

# National Weather Service - Elko

## The Great Basin Spotter Newsletter



**Inside this issue:**

Words From the MIC	1
A Special Tour	1
Weather Safety	2
IFPS Update	2
Winter on its Way?	3
Science Talk	3
New Safety Guidelines	4
Snow Measurement Guide	5
County Fair Appearances	6

**Words From the Meteorologist in Charge** by Kevin Baker, MIC

The NWS office in Elko is transitioning to the Interactive Forecast Preparation System in increments. This summer we are preparing grid-based forecasts for maximum temperature, minimum temperature, chance of precipitation, wind, sky condition, and weather. Within a couple months, these forecasts will be converted to a text zone forecast product, similar to what we currently release to the public. In addition, the grid forecasts will be displayable in a graphical format to be displayed on our web page. We will continue to provide updates in the spotter newsletter regarding these coming forecast changes.

**A Special Tour** by Jennifer Stroozas, Intern

On June 21, 2002, the National Weather Service Forecast Office in Elko was given a unique outreach opportunity. The Elko Southern Band, a local Native American tribe, came to our office for a special tour. The adult coordinator for this group was Alfreida Jake. She works for the Elko Band Environmental Department and also takes time to work with this youth group. They meet regularly during the school year and provide after school activities for kids of all ages. Earlier this year, the group held an Earth Day Fair in which Warning Coordination Meteorologist Paul Eyssautier also participated.



Tour participants learn about weather forecasting.

**FAST WEATHER FACTS**

What is "Severe?"

We have referred to severe thunderstorms in many of our publications. What is the NWS criteria for a severe thunderstorm? **Tornadoes** meet the criteria for a severe storm. Funnel clouds, which do NOT touch the ground, are not considered a severe event. However, we still want to know about them.

**Hailstones** measuring three quarter of an inch in diameter or greater.

**Wind gusts** reaching speeds of 58 mph (50 knots) or greater.

**Other significant events:** Heavy rain events with rainfall rates of 1 inch or more per hour. If you do not have a rain gauge, then give us a report for any heavy rainfall causing ditches and culverts to overflow, water to run over roadways, or threatens buildings with flooding.

**Also important:** Property damage caused by wind, rain, or hail.



Students learn about a weather balloon launch.

Two groups of students were each given a 45-minute tour and a PowerPoint slide show presentation called Weather 101. The second group was also present for the afternoon weather balloon release. They asked to be invited back to our office for any special occasions we have, and WFO Elko will take every opportunity to do so. Thanks for visiting us!

If you are interested in a tour, contact us at 775-778-6716 to inquire.



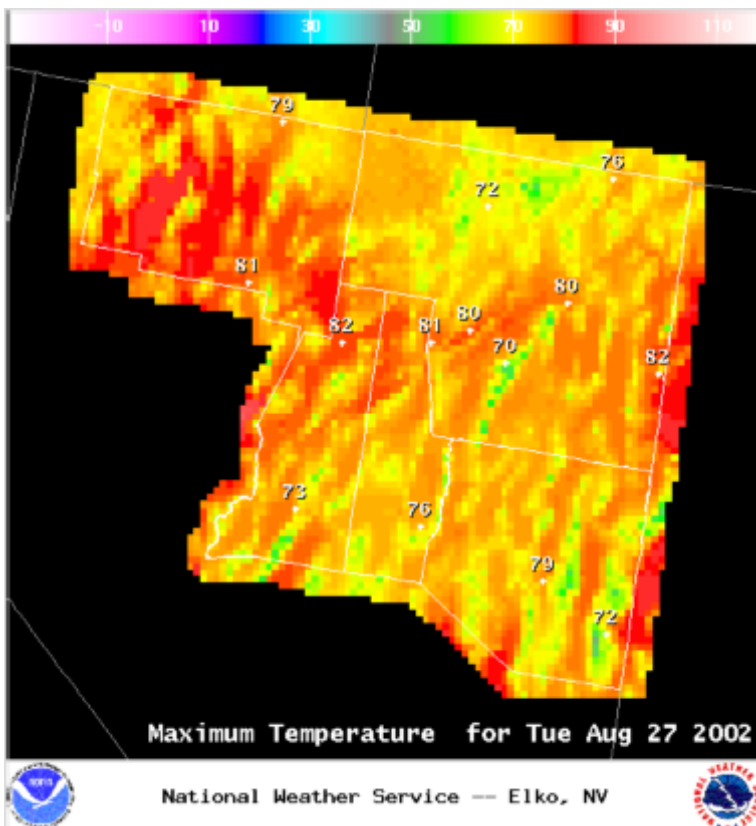
## **Weather Safety and Spotter Workshops** by Paul Eyssautier, Warning Coordination Meteorologist

On July 11<sup>th</sup>, we presented a Weather Safety and Severe Weather Spotter Workshop in Winnemucca with cooperation from Humboldt County Sheriff Gene Hill. His help in acquiring a meeting place and spreading the word about this workshop was very instrumental in making this a success. Approximately 25 people attended the workshop, including several law enforcement officers. We very much appreciate the time these people dedicated to receiving this training.

