YOUR NATIONAL WEATHER SERVICE SPOKANE QUARTERLY REPORT

VOL XXII, ISSUE 2
JUNE 2017

The Weather Watcher

of the Inland Northwest

www.weather.gov/Spokane

Recap: The Season of Floods

The nearly snow-free winter of 2014-2015 seems a lifetime ago after the very wet, cold and snowy winter of 2016-2017. Of course, wet + cold + snowy often leads to flooding, which seems to be something only the lucky few escaped this year. Countless creeks and rivers have seen their biggest floods in 20 years or more. Many people nowhere near a lake or river had to deal with flooded basements and fields, while lakes where there is usually dry land. Then there were streams appearing where there had never been streams, several ice jams, numerous landslides, millions of dollars of damage to the region's roads with some main roads and highways impassable for weeks or months.

Some of the flooding issues can be traced back to last fall when the entire area saw its wettest October on record. The copious precipitation saturated the soils just before the coldest winter we've had in years. The prolonged cold temperatures also caused many streams and rivers in the area to freeze up which then led to ice jam flood issues as the spring thaw began. But that wasn't all – much of the area also received record or near-record precipitation in February and March.

The **table below** shows rivers that recently reached levels they haven't seen in a decade or more. Keep in mind this is all preliminary. For the latest river stage data, see http://water.weather.gov/ahps2/index.php?wfo=otx

Flood season is not quite done. The big river systems fed by large areas of high mountain snow continue to melt out. Those include the Pend Oreille, Kootenai and the Snake Rivers near Lewiston/Clarkson. Chances look good the 2017 snowmelt flood threat may be behind us by late June ☼ *Katherine Rowden*


Ferry County—April 2017


Keller, WA—April 2017


Methow River— May 2017

USGS River Gage	Stage or Flow	Highest Stage or Flow Since:	Rank in record	Records started in
Colville R @ Kettle Falls	9.9 ft	April 1956	2nd	1923
Clearwater R @ Spalding	16.96 ft	June 1974	2nd	1973
Paradise Crk @ Moscow	10.86 ft	February 1996	2nd	1979
Kettle R @ Curlew	20.67 ft	June 1997	3rd	1929
Spokane R @ Spokane	28.73 ft	May 1997	4th	1891
Little Spokane R	6.82 ft	March 1997	4th	1929
Entiat R @ Ardenvoir	7.52 ft	May 1983	5th	1958
St Joe R @ St Maries	38.42 ft [4]	May 1997	7th	1933
Methow R @ Pateros	10.31 ft	May 2006	7th	1959
Lake Coeur d'Alene	2134.86 ft	May 1997	10th	1904
Coeur d'Alene R @ Cataldo	46.13 ft	April 2002	11th	1911
Hangman Crk @ Spokane	11.19 ft	January 1997	13th	1949
Stehekin R	12,500 cfs	November 2007	17th	1911

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INSIDE THIS ISSUE:

Editor's Notes

Welcome Summer—with some drier & warmer weather! But summer can also bring thunderstorms. Don't forget your lightning safety as storms approach. Seek shelter. Get out of the water. Also with the abundance of grasses & fine fuels dry, lightning may lead to an increase of fires. Keep an eye to the sky, stay alert and be safe.

Summer begin on June 20th at 9:24 pm, marking the longest day of the year!

We are looking for new ideas and pictures for our publication and webpage. Please send 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 other government agencies.

All articles are written by the NWS staff. A special thanks goes to Bob Tobin, Jeremy Wolf, Stephen Bodnar & Katherine Rowden for their contributions.

