

The Weather Watcher

of the Inland Northwest

www.weather.gov/Spokane



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Fire Season 2013 Outlook

The Inland Northwest has seen a more seasonal spring, something we have not experienced in the last several years. The weather has varied from place to place. Precipitation has been above normal for the Cascades, but below normal for most locations east of the mountains. Temperatures have been normal to a little above normal. The forecast for the remainder of June indicates near or just below normal temperatures with below normal precipitation. Mountain snowmelt and the curing of fuels should be right about normal from mid to late July depending on the elevation and aspect. The exception will be the Columbia Basin and Palouse where warm and dry conditions the first two weeks of May allowed those fuels to cure out rapidly.

This will be the second summer of ENSO

neutral conditions. A look back at similar conditions in the past shows that July through August will be warmer and drier than normal. This means fuel conditions will be receptive to fire starts early. However, with a drier than normal precipitation forecast, we can expect fewer thunderstorms and possibly less lightning for fire starts. But as we saw last year, it only took one good thunderstorm event after a dry August to get numerous large fires in the Cascade Mountains.

So what can we expect for the upcoming fire season? Anticipate a slightly early start to the fire season with about the normal number of starts and normal to above normal acres burned. The areas of most concern will be the Cascade Mountains and across the Columbia Basin. ☀ *Bob Tobin*



Flash Flood Concerns near Burn Scars

Many of you were probably affected by, or at least heard about, the wildfires in central Washington last summer. In addition to the devastation and loss some people experienced during the fires, for the next year or two those that live in or downhill of the burned areas will have a greater risk of seeing damaging flash flooding and debris flows.

Normally, all the live and dead vegetation in a forest captures a portion of rainfall during storms. After severe fires, the ground cover and trees are burned up, leaving bare ground behind. Very hot fires also affect the properties of the soil itself: organic matter in the soils undergoes a chemical reaction that creates a layer that is impermeable to water, called hydrophobic soil.

US Forest Service scientists have documented both these effects in some of the areas burned last summer in the Cascades; loss

of the vegetation that would capture rainfall and impermeable soil layers. This combination of factors means more rain runs off than would normally and that it will run off much faster. A storm with heavy rain that previously wouldn't have caused any problems might now produce a flash flood that could threaten life and property downstream. During the first major runoff events after a fire, there is also potential for ash, mud, rocks, and dead trees to come down with the rainfall runoff which can lead to dangerous debris flows.

It is important to educate yourself as to whether you live in an affected area and if you do, what you should do to prepare and protect yourself and your property. See the these web sites for additional information

<http://centralwashingtonfirerecovery.info/> or <http://landslides.usgs.gov/research/wildfire/>

☀ *Katherine Rowden*

Editor's Notes

Severe weather has been in news lately due to the recent tornado outbreaks, flooding, and upcoming hurricane season. It reminds us of how weather impacts our lives and to prepare for severe or hazardous weather before it strikes. Although weather events across the Inland Northwest may not seem as devastating, the potential still exists. Remember the severe weather last July and the Cascade wild fires last September.

We are always looking for new ideas, pictures and stories for our publication. If you have any to share, please contact us at (509) 244-0110 or email nws.spokane@noaa.gov.

This newsletter and past issues are available online on our 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 Ron Miller, Katherine Rowden, Bob Tobin & Mark Turner for their help.

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Spring 2013 in Review

After the cold and wet springs of the past two years, Inland Northwest residents were wondering if that was the new normal. But there was hope for a change: those cold/wet springs were associated with La Nina conditions, which wasn't the case this year. And indeed, the Spring of 2013 turned out to be quite different than the previous two years.

March was the typical rollercoaster of temperatures. The month started off rather balmy, with temperatures in the 50s and 60s for the first couple of days. Wenatchee airport tied a record high for the 1st with a reading of 63°, but then temperatures quickly sank back into the upper 30s and 40s. Light snow on the morning of the 6th fell in the Cascade and northern valleys with amounts generally less than 1". More snow fell on the 7th with 3" at Republic and 2.9" at Conconully. Temperatures rebounded into the upper 50s and 60s by the middle of the month. Pomeroy Washington reached 67° on the 13th. A cold front on the 14th and 15th brought gusty winds to the area while the mountains picked up more snow. Lookout Pass received 8-12" of snow while Winchester, ID picked up 3.5". The strongest weather system moved through the area on the evening of the 19th and 20th. Heavy snow fell in the Cascades with 5.8" of snow in Waterville and 4.5" near Leavenworth and Mazama. During the afternoon of the 20th, the cold front pushed through the area bringing thunderstorms and gusty winds. There was a thunderstorm with a wind gust to 73 mph on the Camas Prairie while Lewiston gusted to 52 mph. In the early afternoon, a line of thunderstorms moved through the Post Falls area. Strong winds from these storms knocked down 20 to 30 trees, some of which fell on a house.

