

The Weather Watcher

of the Inland Northwest

www.weather.gov/Spokane



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New Weather Satellite Launched

NASA successfully launched the second in a series of next-generation weather satellites for the National Oceanic and Atmospheric Administration (NOAA) on March 1, 2018. NOAA's Geostationary Operational Environmental Satellite-S (GOES-S) lifted off from Cape Canaveral Air Force Station in Florida. NASA partnered NOAA to launch the weather satellites.

The satellite will provide faster, more accurate, and more detailed data, in near real-time, to track storm systems, lightning, wildfires, coastal fog, and other hazards that affect the western United States.

Once GOES-S is positioned in a circular orbit approximately 22,300 miles (35,800 kilometers) above Earth, by mid March, it will be renamed GOES-17. A satellite in geosynchronous orbit is in a sort of "sweet spot" in which the satellite orbits at the same speed that Earth rotates. Since the GOES will be in a geosynchronous orbit that also stays directly over the equator, it will not move at all in relation to the ground and will be in a geostationary orbit.

GOES-17 will work in tandem with GOES-16, the first satellite in NOAA's new geostationary series, now at the GOES-East position. GOES-17 will extend high-resolution satellite coverage utilizing the revolutionary new technology currently aboard GOES-16 to most of the Western Hemisphere, from the west coast of Africa to New Zealand, and from near the Arctic Circle to near the Antarctic Circle. This satellite will provide more and higher resolution data than currently available over the northeastern Pacific Ocean, the birthplace of many weather systems that affect the continental United States.



A geostationary orbit is extremely valuable for weather monitoring because satellites in this orbit provide a constant view of the same surface area. It will provide not only visible images, but many channels of infrared and water vapor images. When you see satellite imagery on a weather website or on television, you are most likely seeing imagery from a satellite in geostationary orbit. For more information, please see earthobservatory.nasa.gov and noaa.gov.



Editor's Notes

Welcome to Spring! After a strange bi-polar winter, spring weather should be a welcome change as temperatures warm. The mountains have had a healthy dose of snow while low elevations thaw. A slow warm-up would be the most ideal to keep flooding to a minimum.

Spring is also the season for thunderstorms. There have been several reports of lightning already this year. It's important to keep an eye to the sky and seek shelter when lightning is observed or thunder heard. Stay away from tall trees or avoid open areas. Thunderstorms can produce heavy rain, hail and damaging winds.

We are always looking for new ideas, pictures & stories for our publication. Please submit them to nws.spokane@noaa.gov.

This newsletter & past issues 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 staff. A special thanks goes to Jeremy Wolf, and Paul Kozsan.

mPING

Want to share your precipitation reports in REAL time? No measuring needed—just what you are observing. Rain, snow, graupel, wind damage or low visibility. It's easy! Just download the mPING app on your phone or mobile device and report your precipitation or weather type. This assists weather forecasters in real time on getting accurate weather. For more, check out <http://mping.nssl.noaa.gov/> ☀ Robin Fox

Follow NWS Spokane on Facebook and Twitter!

NWS ET Paul Kozsan on Black Mtn



Black Mountain Weather Radio

Keeping the NWS equipment running can be a tough job, especially in remote locations. NWS Spokane has five NOAA Weather Radio transmitters; all are located on mountain tops. Weather radios provide up-to-date weather information and alert the public for severe and hazardous weather. If a transmitter malfunctions in the middle of winter, it takes some planning to get it fixed. This is what Electronics Technician Paul Kozsan had to do when the radio transmitter on Black Mountain in north Idaho stopped working in early February. After several days of planning, he made the 6+ hour round trip via Snowcat to the top of the mountain in sub freezing temperatures, wind and snow and got the radio working. Great job Paul! ☀️ *Robin Fox*

