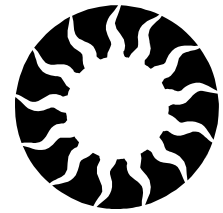


The Weather Watcher

of the Inland Northwest

www.wrh.noaa.gov/Spokane



April Blows and then May Snows?

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Blustry, cold and snowy! This sums up Spring 2002 for the Inland Northwest. Even beyond the spring equinox when tulips and daffodils were in full bloom, it seems that winter was not ready to release its icy grip. Strong cold fronts were frequent, causing temperatures to plummet, winds to gust, and snow to fly from April right into May.

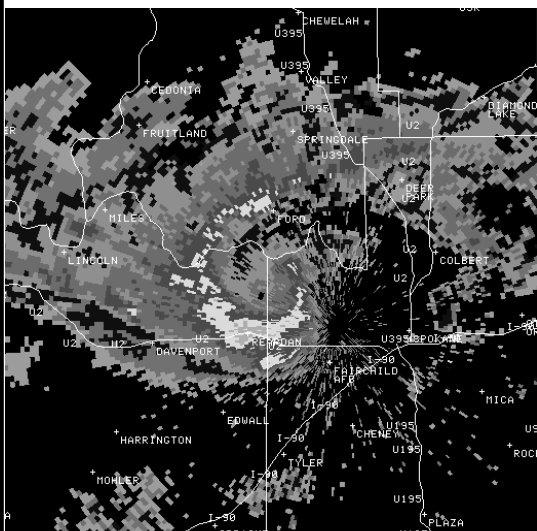
Monday, May 6th was no exception, it was unseasonably cool across the upper Columbia Basin and Spokane area. Afternoon temperatures only reached the mid 40s which shattered several low daytime temperature records. Scattered snow showers dotted the region with little if any accumulations. Yet by the predawn hours on Tuesday, it was another story. Winter sighed its last breath and dropped over a foot of new snow over the plains of Reardan, WA.

A relatively narrow ribbon of heavy snow had fallen from Airway Heights approxi-

new snow. Snow amounts of 13-19 inches were reported in Reardan with 6 inches in Davenport and the NWS Spokane office. These amounts are all-time high snowfall values for the month of May and possibly for the snow season in Reardan. In contrast, the Spokane airport saw less than an inch of snow while downtown Spokane only saw a few snowflakes.

The weather pattern that produced this unusual event was dominated by an upper level low which had crossed the Washington Cascades and had its center meandering over the upper Columbia Basin. A disturbance rotating around the low center, developed a band of snow showers over the eastern Columbia basin late in the evening. At the same time, a shift in the low level wind field lead to a convergent boundary in about the same location. This was seen in the surface winds with northeast winds reported in Spokane and Coeur d'Alene and southwest winds at Moses Lake.

These two elements interacted and enhanced the snow shower development. Quickly the snow shower activity became more organized and increased in both intensity and coverage. Due to the slow movement of the low aloft, the cluster of snow showers became stationary and began to rotate over extreme western Spokane county and eastern Lincoln county. Radar imagery showed a well defined center with outer bands wrapping around it. Intermittent heavy snow showers blanketed the ground at the NWS Spokane office on the West Plains soon after midnight. The snow continued through the night and gradually decreased by morning, thus giving the area residents a renewed taste of winter. ☀ *Robin Fox*



Here is a radar image from the snow event. Notice the higher intensity snow residing over Reardan in the center of the picture.

mately 30 miles across the West Plains to Reardan and Davenport. It spanned from the Spokane river south about 12 miles. Over 5 inches of snow were reported around the boundary of this zone. But the further one traveled into the snow zone, for every mile traced there was another inch of

Editor's Notes

We are in the midst of thunderstorm season in eastern Washington and north Idaho. For the most part, the majority of our storms are weak and short lived, producing small hail, gusty winds and brief downpours. But on occasion, we can encounter some mammoth size thunderstorms capable of tornadoes and large hail. Remember when skies look dark and menacing, tune in to NOAA Weather Radio or your local TV or radio station for the latest weather information.

If there is something you would like to see in the next newsletter or if you have comments or questions about a previous issue of the *Weather Watcher*, please contact:

Robin Fox or Ken Holmes
(509) 244-0110

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

All articles are written by the NWS staff. A special thanks to Ron Miller and Charles Ross for their contributions.

