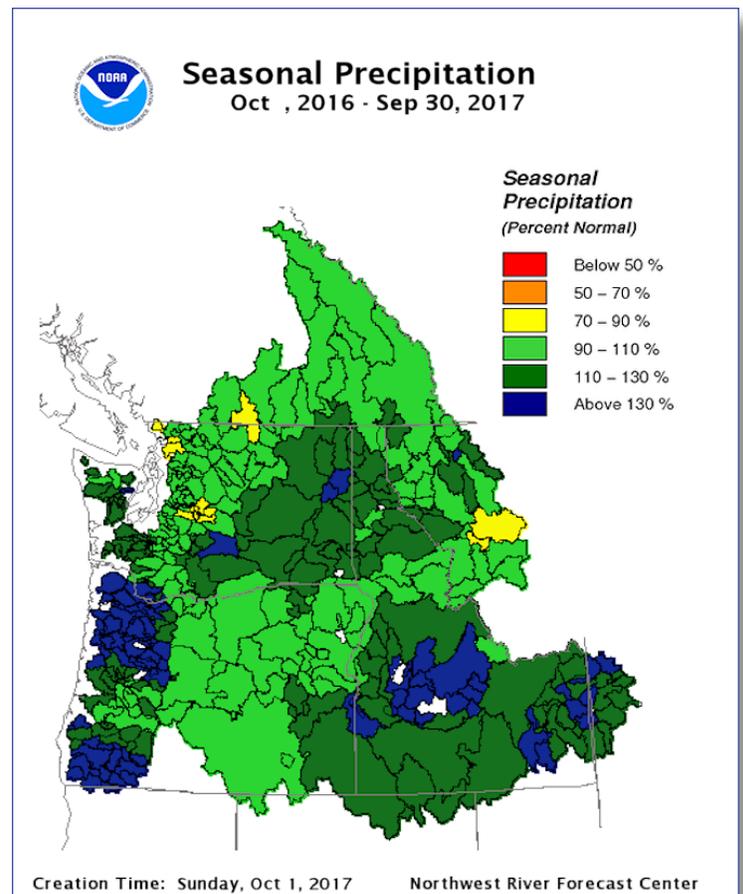
Figure 6. Average Sea Surface Temperature Anomalies across the Pacific Ocean, for the month of October 2017. Graphics provided by Climate Prediction Center.

Water Year Precipitation October 2016 - September 2017

By Marilyn Lohmann, Service Hydrologist

Location	Amount In Inches	Percent of Normal
Bend.....	11.95.....	105%
Condon.....	13.81.....	95%
Heppner.....	13.87.....	99%
John Day City.....	12.54.....	95%
La Grande.....	19.57.....	118%
McNary Dam.....	10.13.....	120%
Madras.....	10.33.....	99%
Meacham.....	42.18.....	132%
Milton-Freewater.....	17.38.....	105%
Mitchell 2NE.....	15.31.....	110%
Moro.....	13.19.....	116%
Pelton Dam.....	11.20.....	100%
Pendleton Airport.....	17.81.....	137%
Pilot Rock.....	16.40.....	113%
Redmond Airport.....	9.14.....	103%
Wallowa.....	22.88.....	131%
Wickiup Dam.....	24.11.....	113%
Cle Elum.....	21.56.....	97%
Dayton.....	22.81.....	120%
Ellensburg.....	12.36.....	138%
Hanford.....	9.46.....	136%
Ice Harbor Dam.....	14.35.....	130%
Mill Creek Dam.....	26.56.....	142%
Mt Adams RS.....	64.83.....	141%
Prosser.....	11.78.....	132%
Selah.....	11.05.....	128%
Sunnyside.....	10.89.....	145%
Whitman Mission.....	17.90.....	123%
Yakima Airport.....	11.78.....	143%

and southern Washington drier than normal, while wetter than normal conditions were seen in northeast Oregon. Precipitation in January was above normal over most of the area and with the cold temperatures, there were several episodes of freezing rain in the lower elevations along with accumulating snow. February had cooler than normal temperatures and above normal precipitation, while March had above normal precipitation and temperatures. April was much wetter and cooler than normal, followed by a drier and warmer May. June through September was warmer and drier than normal. ❖



Overall, most locations received above normal precipitation for the water year. The water year started off really wet with well above normal precipitation in October, with numerous locations seeing record monthly precipitation. November was warm and dry, followed by a cold December and January. Precipitation in December was varied with central



2017 Wildfire Season Summary

By Mary Wister, Incident Meteorologist / Fire Weather Program Leader

While the 2017 wildfire season across eastern Washington and eastern Oregon was nothing unprecedented, the same could not be said for other areas of the country, especially western Oregon and northern California. Red flag conditions were often met in these areas during the late summer through early fall, and significant property damage associated with wildfires was traumatic. Wildfires that erupted in northern California in early October claimed 40 lives. The casualties and the loss of property are reminders of how devastating wildfires can be and why it is critical to be “firewise” when outdoors during the summer.