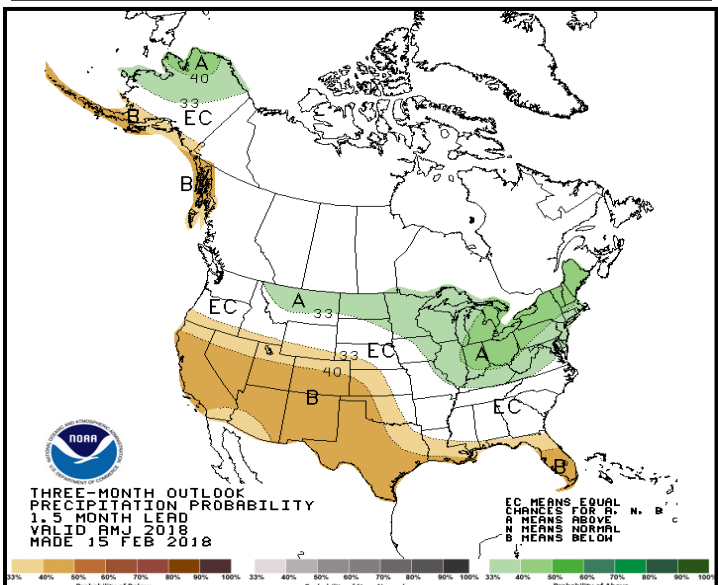
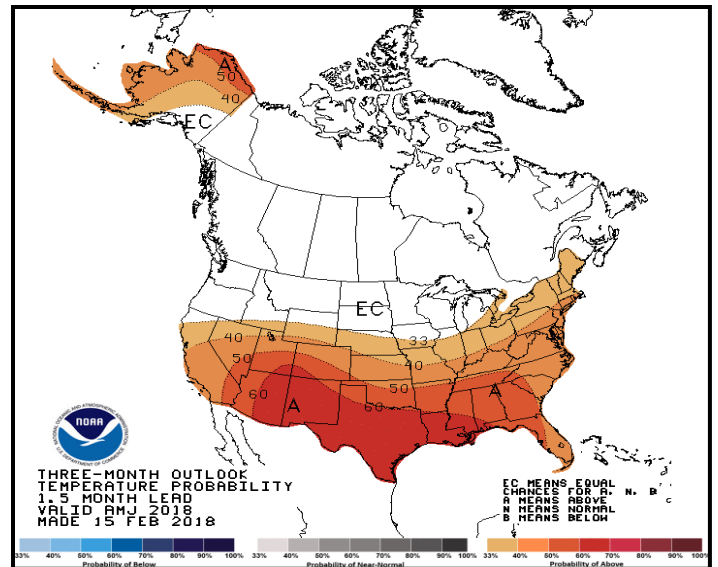


Spring Outlook

NWS's Climate Prediction Center indicates a better chance of normal temperatures and normal precipitation for the Inland Northwest during April, May and June. Warmer and drier weather is on tap for the southern U.S.

Winter Weather Statistics

Wenatchee Water Plant	Dec	Jan	Feb	Total
Avg High Temp	34.5	39.2	45.5	39.7
Departure from Norm	-0.3	+3.3	+2.1	+1.7
Avg Low Temp	26.6	29.6	26.6	27.6
Departure from Norm	+1.4	+4.2	-1.1	+1.5
Total Precip	1.11	1.29	0.29	2.69
Departure from Norm	-0.42	-0.04	-0.71	-1.17
Total Snowfall	3.5	5.1	1.1	9.7
Departure from Norm	-3.2	+1.1	-1.6	-3.7
Lewiston Airport	Dec	Jan	Feb	Total
Avg High Temp	36.1	45.9	45.8	42.6
Departure from Norm	-3.4	+4.3	-1.3	-0.1
Avg Low Temp	26.1	34.5	30.7	30.4
Departure from Norm	-1.9	+4.9	-0.2	+0.9
Total Precip	2.63	1.37	0.72	4.72
Departure from Norm	+1.63	+0.29	-0.06	+1.86
Total Snowfall	13.0	0.0	1.1	14.1
Departure from Norm	+9.5	-2.4	-1.0	+6.1
Spokane Airport	Dec	Jan	Feb	Total
Avg High Temp	31.1	38.1	37.2	35.5
Departure from Norm	-1.1	+3.7	-2.4	+0.1
Avg Low Temp	22.3	29.4	23.2	25.0
Departure from Norm	-0.2	+5.3	-3.2	+0.6
Total Precip	2.88	2.55	1.60	7.03
Departure from Norm	+0.58	+0.76	+0.27	+1.61
Total snowfall	17.1	8.1	12.0	37.2
Departure from Norm	+2.5	-3.4	+5.2	+4.3



2017-18 Winter in Review

Another La Nina winter for the Inland Northwest brought a wide variety of weather with a mix of active periods with rain and snow, unseasonably mild periods, as well as cold and dry stretches. Prevailing west to northwest flow gave plentiful snowfall to the Cascades and Idaho Panhandle, near to slightly above snowfall to eastern Washington, while the Wenatchee area received below normal amounts due to several bouts of down-sloping off the Cascades. Let's dive into the specifics.

