

The Weather Watcher of the Inland Northwest

www.weather.gov/Spokane

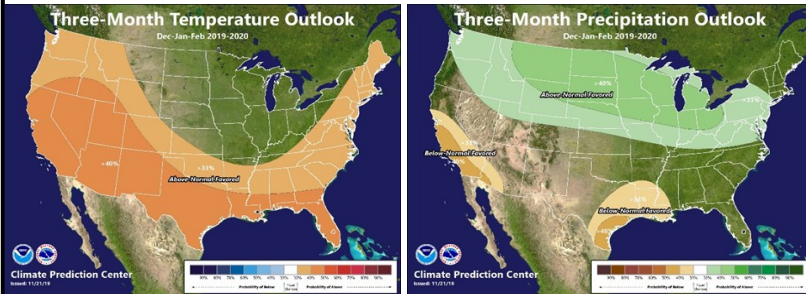


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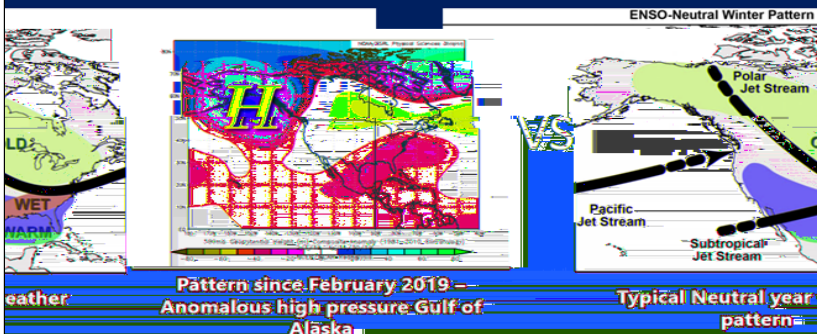
Winter Outlook—ENSO Neutral

The Climate Prediction Center shows slightly elevated odds of warmer and wetter than normal conditions for this winter over the Inland Northwest, mainly for December to February.



Note how the odds are only slightly weighted in this direction. An ENSO-neutral winter is favored, meaning we are not expecting an El Nino or La Nina winter. What does this mean for this winter? Well there are two main areas we are focusing on. The graphics below help illustrate this. The left image shows the pattern we have been in since last February. There has been anomalous high pressure in the Gulf of Alaska. The exact placement and strength of this feature has varied but has been there. The right image shows what usually occurs in a neutral year. Typically the Pacific Jet Stream is aimed at the region giving us an active weather pattern.

This winter battle



So will the ridge win, giving our region a drier, but potentially cold winter? Or will a more typical neutral year pattern develop with more frequent rounds of precipitation? There is low confidence on the right answer, and it's possible a combination of both will occur. But one thing does carry higher confidence. That is to expect at least a few high impact weather events. Some locations have already seen this so be prepared for common Inland NW hazards which includes snow, ice, and possible strong winds and localized flooding. ☀️ *Jeremy Wolf*

The Best Advice....

Prepare for Winter Weather

Want to report precipitation? Check out CoCoRaHS at www.cocorahs.org

Winter Hazards

What is typical winter weather across the Inland NW? That can be a loaded question. Mostly snow and cold, but it can vary from the Cascades to the Columbia Basin into north Idaho. The last time the region experienced ENSO Neutral winters were the back to back seasons of 2012-13 and 2013-14. Some of the highlights during these winters were:

HEAVY SNOW—December 2012 Lake Wenatchee to Elk and February 2014 near Mazama

BITTER COLD—December 2013 near Spokane & Lewiston

RIVER ICING—December 2013 near Pritchard

DAMAGING WINDS—January 2014 near Palouse & Chewelah Peak

DENSE FOG & RIMING—January 2013 and February 2014 near Spokane

FLOODING—January 2014 near Athol due to frozen ground.

Editor's Notes

With winter upon us, it's good to remember tips for traveling in winter weather. Pack an emergency supply kit. Make sure to winterize your vehicle before you start your trip. Stay mobile. Check road conditions before you go and along the way. Also keep current on the NWS forecast and any warnings.

The winter season brings many weather events that can sneak up on you. Even a light snowfall may lead to issues if it becomes too intense or arrives during rush hour. When encountering snow covered roadways, remember to slow down. Avoid using cruise control and give plenty of distance between you and other vehicles on the roadway. Stay safe.

