YOUR NATIONAL WEATHER SERVICE SPOKANE QUARTERLY REPORT

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The Weather Watcher

of the Inland Northwest

www.weather.gov/Spokane

NWS Weather Radar Upgrade

This fall the Doppler radar at the Spokane NWS Forecast office will undergo an upgrade to incorporate new technology. This upgrade, known as dual-polarization technology, will greatly enhance the radar by providing the ability to collect data on the horizontal and vertical properties of weather (like rain, snow and hail) and non-weather (like insects, birds and ground clutter) targets. Dual Polarization (or "dual-pol") technology will add an additional 14 products to the suite of data already available to NWS forecasters. These tools will assist forecasters in the warning and short-term forecast process.

Spokane Doppler weather radar (OTX)

The radar upgrade is expected to take two weeks, spanning from October 10th to the 21st. During the installation process, the Spokane (OTX) radar will be taken offline. Neighboring NWS Doppler radars in Seattle, Missoula, and Pendleton will be accessible to help monitor portions of eastern Washington and northern Idaho during this time. Once completed, the Spokane radar will be the last of the radars to be upgraded that cover Washington state. Washington will be the first state in the nation to be fully monitored by Dual-pol Doppler weather radars—just in time for the winter season.

For updated information and training on the Dual-pol radar upgrade, please visit http://bit.ly/oSle80 and http://bit.ly/eaRUqv. ☼ *Ronald Miller*

What are the Potential Benefits of a Dual-Pol Radar?

- *Better rainfall data*
- *Easier identification of the melting/ freezing layer*
- *Detection of different types of precipitation*
- *Better ways to track severe storms*
- *Detection of non-weather returns*
- *Improved ability to find areas of heavy rainfall and flash flooding potential*

NWS Spokane is on Facebook! Find us at www.facebook.com

NOAA's 1981-2010 Climate Normals

NOAA's National Climatic Data Center (NCDC) released the 1981-2010 Normals on July 1, 2011. Climate normals are the latest three-decade averages of climatological variables, including temperature and precipitation. This new product replaces the 1971-2000 Normals product. A notable change for the Inland Northwest is that for the 1981-2010 period, we now have new normals for Moses Lake, Felts Field, Deer Park, and NWS Spokane. These were not available for the 1971-2000 period.

Compared to the previous set, this new normals set for the country includes the decade of the 2000s and loses the decade of the 1970s. As the 2000s were warmer than the 1970s, this has translated into a warming influence on the normals. Calculations show this warming in the new set are represented by an approximate 0.5ºF increase. For more information on climate normals, please visit http://1.usa.gov/mqUn02 ☼ *Jeremy Wolf*

INSIDE THIS ISSUE:

Editor's Notes

September is NOAA Weather Radio Awareness month. The goal is to have weather radio be as common as smoke detectors in homes and businesses. Weather radios provide up-to-date weather warnings, forecasts, and conditions. They also broadcast warnings and information for all types of hazards—including natural (volcanic eruptions), environmental (oil spills), and public safety (Amber Alerts).

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. If you would like a paper copy, please contact us and we will be happy to put you on the mailing list.

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 to Ron Miller, Jeremy Wolf, Mark Turner, and Anthony Cavallucci.

Summer 2011 in Review

We've seen some unusual summers in the Inland Northwest. But 2011 may go down as one of the stranger ones. **June** continued the cold Spring weather, compliments of La Nina. This was despite the fact that the sea surface temperatures in the equatorial Pacific had actually returned to normal (i.e. technically no longer a La Nina). But the atmospheric weather pattern was still very much La Nina like. While it wasn't the coldest June ever, it may have felt like it after being colder-than-normal for February through May. There were the usual warm and cool spells, but most of the warm spells weren't very impressive. Spokane didn't reach 80ºF until June 22nd, making this the latest ever "first 80 degree day". The old mark of June 13th was set only back in 2002. A morning low of 39ºF on the 9th at Spokane set a record for the day. While the month was rather cool, it was somewhat lacking in precipitation, including thunderstorms. The first severe storms didn't occur until the 22nd. A thunderstorm in southeast Washington brought golf ball sized hail to Anatone. The main weather story for June was river flooding. The cool spring slowed the melting of the mountain snow pack. The warmer days of June eventually melted enough of the snow to cause river flooding. While most of the main stem rivers in our area exceeded flood stage at one point, the worst flooding was likely along the Pend Oreille River in northeast Washington.

