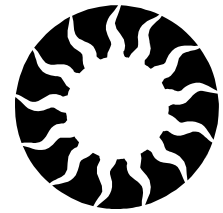


# The Weather Watcher

## of the Inland Northwest

[www.wrh.noaa.gov/Spokane](http://www.wrh.noaa.gov/Spokane)



## A New Revolution in Forecasting

A new weather forecasting process is coming to the National Weather Service in Spokane. Called the Interactive Forecast Preparation System, or IFPS, it is the next-generation forecasting tool that will support both local meteorologists and the weather-dependent programs throughout the Inland Northwest.

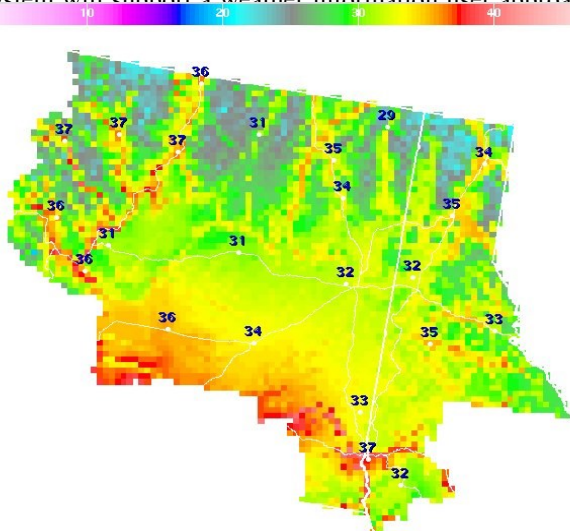
For several decades, weather forecasters have employed a traditional forecasting process that focused on the end product - the written forecast. Graphical images and displays were produced exclusively at national forecast centers, such as the Hydrometeorological Prediction Center in Washington, DC, and the Storm Prediction Center in Norman, Oklahoma. The process was very labor-intensive, and had to adhere to strict time schedules. Weather forecasters would spend several hours reviewing numerical and graphical guidance products issued by the national centers, and spend in some instances an equal amount of time typing up the local products before issuing them to the public.

Currently, meteorologists at the National Weather Service in Spokane are training for this next-generation forecast process. IFPS will enable forecasters to spend more time analyzing the current weather picture and computer guidance. They will be able to manipulate the data and incorporate their own methodologies and expertise into the forecast. The true "weather forecast" will be a digital database, which will be viewable by neighboring National Weather Services offices for consistency and coordination. All products, including text, tabular, graphical, and even voice products for the NOAA Weather Radio system, would then be produced from the information stored in the database.

IFPS will be implemented gradually over the next 12 to 18 months at the Spokane office. The result will be more products available for weather interests, including: the public, media, and private industry. It will be produced in much shorter time than would be accomplished by hand. Graphical displays of temperature, humidity, wind and weather will be created by the Spokane office and made available on our Internet web page, while text products, like the written forecast, will continue to be made available. IFPS will also enable the National Weather Service in Spokane to develop user-defined products in the support of hydrologic programs, fire and land management, emergency management, government and transportation programs, and commercial weather interests.

Over the coming months, the meteorologists' use of the Interactive Forecast Preparation System will support a weather information user approach in forecast and warning services. It

value of NWS products to all types  
[/index.html](#) for more information



Temperature (F) Wed Feb 06, 2002 11:00 AM PDT

*An IFPS example of  
temperatures for the Inland NW  
produced by the NWS Spokane.*

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### Editor's Notes

Spring is considered a time of renewal. It is a time where we shake off the winter snow and cold, and look forward to the warmth and the abundance of new greenery that the Inland NW has to offer. It is also a time when our region, like the rest of the country, can experience some pretty volatile weather ranging from severe thunderstorms, to flooding or high winds. So stay alert!

If there is something you would like to see in the next newsletter or if you have comments about a previous issue, 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 Jonathan Rizzo, Ron Miller, and Charles Ross, for their contributions. ☀

## A Typical Northwest Winter

After a very dry winter last year, all eyes were on this winter to see if a second dry year was in store. October and November certainly appeared to be promising with an abundance of rain and snow. This wet pattern continued into December. Storms moved through the area on a regular basis for the first half of the month, with no extreme warm or cold spells. Then the weather pattern changed markedly. A large ridge of high pressure built over the western U.S. around the middle of December and basically shut off any precipitation for the rest of the month. As a result, all three sites experienced slightly below normal precipitation for the month. Temperatures were very close to normal.

