Peak to Valley Weather

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The Official Newsletter of the National Weather Service Grand Junction

NWS Highlights Weather Safety

Dea Bridge, Administrative Support Assistant

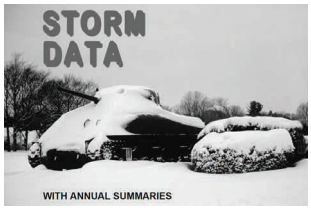
The Grand Junction weather office joined 28 local entities at the Mesa Mall in providing a wide range of safety information to our community. Annually, the staff provides demonstrations and information during the Mesa County Safety Fair. While lightning activities, tornadoes in a jar, and a packet of resources for teachers are interesting, the highlights always seem to be the tornado simulator and giant helium balloon. The balloon is launched two times per day, with an instrument attached, that collects weather data and sends it back to the Grand Junction office. If you're out exploring the countryside, be on the lookout for one of these devices that has fallen back to earth, as it can be reused.

Forecast Staff of Grand Jct., CO

Looking for Free Climate Publications?

John Kyle, Data Acquisition Program Manager

Want to find out how much snow *really* fell in the big Grand Junction snowstorm of November 1919? Need to find 15 minute precipitation amounts for Ouray for that insurance claim? Would you like to see the official storm data reports for Hurricane Katrina?



All of this and much more is now available, for free, from the National Climatic Data Center (NCDC). Official publications such as Storm Data, Cooperative Observer Data/Forms and Climatological Data can now be accessed by the public free of charge. Previously, this information was accessible only via a 'pay-per-view', to offset the costs of quality control, data management and printing. As of February 13, 2012, this information became free! Go to NCDC to access the data. Due to quality control processes involved with publishing the data, the latest data available will normally be at least a few months behind the current date.

NOAA Weather Radio in Mesa County Schools

Jim Pringle, Warning Coordination Meteorologist

On March 19th, SKYWARN volunteers distributed NOAA Weather Radio All Hazards (NWR) receivers to over 50 public schools in Mesa County, Colorado. NWR receivers will alarm when life-threatening weather warnings are issued for the listening area. For more information about NWR, check out the All-Hazards NOAA Weather Radio website.

Of Interest

- *Flood Safety Week*
- *Colorado Severe Weather Week*
- *Lightning Safety Week*
- *NCDC Defines New "Normals"*
- *CoCoRaHS Needs Your Help - Be a Weather Observer!*

Using Social Media to Enhance Situational Awareness

Travis Booth, Meteorological Intern

Situational awareness is an important part of the daily forecast duties and with the diverse topography of eastern Utah and western Colorado, many unique and unexpected meteorological phenomenon can occur.

While the Grand Junction office currently uses Facebook as one of many channels to provide a weather "heads up" to decision-makers and the public, it has also been discovered that Twitter can be used to watch for significant weather that may otherwise go unreported.

The current network of trained spotters provides a great resource, keeping the staff aware of severe weather that may not be picked up by satellite, radar, or other observation platforms. However, Twitter can fill in even more of the gaps.

When people tweet (a Twitter post) about the weather, the office is able to monitor those streams of tweets through social media dashboards, such as HootSuite. By narrowing down the search to certain keywords, locations, and groups, the staff is able to take in what others are saying about the weather in their area. While far from perfect, tweets provide yet another tool to monitor the meteorology of the region.

Although Grand Junction does not currently transmit any of its products via Twitter, a few National Weather Service offices do. Some that might be of interest include: NWS Headquarters, NWS Western Region, and NWS Salt Lake City.

New "Normals" Now in Effect

John Kyle, Data Acquisition Program Manager, with information from NCDC

National Climatic Data Center
U.S. Department of Commerce

NOAA's National Climatic Data Center (NCDC) released the *1981-2010 Normals* last year, and are now being used in routine weather and climate summaries. Climate Normals are the latest three-decade averages of climatological variables, including temperature and precipitation. This new product replaces the 1971-2000 Normals product. Additional Normals products, such as frost/freeze dates, growing degree days, population-weighting heating and cooling degree days, and climate division and gridded normals will be provided in a supplemental release later this year.

What are Normals?

In the strictest sense, a "normal" of a particular variable (e.g., temperature) is defined as the 30-year average. For example, the minimum temperature normal in March for Grand Junction, Colorado, would be computed by taking the average of the 30 January values of monthly-averaged minimum temperatures from 1981 to 2010. Each of the 30 monthly values was in turn derived from averaging the daily observations of minimum temperature for the station. In practice, however, much more goes into NCDC's Normals product than simple 30-year averages. Procedures are put in place to deal with missing and suspect data values. In addition, Normals include quantities other than averages, such as degree days, probabilities, standard deviations, etc. Normals are a large suite of data products that provide users with many tools to understand typical climate conditions for thousands of locations across the United States.

Why does NOAA produce Normals?

NOAA's computation of Climate Normals is in accordance with the recommendation of the World Meteorological Organization (WMO), of which the United States is a member. While the WMO mandates each member nation to compute 30-year averages of meteorological quantities at least every 30 years (1931 - 1960, 1961 - 1990, 1991 - 2020, etc.), the WMO recommends a decadal update, in part to incorporate newer weather stations. Further, NCDC has a responsibility to fulfill the mandate of Congress "... to establish and record the climatic conditions of the United States."