The 2019 Winter Solstice is Saturday, December 21st at 8:19pm PST, which marks the shortest day of the year.

We're always looking for new ideas and stories for our publication. Please send to nws.spokane@noaa.gov. Newsletters are available on the NWS Spokane web page.

The main purpose of this publication is to keep our readers informed about NWS services and programs, and recognize those who help us with our mission, including weather spotters, observers, media, emergency managers, and government agencies.

All articles are written by the NWS Spokane staff. A special thanks goes to Jeremy Wolf, Jenn Simmons, & Jon Fox for their help.

NWS Open House

On September 21, 2019, the National Weather Service in Spokane held their first Open House in five years. The weather forecast office welcomed people of all ages to learn more about their operations and see the daily routine in person. There were numerous activities at the event: weather balloon releases, taking weather measurements, weather talks, self-guided tours, and kids' activities. A popular weather talk was on the Winter Outlook. Those who attended were given the opportunity to learn more about all that goes into the forecasting process. Forecasters walked attendees through various resources and routines in the office and on the operations floor. ☀ *Jenn Simmons*

NWS Open House—September 2019



CoCoRaHS Notes

Did you know there are great resources on observation training at CoCoRaHS? New this fall are two animations. The first one is all about Quality Control and its importance @ <https://youtu.be/3oaFrdeRsHU>. The second covers the Tools that We Use @ <https://youtu.be/Xm8P9dJO-bk>. This video looks at all of the instruments and tools we use to make measurements for CoCoRaHS, from the rain gauge to hail pads and the atmometer (ET gauge). The animation is amazing.

Don't forget the refreshers on winter weather. A good start is to check out the Snow animations on the CoCoRaHS YouTube Channel @ <https://www.youtube.com/user/cocorahs>. Other good ones are under the Training Slide Shows: Things to Know about Snow page @ <https://cocorahs.org/Content.aspx?page=snow> and our In depth - Snow Measuring slide show @ https://cocorahs.org/Content.aspx?page=training_slideshows. ☀

Fall Weather Statistics

Wenatchee Water Plant	Sep	Oct	Nov	Total
Avg High Temp	74.5	58.4	47.6	60.2
Departure from Norm	-3.8	-5.1	+1.1	-2.6
Avg Low Temp	53.8	36.7	30.5	40.3
Departure from Norm	+2.1	-4.5	-1.7	-1.4
Total Precip	2.33	0.47	0.11	2.91
Departure from Norm	+2.03	-0.05	-1.27	+0.71
Total Snowfall	0.0	0.0	0.2	0.2
Departure from Norm	0.0	0.0	-1.7	-1.7
Lewiston Airport	Sep	Oct	Nov	Total
Avg High Temp	76.6	57.9	46.8	60.4
Departure from Norm	-1.6	-4.7	-1.4	-2.6
Avg Low Temp	54.0	37.3	31.6	41.0
Departure from Norm	+3.0	-3.8	-2.5	-1.1
Total Precip	1.05	0.91	0.62	2.58
Departure from Norm	+0.38	-0.05	-0.56	-0.23
Total Snowfall	0.0	M	0.8	0.8
Departure from Norm	0.0	M	-1.0	-1.0
Spokane Airport	Sep	Oct	Nov	Total
Avg High Temp	68.7	51.3	42.2	54.1
Departure from Norm	-4.2	-6.7	+0.6	-3.4
Avg Low Temp	49.6	33.2	29.0	37.3
Departure from Norm	+2.2	-4.0	-0.8	-0.9
Total Precip	1.98	1.53	0.68	4.19
Departure from Norm	+1.31	+0.35	-1.62	+0.04
Total snowfall	3.3	3.6	0.2	7.5
Departure from Norm	+3.3	+3.5	-6.8	0.0

Lake Wenatchee—October 2019



Spotter Corner

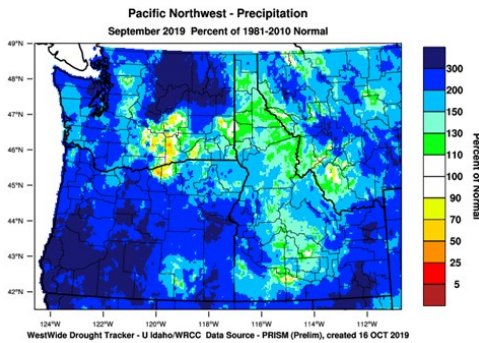
NWS hosted a fall spotter training seminar in Moscow, Idaho on November 19th during the local amateur radio meeting. It has been several years since training was held in Latah county and there were around 20 in attendance. A Live Virtual spotter class was held on December 3rd which 65 current and new spotters took part.