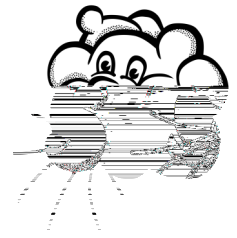
December started off with strong high pressure which brought mild and dry conditions to the mountains with eventual cloudy conditions under a temperature inversion in the valleys. A couple bouts of freezing drizzle in the Upper Columbia Basin and Spokane area on the 9th and 12th led to slick roads and several vehicle slide-offs. The second half of the month became much more active. On the 15th a weather system brought light to moderate accumulations to much of eastern Washington and north Idaho although a band of 6-8" hit the Spokane Airport, Rosalia, and Pullman. The 19th brought a much stronger storm with the Sagle, Bonners Ferry, and Diamond Lake areas hardest hit with 13". Snow changed to rain in Spokane with 1.13" of precipitation making it the 4th wettest December day on record. Holden Village, located near the upper end of Lake Chelan in the mountains recorded 24" with 13" in Mazama. A shot of cold air entered from the north on the 23rd and 24th with temperatures as low as -10°F around Republic, -5° Naples, and -4°F in Deer Park and Porthill. Another storm on the 22nd gave Lewiston 4" of snow making it the snowiest day of the winter.

ANSWER: Flooding and Drought

The strongest storm for many hit the region on the 28th and 29th bringing heavy snow, freezing rain, rain, and localized minor flooding. A stalled arctic boundary contributed to this wide variety of Inland NW weather. The Cascades and north Idaho Panhandle were the hardest snow hit areas with an impressive 35" in Clark Fork, 28" Stehekin, 18" Plain, 17" Prichard, 16" Bonners Ferry, 14" Mazama, 12" Leavenworth and Wallace, and 10" in Priest River. Snow changed to freezing rain in the Wenatchee area, portions of the Columbia Basin, Spokane/Coeur d'Alene area and northern valleys. Clayton and Coeur d'Alene were the hardest hit areas with around a ½" of ice accumulation. Heavy wet snow and ice led to several power outages. Meanwhile the Palouse and Lewiston areas were on the warm side of the boundary with lots of rain and snow melt. The town of Palouse came in with 2.73" of rain with 2.23" in Moscow. This pushed Paradise Creek in Moscow above flood stage. A mudslide 2-4 feet deep and 30 feet wide also occurred near Peck. Another mudslide 4 miles west of Kamiah closed State Highway

64. The 1.33" of rain that fell in Lewiston on the 29th made it the 2nd wettest December day on record.

While December left a lot to talk about, **January** was just the opposite. A much milder month was just a couple periods to note. The strongest storm of the month tracked through on the 11th with 16" Plain, 8" Winthrop, 7" Wenatchee, 6" Chelan, and 3-7" of heavy wet snow Spokane area which contributed to several accidents. A mild and wet system on the 18th brought rain and snow melt which contributed to a mudslide on State Highway 31 south of Metaline Falls. Another storm on the 24th brought moderate to heavy snow to the East Slopes of the Cascades into the northern valleys with reports ranging from 5-11". A couple of mild and windy storms towards the end of the month. On the 27th Thornton reported a wind gust of 53 MPH with 48 mph in Pullman. On the 29th Spokane gusted to 53 mph. These winds allowed temperatures in many areas across the Columbia Basin, Spokane area, Palouse, and Lewiston area to warm into the 50s.



