NATIONAL WEATHER SERVICE PORTLAND OR

Pacific NW Spotter Newsletter

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December 2008 Winter Storm Summary

A series of strong winter storms moved across the Pacific Northwest during the December 13-26, 2008 time period which brought a mixture of cold arctic air, strong winds, freezing rain and significant snowfall to several across northwest Oregon and southwest Washington.

An unusual arctic air mass moved into the region in mid-December and persisted through late December. Accompanying the initial surge of arctic air in mid-December was very strong east winds that roared through the Columbia River Gorge and spread out across the valleys of northwest Oregon. Valley temperatures in the teens to mid 20s were common during this time with wind chill temperatures of 5 to -10 degrees Fahrenheit.

With cold arctic air in pace, very significant snowfall accumulations occurred over a three day period stretching from December 20-22, with additional snowfall persisting through December 26. During the three day period from December 20-22, 6 to 22 inches of snow fell in many valley locations and 4 to 7 inches in the coastal region of northwest Oregon and southwest Washington. Freezing rain also occurred during this period and produced 1/4 to 3/4 inch of ice accumulation in several counties. Four to 8 inches of additional snow fell through December 26, Which combined with the freezing rain and had a tremendous impact on the region.

Many spotters in the area reported snowfall amounts during this period. Listed below are some fantastic spotter reports from the big snowstorm that occurred during the December 20-22 time period and paralyzed much of northwest Oregon and part of southwest Washington. We appreciate your help during this

Spotter Reports for Dec. 20-22 snowstorm

Southwest Washington interior Lowlands

Camas…….22 Inches

Battle Ground…….13 Inches

Vancouver……..13 Inches

Longview (8 mi north)……...12 Inches

Brush Prairie……..11 Inches

Orchards……10 Inches

Willamette Valley

Lafayette……20 Inches

Redland……...20 inches

Happy Valley……..18 Inches

Dundee……17 Inches

North Plains……17 Inches

Tualatin……...16 Inches

Beaverton……16 Inches

Oregon City……16 Inches

Portland (West Hills)……..16 Inches

Boring……15 Inches

Yamhill……...15 Inches

Gaston……15 Inches

Portland (SW– Garden Home)…14 Inches

Tigard……..14 Inches

Snow Totals Continue Next Page

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SPECIAL POINTS OF INTEREST:

- ***Are you ready for the summer severe weather season?***

Please review your spotter materials and call-in criteria.

Our next instructional classes will be held in Oct-Nov.

Spotter Reports for Dec.20-22, 08 snowstorm

Sherwood…….14 Inches

Wilsonville……..14 Inches

Troutdale…….14 Inches

Canby……..14 Inches

West Linn……...13 Inches

Hillsboro…….13 Inches

Portland NWS Office (NE)…….13 Inches

Newberg……..13 Inches

Portland (Powell Butte)……...12 Inches

Portland (Downtown)……..10 Inches

Salem……6-12 Inches

Mount. Angel……...8 Inches

Molalla ……..……7 Inches

Dallas…….3-6 Inches

South Washington & North Oregon coast

Raymond…….10 Inches

Astoria……...4-7 Inches

Warrenton…….3 Inches

Nehalem……2 Inches

The Snow that fell across several northwest Oregon and Southwest Washington counties during the December 20-26 period was the largest snowfall the region has seen since 1968, to include the Portland Airport and vicinity. In December 2008, 19 inches of snow fell at the National Weather Services Office in Portland, OR. Historically, the 19 inches ranks it as the snowiest December since 1940 when records began at the nearby Portland international Airport.

When Thunder Roars, Go Indoors!!!

Summer is the peak season for one of the nation's deadliest phenomena lightning. But don't be fooled, lightning strikes year round.

Each year about 400 people in the U.S. are struck by lightning while working outside or during other outdoor activities. In the United States, average of 62 people are killed each year by lightning . Of the victims who were killed by lightning last year:

- 98% were outside
- 89% were male
- 30% were males between the ages of 20-25
- 25% were standing under a tree
- 25% occurred on or near the water

Outdoors is the most dangerous place to be during a Thunderstorm. Watch for darkening cloud bases and head to safety before that first lightning flash. If you can hear thunder, the storm is close enough that it could strike your location, and you should seek shelter. If lightning is forecast, plan an alternate activity or known where you can cover quickly.

