

Planning for a Disaster

One thing you can do to prepare for an emergency is to set up a Family Disaster Plan. For starters, keep insurance policies, documents and other valuable in a safe-deposit box. Then assemble a Disaster Supplies Kit containing:

- First Aid kit and manual
- Canned food and can opener
- Bottled Water
- Rubber boots, gloves & sturdy shoes
- Battery powered radio and flashlight
- Extra batteries
- Essential medicines
- Cash and credit cards

It is also a good idea to identify a place where you could go if told to evacuate, such as a friend's home in another town, a motel or a shelter.

For more information on disaster preparedness, visit the FEMA web site at www.fema.gov. ®

Weather Spotter Checklist

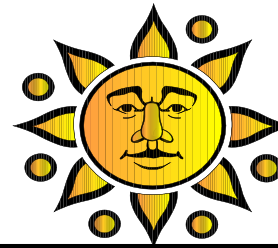
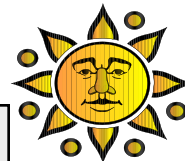
- ◆ **FUNNEL CLOUD or TORNADO**....Watch for cloud rotation and damage
- ◆ **HAIL**....Pea-sized or larger
- ◆ **HEAVY RAIN**....1/2 inch in 1 hr; 1.5+ inches in 24 hrs
- ◆ **HEAVY SNOW**...4 inches in 12 hrs; 6+ inches in 24 hrs
- ◆ **FLOODING**...Of any kind. Is the water level rising or falling?
- ◆ **POOR VISIBILITY**....1/2 mile or less in blowing dust, rain or snow.
- ◆ **TRAVEL PROBLEMS**...Any conditions where poor or hazardous travel conditions observed or reported.
- ◆ **STRONG OR DAMAGING WINDS**...Any winds estimated to be over 40 mph. Or winds that produce any damage. Estimate using Beaufort chart.
- ◆ **ANY DAMAGE, INJURY OR LOSS OF LIFE DUE TO WEATHER**...Be sure to include location, time and specific cause.

If you observe any of these conditions, please call the NWS in Spokane and make a report at **(509) 244-0435 or 1-800-483-4532**

WEATHER WATCHER

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

TRIVIA: What month normally has the highest flows on the Spokane river through Spo-



WEATHER WATCHER

National Weather Service Quarterly Report

March 2000

Editor Robin Fox

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Editor's Notes

Welcome to the new century! Our spotter network continues to grow – thanks in part to the expanding interest in the internet. More and more, the Web is linking our lives to the world. You will notice more references to the internet in our publication. One exciting addition is the ability to instantly send weather reports to the NWS from home.

There have been some changes to the Emergency Managers roster during the last 6 months. Welcome aboard: Lincoln Co. - Sgt. Don Reed; Bonner Co. - Sgt. Bob Howard; Adams Co. - Leon Long.

The main purpose of this publication is to keep our users informed about our services and programs, and to recognize those who help us accomplish our mission. Weather spotters and observers, in addition to our friends in the media and emergency management, will continue to be an extremely valuable part of the NWS mission.

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) 244-0110
www.wrh.noaa.gov/spokane

Wild Winter Weather

The Inland Northwest experienced a dramatic mixture of weather on Sunday, January 16, 2000. The day started with a mix of winter weather including snow, sleet and freezing rain. Then during the midday, a line of thunderstorms moved across the area causing brief heavy rain and snow, small hail and damaging winds.

A storm earlier in the week had left relatively cool air over the region with surface temperatures below freezing. In addition, the strength of the storm while over the Pacific created an "offshore", easterly surface pressure gradient that continued to pull cooler surface air into the region from southern BC. Moist and relatively warmer air in the mid levels of the atmosphere streamed in from the southwest ahead of the main storm setting up a classic "overrunning" precipitation event for the area.



Colville National Forest, Pend Oreille County

As the storm continued to develop, precipitation quickly spread into the region Saturday night. By sunrise Sunday, the east slopes of the Cascades had picked up between 3-6 inches of snow, while the remainder of eastern Washington received between 1-3 inches. North Idaho generally saw an inch or less. In the Spokane/Coeur d'Alene area, temperatures a few thousand feet above the ground rose to just above freezing. As a result, the snow falling from higher levels changed to rain. With temperatures closer to the ground below freezing, freezing rain and sleet developed. As the morning wore on, the warm air aloft spread into north Idaho, changing the snow to freezing rain and sleet. Fortunately for travelers, enough warm air filtered into the area by mid morning so that the sleet and freezing rain turned to just rain. Further north from Omak to Bonners Ferry, most of the precipitation remained as snow.

