



2011

NWS Products and Information Guide



*“Saving Lives and
Protecting
Property within
our Communities
for over 100
years”*



WFO Grand Junction, CO
National Weather Service
9/1/2011

Table of Contents

National Weather Service Mission	5
NWS Core Values	5
NWS: A Brief History	6
Grand Junction WFO History.....	6
NWS Today	8
NWS Agency Structure	9
Public Safety and Decision Support	12
Weather’s Impact on Society	13
Building Your Forecast:	14
Graphical Forecasts.....	15
Weather Forecasts to Live By	16
Point Forecast at a Glance – Your Primary Forecast.....	16
Quick Forecast.....	17
Forecast Meteograms	18
Weather Story	19
Weather Headlines	20
Weather Forecast Zones	20
UNDERSTANDING NWS FORECAST TERMS	23
Sky Condition	23
Wind.....	23
Temperature	23
Probability of Precipitation (PoP)	24
Wind Chill and Heat Index Tables	25
Severe Weather & Flood Operations	26
Severe Weather and Water Outlooks - “Get Ready”	28
Hazardous Weather Outlook	28
National Hazards Assessment.....	28
Severe Weather and Water Watches - “Get Set”	30
Convective & Hazardous Weather Services.....	30
Severe Weather Warnings - “Go”	32
Weather Advisories - “Go”	33

Weather and Water Statements.....	34
Western Colorado & Eastern Utah Storm Spotter Program.....	35
Reporting Severe Weather	36
Estimating Wind Speed	36
Estimating Hail Size	36
Suggested Reporting Information.....	37
STORMREADY!	38
Damage Assessments and Storm Statistics	39
Air Quality Weather Services	40
AVALANCHE WEATHER SERVICES	41
Aviation Weather Services	42
Fire Weather Services.....	43
Water Resource Services	47
Advanced Hydrologic Prediction Service	49
Snow and Winter Weather Information.....	51
Other Weather Services	53
Marine and Coast Weather Services.....	53
National Centers for Environmental Prediction.....	53
Tropical Weather Services – National Hurricane Center	54
Tsunami Warning Services	55
Forensic Weather Services.....	55
Weather Data & Observations.....	56
COMMUNITY COLLABORATIVE RAIN, HAIL & SNOW NETWORK (COCORAHS)	62
WEATHER OBSERVATION SYSTEMS.....	63
Weather Radar.....	63
Weather Satellite.....	63
Surface Weather Observations	63
ROMAN – Real-Time National Observation and Analysis Network.....	63
Eastern Utah and Western Colorado Observations	63
Climate Monitoring.....	64
Cooperative Observation Network (COOP)	64
National Buoy Center.....	64
River Levels	64
Space Weather Monitoring.....	64

National Weather Service: Equipment	65
NOAA Climate Services	66
Climate Data and Information	66
Applied Climate Information System (ACIS)	67
Climate Data and Forecasts on the Internet.....	68
Sources for NWS PRODUCTS	71
National Weather Service on the Internet	72
Grand Junction Weather Forecast Office	73
Social Media	74
Facebook.....	74
Podcasts	74
RSS Feeds	74
Twitter.....	75
YouTube	75
NOAA Weather Radio All Hazards	76
Mobile Services	78
Decision support Systems	79
NWSChat – using Pidgin display software	79
Emergency Alert System (EAS)	80
Education and Career Resources	81
NWS PARTNERS	82
Other NWS Collaboration and Services	84
WEATHER-RELATED WEBSITES	85

NATIONAL WEATHER SERVICE MISSION AND VISION



National Weather Service Mission

The National Weather Service (NWS) provides weather, hydrologic and climate forecasts and warnings for the United States, its territories, adjacent waters, and ocean areas for the protection of life and property and the enhancement of the national economy. NWS data and products form a national information database and infrastructure that can be used by other governmental agencies, private agencies, the public, and global community.

NWS Grand Junction Weather Forecast Office (WFO) Mission

To provide western Colorado and eastern Utah quality weather, water, and climate forecasts using innovative techniques in a cost effective manner to eliminate weather-related fatalities and property loss while protecting the environment and improving the economic well being of our community.

NWS Core Values

The NWS has a long tradition of combining service, science, and technology in order to serve the American people. This tradition establishes the NWS core values of what is important and provides the context to guide growth.

The NWS Values:

- Service to our customers and partners
- Respect and trust of others
- Open exchange of information and ideas
- High standards of integrity, teamwork, and self-improvement
- A diverse, innovative, and empowered workforce



WFO Grand Junction, Colorado

Photo: Brian Avery

NWS Vision

Working together to provide the best weather, water, and climate information in the world by:

- Producing/delivering information you can trust
- Incorporating advances in science and technology
- Measuring, reporting and evaluating performance
- Reducing weather and water-related fatalities
- Working with others to make the weather, water and climate enterprise more effective



Forecaster/Skywarn Coordination

Photo: Jim Pringle

NWS: A BRIEF HISTORY

Protecting Lives and Livelihoods, Property and the Environment from Weather and Water Hazards since 1870

National History

The weather has played an integral part in American lives from the country's beginnings with weather record keeping dating back to the settlers of the 1740s. Congress passed the Organic Act in 1870 developing the "Army Signal Service," the NWS's first official title. The act authorized "*the Secretary of War to take observations at military stations and to warn of storms on the Great Lakes and the Atlantic and Gulf coasts.*" The Signal Service became the "Weather Bureau" when it moved to the Agriculture Department in 1891. Realizing the Weather Bureau played an important role for the aviation community and thus commerce, President F. D. Roosevelt transferred the Weather Bureau to the Department of Commerce (DOC) in 1940 where it remains today. The Weather Bureau name changed to the "National Weather Service" in 1970 and became an agency of the Commerce Department's newly created National Oceanic and Atmospheric Administration (NOAA).

Learn more about the NWS and NOAA online at:

www.nws.noaa.gov/pa/history/index.php



Grand Junction WFO History

Weather observations taken in Grand Junction began shortly after the city was first established in the early 1880s. Old records indicate that sporadic observations were recorded from April 1884 through April 1888. Exact locations are uncertain, but they were generally taken at the homes or offices of either Frank MacClintock or L.F. Ingersoll. Unfortunately, no observations have been found from the late 1880s to the early 1890s.

In March 1892, a cooperative observation program was established with Dr. S.M. Bradbury as the first observer. These weather observations were taken from his office on the upstairs floor at 520 Main Street and continued through December 1898.



In October 1898, Oscar D. Stewart was appointed as the first Weather Bureau employee in the Grand Junction area. His mission was to establish and manage an official U.S. Weather Bureau office. The office, at the corner of 4th and Main, opened on January 1, 1899. Following Mr. Stewart, who was the Official-in-Charge (OIC) until November 1902, came Richard H. Sullivan (January 1903 - September 1905), R.M. Hardinge (September 1905 - March 1907), L.J. Guthrie (March 1907 - April 1908), and again R.M. Hardinge (April 1908 - February 1911).



In February 1911, E.S. Nichols took over as OIC. During this period, many changes took place including the development of a fruit frost forecast program.

The office then moved to the corner of 5th and Main on January 31, 1914. On March 15, 1918, the office relocated to the post office building on 4th and Rood where it stayed for the next 28 years.

Mr. Nichols left in August 1920 and OICs during the next two decades included A.M. Hamrick (November 1920 - July 1921) and Ernest L. Felton (July 1921 - October 1941). A big program change occurred during Mr. Felton's long tenure with the advent of pilot balloon (pibal) observations in the summer of 1938. After Mr. Felton left, Charles Howard ran the office during the turbulent and hectic war years from October 1941 through June 1946. A major event was the move of the office from downtown Grand Junction to the Grand Junction Municipal Airport (later renamed Walker Field) 5.5 miles north of the city. This occurred on March 16, 1946.



Upper air soundings (RAOBS) were also initiated during this period. The U.S. Army began taking upper air soundings in May 1944 and the Weather Bureau took over on October 1, 1944. This created some difficulty since the upper air soundings were taken at the airport while the Weather Bureau office remained downtown. This problem lasted several months until the Bureau office moved to Walker Field.

July 1, 1946 saw the beginning of the longest tour of duty by any OIC at Grand Junction. Keith Kerr held the OIC position from that date until retiring from the government 26 years later in June 1972. In addition, the early 1970's were also a time of great change for the Weather Bureau as a whole. The organization was renamed the National Weather Service and placed under a new entity called the National Oceanic and Atmospheric Administration (NOAA).



Mr. Kerr was followed by Tom MacKenzie (August 1972 - June 1978) and Derry Newby (July 1978 - August 1989). During Mr. Newby's era, the office made a "temporary" move to the top floor of an office building on Crossroads Boulevard. The temporary move lasted until the office moved back onto airport property into specially built facilities in June 1995 (current location). It should be mentioned that the 1990's saw the implementation of a national NWS modernization program. In Grand Junction, this began in earnest in the fall of 1994 with the hiring of an administrative assistant. Modernization continued through the fall of 1995 with the addition of five weather forecasters. In April 1996, human observations, which had been the rule since the office's beginning, were replaced by an Automated Surface Observing System (ASOS). In June 1996, the first dedicated weather radar, the WSR-88D Doppler Weather Radar, was commissioned atop the Grand Mesa. The Grand Junction NWS Office now consists of a staff of 25 meteorologists and support personnel who serve the people of western Colorado and eastern Utah.

Brenda Brock was the first Meteorologist-in-Charge (MIC) of the current NWS Office where she remained from November 1989 to December 1990. Ms. Brock was followed by Douglas Crowley (January 1991 - April 1993) and Robert W. Jacobson Jr. (November 1993 - May 2000). Douglas Crowley, the current MIC, returned to Grand Junction in October 2000.

NWS Today

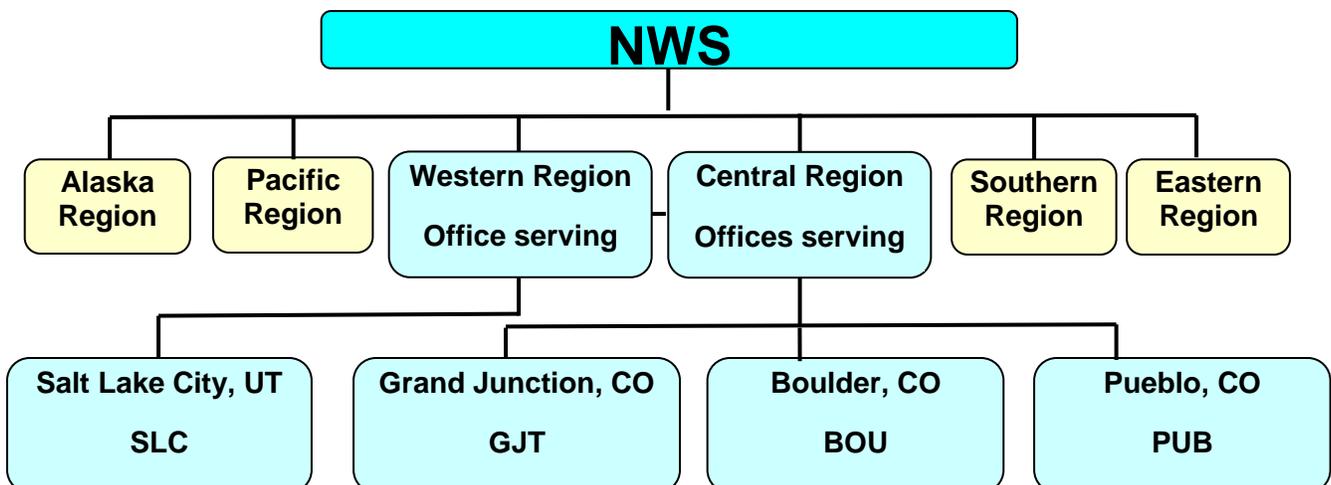
The primary responsibility of the NWS is to issue and disseminate hazardous weather and flood warnings to protect life and property and to also enhance the national economy. Professional meteorologists and hydrologists at 122 forecast offices and support centers across the nation support this important mission by analyzing satellite imagery, Doppler radar, observations and other weather and hydrological data. The results are numerous hydro-meteorological forecasts for the public and other interests including the aviation and marine communities.

NWS AGENCY STRUCTURE

The NWS is a Federal agency under NOAA which is an agency of the DOC.



The NWS is composed of six regions supporting 122 forecast offices across the United States including Alaska, Guam, Hawaii and Puerto Rico. WFOs serving Colorado include the Grand Junction, Boulder/Denver, and Pueblo offices. The two WFOs serving Utah are the Grand Junction and Salt Lake City offices. The Grand Junction WFO maintains weather and hydrologic surveillance and forecasting responsibility for western Colorado and eastern Utah.



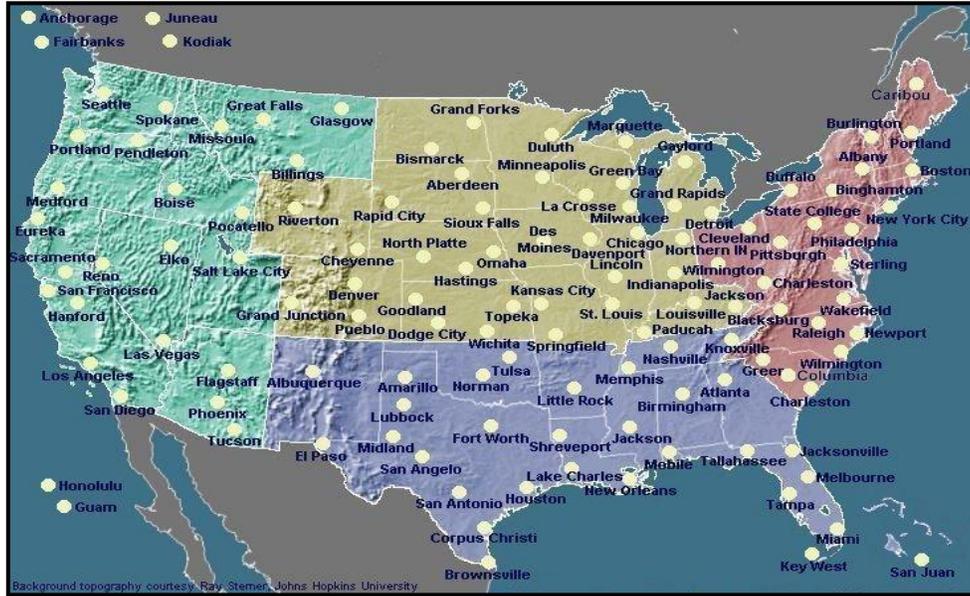


Figure 1. NWS Weather Forecast Office Locations.