If caught outside and lightning is in the immediate area, and there are no safe locations nearby, the following steps will help decrease your chances of being struck by lightning.. Do not seek shelter in partially enclosed building, or tall objects such as an isolated or small group of trees. Stay at least 15 feet apart from other members of your group so the lightning won't travel between you if hit. If you can possibly run to a vehicle or building, do so! Sitting or crouching on the ground is not safe and should be used only as a last resort if an enclosed building or vehicle is not available.

Lightning injuries can lead to permanent disabilities or death. If someone is struck by lightning, call 9-1-1 or your local ambulance services. Give first aid as quickly as possible. People struck by lightning carry no electrical charge that can shock others, so you can examine them without risk.

Lightning is a serious danger. Please visit the NWS lightning safety website at:
http://www.lightningsafety.noaa.gov/index.htm

To learn more about lightning risk and how to protect yourself, your loved ones and your belongings.

eSpotter Available

You've asked for it. You've waited patiently for it. Now it is finally here! After several years of on-line security review, eSpotter is now available, making its debut for NWS Portland in April.

What is eSpotter? It is a means to provide your spotter report on-line! For complete information and registration, go to this link-http://espotter.weather.gov/

Again, go to http://espotter.weather.gov for all the information about eSpotter. When your spotter report is submitted, it generates an alarm in the forecast office notifying our staff of your report. It is also in a format that is compatible for transmission as a local Storm Report on

How Do I install a Wind Speed Sensor?

Many Weather spotter are obtaining anemometers these days n their effort to help known and repost more accurate wind reports. One key question we get from these folks is where do I install the systems for accurate wind reports? The following information about this subject can be found at: www.weathershack.com/education/anemometer.html

An anemometer should be located in a spot where the wind flows freely and is not influenced by nearby objects and obstructions, like a house or trees. The world Meteorological Organization has set the international standard height for wind measurement devices at 10 meters or 33 feet above ground., with no obstructions at or above this level. This height is not easy to achieve at your home! So striking a compromise is likely the best alternative, depending on what is around your home.

Wind observations taken at 7 meters or 23 feet are accurate enough for the National Weather Service. With wireless systems these days, you can setup your anemometer on a pole out in an area away from your house and trees. For rooftop installations, the minimum height to avoid anomalous winds caused by the roof itself is 3 meters or 10 feet above the most exposed or top of the roof.

Accuracy off the wind speed indicator is not just a matter of height. Local obstructions like nearby mature trees, house and other buildings all have the potential of impacting wind readings. This is unfortunately the reality of taking wind measurements and the choice on how to address it is ultimately yours.

CoCoRaHS

Measuring Rain and snow in western

Would you like to be a part of a network of observers that might help track climate change? Does helping your community out during snow or heavy rain events, or even times of drought interest you? If you answered yes to any of the questions above, then the **CoCoRaHS** program might be just what you are looking for!

The **Community Collaborative Rain, Hail and Snow** (**CoCoRaHS**) network, is a nationwide, volunteer-based precipitation observation network. The program started in 1998 in Colorado, partly in response to a flash flood that devastated Fort Collins, CO. Upon review of the data, it was noted that the heavy rainfall that caused the flash flooding was largely undetected by the local network of rain gauges in place at that time. Since its inception, CoCoRaHS has grown to include 43 states, over 1,000 observers in Oregon and Washington alone, and features over 5,000 daily reports from observers across the country. The goal of the program is to provide a high-density network of high quality precipitation data, for use in nature resources, research, climate and educational applications. So far, the CoCoRaHS network has met and exceeded this goal. Observers in Oregon or Washington have proved invaluable, mapped out areas of significant rainfall previously left undetected by current observational networks, and providing ground truth for areas of low elevation snow! Observers report 24hr rain and snowfall totals, as well as any hail, flooding, or odd weather phenomena they witness. CoCoRaHS volunteers can even submit real-time hail and intense-precipitation reports that **immediately** go to their NWS office!