Lightning Coming out of the Ground



*A lightning strike captured over Lake Coeur d'Alene on May 19th
by Kootenai County spotter #62*

Dear Weather Watcher,

I had an inquiry from a customer. It seems that she was told that lightning comes out of the ground. I told her I had always believed that lightning was formed in the clouds. She was so adamant that she had seen this on television that I decided to write to the professionals for an expert opinion. I would appreciate any information you could provide about "lightning coming out of the ground."

Thank you for your time and consideration on this matter.

Sincerely, Sharon of Omak

WEATHER SPOTTER CHECKLIST

- FUNNEL CLOUD...Watch for cloud rotation aloft
- TORNADO...Watch for rotation & damage on the ground
- HAIL...Pea-sized or larger
- HEAVY RAIN...1/2 inch in 1 hr; 1.5+ inches in 24 hrs
- SNOW...2 inches or more
- PRECIPITATION CHANGES...rain to snow, any freezing
- FLOODING...Of any kind. Watch for changing water levels
- POOR VISIBILITY...1/2 mile or less
- TRAVEL PROBLEMS...due to weather
- STRONG WINDS...30 mph+, or any damage
- ANY DAMAGE, INJURY OR LOSS OF LIFE DUE TO WEATHER...Include location, time and specific cause.

If you observe any of these conditions, please call the NWS

(509) 244-0435

Dear Sharon,

It sounds like both of you are right. A thunderstorm gathers a pool of positive charges along the ground while negative charges develop in the cloud's center. As the difference in charges continues to increase, the positive charges rise up the taller objects such as trees, houses, and telephone poles.

The negative charges in the storm will shoot a charge toward the ground called a stepped leader. It is invisible to the human eye, and moves in steps in less than a second toward the ground. As it approaches the ground, it is attracted by all these positively charged objects, and a channel develops. ZAP! The channel lights up and you see the electrical transfer as lightning. There may be several return strokes of electricity within the channel, striking both up and down numerous times which produce the flickers of lightning.

Not all lightning forms in the negatively charged area in the cloud's center. Some lightning originates in the cirrus anvil at the top of the thunderstorm. This area carries a large positive charge. Lightning from this area is called positive lightning. This type is particularly dangerous for several reasons. It frequently strikes away from the rain core, either ahead or behind the thunderstorm. It can strike as far as 5 to 10 miles from the storm, in areas that most people do not consider to be a lightning risk area. The other problem with positive lightning is it typically has a longer duration, so fires are more easily ignited. Positive lightning usually carries a high peak electrical current, which increases the lightning risk to an individual.

Remember, if you are outside near a lightning storm and your hair is standing on end, you are in the wrong place and could be a lightning target!

Sincerely, the Weather Watcher ☀

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Mike Belarde

A Chilly Spring for the Inland Northwest

For those who have lived in the Inland Northwest for at least a few years, we've all come to realize that Spring is a very long season with a slow warm up process. While there may be warm spells, they are always brief and are often followed by much cooler weather. In many ways this Spring has been even longer and slower. The March-May period was the 5th coldest on record for Wenatchee (with records back to 1959), 3rd coldest for Spokane (back to 1881), and 7th coldest for Lewiston (back to 1881).

MARCH

The cold winter weather lingered well into March as four Canadian cold fronts made their way into the area. During some winters, an entire season can go by without any Canadian fronts. Cold fronts from the north are very rare in the Spring. As a result, temperatures for the month were well below normal. Daytime highs were 4 to 7 degrees colder than they normally are. The snowfall in March was very unusual as well. One storm on March 6th deposited 7" on the Palouse and in St. Maries, and caused drifting snow in the Spokane metro area. Another storm on the 16th dumped 4-8" of snow in Ferry and eastern Okanogan County.

APRIL

The cool trend continued into April, but it was closer to normal spring conditions. High temperatures were generally in the 50s and 60s with very few warm spells. The warmest day of the month was on the 13th when temperatures were 10-15 degrees above normal. Then a strong cold front swept through the area the next day with wind gusts to 54 mph at Lewiston, 47 mph at Wenatchee, at 48 mph at Spokane. Another noteworthy event was a strong dry cold front that moved through the area on the 22nd. Winds gusted to 50 mph in some areas, with blowing dust reducing the visibility to 1 mile at Moses Lake.

MAY

Any hopes of a warm May were quickly put to rest as another cold air mass from the Gulf of Alaska moved into the area on the 5th. A very unusual snow event ensued over the Reardan and Davenport area with over a foot of snow. Numerous records were broken throughout the Inland Northwest for cold high and low temperatures. Spokane reached 24E on the 8th, which was not only a record low for the month, but also the coldest temperature ever recorded so late in the Spring. By the end of May, the weather was more typical for the time of year. It was not an active month for thunderstorms, but there was one severe storm that dropped 1" hail at Winchester, Idaho on the 26th.