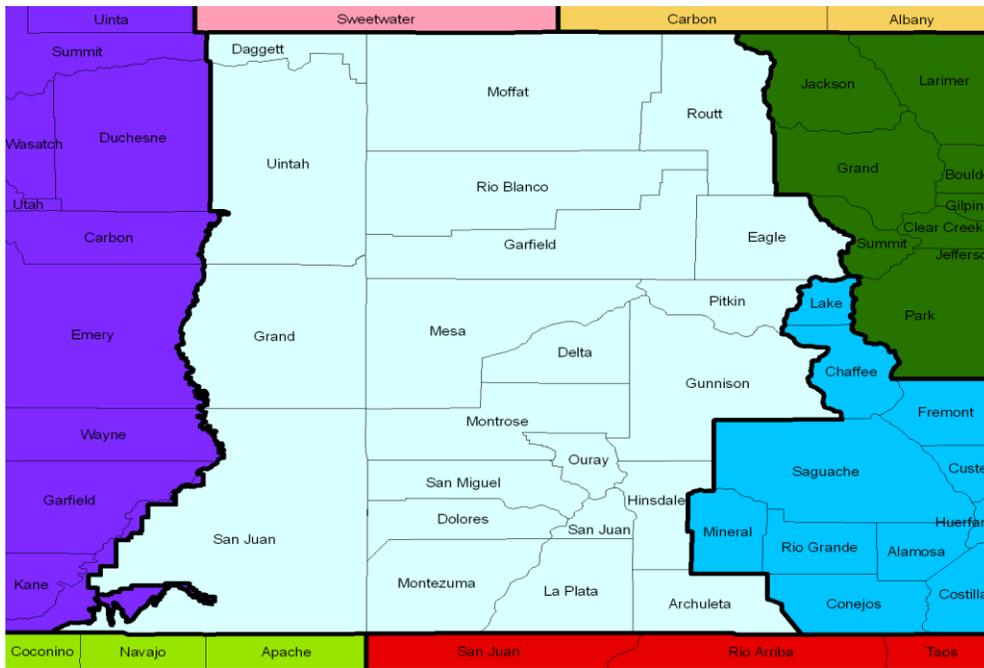
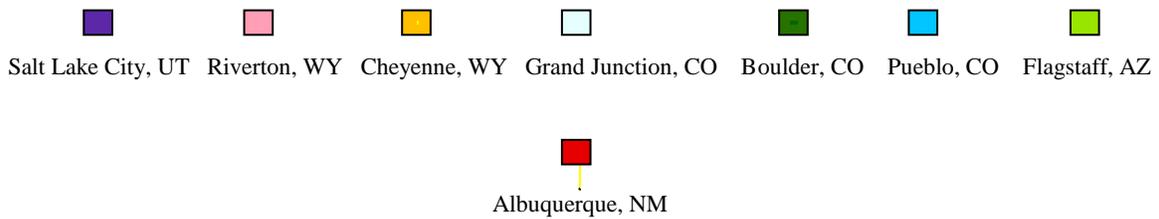
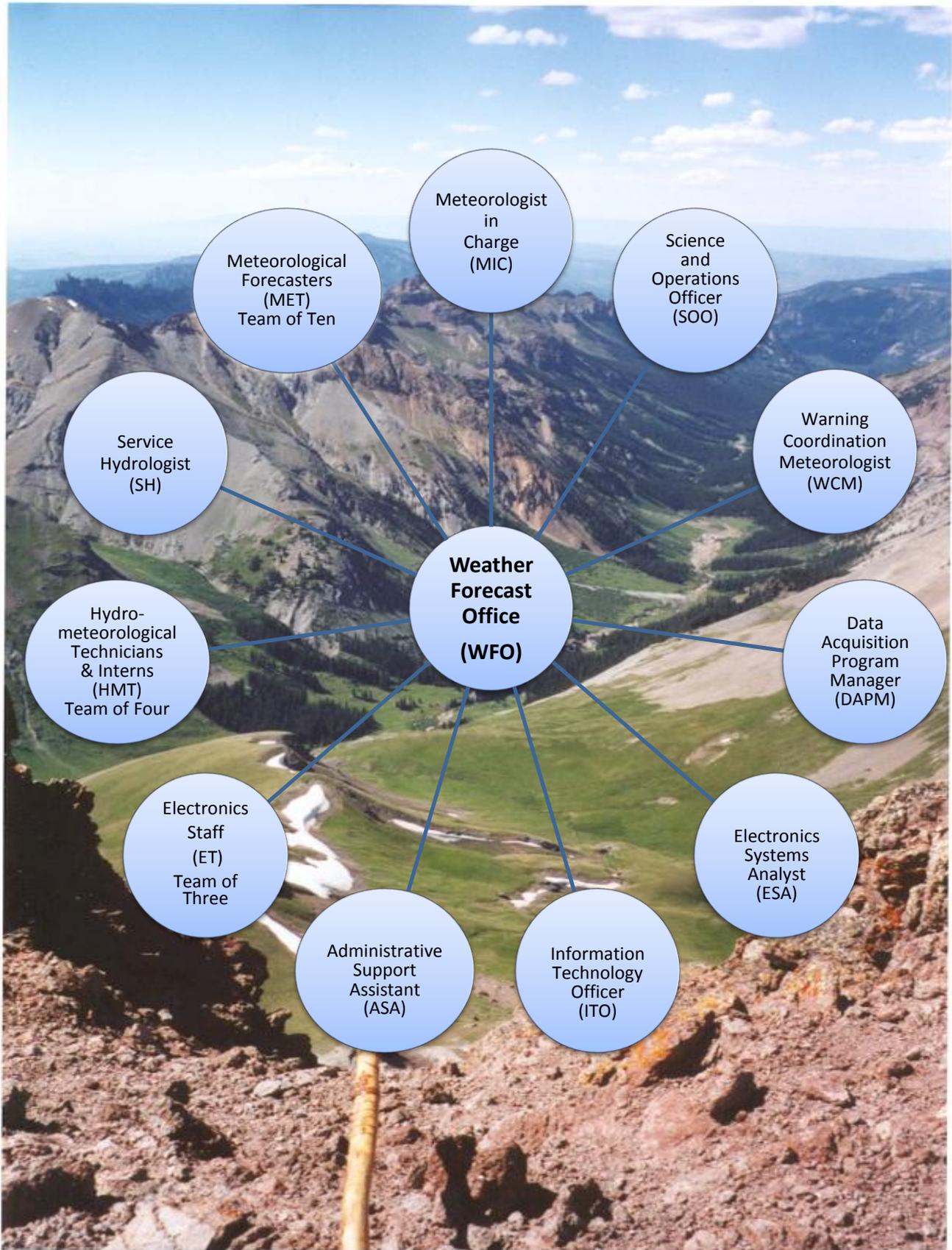


Figure 2. Colorado and Utah Counties Served by Weather Forecasts Offices and Neighbors.





PUBLIC SAFETY AND DECISION SUPPORT

Better Decisions for America by Improving Forecaster-Provided Interpretive Services for Decision Makers

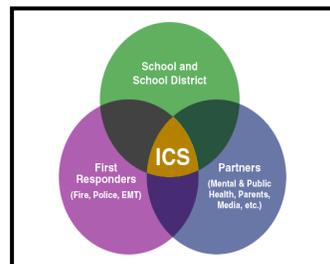
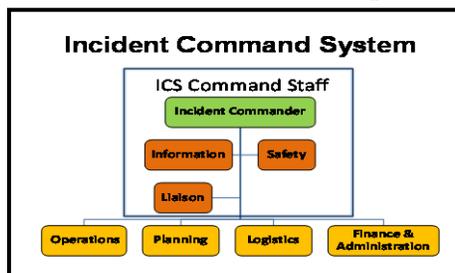
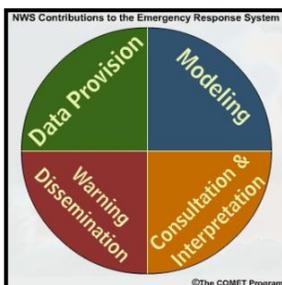
Since its inception, the NWS has played an integral part in the daily decisions of American lives and livelihoods. Decision Support Services (DSS) have evolved over the years to now provide direct public safety support to Americans so they can make better daily decisions. DSS provides specific, mission-based, situational information support that includes our expert interpretation and explanation of weather and water hazards. This support is also provided in easy-to-understand formats and language our users can understand.

The goal of DSS is to help decision-makers make better choices by providing environmental data, forecasts, warnings, and expert collaboration through various communication technologies.

In the future, the NWS will be focused on supporting high impact incidents where weather and water hazards are a factor.



Figure 1. The future NWS will focus on all aspects of decision support.



WEATHER'S IMPACT ON SOCIETY

Weather, water and climate are woven into the fabric of society. They impact everyday decisions down to the smallest level. The NWS is focused on building relationships between the earth sciences and social sciences with the following objectives:

SAFER - (Societal Applications for Enhanced Readiness)

Vision: "Keeping America SAFER by understanding and integrating societal impacts into NWS products and services; to enhance public awareness and readiness associated with weather, water, and climate."

Objectives: To improve NWS decision support and mission delivery through the integration of social principle into NWS products and services. This will be accomplished by:

- More fully understanding the impacts of weather, water, and climate on society
- Providing more effective products and services by incorporating information on societal effects
- Developing more effective products and services through an increased understanding of how society interprets and responds to information
- Providing more efficient delivery of products and services by understanding changes in society and more effectively communicating through all media

Societal Impact Resources: (not all inclusive)

Weather and Society*Integrated Studies (WAS*IS)

www.sip.ucar.edu/wasis/



Social Science Woven into Meteorology

www.evegrunfest.com/SSWIM

Societal Impacts Program – National Center for Atmospheric Research

www.ncar.ucar.edu

Societal Impacts of Weather and Climate – NCAR / UCAR

www.ncar.ucar.edu

Societal Aspects of Weather

www.sip.ucar.edu/socasp



Societal Aspects of Weather – University of Colorado

sciencepolicy.colorado.edu/socasp/toc-img.html

Natural Hazards Center

www.colorado.edu/hazards



National Weather Association

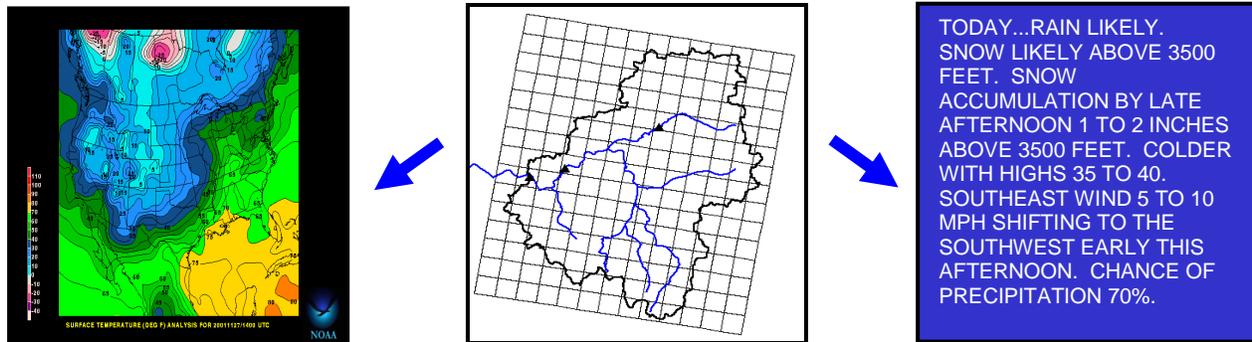
www.nwas.org/committees/societalimpacts

American Meteorological Society – Weather, Climate, and Society Journal

www.ametsoc.org

BUILDING YOUR FORECAST: ONE GRID AT A TIME

The NWS makes forecasts by creating a baseline forecast grid set called the National Digital Forecast Database (NDFD). The NDFD contains a seamless mosaic of NWS digital forecasts from every NWS field office working in collaboration with the National Centers for Environmental Prediction (NCEP). The database is available to all customers and partners to create a wide range of graphic and text products.



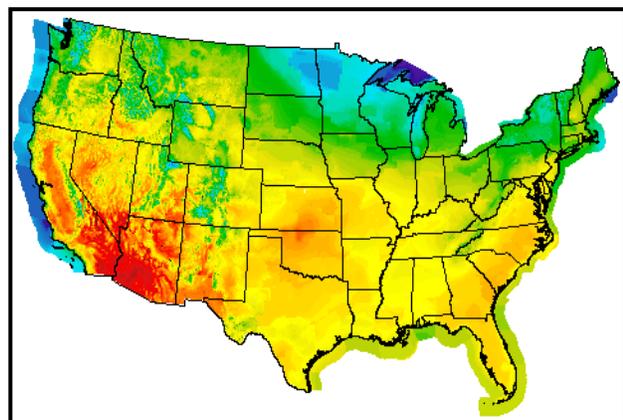
The digital database benefits are extensive and customers will find the NDFD a trustworthy source of information. The NDFD is current except for time-critical warnings such as tornado and flash flood warnings.

Any user with internet access may download current information from the NDFD. Examples of NDFD applications and products include:

- Decision support systems with forecasts designed for specific situations
- Multi-lingual text products
- Weather information along a route, such as forecasts for a multi-state drive
- Forecasts for vehicles and hand-held devices with Global Positioning Systems (GPS)
- Controls for smart appliances (e.g., heating, cooling, irrigation)
- Mass media graphics
- Mobile weather alerts

www.weather.gov/ndfd

Figure 2. NDFD National Temperature Grid.



Graphical Forecasts

NWS forecasts graphically represent a topographic distribution of the following weather variables available in daily, weekly and loop displays.

- Maximum and minimum temperatures
- Probability of precipitation
- Weather type
- Hourly temperature
- Wind speed, direction, and gusts
- Sky cover percent
- Forecast precipitation and snow amount
- Apparent temperature (i.e. wind chill)
- Relative humidity
- Dewpoint temperature

For complete NDFD data, please visit:

www.weather.gov/forecasts/graphical/sectors

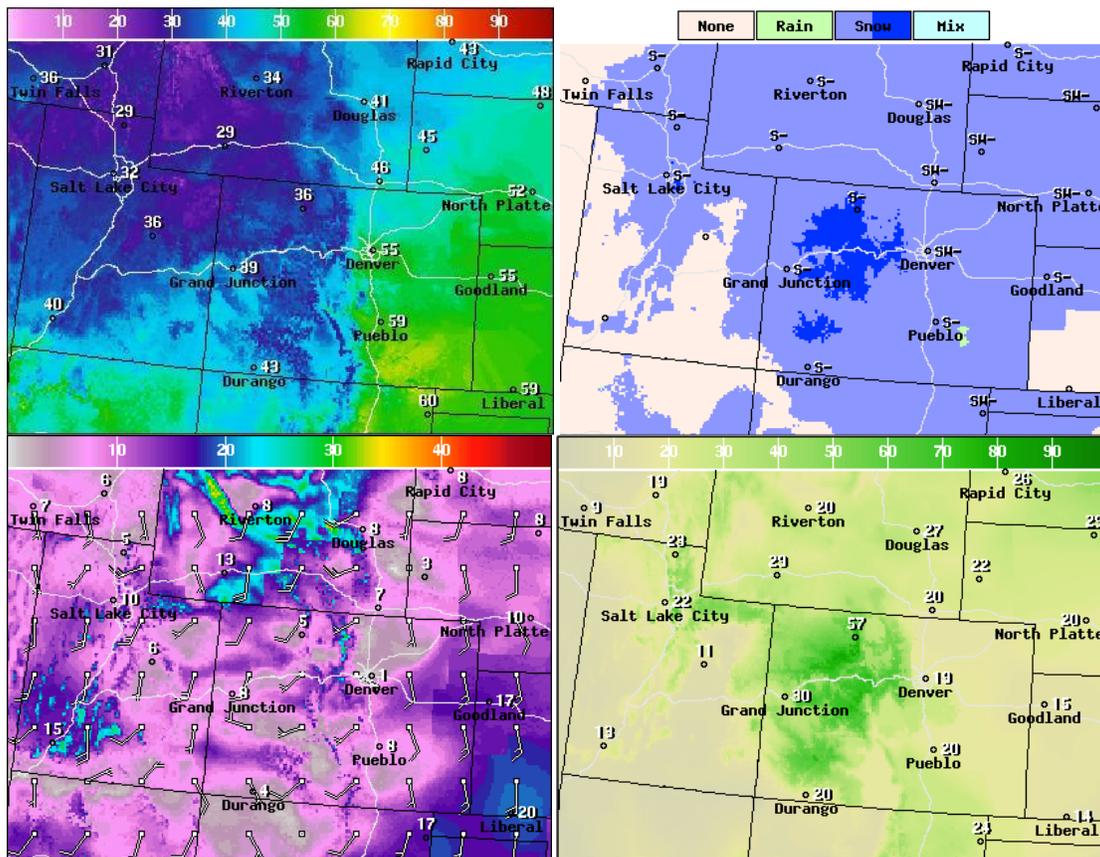


Figure 3. Graphical forecast products (clockwise from top left): Temperature, Wind Speed and Direction, Probability of Precipitation, Regional Weather Type.

Weather Forecasts to Live By

The NWS designs forecasts to help you plan your activities. As meteorologists and hydrometeorological technicians receive new information, they continually update and refine the forecast. Meteorologists generate and issue detailed weather information out to seven days, known as the “Public Zone Forecast,” at least twice daily. Updates are issued as needed.

Point Forecast at a Glance – Your Primary Forecast

Clicking on the WFO map from our front web page will instantly present your request in both graphical and text formats. These forecasts are our most geographically specific and the forecast represents a 2.5 x 2.5 km area as shown in red on the map below.

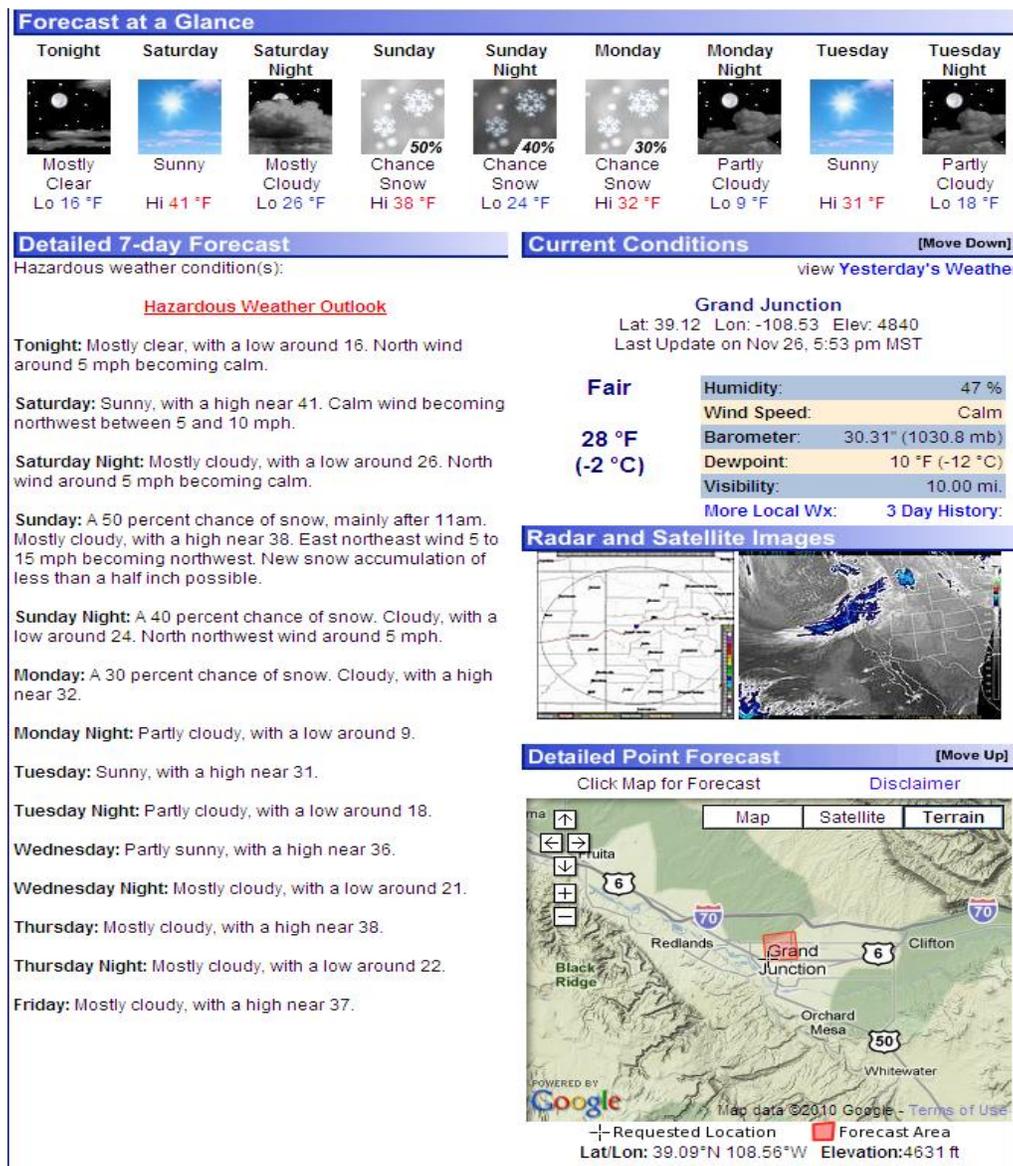


Figure 4. Point forecast at a glance.