We will continue to present these workshops throughout the year. They are a good refresher for those who have already received spotter training. Also, we always seek new volunteers for our severe weather spotter (SkyWarn) program. We now have approximately 240 volunteer severe weather spotters spread throughout the five counties of our forecast and warning area. Our forecast area of responsibility covers over 45,000 square miles of northeast Nevada, or one spotter per 187 square miles. That leaves lots of open country that is unobserved. Help us fill these gaps by getting your friends and neighbors to volunteer as a severe weather spotter. Reports from you and the general public are very valuable to National Weather Service forecasters. These reports serve several functions which: 1. Validate forecasts and warnings that are in effect; 2. Help forecasters determine the threat of storms observed by radar or satellite imagery; 3. Fill the gaps where no other data exists.

More information about this program is available on our website, <http://www.wrh.noaa.gov/elko>. Just click on Spotter Program in the left-hand column. Also, don't forget the online Weather Spot Form, also located in the left-hand column, under Weather Safety. This form allows you to instantly report significant weather via the internet.

## **IFPS Update** by Brain Fehr, IFPS Focal Point



A sample maximum temperature graphic for northeastern Nevada.

The National Weather Service is continuing to develop the Interactive Forecast Preparation System (IFPS) to integrate new technologies in preparing our forecasts. With IFPS and the Graphical Forecast Editor (GFE), the National Weather Service will create a variety of products tailored for the public and fire weather communities from various grids. These grids are designed to incorporate the entire forecast region allowing the National Weather Service to better represent the weather across the entire region. These grids are created for a variety of weather elements including: Daily/Hourly Temperatures, Winds, Precipitation, Cloud Coverage, Relative Humidity, and Weather (will it rain or snow?). We will begin sending these grids plus some of our forecast text products out to the public in October, with all of our products to be produced by IFPS this winter. The graphic on the left is an example of a high temperature forecast. Note the detail seen in the graphic, especially with all the topography across northern and east-central Nevada.

## **Winter on its Way?** by Paul Eyssautier, Warning Coordination Meteorologist

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It may not feel like winter outside yet, but this is the time of year people should winterize their vehicles and ensure they have stored winter emergency equipment.

Some items to consider:

- Check your coolant. When was the last time it was changed? Some manufacturers suggest changing every two years. It is best to check your owner's manual.

- Check and change your oil and oil filter. When preparing for colder winter temperatures, it is sometimes recommended that you use a lower viscosity oil such as 5W30 instead of 10W30. Many new vehicles recommend 5W30 weight oil year round. Again, it is best to check your owner's manual.

- When was the last time you examined your air filter? Traveling Nevada roads can be a very dusty experience. If you do extensive driving on gravel or dirt roads, your air filter needs to be checked and possibly changed.

- Don't forget to check your tire treads, brakes, and windshield wipers.

- Store a blanket, flashlight, flares, extra clothing and boots, tow rope, booster cables, and emergency first aid kit in your car. Also, a shovel and a bag of sand might come in handy if you happen to get stuck in snow. Don't forget tire chains that fit your tires. Try them on first at home.

- When taking off on a winter trip, an emergency supply of high calorie food and warm drink would be helpful in case your vehicle breaks down during a cold, wintry night. Also, consider taking along a can, a small stove and water proof matches to melt snow for water, in case you become stuck for an extended period of time.

- Last but not least, check the latest weather forecast on NOAA Weather Radio, the National Weather Service website (<http://www.wrh.noaa.gov>), or from your local broadcast media.

\*Excerpts taken from AAA web page, <http://www.csaa.com/home/>, and "Winter Storms...the Deceptive Killers", published with cooperation from the American Red Cross, the Federal Emergency Management Agency, and the National Weather Service.

