



# The Inland Northwest Informer

Information For Storm Spotters, Cooperative Observers And Everyone

A Publication Of WFO Pendleton, Oregon

Fall-Winter 2008 - Volume 3

## June 30th Thunderstorms

By Jon Mittelstadt, Science and Operations Officer

Monday June 30, 2008 was an active thunderstorm day across portions of eastern Oregon. A low-pressure system centered near the southern Oregon coast directed a stream of moisture into eastern Oregon and southeast Washington. Afternoon temperatures warmed into the upper 80s in the mountains and to the low 100s in the Columbia Basin. These warming temperatures along with above normal low-level moisture created an unstable air mass favorable for thunderstorm development.

A cluster of thunderstorms that initially developed across southern Grant County, Oregon around 2:45 pm, evolved into the strongest storms of the day. This cluster of storms merged and split apart several times, undergoing several cycles of development, as they moved northward across Grant, Umatilla, and Union

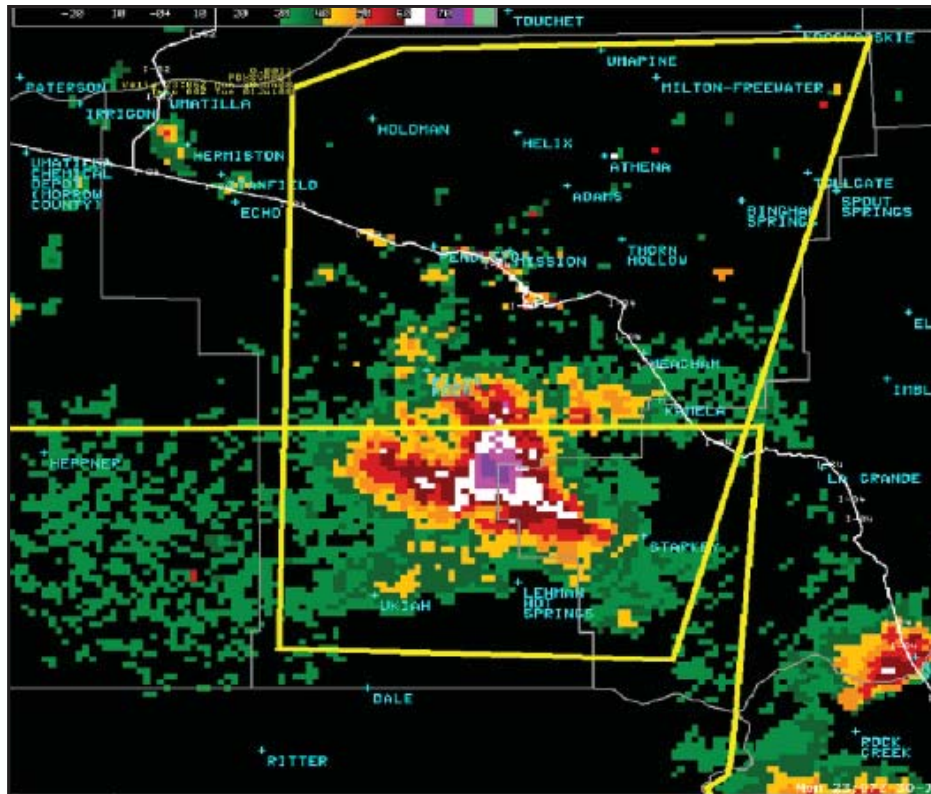


Figure 1. Radar image of a severe thunderstorm on Monday, June 30, 2008 at 4:07 pm. Hail in the updraft from the center of the storm returns the most energy to the radar as indicated here by purple shading. Yellow lines outline areas contained in warnings issued by National Weather Service, Pendleton, OR.

Counties Monday afternoon. Figure 1 is a radar image from 4:07 pm. At this time, the cluster of storms had merged into a single thunderstorm centered southeast of Pilot Rock along the extreme western boundary

of Union county. Satellite data (not shown) indicated the top of the storm was nearly 50,000 feet high at this time!

