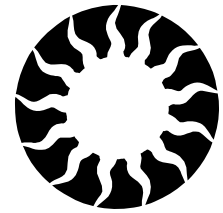


The Weather Watcher of the Inland Northwest

www.weather.gov/Spokane



Winter Outlook

After the snowy year last winter, most folks of the Inland Northwest are eager to find out what this winter will bring. One thing is fairly certain, we probably won't see a winter like 2007-08. If you remember, the 92.6" of snow measured at the Spokane airport last winter was only one inch shy of tying the all-time record. Looking through the many years of snow records, Spokane's snow totals fluctuate quite a bit with no back-to-back snowy winter years in the last two decades.

The National Weather Service's Climate Prediction Center released it's long range winter forecast. It calls for more seasonal temperatures for the upcoming winter and near normal to slightly below normal precipitation for the Inland Northwest. The forecast is based heavily on the El Nino-Southern Oscillation (ENSO), which is the globally coupled ocean-atmosphere circulation. Neither La Nina nor El Nino conditions are expected this winter. Instead, an ENSO neutral state is forecast to remain through early next year.

The table on the right compares Spokane seasonal snow totals vs. the ENSO state, ranging from El Nino, La Nina or neutral. The last ENSO neutral seasons were 2005-06 and 2003-04, although these years were coming off of an El Nino. The '96-97 winter was an ENSO neutral year following a La Nina. As you can see, the snow amounts vary quite a bit. Over the past 30 years, there have been 14 ENSO neutral seasons with an average seasonal snow total of 49", slightly higher than the 30 year snow normal of 43.6".

So as you can see, which ever source you view, there will be differences with the long range winter outlook. History has proven that the ENSO signal is not the only determinant. There are other factors that can influence the winter weather pattern. So this year, we may have to wait and see what Mother Nature has in store for us. ☼ *Robin Fox*

Winter year	ENSO	Spokane snow totals
2007-08	La Nina	92.6"
2006-07	El Nino	34.0"
2005-06	neutral	27.3"
2004-05	El Nino	25.8"
2003-04	neutral	55.0"
2002-03	El Nino	21.2"
2001-02	neutral	63.4"
2000-01	La Nina	45.0"
1999-00	La Nina	41.0"
1998-99	La Nina	42.5"
1997-98	El Nino	18.3"
1996-97	neutral	80.5"
1995-96	La Nina	42.5"
1994-95	El Nino	29.8"
1993-94	neutral	19.7"

Fire Season 2008

While areas east of the Kettle Mountains into the Idaho Panhandle had near record snow and above normal precipitation last winter, the same could not be said for the northern Cascades where precipitation was slightly less than normal. Spring 2008 was typical with great fluctuations in the weather. Above normal temperatures through May were replaced quickly by well below normal temperatures in June. In fact, there was even a snow storm on June 10th! Overall the spring was cooler and drier than normal.

Forest fire fuels for the most part did not become critically dry until the later half of July, which was about 2 weeks latter than normal. By that time, the weather pattern became very progressive, where high pressure and warmer weather gave way

quickly to an upper level trough with thunderstorms and quite a bit of rain. This weather pattern remained over the Inland Northwest through July and August. A notable event was the dry cold front that swept through eastern Washington on July 10th. Numerous fires started due to downed power lines, including the Spokane Valley fire. Another event was a well forecasted thunderstorm episode on August 18th which started the Swanson Lake fire. This fire blew up from 1 acre on August 18th to over 20, 000 by August 20th.

Overall, there were 1079 total fires in Washington through the second week in September with a total of 89, 590 acres burned. These values are less than the 10 year average of 1407 fires for 128, 976 acres burned. ☼ *Bob Tobin*

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Editor's Notes

The journey to shorter days, longer nights, and cooler weather is on its way. The Autumnal equinox is on September 22 at 15:44 GMT or 8:44 PDT. That's when the length of day and night will be equal around the world. Daylight Savings Time will continue through October and finally ends on Sunday, November 2nd. Mark your calendars.

September also marks NOAA Weather Radio month in Washington. NOAA Weather Radio - your source of weather information 24/7.

For any questions or comments on the newsletter, please contact Robin or Kerry at (509) 244-0110 extension 223 or email nws.spokane@noaa.gov.

The main purpose of this publication is to keep our readers informed about our services and programs, and to recognize those who help us with our mission, including weather spotters, co-op observers, media, and emergency management.

All articles are written by the NWS staff. A special thanks to Ron Miller, Kerry Jones, Bob Tobin, and Robert Bonner for their help with the included articles.

Summer 2008 in Review

Depending on your preference, the summer of 2008 could be remembered in a number of different ways. From the cold and wet start, to the dry stretch in the middle, to the cool end, this summer was quite different from recent summers.

JUNE started off the summer on a decidedly cool foot. Temperatures were below normal for most of the first half of the month. Rain and showers occurred on just about every day during this stretch. The 10th turned out to be the coldest day of the month. Spokane International Airport started the morning with a chilly 36° and couldn't even reach 50° for the afternoon high. Additionally, a trace of snow was observed at Spokane. Other locations actually had measurable snow, with Winchester ID reporting 0.6", and spotters near Tonasket and Oroville measuring 1.5" and 3.0" respectively. Just one day later, strong thunderstorms developed on the evening of the 11th between Freeman and Newport Washington. Golfball-sized hail fell near Mt. Spokane and heavy downpours flooded some urban areas in the Spokane Valley and Coeur d'Alene.