April also started off mild, with many locations reaching their first 70° reading of the spring. Omak tied a record high for the day at 76°. Spokane Airport touched 70° on the 1st, the earliest 70° day since 2004. Temperatures quickly dropped back into the 50s as rain and mountain snow moved into the area. Several sites in north-central Washington set rainfall records on the 7th, including Omak with 0.72", Winthrop 0.46" and Chelan 0.45". By the middle of the month, temperatures dropped even more as snow levels fell to the valley floors. Light dustings of snow accumulated as low as 2000 ft in the northern mountains. Hard-freeze temperatures were observed at a number of locations on the morning of the 17th, including 17° at Priest Lake, 18° at Wilbur and Nez Perce, and 19° at Deer Park and Republic. The month saw a number of strong fronts bringing gusty winds, including the 13th where winds gusted to 54 mph near Mattawa and 49 mph at Uniontown. An even stronger front on the 29th brought wind gusts of 62 mph to Odessa and 56

mph to Vantage, as well as knocking out the power to many residents in northeast Washington. April 2013 turned out to be the windiest month since February 1999.



Graupel on the tulips in April 2013 in Spokane

May turned out to be a backwards month, temperature-wise. While the 1st day of the month was colder than normal, temperatures quickly warmed into the 80s and low 90s by the 7th, and remained there for nearly a week. These readings were 15-20 degrees above normal for early May. A number of daily records were set, but few were shattered. Priest Rapids Dam hit 98°F on the 10th, beating their old record of 93°. Wenatchee recorded a high of 92° on that same day, beating its old record of 89°. Temperatures quickly crashed back down to near normal valleys on the 13th as a strong front brought widespread rain to the area. Heavy rain and thunderstorms moved through the area on the 21st and 22nd. Wenatchee picked up 1.20" of rain over this period, which is nearly double their average for the entire month of May. The mountains of north Idaho and northeast Washington received 2 to 3 inches of rain in 24 hours. By the 23rd, the 80s and 90s were a distant memory as many locations were setting record cold afternoon high temperatures. Several sites stayed in the 40s including Grand Coulee (48°F), Sandpoint (41°F), and Plummer (46°F). Bonners Ferry only reached 38° degrees with light snow at Moyie Springs. Winchester, Idaho picked up 3.2" of snow. Temperatures remained in below normal for the rest of the month with frequent showers. ☀ *Ron Miller*

Flooding on the Okanogan River at Tonasket in May 2013



Cooperative Observer Awards

Breaking News! Two NWS OTX Cooperative weather observers have won prestigious national awards for their long time efforts providing weather and climate data.

Mr. **Dan Williams** has earned the *John Campanius Holm Award*. This award was named in honor of John Campanius Holm, a Lutheran minister who was the first person recognized to have taken systematic weather observations in the American Colonies (1644-1645). Dan has been the Cooperative Weather Observer at the Historic Climate Network site in Pomeroy, Washington, for 20 years. Every day for 20 years, Mr. Williams has recorded the weather in the eastern Washington town of Pomeroy. He has recorded temperatures as high as 106° and as low as -15°, precipitation deluges of as much as 2.00" in a 24 hour period, and snowfall as much as 15" in a day! Whether bitter cold, blizzard conditions, or before dawn, the NWS can always count on Dan to provide his weather observations on time.

Mr. Williams maintains an extensive database of past weather reports and statistics that are often used by regional agencies and municipalities. Mr. Williams delivers his written records to the Garfield County United States Department of Agriculture (USDA) and to other local agricultural interests for their records. G. Paul Miller, Mayor of Pomeroy writes; "The information he submits helps so many individuals including State, City and County road entities so that these agencies can take action on any climate emergencies."

Mr. **Greg Galbreath** and the Galbreath Family of Ritzville have earned the *Thomas Jefferson Award*. This award was named in honor of Thomas Jefferson, our third President, who kept an almost unbroken series of weather records from 1776 to 1816. The Thomas Jefferson Award is the most prestigious award for the cooperative observer and the Galbreath Family were the only recipients of this award for the entire western region of the United States.

The Galbreaths have subjected themselves to the best and the worst eastern Washington weather daily for the past 47 years. During this time, temperature extremes of 107° F to -21°F have been recorded. Flooding rains, baking drought and blizzards are par for the course, and without a snow stake in the station's equipment inventory, manual measurements of snow depth are a must. Even during the most extreme weather conditions, the Galbreaths have never balked at obtaining real time observational data for WFO Spokane.

