



The Inland Northwest Informer

Information For Storm Spotters, Cooperative Observers And Everyone

A Publication Of WFO Pendleton, Oregon

Spring/Summer 2013 - Volume 12

Powerful Wind Storm of December 2012

By Mary Wister, Science and Operations Officer



Figure 1. Post storm survey reveals widespread wind damage, including this downed tree in West Richland, Washington. Photo by J. Blagg

Wind storms are always dangerous. Strong damaging winds can knock down trees and power lines, create hazardous cross winds, force objects to suddenly become airborne, and cause major power outages. There is, of course, the potential for injuries or fatalities. This is especially true when damaging winds occur at night. Many people asleep at home may not be aware of what's ahead. The massive wind storm that mainly hit the

Yakima Valley and the Lower Columbia Basin during the early morning hours of December 17, 2012, was especially terrifying. Widespread wind gusts of 60-70 mph were observed, and a gust to 99 mph was reported in Boardman at 5 AM in the morning (see Figure 2, page 3). Fortunately, there were no fatalities or injuries with this storm.

So, what contributed to the very strong winds on December 17? A powerful Pacific storm system moved inland early that morning. Figure 3 (page 2) shows the low pressure center of a well-organized occluded front over northwest Washington around 5 AM on December 17. A cold front forced east of the Cascades had a very tight pressure gradient associated with it. The contours in yellow are lines of equal pressure, also known as isobars. Winds blow from high pressure

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- Banner Image by T.W. Earle

to low pressure, and large pressure differences often result in strong winds. When looking for the potential for strong winds, look for tight pressure gradients, like the ones over Washington and Oregon, shown in Figure 3. The storm system was aided by a 150 knot jet aimed directly over Oregon, as demonstrated in Figure 4. The strong upper level jet helped to strengthen the front. Not only did the front bring significant winds to the area, it also brought heavy snow to the east slopes of the Washington and Oregon Cascades, the Kittitas and Yakima Valleys, and Central Oregon. Blizzard conditions were reported near La Pine.

Forecasting winds can be one of the biggest challenges for

meteorologists. Sometimes damaging winds may be small scale and affect very few locations. On the other hand, there may be widespread destructive winds. Forecasters are always on the lookout for strong winds no matter what scale they may be. Keeping you informed about the potential for strong winds is very important to us. Feel free to contact us anytime--day or night--if you observe damaging winds. Don't forget, we are on Facebook and Twitter if you wish to submit photos and reports. The information you provide via social media may help to prevent loss of life or property if people learn there is threatening weather in your area. Keep the reports coming! ❖

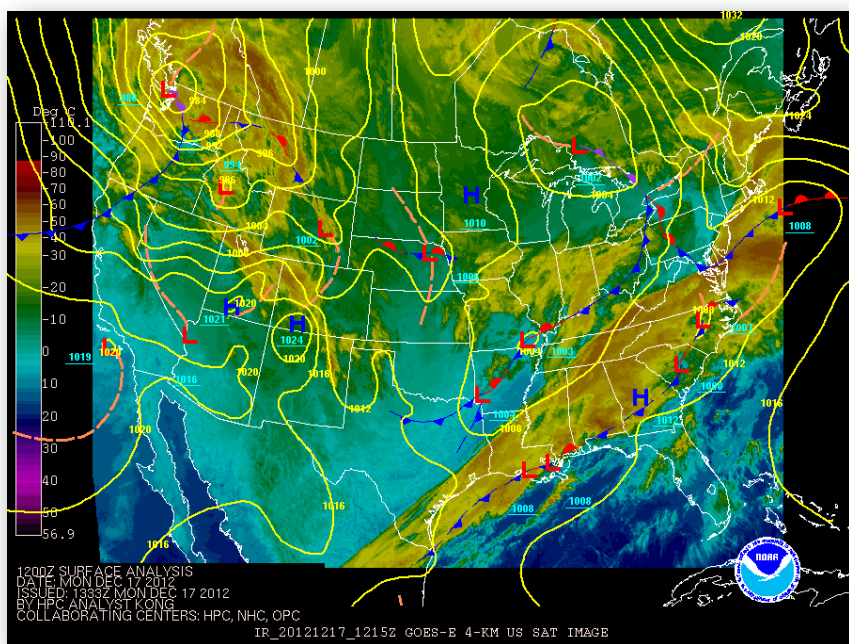


Figure 3. Surface Analysis chart on December 17, 2012 at 12UTC (5 AM): A powerful Pacific storm system invaded Washington and Oregon, bringing very strong winds to NWS Pendleton's County Warning Area (CWA).

Figure 4. 250mb winds on December 17, 2012 at 1200 UTC (5 AM): A jet streak as strong as 150 knots was aimed directly over Oregon.