Quick Forecast

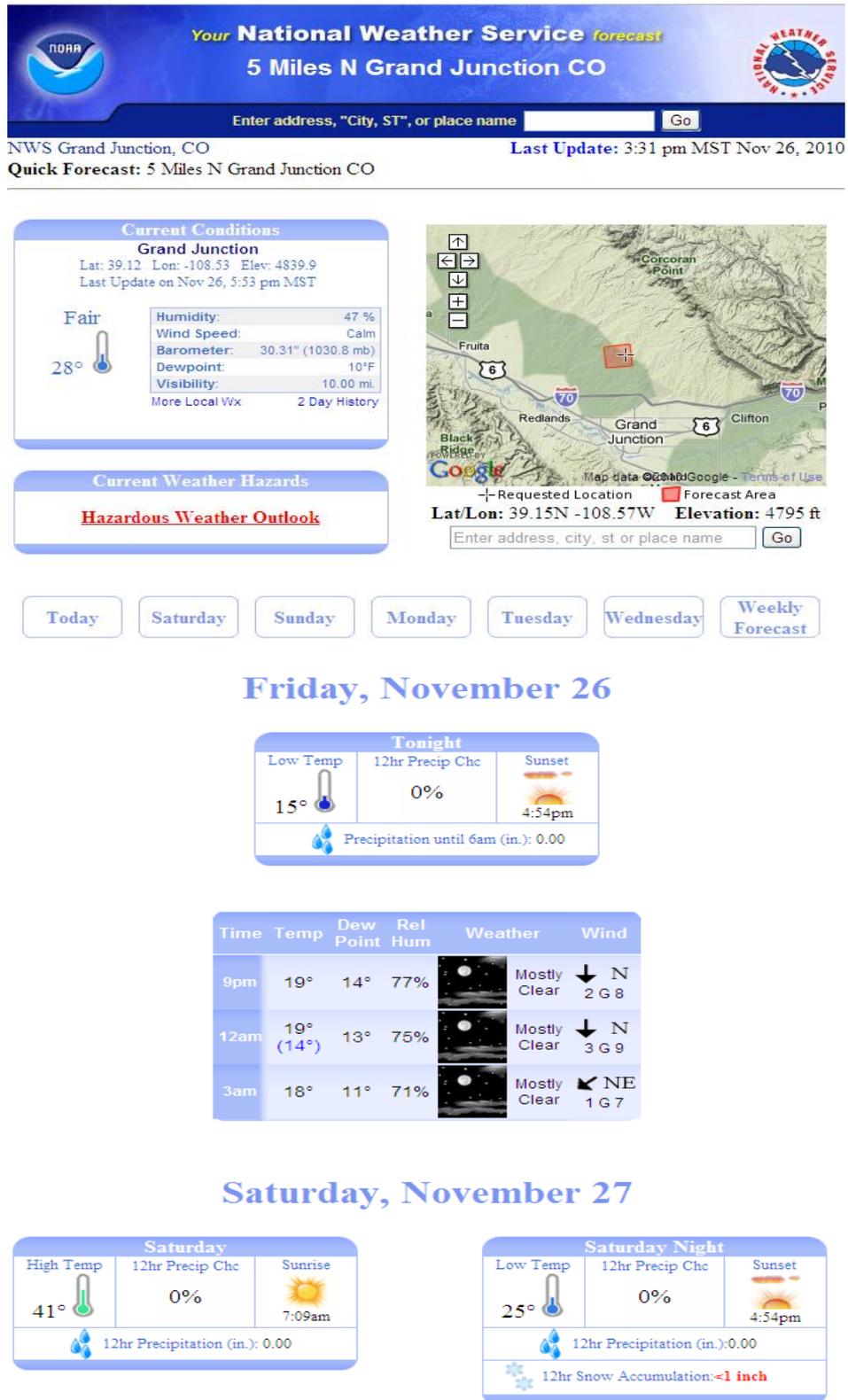
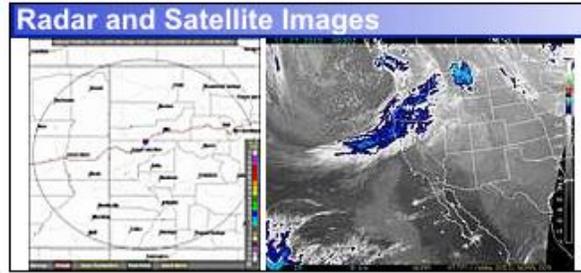


Figure 5. Quick Forecast at a Point.



National Digital Forecast Database		Additional Forecasts & Information	
		Zone Area Forecast for Grand Valley, CO Forecast Discussion	
		Printable Forecast Text Only Forecast	
		Hourly Weather Graph Tabular Forecast	
		Quick Forecast	
		International System of Units About Point Forecasts	
		Hazardous Weather Area Forecast Discussion (if above link is not working)	
		Regional Weather Conditions Local Storm Reports	
		Climate Information RAWS Information	
		Road Conditions Graphical Forecast Page	
		Digital Forecast ROMAN Weather Observations	
		Fire Weather Information Weather Synopsis	
		Avalanche Information Public Information Statement	

Figure 8. Additional Links to Radar, Satellite, NDFD Graphics & Forecast Information.

Weather Story

The weather story is designed to provide a snapshot of the developing weather across our region or emphasize special weather phenomena that is ongoing or expected.

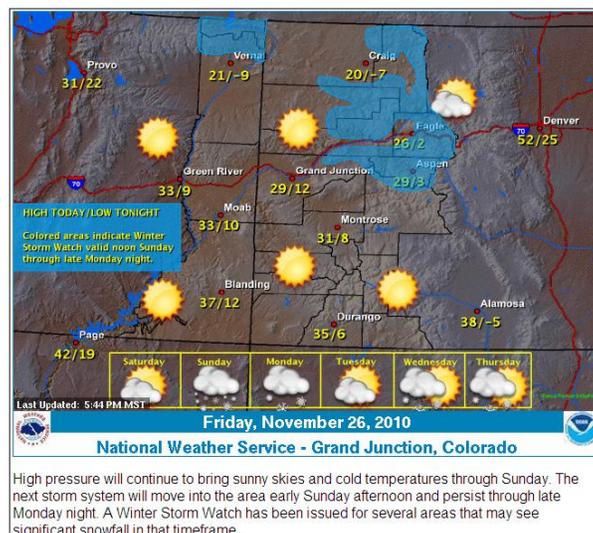


Figure 9. Daily Weather Story.

Weather Headlines

The NWS provide news and headlines on each of our web pages. They can be storm specific, informational or generalized in nature.



Figure 10. Weather Headline.

Weather Forecast Zones

WFO Grand Junction provides generalized forecasts for 21 zones in western Colorado and seven zones in eastern Utah, shown below. Please see the next page for a map of zone coverage across the entire state of Colorado and eastern Utah. “Zones” are areas that represent similar geographic and/or climatological regions.

ZONE NAME	ZONE NUMBER
Lower Yampa River Basin	1
Central Yampa River Basin	2
Roan and Tavaputs Plateaus	3
Elkhead and Park Mountains	4
Upper Yampa River Basin	5
Grand Valley	6
Debeque to Silt Corridor	7
Central Colorado River Basin	8
Grand and Battlement Mesas	9
Gore and Elk Mountains/Central Mountain Valleys	10
Central Gunnison and Uncompahgre River Basin	11
West Elk and Sawatch Mountains	12
Flattops	13
Upper Gunnison River Valley	14
Uncompahgre Plateau and Dallas Divide	17

Northwest San Juan Mountains	18
Southwest San Juan Mountains	19
Paradox Valley/Lower Dolores River	20
Four Corners/Upper Dolores River	21
ZONE NAME	ZONE NUMBER
Animas River Basin	22
San Juan River Basin	23
Eastern Uinta Mountains	UT 23
Eastern Uinta Basin	UT 24
Tavaputs Plateau	UT 25
Arches/Gland Flat	UT 27
La Sal and Abajo Mountains	UT 28
Canyonlands/Natural Bridges	UT 29
Southeast Utah	UT 22



Mailbox Canyon Fire, July 2009



Mammatus over Arches NP Utah, September 2005

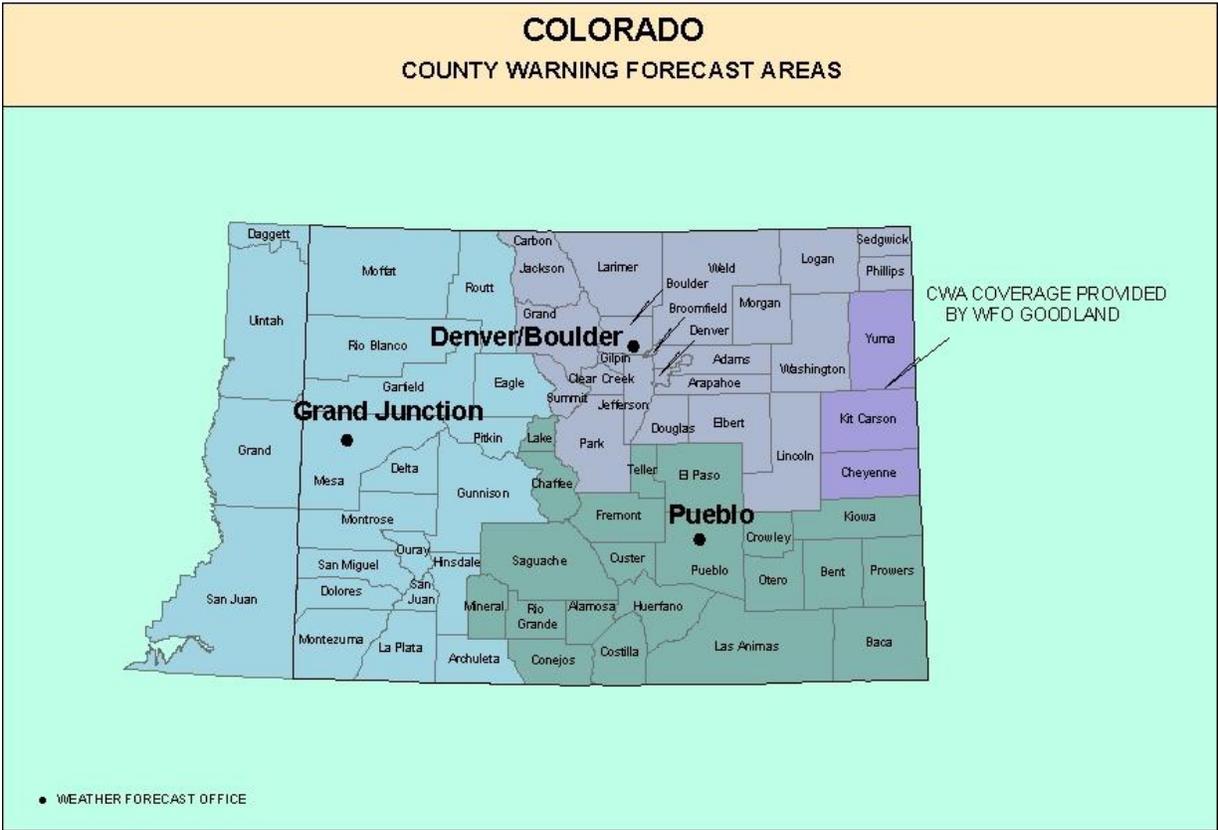


Figure 11. Colorado and eastern Utah Weather Forecast.

UNDERSTANDING NWS FORECAST TERMS

Understanding the terminology behind weather forecasts is an integral part of decision-making. Below are common weather terms and their meanings.

Sky Condition

Sky condition describes the predominant/average sky condition based upon the amount of sky covered by opaque (not transparent) clouds.

<u>Sky Condition</u>	<u>Percent of Cloud Cover</u>
Sunny or Clear	0 to 5%
Sunny or Mostly Clear	6 to 25%
Mostly Sunny or Partly Cloudy	26 to 50%
Partly Sunny or Mostly Cloudy	51 to 69%
Mostly Cloudy or Considerable Cloudiness	70 to 87%
Cloudy or Overcast	88 to 100%

Wind

Wind describes the prevailing direction from which the wind is blowing with speed in miles per hour. The numbers may vary in other parts of the country due to variation in terrain and elevation.

<u>Sustained Wind Speed</u>	<u>Descriptive</u>
0 – 5 mph	Light, light and variable or calm
5 – 20 mph	None used
15 – 25 mph	Breezy (mild weather), Brisk or blustery (cold weather)
20 – 30 mph	Windy
30 – 40 mph	Very windy
40 – 73 mph	Strong, dangerous Damaging or high winds
74 mph or greater	Hurricane force



Photo: Jim Pringle

Temperature

Forecast temperature describes the forecast maximum and minimum temperatures, or in some cases, the temperature expected at a specific time. Temperature is reported in degrees Fahrenheit.

<u>Description Examples</u>	<u>Range</u>
Near 40	Approaching 40 or a range from 38 to 42
Around 85	Range of temperatures from 83 to 87
Lower 50s	Temperatures of 50 through 53
Middle 70s	Temperatures of 74 through 76
Upper 30s	Temperatures of 37 through 39
60s	Temperatures of 60 through 69

Probability of Precipitation (PoP)

Probability of Precipitation (PoP) is the likelihood of measurable precipitation (or water equivalent of frozen) precipitation falling during a specified period in the forecast area. Measurable precipitation is equal to or greater than 0.01 inch (0.2 mm) over a period of 12 hours, unless specified otherwise.

At times, NWS forecasters may use “occasional” or “periods of” to describe a precipitation event that has a high probability of occurrence, i.e., they expect any given location in a forecast area to most likely have precipitation, but it will be of an “on and off” nature.

<u>PoP Percent</u>	<u>Expression of Uncertainty</u>	<u>Equivalent Areal Qualifier</u>
20%	Slight chance	Isolated
30 – 50 %	Chance	Scattered
60 – 70%	Likely	Numerous
80 – 100%	Rain/Snow, etc.	Widespread

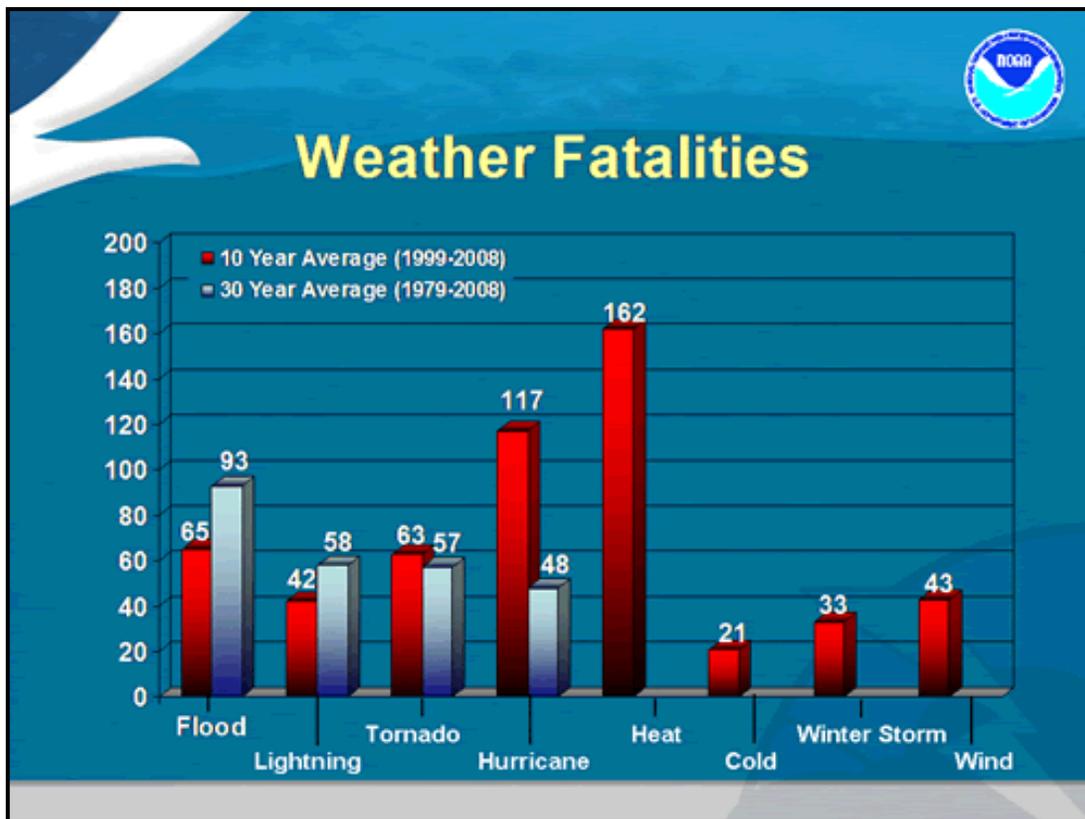


Figure 12. Weather-related fatalities and their causes. Data valid through 2008.