As is often the case, the strongest thunderstorms moved north-

northeast along the Blue Mountains. On this day, damaging winds along the leading edge of the cluster of storms moved not only across portions of the Blue Mountains, but also northward across the foothills of the Oregon Blue Mountains. Damage along the foothills included a semi-truck and a pickup truck camper rolled over on Interstate 84 near Pendleton. Wind damage in the mountains included a 12-inch diameter tree falling against a house and reports of large tree limbs downed near Meacham, as well as wind

causing a power line to fall near Ukiah. The National Weather Service in Pendleton issued five severe thunderstorm warnings that afternoon. The warning for Umatilla County depicted in Figure 1 was issued at 4:06 pm valid until 5:00 pm. There were severe wind reports during this time period from Ukiah, Pilot Rock, Meacham and Pendleton, OR.

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# Super Tuesday Tornado Outbreak

By Mike Vescio, Meteorologist in Charge

I had the opportunity to lead an NWS Service Assessment team last February to review the performance of the NWS during the “Super Tuesday” tornado Outbreak of February 5-6, 2008 across the mid-south.

During a 12 hour period in the evening and early morning of February 5-6, 2008, eighty-seven tornadoes occurred in nine states with 57 fatalities in four states. This was the second largest February tornado outbreak in U.S. history in terms of fatalities, and the largest since May 31, 1985. Fatalities occurred in Arkansas, Tennessee, Kentucky, and Alabama. There were five violent EF4 tornadoes reported; two each in Tennessee and Alabama, and one in Arkansas. The Arkansas EF4 had a 122 mile continuous damage path. An EF3 tornado that touched down northeast of Nashville, Tennessee, carved a 51 mile

path of destruction claiming 22 lives. This was the deadliest tornado in the U.S. since a tornado in Evansville, Indiana, in November, 2005, killed 25.

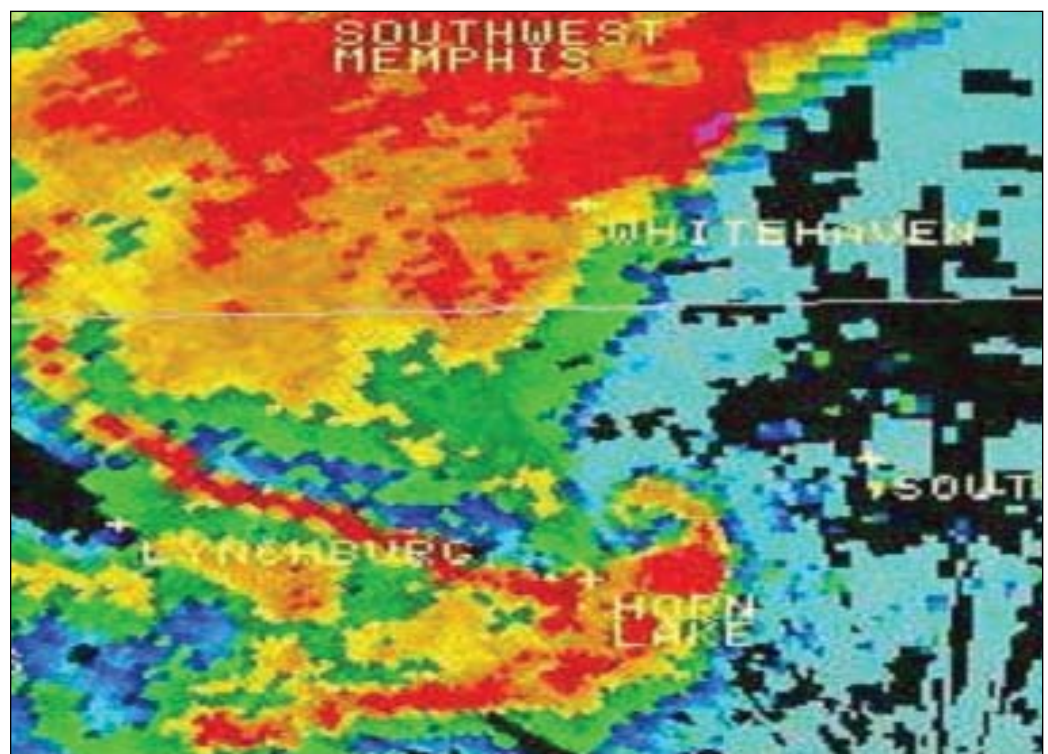
The NWS conducts service assessments of significant weather-related events that result in at least one fatality, numerous injuries requiring hospitalization, extensive property damage, widespread media interest, or an unusual level of scrutiny of NWS operations (performance of systems, or adequacy of warnings, watches, and forecasts) by the media, emergency management community, or elected officials. It is impractical to assess all significant weather related-events, however. Service Assessments evaluate the NWS performance and ensure the effectiveness of NWS products and services in meeting the mission. The goal of services assessments is to

improve the ability of the NWS to protect life and property by implementing recommendations and best practices that improve products and services.

