Mountain snowpacks continue to build

Snowpacks continue to be above normal throughout the mountains of north Idaho and eastern Washington. As of the 23rd of February, snowpacks in the Idaho Panhandle averaged over 129%, ranging from 70% of normal in the St Maries River drainage to around 160% in the Pend Oreille basin. This suggests the possibility of some flooding, or at least high water, in the Panhandle this spring.

On the east slopes of the Cascades, snowpacks were well above normal. Snow water equivalent amounts varied from 145% of normal in the Chelan, Entiat and Wenatchee basins to 180% of normal in the Methow and Okanogan drainages. Depending on runoff patterns, some spring flooding is possible on these rivers, especially on the Okanogan and Similkameen Rivers.

It’s important to remember that above normal snowpacks do not necessarily imply flooding. The rate of runoff determines the flood potential, and it is dependent on temperature and precipitation patterns. However, for those who live in flood-prone areas, it is probably a good idea to be prepared for the possibility of flooding this spring.

Spring Outlook

So, what’s the outlook for the spring and summer of 1999? Based on the NWS Climate Prediction Center’s forecast, the Inland Northwest temperature and precipitation should be near or above normal this spring, and near normal during the summer. Remember, these are 3 month averages. For example, a forecast of warmer than normal for 3 months does not preclude the possibility of colder than normal periods during that time. The CPC’s website can be accessed at www.nic.fb4.noaa.gov:80.

National Weather Service
2601 North Rambo Road
Spokane, WA 99224-9164

A NEW Look
Surf the Web and visit the new design of our homepage!
www.wrh.noaa.gov/spokane

Editor’s Notes
We are excited to publish this edition of the Weather Watcher. There have been many changes in the last several months – including taking the official responsibility of all the weather forecasts and warnings for the Inland NW. The focus of this issue is the review of the winter, with information and articles ranging from NWR 2000 to the 1998 fire season.

The main purpose of this publication is to keep weather spotters and others informed about our services and programs, and to recognize spotters and observers who help us accomplish our mission. We will continue to see many exciting changes in weather observing and forecasting over the coming months and years. Weather spotters and our friends in the emergency management and media communities will continue to be an extremely valuable part of our mission as well.

If there is something you would like to see in the next newsletter, or have comments about a previous issue, please let us know.

National Weather Service
2601 N Rambo Road
Spokane, WA 99224-9164
(509) 244-0435
www.wrh.noaa.gov/spokane

NWS Modernization Milestone Reached

On Wednesday January 13, 1999 the National Weather Service (NWS) in Spokane passed the last major milestone in a multi-year modernization journey. At this time, the Weather Forecast Office (WFO) in Spokane completed the assumption of all products and services for much of eastern Washington and north Idaho. While various programs were phased in over the past four years, this final changeover included assumption of the routine daily “zone” forecasts, and all winter weather watches, warnings and advisories.

In 1994, the NWS Spokane office staff of 8 issued short fused warnings, took surface and upper air observations and served the public of northeast Washington and parts of the Idaho Panhandle. Intermittent poor quality satellite data, no weather radar, low speed data communications and aging computer systems from the late 70’s hampered our ability to effectively serve our public. While part of the products and services were done in Spokane, the remainder of the warning and forecast information came from state level offices in Seattle and Boise. Other offices in Lewiston and Wenatchee served parts of the area as well.

In 1999, the WFO Spokane staff of 25 completes a full range of warning, forecast and support functions for much of eastern Washington and north Idaho. We operate and use the only Doppler weather radar system in the area. These resources along with high resolution satellite data, more frequent surface observations, access to external data sources and a solid network of volunteer weather spotters are used to create our products.

In the past, lack of personnel did not allow us to do the necessary background work to improve products and services. Today, considerable time is spent on learning about our weather, training our personnel, getting out into the community, soliciting and listening to users concerns and other critical tasks needed to continually improve our service.

Where the forecast and warning function for much of eastern Washington and north Idaho were divided amongst various offices, WFO Spokane now issues all products, including public warnings and forecasts, detailed aviation forecasts, river warnings and forecasts and specialized fire weather products for land management agencies.

