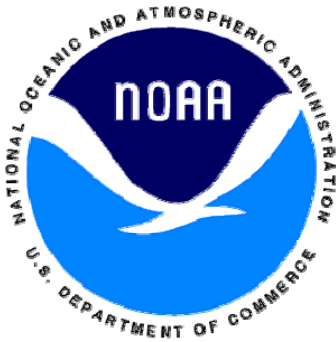


The Intermountain Observer

National Weather Service—Salt Lake City

Winter Weather Awareness Week October 29th—November 4th

By Kevin Barjenbruch



Governor Jon Huntsman, Jr. has declared October 29-November 4 as Winter Weather Preparedness Week in Utah.

The National Weather Service, in partnership with the Utah Department of Public Safety, Forest Service Utah Avalanche Center, Utah Department of Transportation, the four Utah chapters of the American Red Cross, Utah State Parks and Recreation, and the Utah State Board of Education welcome your participation in this winter weather campaign.

Dozens of Americans die each year due to exposure to cold. Add to that, vehicle accidents and related fatalities, plus billions of dollars in economic losses, and it is clear that winter weather is a significant threat. The goals of the campaign are to educate the citizens of Utah on winter's hazards, to help everyone be prepared before severe winter weather strikes, and to have an understanding of winter weather terms and safety rules.



During Winter Weather Awareness Week daily press releases and statements will be issued by the National Weather Service, and broadcast on All Hazards NOAA Weather Radio.

Winter Weather Awareness Week is an excellent opportunity to familiarize yourself with important winter weather terminology, and review what course of action you should take should severe winter weather impact your home or workplace.

Inside this issue:

Winter Weather Safety and Survival Tips	2
El Nino—What Does This Mean for Utah?	4
New NOAA Weather Radio All Hazards Transmitters	5
New Storm Spotter Homepage	6
New Public Forecast Zones	6

Snow Measurement Guidelines

By Mike Seaman

Accurately measuring snowfall can be a difficult endeavor for any weather observer. This is especially true when blowing and drifting of snow occurs. With the winter season fast approaching, it is a good idea to review proper snow measuring procedures. The guidelines below were prepared by the National Weather Service office in Northern Indiana.

Before the First Snow

Place your snowboard outside. A snowboard can be any lightly colored board that is about 2 feet by 2 feet. A piece of plywood painted white works very well. Choose a location that is away from trees, buildings, and shadows. Try to avoid areas that are known to be prone to drifting.

Mark the location of the snowboard with a stake so you can find it after a fresh snowfall.

Measuring Snowfall

Snowfall is measured to the nearest tenth of an inch every 6 hours. Measure the greatest amount of snowfall that has accumulated on your snowboard since the last observation. You can measure on a wooden deck or ground if a snowboard is not available. **Snowfall should not be measured more than 4 times in 24 hours.** You can measure the hourly snowfall rate, but don't clean off your board each hour. Only clean off the board when you take one of the four daily measurements. (cont. on page 3)



Winter Weather Safety and Survival – Be Prepared Before the Storm Strikes

By Monica Traphagan



As winter approaches, it is important to be prepared for dangers that winter weather can cause

Each year, nearly one hundred fatalities across the United States are directly attributed to winter weather. As winter approaches, it is important to be prepared for dangers that winter weather can cause. Here are some tips for preparing for the winter storm season.

- 1) Winterize your home by insulating walls and pipes, caulking and weather stripping doors and windows, and installing storm windows or covering walls with plastic.
- 2) Prepare for being isolated in your home. A winter storm may make you unable to leave your home for several days. Regular fuel sources may be unavailable, so keep firewood on hand for your fireplace if you

have one, or have an alternate source of heat available. In case of a power failure, have non-perishable food available and make sure you have fresh batteries in your flashlights and radios.

- 3) Prepare your car for the weather by checking or having a mechanic check the antifreeze level, battery, brakes, exhaust system, filters, heater, lights, oil, tires, and windshield wipers.
- 4) Make sure you keep at least a half tank of gas in your car, carry a cell phone, and let someone know your itinerary. Also carry a winter storm survival kit (see next page).

If you should find yourself stranded, follow the guidelines below

Winter Weather Survival—Stranded At Home

- 1) Eat and drink to give the body energy to produce its own natural heat.
- 2) Keep space heaters away from walls, curtains, and furniture in order to avoid starting a fire.
- 3) If you have no heat, close off unneeded rooms, stuff towels or rags under cracks in doors, and cover windows at night.

