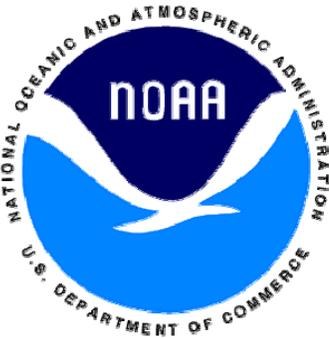


The Intermountain Observer

National Weather Service—Salt Lake City

Follow us on Twitter and Like us on Facebook!!

By Monica Traphagan



Yes, it's true! The National Weather Service in Salt Lake City is now on Facebook and Twitter! On our pages, you can expect to see information about upcoming weather and updates on significant weather as it is happening.

(see page 6 for what to report), weather photos, or videos to send us, or if you have any questions about upcoming weather for the area or just about the office in general, please send them our way.

For example, during the December 1st downslope windstorm which impacted much of the Wasatch Front, numerous tweets were sent out indicating the potential danger, reporting observed wind gusts, etc.... Additionally, we'll post some educational information as well as other office news like spotter talk information.

* Find us on Twitter at [@NWSSaltLakeCity](#)

* Like us on Facebook:

<http://www.facebook.com/US.NationalWeatherService.SaltLake.gov>

Or you can search for "National Weather Service Salt Lake City Utah." We look forward to interacting with you online!

However, they don't call Facebook and Twitter social media sites for nothing. We'd love to hear from you! If you have spotter information

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2011 –Wet, Cold Spring Leads to Flooding in the North

By Brian McInerney



The 2011 runoff year went down in the books as a record breaker. The wettest three consecutive months, (March-April-May) ever recorded for Salt Lake City International Airport dating back to 1873 occurred this past spring. In addition to the wettest, this was also the 4th coldest three-month spring period on record for the Salt Lake City area.

A simple fact exists when we move from the spring months into the summer months, the chances of reaching 90 degrees or greater becomes more probable. Additionally, as we move into summer, the sun's angle increases, providing increased energy to the earth's surface. These two simple yet important events are big players in spring snowmelt runoff.

May 1st snowpacks across northern Utah ranged around 250% of normal. Typically, northern Utah snowpacks begin to decrease their size yielding meltwater to rivers and stream around the first week of April. During the spring of 2011 these same snowpacks yielded meltwater and decreased their size almost a full month late. Anytime spring snowmelt runoff is delayed, meltwater yield is greater than if it were to melt prematurely. The greater the delay, the more efficient the runoff is the rule of thumb.

Typically snow melts at about 1.0 to 1.5 inches per day during the spring runoff. This melt rate is enough to swell rivers and streams to their banks. National Weather Service forecasters closely monitor this phenomenon, and if things increase to over 2.0 inches per day, the flood threat increases dramatically.

As such, given northern Utah had a very large snowpack during the spring of 2011, and a (continued on page 2...)

2011—A Cold and Wet Spring Across Northern Utah (cont. from page 1)



Blacksmith Fork River near Logan

cool and wet spring, why didn't this area receive more dramatic flooding similar to that of 1983? During May of 1983 rivers were raging through the middle of the downtown Salt Lake City. Why didn't we see this type of flooding in the spring of 2011? It really comes down to two factors; ambient air temperature and solar radiation.

If we look back to May of 1983 there was a 10 day period of above normal temperatures and bright sunshine. This 10 day period fueled increased melt rates and flooded many areas of northern Utah. During the spring of 2011, the longest period of warming was about 3 days, where it would drop below average again. The brief warming and reduced solar radiation was not enough to fuel the high melt rates that produce widespread flooding. This pattern continued through the spring and into early summer, all the while chipping away at the snowpack and keeping melt rates at tolerable levels.

Flooding did occur during the spring of 2011, to the tune of 14 million dollars to the area, but it could have been a lot worse. If we did replicate the dramatic 10 days of above normal temperatures and bright sunshine, the dollar amount would have been much higher. The 45th and last flood warning, issued by the Salt Lake City Weather Forecast Office expired on July 20th. Northern Utah experienced a cold and record wet spring, with several seasonal records being set at the Salt Lake City International Airport. The 2011 spring seasonal (March-May) precipitation total eclipsed the record set back in 1876, while April and May produced monthly totals that were in the top 5 all time.

Temperatures in May, while not breaking the monthly record, were cool enough to place May 2011 as the third coolest since 1928. Seasonally, the combination of a near record cold May, a much below April, and a near normal March placed the spring as the 6th coldest spring on record.