Editor Robin Fox
Assistant Editor Jann Walker

ON THE INSIDE ......
NWR 2000
Winter Recap, Snowpack... and much more

Trivia: What was the coldest temperature ever recorded in eastern Washington or north Idaho?
The Weather Forecast Office (WFO) in Spokane, WA will be changing and improving the way NOAA Weather Radio broadcasts are made available across the region. This will be done through the development of a new voice and improved software. The current voice, which was developed in 1999, is now being replaced by a new voice. The new voice will be more natural and easier to understand. The new software will also allow for improved broadcast quality and faster broadcast times.

The improvements to NOAA Weather Radio are part of a larger effort to improve weather forecasting and warnings. This effort includes the development of new technologies and methods for gathering and analyzing weather data. These improvements will help to ensure that the public is able to receive the most accurate and timely weather information.

As always, for the most up to date weather information you can rely on NOAA Weather Radio. It is available 24 hours a day, seven days a week. Without concerns for other programming or commercials, you get weather and warnings instantaneously and reliably.

A new VOICE on the NOAA Weather Radio

The biggest question we hear lately is “what happened to La Niña?” The answer is, La Niña is still here. La Niña refers to a cold water anomaly in the equatorial Pacific. This anomaly strengthens during the month of December and is now classified as “moderate to strong.” However, as stated in our previous newsletter, the weather that results from La Niña isn’t as clear cut as El Niño. As we stated, only 3 of the last 8 La Niña winters in the Inland Northwest were colder than normal. Six of the last 8 have been warmer than normal, and 5 of the last 8 were snowier than average. Thus, the best “signal” (i.e., highest forecast confidence) was the above-normal precipitation.

As the table below shows, the precipitation in our area has indeed been above normal this winter. However, temperatures were near to slightly above normal, especially in November. December was also quite mild. Temperatures are somewhat deceptive, since the cold spell before Christmas brought the average temperatures down, but there was no precipitation at this time. As a result, snowfall has been much below normal in the valley. Meanwhile the mountains have received above normal snowfall this year. At the end of February, the snowpack on the east slopes of the Cascades was around 145% of normal, while the snowpack in the Panhandle and the northeastern mountains of Washington was about 129% of normal. The winter of 98-99 did have a few memorable moments. After a mild November and early December, our first (and only) arctic airmass moved in from the north. Nighttime temperatures plunged into the single digits and below. This seemed especially cold given the recent warmth. Wenatchee tied a record high with 51 degrees F on Dec 17th, and then dropped to 7 degrees F by the 20th. The cold temperatures lasted for a week when nearly everyone received some snowfall on Christmas and over the holiday weekend. But by the end of the month, we were back in the warmth with Wenatchee tying or setting record highs on the last 2 days of the year.

The biggest question we hear lately is “what happened to La Niña?” The answer is, La Niña is still here. La Niña refers to a cold water anomaly in the equatorial Pacific. This anomaly strengthens during the month of December and is now classified as "moderate to strong." However, as stated in our previous newsletter, the weather that results from La Niña isn't as clear cut as El Niño. As we stated, only 3 of the last 8 La Niña winters in the Inland Northwest were colder than normal. Six of the last 8 have been warmer than normal, and 5 of the last 8 were snowier than average. Thus, the best "signal" (i.e., highest forecast confidence) was the above-normal precipitation.

As the table below shows, the precipitation in our area has indeed been above normal this winter. However, temperatures were near to slightly above normal, especially in November. December was also quite mild. Temperatures are somewhat deceptive, since the cold spell before Christmas brought the average temperatures down, but there was no precipitation at this time. As a result, snowfall has been much below normal in the valley. Meanwhile the mountains have received above normal snowfall this year. At the end of February, the snowpack on the east slopes of the Cascades was around 145% of normal, while the snowpack in the Panhandle and the northeastern mountains of Washington was about 129% of normal.

