Peak to Valley Weather

Volume 2, Issue 11

Spring/Summer 2014

The Official Newsletter of the National Weather Service Grand Junction

RECAP: A Look at December 2013 Against December 1919

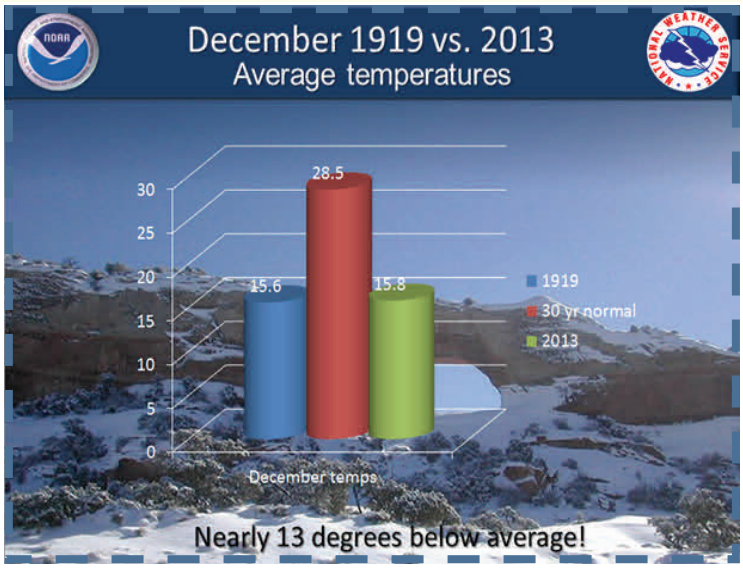
John Kyle, Data Acquisition Program Manager

With much of the nation experiencing a very cold winter, Grand Junction also received its share of cold temperatures. On December 4th, a strong winter storm dumped 6.5 inches of snow on Grand Junction. For the remainder of the month, western Colorado was under a frigid northwest flow, keeping cold air trapped in the Grand Valley. Occasional disturbances added to the snowpack, ending December with 10.7 inches of snowfall, more than twice the normal value of 4.9 inches.

In reviewing temperatures, December presented the valley with an average daily temperature of 15.8°F, claiming the title for the second coldest December on record. This very cold month also produced four record low daily temperatures!

Let's compare this data to the coldest December on record, which was 1919. Prime climatological conditions leading up to that event occurred when a big snowstorm struck Grand Junction on Thanksgiving. Twenty-two inches of snow fell over two days, followed by another 8 inches on December 8th. The end result was a substantial snowpack that led to an average December temperature of only 15.6°F! During the month of December 1919, the Grand Junction weather office recorded numerous daily record low temperatures, eight of which still stand today.

A normal December temperature is 28.5°F, so those months were nearly 13 degrees below normal! On a slightly different note, January 2013 was even colder under similar conditions and went down as the fifth coldest month on record, with an average temperature of 14.3°F. These two months, January and December, dropped the average yearly temperature for 2013 to 50.0°F. This is the second coldest year ever, dating back to 1893. The coldest year ever was in1912, when the average temperature was 49.9°F. For additional information, you may view our Multimedia Weather Briefing.



Inside this Issue

- Weather Safety for All
- 2013: Year of New Records
- Collaborative Data Networks
- Social Media Update
- You Can Be a SKYWARN Spotter!
- Get the Gauges Ready, Spring has Sprung!