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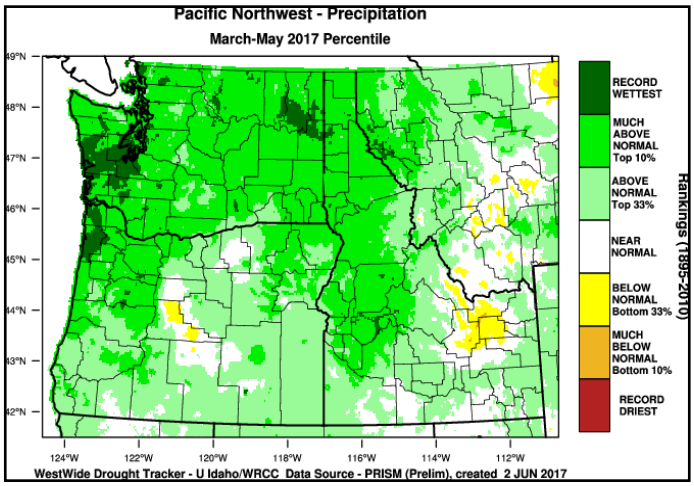
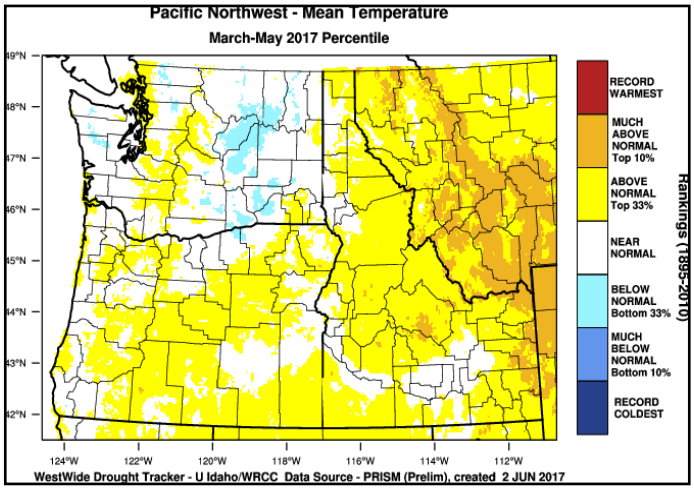
2017 Spring in Review

After a cold and wet winter, some may have wondered what spring would bring. As it turned out, very wet weather persisted especially March and April with the spring finishing in the top 10% wettest on record for many locations as the maps below show. Temperatures were not as cold though, and finished about normal for most areas.





March started where the winter left off with more lower elevation snow. On the 4th a couple bands of snow set up over SE Washington and the Lewiston area with 10" in Asotin, 6" Moscow and Nez Perce, and 4" in Lewiston. What was really remarkable about this event is how temperatures fell through the day in Lewiston – dropping from 50° at midnight to near 32° during the afternoon and evening. It was northeast Washington's turn with the white stuff on the 7th with 6" in Deer Park and 2-4" in the Spokane area. In the Cascades, Stehekin came in with 10". After that warmth, wet weather struck which after a record wet fall/winter season for many led to several reports of small stream and field flooding as well as mudslides. In Idaho SR 3 was closed between Julietta and Kendrick due to a mudslide, while SR 5 near Round Lake was severely damaged and considered a total loss. Highway 95 near Bonners Ferry was closed twice due to mudslides. Another large slide near Sandpoint sent mud into a home. SR 31 near Metaline closed for several days. Water went over several roads including Highway 395 near Colville. The Spokane River reached its 4th highest flow on record with significant flooding on Lake Coeur d'Alene as well. The St. Joe River at Saint Maries reached major flood stage. Paradise Creek in Moscow reached moderate flood stage on the 9th and 10th. The community of Sprague experienced significant flooding of parks and structures with 40 National Guard Troops assisting with the flooding. Flooding was also reported on Davis, Williams and Neuman Lakes.

The wet weather continued into **April**. The 5th through the 13th was especially wet and active with North Central Washington experiencing the brunt of the flooding this time. The Okanogan and Methow Valleys picked up around 2" of rain with Wenatchee around 1.5". The most significant land slides include Highway 20 near Loup Loup Pass which closed for the remainder of April and May and was still closed at the time of this writing. The Okanogan Highlands were also very hard hit with SR 21 south of Republic and Gold Creek Road closed. Significant flooding occurred on the Sanpoil River near Keller with a house part way into the river. A significant slide also closed Porcupine Bay Road in Lincoln County. Besides the rain, a couple noteworthy events, including a strong cold front early on the 7th which brought wind gusts to 56 mph in Lewiston and 46 mph in Pullman. Strong thunderstorms also occurred on the 18th with half inch hail in Colbert and near Rockford, with a 41 mph wind gust at the Spokane Airport. On the 19th, scattered thunderstorms developed over the Okanogan and Methow Valleys, Waterville Plateau, and Okanogan Highlands producing brief heavy rain and wind gusts of 30-40 mph.

