The Inland Northwest experienced the first round of snow for the season during the last week of November. After a prolonged period of high pressure with dry and warm weather in the mountains and cold, foggy weather in the valleys, a strong winter storm complex pushed across the Pacific Ocean toward Washington. Winter was poised to strike!

A strong warm front swept across the Cascades late on the 27th, bringing rain and freezing rain from Wenatchee to Spokane and points north. The freezing rain caused icy roadways and numerous accidents. Then a cold front plowed across the region during the afternoon and evening of the 28th, cooling temperatures and bringing snow to most locations. The hardest hit areas were near the Canadian border from Republic to Sandpoint where 3-5 inches of snow were reported. Meanwhile, a secondary low pressure system developed off the Washington coast and slowly crept inland. The easterly winds associated with this low caused a strong upslope precipitation event. Steady snow developed and accumulated over the east slopes of the Cascades through the afternoon of the 29th with 2-6 inches of snow from Wenatchee to Twisp.

This low pressure center then slowly tracked across the southern Washington Cascades and passed Yakima and Hanford during the early evening of the 29th. As it did, the low center became more organized with a well defined precipitation pattern on radar. This low continued east to Pullman and Pierce, ID. Along and north of the low track, a swath of heavy snow developed which included the Spokane and Coeur d’Alene area. The path of this low and the snow it generated was a difficult call for the NWS forecasters, as it took an attentive watch on satellite, radar and hourly surface observations to be able to make timely updates. The increased atmospheric instability and lift from the low center translated to rapid snow growth. This efficient snow production led to snowfall amounts of 4-7 inches within about 5 hours!

What are the chances the snow will remain on the ground through the month of December? In other words, what is the chance of a “White Christmas”? Well, the odds are in our favor. It appears that the weather pattern will become more unsettled in the coming weeks. If temperatures remain below freezing, we can expect the snow to last through the holiday season! For more on the long range outlook, visit http://www.cpc.ncep.noaa.gov © Robin Fox

With the snow on the ground, winter driving season is underway. It is important to allow for extra time when traveling to a destination. Remember to drive defensively and dress appropriately for the weather conditions. It is important to have a winter supply kit packed with warm clothes, a blanket and snacks in case you get stranded.

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, coop observers, media, and emergency management.

All articles are written by the NWS staff. A special thanks to Ron Miller, Charles Ross, Bob Bonner, Todd Carter, & John Livingston for their contributions.
W

inter is our busiest time of year as snow, wind and cold temperatures bring haz-

dardous travel conditions to the Inland North-
west. In addition to these more “normal” winter
conditions, rain and sudden warm ups can bring floating to our region as happened in
February 1996 and January 1997. Yet even
when the jet stream moves well north or south
of the area and high pressure takes over, Na-
tional Weather Service (NWS) forecasters be-
come involved in forecasting another potentially
hazardous type of weather—stagnant air

conditions.

The NWS defines air stagnation as: a meteoro-
logical situation in which there is a major
buildup of pollutants in the atmosphere. This
usually occurs when an air mass remains over
the same area for several days. During this
time, the light winds cannot "cleanse" the
buildup of smoke, dust, gases, and other indus-
trial air pollution.

In a typical Inland Northwest stagnation event,
a large high pressure system becomes station-
ary over the western US. There are no storms
moving through the area and widespread sub-
sidence or slowly downward moving air creates
a temperature inversion where cold air is
trapped at the surface by warmer air just above.
The air does not mix from the surface upward
or horizontally due to the lack of wind, allow-
ing pollutants build up over time.

The Spokane NWS has partnered with federal,
state and local air quality agencies to establish
the meteorological conditions and procedures
for issuance of Air Stagnation Advisories. These partners include the US Environmental
Protection Agency, the Washington State De-
partment of Ecology, the Idaho State Depart-
ment of Environmental Quality, and the Spokane County Air Pollution Control Authority.