For the NWS Pendleton’s County Warning Area (CWA), the largest wildfire this past season was the Nena Springs Fire located approximately seven miles northeast of Simnasho on the northeast boundary of the Warm Springs Indian Reservation. The Nena Springs fire began on August

8. Although significant progress was made about a week after its ignition, gusty winds caused the fire to blow past a containment line on August 17, threatening the beautiful Kah-Nee-Ta Resort. Thanks to the hard work of the task forces involving firefighters and water tenders, the fire was kept away from the resort as well as other buildings in the area. The visitors and residences breathed a sigh of relief and were able to enjoy the Great American Solar Eclipse on August 21. This human-caused fire burned 68,135 acres and was 75% contained on August 22. The second largest fire in the CWA was the Milli Fire located approximately nine miles west-southwest of Sisters that burned 24,079 acres. The fire began on August 11 as a result of lightning—ten days before the solar eclipse. Immediate evacuations were ordered on August 18 for residents threatened by the fire. Poor air quality was also a major concern before and during the eclipse, severely affecting

the Sisters area where the air quality index lowered down to a “Hazardous” category on August 20. The Milli Fire was fully contained on September 24.

Most of the other wildfires in the forecast area were relatively small without the need for incident management teams. A large wildfire near Mabton, Washington, quickly engulfed 11,000 acres of grass and sage but was quickly extinguished by firefighters. On August 2, the Cinder Butte Fire started about

10 miles west of Riley, Oregon, off of Highway 20 (cause of the fire under investigation). The fire burned about 52,465 acres in the Burns District of southeast Oregon. Although the fire spread into NWS Boise’s forecast area, it initially began at the southeast corner of Deschutes County. The fire activity during the summer 2017 was

not as extensive across south central and southeast Washington and central

and northeast Oregon compared to other areas in the west, but the upcoming fire season could be a different story. A prolonged period of hot and dry conditions can quickly dry out vegetation and increase the threat of large wildfires. It’s never too late (or too early) to learn about fire safety. For more information visit www.firewise.org. ❖



An MD-87 tanker drops flame retardant on the Two Bulls fire near Bend, Oregon, on June 7, 2014. Photo by Jim Hansen, Central Oregon Fire Management Service



Firefighting from the air. Desolation Fire, September 2017. The fire was a holdover from lightning...located 20 miles northeast of Prineville, Oregon.

Great American Eclipse 2017

By Dennis Hull, Warning Coordination Meteorologist and Ann Adams, HMT

Photo Sequence by T.W. Earle

On August 21, 2017, a total solar eclipse occurred. Solar and Lunar eclipses are not uncommon. This event, however, was rare in that totality began over the Pacific Northwest U.S. and quickly transited southeast across the United States, being viewable by millions from Oregon to South Carolina. The last time a solar eclipse was visible across the contiguous U.S. was June 8, 1918. In the weeks and days leading up to the event, many state, county and city agencies planned and prepared for what would be an unprecedented gathering of visitors to the northwest. NWS Pendleton mobilized several meteorologists to various locations to support those agencies and the general public.

Three forecasters were deployed to provide local weather forecasts before, during, and after the eclipse in August. Senior meteorologist Vincent Papol supported the effort in La Grande and Long Creek, Oregon where he provided briefings to the public and city, county, and state officials. Fire Weather Meteorologist Mary Wister supported the Tri-County Emergency Operations Center at Redmond and provided close weather consultation for the large public eclipse gatherings in Deschutes, Crook and Jefferson Counties. Warning Coordination Meteorologist, Dennis Hull worked with county and state officials at the Emergency Operations Center (EOC) in John Day, Oregon. ❖



Above: A viewing party setting up in Bear Valley, Grant County, Oregon
Photo by Jennifer Stein Barker

Right: At the moment of totality, from Ritter Butte, Grant County, Oregon
Photo by T.W. Earle



Cooperative Program Highlights



John Duckworth (right) from Wallowa, OR was presented the Edward H. Stoll award for an amazing 50 years of continuous service in the NWS Cooperative Program by Meteorologist-In-Charge Mike Vescio (left). John's mother, Dorothy Duckworth, was the station's observer from 1967, and with the help of her son John, there is a long historical climate record for the community of Wallowa, Oregon. Climate records for this community began in 1903.

A 100 year Institutional Award was presented to the Oregon State University's Sherman Branch Experiment Station in Moro, Oregon. On hand for the award was Erling Jacobsen (left), who started taking observations at the station in 1985, and is now retired...and Kyle Bender (right), who started June 2016 and has taken over for Erling. Presenting the award was Meteorologist-In-Charge Mike Vescio.



Photo Album



*SKYWARN Recognition Day at NWS Pendleton. Alan Polan chats with other HAM operators across the region. Also present are Bill Quick (center) and Don Drayton (lower)
Photo by J. Peck.*

Snow shower in October near Ukiah, Oregon. Photo by L. Heintz



*Wenas Lake in Yakima County, Washington.
Photo by A. Adams*