May brought typical weather to the Inland NW with several large swings in temperatures. A common theme was high temperatures warming into the 80s and even a few 90s, followed by a cold front with showers and thunderstorms and temperatures back down into the 50s, before warming back up again. On the 5th, a severe thunderstorm went through the Blue Mountains with a wind gust of 66 mph at Alder Ridge. This same storm also brought dime size hail to Lapwai. On the 11th, a severe thunderstorm went through Nespelem with 1" hail. On the 16th, a cold unstable trough brought thunderstorms with heavy rain, hail, and even snow pellets to the Waterville Plateau and Coulee City creating locally slick roads. On the 24th, a strong dry cold front brought windy conditions across the region with 35-45 mph wind gusts. Lastly on the 30th, strong thunderstorms tracked across the Moses Lake area northward towards Omak with a 55 mph wind gust in Ephrata and significant amounts of blowing dust. ☼ *Jeremy Wolf*

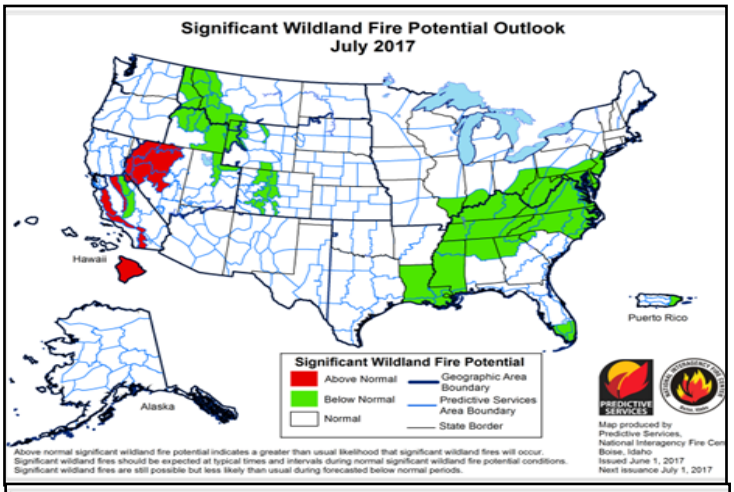
2017 Fire Weather Seasonal Outlook

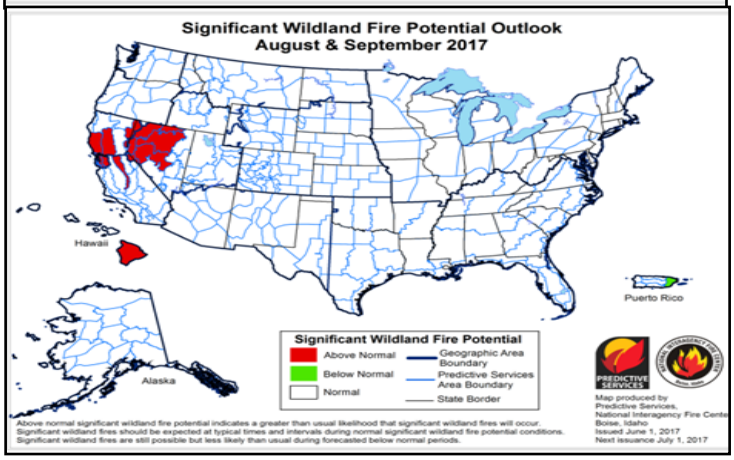
Snow melt and runoff peaked quickly in May, which led to the region losing most of the mountain snowpack with about normal timing. Warmer temperatures, normal precipitation and about normal timing of mountain snow melt should result in a seasonal green-up with the fine fuels in the Columbia Basin curing rapidly, followed by the mountain fuels curing on time.

Long lead forecasts show warmer temperatures and close to normal or slightly drier precipitation chances July-September, thus indicating a normal convective season for the Pacific Northwest. The most likely scenario will be a normal start to the fire season across the Columbia basin and starting a bit later in the mountains, around August to early September. But as usual there is some uncertainty. All depends on thunderstorms.