Summer snow in the Cascades! Near 6000 ft. Alpine Lakes Wilderness on July 24, 2011

Colby Neuman

July marked the sixth consecutive month of below-normal temperatures. In some ways, the weather was about a month behind. July's temperatures were more typical of what we see in June. There were numerous days where the temperatures remained in the 70s or even the upper 60s, while the hot days were few and far between. Spokane reached 90ºF or better only 3 times compared to an average of 9. Meanwhile Lewiston failed to reach 100ºF in July, the first time that's happened since the cool summer of 1995. Again, strong thunderstorms were lacking this month. Parts of Colville did have a hailstorm on the morning of the 22nd, with pea-sized hail accumulating 1 to 3 inches in depth, requiring snow plows to clear it from the roads.

By this point, folks were wondering if we'd have a summer at all this year. **August** actually saw the arrival of more consistent summer-like weather. The first half of the month saw consistently near-normal temperatures with plenty of sunshine. The latter half of August saw the first extended hot spell of the year. Lewiston reached the century mark 3 days in a row while most other locations were in the 90s. Very weak weather systems brought very little if any rain. Wenatchee didn't even measure a trace of rain the entire month. If it wasn't for a cool and wet system on the last day of the month, Spokane would have had a dry August as well. Even with that rainfall, conditions in the Inland Northwest remain very dry. The lack of thunderstorms kept the wildfire season very quiet. Although until the Fall rains arrive, the threat of wildfires will remain. Early September looks to have the hottest temperatures of the entire summer. ☼ *Ron Miller*

Summer Weather Statistics

Wenatchee Water Plant	Jun	July	Aug	Total
Avg High Temp	75.7	82.7	89.2	82.5
Departure from Norm	-4.1	-5.5	+1.6	-2.7
Avg Low Temp	53.4	57.4	61.5	57.4
Departure from Norm	-2.2	-4.1	+1.0	-1.7
Total Precip	0.58	0.40	0.00	0.98
Departure from Norm	-0.11	+0.10	-0.41	-0.42
Total Snowfall	0.0	0.0	0.0	0.0
Departure from Norm	0.0	0.0	0.0	0.0
Lewiston Airport	**Jun**	**July**	**Aug**	**Total**
Avg High Temp	73.9	85.6	91.3	83.6
Departure from Norm	-4.6	-3.7	+2.5	-1.9
Avg Low Temp	51.9	56.1	59.9	56.0
Departure from Norm	-1.5	-3.5	+0.7	-1.4
Total Precip	0.64	0.15	0.05	0.84
Departure from Norm	-0.52	-0.57	-0.70	-1.79
Total Snowfall	0.0	0.0	0.0	0.0
Departure from Norm	0.0	0.0	0.0	0.0
Spokane Airport	**Jun**	**July**	**Aug**	**Total**
Avg High Temp	69.6	79.7	84.6	78.0
Departure from Norm	-4.2	-3.6	+1.7	-2.0
Avg Low Temp	48.5	53.6	56.9	53.0
Departure from Norm	-1.9	-2.7	+1.1	-1.2
Total Precip	0.57	0.53	0.23	1.33
Departure from Norm	-0.61	-0.23	-0.45	-1.29
Total snowfall	0.0	0.0	0.0	0.0
Departure from Norm	0.0	0.0	0.0	0.0

Summer Visitors and Tours

NWS Spokane staff with Dr. Jane Lubchenco (front & center)

On June 29th, Dr. Jane Lubchenco paid a visit to the Spokane NWS office. She has been the Under Secretary of Commerce for Oceans and Atmosphere and the Administrator of NOAA since 2009. Dr. Lubchenco toured the weather forecast office and was able to meet most of the staff. She is a marine ecologist and environmental scientist by training and former professor for over 20 years at Oregon State. ☼

On August 8th, U.S. Congresswoman Cathy McMorris Rodgers stopped by the Spokane NWS office. She took a tour of the weather forecast office and even climbed into the radar dome to take a peek. Ms. McMorris Rodgers represents the Eastern Washington's 5th Congressional District and has since 2004. ☼

WCM Anthony Cavallucci, SOO Ron Miller, Cathy McMorris Rodgers, and MIC John Livingston

Answer: 27th coolest summer with an avg temp. of 65.6ºF—the same as last summer. 1993 was the coolest summer!

