YOUR NATIONAL WEATHER SERVICE SPOKANE QUARTERLY REPORT

VOL XIX, ISSUE 3
SEPTEMBER 2014

The Weather Watcher

of the Inland Northwest

www.weather.gov/Spokane

INSIDE THIS ISSUE:

Winter Outlook	2
COOP Awards	2
Summer in Review	3
CoCoRaHS News	4
NWS Open House	4

The Fires of 2014

Carlton Complex Fire—. July 2014

Mills Canyon Fire—July 2014

What the NWS said in June…. So what can we expect? For eastern Washington, expect an early start to the fire season with above normal fire potential through September. For north Idaho, anticipate a later than normal start but about the normal number of starts and normal acres burned. The areas of most concern will be the Cascade Mountains and east across the Columbia basin and for the Okanogan Highlands.

What actually happened???? After a fairly warm and dry spring, July turned very warm and dry. For Wenatchee, July was the warmest on record! This allowed fuels to dry out ahead of normal. Isolated thunderstorms in the Cascades at the beginning of the month started several small fires. The largest was the Mill Canyon fire near Entiat, WA. Additional mainly wet thunderstorms on July 13th and Aug 23rd started multiple large fires, including the Chiwakum fire, Duncan Fire, Carlton Complex, Devil's Elbow fire, Mills Canyon fire, and the Snag Canyon fire to name just a few. The Carlton Complex fire burned over 256, 108 acres which is the largest fire in Washington state history. As of early September, the total acres burned so far in eastern Washington is 362,419 acres, which is the most acres burned in the region since 1974. The second highest on the list was 321,561 acres in 2006, which was the year of the Tripod fire in the north Cascades. ☼ *Bob Tobin*

Seasonal Drought Outlook

Our long, dry and hot summer has left an impact across the region. As of September 4th, much of central Washington was in a Severe Drought status. While typically summertime brings little to no precipitation to the Inland Northwest, the long range outlook shows little improvement through the next several months. In fact, expect drought conditions to expand across all of eastern Washington and into the southern ID panhandle through late fall. With El Nino conditions expected to develop, a better chance of warmer and drier conditions are in the long range outlook for the autumn and winter. ☼

Drought persists or intensifies

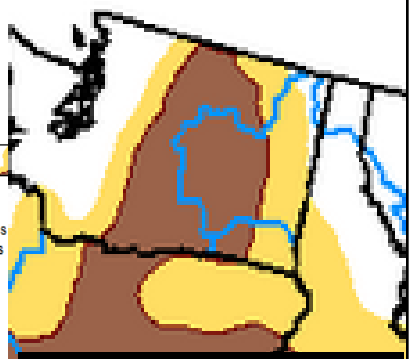
Drought remains but improves

Drought removal likely

Drought development likely

Author: David Miskus, Climate Prediction Center, NOAA
http://www.cpc.ncep.noaa.gov/products/expert_assessment/season_drought.html

Depicts large-scale trends based on subjectively derived probabilities guided by short- and long-range statistical and dynamical forecasts. Short-term events -- such as individual storms cannot be accurately forecast more than a few days in advance. Use caution for applications -- such as crops -- that can be affected by such events. "Ongoing" drought areas are approximated from the Drought Monitor (D1 to D4 intensity).
For weekly drought updates, see the latest U.S. Drought Monitor.
NOTE: The tan area areas imply at least a 1-category improvement in the Drought Monitor intensity levels by the end of the period although drought will remain.
The Green areas imply drought removal by the end of the period (D0 or none)



Seasonal Drought Outlook

Editor's Notes

September is National Preparedness Month. It's a great time to get prepared and be ready for any type of emergency, whether it be a flood, a fire, a storm or a power outage.

Here is a simple list of what can get you started.

1. A Disaster Supply kit with 3 days of food and water.
2. A Family Emergency plan so you know how to community with others.
3. A NOAA Weather Radio.

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

This newsletter and past issues are available online on weather.gov/Spokane.

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. Special thanks to Ron Miller, Mark Turner, and Bob Tobin for their help.

Autumn and Winter Outlook

The NWS Climate Predication Center reported that there is good chance of an El Niño winter for the Northern Hemisphere. An El Niño Watch was in effect. Most of the seasonal weather models predicted El Niño conditions to develop by this autumn and continue into early 2015. A majority of the models favored a weak El Niño.

What does this mean for the Inland Northwest? El Niño conditions mean that above normal sea surface temperatures are found across the equatorial Pacific. This has long term impacts on the atmospheric circulations by enhancing a strong sub-tropical jet across the southern U.S. with a better chance of wet weather. A weaker polar jet develops across Canada with a better chance of drier and mild conditions across the Pacific Northwest.