Major Software Upgrade at NWS Grand Junction

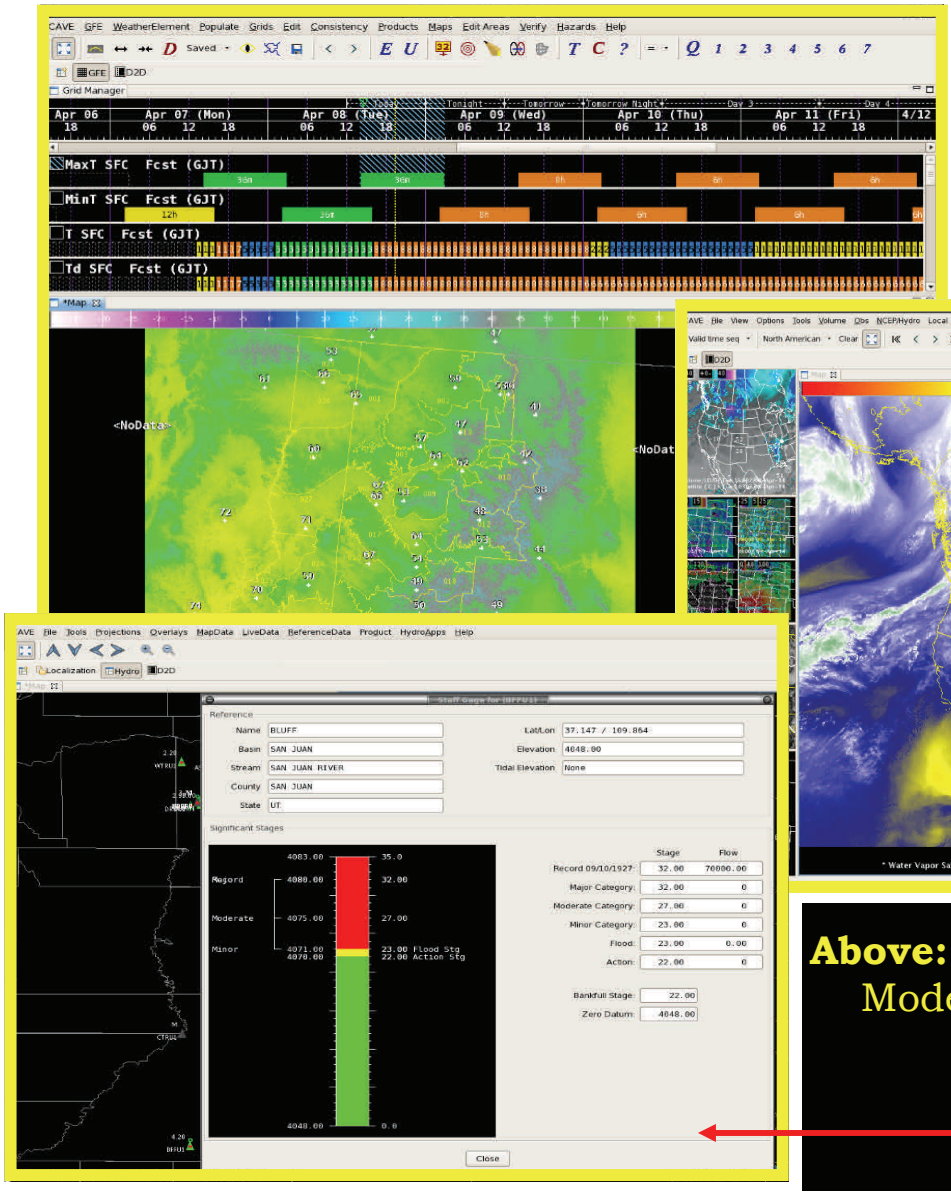
Paul Frisbie, Senior Forecaster. Dennis Phillips, Journey Forecaster

The second generation of AWIPS (Advanced Weather Interactive Processing System) arrived at the NWS Grand Junction office on March 18th, known as AWIPS2. This major software upgrade brings advanced capabilities that provide NWS meteorologists and hydrologists with new tools to analyze data and create warnings and forecasts. Code has been simplified that strengthens system performance and reduces the maintenance burden.

The newer structure of AWIPS2 allows for faster integration of the latest research and newer data sets. This includes geographically referenced data that will expand GIS products for our users. The software upgrade coincides with newer web tools like the Enhanced Data Display, User-Defined Area Forecast, and Detailed Hazards Map.

