YOUR NATIONAL WEATHER SERVICE SPOKANE QUARTERLY REPORT

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The Weather Watcher

of the Inland Northwest

www.weather.gov/Spokane

Cooler and Wetter for the Winter Outlook

The NWS Climate Prediction Center is forecasting an increased chance of below normal temperatures and above normal precipitation for much of the Pacific Northwest. For the full report, see http://www.cpc.ncep.noaa.gov/.

The long range forecast is in response to the projected strong La Nina pattern and cooling of the sea surface temperatures in the equatorial Pacific Ocean. Local studies and past records have shown that during La Nina winters, the Inland Northwest experiences an increase in annual snow by 15% to 30%. The table to the right shows the average snowfall at many locations across the region and the average amount of snowfall increase during the past La Nina winters. ☼ *Jeremy Wolf*

Location	Avg Snow	La Nina Chg
Boundary Dam	59”	+11”
Coeur d’Alene	51”	+12”
Colville	47”	+8”
Harrington	28”	+5”
Kellogg	54”	+15”
Leavenworth	92”	+5”
Lewiston	16”	+5”
Odessa	15”	+4”
Pullman	36”	+13”
Republic	51”	+9”
Stehekin	129”	+29”
Spokane	49”	+13”
Wenatchee	27”	+4”

Record Breaking Warm Global Temperatures

Believe it or not, 2010 has been a record warm year. That may be difficult to grasp for the residents of the Inland Northwest where a long cool spring evolved into an abbreviated summer. But according to the monthly analysis from the National Climatic Data Center (NCDC), the combined global land and ocean surface temperatures made this July the second warmest on record, behind 1998, and the warmest averaged January through July on record. The global average land surface temperatures for July, and the January to July 2010 were warmest on record. This was based on records dating back to 1880.

The July worldwide land surface temperature was 1.85°F (1.03°C) above the 20th century average of 57.8°F (14.3°C) — the warmest July on record. Warmer-than-average conditions dominated many land areas of the globe, especially in Europe, western Russia and eastern Asia. Meanwhile, cooler-than-average regions included central Russia, Alaska, western U.S., and southern South America. For more on this story, visit http://www.noaanews.noaa.gov/stories2010/20100813_globalstats.html

The Inland Northwest was an anomaly being one of the coldest regions across the globe. In fact, the period from May 1st to June 15th was the 4th coldest on record. This provides an example that despite long range climate change and warming across the globe, there will be anomalies or pockets of cooling.

According to climate scientists, the Earth’s climate will continue to change. As global temperatures increases, wet areas will become wetter and dry areas will become drier. The longer range climate projections show that the Inland Northwest would have wetter winters and drier summers. This will have an impact on the mountains and winter snowpack. The North Washington Cascades which has the most glaciers in the lower 48 states. Already there has been a 46% reduction in glaciers in this region since 1900. ☼ *Jeremy Wolf & Robin Fox*

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Editor’s Notes

After our short summer, fall quickly arrived. The Autumnal Equinox falls on September 22nd at 8:09 pm PDT. Then expect temperatures to cool dramatically. The sharpest drops in temperatures occur in October and November.

Winter Weather Awareness week for the Inland Northwest is Oct 17-23th. This is a great time to start preparing your home, office, and vehicle for the upcoming winter weather.

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

This newsletter and past issues are available online on the 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 big thanks to Ron Miller, Jeremy Wolf, & Anthony Cavallucci for their help.

Staff News

The retirement of Robert Bonner last spring left an opening in the staff at NWS Spokane. During the summer, this opening was filled and the new recruit, Mark Turner, arrived. Mark literally traveled across the country to get to Spokane, coming from WFO Caribou Maine. He worked in Caribou for over ten years and was actively involved in the observation program and hydrology. Mark has accepted the position as the Observation Program Leader at NWS Spokane. Having family in the region, Mark looks forward in calling Spokane home. ☼ *Robin Fox*

Wild clouds spotted across the Inland Northwest

Wall cloud near Colton on June 23rd.