If you didn't get to attend a spotter training seminar, there's online material available at weather.gov/Spokane under Spotter Resources. We plan to host additional spotter training classes in the Spring of 2020. Stay tuned. ☀

Fall 2019 in Review

There is one word to describe this fall – unusual. Snow and precipitation records were broken in September, with cold records in October, and an abnormally dry November.

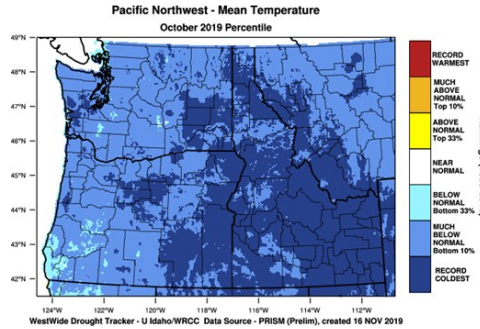
September started off on a warm and dry note with high temperatures in the mid 80s to mid 90s with dry conditions through the 5th. But the month finished very wet with a few areas in the Cascades recording the wettest September on record including Mazama with 3.95”, Omak 2.90” and Wenatchee Waterplant 2.30”. This was over 300% of normal as seen in the map below.



From the 8th through the 10th isolated thunderstorms produced heavy rain and landslides in the Cascades and Palouse. A large debris flow occurred on Entiat River Road with debris 6-7 feet deep in spots. Another debris flow occurred along South Lakeshore Drive near Manson after 1.17” of rain fell in two hours. In Pullman, 0.75” of rain in 45 minutes in the downtown area flooded one business. Another round of heavy rain occurred on the 17th-18th around Omak with between 1.40-2.00”. Then an abnormally cold storm parked over the region on the 28th and 29th setting records with snow falling generally above 2000 feet. The following is a list of September snow records: Spokane Airport 3.3”, Davenport 1.3”, Pullman 1.0”, Nezperce 0.6”, Rosalia 0.3”, and Ritzville 0.2”. If that weren’t enough, Spokane recorded its coldest September high temperature on record with 38° on the 29th.

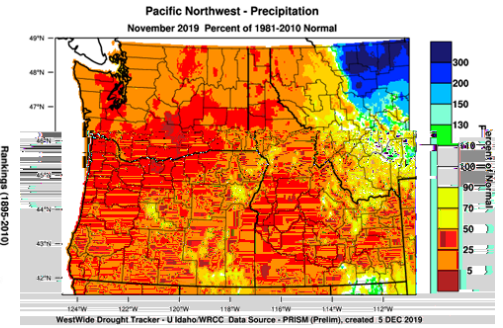


The cold weather lingered into the first part of **October**. This combined with a couple more additional intrusions of cold Canadian air resulted in the coldest October on record for several spots.



There were several significant weather events. On the 8th a wild day was experienced in Spokane, Coeur d’Alene, and Rathdrum. High temperatures reached the 50s with southwest winds gusting up to 40 MPH. Temperatures cooled rapidly behind a cold front with a band of moderate/heavy rain changing to wet snow. Snow quickly accumulated with 2-4” in Spokane/Coeur d’Alene with 6” in Hayden and Rathdrum. The heavy wet snow on trees with fall foliage resulted in downed trees and power outages with over 32,000 customers impacted. On the 25th strong winds struck portions of Central Washington with 45 to 55 MPH gusts between Wenatchee and Chelan with local gusts to 65 MPH in the mountains. The winds resulted in a few downed trees in the Leavenworth area leading to power outages and three injuries. These winds brought a day of mild temperatures with Wenatchee reaching 72°F. Also on this day a strong cold front tracked south through the Okanogan Valley with Oroville reporting a 74 MPH wind gust. Thunderstorms developed ahead of the front in Clark Fork, ID knocking down several trees and closing Highway 200 between Hope and Clark Fork. On the 28th a strong arctic front brought 40 MPH wind gusts and a burst of snow around Bonners Ferry, ID with near whiteout conditions reported. Snow and ice on the Palouse closed Highway 195 between Colfax and Pullman due to multiple accidents.