While the Oregon CoCoRaHS program has seen great success thus far, there is always room for growth. We are constantly looking for new observers! The best part is that anyone with internet access and an interest in weather can participate.

For more information, or if you're interested in joining the network, visit CoCoRaHS website www.cocorahs.org . If you have further questions, you may contact the Oregon state Coordinator, and southwest Washington regional coordinator, Charles Dalton at Charles.Dalton@noaa.gov .

Severe Weather Spotters

1-800-428-2585

Day or night, call if you see any of the following in NW Oregon or SW Washington

High Winds : Sustained 40 mph and greater or gusts over 58 mph.

Flooding : Any kind of flooding.

Heavy Rain : Over 1 inch in 24 hours, or 1/2 inch in 1 hour.

Hail : 1/2 inch (dime size) or larger

Tornadoes, Funnel Clouds, Wall Clouds : Always look for rotation and report direction of movement

Snow: Any accumulation of snow.

Freezing Rain: Especially if any accumulation occurs.

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Water Supply outlook

MOST BASINS IN THE NORTHERN HALF OF OREGON ARE EXPECTED TO HAVE NEAR-NORMAL WATER SUPPLY...WITH A FEW BASINS IN NORTHEAST OREGON ABOVE-NORMAL. HOWEVER...BELOW-NORMAL WATER SUPPLY IS FORECAST FOR MOST BASINS IN SOUTHERN OREGON...ESPECIALLY SO IN THE SOUTHEAST PORTION OF THE STATE. THERE IS A MINOR RISK OF SPRING SNOWMELT FLOODING ON SOME NORTHEAST OREGON RIVERS DUE TO LATE-SPRING SNOW ACCUMULATION IN THE BLUE AND WALLOWA MOUNTAINS. HOWEVER...MOST RIVERS EAST OF THE CASCADES ARE EXPECTED TO HAVE SPRING CRESTS WELL-BELOW FLOOD THREAT LEVELS.

...SNOWPACK ACROSS OREGON...

SEASONAL SNOWPACK PEAKED IN EARLY TO MID APRIL. FOR LOWER ELEVATIONS...GENERALLY BELOW 3500 FT NORTH TO 4500 FT SOUTH...MOST OF THE SNOWPACK MELTED OFF BY THE END OF APRIL. A MIX OF ACCUMULATION AND MELT OCCURRED AT MID AND HIGH ELEVATIONS DURING APRIL. AS OF MAY 1ST...SNOWPACK WAS ABOVE-NORMAL IN THE NORTH OREGON CASCADES AND NORTHEAST OREGON MOUNTAINS...NEAR-NORMAL IN THE CENTRAL OREGON CASCADES...AND BELOW-NORMAL IN HIGHER TERRAIN OF SOUTHERN OREGON. THE FOLLOWING TABLE SHOWS PERCENT OF NORMAL SNOWPACK. DATA IS PROVIDED BY THE NATURAL RESOURCES CONSERVATION SERVICE...AND IS BASED ON SNOTEL AND SNOWCOURSE REPORTS.

LOCATION	PCT OF NORMAL	CHANGE
...WESTERN OREGON…		
SANDY BASIN	159	+18
WILLAMETTE BASIN	140	+12
ROGUE AND UMPQUA BASINS	88	-11

...PRECIPITATION ACROSS OREGON...

PRECIPITATION TOTALS FOR APRIL WERE BELOW-NORMAL IN SOUTHWEST AND SOUTH-CENTRAL OREGON AND NEAR-NORMAL ELSEWHERE. THE TABLE BELOW SHOWS PRECIPITATION TOTALS IN TERMS OF PERCENT OF NORMAL FOR APRIL AND THE 2009 WATER YEAR THUS FAR...ALONG WITH THE CHANGE IN THE WATER YEAR TOTAL FROM THE PREVIOUS MONTH.

BASIN	PERCENT OF AVG FOR APR	OCT-APR	CHANGE
...WESTERN OREGON...			
WILLAMETTE VALLEY	84	83	+2
ROGUE/UMPQUA	56	83	+3