Winter Weather Survival—Stranded In Your Car

- 1) Stay in your vehicle and exercise by vigorously moving arms, legs, fingers, and toes to keep blood circulating and to keep warm.
- 2) Run the motor for ten minutes each hour for heat. Open the window slightly for fresh air and to avoid carbon monoxide poisoning.
- 3) Make yourself visible to rescuers by turning on your dome light at night when the car is running, tying colored clothes to your door handles and antenna, and raising the hood after the snow ends.



Winter Weather Survival—Stranded Outdoors

- 1) Wear layers of loose-fitting, lightweight, warm clothing along with a hat, mittens, and a scarf. Make sure all exposed skin is covered to avoid frostbite.
- 2) If you do get frostbite, warm the affected areas gradually by wrapping them or placing them next to warm skin. Do not rub the affected areas.
- 3) If caught outside without shelter, prepare a lean-to, windbreak, or snow cave for protection from the wind, and build a fire for heat and to attract attention.

Be Prepared Before the Storm Strikes

Keep the following items in your vehicle during the winter, in the event you should become stranded:

- * shovel
- * windshield scraper and small broom
- * flashlight
- * battery powered radio
- * extra batteries
- * water
- * snack food
- * matches
- * extra hats, socks and mittens
- * first aid kit with pocket knife
- * necessary medications
- * blanket(s)
- * tow chain or rope
- * road salt and sand
- * booster cables
- * emergency flares
- * fluorescent distress flag



Snow Measuring (cont.)

Once the snow ends, add up the measurements from each time the snowboard was cleaned to reach a storm total.

Special cases:

Snow falls and accumulates on the snowboard, but then melts. In this case, the snowfall is the greatest depth of snow observed on the board before it begins to melt. If this occurs several times, measure the snowfall after each snow shower and add each measurement for the total snowfall.

Snow falls and melts continuously on the board. In this case, if the snow never reaches a depth of a tenth of an inch, then a trace of snowfall is recorded.

Snow has blown or drifted onto the snowboard. In this case, take several measurements from around the yard where the snow has not drifted, being careful only to measure new snow. Take an average of the various measurements to arrive at a total.

Sleet counts towards total snowfall, freezing rain accumulation does not.

Measuring Snow Depth

Snow depth is measured to the nearest inch. The depth of snow on the ground includes both new snow and old snow which was in place. Measure the total snow depth at several locations in your yard which have not drifted or blown. Take an average of these measurements to arrive at the snow depth.

Sometimes old snow can be very hard and crusty beneath the new snow. Be sure that the ruler gets all the way down to the underlying ground.

Measuring Snow Water Equivalent

Snow water equivalent is the amount of liquid water contained in the snow. This information is very useful to the NWS, especially just before a thaw in order to assess river flood potential. In order to measure the SWE, all you need is a round container, such as a coffee can, and a ruler. Take the coffee can and push it into the snow pack, taking a core of the snow. Bring your sample inside to melt and then measure the amount of liquid water in the can.

Relaying Real Time Information

Real time reports can be just as important as snowfall measurements. Examples of information that would be beneficial to forecast and warning operations include:

- * Change in precipitation type (rain to snow, snow to freezing rain, etc)
- * Snow Accumulation of 1 inch or more
- * Heavy Snowfall Rate (example: snowing at 1 inch per hour)
- * Significant Blowing or Drifting snow
- * Is the snow, ice, or blowing snow having a major impact on travel

The depth of snow on the ground includes both new snow and old snow which was in place. Measure the total snow depth at several locations in your yard which have not drifted or blown.



El Nino—What Does This Mean for Utah?

By Alex Tardy

As winter approaches the latest long term weather talk has focused on El Nino. By early September ocean sea-surface temperatures near the equator were slightly above average (Fig. 1) and the warmest water was observed in the central Pacific Ocean.

Most of us associate the word El Nino with wet and snowy winters. This is often what occurs in southern California and the Desert Southwest including southern Utah during moderate and strong El Nino episodes. The last El Nino event occurred in the winter of 2004 and 2005 and brought much above normal precipitation to

Weather predictions for the 2006-07 winter suggest a greater chance of wetter than normal conditions across far southern Utah

southwest Utah and parts of the West Coast. A stronger El Nino (based on the Oceanic Nino Index) existed in 2002 and 2003 but its effects were not typical of some other El Nino events. The last strong El Nino event happened in the 1997 to 1998 winter season and resulted in very wet weather along the West Coast. This years El Nino is weak so predicting its effects are much more uncertain.