November was a dry month. Several locations across the Inland Northwest received less than 25% of normal precipitation as seen in the map below.



Wenatchee recorded the 3rd driest November on record with only 0.11”. Pullman recorded the 4th driest November with 0.44”. Despite these dismal numbers, there was some active weather towards the end of the month.



On the 26th a small but intense snow shower brought 0.6” of snow to Spokane in 30 minutes resulting in 35 crashes involving 127 vehicles between Medical Lake and Spokane on Interstate 90 as road conditions quickly deteriorated with snow/ice on the road. On the next day (Thanksgiving Eve), strong northeast winds around the Sandpoint and Priest River area resulted in a few downed trees and power outages with gusts up to 59 MPH. Meanwhile in Central Washington, heavy snow over the Blewett Pass area closed Highway 97 with Mission Ridge reporting 23” of snow by Thanksgiving morning. ☀

Jeremy Wolf

Staff News

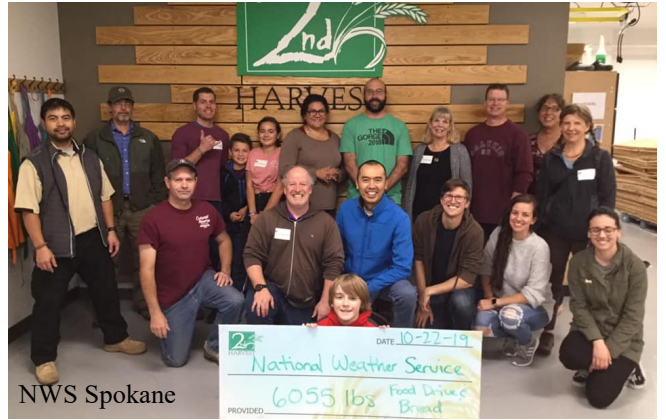
Meteorologist Bob Tobin will be retiring from the National Weather Service on December 31st after close to 30 years of federal service. Those in the fire weather community know Bob the best, he has been an Incident Meteorologist for 20 years and the Fire Weather Program Leader in Spokane since 2003. Good luck to Bob and his future adventures. ☀

Remember your Winter Spotter Checklist

- Snow:**
2"+ valleys & 4"+ mountains
- Strong Winds:**
30mph+ or damage
- Reduced Visibility:**
under a mile due to fog, snow...
- Hail:** pea size or larger
- Heavy Rain:**
Showery: 1/2" + in 1hr
Steady: 1"+ in 12hr
- Any Mixed Precipitation**
- Any Flooding**
- Travel Problems or Damage:**
due to severe/hazardous weather

Giving Back

On Oct 22, 2019, NWS Spokane took part in a food sort at 2nd Harvest in Spokane. Eleven NWS employees with their family and friends sorted 6055 pounds of food drive food and boxed them up. This was supporting the NWS Week of Service. Annually during this week, National Weather Service staff members and partners make a concerted effort to reach out in our communities to help those in need. ☀



NWS Spokane

2019 Fire Summary

The 2019 fire season was a bit slower with the total number of fires and acres burned being below average across the Inland Northwest. There were 23 large fires reported and over 145,000 total acres burned. The largest fire last summer was the Williams Flats fire in August. The last time the region experienced acreage burned at this level or even lower was 2016 & 2013. ☀ J Fox

Skywarn Recognition Day

This year marked the 20th year of Skywarn Recognition Day where the NWS and American Radio Relay League celebrates the contributions of Skywarn Spotters. On December 6-7, 2019, weather spotters from the Spokane county ARES/RACES set up their stations at NWS Spokane and tested their equipment by gathering weather data. The group was able to make over 80 contacts both locally in state and as far away as Ohio, Texas and Florida. Great job to our ARES/RACES weather spotters! ☀ R Fox

Watch : Conditions are favorable for severe or hazardous weather around the watch area.
CAUTION—Watch the Sky!

Warning : Severe or hazardous weather is likely or is occurring in the warned area.
DANGER—ACT NOW!

The Weather Watcher Of the Inland Northwest



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Trivia: What are a few record cold temperatures for Christmas Day in the Inland NW?