We were able to identify 4 years that are similar to 2017. These years were 2002, 2006, 2009, and 2012. 2002 and 2009 had below normal years for total acres and 2006 and 2012 had above normal years for total acres. ☼ *Bob Tobin*

SPOTTER REPORTS: (509) 244-0435 or *http://weather.gov/Spokane/StormReport*





ANSWER: 7 for Yakima,
11 for Spokane, 13 for Coeur d'Alene & 15 for Lewiston

Summer Outlook

The Climate Prediction Center indicates for the summer of 2017, the Inland Northwest is forecast to have a better chance of **above normal temperatures** and **seasonal chances of precipitation**. Details- http://www.cpc.ncep.noaa.gov/

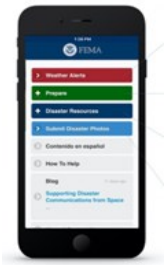
Spring Weather Statistics

Wenatchee Water Plant	Mar	Apr	May	Total
Avg High Temp	50.9	60.5	73.3	61.6
Departure from Norm	-4.2	-3.7	+0.3	-2.5
Avg Low Temp	32.9	40.3	48.9	40.7
Departure from Norm	-1.4	-0.4	+0.1	-0.6
Total Precip	1.46	1.69	0.80	3.95
Departure from Norm	+0.85	+1.16	+0.11	+2.12
Total Snowfall	2.4	0.0	0.0	2.4
Departure from Norm	+2.0	0.0	0.0	+2.0
Lewiston Airport	**Mar**	**Apr**	**May**	**Total**
Avg High Temp	54.0	59.8	72.1	62.0
Departure from Norm	-0.9	-2.5	+1.2	+0.7
Avg Low Temp	37.2	41.0	47.1	41.8
Departure from Norm	+1.6	+0.7	+0.1	+0.8
Total Precip	3.50	1.98	1.49	6.97
Departure from Norm	+2.35	+0.66	-0.12	+2.89
Total Snowfall	4.8	0.0	0.0	4.8
Departure from Norm	+4.1	0.0	0.0	+4.1
Spokane Airport	**Mar**	**Apr**	**May**	**Total**
Avg High Temp	47.5	55.0	68.0	56.8
Departure from Norm	-1.4	-2.2	+1.6	+0.7
Avg Low Temp	34.1	37.5	46.1	39.2
Departure from Norm	+2.5	+0.7	+2.3	+1.8
Total Precip	4.11	1.60	1.31	7.02
Departure from Norm	+2.50	+0.32	-0.29	+2.53
Total snowfall	5.4	0.5	0.0	5.9
Departure from Norm	+1.9	-0.5	-0.1	+1.8

Want to report precipitation? Check out CoCoRaHS at *http://www.cocorahs.org*

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 fog, snow...
Heavy Rain: Showery: 1/2" + in 1hr Steady: 1"+ in 12hr/1.5"+ in 24hr
Any Flooding
Travel Problems or Damage: due to severe/hazardous weather



The Weather Watcher
Of the Inland Northwest

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Camping & Hiking season has arrived!

How do you receive weather alerts during hazardous weather? Smart phone users- FEMA offers a free App available for Apple, Android, and Blackberry devices. Your can receive alerts from the NWS for up to five locations. But when cell coverage is poor, consider packing a NOAA weather radio. There are many receiver options including small hand-held radios which can easily fit into your bag. If you plan on going into the backcountry with sparse or no coverage, here are a few tips that may reduce your chances of being struck by lightning:

- Avoid peaks, ridges, and significantly higher ground during an electrical storm.
- If possible descend a mountain quickly, preferably on the side without clouds. Head toward low rolling terrain.
- Once in safer terrain, avoid trees and long conductors. A dry, low-lying area which is not prone to flash flooding would be ideal.
- If you become stuck in a forested area, avoid a lone tree. It is safer to be within a group of trees. Avoid standing near tree trunks.

Fig. 4 Lightning positions: Put your feet together to significantly reduce the effects of ground current. If you have a foam pad to stand on or a pack to sit on, get on it. Crouch or sit to slightly reduce the effects of side flash and upward leaders.

- If lightning is close, assume the lightning position. This will greatly reduce your odds of being struck. Cover your head.
- A rule of thumb to determine how far away the storm is: 1) Count the seconds between flash and sound of thunder. 2) Divide by 5 to find distance in miles.
- If feasible, time visits to high risk areas with weather patterns. Most electric storms occur in the afternoon and evening. Hiking in the morning can reduce the risk when thunderstorms are expected.
- http://www.lightningsafety.noaa.gov/resources/backcountry_lightning.pdf

☼ *Steve Bodnar*

Trivia: How many thunderstorms days does Inland NW see each year?