Wind Chill and Heat Index Tables

Wind chill describes the rate of heat loss from exposed skin due to the combined effect of wind and cold. As wind speed increases, heat is lost from the body at an accelerated rate lowering the body temperature. A Wind Chill Table is a matrix that uses sustained wind speeds to determine wind chill. Dangerous wind chills (shaded area below) begin at -19°F (-29°C). Winds of more than 45 mph (39 kt; 20 m/s) add little to the chilling effect. Wind chill can also affect animals.

The heat index or the "Apparent Temperature" is a measure of how hot it feels due to the combined effects of air temperature and relative humidity (RH). A Heat Index Table is a matrix to determine the apparent temperature due to temperature and relative humidity. Heat-induced danger begins at 105°F (41°C) (shaded area below).

Wind Chill Table
Temperature (°F) vs. Wind (mph)

	35°	30°	25°	20°	15°	10°	5°	0°	-5°	-10°	-15°	-20°	-25°	-30°	-35°
5	31	25	19	13	7	1	-5	-11	-16	-22	-28	-34	-40	-46	-52
10	27	21	15	9	3	-4	-10	-16	-22	-28	-35	-41	-47	-53	-59
15	25	19	13	6	0	-7	-13	-19	-26	-32	-39	-45	-51	-58	-64
20	24	17	11	4	-2	-9	-15	-22	-29	-35	-42	-48	-55	-61	-68
25	23	16	9	3	-4	-11	-17	-24	-31	-37	-44	-51	-58	-64	-71
30	22	15	8	1	-5	-12	-19	-26	-33	-39	-46	-53	-60	-67	-73
35	21	14	7	0	-7	-14	-21	-27	-34	-41	-48	-55	-62	-69	-76
40	20	13	6	-1	-8	-15	-22	-29	-36	-43	-50	-57	-64	-71	-78
45	19	12	5	-2	-9	-16	-23	-30	-37	-44	-51	-58	-65	-72	-79
50	19	12	4	-3	-10	-17	-24	-31	-38	-45	-52	-60	-67	-74	-81
55	18	11	4	-3	-11	-18	-25	-32	-39	-46	-54	-61	-68	-75	-82
60	17	10	3	-4	-11	-19	-26	-33	-40	-48	-55	-62	-69	-76	-84

Heat Index Table
Relative Humidity (%) vs. Temperature (°F)

	10	15	20	25	30	35	40	45	50	55	60	65	70	75	80
125°	123	131	141												
120°	116	123	130	139	148										
115°	111	115	120	127	135	143	151								
110°	105	108	112	117	123	130	137	143	150						
105°	100	102	105	109	113	118	123	129	135	142	149				
100°	95	97	99	101	104	107	110	115	120	126	132	138	144		
95°	90	91	93	94	96	98	101	104	107	110	114	119	124	130	136
90°	85	86	87	88	90	91	93	95	96	98	100	102	106	109	113
85°	80	81	82	83	84	85	86	87	88	89	90	91	93	95	97
80°	75	76	77	77	78	79	79	80	81	81	82	83	85	86	86
75°	70	71	72	72	73	73	74	74	75	75	76	76	77	77	78

SEVERE WEATHER & FLOOD OPERATIONS

The NWS mission is to provide timely and accurate weather and water watches, warnings, advisories and outlooks to protect lives and property. To accomplish this mission, the NWS relies not only on local expertise, but also on a variety of special severe weather centers specializing in convective storms, hurricanes, snowstorms, flooding and more. For more information on these centers, please visit the following web sites.

NOAA WATCH – All Hazards

www.noaawatch.gov

Nationwide Weather Watches, Warnings and Advisories

www.weather.gov

National Severe Weather Centers

www.nws.noaa.gov/organization.html#hq

Severe Weather Safety & Preparedness

www.weather.gov/safety.php



Funnel Cloud over Crawford, CO

Photo: Christian Stoner

Notification Technique

The NWS uses a notification system based on the increasing likelihood that a hazardous weather or water incident will occur. Starting with outlooks, then watches, and finishing with warnings and advisories, this approach provides the public with confidence that an incident is imminent or occurring in their location.

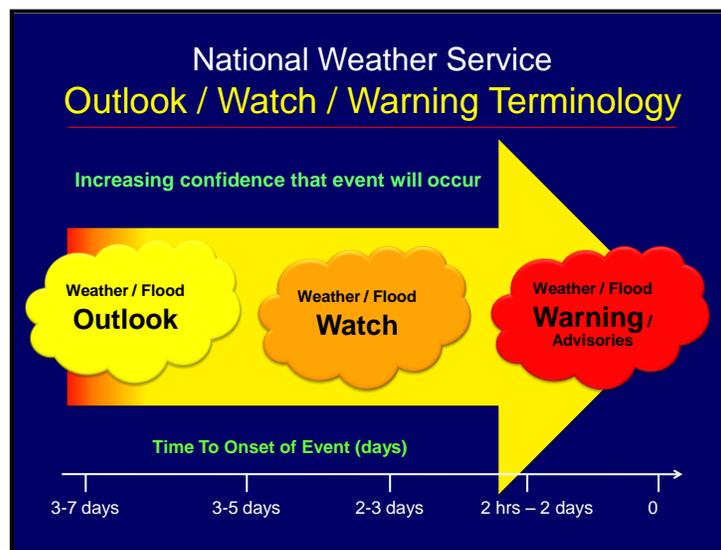


Figure 13. Outlook, Watch and Warning Notification Technique.

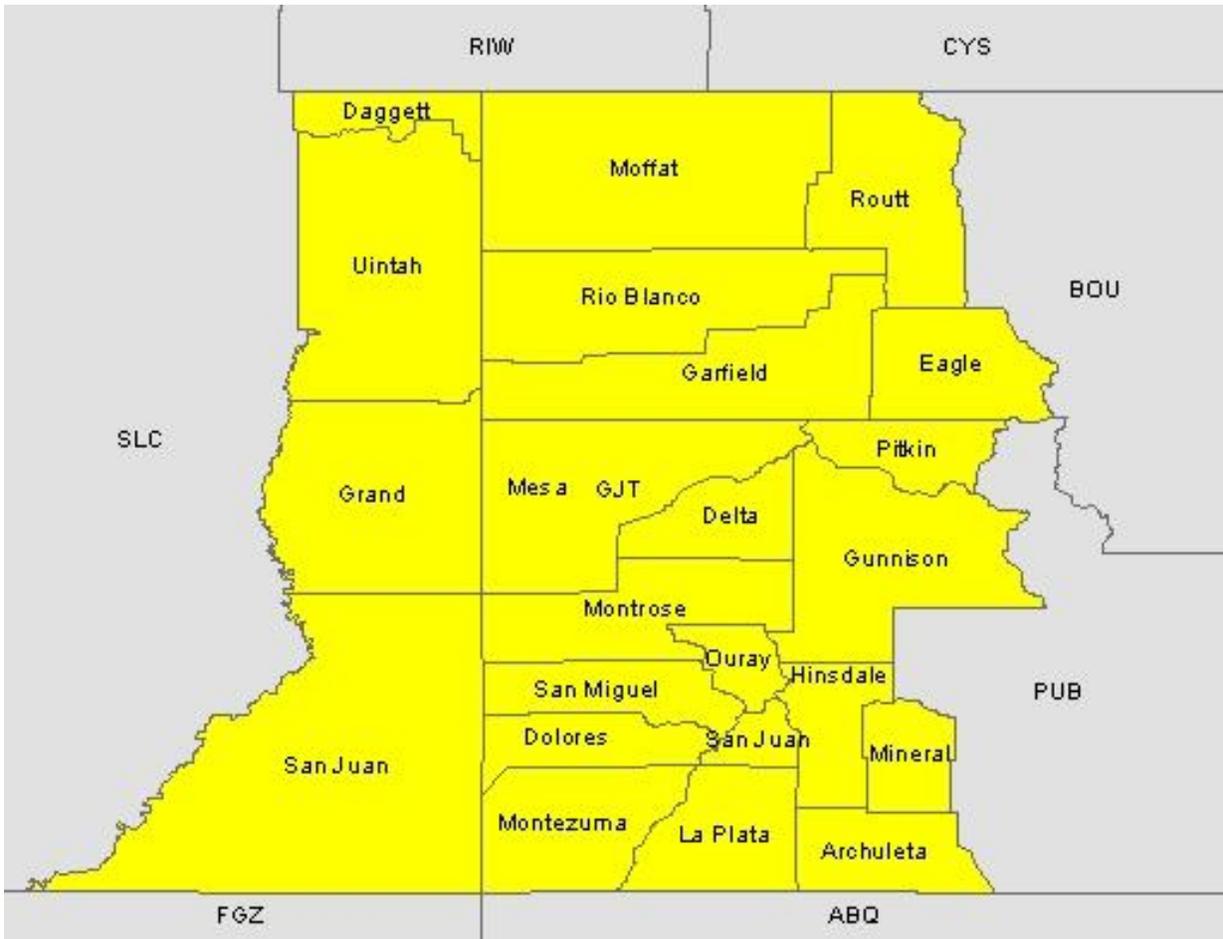


Figure 14. Colorado and eastern Utah Weather Warning Area Responsibility

Severe Weather and Water Outlooks - "Get Ready"

The NWS issues outlooks for weather or water incidents that are expected to occur within the next seven-day period for conditions or an incident that could result in a hazard, yet too far in the future for a watch, advisory or warning. The intention of outlooks is to increase public awareness of a potential hazard or explain a special weather phenomenon that may affect lives and property.

OUTLOOKS	EXAMPLES
FLOOD POTENTIAL	Heavy precipitation and/or snowmelt that may produce flooding
HAZARDOUS WEATHER	High wind, blowing dust, dense fog, heat, cold, winter storms, thunderstorms freezing rain, volcanic ash, smoke

Hazardous Weather Outlook

The Hazardous Weather Outlook is a narrative statement produced by local NWS offices that provides information regarding the potential of expected significant weather during the next 1 to 7 days.

THIS HAZARDOUS WEATHER OUTLOOK IS FOR EASTERN UTAH AND WESTERN COLORADO.

.DAY ONE...TODAY AND TONIGHT

A FEW LIGHT SNOW SHOWERS WILL LINGER OVER THE MOUNTAINS UNTIL MIDNIGHT. SIGNIFICANT SNOWFALL ACCUMULATIONS ARE NOT EXPECTED.

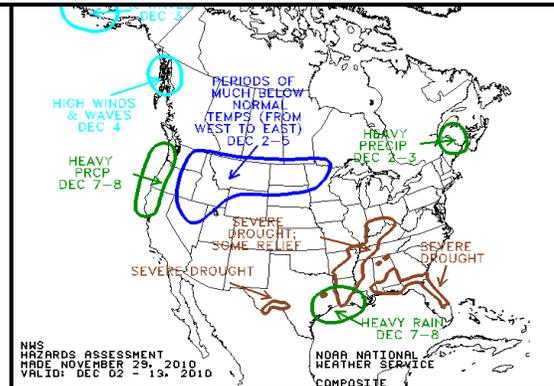
.DAYS TWO THROUGH SEVEN...TUESDAY THROUGH SUNDAY

A FAST MOVING WEATHER DISTURBANCE WILL BRING A CHANCE OF SNOW TO THE NORTHERN MOUNTAINS...AND FROM CRAIG TO STEAMBOAT SPRINGS...

National Hazards Assessment

The National Hazards Assessment provides advance notice of potential climate, weather and water hazards. The assessment integrates existing official NWS medium (3 to 5-day), extended (6 to 10-day) and long-range (monthly and seasonal) forecasts, outlooks, hydrological analyses and forecasts.

Figure 15. Weekly National Severe Weather Threats Map.



NOAA United States Department of Commerce Search NOAA
National Oceanic and Atmospheric Administration
 NOAA Home | Weather | Oceans | Satellites | Fisheries | Climate | Research | Education | Aircraft/Ships

NOAAWatch NOAA's All Hazard Monitor

Local forecast by City, State
 City, St

Weather Warnings


Doppler Radar


River and Lake Levels


NOAA Environmental Visualization Laboratory


Drought Outlook


Surface Weather Charts

Weather Forecast



Weather Forecast for Tue, Nov 30, 2010 Issued 8:49 AM EST
 DDC/NOAA/NWS/NEP/Hydro-meteorological Prediction Center
 Prepared by Kong Hyun based on HPC, SFC, and TPC forecasts

[Weather Map - Click to Enlarge](#)
[Forecast map loop](#) [Map legend](#) [About these maps](#)

Weather Outlook for Tuesday
 Tue, 30 Nov 2010 05:15:00 EST
 Widespread precipitation ahead of an upper trough and surface cold front will be impacting most of the East. A Strong southerly flow ahead of the cold front is transporting ample moisture northward, helping to support regions of heavy rain from the Southeast into the Northeast. There is also a threat of severe storms from the central Gulf Coast this morning toward the Mid-Atlantic Coast into Wednesday. Much colder air will rush in behind the front, with lake effect snow showers developing late tonight into Wednesday after the front moves through the Great Lakes. Light/moderate with occasionally heavy snow will fall northwest of the low impacting the Upper Midwest with several inches of snow along with gusty northwest winds throughout the Central and Northern Plains. Out West, a front will move into the Northwest later today and weaken overnight. Moisture and overrunning rain, with mountain snow, will continue to impact the Northwest. [Latest local weather forecasts, warnings, watches, and advisories...](#)

View All NOAAWatch Headlines

NOAAWatch & Learn
 Explore NOAAWatch themes:

- [Air Quality](#)
- [Coral Bleaching](#)
- [Droughts](#)
- [Earthquakes](#)
- [Excessive Heat](#)
- [Fire Weather](#)
- [Flooding](#)
- [Harmful Algal Blooms \(HABs\)](#)
- [Hurricanes/Tropical Weather](#)
- [Oil & Chemical Spills](#)
- [Rip Currents](#)
- [Severe Weather](#)
- [Space Weather](#)
- [Tsunamis](#)
- [Volcanoes](#)

www.noaawatch.gov

WORLD METEOROLOGICAL CENTER

severe.worldweather.wmo.int

 **World Meteorological Organization**
 Weather • Climate • Water

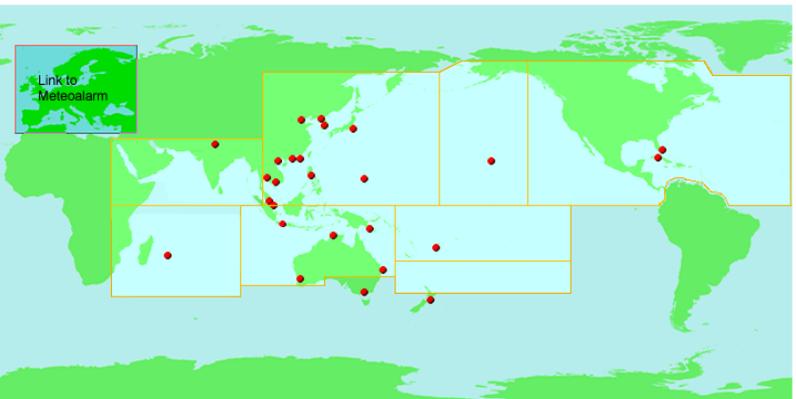
Severe Weather Information Centre
 Official Observations. Official Warnings.

HOME

- Global Severe Weather
- Tropical Cyclones
- Heavy Rain/Snow
- Thunderstorms
- Official Observations
- Cloudiness & Rain

What's New

- Link to Meteoalarm
- Introductory Pamphlet
- About this web site
- Participating Members



Severe Weather and Water Watches - “Get Set”

The NWS issues watches 2 to 24 hours in advance of potentially hazardous weather or water incidents, allowing time to plan for the dangerous phenomena. Watches for long fused events, such as winter storms or river flooding, may be issued up to two or three days before the onset of dangerous weather conditions. A watch indicates the risk of a hazardous weather or water incident has increased significantly but its occurrence, location, and/or timing is still uncertain. Normal activities may continue though people should be aware of rapidly changing weather or water conditions. Many of our products are elevation based depending on the weather type.