Cold air funnel near Riverside on August 27th

SPOTTER REPORTS:
244-0435 or *espotter.weather.gov*

Summer Weather Statistics

Wenatchee Water Plant	Jun	Jul	Aug	Total
Avg High Temp	76.0	88.2	86.0	83.4
Departure from Norm	-4.1	+0.4	-1.2	-1.6
Avg Low Temp	53.4	60.9	59.9	58.1
Departure from Norm	-2.1	0.0	-0.4	-0.8
Total Precip	1.30	0.89	0.06	2.25
Departure from Norm	+0.61	+0.59	-0.35	+0.85
Total Snowfall	0.0	0.0	0.0	0.0
Departure from Norm	0.0	0.0	0.0	0.0
Lewiston Airport	**Jun**	**Jul**	**Aug**	**Total**
Avg High Temp	74.1	89.2	87.5	83.6
Departure from Norm	-3.8	+1.6	-0.1	-0.8
Avg Low Temp	52.9	58.2	58.7	56.6
Departure from Norm	-0.7	-1.1	-0.6	-0.8
Total Precip	2.73	0.16	0.24	3.13
Departure from Norm	+1.57	-0.56	-0.51	+0.50
Total Snowfall	0.0	0.0	0.0	0.0
Departure from Norm	0.0	0.0	0.0	0.0
Spokane Airport	**Jun**	**Jul**	**Aug**	**Total**
Avg High Temp	68.6	82.5	81.4	77.5
Departure from Norm	-5.3	0.0	-1.2	-2.2
Avg Low Temp	49.7	55.3	55.6	53.5
Departure from Norm	+0.5	+0.7	+1.1	+0.8
Total Precip	2.56	0.36	0.21	3.13
Departure from Norm	+1.38	-0.40	-0.47	+0.51
Total snowfall	0.0	0.0	0.0	0.0
Departure from Norm	0.0	0.0	0.0	0.0

CoCoRaHS and Coop Corner

There are well over 10,000 CoCoRaHS volunteers measuring precipitation regularly across the country, but the most daily reports ever received on any single day was 9469 reports back on May 11, 2010. This was after a friendly challenge to see if the observers could hit 9000 reports for the first time. In the state of Washington, there are over 700 CoCoRaHS observers and in Idaho close to 150. Remember to keep sending in your precipitation reports. The NWS appreciates your efforts!

The CoCoRaHS national office is planning some exciting projects during the upcoming months:

- The "Climates of the States" Series will be available this fall. The plan is to start with the western states and working eastward, just like many weather systems. The goal is to feature a regional climate center and then the states within that region.

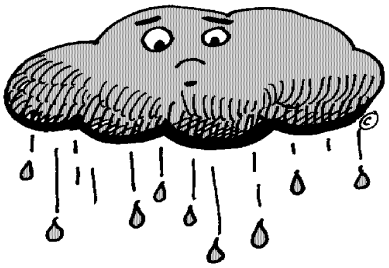
- The CoCoRaHS Climate Guide for Master Gardeners will be released sometime this fall. It hopes to be a great resource for the backyard and Master Gardener.

- There are a lot of CoCoRaHS Web groups that have evolved over the past year. Check out the web groups page: http://www.cocorahs.org/Content.aspx?page=groups. Washington state has an active web group with much chatting and dialog. Join in and share your observations and stories.

With the change of seasons upon us and the winter outlook looking active, it's a good time to prepare your rain gauges. Clean and remove any debris from the cylinder. Also before temperatures dip below freezing and the snow falls, remove the funnel and small cylinder from the gauge and bring it indoors. This is to make it winter-ready and extend the life of your rain gauge. For cooperative observers, please review the proper format to report snow depth and snowfall in your daily reports. We look forward to your reports! ☼ *Robin Fox*

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

Summer 2010 in Review



June continued the wet pattern that had set up in late May. Nearly everyday during the first two-thirds of the month daytime temperatures were at or below normal. Daily rainfall records were set at several sites. Widespread heavy rain fell on the 2nd. More than 2" of rain fell in the Panhandle Mountains and Lewiston had 0.87" of rain. After temperatures had warmed into the 70s and lower 80s on the 13th, a cold storm system dropped temperatures into the 50s on the 16th. Spokane only reached a high of 52ºF while Pullman topped out at 51ºF as widespread rain once again fell. Another wet storm system brought heavy rain to the region on the 20th and 21st, this lead to many locations receiving more than a half inch of rain. As the weather warmed again, thunderstorms developed. One storm complex moved through the Hartline area (north of Moses Lake) on the 23rd, bringing quarter-sized hail up to 6 inches deep, strong winds and flash flooding.