Some El Nino events of the past have brought early heavy precipitation to the water year such as 1994 and 2004. Currently weather observations in the western Pacific Ocean are displaying early signs of El Nino and the latest National Weather Service computer models indicate El Nino conditions will persist through the upcoming winter months.

What is in store for this winter in Utah? Weather predictions for the 2006 and 2007 winter suggest a greater chance of wetter than normal in far southern Utah and little indication for outside of normal conditions across northern Utah (Fig. 2). However, there are good indications that temperatures (averaging high and low) will be above normal this winter. Above normal temperatures have been a trend of recent winters so this may not be directly related to El Nino. This can be a result of other global weather patterns bringing fewer outbreaks of arctic air and cloudier periods producing warmer overnight low temperatures.

Visit the following web sites for more information about El Nino:

<http://www.elnino.noaa.gov/>

<http://www.pmel.noaa.gov/tao/elnino/nino-home.html>

<http://www.cpc.ncep.noaa.gov/index.html>

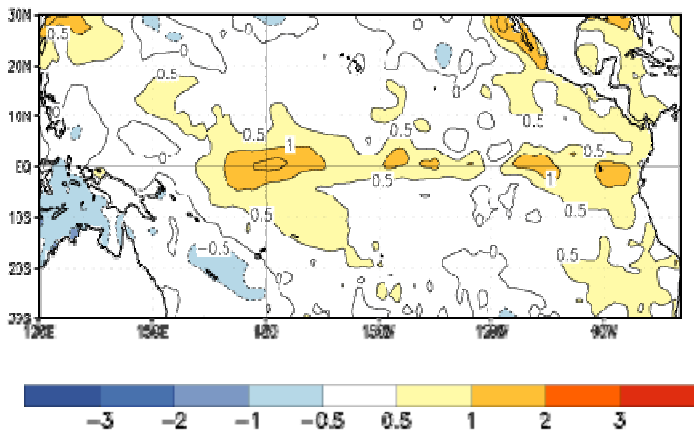


Figure 1 (above) - Average Sea Surface Temperature Anomalies (in Celsius) from early September across the Pacific Ocean

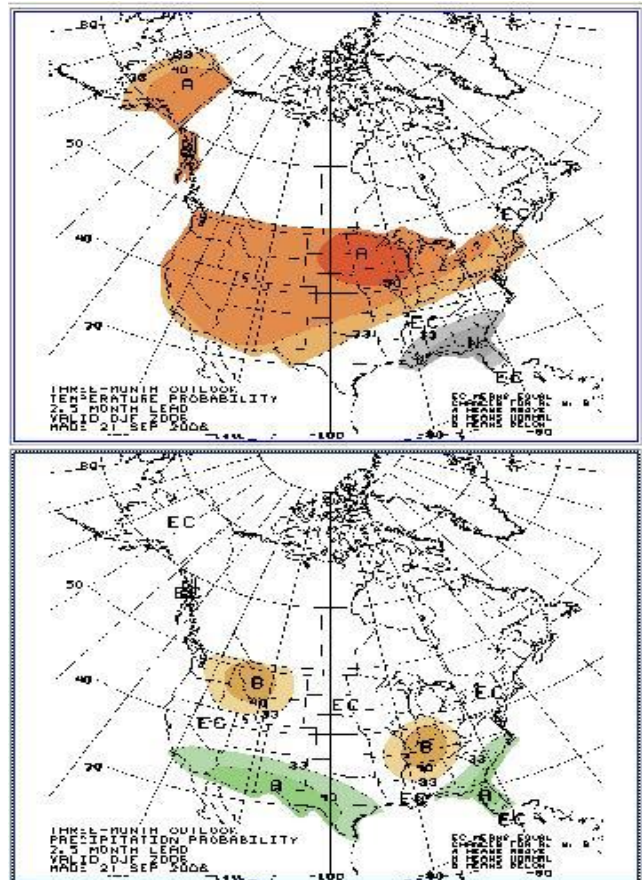


Figure 2 (above) - Temperature (top) and precipitation (bottom) outlook for December through February. Source : NOAA Climate Prediction Center