WATCHES	CRITERIA
BLIZZARD	Potential for blizzard conditions
FLASH FLOOD	Potential for short duration, intense flooding resulting from torrential rain, dam or levee breaks or ice jams
FLOOD	Conditions are favorable for flooding,
FREEZE	Potential for widespread temperatures below 32°F (0°C) for a prolonged period during the growing season
HIGH WIND	Conditions are favorable for development of high winds, but timing and location are not certain
SEVERE THUNDERSTORM	Conditions are favorable for the development of thunderstorm winds of at least 58 mph (50 kts; 26 m/s) and/or hail 1 inch in diameter (2.54 cm) or larger
TORNADO	Conditions are favorable for tornadic development
WIND CHILL	Potential for dangerous wind chill temperatures
WINTER STORM	Potential for heavy snowfall and/or ice storm

Convective & Hazardous Weather Services

The Storm Prediction Center (SPC) mission is to provide timely and accurate forecasts and watches for severe thunderstorms and tornadoes over the contiguous United States. The SPC also monitors and issues specific products for heavy rain or snow and fire weather incidents across the country. The SPC relays forecasts of organized severe weather as much as three days in advance while continually refining them until the incident has concluded. Historical records, educational materials and research on storms are available from the SPC website.

Storm Prediction Center

www.spc.noaa.gov

Mesoscale Discussions

www.spc.noaa.gov/products/md

Watch, Warning, Advisory Display

www.spc.noaa.gov/products/wwa

Daily Convective Outlooks

www.spc.noaa.gov/products/outlook

Current Convective Watches

www.spc.noaa.gov/products/watch

NOAA Watch

www.noaawatch.gov

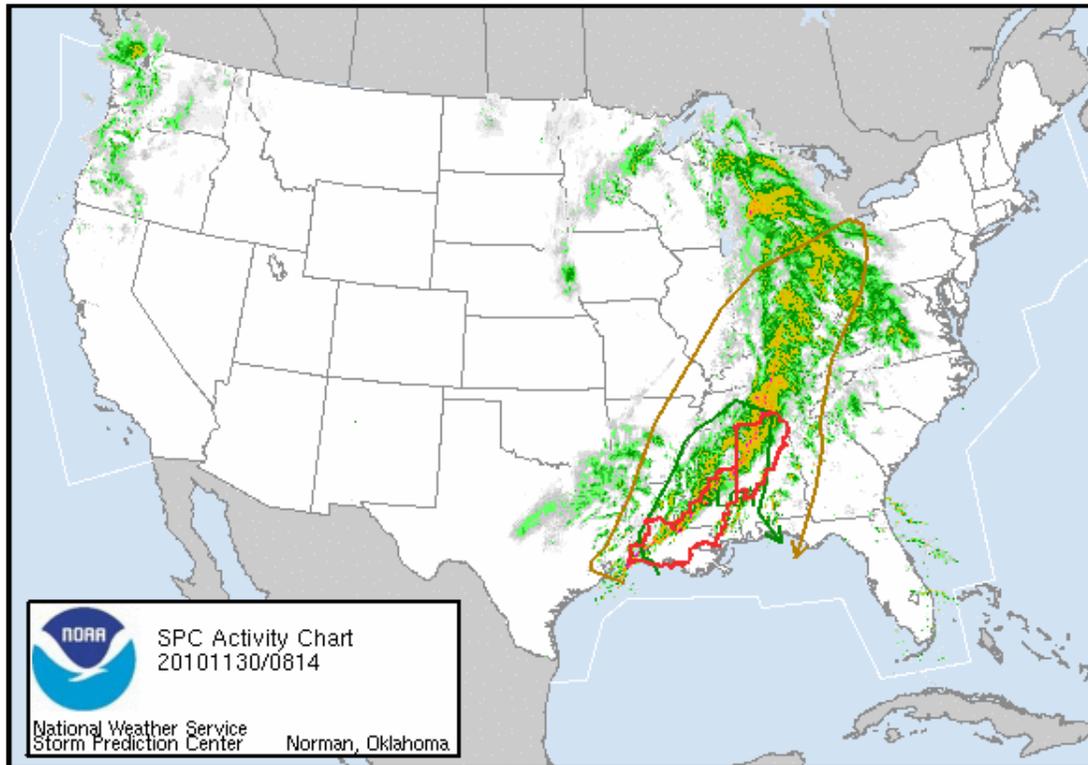


Figure 16. SPC Convective Risk Area Map combined with current Severe Weather Watches and radar imagery.

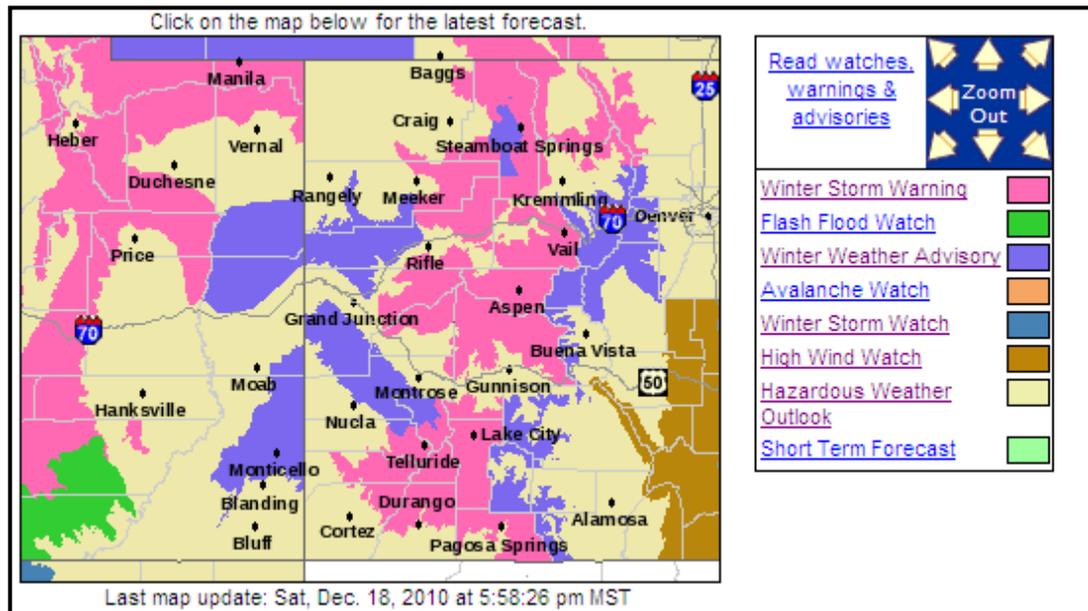


Figure 17. NWS Grand Junction internet “real-time” hazardous weather map.

Severe Weather Warnings - “Go”

When severe weather is occurring or imminent, forecasters issue warnings for events that pose a threat to life and/or property. Warnings also include brief guidance on taking protective measures.

WARNINGS	CRITERIA
BLIZZARD	Winds ≥ 35 mph AND falling and/or blowing snow reducing visibility to less than 1/4 mile for at least three hours
DUST STORM	Visibilities 1/4 mile or less for at least one hour, along with winds (sustained or gusts) of 25 mph or greater. May be widespread or localized.
EXCESSIVE HEAT	Eastern Utah: None issued. Colorado Valleys: Max Heat Index around 105°F or higher and Min Heat Index around 75°F or higher for at least 2 days Colorado Mountains: Max Heat Index around 100°F or higher and Min Heat Index around 75°F or higher for at least 2 days
FLASH FLOOD	Short duration (usually less than 6 hours) intense flooding resulting from heavy rain, dam/ levee breaks, or ice jam breaks.
FLOOD	Longer, more gradual flooding often after many hours of excessive rainfall and/or during spring snowmelt runoff. Mostly associated with prolonged river or stream flooding.
FREEZE	Valleys only: Widespread temperatures of 32°F or colder during the growing season, which is typically April through October.
ICE STORM	Freezing rain/drizzle with accumulations of ice $\geq 1/4$ inch
HIGH WIND	Valleys: Sustained winds of 40 mph or greater for at least 1 hour OR gusts of 58 mph or greater for any duration Mountains: Sustained winds 50 mph or greater for ≥ 1 hour OR gusts of 75 mph or greater for any duration
SEVERE THUNDERSTORM	Thunderstorm winds at least 58 mph and/or hail 1 inch diameter or greater
TORNADO	Rotating column of air attached to a thunderstorm and touching the ground
WIND CHILL	Valleys: Wind chill temperatures of -25 °F or colder with wind speeds 10 mph or greater for at least one hour Mountains: Wind chill temperatures of -37 °F or colder with wind speeds 10 mph or greater for at least one hour
WINTER STORM	Issued for a heavy snow* or heavy sleet event. May be accompanied by strong winds and/or very cold wind chills. Valleys: Snowfall of 6 inches or more per storm event. Mountains: Snowfall of 12 inches or more per storm event.

	<p>Heavy sleet accumulation criteria is 1/2 inch or greater.</p> <p>* Winter Storm Warnings may be issued for lesser amounts of snow during high impact situations, such as storms occurring early or late in the snowfall season.</p>
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Weather Advisories - “Go”

Advisories highlight special weather conditions that are less serious than a warning. They are for incidents that may cause significant inconvenience, and if not exercising caution, could lead to a dangerous or threatening situation.

ADVISORIES	CRITERIA
BLOWING DUST	Visibilities greater than 1/4 mile and less than 1 mile for at least one hour, along with winds (sustained or gusts) of 25 mph or greater. May be widespread or localized.
DENSE FOG	Visibilities reduced to 1/4 mile or less in fog. May be widespread or localized.
DENSE SMOKE	Visibilities 1/4 mile or less in smoke. May be widespread or localized.
FREEZING RAIN/DRIZZLE	Freezing rain or drizzle resulting in less than 1/4 inch ice accumulation.
HEAT	<p>Eastern Utah: Max Heat Index of 105°F or warmer and actual min temperature ≥ 80°F for ≥ 2 days</p> <p>Colorado Valleys: Max Heat Index around 100°F and Min Heat Index around 75°F or higher for at least 24 hours</p> <p>Colorado Mountains: Max Heat Index around 95°F and Min Heat Index around 75°F or higher for at least 24 hours</p>
STRONG THUNDERSTORM (Approaching Severe Criteria) Product Name: Significant Weather Advisory	Strong thunderstorm winds less than 58 mph AND/OR hail 3/4 inch to less than 1 inch diameter, OR accumulations of smaller-sized hail at least 2 inches deep, OR strong wind-driven hailstones that are less than 1 inch in diameter.
WIND	<p>Valleys: Sustained winds 30-39 mph for at least 1 hour OR gusts of 45-57 mph for any duration</p> <p>Mountains: Sustained winds 30-39 mph for at least 1 hour OR gusts of 45-57 mph for any duration</p>
WIND CHILL	Valleys only: Wind chill temperatures -15°F to -24°F with wind speeds 10 mph or greater for at least one hour
WINTER WEATHER	<p>Winter weather situations less severe than warning criteria</p> <p>Issued not only for snowfall or sleet events, but also for blowing/drifting snow either separately or in combination.</p>

	Advisory snowfall criteria: Valleys: 3-6 inches per storm event. Mountains: 5-12 inches per storm event.
URBAN AND/OR SMALL STREAM FLOOD	“Nuisance” flooding resulting from heavy rain and is considered non-life threatening, such as street flooding.
VOLCANIC ASH	Accumulations of volcanic ash 1/8 inch or greater.

Weather and Water Statements

The NWS issues follow up statements during hazardous weather and water incidents. These statements provide additional details about particular watches, warnings and advisories in effect as well as information from storm spotter reports.

STATEMENTS	CRITERIA
FLOOD & FLASH FLOOD	Additional information regarding flooding and flash flood warnings
HAZARDOUS WEATHER OUTLOOK	Daily overview of any potentially hazardous weather expected to occur within the next seven days. Issued routinely every morning, and updated as needed
HYDROLOGIC	Hydrologic information not directly related to flooding.
LOCAL STORM REPORT	Severe or significant weather and/or damage reports.
PUBLIC INFORMATION	Narrative messages of general interest to the public dealing with such things as weather safety or storm event summaries, including storm total snowfall amounts.
SEVERE WEATHER	Provide additional information regarding a severe thunderstorm or tornado warning.
SPECIAL WEATHER	Narrative messages regarding expected weather events and associated safety messages or other items of special interest to the public, such as unique weather phenomena.
WATCH COUNTY NOTIFICATION	Provide outline of severe thunderstorm or tornado watch initiation, changes and cancellation



Photo: Ron Pierce
Flash Flood near Moab 10-20-09



Photo: Jim Scogin
Highway 65 Grand Mesa 3-24-05



Photo: Lt. Dan Bender
Flash Flood near Durango 2002

WESTERN COLORADO & EASTERN UTAH STORM SPOTTER PROGRAM:

The NWS spotter program is a nationwide network of volunteers trained by the NWS to provide timely and accurate reports of severe or significant weather events. There are two basic types of spotters; stationary spotters and Skywarn mobile weather spotters. These volunteers report severe weather events whenever and wherever they are observed. The reports arrive via phone, amateur radio (HAM), e-mail or other communication modes. NWS forecasters use the information in concert with radar, satellite and other data to make warning-related decisions.

The Grand Junction NWS forecast office maintains a severe weather spotter network of over 500 volunteers which are our most important source of real-time storm reports. There is always a need for additional spotters, especially in remote and sparsely populated areas. Benefits from spotter involvement return to the community in the form of more accurate and timely warnings and daily forecasts. You can help protect your community by joining the NWS spotter team. If you are interested, please contact the Grand Junction NWS forecast office.

Telephone: 970-243-7007

E-mail: wxgjt@noaa.gov

Grand Junction NWS forecasters provide free spotter training in the spring and early summer months which is posted on our website's Top News of the Day typically 6 to 8 weeks in advance.

Learn more about the NWS Volunteer Storm Spotter Program online at:

www.crh.noaa.gov/gjt/?n=spotter
www.skywarn.org
www.nws.noaa.gov/skywarn
www.srh.noaa.gov/oun/?n=spotter-training



eSpotter – Online Reporting Syst

espotter.weather.gov

Twitter – Mobile or Online Reports – Text to:

#wxreport WW *location* WW *give your report*

Example: #wxreport WW 35 Main St., Grand Junction, CO WW 6.0" new snow as of 1 pm

Reporting Severe Weather

Storm spotters are asked to report the following storm events on a timely basis to NWS forecasters:

- Tornado, funnel cloud, or wall cloud
- Hail of any size
- Wind gusts greater than 40 mph
- Heavy rain and/or high rainfall rates
- Flash flooding
- River flooding
- Weather-related damage of any kind
- Unusual or questionable weather
- Heavy snow or high snowfall rates
- Dense fog, dense smoke, or blowing dust (visibilities less than 1/2 mile)

A checklist with more details can be found at www.crh.noaa.gov/gjt/?n=spotterchecklist

Estimating Wind Speed

VISUAL CUE	SPEED (MPH)	SPEED (KTS)	SPEED (M/S)
Large branches moving	25 - 30	22 - 26	11.2 - 13.4
Whole trees moving	30 - 40	26 - 35	13.4 - 17.9
Twigs break & impedes walking	40 - 45	35 - 39	17.9 - 20.1
Slight structural damage	45 - 55	39 - 48	20.1 - 24.6
Moderate structural damage	55 - 65	48 - 56	24.6 - 29.0
Heavy structural & tree damage	> 65	> 56	> 29.0

Estimating Hail Size

VISUAL COMPARISON	SIZE (inches)	SIZE (cm)
Pea	1/4	0.6
Dime	1/2	1.3
Penny	3/4	1.9
Nickel	7/8	2.2
Quarter	1	2.5
Ping Pong Ball	1 1/2	3.8
Golf Ball	1 3/4	4.4
Tennis Ball	2 1/2	6.4
Baseball	2 3/4	7.3
Grapefruit	4	10.2
Softball	4.5	11.4



Suggested Reporting Information

Identify yourself: Joe Q. Public and/or Spotter #

What you observed: Heavy snow falling

Where you saw it: Five miles west of Hotchkiss, CO

When you saw it: Falling at one inch an hour for the past two hours

What it was doing: A total depth of eight

STORMREADY!

WHEN SECONDS COUNT - STORMREADY COMMUNITIES ARE PREPARED

Americans live in the most severe weather-prone country on Earth. Each year, Americans cope with an average of 10,000 thunderstorms, 5,000 floods, 1,000 tornadoes, and an average of 2 land falling deadly hurricanes. In addition, the U.S deals with winter storms, intense summer heat, high winds, wild fires and other deadly weather impacts. You can make sure your community is ready for the weather with the NWS's **StormReady®** program.

Some 90% of all presidentially declared disasters are weather related leading to around 500 deaths per year and nearly \$14 billion in damage. StormReady, a program started in 1999 in Tulsa, OK, helps arm America's communities with the communication and safety skills needed to save lives and property – before and during the event. StormReady helps community leaders and emergency managers strengthen local safety programs.

StormReady communities are better prepared to save lives from the onslaught of severe weather through advanced planning, education and awareness. No community is storm proof but StormReady can help communities save lives.

There are over 1,600 StormReady locations in 50 states across the nation.

To learn more about StormReady and your community, visit the StormReady website at:

www.stormready.noaa.gov



Colorado and Utah

Communities are...