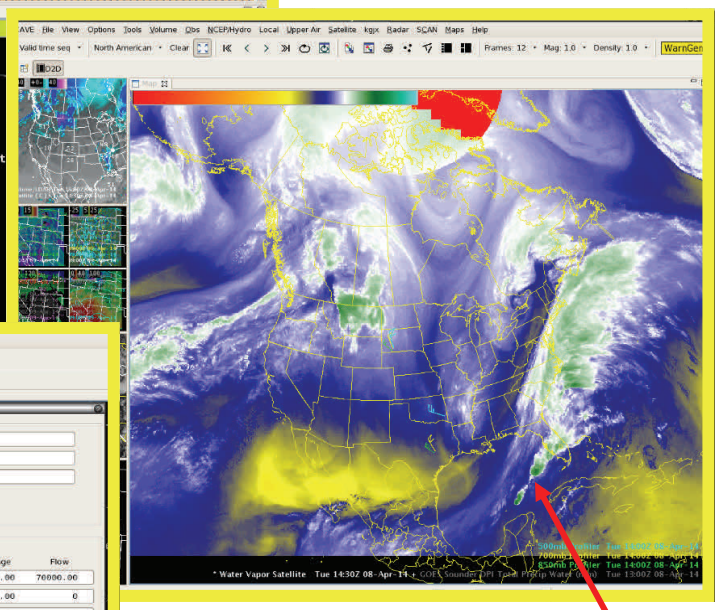
Like any major software upgrade, the forecasters and hydrologists are learning and adapting to the powerful capabilities of the new system. Once AWIPS2 is broken in (like a new baseball glove), the "outlook" will be improved forecast delivery services for the people who live, work, and play in western Colorado and eastern Utah.

Welcome to the CAVE: Common AWIPS Visualization Environment



The CAVE has merged three programs into one, creating a platform designed for more seamless forecasting.

Left: Forecast Creator



Above: Model & Weather Data

Left: River Monitor

Weather Office Staff Promotes Weather Safety

Jim Pringle, Warning Coordination Meteorologist

On February 20th and 21st of this year, Grand Junction WFO personnel staffed a weather safety booth at the annual Mesa County Safety Fair which targets grade school children, but also provides a wide array of safety information applicable to all ages. Emphasis at the NWS booth was on lightning safety, since lightning is the most common weather threat to people within western Colorado. Over 2000 people visited the safety fair, which included over 1200 children.

NWS Grand Junction staff, from left: Dennis Phillips, Becky Klenk, Jim Pringle, Travis Booth

Photo: Tom Renwick

2014 Severe Weather Awareness

Jim Pringle, Warning Coordination Meteorologist

The National Weather Service (NWS) mission statement is primarily focused on the protection of lives and property. To accomplish this mission, the NWS continues to promote weather safety information for everyone in an effort to build a Weather-Ready Nation.

Photo: Dan Bender

This effort includes **weather safety awareness** weeks, with the next one in Colorado the week of ***April 13-19*** that will promote severe weather safety mostly related to thunderstorm-related hazards.

All thunderstorms produce lightning which is the greatest direct-weather threat to people in this region. Due to the commonality of lightning throughout the United States, lightning safety is promoted during the **National Lightning Safety Awareness** Week in ***June***. You can minimize your chances of being struck by lightning if you follow some basic guidelines which can be found on our NWS Lightning Safety website.

Other weather threats that are covered during Severe Weather Awareness Week include tornadoes, wildfires, floods and flash floods, straight-line thunderstorm winds and hail.

Flood waters rush around a house in Long Island, New York. (photo credit: USGS).

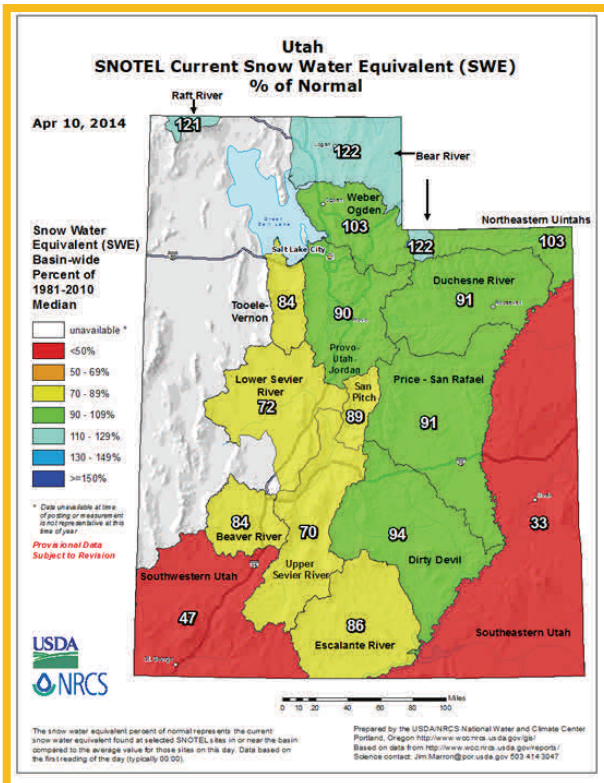
Downtown Franklin, VA inundated by flood waters. (photo credit: FEMA)