The weather finally began to moderate by the middle of the month. While it was far from hot, it sure felt warm compared to the previous few weeks. Temperatures warmed into the upper 80s and lower 90s on the 20th before a cold front brought rain and cooler temperatures. But before the month was over, hot weather arrived. The last 3 days of the month saw the mercury rise into the 90s and lower 100s. It was the hottest Hoopfest weekend in Spokane ever as the temperature hovered between 92° and 97°. Lewiston soared to 105° on the final 2 days, neither of which was a record. While Wenatchee Water Plant's 105° on the 29th was a record for the day.

Warm weather continued until the 4th of **JULY**. Severe thunderstorms developed over the region during the last day of June and the first few of July. The strongest storms occurred on the evening of the 1st with widespread reports of 1" hail and wind damage from the Waterville Plateau and Electric City eastward to Post Falls. Thunderstorms on the evening of the 3rd dropped golfball-sized hail between Omak and Grand Coulee while 1.25" hail fell near Mazama. A very strong but dry windstorm blew through the area on the 10th. Winds gusting to 52 mph at the Spokane Airport fanned the flames on a wildfire in the Spokane Valley which destroyed several homes. Strong wind also knocked down trees onto a home and farm machinery near Bonners Ferry where winds gusted to 54 mph. A 74 mph wind gust was measured west of Oroville.

Following this windstorm, the weather became much quieter with near-normal temperatures. On the 22nd deep sub-tropical moisture moved into the area from the south. Steady rain fell in Lewiston all afternoon bringing 0.22", with similar amounts falling in most of the Idaho Panhandle.

As summer moved into **AUGUST**, the weather pattern continued to repeat. Rather than extended hot spells lasting 10 days or more, the Inland Northwest experienced brief warm-ups of a few days that were quickly followed by cooler weather. The high in Spokane on the 6th was 97°, but four days later it only reached 70°. Severe thunderstorms rumbled across southeast Washington and the southern Panhandle on the 8th, with flash flooding reported along Highway 2 in the Cascades. The hottest spell of the summer arrived during the middle of August. Triple-digit readings were common on the 17th, most of them breaking records for the day. Spokane Airport reached 103°, making it the hottest day in 10 years. Lewiston topped out at 108°, but La Crosse had the hottest reading at 109°. A couple of unofficial readings of 111° were reached at Ritzville and Lake Bryan west of Lewiston.

But once again, temperatures came crashing down. By the 21st, Spokane only reached 69°, a full 34 degrees cooler than just five days earlier. With the cooler weather came widespread rain and showers. Thunderstorms over Oregon on the afternoon of the 18th produced strong gusty winds over much of northeast Washington. Heavy rain fell in the Cascades on the 19th with up to 1.50" reported in the mountains and 0.82" at Twisp. On the 21st scattered showers and thunderstorms moved through the region with one storm dropping 1" hail in the Spokane Valley.

So, was this a cool summer? The average temperature for the 3 months would say that it was pretty close to average. So why did it seem cooler than normal? Rather than use average temperature (which tends to mask the temperature swings), let's look at it in terms of the number of days which were 90° or warmer, and the number of days that were 75° or cooler. The table (on the lower part of the next page) shows these numbers for the past 10 years. The numbers show that the summers of 2006 and 2007 were quite warm compared to average. While this summer was similar to 2005 for Wenatchee and Spokane, Lewiston hasn't seen a summer this cool since 2002. So part of the answer lies in the fact that while the average temperature for this summer was very close to normal, it was quite a bit cooler than the past 2 summers and cooler than 4 of the last 5 summers. In other words, we've become used to the recent warm summers, so a "normal" summer feels cool to us. ☀

Ron Miller

SPOTTER REPORTS:
509-244-0435
spotter.weather.gov

Coop Corner

Length of service awards will be presented to the following observers across eastern Washington and north Idaho this fall.

Mrs. Jean Moore	Plain, WA	40 Years
Mr. Dan Williams	Pomeroy, WA	15 Years
Mr. Arnie Grahn	Conconnully, WA	15 Years
Univ of Idaho Exp Sta.	Sandpoint, ID	25 Years

Congratulations and a big thank you from all of us at the National Weather Service Spokane!

As winter is just around the corner, I'd like to remind everyone to review the correct procedures for measuring snowfall and measuring the water equivalent of snow. Remember to **remove the funnel and measuring tube in the 8 inch rain gage when you expect snow.**

The NWS Spokane has a VHS tape or a DVD on the correct procedures of measuring the water equivalent of snow. If you would like a copy to view, please let me know by calling our 800 number. ☀ *Bob Bonner*

Answer: 43.6" from 1978-2007

Staff News

Believe it or Not! After 40 years of federal service, Hydro-Meteorological Technician Milt Mass, otherwise known as "Uncle Milty" will be retiring. He first began as a trainee at the NWS Seattle office in 1968. Then his weather career sent him traveling to many locations across the northwest U.S., like San Francisco, Portland, Great Falls, Astoria, and finally Spokane, where he has been a fixture at the Spokane weather office for over 29 years. Milt has been active in the Coop Observer program and has visited many of the sites across eastern Washington. There will be a celebration for Milt's friends and fans on Saturday, September 27th!