The winter of 98-99 did have a few memorable moments. After a mild November and early December, our first (and only) arctic airmass moved in from the north. Nighttime temperatures plunged into the single digits and below. This seemed especially cold given the recent warmth. Wenatchee tied a record high with 51 degrees F on Dec 17th, and then dropped to 7 degrees F by the 20th. The cold temperatures lasted for a week when nearly everyone received some snowfall on Christmas and over the holiday weekend. But by the end of the month, we were back in the warmth with Wenatchee tying or setting record highs on the last 2 days of the year.
Weather-wise, the fire season for 1998 across Eastern Washington turned out to be a typical fire weather year. The global weather pattern known as El Nino began to wane the first of the year as precipitation and snowfall increased in January and February. The transition months of April, May and June saw temperatures warming, but there was an excess of rain in May. All weather reporting stations measured above normal rainfall for May. This contributed to the slow curing of finer fuels until late in July. By June, temperatures and precipitation began to approach seasonal averages. July was hot across all of eastern Washington as temperatures soared into the 90s and lower 100s. Average temperatures at both Spokane and Wenatchee rose into the much above normal category. The fire season peaked in August and continued through the months of September and October with below normal precipitation and above normal temperatures.

The total number of fires in Eastern Washington for the 1998 fire season was near the long term average. Lightning caused fires, however, were well above the long term average. The increase in lightning caused fires came after three seasons in a row in which the total number of lightning caused fires was below normal. This increase in lightning fires caused the total acreage burned this season to be well above average. In fact, the total acreage burned this season was the fourth highest since 1970 and the highest following the record breaking 1994 season.

The increase in total acreage burned was mainly due to the large number of open grass fires. This was especially true for the Yakima Indian Agency, where the total open grass acreage burned increased by over ten fold from the 1997 fire season.

The total number of fires on the national forests was near the long term average. The largest of which, was the 8500 acre North 25 fire on the Wenatchee National Forest near Lake Chelan. In contrast, only a total of 37 acres burned on the Colville National Forest. Although nearly half of the fires in Eastern Washington were human caused, human caused fires attributed to less than 20% of the total acres burned.

The changeover from the El Nino event of last winter/spring to the La Nina event of this winter/spring has been slow to materialize in the Pacific Northwest. However, the upper level wind patterns are beginning to direct the jet stream more over the State and the expected greater than normal snow pack is materializing. As of the end of January, snow pack is at or above 140% for the Cascades and near 125% for the northern mountains. This is almost double the snow pack at the end of January 1998. We will have to wait until this Summer to see if this added snow pack has lasting implications for the 1999 fire season.

#### Easten Washington 1998 Fire Season

Anytime you observe any of the weather conditions listed in this column or observe any other significant or unusual weather event that you feel may be important, call the National Weather Service Office in Spokane at (509) 244-0435. I identify you as a weather spotter. These are unlisted numbers and are for your use only! Be sure to include the time that you observed the weather event along with the location and direction of movement, if known!

**Weather Spotter Checklist**

- **FUNNEL CLOUD or TORNADO**…Watch for rotation in cloud and damage.
- **HAIL**…………………………..Pea-sized or larger.
- **HEAVY RAIN**………………………One half inch in one hour; 1 inch in 12 hrs; 1.5 inches in 24 hrs.
- **HEAVY SNOW**………………………4 inches in 12 hrs; 6 inches in 24 hrs.
- **FLOODING**………………………Of any kind. Is water still rising or is it falling?
- **POOR VISIBILITY**…………………1/2 mile or less in blowing dust or snow.
- **STRONG OR DAMAGING WINDS**……Any winds estimated to be over about 40 mph. Or winds that produce any damage. Estimate using chart.
- **ANY DAMAGE, INJURY OR LOSS OF LIFE DUE TO WEATHER**…Be sure to include location, time and specific cause.

#### Spring Outlook

So, what’s the outlook for the spring and summer of 1999. Based on the NWS Climate Prediction Center's forecast, the Inland Northwest should be cooler and wetter than normal for the next 3 months (Feb, Mar, Apr). Looking farther into the future, temperatures and precipitation should be near or above normal in the late spring, and near normal during the summer. Remember, these are 3 month averages. A forecast of, for example, warmer than normal for 3 months does not preclude the possibility of colder than normal periods during that time. The CPC’s website can be accessed at nic.fb4.noaa.gov:89.