Perhaps one way of measuring how cold this Spring was is to look at when the first day of 80E was reached. Typically, the averages reflect the first 80 degree day arrives in late April to early May. This year Lewiston hit 81E on May 19th. Wenatchee didn't reach 80° until June 2,

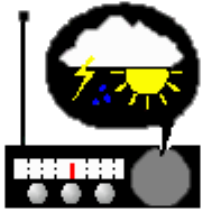
which is the latest that it has ever taken. The previous record was June 1st in 1974. It has been close, but as of June 12th, Spokane has yet to hit 80E this year. This breaks the old record which was June 11th in 1932. ☼ Ron Miller

Spring Weather Statistics

Wenatchee Airport	March	April	May	Total
Avg High Temp	48.7	62.0	68.2	39.3
Departure from Norm	-4.1	-0.4	-3.2	-2.5
Avg Low Temp	30.0	40.0	45.9	27.6
Departure from Norm	-2.7	+0.2	-1.2	-1.2
Total Precip	0.31	0.70	0.21	1.22
Departure from Norm	-0.30	+0.10	-0.35	-0.55
Lewiston Airport	March	April	May	Total
Avg High Temp	48.4	60.7	72.3	59.3
Departure from Norm	-6.3	-3.1	-3.5	-4.3
Avg Low Temp	33.1	38.9	44.7	38.9
Departure from Norm	-1.5	-1.2	-2.1	-1.6
Total Precip	1.44	0.82	0.57	2.83
Departure from Norm	+0.37	-0.23	-0.78	-0.63
Spokane Airport	March	April	May	Total
Avg High Temp	41.9	56.1	62.8	53.6
Departure from Norm	-6.5	-2.3	-4.4	-4.4
Avg Low Temp	26.9	34.6	40.2	33.9
Departure from Norm	-3.6	-2.0	-3.5	-3.0
Total Precip	1.02	0.88	1.10	3.00
Departure from Norm	-0.35	-0.24	-0.27	-0.87
Total Snowfall	11.2	0.0	0.9	12.1
Departure from Norm	+8.0	-0.5	+0.8	+8.3

Trivia answer: Avg 90° day
 Spokane June 19
 Wenatchee June 5
 Lewiston May 27
 Latest 90° day
 July 21 (1901)
 July 8 (1980)
 July 6 (1953)

Summer Outlook The Inland Northwest can expect near normal temperatures and below normal precipitation for the period of June through August. For more information, visit www.cpc.ncep.noaa.gov/products/forecasts/.



A New Radio Voice

Have you heard? There are new voices on NOAA Weather Radio (NWR)! On May 30th, Craig and Donna made their debut at the National Weather Service (NWS) in Spokane. Listeners in eastern Washington and north Idaho heard current weather conditions and forecasts delivered via the new computer voice program with a “lifelike” male and female voice. This program will continue to be customized to ensure words and geographical names are understood by the listeners in the Inland NW.

The NWS carried out an extensive national evaluation of computer speech programs, as well as a survey of public and constituent comments. The software voice is more easily understood because it combines phonetic sounds with natural language, while also having the ability to be integrated into the current NWR hardware system. The result is a male and female radio voice that will affectively provide public warnings of severe and hazardous weather conditions. Automating the NWR transmissions, first done in 1997, enabled the NWS to send out multiple independent warnings over several transmitters simultaneously, allowing for speedier delivery of severe weather warnings and more lead time for the public. For more information on NWR and the new voices, visit <http://www.nws.noaa.gov/nwr> ☀ *Kenneth Holmes*

Spring Flooding

With the return to above average mountain snow fall this winter, the National Weather Service was on alert for spring flooding. After a cold and snowy March, April began with a rather large mountain snow pack, especially over north Idaho. A mild and wet weather pattern set up across the region during the second week of April which led to widespread flooding of rivers and small streams. Flooding was reported in most counties of north Idaho and extreme eastern Washington. With plenty of mountain snow pack still remaining in early June, the potential for additional flooding will linger through the month. On the positive side, the water supply outlook is very favorable with most reservoirs expected to reach full capacity this spring. ☀ *Charles Ross*

The Weather Watcher Of the Inland Northwest



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**TRIVIA: What are the
average and latest 90°
dates for the Inland
NW ?**