New NOAA Weather Radio Transmitters

By Brandon Smith

NOAA Weather Radio, All Hazards coverage recently expanded in the Salt Lake City WFO County Warning Area. The addition of two brand new transmitters, Mt. Tabby in Duchesne County and Escalante in Garfield County will bring comprehensive weather and hazard information to portions of the state previously void of adequate radio coverage. NWR is an "All Hazards" radio network, making it your single source for comprehensive weather and emergency information. In conjunction with Federal, State, and Local Emergency Managers, and other public officials, NWR also broadcasts warning and post-event information for all types of hazards – including natural

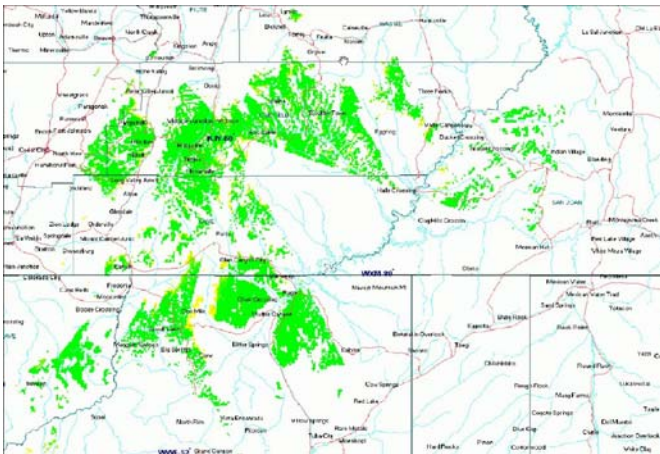
(earthquakes or avalanches), environmental (chemical releases or oil spills), and public safety (AMBER alerts or 911 Telephone outages).

On Mt. Tabby, located just southeast of the town of Tabiona in Duchesne County, a 300W transmitter was recently installed. The call sign for the Mt. Tabby transmitter is KJY-79 and can be heard at a frequency of 162.55 MHz. This transmitter will greatly enhance NWR All-Hazards coverage in the Uinta Basin.

The Escalante transmitter broadcasts from Barney Top, a 10,640ft peak just east of the city of Escalante. The call sign for this transmitter is KJY-61 and can be heard at 162.425 MHz. The Escalante transmitter will provide excellent NWR All Hazards coverage in most of Garfield County and portions of western Kane County, as well as Mojave and Coconino Counties in northern Arizona.

NWR is an "All Hazards" radio network, making it your single source for comprehensive weather and emergency information.

For complete details on these new transmitters, other transmitters across Utah and southwest Wyoming, and all aspects of the NWR All Hazards program, please visit: <http://weather.gov/nwr>.

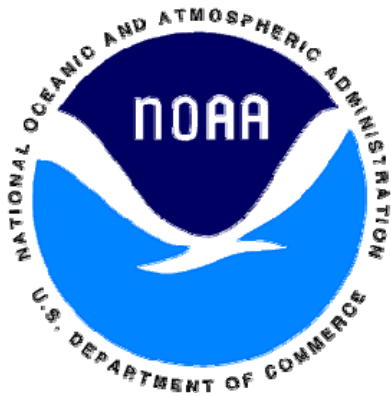


NWR All Hazards coverage for KJY-61 located at Barney Top in Southern Utah.

Call Sign	Site Name	Site Location	Frequency (MHz)	Power (Watts)
WXL63	Bear Lake	Laketown	162.5	100
WNG669	Castle Dale	Horn Mtn. (AG)	162.5	100
KJY-60	Coalville	Summit County	162.47	100
KJY-61	Escalante	Barney Top	162.425	80
WXM89	Lake Powell	Navajo Mtn.	162.55	100
KJY-60	Lewis Peak	Lewis Peak (Park City)	162.475	100
WXM22	Logan	Mt. Logan	162.4	100
WNG594	Manti	Sevier Valley	162.42	300
WXM24	Milford/Cedar City	Frisco Peak	162.4	100
WNG556	Moab	Bald Mesa	162.47	300
WNG687	Monticello	Monticello	162.45	300
KJY79	Mt Tabby	Wasatch County	162.55	300
KEC78	Salt Lake City	Bacchus	162.55	330
WWF51	St. George	Utah Hill	162.47	100
WWF46	Tooele (South Mtn.)	South Mtn.	162.45	120
WWF47	Tooele (Vernon Hills)	Vernon Hills	162.52	120
WXM23	Vernal	Asphalt Ridge	162.4	100
KXI30	Wendover	Wendover Peak	162.47	100

Current list of NWR All-Hazards transmitters for Utah.