Flooding off of Highway 2 near Hartline on June 23rd.

The common saying of "summer doesn't start until after the 4th of July" was once again put to the test this year. Cool temperatures and showery weather prevailed for the first few days of **July**. By the 6th, temperatures saw a noted warming trend, reaching the upper 80s to mid 90s for the first time in the summer. Lewiston reached 99ºF on the 9th while La Crosse (on the Washington Palouse) touched 100ºF. Like all of the hot spells this summer, the hot weather was short lived. A strong dry cold front blew in on the 12th, causing blowing dust in the Columbia Basin as winds gusted to 53 mph at Vantage, WA. Daytime temperatures cooled into the 70s by the 13th. Pullman and Omak set record lows on the 14th of 38ºF and 44ºF respectively. Another dry cold front brought gusty winds on the 22nd. The front also caused some strong thunderstorms in the northern Panhandle, knocking down some trees. The hottest temperatures of the summer arrived around the 26th with Lewiston reaching 102ºF. Thunderstorms on the 28th brought heavy rain to parts of the Columbia Basin as well as the Wenatchee area. Number 1 and 2 Canyon roads washed out in places while in Wenatchee the flooding was pushing up the manhole covers. A mudslide closed highway 97A near Entiat. The month ended with thunderstorms dropping golf ball-sized hail in Kamiah.

August in general was a quiet month, weather-wise, with near-normal temperatures. Thunderstorms on the 6th brought 1.5" hail to Asotin, WA. One more strong summer cold front moved across the region on the 26th, causing very low visibilities due to blowing dust. Lake Chelan reported a wind gust to 52 mph while Lewiston Airport gusted to 51 mph. The winds also caused several wild fires.

Flooding on Mission and Orchard Ave in Wenatchee on July 28th.

So how cool was the summer of 2010? Here's a few numbers to help quantify it:

Smoke over the Palouse on August 25th.

- Spokane's average high temperature for Jun-Aug was the coolest since 1995.
- Spokane had 90ºF+ for a high only 9 times, compared to an average of 17.
- Lewiston had 100ºF+ for a high only 2 times, compared to an average of 8.

☼ *Ron Miller*

Answer: The Latin term "Nimbus"

Remember your Fall Spotter Checklist

First Snowfall!
Snow: 2"+ valleys & 4"+ mountains
Strong Winds: 30 mph+ or damage
Reduced Visibility: under a mile due to rain, dust, fog, snow…..
Heavy Rain: Showery: 1/2" + in 1 hr Steady Rain: 1"+ in 12 hrs or 1.5"+ in 24 hrs
Any flooding!
Hail: pea size or larger
Any mixed precipitation!
Travel Problems or **Any Damage:** due to severe or hazardous weather.

NWS Podcasts

The NWS Spokane has started to feature "podcasts" on the webpage on various topics. A podcast is an audio file that can be listened to on your computer or downloaded to your portable audio player. The podcasts are available through iTunes, as well as subscribing to the RSS feed. So you'll always have the latest podcast! Otherwise, keep your eyes open for the link in the Top News section of the front page of our website. The direct link is http://www.wrh.noaa.gov/otx/outreach/podcasts/podcast.xml . ☼ *Anthony Cavallucci*

Fairchild AFB is StormReady

MIC John Livingston and Colonol Guemmer

Congratulations to Fairchild Air Force Base for becoming StormReady! A recognition ceremony was held at Fairchild on September 7th. In attendance was Colonol Paul Guemmer, the Commander of the base as well as the entire emergency management staff of Fairchild. The base was recognized for their ability to receive NWS warnings multiple ways, relay those warnings to the citizens of the base, and monitor weather conditions. Colonol Guemmer accepted the StormReady Plaque and afterwards, we all celebrated with a StormReady cake! ☼ *Anthony Cavallucci*

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Trivia: What term means "rain" when added to a cloud's name?