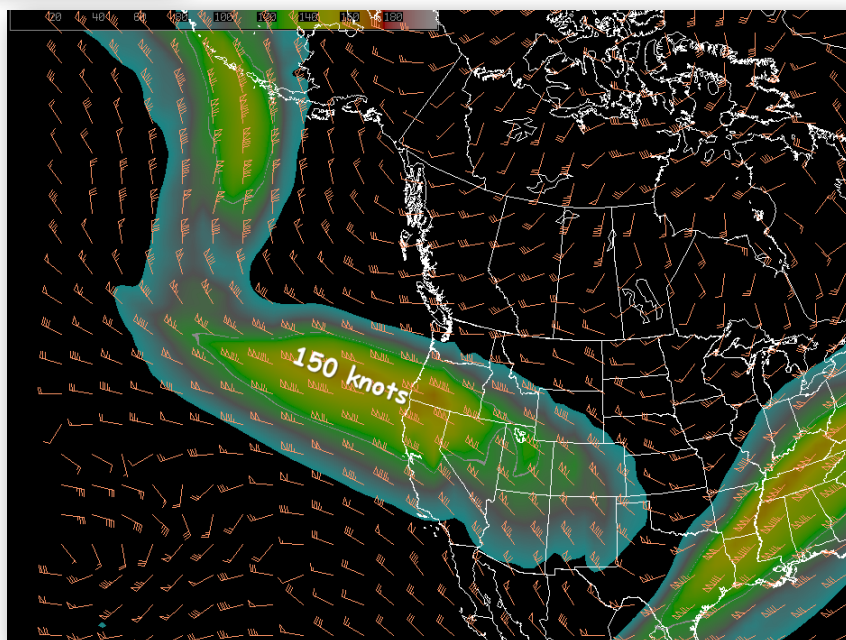


Figure 2 - Storm reports and MesoWest data collection from December 17, 2012.

Time	Location	Report
1:30 AM	14 NNW West Richland	58 mph
2:10 AM	Pasco	Estimated 60 mph
2:15 AM	12 NW West Richland	60 mph
3:05 AM	4 WSW College Place	62 mph
3:15 AM	22 NE Sunnyside	58 mph
3:15 AM	14 NW West Richland	72 mph
3:40 AM	3 ENE Umatilla Chemical Depot	64 mph
3:41 AM	Benton City	60 mph
3:50 AM	19 NNW West Richland	66 mph
3:56 AM	13 WNW Bickleton	60 mph
4:00 AM	5 W Richland	60 mph
4:46 AM	3 WNW Kennewick	63 mph
4:53 AM	Pasco	62 mph; power outage
4:59 AM	Benton City	83 mph
5:00 AM	1 NW Richland	76 mph
5:00 AM	Boardman	99 mph
5:15 AM	Pasco	70 mph
9:00 AM	5 ENE Prosser	62 mph
9:55 AM	5 NNE La Grande	62 mph
10:30 AM	La Grande	Semi-Truck
Unknown	Burbank	Pine tree blown over due to winds overnight



Photo by J. Blagg

NWS Pendleton Holds Open House

By Michael Vescio, Meteorologist In Charge



The National Weather Forecast Office in Pendleton, Oregon, will hold an Open House on Saturday, June 1st as part of its effort to build a Weather-Ready Nation and encourage the public to prepare for hazardous weather. Residents are invited to tour the operations center, meet meteorologists and learn how forecasters track storms and issue warnings. The event is free and open to the public. ❖

WHAT: Open House at National Weather Service Forecast Office, Pendleton

WHEN: Saturday, June 1, 2013 from 10 a.m. to 3 p.m., rain or shine

WHERE: 2001 NW 56th Drive
Pendleton, Oregon 97801

ACTIVITIES WILL INCLUDE:

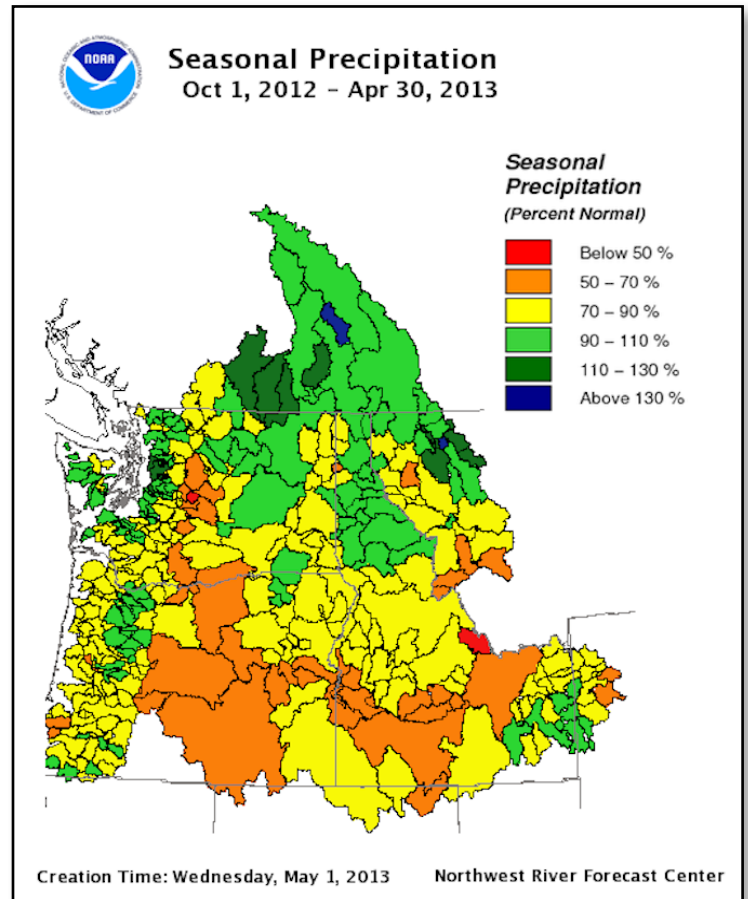
- Demonstrations of new dual-polarized Doppler radar
- Learn how warnings and forecasts are made
- Learn about amateur radio, hydrology, and climate
- Kid-friendly weather experiments
- Learn how to be weather-ready
- Programs about severe weather and the instruments that meteorologists use
- Rocket launches by Blue Mountain Rocketeers and the Glenda Project
- Demonstrations, tours, and displays from the Red Cross, Pendleton Life Flight, and Benton & Franklin County Emergency Management
- Information about careers in meteorology

Water Year Precipitation October 2012 - April 2013

By Marilyn Lohmann, Service Hydrologist

Location	Amount In Inches	Percent of Normal
Bend.....	6.12	74%
Condon.....	7.26	70%
Dayville.....	4.95	59%
Dufur.....	7.20	66%
Heppner.....	5.46	56%
John Day City.....	6.61	83%
La Grande.....	11.75	109%
McNary Dam.....	6.70	106%
Madras.....	4.71	63%
Meacham.....	28.33	113%
Milton-Freewater.....	10.80	92%
Mitchell.....	7.00	79%
Moro.....	6.97	80%
Pendleton Airport.....	7.84	85%
Pilot Rock.....	7.49	79%
Prineville.....	5.54	76%
Redmond Airport.....	4.66	81%
Seneca.....	6.91	76%
The Dalles.....	9.09	73%
Wallowa.....	10.64	95%
Wickiup Dam.....	13.46	80%
Cle Elum.....	17.47	95%
Dayton.....	12.90	90%
Ellensburg.....	5.87	88%
Hanford.....	4.35	84%
Mill Creek Dam.....	14.20	103%
Mt Adams RS.....	39.34	97%
Sunnyside.....	5.77	104%
Whitman Mission.....	10.64	101%
Yakima Airport.....	5.10	82%

The water year started off very wet with well above normal precipitation in October. Amounts were near to slightly above normal in November and December. January and February saw well below normal precipitation. February was the driest with a number of stations reporting less than 20 percent of normal precipitation. Precipitation amounts were still below normal in March, but better than those seen in February. Amounts in April were quite variable, with the dry conditions continuing over much of the region, but above normal precipitation in the mountains. ❖