Spotter News

Fall spotter training will be getting under way in the next couple of months. During these training sessions, the focus will be on winter weather and snow. We will post the dates of upcoming training session on the Top News of our web page and send emails out to spotters in the vicinity of the sessions.

Online spotter training has been developed by the COMET Program, part of the University Corporation for Atmospheric Research (UCAR). There are currently two free sessions available for spotters and more are planned for the future. The first one is called the "Role of the Skywarn Spotter" and the second is called "Skywarn Spotter Convective Basics." You can find these courses at *https://www.meted.ucar.edu/index.php* ☼ *Robin Fox*

Coop Corner

The NWS in Spokane would like to welcome several new volunteers into the family of cooperative weather observers (or COOP for short).

Silver Wing Flight Services of Sandpoint, ID. With the unfortunate shutting of the Sandpoint Research and Extension Center, COOP station #10-8137 at Sandpoint fell dormant late last year. Jason, James and the rest of the crew at Silver Wing Flight Services have graciously volunteered to resume climatological observations in Sandpoint.

Zac Claussen and the Town Of Conconully have taken over the observations at station #45-1666, Conconully. This station, previously located at Liars Cove, had been dormant since 2009.

Miss Cindy Knapp has taken on the COOP duties at site #45-5946 in Northport. This station, established in 1899, is part of the National Weather Service's Historical Climate Network (HCN).

Rob Whitten and the crew at Plain Hardware have stepped into the substantial COOP shoes left by the passing of Jean Moore last spring. Due to the diligence of Mrs. Moore recruiting Rob in the days just before her passing, COOP station #45-6534 at Plain was re-established at Plain Hardware without missing one day of climatological observations.

Thank you to all of our new COOP observers. Welcome to the family! ☼ *Mark Turner*

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

Remember your Autumn Spotter Checklist

First Snow of the season!

Strong Winds:
30 mph+ or damage

Snow:
2"+ valleys & 4"+ mountains

Hail: pea size or larger

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

Any Flooding

Any **Mixed precipitation**!

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

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

The Weather Watcher
Of the Inland Northwest

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Autumn Outlook and the Return of La Nina

As summer comes to a close, folks want to know what kind of fall and winter weather we can expect. One of the many tools used by long range forecasters at the NWS Climate Prediction Center (CPC) is the analysis of ocean-atmosphere circulations. The status of the El Nino/Southern Oscillation (ENSO) cycle is the most used tool for much of the country.

If you remember, last winter and much of 2011, the ENSO cycle was La Nina, responsible for much of our cool and somewhat wet weather. The La Nina signals finally weakened this summer and ENSO-neutral conditions developed. The CPC forecasters see the ENSO-neutral conditions persisting through the autumn and likely to drop back to a weak La Nina for the winter season. In fact a La Nina Watch has been upgraded to a La Nina Advisory for the winter.

What this means for the Inland Northwest is more seasonal weather through the fall. But as we move into winter, there is a better chance for below normal temperatures and above normal precipitation for the Inland Northwest. Please see http://www.cpc.ncep.noaa.gov/ for more La Nina information. ☼ *Robin Fox*

NWS Spokane OPEN HOUSE

Saturday, October 1st
10am-4pm
2601 N Rambo Road
Spokane, WA

Come visit the weather forecast office

- Hourly weather balloon launches
- Talk to meteorologists
- Kids activities
- Learn about fire weather
- Presentations of the Winter Outlook, Weather Spotters & Observers, and History of the NWS

Trivia: How did this cool summer rank in the record books for Spokane?