Several recommendations on ways to enhance the NWS services during significant tornadic events will be released in the final report which will likely be made public by the end of this year. The team also looked at how users responded to the warnings that were issued, because in spite of the high quality services provided by the NWS, many people still lost their lives. Another service assessment was recently completed for a major Pacific Northwest storm.

You can read this report as well as reports from numerous other service assessments at <http://www.weather.gov/os/assessments/index.shtml>.

*Tornadic supercell approaching southeast Memphis, TN.*





# CoCoRaHS Update!

By Rachel Calder, Meteorologist

**CoCoRaHS**, the *Community Collaborative Rain, Hail, and Snow Network*, has been active in Washington and Oregon for much of the past year.

To date, there are close to 200 volunteer precipitation observers in the Inland Northwest (WA and OR on the east side of the Cascades). However, we are always looking for more volunteers. We would like to achieve the national goal of 1 observer per square mile in urban areas, and 1 observer per 36 square miles in rural locations. If you have ever been interested in the weather, this is the best time of year to become involved with CoCoRaHS. Winter is fast approaching,

and your rain and snow reports are incredibly important.

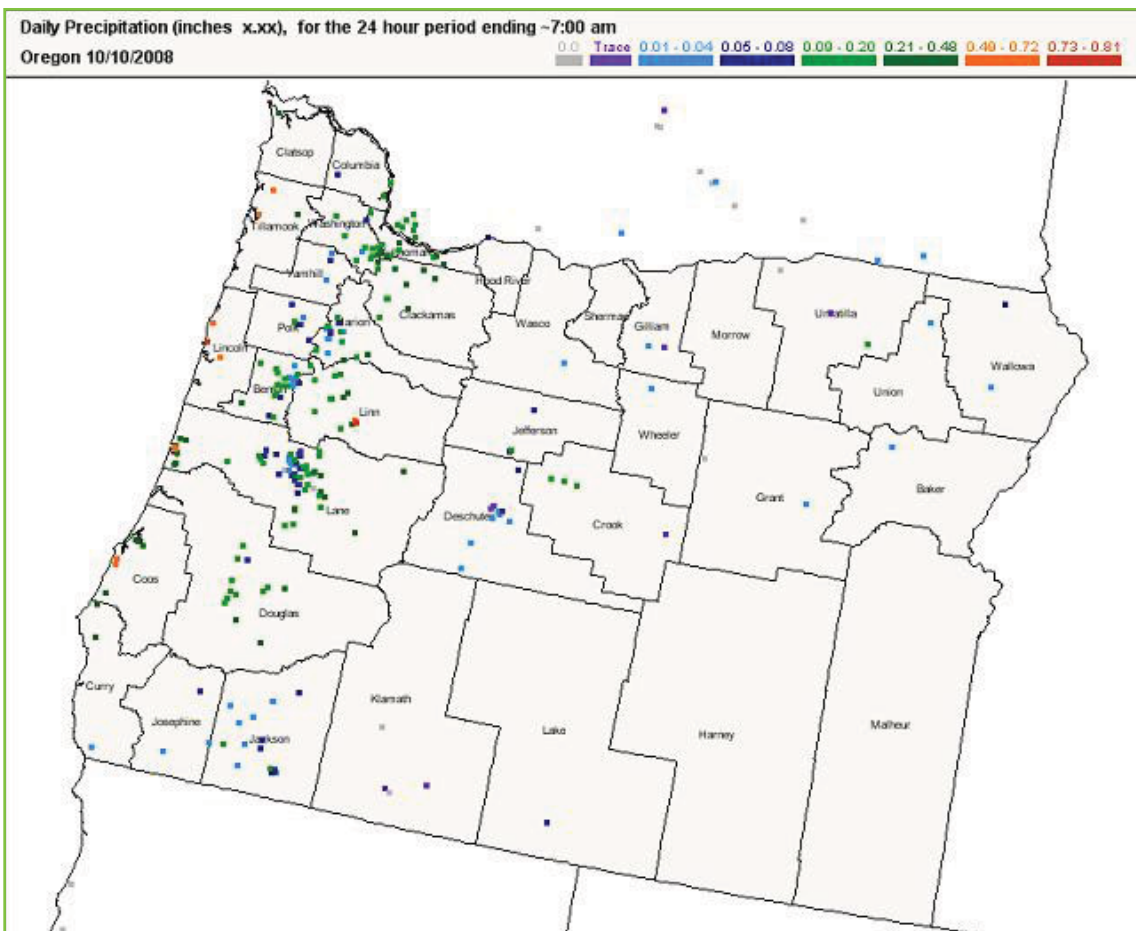
What is CoCoRaHS? It is a unique, non-profit, community-based network of volunteers of all ages and backgrounds working together to measure and map precipitation (rain, hail and snow). Automated surface observations are everywhere these days, and far outnumber the amount of manual reports being taken. In a very real way, you could be acting to improve climatological data sets by taking, and reporting, your rain and snow observations!