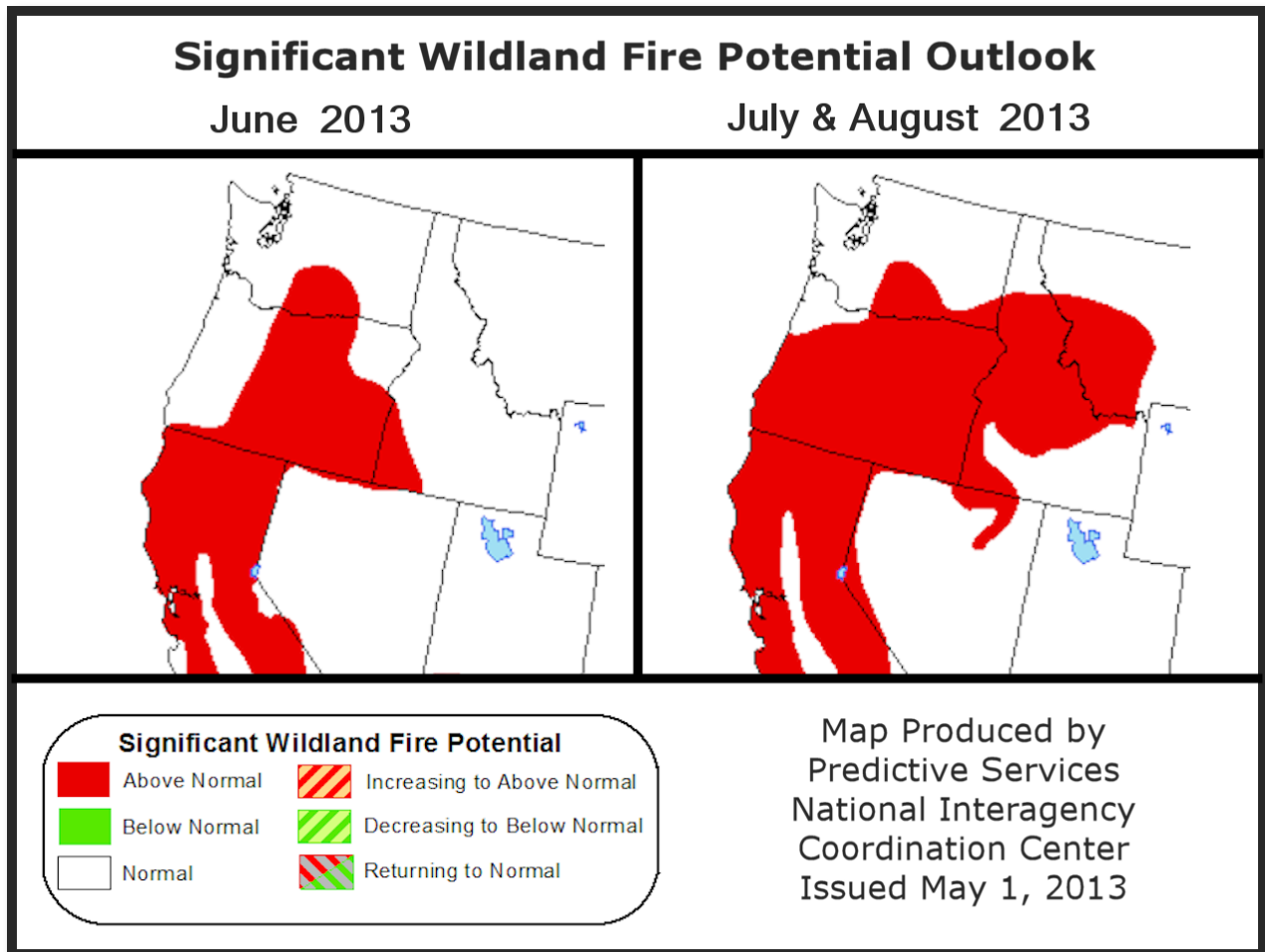


2013 Projected Fire Season

By Rachel Trimarco, Incident Meteorologist / Fire Weather Program Leader

The fire season is greatly influenced by weather conditions in the preceding winter and spring. Although temperatures have been near normal since January 1st, the inland Northwest has only received, on average, less than 60 percent of its normal precipitation. Some areas even experienced their driest January through April on record since 1895. The U.S. Drought Monitor has designated southeast Oregon in a D1 moderate drought, while the rest of Oregon and south-central Washington are in a D0 abnormally dry period. Fire season does not usually begin in May, but given the very dry conditions and the rapid snowmelt that occurred during the above normal temperatures the first 2 weeks of May, fuels have become unusually dry leading to an increased risk of wildfires, particularly in the lower elevation grasslands and across south-

central Oregon. There was some much needed rain during the third week of May, but the dry trend could continue into June, allowing fire season to begin weeks earlier than usual and the areas with a higher potential for large fires could expand across much of Oregon and southern Washington. In July and August, typical summer heat and dryness coupled with a dry spring could then lead to the remaining geographic area experiencing a greater than usual risk of wildfires. In summary, the 2013 fire season in the Pacific Northwest has the potential to be much more active than previous seasons with an increased risk of large, costly wildfires. For more information about fire weather and wildland fire management please visit NWCC's website at www.nwccweb.us. ❖



For information on ways to help protect your home, property or community from wildland fires, check out www.firewise.org

Summer 2013 Outlook

By Diana Hayden, Meteorologist

The Climate Prediction Center (CPC) reported that the winter of 2012-2013 was ENSO neutral, meaning that it was neither an El Niño nor La Niña. Climate signals indicate that these neutral conditions will continue through the summer, and are forecasted to remain neutral into the fall.

The CPC Summer Outlook for the three-month period of July, August, and September for Eastern Oregon and Eastern Washington show a greater chance of above

normal temperatures and a greater chance of below normal precipitation. These graphics are based on the chance of an area reporting above, near and below normal conditions. An equal chance (EC) of each category would mean a 33% chance of occurrence. As conditions favor one category, such as above normal temperatures, the percentage will increase for the above normal category and decrease for the below normal category while the neutral category will remain at 33%. ❖