New Storm Spotter Homepage

By Mike Seaman

A new resource is available to storm spotters across Utah and Southwest Wyoming. [The Utah and Southwest Wyoming Storm Spotter homepage](#) is designed to aid storm spotters across the area in identifying threatening weather conditions.

The National Weather Service relies heavily on spotter information during severe weather events. Critical information provided by trained storm spotters, combined with other information such as radar and satellite, aids our forecasters in determining when a storm may be capable of producing severe weather such as large hail, damaging winds, or flash flooding. Additionally, spotters provide important information such as snowfall amounts, snowfall intensity, and precipitation changes during winter weather events.

The Utah and Southwest Wyoming Storm Spotter Homepage homepage contains training materials and information aimed at helping storm spotters. Guidelines for reporting information to the National Weather Service, a schedule of upcoming storm spotter training sessions, an online storm spotter training presentation, and links for brochures and other materials are all included. Additionally, information on how to become a storm spotter is also available on this page as well. We are continuously looking for new spotters across the region, particularly in smaller towns and communities.

This spotter page is available from the National Weather Service in Salt Lake City's homepage by clicking on Storm Spotters on the left hand menu, or simply using the following link: <http://www.wrh.noaa.gov/slc/spotter>

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Or on the web at:
<http://weather.gov/saltlakecity>

New Forecast Zone Boundaries in Central and Southern Utah

By Mike Seaman

The National Weather Service in Salt Lake City will be altering our current forecast zones early next year, in order to make them more geographically accurate. Additionally, the forecast zones for central and southern Utah will be altered, in order to allow forecasters to provide more site-specific forecasts and warnings.

Currently much of the higher terrain across central and southern Utah is included in one large forecast zone. This means areas from Interstate 70 in central Utah, southward through the Beaver Dam Mountains in far southwestern Utah are all included in the same forecast zone. As most residents of central and southern Utah know, considerable climatological differences exist between these areas. By splitting this zone in half, meteorologists will be able to issue more representative forecasts across these areas.

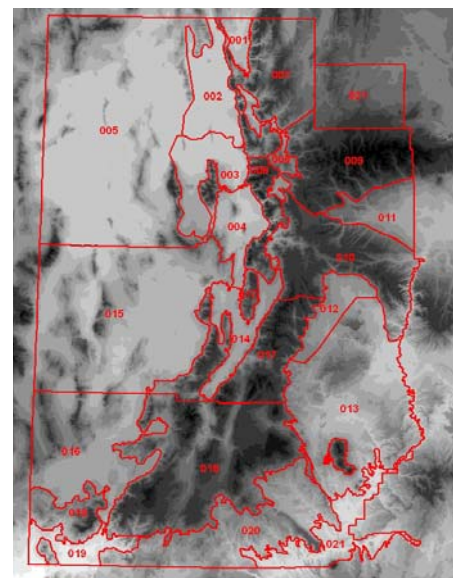
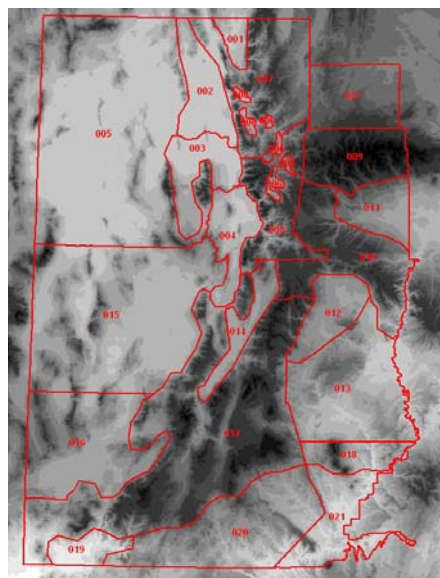
Zone 17 will be changed from "Central and Southwest Mountains" to "Central Utah Mountains", and will be bordered on the south by the Sanpete county

border with Piute and Wayne counties. Zone 18 will be changed from "Henry Mountains" to "Southern Utah Mountains", and encompass all mountainous areas of Southern Utah south of Zone 17.

In addition to the changes mentioned above, additional minor changes were

made to zone boundaries across northern and central Utah, in order to ensure the zone boundaries were geographically accurate.

These changes are tentatively scheduled to take effect in early February. Additional information will be provided at weather.gov/saltlakecity.



Current public forecast zones (left) and new public forecast zones (right) effective February 2007.