Mike Henry joined the Spokane office as an Electronics Technician this summer. Mike is from the Spokane area and is excited to learn how to fix and maintain all the various weather equipment. The staff at National Weather Service Spokane wish Milt, Mike and all their families the best of luck! ☀ *Robin Fox*

Summer Weather Statistics

Wenatchee Water Plant	Jun	Jul	Aug	Total
Avg High Temp	78.5	89.1	86.6	84.7
Departure from Norm	-1.6	+1.3	-0.6	-0.3
Avg Low Temp	54.6	61.4	60.0	58.7
Departure from Norm	-0.9	+0.5	-0.2	-0.2
Total Precip	0.18	T	0.16	0.34
Departure from Norm	-0.51	-0.30	-0.25	-1.06
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	78.9	90.4	88.5	85.9
Departure from Norm	+1.0	+2.8	+0.9	+1.6
Avg Low Temp	52.2	59.6	59.7	57.2
Departure from Norm	-1.5	+0.3	+0.4	-0.3
Total Precip	0.69	0.23	0.82	1.74
Departure from Norm	-0.47	-0.49	+0.07	-0.89
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	72.5	83.8	81.9	79.4
Departure from Norm	-1.4	+1.3	-0.7	-0.3
Avg Low Temp	49.1	56.7	55.4	53.7
Departure from Norm	-0.1	+2.1	+0.9	+1.0
Total Precip	1.00	T	0.57	1.57
Departure from Norm	-0.18	-0.76	-0.11	-1.05
Total snowfall	T	0.0	0.0	T
Departure from Norm	0.0	0.0	0.0	0.0

COOL SUMMERS -- Number of Days June-August AT or BELOW 75°F

	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	Avg.
Wenatchee	23	13	18	9	6	15	26	11	16	14	14
Lewiston	21	15	18	9	7	15	16	11	11	16	14
Spokane	40	28	31	27	15	29	28	24	25	31	30

WARM SUMMERS -- Number of Days June-August AT or ABOVE 90°F

	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	Avg.
Wenatchee	25	32	17	22	20	49	25	38	33	29	30
Lewiston	37	35	39	26	46	44	42	45	46	37	40
Spokane	18	13	16	14	27	25	16	22	22	17	17



Large Hail in Mazama on 7/3/08, courtesy of Rick deLuc. Have any great weather photos or video? If so, NWS Spokane is always interested in weather-related pictures. Send them directly to nws.spokane@noaa.gov

Remember your Fall Spotter Checklist

Snow: first event and then...
2"+ valleys and 4"+ mountains

Strong Winds:
30 mph+ or damage

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

Any Flooding

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 mixed precipitation

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

CoCoRaHS and Spotters

The Community Collaborative Rain, Hail and Snow Network (CoCoRaHS) has grown this summer in Washington. There are now over 70 precipitation observers across eastern Washington.

We have plenty of observers around Spokane. And the totals have grown quickly around Wenatchee and in Douglas County. Yet we still need more observers in the following communities:

Airway Hgts	Coulee City	Newport	Quincy
Clarkston	Laurier	Odessa	Republic
Colfax	Mattawa	Othello	Ritzville
Colville	Metaline	Pullman	Springdale

For residents in north Idaho, CoCoRaHS will be coming soon. Look for more news by next spring.

Now, I would like to invite ALL current weather spotters to check out the CoCoRaHS program and see if you can make the daily commitment, especially if you already keep precipitation records. CoCoRaHS observers and weather spotters are not the same. Weather spotters provide reports of severe weather either by phone or online at <http://espotter.weather.gov>. CoCoRaHS observers provide daily precipitation reports online at <http://www.cocorahs.org>. The National Weather Service receives information from both networks.

Winter is right around the corner. Remember to **remove the funnel and inner tube of your rain gauge** during freezing temperatures and snow. We will be hosting winter/snow CoCoRaHS training sessions this fall. Watch the web page or your email for details. We look forward to the increased snow reports this year! ☼ *Robin Fox & Ellie Kelch*

Winter Weather Awareness

Winter weather awareness week is scheduled for Oct 19-25th across Washington, Idaho and Oregon. This will be a great time to start preparing your home, office, vehicle and property for the upcoming winter storms of wind, snow, rain and cold. Here are things to keep in mind and add to your preparedness list for this fall:

- Weatherize your vehicle now. Make sure you have adequate tires, chains or sand. Remember your ice scraper and brush.
- Stock up on your winter safety kit- including a blanket, batteries, food, and water in your car.
- Winterize your home - including storm windows, doors, weather stripping, and insulation.

The Weather Watcher Of the Inland Northwest



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Trivia: What is the average snowfall in Spokane over the last 30 years?