Early Sunday morning, an upper wave moved onshore over western Oregon. This feature intensified as it moved inland and over the Cascades, while a line of convection developed along its leading edge. The convection moved into eastern Washington between 8 and 11 AM, producing thunderstorms with heavy rain, snow, hail, and damaging wind gusts to 50 mph or more. These thunderstorms maintained their strength as they moved through north Idaho. Dangerous traveling conditions developed, and ski areas across the Inland Northwest had to close.

Once the upper level wave pushed into Montana late Sunday, drier air spread into the region. This ended the precipitation. However windy conditions persisted across much of the area until around midnight. ®

ON THE INSIDE
the Top storms of the
Century, Award Winner,
Winter Review and
much more

Spotters, We WANT to hear from you!!

Weather spotters for the NWS Spokane area now have an **Internet Connection** to forecasters in the Spokane office. Spotters can enter their observation data on the internet. Just go to the "Spotter Program" section of our internet home page. Then select the "Reports and Observations Center" link and fill out the observation form. Your observation data will reach the NWS Spokane's forecast desk within one minute. The observation form may not cover every type of weather situation so you can be more descriptive in the "Comments" box if necessary. The Observations page will also display current observations that other spotters have entered throughout the day. Also available is a comprehensive "Observation Guide" to help you explain the weather in your area. Give it a try!

Do you, or someone you know want to join the weather spotter network? Then fill out the new and improved "Spotter Signup" form in the "Spotter Program" section of our internet home page. Just go to <http://www.wrh.noaa.gov/spokane/spotters.htm> and select the "Spotter Signup" link. Fill out the boxes as completely as possible and we will get back to you with your official spotter number. Please join our spotter family. ®

Late Winter Hydrologic Summary

This winter has turned out to be rather quiet water-wise across the region. Mild winter temperatures kept most rivers ice free. The lack of a deep low-elevation snowpack and no heavy rain allowed most rivers and streams to remain below flood levels. Minor small stream flooding was observed in early February in the Palouse, but it was limited to farmlands and several road closures.

As we turn our attention to the mountain snowpack, we see remarkably a "normal" snowpack at the higher elevations as of March 1st. Early spring runoff forecasts from the Northwest River Forecast Center indicate that most rivers will crest below flood levels. Of course, some flooding is still possible if the right conditions develop, mainly a rapid snow melt combined with heavy rainfall. The flood potential for this spring would be characterized as Normal.

Several changes have been made to the Hydrology section of the web page <http://www.wrh.noaa.gov/spokane/hydro.htm>. On this page you will be able to browse the latest river, precipitation, and snow data, as well as the latest river and water supply forecasts. ®

Top Cooperative Observer Award to Harrington resident



Vicki Nadolski - NWS Western Region Director, Eugene Cronrath and John Livingston - Meteorologist In Charge Spokane NWS

Eugene Cronrath of Harrington, Washington, was presented with one of the nation's top awards for his dedication and outstanding service. He has been observing and reporting weather for more than 38 years. He received the Holm Award by the National Weather Service on February 15th, 2000. The Holm Award is one of the most prestigious cooperative observer awards; and Mr. Cronrath was one of only 25 recipients nationally during the last year. John Camapanius Holm was a weather pioneer and wrote the nation's first weather records. The Holm Award was named in his honor. ®

Winter 1999/2000 Review

The Inland Northwest experienced its third consecutive mild winter. The last colder-than-normal winter was the snowy winter of 1996/97. One indicator of how mild this past winter was is the coldest observed temperatures for the season. Wenatchee's lowest temperature was only 10°F on January 19th. Spokane had its coldest reading of 9°F on January 29th. Both Wenatchee and Spokane have had several winters in the past with no low temperature of 10°F or lower, the most recent in 1991/92. But Lewiston's coldest temperature of this past winter was only 24°F on January 30th. There were only two previous winters (1933/34 and 1947/48) where there was only one low temperature less than 25°F. Lowland snowfall for the winter was below normal as well, while the mountain snowpack was at or slightly above normal by the end of February.

December continued the warm trend of November. Temperatures were as much as 7° above normal with snowfall well below normal. In general, the area still received its normal amount of precipitation with the exception being along the east slopes of the Cascades. Most of the snow fell during the first part of the month. This snow had melted off in many areas leaving most folks with a brown Christmas. A high pressure ridge for the end of the month resulted in a dry and foggy holiday week. A Pacific storm brought a snowy close to 1999.