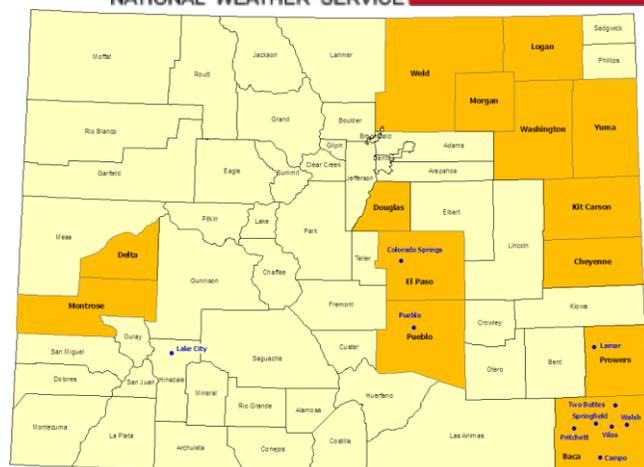
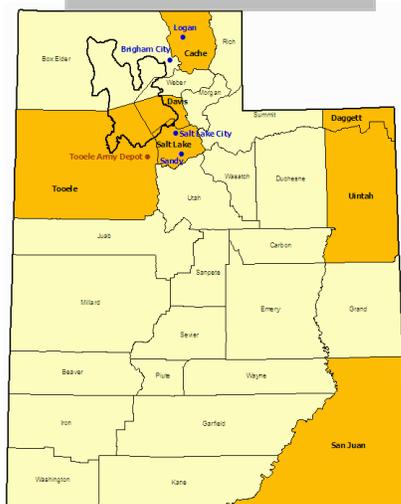


FIGURE 18. Utah and Colorado StormReady Counties (gold) and Communities (colored dots).

DAMAGE ASSESSMENTS AND STORM STATISTICS

The NWS assembles severe weather and flood data related to incidents that cause property damage, injuries, deaths or hazardous conditions. The information is posted in the monthly publication of “*Storm Data and Unusual Weather Phenomena*,” which is available from the National Climatic Data Center or in PDF format at: www.ncdc.noaa.gov/oa/climate/sd/.

The NWS conducts formal Storm Damage Surveys on specific weather and flood incidents and determines what phenomena may have caused the damage and/or injuries and/or deaths. Investigation of certain elements includes wind, hail, tornadoes and floods to assess the strength of the incident (e.g. wind speed and property damage to rank tornadoes on the Enhanced Fujita Scale).

The Grand Junction WFO relies on various sources for the storm data publication. Sources include, but are not limited to county emergency managers, law enforcement officials, media outlets, Department of Homeland Security, Department of Transportation (Colorado and Utah), spotter reports, amateur radio groups and the public.

Other valuable web sites regarding storm data include:

Convective Storm Reports, Daily, Monthly, Yearly

www.spc.noaa.gov/climo

Emergency Managers Weather Information Network (EMWIN)

www.weather.gov/emwin/index.htm

Methods for Obtaining Weather Information

www.weather.gov/om/disemsys.shtml

Natural Hazards Statistics

www.nws.noaa.gov/om/hazstats.shtml

Severe Storm Data Analysis

www.nws.noaa.gov/om/data.shtml

Severe Weather Publications

www.nws.noaa.gov/om/publications.shtml

Severe Weather Service Assessments

www.nws.noaa.gov/om/assessments/index.shtml

Tornado Data

www.spc.noaa.gov/faq/tornado

Weather Projects & Research

www.nws.noaa.gov/om/projects.shtml



**January 2008 - Clark, Colorado
(near Steamboat Springs)**
Photos: Scott Holliday

AIR QUALITY WEATHER SERVICES

NWS weather forecasters produce weather guidance for the Environmental Protection Agency (EPA). The Grand Junction WFO collaborates with Colorado's Department of Public Health and Environment – Air Quality Control (AQC) when they issue an Air Quality Advisory. The NWS concentrates on meteorological conditions such as temperature inversions and high-pressure systems that help produce stagnant air. The AQC combines these forecasts with closely monitored air quality data to issue air quality statements and information.

Air Quality Information

Colorado Air Quality Information

apcd.state.co.us/air_quality.aspx

NWS Grand Junction Information

www.weather.gov/gjt

National Air Quality Forecasts

www.weather.gov/ost/air_quality

EPA's AirNow Air Quality Forecasts

airnow.gov

Ultra-Violet (UV) Index

www.cpc.ncep.noaa.gov/products/stratosphere/uv_index/uv_current.shtml



**April 2009 Dust Storm
Silverton, CO.**

Photo: CAIC

AVALANCHE WEATHER SERVICES

NWS meteorologists produce weather guidance for the Colorado Avalanche Information Center (CAIC) and the Manti-La Sal Avalanche Center in eastern Utah. The guidance involves weather elements affecting all mountain ranges across western Colorado and eastern Utah, concentrating on temperature, precipitation type and amount and winds. The Avalanche Centers staff combines weather guidance with snow observations to produce Snow Avalanche Products. When critical snowpack conditions increase avalanche potential, the Avalanche Center prepares an Avalanche Warning and the NWS relays the product to the public.

Avalanche Information

National Avalanche Information

www.avalanche.org

Colorado Avalanche Information Center

avalanche.state.co.us/index.php

Utah Avalanche Information Center

Manti-La Sal Mountains

utahavalanchecenter.org/advisory/moab

Grand Junction Weather Avalanche Information

www.crh.noaa.gov/gjt/?n=avalanche



2006 Avalanche in the San Juan Mountains

Photo: CAIC



AVIATION WEATHER SERVICES

NWS meteorologists produce detailed forecast information for a variety of aviation purposes. Terminal Aviation Forecasts (TAF) provides concise 24-hour forecasts for significant weather conditions affecting aviation operations within 5 statute miles (8.05 km) of an airport. The Grand Junction WFO prepares the following TAFs:

GRAND JUNCTION WFO TAFs	
Grand Junction	Aspen
Eagle	Rifle
Montrose	Vernal

Aviators also use Meteorological Aviation Reports (METAR) to determine specific weather information at an airport. An Automated Surface Observation System (ASOS) or trained weather observer produce observations once an hour or more frequently during rapidly changing weather incidents. Pilots may obtain data directly from the observing system at the end of the runway using radio signals. ASOS units report the following METAR weather elements:

METAR OBSERVATION ELEMENTS	
Wind Velocity (speed and direction)	Temperature
Visibility	Dew Point Temperature
Weather Conditions and Obscurations	Altimeter (atmospheric pressure)
Sky Cloud Cover	Precipitation

Additional information regarding NWS Aviation weather services available online:

Grand Junction Information

www.crh.noaa.gov/gjt/?n=aviation

Center Weather Service Unit

Denver – www.crh.noaa.gov/zdv/

Salt Lake City – www.wrh.noaa.gov/zlc/

National Aviation Forecasts and Information from the Aviation Weather Center (AWC)

aviationweather.gov/

Aviation Weather Links

aviationweather.gov/static/links/

Federal Aviation Administration

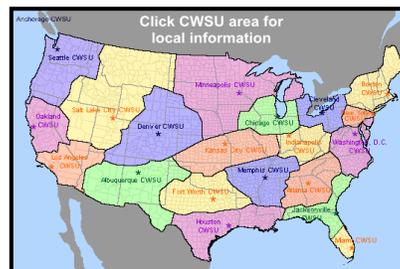
www.faa.gov/air_traffic/publications/

Aviation Newsletter – The Front

aviationweather.gov/general/pubs/front/

SkySpotter – AOPA Pireps Made Easy

www.aopa.org/asf/osc/loginform.cfm?course=skyspotter&project_code=&



CWSU Nationwide locations



2009 Mesa County Airshow

Photo: Aldis Strautins



FIRE WEATHER SERVICES

The Grand Junction WFO produces Fire Weather Forecasts, Watches and Red Flag Warnings for western Colorado and eastern Utah. WFO Grand Junction also provides spot forecasts for wildfires on federal land, prescribed burns declared as a wildfire on non-federal land, and specific sites for prescribed burns ignited on federal land.

During fire season, special forecasts are prepared twice daily that provide meteorological information critical to fire behavior and where potential starts may occur. Some specific forecast elements include relative humidity changes, temperature changes, drainage and general winds, Haines indices and lightning activity.

Forecasters issue Fire Weather Watches and Red Flag Warnings when significant weather conditions occur when fire danger is high to extreme. Watch and warning issuances occur when a critically dry and unstable air mass is present in the area causing dry lightning and fire zone-specific combinations of strong winds and low humidities along with dry fuels. Watch and warning criteria and Grand Junction WFO fire weather zones are below and a map of Colorado and Utah fire weather zones is available on the following page.

PRODUCT	TIME PERIOD & CONDITONS
FIRE WEATHER WATCH	When the following conditions exist within 12 and 96 hours of an expected incident combined with critically dry fuels: <ul style="list-style-type: none"> - Widely scattered or greater (> 15% aerial coverage) thunderstorm activity - Dangerous fire weather conditions such as the occurrence of lightning after an extremely long dry period - Strong microburst winds, Haines Index of 6, passage of a cold front or a strong wind shift - Wind gusts for any three-hour period or longer greater than 25 mph (22 kts; 11 m/s) when relative humidity is less than 15%
RED FLAG WARNING	Any of the above conditions expected within 24 hours.

ZONE NAME	ZONE NUMBER
Craig Forecast Area	201
Grand Junction Forecast Area	203
Montrose Forecast Area	205
Durango Forecast Area	207
Vernal Forecast Area	428, 429, 430, 442, 443, 444
Moab Forecast Area (Zones issued by WFO SLC)	431, 431, 445, 446, 447, 448, 449

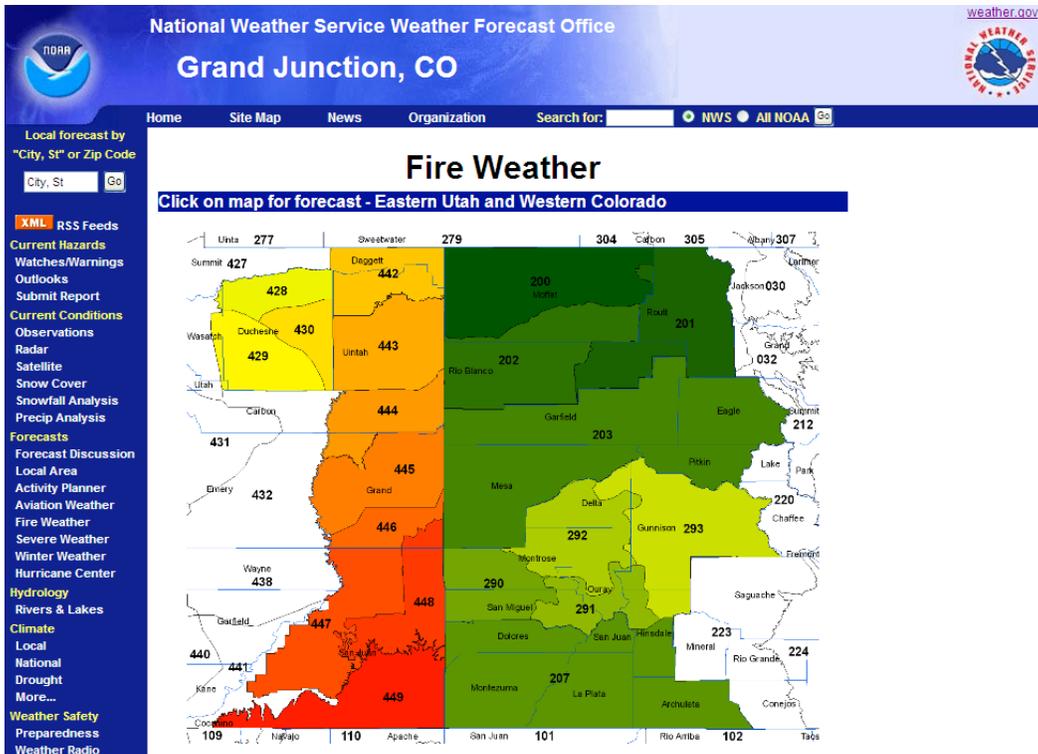


Figure 19. Fire Weather Web Page Information Center.

GRAND JUNCTION SPOT FORECAST REQUEST
Request Elements in RED (*)

<p>PROJECT NAME</p> <p>(*)Project Name: <input type="text"/></p> <p><input type="radio"/> Wildfire <input type="radio"/> HAZMAT</p> <p><input type="radio"/> Prescribed Fire <input type="radio"/> SAR</p> <p>Ignition Time: 1955 <input type="radio"/> Month/Level/Time</p> <p>Date: 2/13/11</p>	<p>REQUESTING AGENCY</p> <p>(*)Requesting Agency: MMS</p> <p>(*)Requesting Official: Duty Forecaster</p> <p>(*)Phone Number: (970) 243-7007 Ext. <input type="text"/></p> <p>FAX Number: <input type="text"/></p> <p>Contact Person: WFO Grand Junction</p>
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REASON FOR SPOT FORECAST REQUEST
(*)Must choose either Wildfire or one of the Non-Wildfire reasons

Wildfire

Non-Wildfire

- Under the Interagency Agreement for Meteorological Services (USFS, BLM, NPS, USFWS, BIA).
- State, tribal or local fire agency working in coordination with a federal participant in the Interagency Agreement for Meteorological Services.
- Essential to public safety, e.g. due to the proximity of population centers or critical infrastructure.

For NWS Spot forecast policy, see section 4.0 in NWS Instruction 10-401 at <http://www.nws.noaa.gov/directives/0101010.htm>

<p>LOCATION</p> <p>(*)Lat: <input type="text"/></p> <p>(*)Lon: <input type="text"/></p> <p>7.5' Quad: <input type="text"/></p> <p>Legal (T/R): <input type="text"/></p>	<p>(*)Elevation: Top <input type="text"/> Bottom <input type="text"/></p> <p>Drainage: <input type="text"/></p> <p>(*)Aspect: <input type="text"/></p> <p><input type="radio"/> eo <input type="radio"/> st Size: <input type="text"/> (Acre)</p>	<p>FUEL</p> <p>Type: <input type="text"/></p> <p><input type="radio"/> Sheltering</p> <p><input type="radio"/> Full</p> <p><input type="radio"/> Partial</p> <p><input type="radio"/> Unsheltered</p>
--	---	--

*Enter Lat/Lon (WGS84/NAD83 preferred), Legal(T/R) also acceptable.

OBSERVATIONS								
Place	Elev	Time	Wind	Temp	Wetbulb	RH	Dewpt	Sky/Weather

<p>PRIMARY FORECAST ELEMENTS</p> <p>TDA TNT TMR (Today, Tonight, Tomorrow)</p> <p><input type="checkbox"/> Clouds / Weather</p> <p><input type="checkbox"/> Temperature</p> <p><input type="checkbox"/> Relative Humidity</p> <p><input type="checkbox"/> 20-FT Winds</p> <p><input type="checkbox"/> Smoke Dispersion</p> <p><input type="checkbox"/> Clearing Index (UT only)</p> <p><input type="checkbox"/> Haines Index</p> <p><input type="checkbox"/> LAL</p> <p><input type="checkbox"/> Mixing Height</p> <p><input type="checkbox"/> Transport Winds</p>	<p>REMARKS</p> <div style="border: 1px solid black; height: 100px; width: 100%;"></div>
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Figure 20. Spot Forecast Form designed for First Responders to collaborate with local meteorologists and incident briefers.



Colorado and Utah Fire Weather Forecast Areas

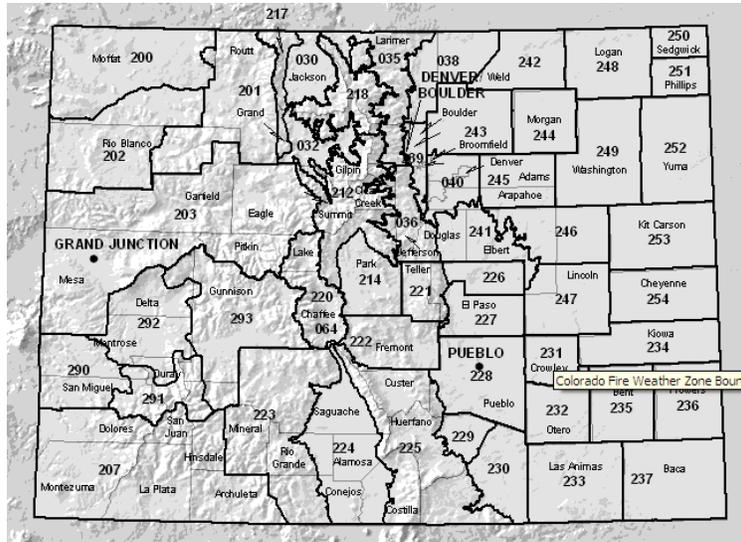


Figure 21. Colorado Fire Weather Forecast Zones.