What are Normals used for?

Meteorologists and climatologists regularly use Normals for placing recent climate conditions into a historical context. NOAA's Nor-

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Flood Safety Awareness Week - March 12-16, 2012

"As little as 18 inches of rapidly moving water can lift most cars; 6 inches can sweep you off your feet."

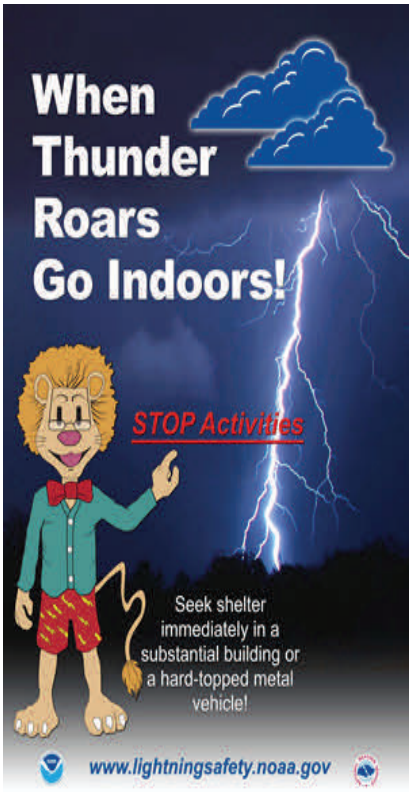
Flooding can be a major problem in certain areas. To avoid getting caught unexpectedly in a flash flood, follow these simple guidelines:

- Monitor the NOAA Weather Radio All Hazards, or your favorite news source, for vital weather-related information.
- If flooding occurs, get to higher ground immediately. Get out of areas subject to flooding. This includes dips, low spots, canyons, washes, etc.
- Avoid areas already flooded, especially if the water is flowing fast. Do not attempt to cross flowing streams. Turn Around Don't Drown™
- Road beds may be washed out under flood waters. NEVER drive through flooded roadways. Turn Around Don't Drown™
- Do not camp or park your vehicle along streams and washes, particularly during threatening conditions.
- Be especially cautious at night when it is harder to recognize flood dangers.

Prevention can go a long way toward ensuring everyone returns home safely.

Colorado Severe Weather Week - April 15-21, 2012

National Lightning Safety Week - June 24-30, 2012

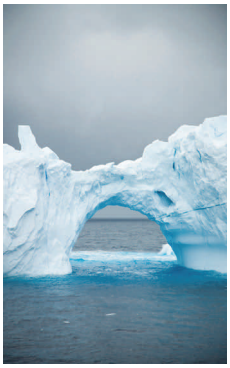


What You Might Not Know About Lightning

- All thunderstorms produce lightning and are dangerous. In the United States, in an average year, lightning kills about the same number of people as tornadoes and more people than hurricanes.
- Lightning often strikes outside the area of heavy rain and may strike as far as 10 miles from any rainfall. Many lightning deaths occur ahead of storms or after storms have seemingly passed.
- If you can hear thunder, you are in danger. Don't be fooled by blue skies. If you hear thunder, lightning is close enough to pose an immediate threat.
- Lightning leaves many victims with permanent disabilities. While a small percentage of lightning strike victims die, many survivors must learn to live with very serious lifelong pain and neurological problems.
- In Colorado and Utah, more people are killed by lightning during most years than from any other type of storm event. Since 1959, there have been 141 documented lightning fatalities in Colorado, and 52 in Utah. Last year, three people in Utah were killed by lightning, which tied with Missouri for the state with the most lightning fatalities in 2011.

For more information about lightning, including safety tips, the science behind lightning, medical concerns and school resources, click on the "**Safety**" link in the title above.

"Normals" continued from page 2



mals are commonly seen on local weather news segments for comparisons with the day's weather conditions. In addition to weather and climate comparisons, Normals are utilized in seemingly countless applications across a variety of sectors. These include: regulation of power companies, energy load forecasting, crop selection and planting times, construction planning, building design, and many others.

How many stations will be included in the normals?

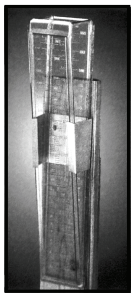
The 1981-2010 Climate Normals includes normals for over 9800 stations. Temperature-related normals are reported for 7500 stations and precipitation normals are provided for 9300 stations, including 6400 that also have snowfall normals and 5300 that have normals of snow depth.

How do the new (1981-2010) Grand Junction normals compare to the old (1971-2000) normals?

As an example of the change, the Grand Junction monthly precipitation average for September increased 31%, going from 0.91" to 1.19". While this is a remarkable change, other differences are common for most stations. Click here for more information on the new normals. To see new normals with variable selections, go to the geographical display .

Report That Rain!

Precipitation reports are an integral part of the NWS records. They help verify watches, warnings 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!

EDUCATIONAL RESOURCES

Click on the links below:

JetStream - Online School for Weather

National Weather Service Publications:

Electronic materials relating to weather safety and awareness

NOAA Office of Education:

Student Scholarship Opportunities

Formal/Informal Education Programs

Weather and Atmosphere

The Weather Calculator - Conversion formulas for temperature, wind chill and more!

Weather Window - Cloud Identification and Weather Prediction

Web Weather for Kids - Cool Weather Stuff!