The large high pressure ridge continued into the first few days of January. This ridge broke down around the 6<sup>th</sup>, which opened up our area to the warm southwesterly flow from the Pacific. The cold dry weather of the previous few weeks was replaced by warm, windy, rainy weather. Temperatures on the 7<sup>th</sup> through 9<sup>th</sup> were in the upper 40s in Spokane and Wenatchee, and mid 50s in Lewiston. After this mild and wet period, our flow switched to a more northwesterly pattern. This is typically not a good precipitation pattern for the low lands, but the Cascades and Panhandle mountains do quite well with snowfall. This can also be a windy pattern. Winds at the Wenatchee airport gusted to 53 mph on the 20<sup>th</sup>, while winds at Spokane and Lewiston were 43 and 36 mph respectively. The wind also keeps the temperatures up. As a result, January was warmer and drier month than normal.

Near-normal temperatures prevailed through much of February. By the end of the month changes were once again in store. Another windy southwesterly system on the 22<sup>nd</sup> warmed temperatures into the 50s and lower 60s in many locations, melting some of the low-level snow and making it feel like early spring. But thoughts of spring were put on hold as a cold Canadian air mass took up residence over the Inland Northwest. Temperatures stayed below freezing in Spokane from the 24<sup>th</sup> through the 27<sup>th</sup>, making it the coldest stretch of the winter. Temperatures around the region were 10 to 20 degrees below normal for the last week of February. Even so, temperatures for the month were above normal in Wenatchee and Lewiston. Precipitation was near or below normal. Wenatchee has had below normal precipitation for 21 of the past 24 months. ☀  
Ron Miller



Heavy snow observed near 4th of July summit on February 22nd.

## Winter Weather Statistics

| Wenatchee Airport   | Dec   | Jan   | Feb   | Total |
|---------------------|-------|-------|-------|-------|
| Avg High Temp       | 36.7  | 38.0  | 43.2  | 39.3  |
| Departure from Norm | +3.2  | +4.1  | +1.7  | +3.0  |
| Avg Low Temp        | 27.3  | 27.2  | 28.3  | 27.6  |
| Departure from Norm | +4.4  | +5.4  | +1.6  | +3.8  |
| Total Precip        | 1.25  | 0.73  | 0.54  | 2.52  |
| Departure from Norm | -0.15 | -0.41 | -0.32 | -0.88 |
| Lewiston Airport    | Dec   | Jan   | Feb   | Total |
| Avg High Temp       | 40.3  | 42.4  | 47.1  | 43.3  |
| Departure from Norm | +1.1  | +3.0  | +1.5  | +1.9  |
| Avg Low Temp        | 29.4  | 31.4  | 30.6  | 30.5  |
| Departure from Norm | +0.9  | +3.4  | -0.6  | +1.2  |
| Total Precip        | 0.64  | 0.81  | 0.96  | 2.41  |
| Departure from Norm | -0.56 | -0.33 | +0.01 | -0.88 |
| Spokane Airport     | Dec   | Jan   | Feb   | Total |
| Avg High Temp       | 33.6  | 35.2  | 38.9  | 35.9  |
| Departure from Norm | +0.8  | +2.4  | -0.4  | +0.9  |
| Avg Low Temp        | 22.6  | 25.9  | 23.8  | 24.1  |
| Departure from Norm | +1.0  | +4.2  | -1.9  | +1.0  |
| Total Precip        | 2.03  | 1.15  | 1.04  | 4.22  |
| Departure from Norm | -0.39 | -0.67 | -0.47 | -1.53 |
| Total Snowfall      | 21.9  | 9.6   | 6.9   | 38.4  |
| Departure from Norm | +6.8  | -4.7  | 0.0   | +2.1  |

## A New Look to the NWS web page

The National Weather Service has been implementing a new set of home pages for all offices since the start of 2002. The Spokane NWS home page introduced its "new look" on February 26th. These home pages are designed to provide easier access to the complete suite of NWS products generated on both local and national scales.

Each page has similar banners on the top and a menu on the left hand side. In the center of the page, a graphical interface has been setup to guide you through some of the highlighted NWS products.

Careful thought has been put into its design to address user accessibility, particularly for individuals with disabilities. A new National home page looks similar, but with focus on products at the national level. If you have any comments or concerns with our new look, please contact the NWS Spokane office at 244-0110 or email the web master at [w-otx.webmaster@noaa.gov](mailto:w-otx.webmaster@noaa.gov) ☀

**SPRING OUTLOOK** For the period March through May, expect slightly above normal temperature and near normal precipitation for the Inland NW. For more information, visit [www.cpc.ncep.noaa.gov/products/forecasts/](http://www.cpc.ncep.noaa.gov/products/forecasts/).

## The Spring Melt Off

Average to slightly above average mountain snow pack has increased across the Inland Northwest this spring. North Idaho rivers such as the Snake and eastern Washington rivers, like the Entiat, Methow, Okanogan and Palouse, are possible candidates for flooding in the upcoming months.