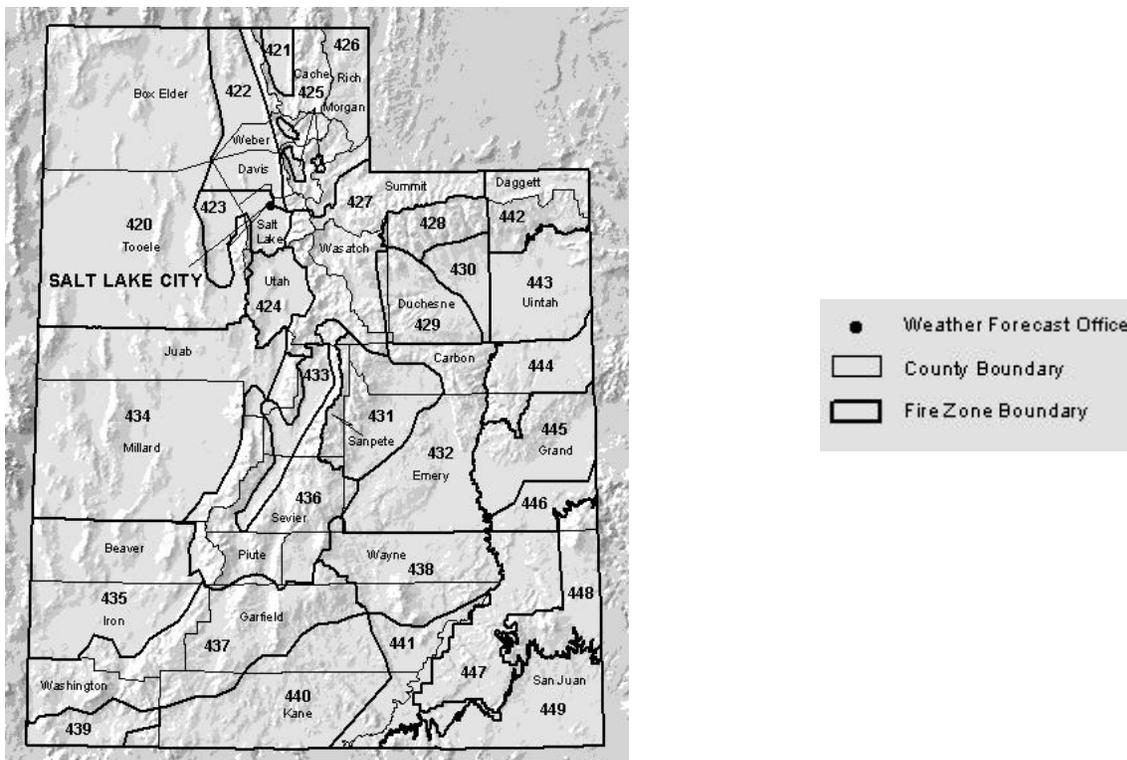


Figure 22. Utah Fire Weather Forecast Zones.

Incident Meteorologists (IMET) are forecasters specially trained to work with Incident Management Teams during severe wildfire outbreaks or other natural or man-made disasters requiring onsite weather support. IMETs may be deployed anywhere a disaster strikes, working long hours for weeks at a time in remote locations in undesirable conditions.

IMETs immediately report to an incident site and assemble a mobile weather center capable of providing continuous meteorological support for the duration of the incident. Specialized portable meteorological equipment assists the forecast process, including weather balloons, Remote Automated Weather Stations (RAWS) and a two-way portable satellite dish for gathering and displaying weather data, such as satellite imagery and forecast model output.

Additional information on the NWS Fire Weather Service available online:

NWS Grand Junction Fire Weather

www.crh.noaa.gov/gjt/?n=firewx

National Fire Weather Page

Radar.srh.noaa.gov/fire/

National Fire Weather Outlooks & Threat (SPC)

www.spc.noaa.gov/products/fire_wx/overview.html

www.spc.ncep.noaa.gov/exper/lgtfuel



Incident Meteorologist with remote weather sensors

Fire Weather Links

www.spc.noaa.gov/misc/link.html#Fire

National Interagency Fire Center

www.nifc.gov

Eastern Great Basin Coordinating Center

Gacc.nifc.gov/egbc

Rocky Mountain Area Coordination Center

gacc.nifc.gov/rmcc

Western Colorado and Eastern Utah Interagency Fire Centers

Craig – gacc.nifc.gov/rmcc/dispatch_centers/r2crc/

Grand Junction – gacc.nifc.gov/rmcc/dispatch_centers/r2gjt

Montrose – gacc.nifc.gov/rmcc/dispatch_centers/r2mtc

Durango – gacc.nifc.gov/rmcc/dispatch_centers/r2drc

Uintah Basin – gacc.nifc.gov/egbc/dispatch/ut-ubs/index.htm

Moab – www.utahfireinfo.gov/mifc/NEW08/index.htm

Wildland Fire Assessment System

www.wfas.net

RAWS & Other Weather Observation Sites (ROMAN)

Raws.wrh.noaa.gov/roman/



Missionary Ridge Wildfire Durango, Colorado 2002

Photos: Mike Chamberlain

WATER RESOURCE SERVICES

The NWS issues official warnings, watches and other pertinent water resource (hydrologic) information regarding flood potential and water supply for the country.

Because water concerns are complex across different geographic areas, select WFOs have special positions called Service Hydrologists. The Service Hydrologist manages the WFO Hydrologic Service Program for the Hydrologic Service Area (HSA), the area of responsibility covered by the program. A map of western Colorado and eastern Utah HSA is on the following page.

The Colorado Basin RFC (CBRFC) in Salt Lake City, Utah, issues western Colorado and eastern Utah river forecasts. The RFC specializes in flood and water resource forecasting and river modeling. The Grand Junction WFO operational staff interprets river forecasts and issues appropriate watches and warnings for river forecast points when necessary. Our most active season occurs during the late spring snowmelt. Severe thunderstorms or dam or levee failures can also cause flash flooding requiring the issuance of flash flood watches and warnings.

RIVER BASINS	STATE
Yampa	CO
White	CO
Upper Colorado	CO / UT
Gunnison	CO
Green River	UT
Duchesne	UT
San Juan	CO / UT
Delores	CO
Animas	CO
San Miguel	CO

NWS National Water Resources Information Web Page

water.weather.gov/ahps/

Water Supply Forecasts

www.co.nrcs.usda.gov/snow/fcst/

wateroutlook.nwrfc.noaa.gov/

www.cbrfc.noaa.gov/wsup/westwide/westwide.cgi

Drought Information

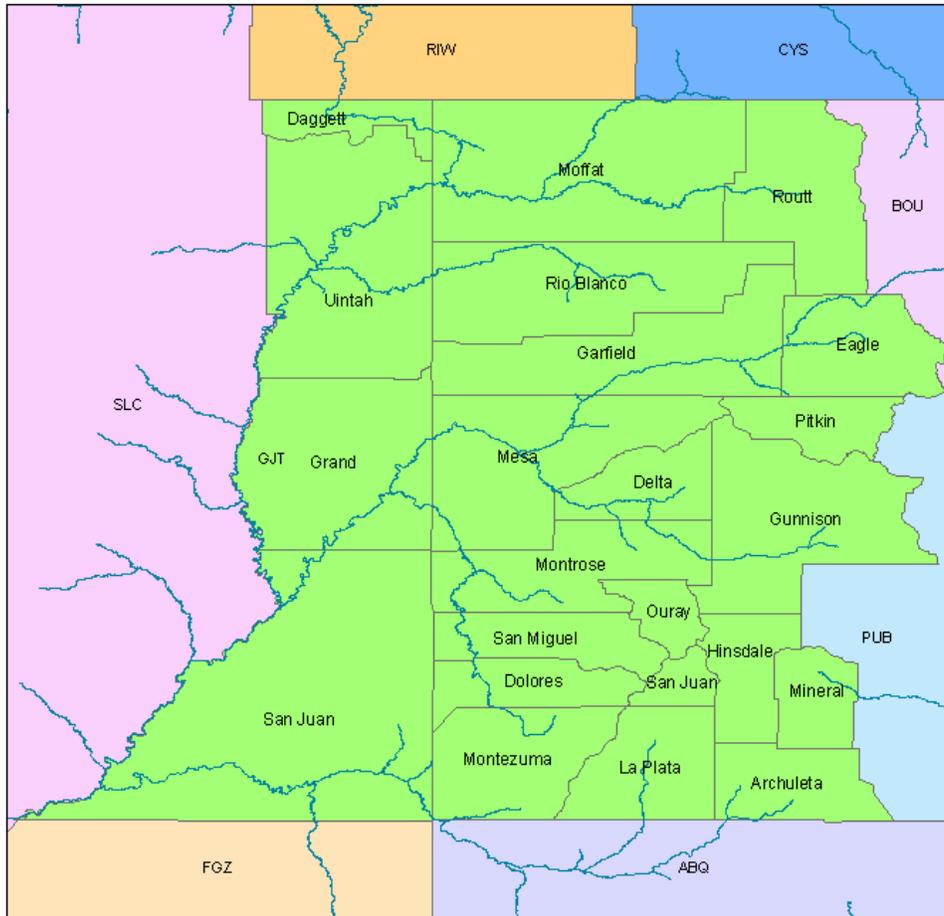
www.drought.unl.edu/dm/monitor.html

Flood Safety

www.nws.noaa.gov/floodsafety/

Hydrological Service Area

Grand Junction, CO



Legend

HSA

ABQ	GJT
BOU	PUB
CYS	RIW
FGZ	SLC

Figure 23. Eastern Utah and Western Colorado Hydrological Service Area (Green).

Advanced Hydrologic Prediction Service

The Advanced Hydrologic Prediction Service (AHPS) is a web-based suite of hydrologic observation and forecast products displaying the magnitude and uncertainty of occurrence of floods, from hours to days to months.

The main advantage of AHPS is the ability to quickly view and determine current river levels and the extent of any flooding, whether minor, moderate or major. Also available are graphics indicating the chance of a river exceeding a certain level, volume and flow at specific points during 90-day periods.

AHPS products enable governmental agencies, private institutions and individuals in making informed decisions and taking the necessary action to mitigate the dangers posed by floods. AHPS is also widely used by water recreationalists for planning activities such as fishing and boating trips.

NWS Grand Junction Advanced Hydrological Service

water.weather.gov/ahps2/index.php?wfo=gjt

NWS National Advanced Hydrological Service

www.weather.gov/oh/ahps/

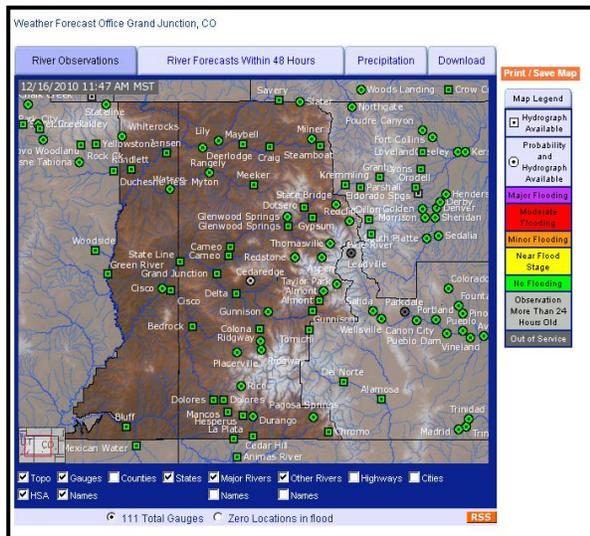


Figure 24. Grand Junction AHPS area map.

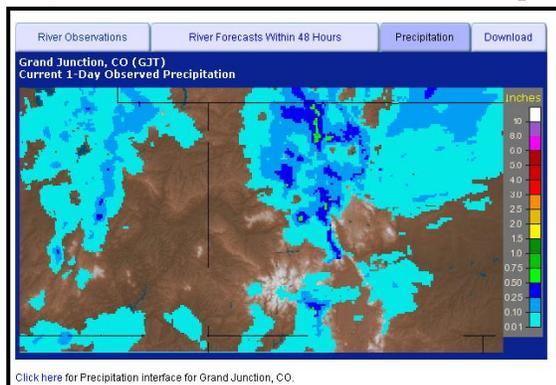


Figure 26. AHPS Current Observed Precipitation.

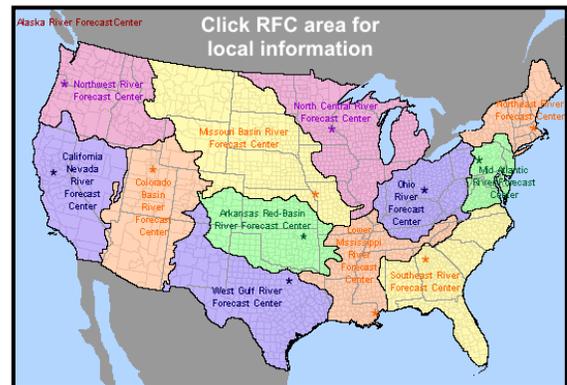


Figure 25. National River Forecast Office Locations.

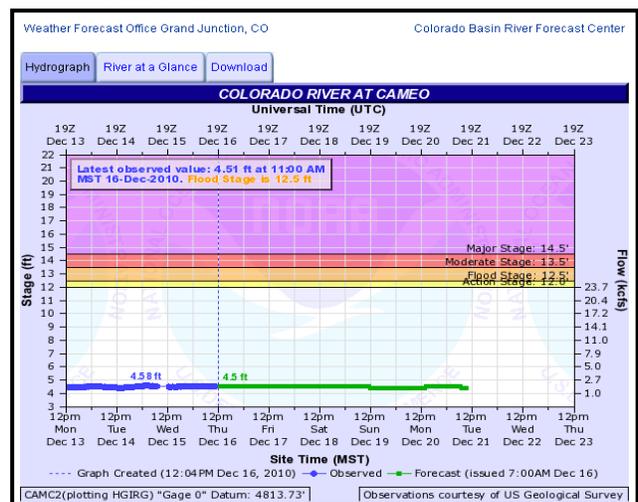


Figure 27. AHPS Hydrograph

Water Resources information available online:

NWS Grand Junction Hydrology Program

www.crh.noaa.gov/gjt/?n=hydrology

NWS Water Resource Services

water.weather.gov/ahps/

Colorado Division of Water Resources

water.state.co.us/Home/Pages/default.aspx

Utah Division of Water Resources

www.water.utah.gov/

River Forecast Centers (RFC)

Colorado Basin River Forecast Center

www.cbrfc.noaa.gov



Working with County Emergency Managers

Reservoir Information

US Bureau of Reclamation Upper Colorado Region

www.usbr.gov/uc/index.html

USBR Western Colorado Area Office

www.usbr.gov/uc/wcao/index.html

Natural Resources Conservation Service (NRCS)

www.wcc.nrcs.usda.gov/cgibin/resv-graph.pl?state=CO

www.wcc.nrcs.usda.gov/cgibin/resv-graph.pl?state=CO



River Gage Information

NWS River Gage Display

water.weather.gov/ahps

NWS Grand Junction River Gage Display

water.weather.gov/ahps2/index.php?wfo=gjt

US Geological Survey

ater.usgs.gov



Colorado Geological Survey

geosurvey.state.co.us/Default.aspx?tabid=66

Utah Geological Survey

geology.utah.gov/

Colorado DWR Surface water

www.dwr.state.co.us/Surfacewater/default.aspx

Utah DWR Surface water

<http://www.water.utah.gov/>

Hydro-Meteorological Prediction Center (HPC)

www.hpc.ncep.noaa.gov

Snow and Winter Weather Information

Natural Resources Conservation Service

Snow Survey Program

www.co.nrcs.usda.gov/snow/
www.ut.nrcs.usda.gov/snow/



SNOTEL Location Map

www.wcc.nrcs.usda.gov/snotel/Colorado/colorado.html
www.wcc.nrcs.usda.gov/snotel/Utah/utah.html

SNOTEL Current Snow Water Equivalent Map

www.wcc.nrcs.usda.gov/gis/snow.html

SNOTEL Current Snow Water Equivalent Graph

www.wcc.nrcs.usda.gov/cgibin/snowup-graph.pl?state=CO
www.wcc.nrcs.usda.gov/cgibin/snowup-graph.pl?state=UT

SNOTEL Current Snow Depth Map

www.wcc.nrcs.usda.gov/gis/snow.html

Current SNOTEL Snowpack Update Report

www.wcc.nrcs.usda.gov/reports/SelectUpdateReport.html

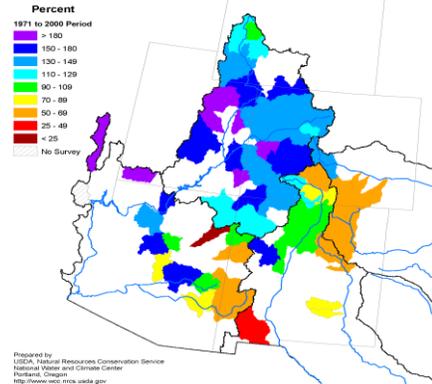
Western Snow Survey Program

www.wcc.nrcs.usda.gov/snow/

Western Mountain Snowpack Maps

www.wcc.nrcs.usda.gov/snowcourse/snow_map.html

Arkansas, Colorado and Rio Grande Basin Mountain Snowpack as of January 1, 2011



Snowpack

SNOTEL Current Snow Depth Map

www.wcc.nrcs.usda.gov/gis/snow.html

Current SNOTEL Snowpack Update Report

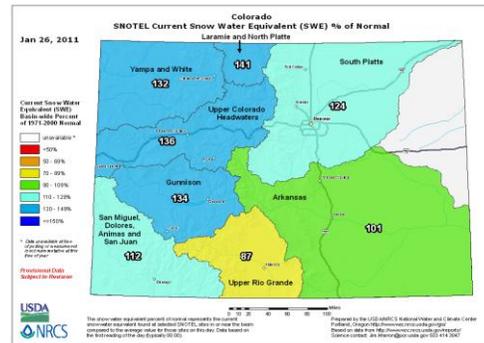
www.wcc.nrcs.usda.gov/reports/SelectUpdateReport.html

Western Snow Survey Program

www.wcc.nrcs.usda.gov/snow/

Western Mountain Snowpack Maps

www.wcc.nrcs.usda.gov/snowcourse/snow_map.html



Snow Water Equivalent

NOAA's National Operational Hydrologic Remote Sensing Center

Nationwide Snow Information

www.nohrsc.nws.gov/



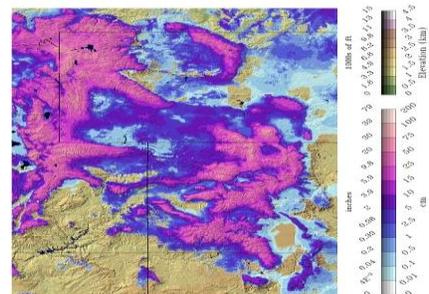
Interactive Snow Information Map

www.nohrsc.nws.gov/interactive/html/map.html

National Rain, Hail & Snow Network (CoCoRaHS)

www.cocorahs.org

Snow Water Equivalent



Hydrometeorological Prediction Center – Snow Forecasts

Winter Weather Forecasts

www.hpc.ncep.noaa.gov/wwd/winter_wx.shtml

Winter Probability Graphics

www.hpc.ncep.noaa.gov/wwd/winter_wx.shtml#ice

Model Analysis and Forecasts

www.nco.ncep.noaa.gov/pmb/nwprod/analysis/

Winter Safety Information

www.weather.gov/os/winter/index.shtml

www.wrh.noaa.gov/pqr/winterawareweek.php

Wind Chill Chart, FAQs & Calculator

www.weather.gov/os/windchill/index.shtml

Road Conditions (511 Travel Info)

Colorado	303-639-1111	cotrip.org
Utah	866-511-8824	
Wyoming	888-996-7623	
New Mexico	800-432-4269	

Dial 511 within each state's boundary for latest road reports

Winter Climatology

National Climate Data Center (NCDC)

US Snow Climatology

www.ncdc.noaa.gov/ussc/index.jsp

Snow Climatology

www.ncdc.noaa.gov/ussc/USSCApController?action=map

Western Regional Climate Center (WRCC)

Observation Records

www.wrcc.dri.edu/summary/climsmid.html

SNOTEL Data

www.wrcc.dri.edu/snotel.html



NRCS Snow Course Survey

OTHER WEATHER SERVICES

Marine and Coast Weather Services

Marine and Coastal Weather Services provide forecast and warning information for the U.S. coast, coastal and offshore waters, the Great Lakes and the open oceans. NWS marine weather forecasters issue wind, sea state, and significant weather forecasts, warnings and statements essential to conducting safe and efficient maritime operations and the protection of the marine public.