## **Science Talk By Steve Apfel, Science Operations Officer**

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The high elevation and low atmospheric pollution across northern Nevada provides an ideal setting for nighttime meteor shower viewing. Every year, the earth passes through the debris field of several comets as it rotates around the sun. From July 25<sup>th</sup> to August 18<sup>th</sup>, the Perseid Meteor Shower appears as the earth passes through the debris from Comet Swift-Tuttle. The debris field consists of generally small grains of comet dust and pieces of rock. This debris enters the earth's atmosphere at a speed of 37 miles per second and burns up with bright streaks of light, sometimes colored green, orange or blue.

The peak viewing time for the Perseid meteor shower in 2002 was between 2 a.m. and 5 a.m., but they could be seen anytime after sunset. The best view was by looking to the northeast part of the sky, and the later you were viewing the meteors, the higher up in the sky they were seen. They appear normally in intervals of about one per minute in the peak viewing time with a maximum of 50 to 60 per hour in some years. For you astronomy buffs, the meteors appeared to be radiating outward from between the double star cluster known as Perseus, and the large "W" shaped group of stars known as Cassiopeia's Chair. Stay tuned for mid-November when the spectacular Leonid meteor shower makes an appearance. Happy meteor viewing!

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## **New Safety Guidelines for SUVs** by Lawrence Whitworth, Hydrology Focal Point

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As Sport Utility Vehicles (SUVs) continue to grow in popularity, a greater number of drivers and passengers are at risk for certain types of hidden weather dangers. One particular danger is driving on flooded roadways or crossings that may at first seem to be of minimal risk. The size and ground clearance of an SUV can sometimes give drivers a false sense of safety in such situations. New guidelines are being implemented to keep all drivers attuned to such hazards.

If a flooded roadway or crossing is encountered, a vehicle can begin to “float” on the water, a condition known as hydroplaning. Hydroplaning occurs when water accumulates in front of the tires faster than the weight of the vehicle can push it away. Drivers of heavier SUVs may tend to think they have an advantage in this situation, but that is not the case. Hydroplaning most often happens at speeds over 40 miles per hour, but the depth of the water is also a factor. There is no way to tell at what speed your vehicle will begin to hydroplane. When the tires are no longer in contact with the road, the vehicle becomes uncontrollable. SUVs with 4 wheel drive perform no better than any other vehicle once the tires leave the roadway.

The National Oceanic and Atmospheric Administration (NOAA) and the National Weather Service, in conjunction with the American Red Cross, offer some safe driving tips for drivers of all vehicles in a new flood brochure soon to be released. Included in the new brochure will be special wording to help the public understand that SUVs are also at risk when roadways or crossings become flooded or too deep.

### **.....SAFETY TIPS.....**

- \* Do not drive through flowing water
- \* Nearly half of all flood fatalities are vehicle-related
- \* As little as 6 inches of water may cause you to lose control of your vehicle
- \* Two feet of rushing water can carry away most vehicles INCLUDING SUVs and pickups

## **Getting Prepared for Winter Weather** by Randy Settje, HydroMeteorological Technician

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It may seem early for our Cooperative Weather Observers to prepare for winter weather, however, the best time is before the first snowfall. With that in mind, here are some hints to get you in the mood for measuring snow!

At the beginning of each snowfall season:

1. **Remove the funnel and inner measuring tube** of the 8-inch rain gauge. This will help “catch” a more accurate snow fall.
2. **Get out your snowboard.** It should be located in an open location, not under trees nor on the north side of structures in the shadows.
3. **Review how you measure snow!** We have included a snow measurement guide on the next page to help you this coming winter.

Remember, you should determine and record **three** values (listed below). Often we get B-91 forms that have one or more of the values missing. Cooperative snow data has taken on greater importance recently due mainly to the NWS modernization. Many airports and weather sites that in the past reported snow data no longer do. That is why your snow observation is very important to us. Thanks in advance for your renewed efforts!

1. **Snowfall** - amount that fell since your last observation
  2. **Snow depth** - total snow on the ground (old snow plus new snow)
  3. **Melted snow** - melt the new snowfall and measure the water in it.
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DEPARTMENT OF COMMERCE  
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION  
NATIONAL WEATHER SERVICE

# SNOW MEASUREMENT GUIDE

OBSERVERS WITH NON-RECORDING GAGES RECORD THREE MEASUREMENTS WHEN IT SNOWS

## 1. WATER IN THE SNOW

Record in this column to inches and hundredths.

Melt contents of gage and measure like rain. If high winds have blown snow out of the gage, the outer container is used to obtain a substitute sample from the snow on the ground where the depth represents the amount that fell since yesterday's observation.