The NWS role is to forecast the onset, duration
and end of stagnant conditions, while the part-
tners take actions to reduce emissions and miti-
gate the effects of the build up of pollutants. The NWS monitors and forecasts the weather,
while the air quality agencies monitor and fore-
cast the pollution levels.

Our region tends to experience one or two stag-
nation events that persist three days or more
each winter. The topography, short winter days,
and a nearby cold continental air source all con-
tribute to this. When you see an Air Stag-
nation Advisory issued by the NWS, check out
the air agency web sites to see what you can do
to ease the effects on yourself and your friends
and neighbors. ☼ John Livingston

Ag Expo
The National Weather Service will staff a booth at the upcoming Agriculture Expo, held at the
Spokane arena from January 17th through 19th. If you are planning to attend, please stop by for a
visit. ☼

Spotter Notes

Technological advances have made weather spotter re-
porting more exciting. Now there is an alternative to
making phone calls to the NWS office. Espeaker is here; it is

a safe and secure way to send spotter reports online. To be
eligible, you need a computer and an internet connection.
Simply go the central web site to register and assign a pass-
word. The web site is http://espotter.weather.gov. After per-
mission is granted, you are able to send your reports to the
NWS office. The NWS office will receive your re-
ports almost instantly and respond back if addi-
tional information is needed. The process is
fairly self-explanatory, but if you have any
questions or concerns, you can contact call
the office or contact

w-otx.webmaster@noaa.gov ☼ Todd Carter

Please call the NWS with spotter reports at (509) 244-0435

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Meteorologist
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Bob Tobin

General Forecasters
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Rocco Pelatti
Paul Bos
Todd Lericos
Laurie Koch
Jeremy Wolf

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Technicians & Intern
Stan Savoy   Milt Maas
Verne Ballard
Jeffrey Coté

Electronic System
Analyst
Dwight Williams

Electronic Technicians
Robert Sumpter
Paul Kozan

Facilities Technician
Mike Belarde

Answer: On the shortest day of the
year, daylight lasts about 5.5 hrs in
Anchorage, 10 hrs in LA, and 8.5 hrs in
the Inland NW.
It was another beautiful autumn in the Inland Northwest, and rather unremarkable weather-wise. September began in its usual fashion, with the last few warm days of summer. Temperatures climbed into the 80s across the region and touched 91° in Lewiston on the 9th. But temperatures were nearly 30 degrees cooler only a couple of days later as a Pacific cold front brought light precipitation to the region on the 11th and 12th. Although brief warm-ups were still to come, this system was essentially the beginning of the fall weather. The rest of the month was still fairly warm and sunny until another front arrived at the very end of the month and brought almost three quarters of an inch of rain to Spokane.

October is known as the month with the largest average change in temperature. In Wenatchee and Lewiston, the average high temperatures drop from a balmy 70° on the 1st to only 53° on the 31st. In 2005, October started on a cool foot and ended on a mild one, rendering the month nearly constant in temperature. Showery and cool 50s and 60s prevailed for the first week as temperatures were nearly 10 degrees cooler than normal. But thoughts of a cold and wet fall were soon replaced by stunning mild and sunny weather. Lewiston reached 78° on both the 14th and 17th while Wenatchee saw a reading of 75° on the 17th. While none of these were records, they were still 10 or more degrees above the mid-October normals. Even Spokane didn’t record a freezing temperature in the month of October, a feat that hadn’t occurred since 1952! By the end of the month, the weather pattern had returned to a more typical one: cool and showery.