Factors that can increase the likelihood of springtime flooding include warm temperatures, periods of rain and wind. So far this year, mountain snowmelt has been above the region. Given the right conditions of warm temperatures and rainfall, flooding is possible.

There have been rises on some of the area rivers in the past month. A weak cold front the weekend of February 23-24th led to a good deal of snow melt and runoff. The Palouse River near Potlatch. Other smaller streams with their headwaters in the Central Panhandle mountains also experienced higher levels.

The National Weather Service issues its nationwide spring flood potential outlook on March 26th. A locally produced spring flood outlook is also issued by the Spokane office on a monthly basis, or more frequently if conditions warrant. Look for these products and the current river levels on NWS Spokane webpage at [www.wrh.noaa.gov/spokane/hydro.htm](http://www.wrh.noaa.gov/spokane/hydro.htm)

☀ Charles Ross



High flow on Pine Creek near Pinehurst, Idaho on February 22nd.

## Are you Ready for Spring Storms?

### LIGHTNING FACT #1

Cars are safe during a lightning storm not because of the insulating rubber tires, but because of their metal shell!

Weather wise, we've had some fairly benign springs as of late with little in the way of thunderstorm activity, but this spring may or may not be the same. Nonetheless, it is important to refresh ourselves with severe storms and how to keep safe. Weather spotters need to review the spotter checklist and their spotting techniques.

The following spotter training meetings have been scheduled:

4/19 @ 2 pm - Moscow  
5/13 @ 7 pm - Coeur d'Alene

Additional spotter training sessions will be scheduled in the next several weeks and months. For more information and the most recent schedule, check the NWS spotter resource page at [www.wrh.noaa.gov/spokane/spotters/train.htm](http://www.wrh.noaa.gov/spokane/spotters/train.htm) or contact Ken Holmes 244-0110 x 223. ☀ Robin Fox

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

**(509) 244-0435**

Or file a report online at

[www.wrh.noaa.gov/cgi-bin/Spokane/start\\_rpt](http://www.wrh.noaa.gov/cgi-bin/Spokane/start_rpt)

### 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 rain
- 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.

### LIGHTNING FACT #2

Anywhere outside is dangerous during a lightning storm!



Multiple cloud-to-ground and cloud-to-cloud lightning strokes during night-time. Observed during a night-time thunderstorm.

#### LIGHTNING FACT #3

If you can hear the thunder from a storm, chances are that you are within striking distance of that storm!

## LIGHTNING

### A Random, Chaotic And Dangerous Fact Of Nature

At any given moment, there are 1,800 thunderstorms in progress somewhere on the earth. This amounts to 16 million storms each year! Scientists that study lightning have a better understanding today of the process that produces lightning, but there is still more to learn about the role of solar flares on the upper atmosphere, the earth's electromagnetic field, and ice in storms. We know the cloud conditions needed to produce lightning, but cannot forecast the location or time of the next stroke of lightning. There are lightning detection systems in the United States and they monitor an average of 25 million strokes of lightning from the cloud to ground every year!

Lightning has been seen in volcanic eruptions, extremely intense forest fires, surface nuclear detonations, heavy snowstorms, and in large hurricanes. However, it is most often seen in thunderstorms. A thunderstorm forms in air that has three components: moisture, instability and something such as a cold front to cause the air to rise. Continued rising motions within the storm may build the cloud to a height of 35,000 to 60,000 feet (6-10 miles) above sea level. Temperatures higher in the atmosphere are colder; ice forms in the higher parts of the cloud. The nation will celebrate its 2nd annual National Lightning Safety Awareness Week April 28-May

4, 2002. Late spring into summer is the peak season for one of the nation's deadliest weather phenomena—lightning. Lightning has been the second largest storm killer in the US for the last 40 years, exceeded only by floods. Safeguarding U.S. residents from dangerous lightning is the goal of NOAA's new public awareness campaign "*Lightning Kills, Play it Safe.*" The campaign is designed to lower lightning death and injury rates and America's vulnerability to one of nature's deadliest hazards.

In the United States, an average of 73 people are killed each year by lightning. That's more than the annual number of people killed by tornadoes or hurricanes. Many more are struck but survive. However, they often report a variety of long-term, debilitating symptoms, including memory loss, attention deficits, numbness, dizziness, irritability, fatigue, weakness, muscle spasms, depression, and an inability to sit for long. When thunderstorms threaten, get to a safe place and stay there, keep away from windows and doors, avoid contact with anything that conducts electricity and enjoy a safe summer! Visit [www.lightningsafety.noaa.gov/](http://www.lightningsafety.noaa.gov/) for more information. ☀

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Of the Inland Northwest



**TRIVIA: Where is the lightning capital of the US?**

**TRIVIA ANSWER: FLORIDA with over 17 million lightning strikes a year!**