The following are comparisons of precipitation records in the Salt Lake City area since 1875. Data were obtained from the National Climatic Data Center

Top 5 Water Years (Oct 1-Sep 30)	Total
1981-1982	25.15"
1983-1984	23.82"
2010-2011	23.67"
1997-1998	23.40"
1985-1986	23.40"

Wettest 3 Month Period	Total
March-May 2011	11.73
March-May 1876	10.39
March-May 1986	10.26
March-May 1944	10.24
July-September 1982	10.17

Top 5 Wettest Months	Total
September 1982	7.04
November 1875	5.81
May 1908	5.76
May 2011	5.14
April 1944	4.90

Top 5 Wettest Mays	Total
May 1908	5.76
May 2011	5.14
May 1977	4.76
May 1876	4.30
May 1901	4.27



Emigration Creek near SLC



Logan River near Logan

2011—A Year of Downslope Windstorms

By Eric Schoening

If you thought the 2010-11 winter and spring seasons were windy, it wasn't just your imagination; strong, gusty winds were a frequent occurrence across Utah and southwest Wyoming. The Salt Lake City forecast office issued 60 High Wind Warnings between October 2010 and September 2011, the most in a single year since detailed records started being kept in 1998. Some of these wind storms caused significant damage across the state of Utah.

In January and February of 2011, two separate downslope wind events caused damage in and around the town of Ferron. These winds damaged power poles and homes in the area, including blowing the roof off of multiple trailers. A wind sensor 30 miles south of town at Fremont Junction recorded wind gusts as strong as 72 mph with one of these events.

Also in February, strong winds along the Wasatch Front knocked over several large trees across the area, including a very large spruce tree in Salt Lake City. The tree was 70 years old and more than three feet in diameter at the base. The tree crashed through the roof of a nearby house, and some of the windows of the house even bowed outward due to the weight of the branches.

The winds didn't get any calmer this winter, either. A destructive downslope wind storm impacted the Wasatch Front on December 1st, 2011, with a maximum wind gust of 102 mph reported in Centerville. Wind gusts in the 60 to 80 mph range were common across both the northern Wasatch Front and the Salt Lake Valley, and the event lasted for almost 24 hours.

Damage from this wind storm was substantial and widespread, with the most extensive damage occurring in the northern Wasatch Front between North Salt Lake and South Ogden. UDOT reported that 11 semitrailers were knocked over along I-15, which eventually led them to close the road to semis for several hours. In Fruit Heights, a steeple was blown off the roof of a church. Hundreds of

trees, power lines, and light poles were knocked over, and some of these caused additional damage when they landed on houses, cars, and other property. The winds were strong enough to shatter windows in some locations, as well as bend or uproot many metal road signs. Needless to say, pretty much all homes in the area of the strongest winds experienced damage to roofs, fences, and siding. Flying debris caused a few injuries, but thankfully there were no fatalities associated with the wind. Early damage estimates place the toll from this storm at more than \$20 million in Davis County alone, with damage still being cleaned up and evaluated as of mid-December.

Below are some notable peak gusts observed during the December 1st 2011 downslope wind event across northern and central Utah.

Observation Site	Peak Gust
Centerville	102 mph
West Bountiful	92 mph
Farmington	86 mph
Bountiful	78 mph
Hill Air Force Base	69 mph
University of Utah	69 mph
Kaysville	65 mph
Price	62 mph
Helper	59 mph

Even with our extensive network of automated observation sites, we still rely on spotters to report to us where winds are causing damage across the state. For example, we would not have known how bad the local downslope winds were in Ferron without the reports given to us by spotter Rita Pennington. So if you see significant damage in your area, caused by wind or any other weather phenomenon, let us know so that we can make our records as complete as possible, as well as improve our forecasts for the future.



Roof off a trailer near Ferron



Overtaken semi in Davis Co.



Wind damage in Davis Co.



Wind damage in Kaysville

Winter Weather Preparedness in Utah

Governor Gary R. Herbert declared October 23 - 29, 2011, 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 American Red Cross, and Utah State Parks and Recreation worked together to provide winter weather preparedness information throughout the week. This provided families, communities, schools, and businesses an opportunity to learn more about winter weather terms and safety rules and review their winter storm preparedness plans.



In an average year, winter weather is directly or indirectly involved in 400,000 vehicular accidents in the United States, leading to 1,300 fatalities. Add to that, loss of life due to avalanches and exposure to cold, 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. Families, communities, schools, and businesses should follow these three basic preparedness steps.



Additional winter weather safety and preparedness information can be found at:

<http://www.wrh.noaa.gov/slc/wxsafety/winterweatherpreparedness.html>

Winter Storm Driving Considerations

Motorists must remember to adjust driving behaviors during winter weather. Snow, sleet and ice on the road require drivers to be more diligent, attentive, and cautious. Winter weather conditions can turn small mistakes into serious problems. Please keep the following winter safety driving measures in mind this winter.