The unseasonably warm weather continued into the first 8 days of **February**. Mazama recorded a record high temperature every day from the 3rd through the 8th with Wenatchee not far behind with 5 record high temperatures tied or broken during this stretch. The 8th was the warmest day with numerous records broke with highs in the mid 50s to lower 60s for most towns. The long stretch of mild temperatures left several wondering if winter was over. It wouldn't take long for this question to be answered as a much cooler pattern developed with several storms tracking from the Gulf of Alaska into the region and even an arctic freeze. Highlights during this stretch of active weather include the snowiest Valentine's Day on record in Spokane with 7.3", reports of thunder-snow on the 16th from Rockford to Plummer as well as from a separate thunderstorm south of Chewelah, 11" of snow in 5 hours in Plain on the 17th with a storm total of 16", followed by the arctic freeze from the 18th through the 21st. Several mountain valley areas dropped below -10°F including Spirit Lake with -15°F, Deer Park and Springdale -14°F, and -10°F for Curlew, Winthrop, and Republic areas. Pullman dropped to -6°F. The arctic freeze was replaced by storms from the northwest once again to finish the month. On the 24th a band of heavy snow hit the Palouse with 6-8" in Colfax and Pullman. Snow on the 24th was followed by wind gusts of 40-50 mph on the 25th causing drifting snow especially Rockford and Spangle areas. This storm slammed the Central Panhandle Mountains with heavy snow. Lookout Pass came in with an impressive 28". ☀ *Jeremy Wolf*

Remember your Spring Spotter Checklist

Tornado or Funnel Cloud

Hail: pea size or larger

Strong Winds:
30mph+ or damage

Reduced Visibility:
under a mile due to fog, snow...

Heavy Rain:
Showery: 1/2" + in 1hr
Steady: 1"+ in 12hr/1.5"+ in 24hr

Snow:
2"+ valleys & 4"+ mountains

Any Flooding

Any Mixed Precipitation

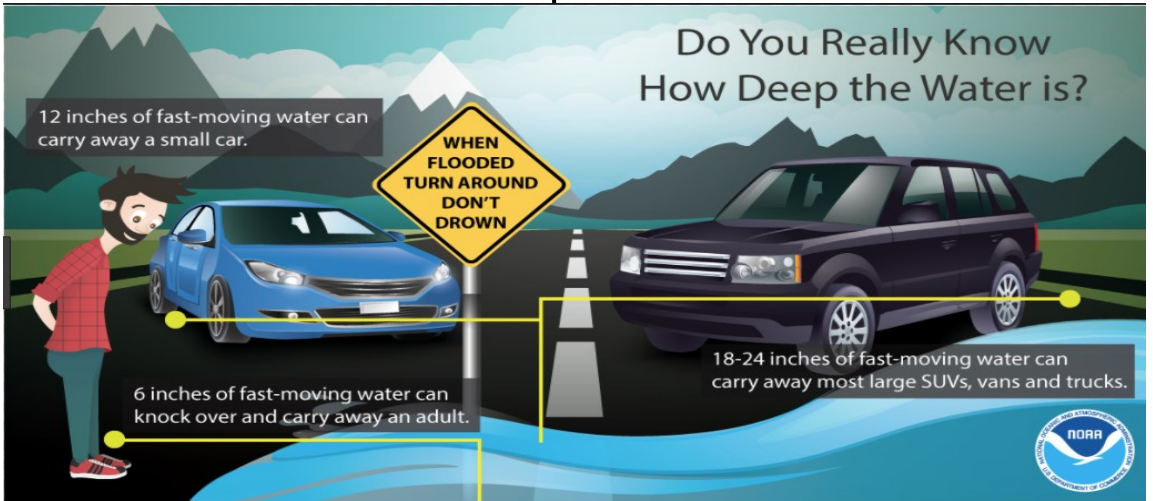
Travel Problems or Damage:
due to severe/hazardous weather

Staff News

Electronics Systems Analyst, Dwight Williams, transferred to the NWS Seattle office in his same position last December 2017. Dwight worked at the NWS Spokane office since the summer of 2005. We wish Dwight and his family the best of luck in western Washington. ☀

Flood Safety

Rapid snow melt and heavy rain are the top culprits for flooding across the Inland Northwest. Mountain snow is currently above seasonal normals, and any quick warm up could lead to increased run off and higher river levels this spring. Be flood-wise. Avoid water covered roadways and in low lying areas. ☀



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 natural disaster causes more deaths than any other?