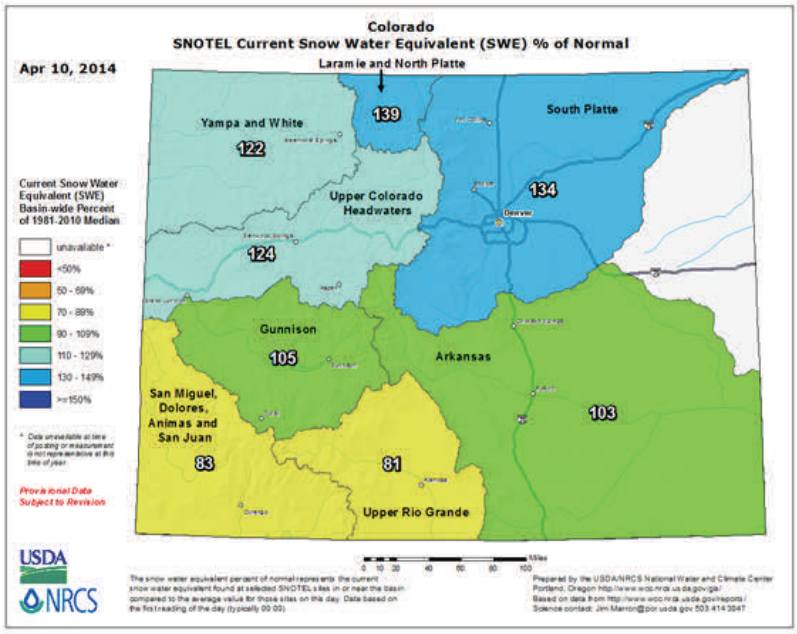
Spring Flood Potential Outlook for 2014

Aldis Strautins, Service Hydrologist

The potential for spring flooding, due to snowmelt, is higher than usual for the Yampa, Little Snake, Upper Green, Upper Colorado, Eagle, Roaring Fork, and Gunnison River basins. These river basins will have to be monitored closely during the spring runoff. Flood potential for the Duchesne, southeastern Utah, and southwestern Colorado basins are not high at this time.

Spring temperatures affect the pattern of snowmelt runoff and consequently the magnitude of peak flows. In normal years, additional snowpack can accumulate in the mountains through April. Heavy rainfall or unseasonably warm temperatures during the snow melt season can affect total runoff volume and increase the flood threat.





Colorado / Utah SNOTEL current Snow Water Equivalent % of Normal (produced by NRCS)

NWS Provides Decision Support during 2014 Winter X Games

Jim Pringle, Warning Coordination Meteorologist

GJT WFO forecasters provided weather information services to support a local government's Incident Command Team (ICT) during the 2014 Winter X Games that were conducted at the Buttermilk Ski Area near Aspen, Colorado, from January 23rd to the 26th. During that time period, skies were generally clear with a warming trend. Maximum temperatures on the first day of the event only got close to freezing, then by the 26th the high temperature at the mountain base was into the upper 30s.

Photo: Grand Junction NWS

Join CoCoRaHS - "Community Collaborative Rain, Hail and Snow Network"

Jim Pringle, Warning Coordination Meteorologist

What is CoCoRaHS?

CoCoRaHS, also known as the Community Collaborative Rain, Hail and Snow Network, 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).

http://www.cocorahs.org/

CoCoRaHS observers provide precipitation reports on a daily basis, with volunteers in all fifty states and Canada. The precipitation data is used by meteorologists, hydrologists, climatologists, emergency managers, city utility personnel, insurance adjusters, the USDA, engineers, mosquito control personnel, ranchers and farmers, outdoor & recreation interests, teachers, students, and many others.