RECORD OF CLIMATOLOGICAL OBSERVATIONS  
Time of observation (local time) if once daily—6 PM  
If at different times, temperature—precipitation—

PRECIPITATION			WEATHER CALENDAR			
REC. and a few to 11	24 HOUR AMOUNTS	in inch	in inch	in inch	in inch	in inch
12	12	12	12	12	12	12
	2.2	2.0	2			
	3.5	3.0	5			
	T	T	4			
			2			
	T	T	T			X
			0			
	.11	0.9	1			
			0			

## 3. DEPTH OF SNOW ON THE GROUND AT OBSERVATION TIME

Record in this column to nearest inch—if less than 1/2 inch, record "T".

Any time there is snow on the ground at observation time record average depth on ground at observation time. Include old snow as well as newly fallen snow.

## 2. SNOWFALL SINCE YESTERDAY'S OBSERVATIONS

Record in this column to the nearest 0.1 inch.

Find some place where the freshly fallen snow is least drifted and is about average depth for the locality. Measure the depth of the snow which fell since yesterday's observation. Report an estimate if the snow melted before observation time.

When significant amounts of new snowfall have occurred round off to the nearest inch and record as, for example, 2.0 and 3.0. (Record as 2.0 not 2, 3.0 not 3).

**A.** Pour some warm water into the tube

**B.** Measure

**C.** Empty into the can to melt the snow

**D.** Empty the can into the tube

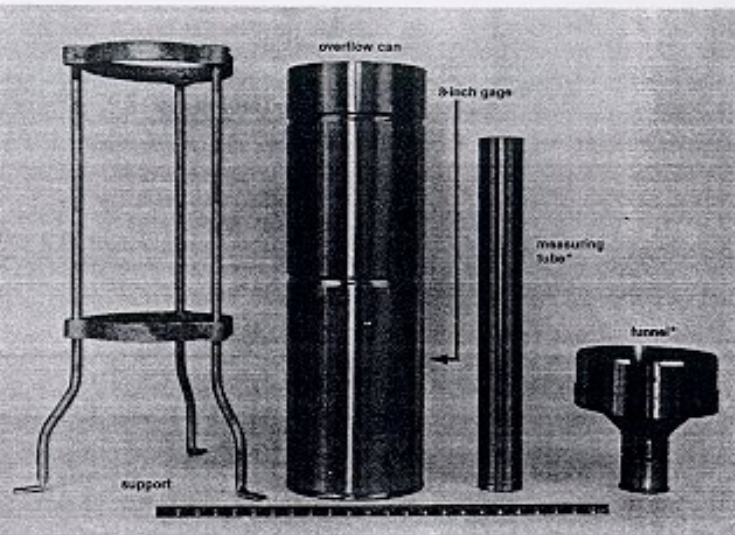
**E.** Measure

**F.** Subtract the first measurement from the second

**G.** Record the difference in the melted snow column.

**1**

At the beginning of the snowfall season only the 8-inch gage can is exposed to catch the snow. The funnel and measuring tube are removed at the beginning of the snowfall season. The measuring tube is used to measure the water from the melted snow.



\*removed during winter months

snow won't fall in representative quantity into the gage if the funnel and measuring tube are not removed.

(See reverse side for steps 2 and 3)

Snow measurement guide provided by the National Weather Service. (See "Getting Prepared for Winter Weather" on page 4.)

## NWS at County Fairs by Paul Eyssautier, Warning Coordination Meteorologist



Gerry Claycomb, HydroMeteorological Technician, with coop observer John Laird from McGill, NV in front of WFO Elko's booth at the White Pine County Fair.

By the time you receive this, our staff will have participated in the White Pine County Fair, held August 17th and 18th, and the Tri-County Fair held in Winnemucca from August 30th to September 1st.

At the White Pine County Fair, we hope you had a chance to visit with Sue Packham, Administrative Support Assistant, and Gerry Claycomb, HydroMeteorological Technician. They reported that approximately 75 people stopped and visited the National Weather Service Booth. We are happy to see growing interest in the National Weather Service.

As of this writing, we have not yet traveled to the Tri-County Fair. But,

we hope this will be as successful as the White Pine County Fair.

While visiting the NWS booth, many people picked up our Comment Letter. Please complete and return it to us. We appreciate all your comments and suggestions. Your comments will guide us when we make decisions about new products and services that we wish to provide you, our customers.



Left: A rainbow as seen from the Elko Weather Office in the wake of a shower.