Why is CoCoRaHS important?

Precipitation is essential for life. As many of us know, it can vary greatly with topography, storm type and season. It really is true that it can pour on one side of the street and be dry on the other. Snowfall may pile up in one neighborhood and only dust another. Meteorologists, engineers, hydrologists, entomologists, insurance experts, and building contractors are all very interested in precipitation. And for some, like the many farmers of our region, it is their very livelihood.

How to become a volunteer? You can become a volunteer by signing up via our Web site at [www.cocorahs.org](http://www.cocorahs.org). Online training materials are available, as well as links to purchase the official 4" rain gauges.

You may also inquire about upcoming local training sessions in your area by contacting your local coordinators at [Rachel.T.Calder@noaa.gov](mailto:Rachel.T.Calder@noaa.gov) or [Diana.Hayden@noaa.gov](mailto:Diana.Hayden@noaa.gov).



# Water Year Precipitation

## October 2007 - September 2008

By Marilyn Lohmann, Service Hydrologist

Station	Amount In Inches	Percent of Normal
Bend .....	6.38.....	64%
Condon.....	11.72 .....	91%
Dayville .....	7.95 .....	77%
Dufur .....	11.62.....	103%
Heppner .....	11.41 .....	89%
John Day City .....	10.40.....	86%
Joseph.....	22.46.....	142%
LaGrande .....	17.57 .....	113%
Madras 2N .....	8.38.....	79%
Meacham .....	42.86.....	141%
Milton-Freewater.....	12.20.....	86%
Moro.....	8.66.....	88%
Pelton Dam .....	9.14 .....	98%
Pendleton, WFO .....	11.91 .....	106%
Pilot Rock.....	14.15 .....	109%
Prineville.....	7.91 .....	85%
Redmond Airport .....	5.07.....	55%
Seneca .....	6.31 .....	83%
The Dalles .....	12.70.....	108%
Union Exp Stn .....	11.83.....	89%
Wallowa .....	18.70.....	121%
Wickiup Dam.....	19.51 .....	106%
Ellensburg.....	7.63.....	100%
Glenwood.....	30.34.....	122%
Hanford.....	5.45 .....	94%
Ice Harbor Dam.....	9.58.....	101%
McNary Dam.....	6.99.....	100%
Mill Creek Dam.....	10.06.....	58%
Mt Adams RS .....	40.59.....	113%
Prosser .....	7.55 .....	109%
Sunnyside .....	6.29.....	104%
Whitman Mission .....	11.57 .....	91%
Yakima Airport .....	6.09.....	89%

The water year started off quite wet with precipitation amounts 150 to 250 percent of normal for October 2007. November and December saw near normal precipitation amounts with well above normal snowpack accumulating in the mountains. In January, the lower elevations had above normal precipitation, while the mountains, especially the East Slopes of the Washington Cascades and the Wallowa Mountains had well below normal precipitation. February was cold and very dry, with most locations reporting only 25 to 50 percent of normal precipitation. March and April were also quite dry with amounts 50 to 75 percent of normal.

The weather pattern changed around for May and June with above normal precipitation and even snow in the mountains on the 10th of June. July was very dry as high pressure dominated the region and precipitation amounts were only 15 to 35 percent of normal. August had several rounds of thunderstorms with near normal precipitation. September saw a few thunderstorms, but overall was very dry.