Once again, this continued into the next month. November saw cooler than normal temperatures for the first half of the month with intermittent periods of precipitation. Spokane even recorded a inch of snow on the 13th, although most of it melted quickly. Even so, it was great news for local ski resorts after contending with a dry and mild winter last year. But once again, high pressure built into the area. But while this pattern brings warm weather during September or October, in the low sun angle month of November it brings fog and low clouds. The stagnant conditions persisted through the Thanksgiving holiday. A weak front managed to slip through the ridge on the next day and bring some freezing rain to the area. After that things only got worse, as snow returned to much of the area. Spokane picked up 5.2” of snow on the 29th as temperatures stayed below freezing for the first day. Apparently, winter had arrived right on schedule. ☡ Ron Miller

The following cooperative observers were recognized for their many years of service in 2005. The NWS appreciates your hard work and dedication. Congratulations on your accomplishments and keep up the good work! ☡ Bob Bonner

<table>
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<tr>
<th>Autumn Weather Statistics</th>
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<tbody>
<tr>
<td>Avg High Temp</td>
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<tr>
<td>Departure from Norm</td>
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<tr>
<td>Avg Low Temp</td>
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<td>Departure from Norm</td>
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<td>Total Precip</td>
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<td>Departure from Norm</td>
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<tr>
<td>Total Snowfall</td>
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<td>Departure from Norm</td>
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Coop Corner

| Holm Award | 40 years | Galbreath family | Ritzville, WA |
| Holm Award | 36 years | William Hoffman | Rosalia, WA |
| Length of Service | 35 years | Norma Booher | Smyrna, WA |
| Length of Service | 25 years | Janice Lecaire | Northport, WA |
| Length of Service | 15 years | Michael Price | Bonners Ferry, ID |
| Institutional Award | 50 years | City of Tekoa | Tekoa, WA |
Remember your Winter Spotter Checklist

<table>
<thead>
<tr>
<th>Snow</th>
<th>2&quot; in valleys</th>
<th>6&quot; in mountains</th>
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<tbody>
<tr>
<td>Any mixed or freezing precipitation</td>
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<tr>
<td>Reduced Visibility — under a mile due to snow, fog or rain, etc.</td>
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<tr>
<td>Any Flooding</td>
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<tr>
<td>Strong Winds— 30 mph+ or damage</td>
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<tr>
<td>Hail— pea size or larger</td>
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<tr>
<td>Heavy Rain— Showery— 1/2&quot; an hour Steady Rain— 1&quot; in 12 hrs or 1.5&quot;+ in 24 hrs</td>
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<tr>
<td>Travel Problems or Any Damage due to hazardous weather.</td>
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Skywarn Recognition Day

It was a busy day at the NWS office on December 3rd, as the local ARES/RACES amateur radio group arrived for the annual Skywarn Recognition Day. During this 24-hour special event, teams of radio amateurs set up stations at local NWS offices to contact other radio enthusiasts across the US and around the world. Operators exchange call signs, signal reports, and a one or two word description of their weather, such as "cold" or "sunny."

Co-sponsored by the NWS and the American Radio Relay League (ARRL), SKYWARN Recognition Day is the Weather Service's way of expressing its appreciation to amateur radio operators for their commitment to helping keep communities safe. It celebrates the contributions that volunteer SKYWARN radio operators make to the National Weather Service. Ham radio operators, who volunteer as storm spotters, are an extremely valuable asset to National Weather Service as they are cross-trained in both communications and severe storm recognition. More information on the Skywarn Recognition Day can be found at http://www.crh.noaa.gov/hamradio/index.php. While NWS offices utilize the real-time reporting of severe weather events to assist in warning operations, hurricanes Katrina and Rita have shown that radio operators are equally important during the recovery phase of natural disasters. After Katrina knocked out nearly all conventional emergency communication gear, 911 centers, cell towers and telephone service across southern Louisiana and Mississippi, amateur radio volunteers immediately stepped in to relay emergency traffic where normal communication was non-existent. ☀

Staff News

There has been a change in the staff at the NWS Spokane. Meteorologist John Werner took a new position in Mobile, Alabama in October. He and his wife Connie have a home on the Gulf Coast and were eager to return. Meanwhile, a new meteorologist has recently been selected to fill his spot, Jeremy Wolf. Jeremy is currently at the NWS Pendleton office and will be arriving in January. He is originally from Vancouver, WA. We wish John, Jeremy, and their families good luck with their new endeavors. ☀

Trivia: How much daylight is available on the winter solstice?

Happy Holidays
From NWS Spokane