The seasonal outlook for the Inland Northwest for late fall and into the winter season showed a better chance of below normal precipitation and above normal temperatures. And this after we have just had the warmest July and August on record. ☼ *Robin Fox*

Summer Weather Statistics

Wenatchee Water Plant	Jun	Jul	Aug	Total
Avg High Temp	79.7	92.0	89.2	87.0
Departure from Norm	-0.1	+3.8	+1.6	+1.8
Avg Low Temp	57.1	65.0	63.6	61.9
Departure from Norm	+1.5	+3.5	+3.1	+2.7
Total Precip	0.32	0.14	0.81	1.27
Departure from Norm	-0.34	-0.20	+0.62	+0.08
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	79.1	96.3	90.8	88.7
Departure from Norm	+0.6	+7.0	+2.0	+3.2
Avg Low Temp	53.7	64.3	62.5	60.2
Departure from Norm	+0.03	+4.7	+3.3	+2.8
Total Precip	0.95	0.26	1.17	2.38
Departure from Norm	-0.29	-0.40	+0.48	-0.21
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	72.8	89.4	84.9	82.4
Departure from Norm	-1.0	+6.1	+2.0	+2.4
Avg Low Temp	50.5	62.0	59.5	57.3
Departure from Norm	+0.1	+5.7	+3.7	+3.2
Total Precip	1.84	0.18	0.58	2.60
Departure from Norm	+0.59	-0.46	-0.01	+0.12
Total snowfall	0.0	0.0	0.0	0.0
Departure from Norm	0.0	0.0	0.0	0.0

COOP Observer Awards

William and Alice Hofmann were recently presented the Richard (Dick) H. Hagemeyer Award. This award was established in honor of Richard (Dick) Hagemeyer (1924-2001) whose career with the National Weather Service spanned 51 years. Early in his career he served as a Cooperative Program Manager and was an ardent supporter of the Cooperative Observer Program. The award is given to National Weather Service Cooperative Weather Observers for 45 years of service.

Bill and Alice Hofmann took over the recording duties from neighbors Dorothy & Rudolph Rosenzweig in October, 1969. The duo have been making daily recordings of the temperature, precipitation and other weather conditions in Rosalia ever since. ☼ *Mark Turner*

L-R, Rose Tibbitts, Sean Wink, WRH Chief Systems & Facilities Div, Alice & William Hofmann, Bob Tobin. Photo by Mark Turner, OPL WFO Spokane.

NWS Spokane

Meteorologist In Charge
John Livingston

Administrative Assistant
Rose Tibbitts

Science Operations Officer
Ron Miller

Warning Coordination Meteorologist
Andy Brown

Service Hydrologist
Katherine Rowden

Information Technology Officer
Todd Carter

Observation Program Leader
Mark Turner

Lead Forecasters
Jon Fox
Matt Fugazzi
Bob Tobin
Greg Koch
Paul Bos

General Forecasters
Robin Fox
Rocco Pelatti
Laurie Nisbet
Jeremy Wolf
Jeffrey Coté
Ellie Kelch
Steve Bodnar
Steven Van Horn

Meteorologist Interns
Joey Clevenger
Ty Judd
Ryan Fliehman

Electronic Systems Analyst
Dwight Williams

Electronic Technicians
Paul Kozsan
Mike Henry

Facilities Technician
Mike Belarde

Want to report precipitation? Check out CoCoRaHS at www.cocorahs.org

Answer: 2009-10

Summer 2014 in Review

I think we all would agree that this was a hot summer. But just how hot was it? Was it the hottest ever? There's been a fair amount of discussion about it. As usual, there's several ways to measure how hot a summer was. If you look at the average temperature for July and August, then the summer of 2014 was tops with 74.0°F at Spokane, beating out 73.5°F in 1998. Lewiston tied 1939 for the top spot with an average temperature of 78.5°F, and Wenatchee tied 1958 for 2nd place, just a tenth of a degree shy of the 2004 record of 77.6°F. So that measure certainly indicates that this was a summer for the record books.

Another way that we like to look at it is to count the number of days that we hit 90°F or warmer. For Wenatchee, this year saw 39 such days. The average is 33, but the record is 56 in 1970. Lewiston had 47 days of 90+°F, compared to an average of 44. The record is a whopping 80 days in 1938. For Spokane, the 27 days this year is above average (18), but far shy of the record 39 days in 1958. In fact, at all 3 cities, last year saw more 90°F days than this year. This would seem to indicate that while it was hotter than normal, it was far from a record hot summer.

So what gives? The answer lies in the low temperatures. The average temperature is the average of the high and low temperature. And this summer saw some very warm nights. So when both the high and low are considered, this was one of the hottest summers ever. But if we just concentrate on the daytime temperatures, then this summer ranks in the top 15. While we had a blistering hot stretch of days in July, we also had a few cool days, especially in the latter half of August.