Monitor road conditions before departing:

Online: <http://commuterlink.utah.gov>

Phone: **511** or **866-511-UTAH** (out of state)

Drive for the conditions: Slow down, allow extra braking distance, and do not tailgate

Allow snowplow operators to do their job:

- Maintain a safe distance...if salt is hitting your vehicle when following a snowplow, you are too close
- Avoid passing snowplows on a roadway that is only one lane in each direction

Remain alert for sudden changes:

- Bridges and overpasses often become icy first
- Snow and blowing snow can produce sudden restrictions in visibility

SKYWARN Recognition Day



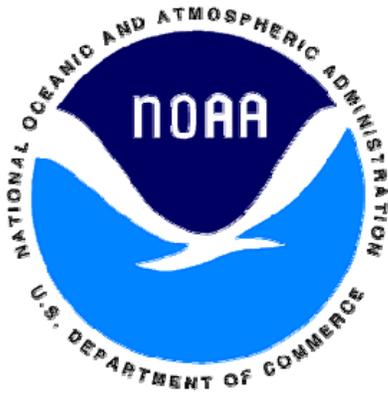
<http://hamradio.noaa.gov>

SKYWARN Recognition Day (SRD) was held December 2nd-3th 2011 at the Salt Lake City Weather Forecast Office. Amateur Radio Operators staffed the 24-hour event which began at 5pm Friday evening, and continued throughout the day Saturday.

SRD is an annual event typically taking place during the first weekend in December, in which volunteers set up in NWS offices and attempt to make contact with as many people as possible using different modes of communication. This year the volunteers made contact with 30 other NWS sites across the country, including offices as far east as Miami, FL, and Gray ME, to places locations

outside the lower 48 states such as Fairbanks AK and Honolulu HI.

SRD was established in 1999 by the NWS and the American Radio Relay League (ARRL) to celebrate the contributions SKYWARN volunteers make to the NWS. Many NWS offices acquire real time weather information from amateur radio operators in the field. These operators, for example, may report the position of a tornado, the height of flood waters, or damaging wind speeds during hurricanes. All of this information is critical to the mission of the NWS which is to preserve life and property. ore information <http://hamradio.noaa.gov>



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You can reach us at:
 NWS Salt Lake City
 2242 W North Temple
 Salt Lake City, UT 84116
 801-524-5133

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



NOAA Weather Radio Across Utah and Southwest Wyoming	
Site Name	Frq (MHz)
Bear Lake	162.500
Castle Dale	162.500
Coalville/Park City	162.475
Escalante	162.425
Evanston	162.450
Lake Powell	162.550
Logan	162.400
Manti	162.425
Milford/Cedar City	162.400
Moab	162.475
Monticello	162.450
Salt Lake City	162.550
St. George	162.475
Tabiona	162.550
Tooele (South Mtn.)	162.450
Tooele (Vernon Hills)	162.525
Vernal	162.400
Wendover	162.475

Skywarn News and Information

Thanks to all Spotters for your reports. Please remember to provide storm reports as soon as possible. These reports are extremely valuable in the warning decision making process as well as for our verification effort. The ideal way to report hazardous weather is by calling our office.

For more information on upcoming classes, online training, and other resources, check out the Utah and Southwest Wyoming Weather Spotter Homepage:

<http://www.wrh.noaa.gov/slc/spotter>

ATTENTION ALL SKYWARN SPOTTERS: Please email any changes to your contact information to: utah.spotter@noaa.gov

Weather Reports can be submitted via:

Online via E-Spotter: <http://espotter.crh.noaa.gov>

Email: utah.spotter@noaa.gov

Twitter: <http://www.wrh.noaa.gov/slc/twitter/twitter.php> or @NWSsaltlakecity

Facebook: <http://www.facebook.com/US.NationalWeatherService.SaltLake.gov>

CoCoRaHS: <http://www.cocorahs.org>

**Please call to report time-sensitive information such as tornadoes, hail, wind damage, flooding, ice accumulation, etc.*

What to Report:

Convective Weather

- * Tornado - Violently rotating column of air that touches the ground
- * Funnel Cloud - Violently rotating column of air that does not reach the ground (watch for rotation)
- * Wall Cloud - An isolated lowering from a cumulonimbus cloud base that resembles a pedestal (watch for rotation and persistence)
- * Hail of any size
- * Wind Damage - structural, trees uprooted, and/or large healthy limbs down
- * Wind Speed - approximately 50 mph or stronger

Flooding/Flash Flooding/Heavy Rainfall

- * Rapid rise of water along a stream, wash, or low lying area after a heavy rainfall
- * Water unusually high or flowing faster than normal
- * Water approaching bankfull or nearing roads/structures
- * Inch or more of rainfall observed in a short duration
- * Any observed flooding
- * Debris flow

Fire Weather

- * New wildfire threatening life/property
- * Smoke reducing visibilities to less than 2 miles
- * Weather pattern change that could give insight to NWS forecasters

Winter Weather

- * Snowfall accumulation (how much in what time period)
- * Snow depth
- * Freezing rain accumulation
- * Precipitation type change