### DID YOU KNOW?



On December 9, 1919, snow began to fall in Bend, Oregon at 1:00 am. The snow depth totaled 5 inches by 8:00 am and doubled by noon. Bend's overnight low temperature was 7 degrees below zero. On December 10th, snow continued to fall and the final accumulation for those two days was 47 inches.



January 1, 2004 a powerful winter storm hit the Pacific Northwest, resulting in a wintry mix and heavy snow across the Washington portion of the Columbia Basin and surrounding valleys and foothills. Along the Blue Mountain Foothills, highway patrol reported that cars were being blown off the road on Highway 12 due to gusty winds and ice, while 1 to 4 inches of snow were reported. In the Yakima and Kittitas Valleys as well as the Lower Columbia Basin, 6 to 8 inches of snow were reported. Breezy winds in the Tri Cities also led to snow drifts up to 20 inches deep.

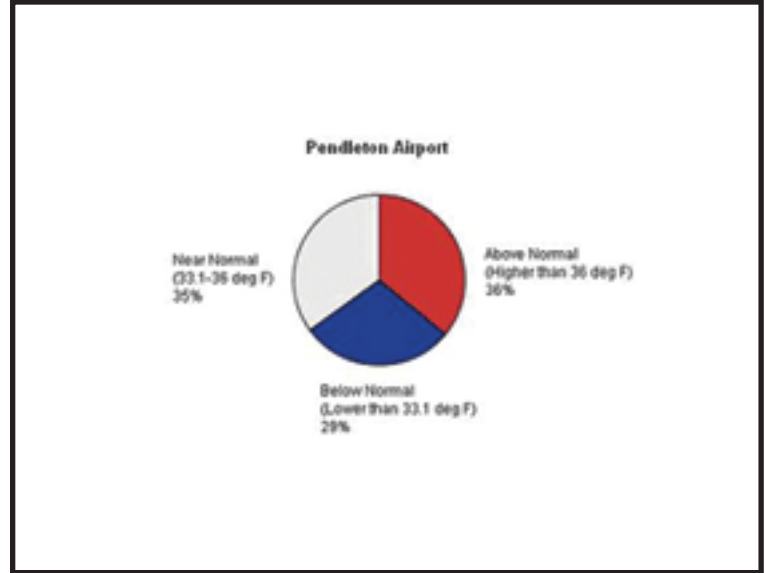
# Regional Winter Outlook 2008 - 2009

By Diana Hayden , Meteorologist

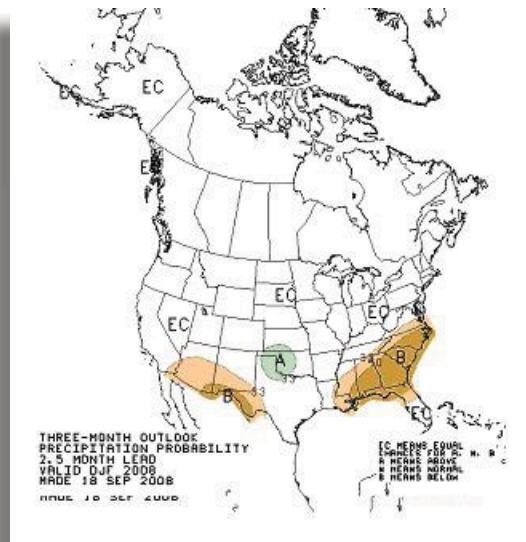
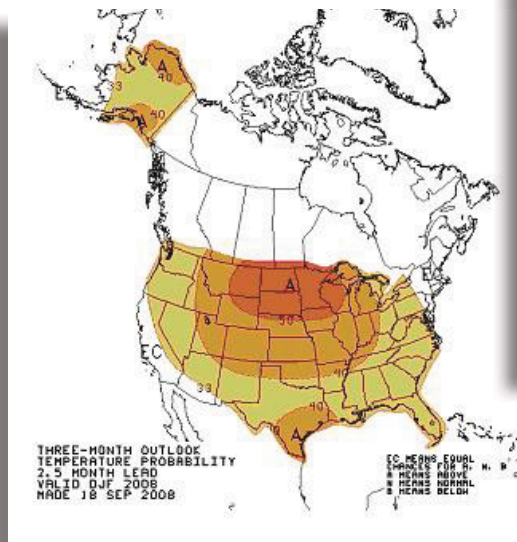
The Climate Prediction Center (CPC) reported the occurrence of a La Niña pattern during the winter of 2007-2008. These La Niña signals have been gradually decreasing over 2008, and current CPC model runs indicate that the 2008-2009 winter season will be under Neutral conditions.