June was a mostly quiet and pleasant month, weatherwise. We typically have a fair amount of showers and thunderstorms in this month, but the 2014 edition of June was largely lacking in them. The first 3 days of the month saw some thunderstorm activity, including a storm that produced golf ball-sized hail near Springdale, WA as well as a storm that caused a 62 mph wind gust at Lewiston. A small but strong weather system brought some heavy rain showers to the Cascades. By the middle of the month, temperatures cooled significantly with highs only in the mid-50s to lower 60s. A large area of northeast Washington and the Idaho Panhandle received 1 to 1.5" of rain over a 3-day period. This was welcome rain given the dry conditions over the past several months. Temperatures warmed back into the 80s and lower 90s by the 23rd. Rain showers brought localized heavy rain on the 27th.

We often say that summer in the Inland Northwest doesn't start until **July** 4th, and this was once again the case. This year it warmed just in time for the holiday weekend. Little did we know, that was a harbinger for the month. High pressure over our area was strong and unrelenting. Wenatchee Airport hit 100°F or hotter for 8 straight days from the 8th through the 16th, it's longest streak ever. Spokane reached 90°F or better for 12 straight days, 2 shy of its all-time record. On the 14th, wet thunderstorms moved through the area starting some new wildfires in the Cascades. On the 17th a dry cold front brought strong winds which caused extreme fire growth on the Carlton Complex fires. The 23rd saw a large outbreak of severe thunderstorms. Large hail damaged cars near Colville while 70 mph winds brought down numerous trees from Spokane to Sandpoint. Power outages were widespread, with some lasting as much as 3 days. The high temperature of 69°F at Spokane the next day was a record cold July 24th. But the hot weather quickly returned as temperatures reached the 100°F mark at Spokane for the first time in 5 years.

The heat continued into the first part of **August**. Another strong thunderstorm event on the 2nd brought down more trees from Spokane to Sandpoint. Many residents who lost power in July were once again affected. A change in the weather pattern occurred on the 12th as thunderstorms brought a widespread dust storm to the Columbia Basin. Wind gusted to 63 mph at Ritzville and 5 injuries resulted from a multi-car accident on I-90 due to blowing dust. Downed trees and power lines were not as widespread or numerous as the previous events. Heavy rain from thunderstorms between the 12th and 15th caused some flash floods and debris flows on the burn-scarred areas of the Cascades. These caused damage to 4 homes and some roads were washed out. Another flash flood event occurred on the evening of the 21st. Heavy rain over the Carlton Complex burn area created a flood that destroyed 10 homes that had survived the fire. ☼ *Ron Miller*

Haboob approaching Harrington. Courtesy to Dean White. 8/26/14

Weather Spotter Reports

Our summer season had its share of severe and hazardous weather, from fires to floods, to damaging wind and heavy rain. A big thank you to our spotter community that provided the NWS with the many reports and pictures. Your timely reports, either by phone, online, twitter, or Facebook, were invaluable. We appreciate your reports. ☼

SPOTTER REPORTS: 1-800-483-4532 or (509) 244-0435 or *online @ www.weather.gov/spokane*

Remember your Autumn Spotter Checklist

First Snow of the Season!

Snow:
2"+ valleys & 4"+ mountains

Hail: pea size or larger

Strong Winds:
30mph+ or damage

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

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**!

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

CoCoRaHS

Calling all CoCoRaHS Observers in eastern Washington and north Idaho! We want to see your gauges! We are collecting pictures of you and your rain gauges to add to a display board. If you would like to participate in our CoCoRaHS display, please a send a picture of yourself and your observation site or rain gauge. You can send your it to the NWS Spokane office via Facebook, Twitter or to the email account, *nws.spokane@noaa.gov.*

It's hard to believe, but it's time to brush off the snow board and snow stick. Snow measurement time is right around the corner. Remember to winterize your gauge before the freezing temperatures arrive. Remove the inner tube and funnel from the rain gauge and store it indoors. ☼ *Robin Fox*

NWS Spokane Open House

Saturday, September 20th
10am-4pm

2601 N Rambo Road
Spokane, WA

Open to All! Come visit the Spokane weather forecast office

- Tour the facility
- See weather balloon launches
- Meet the meteorologists, hydrologist, and technicians
- Kids activities
- Learn about fire weather and Incident Meteorologists
- Presentations: Winter Outlook, Who we are & What we Do?, NWS Volunteer Opportunities, and an Awards presentations
- Interactive displays

Watch	Warning
CAUTION—Watch the Sky!	DANGER—Storms coming
PREPARE	ACT NOW!

The Weather Watcher
Of the Inland Northwest

National
Weather Service
2601 N Rambo Rd
Spokane, WA 99224
(509)-244-0110

«county» County #«SPT#»
«AddressBlock»

Trivia: When was our last El Niño winter?