Daily weather observations have been made at this location since November 1965. There has never been a missing observation for the Galbreath's entire tenure as Cooperative Weather Observers. WFO Spokane Science and Operations Officer Ron Miller writes, "For more than 40 years, the Galbreath's have supplied the region with important weather observations and making special observations when requested by the NWS, University Agricultural Extension and USDA partners." ☀ *Mark Turner*

Staff News

Stan Savoy, a former HMT at the NWS Spokane office, passed away last month from complications due to blood cancer. He was 64 years old. Stan worked at Fairchild AFB in the late 1960s and early 70s, and then was stationed at the NWS Spokane office since 1976. He retired in January of 2011 after 40 years of federal service. While at NWS Spokane, Stan was active in the Cooperative Observation Program and would take regular trips to many of the regional coop sites.

His wife Pam stated that there were no plans for any kind of memorial service, although donations can be made to the American Cancer Society. ☀ *Ron Miller*

Spring Weather Statistics

Wenatchee Water Plant	Mar	April	May	Total
Avg High Temp	55.9	63.8	72.8	64.2
Departure from Norm	+0.8	-0.4	+1.7	+0.7
Avg Low Temp	32.9	41.0	49.3	41.1
Departure from Norm	-1.4	+0.3	+0.9	-0.1
Total Precip	0.83	0.77	1.35	2.95
Departure from Norm	+0.22	+0.24	+0.67	+1.13
Total Snowfall	0.0	0.0	0.0	0.0
Departure from Norm	-0.4	0.0	0.0	-0.4
Lewiston Airport	Mar	April	May	Total
Avg High Temp	57.5	61.3	74.5	64.4
Departure from Norm	+2.6	-1.0	+3.6	+1.7
Avg Low Temp	36.5	39.2	47.6	41.1
Departure from Norm	+0.9	+1.1	+0.6	+0.9
Total Precip	0.27	1.16	0.86	2.25
Departure from Norm	-0.88	-0.16	-0.75	-1.79
Total Snowfall	0.0	0.0	0.0	0.0
Departure from Norm	-0.7	0.0	0.0	-0.7
Spokane Airport	Mar	April	May	Total
Avg High Temp	50.4	56.3	68.5	58.4
Departure from Norm	+1.5	-0.9	+2.1	+0.9
Avg Low Temp	32.0	35.8	45.2	37.7
Departure from Norm	+0.4	-1.0	+1.4	+0.3
Total Precip	0.82	0.94	0.80	2.56
Departure from Norm	-0.79	-0.34	-0.82	-1.95
Total snowfall	0.9	T	0.0	0.9
Departure from Norm	-2.6	-1.0	-0.1	-3.7

Remember your Summer Spotter Checklist

Tornado or Funnel Cloud

Hail: pea size or larger

Strong Winds:
30mph+ or damage

Reduced Visibility:
under a mile due to rain, dust...

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

Any Flooding

Travel Problems or Any Damage: due to severe or hazardous weather.

Spotter Updates

NWS Spokane has been active in spotter training for the last several months. There were at least five spotter training sessions conducted this spring, including weather spotters from Spokane to Moscow, Okanogan to Newport and Lewiston. Over 80 weather spotters have received the in-person training, while many more have visited the online spotter training. NWS Spokane has gained over 50 new weather spotters this year, raising the weather spotter count to above 1000 across the region!

More spotter training sessions will be scheduled in the coming months. Please keep an eye on the NWS web page—Top News, where an updated weather spotter seminar schedule will be posted and advertised.

If you would like to refresh your weather spotter skills, free online weather spotter training can be viewed at https://www.meted.ucar.edu/training_course.php?id=23

We are busy updating our spotter database this summer, and trying to keep our email list current. In the near future, you may receive a call to see if you have any recent changes or location updates to report. If you know your email has changed recently, please contact us at nws.spokane@noaa.gov. Thank you! ☀ Robin Fox

CoCoRaHS

During the CoCoRaHS March Madness, several new precipitation observers joined the network across the region. Idaho saw an increase of 11 new observers, while Washington gained 14 new observers. Of the total, 70% of the new CoCoRaHS observers resided in eastern Washington and north Idaho. Welcome aboard!

Thank you for your daily reports! These reports have helped the NWS during the snow and flooding events. As we transition to the drier, summer season, please remember to check your gauge and to report. Zeros are important! For more information, please see the web page, <http://www.cocorahs.org> ☀ Robin 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 is the average number of 100° days in the summer?