As is often the case, the weather took a noticeable turn in January. The weather pattern changed markedly with the jet stream sagging south of the area. There weren't a lot of big snow storms, but plenty of little ones, allowing everyone to see at least some snow. Most locations had snow on the ground through the entire month. January 16th was a rather interesting day of weather. The morning started out with heavy snow and freezing rain in some locations. By midday, a vigorous front moved through the area producing a rare bout of January lightning and strong winds.

Aside from a cool spell in the middle of the month, February saw the return of mild winter weather. Most sites received above normal precipitation, with Lewiston picking up more than twice their normal amount. By the end of the month most of the basin and Palouse had melted their snow pack and spring was in the air. ®

Winter Weather Statistics

Wenatchee Airport	Dec	Jan	Feb	Total
Avg High Temp	38.8	32.3	38.3	34.5
Depart from Normal	+5.7	- 1.0	- 3.2	+0.5
Avg Low Temp	29.3	21.7	26.6	25.9
Depart from Normal	+6.8	+0.6	0.0	+2.5
Total Precip	0.64	1.71	1.13	3.48
Depart from Normal	- 0.76	+0.55	+0.37	+0.16
Total Snow	0.5	10.5	9.0	5.6
Depart from Normal	- 10.1	+1.2	+4.8	- 4.1

Lewiston Airport	Dec	Jan	Feb	Total
Avg High Temp	41.3	41.4	47.1	43.3
Depart from Normal	+1.2	+1.8	+0.5	+1.2
Avg Low Temp	33.4	30.6	34.1	32.7
Depart from Normal	+5.2	+3.5	+3.1	+3.9
Total Precip	1.14	0.89	2.23	4.26
Depart from Normal	- 0.06	- 0.39	+1.34	+0.89
Total Snow	0.3	2.6	2.7	5.6
Depart from Normal	- 4.5	- 3.1	+0.5	- 7.1

Spokane Airport	Dec	Jan	Feb	Total
Avg High Temp	36.2	32.7	39.2	36.0
Depart from Normal	+3.4	+0.6	- 0.2	+1.3
Avg Low Temp	26.9	23.1	27.7	25.9
Depart from Normal	+5.3	+2.3	+1.9	+3.2
Total Precip	2.26	1.90	1.61	5.77
Depart from Normal	- 0.18	+0.08	+0.12	+0.02
Total Snow	9.5	20.3	6.7	36.5
Depart from Normal	- 5.1	+6.1	0.0	+1.0

Trivia answer: May averages 17850 cubic ft per sec. Quite a torrent running through Spokane Falls at Riverfront Park!

NWS Spokane

Meteorologist In Charge
John Livingston

Administrative Assistant
Rose Reilly

Warning Coordination Meteorologist
Ken Holmes

Science Operations Officer
Ron Miller

Data Acquisition Program Manager
Robert Bonner

Service Hydrologist
Charles Ross

Senior Forecasters
Gary Bennett Todd Carter
Jon Fox Robin Fox
Don Moore Claudia Cox

General Forecasters
Lyle Hammer
Rocky Pelatti Paul Bos
Andy Haner Tracy Cox

Hydro-Meteorological Technicians
Verne Ballard Irv Haynes
Milt Maas Stan Savoy
Larry Sossaman

Electronic System Analyst
Bob Cummings

Electronic Technicians
Merri Wallace
Jeff Collette

Facilities Technician
Mike Belarde

Staff Changes at NWS Spokane

The Spokane National Weather office has had some staff shuffling during the fall and winter seasons. Departing our ranks were Jann Walker, Brenda Rhienecker and Daran Rife. Jann, former Admin. Assistant and co-editor of the Weather Watcher, has moved to greener pastures in Wisconsin. Brenda, a former Fire Weather Forecaster, is currently pursuing a masters degree in Education. Daran, a former General Forecaster, has accepted a job at the National Center for Atmospheric Research in Boulder, CO.

There have been several new members to the Spokane NWS team. Andy Haner, wife Heather and 10 month old son Blake, moved here from Tulsa, Oklahoma. Tired of Oklahoma severe weather, Andy now enjoys tackling the winter storms that bombard the Inland Northwest as a General Forecaster. Rose Reilly has taken the position of Admin. Assistant and has settled in quite well to our office. Rose is from Spokane and has a 4 year old daughter, Megan. Tracy and Claudia Cox have just recently arrived from Monterey, California and will take over two more forecaster positions. Tracy and Claudia are excited to make Spokane their home. ®