The CPC Winter Outlook for Eastern Oregon and Eastern Washington shows slightly above normal temperatures and an equal chance of above, near, and below normal precipitation. While the outlook calls for slightly above normal temperatures, that however, does not rule out the possibility of cold winter outbreaks during the winter season. This means there is a slightly greater chance for the average temperature over the three-month period of December-January-February to be above normal. An equal chance forecast means that the climate models used to produce the outlook could not identify a strong signal that would favor above, near, or below normal conditions for the period. Therefore, there is an equal chance of the average precipitation being above, near or below normal for the season.

The pie graph shows the percentage of chances for above, near and below normal temperatures for the Pendleton Airport during the three-month period of December, January and February. For the Pendleton Airport, the chance that the three-month average temperature will be above 36 degrees is 36%, while the chance that the three-month average temperature will be below 33.1 degrees is 29%, and there is a 35% chance that the three-month average temperature will be between 33.1 and 36 degrees.



If you are interested in other stations or other local three-month temperature outlooks, you may access the graphs at our website at [www.weather.gov/pendleton](http://www.weather.gov/pendleton). Then on the left hand side, click on Local under the header "Climate", select the Climate Prediction tab, and then click on Local 3-Month Outlook.





# Amateur Radio Operator Training

By Alan Polan, Meteorologist, KE4TRR

**Training.** Over the past spring and summer, amateur radio operators (hams) have been learning new skills and radio operations protocols in support of the Pendleton SKYWARN HF Net. This training is being provided in weekly on-the-air sessions of the Pendleton SKYWARN HF Training Net.

I've provided hams with a reference list of procedural words (prowords) that can be used during voice nets on the High Frequency (HF) amateur radio bands. Prowords are useful on the HF bands when radio signal propagation is poor. We have started using a handful of these procedural words during activations of

communications on the HF bands. For these reasons, procedural words are very useful in Emergency Communications (EmComm) voice nets. As such, the Pendleton SKYWARN HF Net stands to benefit from adapting and using certain prowords in its net operations. Airtime is precious in an EmComm net. It must be used efficiently to the extent possible under varying HF propagation conditions. Amateur radio operators who participate in an EmComm HF net need to work as a team in order to optimize the use of airtime.

A set of prowords is simply a tool in a toolkit of net control procedures and net operations

protocols that enables an EmComm HF voice net to operate efficiently and thus expedite the forwarding of emergency messages (critical weather reports) to their destination. By selecting and using some of the procedural words that are in the aforementioned reference list, we promote the use of effective EmComm

skills by ham SKYWARN Spotters and thus enhance overall operating efficiency during emergency activations of the Pendleton SKYWARN HF Net. We've introduced and routinely use standard procedural words during sessions of the Training Net as a training strategy to get hams accustomed to using them routinely in non-emergency situations so that they are familiar with them and are comfortable using them in actual emergency activations of the net.

**Clueless on the HF Bands.** When we are using Single Side Band (SSB) on the HF bands, we don't have audible clues as to when other stations unkey their microphones. When transmitting, you can't hear other stations on your receiver. Using prowords leaves no doubt in your mind about what is going on. The same thing is true for all other stations participating in an HF voice net. So prowords promote effective communications even under the best of HF propagation conditions.

**Marginal HF Band Conditions.** A net may be called at times under marginal band conditions. Under these conditions, prowords can make the difference in a voice net being able to continue. For example, you use the <over> proword under marginal conditions to let other stations know when you're finished talking so that they can respond to you knowing that you'll hear them because you've released the Push-To-Talk (PTT) button on your microphone.

Our motivation in using prowords is that they will help us to attain and maintain a high standard of HF voice net operations and thus help us to become a well organized and disciplined net. Once learned, the skillful use of procedural words is transferable to any EmComm voice net and is applicable to other types of HF voice communications as well.

**Avoid Complacency.** HF radio operation in an emergency net requires preparation, training, and organization. The weekly Training Net is intended to meet this requirement by setting a standard of training, readiness, and preparedness that will help you avoid complacency – the false sense of security that you will know how to operate in an emergency when the time comes. We all need to attain a level of HF



the net. The aforementioned reference list is comprehensive and includes a number of prowords that we are unlikely to ever use in the Pendleton SKYWARN HF Net.