It's *easy* to become a volunteer CoCoRaHS observer. All you need to do is register on the CoCoRaHS website and obtain a 4-inch cylindrical rain gauge. User friendly training on how to accurately measure rain, snow, and hail can also be found on the CoCoRaHS website. *It usually only takes a few minutes each day to take the precipitation measurements and post the readings online.*

One of the goals of CoCoRaHS is to have as dense of an observation network as possible. This helps people who use the precipitation reports to better understand the spatial variability of rainfall, snowfall or hail accumulations.

School Participation in CoCoRaHS

Teachers who participate in CoCoRaHS provide an ideal educational experience for their students to better understand how precipitation is measured and reported. The online training presentations are an excellent classroom resource.

NWS Social Media Update

Travis Booth, Meteorologist Intern

Have you found the NWS at Grand Junction on social media yet? Nearly 3,000 people and organizations are directly plugged into our office Facebook, Twitter, and YouTube pages as fans/followers/subscribers. This number is approaching 3 million across the entire National Weather Service!

Growth of the NWS Grand Junction social media sites has been impressive with our Facebook fans nearly tripling during the past 18 months, while our Twitter followers have increased six-fold over the past 12 months! Also a year ago, we began producing occasional multimedia weather briefings to place on our YouTube page with nearly 13,000 views so far. As you can see, social media has turned into a great supplemental channel for us to disseminate weather/climate information and promote weather safety awareness activities.

Additionally, we enjoy using our office social media pages as a way to interact with our users, allowing us to improve our services.

Fans/Followers/Subscribers of our sites are encouraged to ask questions or write comments, post weather related pictures, and report significant weather. Unfortunately, we may not be able to answer questions and comments at times due to significant weather, so we do appreciate your patience. But we will be monitoring the page for weather reports or photos you may post.

If you would enjoy receiving our weather "heads up" and interacting with some of the office meteorologists, please "like", "follow", and "watch" us on your favorite social media outlet!

Western Colorado-Eastern Utah SKYWARN® Spotters

Jim Pringle, Warning Coordination Meteorologist

Skywarn ® spotters are the mobile version of the trained volunteer storm spotters for the National Weather Service. Additionally, the Skywarn ® spotters use amateur radio for communications between themselves and also with the National Weather Service (NWS) forecast office, occasionally reporting in from areas where amateur radio is the only form of communication. The Grand Junction NWS office coordinates a number of county-based Skywarn units in eastern Utah and western Colorado.

In appreciation of this great volunteer service provided by the Skywarn ® spotters, the National Weather Service hosts Skywarn Recognition Day (SRD) each year on the first Saturday of December. During the most recent SRD, about 20 Skywarn ® spotters from Mesa, Delta, and Montrose Counties came to the Grand Junction NWS office to participate.

SRD allows Skywarn ® participants an opportunity to communicate with other amateur radio operators throughout the world, then keeping track of those contacts that were made. At the end of the event, the amateur radio contacts are tallied by state, NWS forecast office, and total contacts (QSOs). Results of those communication contacts are then quality controlled for accurate counts. The final results are then posted on the SRD website.

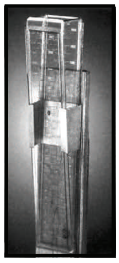
The most recent SRD participation at the Grand Junction NWS forecast office resulted in the western Colorado Skywarn ® spotters taking **1st place** for the number of states contacted, and 4th place for the number of NWS forecast offices contacted!

Clockwise from left: Royce Seymour, Bill Eads, Lewis French, John Malone, John Bruce, Larry Bullard, and Richard Schultz *Photo: Jim Pringle*

Rain Gauge Time!

Jim Pringle, Warning Coordination Meteorologist

Precipitation reports are an integral part of the NWS records. They help verify warnings, advisories and forecasts issued by meteorologists and serve as a comparison tool against radar data.



As soon as it looks like the chance for freezing temperatures will no longer occur, please set your **wedge rain gauge** back outside.

If you have a **4-inch cylindrical rain gauge,** insert the inner tube back inside the 4-inch cylinder and place the funnel back on the top.

Thank you for your reports!