## Why Use Procedural Words?

Procedural words are not codes. These are standardized words and short phrases in narrative, plain English language that simplify communication, conserve airtime, and help prevent misunderstanding during voice

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operations proficiency and then keep our skills current through practice and commitment to participation in the Training Net. Since there is no substitute for actual practice of HF radio operating skills and net operations procedures for the Pendleton SKYWARN HF Net, we will be doing occasional drills to test our preparedness and conduct structured operational readiness training.

**Fall and Winter Goals.** I will be contacting a number of hams in an effort to recruit new members and to rekindle interest in some members who have become inactive. I also want to add more hams to our roster of net control operators. I would like to assign net control operators to several net control operations teams and assign each team to a rotated net activation duty schedule. I'll also put together a call list for net control operations team members. Please understand that by volunteering to assist with net control operations duties, your commitment simply means that you intend to participate as a net control operator to the extent you are able.

We plan to have selective emergency activations of the Pendleton SKYWARN HF Net for some severe winter storms. These net activations will be designed to test our overall readiness and will enable us to develop and test net control operations procedures for dealing with winter storms.



## WFO Pendleton Employee Spotlight

*Rob Brooks, HydroMeteorological Technician.*

Rob Brooks recently joined the Pendleton weather office team, transferring from the Alaska region. Rob is actually returning to the Pacific Northwest area, after being in the United States Marines and traveling the world for over eight years. In addition, the most recent two years were spent as a Meteorological Technician at the WSO Valdez office in Alaska. After graduating high school in Kennewick Washington, Rob went into the Marine Corps to be an Avionics Technician, but due to a clerical error, he was sent to the wrong school, thus beginning his path in Meteorology.

After almost two years in the Military Rob got married to a girl he knew from his childhood, and down the road they had two wonderful boys. In 2005 Rob left the service due to service related injuries, and spent a year catching up with extended family members and working in sales. A position with the Weather Service opened in Valdez, Alaska, so Rob applied, and was accepted. Two years, two winters, and about 700 feet of shoveled snow later, a position at Pendleton Oregon opened, and Rob couldn't turn down the chance to move back so close to home.

**eSpotter**



Online Weather Reporting System

**eSpotter Reminder!** You can now go online and send your spotter reports directly to us in real time. Many Spotters have already signed up, why not be the next? In the past you were able to send us an email with your report but it may have been days before anyone saw it. With eSpotter, we will get your report as soon as you send it. We will then be able to use the report in our local storm report.

To sign up for eSpotter, go to [espotter.weather.gov](http://espotter.weather.gov) and register by following the instructions. Don't forget to use Pendleton, OR as your local Weather Forecast Office.

# COOPERATIVE PROGRAM HIGHLIGHTS



A 50 year Institutional Award was presented to the City of Dayton, WA in November 2008. Observations are taken by the Department of Public Works. On hand for the award were Jim Costello (pictured on right), and Don Moton (not pictured). Presenting the award is Mike Vescio, Meteorologist In Charge, NWS Pendleton.

A 50 year Institutional Award was presented to the Pendleton Agricultural Research Station in November 2008. On hand for the award was Karl Rhinhart (pictured on right). Presenting the award is Mike Vescio, Meteorologist In Charge, NWS Pendleton.





# MORE FROM THE COOPERATIVE PROGRAM



The City of Heppner Wastewater Treatment Plant was presented a 25-year Institutional Award for their time and services recording daily weather observations for the National Weather Service. Accepting the award on behalf of the station was (pictured, right) Chad Smith. Presenting the award is Ann Adams, HMT, NWS Pendleton. Also present was Rob Brooks from NWS Pendleton.



Gary Walrath of Condon, Oregon (pictured, right) was presented a certificate and pin in appreciation for his time and service of over 10 years, recording and relaying the daily weather observations from his home in Condon. Presenting the award is Rob Brooks, HMT, NWS Pendleton. Also present was Ann Adams from NWS Pendleton.

# Photo Album



*Hail collected from a hailstorm over Sun Forest, south-southeast of La Pine, Oregon on August 7, 2008. Photo by C. Owens.*



*A small rope-like tornado spotted near College Place, Washington in August 2008. Photo by T. Wagner.*



*Swollen river under the Highway 82 bridge at the confluence of the Minam and Wallowa Rivers near Minam. Photo by D. Hayden.*