Marine weather observations are vital to accurate weather forecasting, especially over waters where weather stations can be hundreds of miles apart. Thousands of vessels worldwide help alleviate the problem as Volunteer Observing Ships (VOS) by submitting observations used by computer modelers and marine forecasters. Another essential marine weather data source is the NWS National Data Buoy Center (NDBC), which maintains over 90 weather buoys and 60 Coastal Marine Automated Observations systems (C-MAN) in the oceans and Great Lakes.

Marine forecasters also provide services as needed in aiding search and rescue operations, containment and cleanup of oil spills or support to other disasters, such as plane crash recovery operations.

Marine Weather Service

www.weather.gov/om/marine/home.htm

Ocean Prediction Service

www.opc.noaa.gov



National Centers for Environmental Prediction

The National Centers for Environmental Prediction (NCEP), located in Camp Springs, Maryland, is comprised of nine distinct centers that provide a wide variety of national and international weather guidance products to NWS offices, government agencies, emergency managers, private-sector meteorologists and meteorological organizations and societies throughout the world.

NCEP is the starting point for nearly all weather forecasts in the United States. Virtually all meteorological data collected over the globe arrives at NCEP, where environmental scientists analyze the information and generate a wide variety of environmental guidance information. The nine centers comprising NCEP follow.

- Aviation
- Central Operations
- Climate Prediction
- Environmental Modeling
- Hydrometeorological Prediction
- Ocean Prediction
- Space Weather Prediction
- Storm Prediction
- Tropical Prediction

National Centers for Environmental Prediction

www.ncep.noaa.gov



Tropical Weather Services – National Hurricane Center

NCEP's Tropical Prediction Center (TPC) maintains an international agreement with the World Meteorological Organization (WMO) to generate and coordinate tropical cyclone analysis and forecast products for twenty-four countries in the Americas, Caribbean, North Atlantic Ocean, Gulf of Mexico and the Eastern North Pacific Ocean.

The National Hurricane Center (NHC) issues forecasts, watches and warnings for tropical cyclones from May 15, in the Eastern Pacific, and June 1, in the Atlantic, through November 30. Many countries issue their own warnings often based upon NHC guidance. During the "off-season," the NHC conducts an extensive outreach and education program including training U.S. emergency managers and representatives from many other countries affected by tropical cyclones.

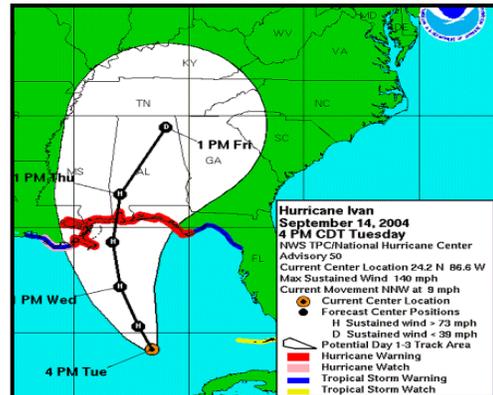
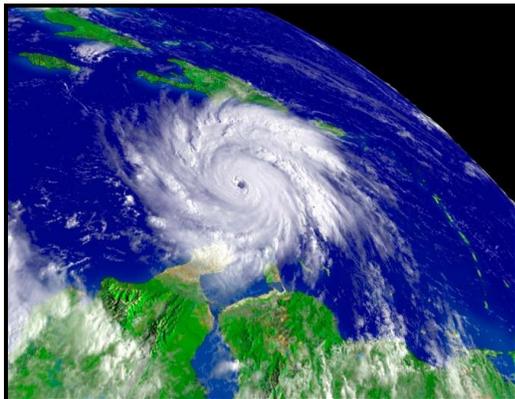
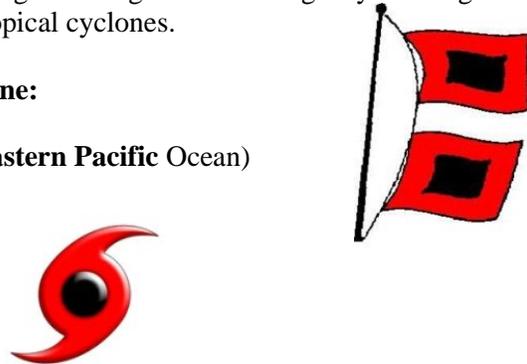
Tropical Prediction Center information available online:

National Hurricane Center (Atlantic Ocean & Eastern Pacific Ocean)

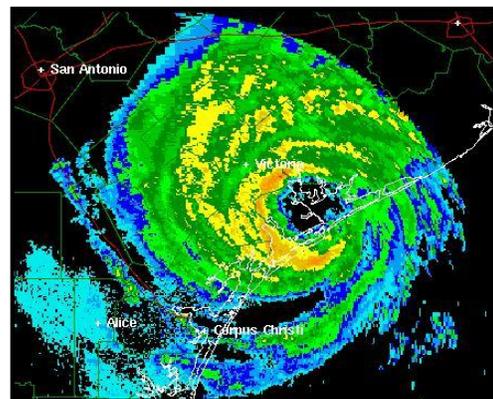
www.nhc.noaa.gov

Central Pacific Hurricane Center

www.prh.noaa.gov/hnl/cphc



Hurricane Ivan: September 2004 satellite image and NHC forecast track.



Hurricane Rita: September 2005 damage track and Doppler Weather Radar

Tsunami Warning Services

Tsunamis are a series of very long waves generated by any rapid, large-scale disturbance of the sea, most often due to large undersea earthquakes. Tsunamis can cause great destruction and loss of life on shores near their source or across an entire ocean. Most tsunamis occur in the Pacific region but can happen in every ocean and sea. The NWS has primary responsibilities of providing tsunami warnings for the nation and coordinating with international governments. The US Geological Service (USGS) provides seismic data to NOAA's Tsunami Warning Centers.

Tsunami Warning Center

tsunami.gov

NOAA Tsunami Information Center

www.tsunami.noaa.gov

Tsunami Ready Communities

www.tsunamiready.noaa.gov



Forensic Weather Services

The Forensic Services Program provides weather support for transportation accident investigations and potential subsequent litigation. The majority of support is for aviation, marine and other surface accidents. This service also provides data and information for various litigations involving weather.

Certified weather and climatological records, including radar images, satellite photos, surface analysis, and buoy reports, are available from the National Climatological Data Center (NCDC).

National Climatological Data Center

151 Patton Avenue
Asheville, NC 28801-5001
(828) 271-4800

www.ncdc.noaa.gov/oa/ncdc.html

Request for a NWS Forensic Meteorologist should be directed to:

National Weather Service Headquarters

Silver Spring Metro Center #2
ATTN: W/OS23, Forensic Services Meteorologist, 13th Floor
1325 East-West Highway
Silver Spring, Maryland 20910

Forensic Services: forecast.weather.gov/directives/sym/pd01020curr.pdf

Weather Data Analysis: www.nws.noaa.gov/om/data.shtml



WEATHER DATA & OBSERVATIONS

The NWS collects weather observations from a variety of federal, state and private organizations. Temperature and precipitation observations from eastern Utah and western Colorado are available twice daily on the Regional Temperature and Precipitation Summary (RTP) product. Nationwide observations are available through the Real-Time Observation and Monitoring Network (ROMAN).

NWS Observations National Data Information

www.weather.gov/om/osd/portal.shtml

Real-Time Observation and Monitoring Network (ROMAN)

raws.wrh.noaa.gov/roman

Acronym	Observation or Network	Agency
ASOS	Automated Observation System	Federal Aviation Administration http://www.weather.gov/asos/
AWOS	Automated Weather Observation System	Federal Aviation Administration http://www.allweatherinc.com/aviation/awos_dom.html
COOP	Cooperative Observer	National Weather Service http://www.weather.gov/om/coop/
CoCoRaHS	Community Collaborative Rain, Hail & Snow Network	State Climatologists & National Weather Service http://www.cocorahs.org/
DOT Systems	Various Providers	State and US Department of Transportation
HANDARS	Automated Weather Equipment	National Weather Service
MesoNets	Regional Network for Weather Observations	Federal, State and Private Industry http://mesowest.utah.edu/index.html
RAWS	Remote Automated Weather Station	USFS and BLM http://raws.fam.nwcg.gov/
SNOTEL	Snow Telemetry	Natural Resource Conservation Service http://www.wcc.nrcs.usda.gov/snow/
CoAgMet	Colorado Agricultural Weather Network	CSU and USDA http://climate.colostate.edu/~coagmet

MAX/MIN TEMPERATURE AND PRECIPITATION TABLE FOR
WESTERN COLORADO AND EASTERN UTAH...UPDATED
NATIONAL WEATHER SERVICE GRAND JUNCTION CO
846 AM MST TUE DEC 7 2010

AVIATION SITES

HIGH TEMPERATURE YESTERDAY
LOW TEMPERATURE PAST 14 HOURS ENDING AT 7 AM MST
PRECIPITATION AND SNOWFALL PAST 24 HOURS ENDING AT 5 AM MST

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.BR GJT 1207 M DH00/TAIRZX/DH07/TAIRZP/PPDRZZ/SFDRZZ/SDIRZZ
:
:          MAX      MIN          SNOW
SNOW
:ID      LOCATION          ELEV    TEMP  TEMP    PCPN    FALL
DPTH
ASE  : ASPEN              7820:    35 /  24 / 0.10 /
/
CEZ  : CORTEZ             5918:    54 /  20 /   T /
/
CAG  : CRAIG              6193:    37 /  26 / 0.10 /
/
DRO  : DURANGO            6684:    51 /  24 /   T /
/
GJT  : GRAND JUNCTION    4858:    44 /  25 /   T /  0.0
/  0
EEO  : MEEKER             6421:    42 /  30 / 0.06 /
/
MTJ  : MONTROSE          5759:    46 /  22 /   T /
/
RIL  : RIFLE              5548:    40 /  30 / 0.03 /
/
CNY  : CANYONLANDS AIRPORT 4557:    46 /  17 /   T /
/
VEL  : VERNAL            5278:    36 /  29 / 0.05 /
/
4BL  : BLANDING          6039:    51 /  30 /   T /  0.0
/  0
:
EGE  : EAGLE              6548:    36 /  27 /   /
/
GUC  : GUNNISON          7680:    32 /  18 /   /
/
HDN  : HAYDEN            6606:    34 /  27 /   /
/
PSO  : PAGOSA SPRINGS    7664:    48 /  23 /   /
/
TEX  : TELLURIDE         9070:    41 /  28 /   /
/

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OFFICIAL COOPERATIVE STATIONS

HIGH TEMPERATURE... LOW TEMPERATURE... PRECIPITATION AND
SNOWFALL PAST 24 HOURS UNTIL 8 AM MST

WESTERN COLORADO

.BR GJT 1207 M DH08/TAIRZX/TAIRZN/PPDRZZ/SFDRZZ/SDIRZZ							
:			OBS	MAX	MIN		SNOW
SNOW							
:ID	LOCATION	ELEV	TIME	TEMP	TEMP	PCPN	FALL
DPTH							
CBRC2:	COLLBRAN 2SW	6100:	DH0800/	40 /	27 /	0.02 /	T
/	T						
CNMC2:	COLORADO NM	5780:	DH0800/	44 /	29 /	0.00 /	0.0
/	0						
CTZC2:	CORTEZ	6153:	DH0800/	54 /	22 /	T /	0.0
/	0						
CRGC2:	CRAIG 4SW	6440:	DH0700/	35 /	23 /	0.07 /	0.6
/	1						
DLTC2:	DELTA 3E	5010:	DH0758/	47 /	22 /	0.00 /	0.0
/	0						
DOVC2:	DOVE CREEK	6843:	DH0718/	50 /	28 /	0.00 /	0.0
/	T						
GUNC2:	GUNNISON 3SW	7640:	DH0800/	33 /	10 /	T /	T
/	T						
IGCC2:	IGNACIO 8E	6621:	DH0700/	51 /	19 /	0.02 /	0.0
/	0						
MVPC2:	MESA VERDE NP	7115:	DH0700/	50 /	20 /	0.00 /	0.0
/	0						
PARC2:	PARADOX 2N	5440:	DH0718/	45 /	21 /	T /	0.0
/	0						
RNGC2:	RANGELY 1E	5290:	DH0700/	38 /	20 /	T /	T
/	0						
BFDC2:	VALLECITO DAM	7650:	DH0745/	44 /	21 /	0.00 /	M
/	M						
EASTERN UTAH							
.BR GJT 1207 M DH08/TAIRZX/TAIRZN/PPDRZZ/SFDRZZ/SDIRZZ							
:			OBS	MAX	MIN		SNOW
SNOW							
:ID	LOCATION	ELEV	TIME	TEMP	TEMP	PCPN	FALL
DPTH							
ANPU1:	ARCHES NP HQS	4130:	DH0700/	47 /	27 /	T /	M
/	M						
CNDU1:	CNYLANDS-NEEDLES	4998:	DH0800/	51 /	23 /	0.00 /	0.0
/	0						
CDPU1:	CEDAR POINT	6760:	DH0718/	47 /	25 /	0.00 /	0.0
/	0						
FTDU1:	FORT DUCHESNE	5050:	DH0740/	39 /	26 /	T /	T
/	T						
HOVU1:	HOVENWEEP NM	5210:	DH0800/	52 /	22 /	0.00 /	0.0
/	0						

JARU1: JARVIE RANCH	5516: DH0830/	48 /	26 /	T /	T
/ 0					
MEXU1: MEXICAN HAT	4130: DH0830/	53 /	23 /	0.00 /	0.0
/ 0					
UNOFFICIAL STATIONS					
		OBS	MAX	MIN	SNOW
SNOW					
ID	LOCATION	ELEV	TIME	TEMP	TEMP
DPH				PCPN	FALL
AVNC2	AVON 2N	8200	DH0718/	35 /	26 /
/ M				0.34 /	5.5
BGGC2	CRAIG 33N	6500	DH0830/	35 /	25 /
/ 7				0.15 /	1.3
GTHC2	GOTHIC	9469	DH0700/	28 /	10 /
/ 20				0.39 /	6.0
CODC2	CRAWFORD 4NNE	6820	DH0830/	54 /	25 /
/ T				0.02 /	T
HCHC2	HOTCHKISS 5WNW	5763	DH0746/	46 /	27 /
/ T				0.01 /	T
MSZC2	MESA 1E	5720	DH0718/	37 /	23 /
/ 0				T /	T
MSXC2	MESA 6S	7800	DH0718/	43 /	25 /
/ M				0.06 /	T
SILC2	SILT 1E	5475	DH0730/	41 /	22 /
/ T				0.02 /	0.5
STBC2	STMBOAT SPGS 1SE	6960	DH0659/	33 /	22 /
/ 12				0.29 /	3.2
WCTC2	WOLCOTT 2N	7215	DH0700/	36 /	16 /
/ 7				0.45 /	4.5
	MOAB			M /	M /
/ M				0.01 /	M

Figure 28. NWS Grand Junction Regional Temperature and Precipitation Summary.

Observations and Summaries

Region

CO - Grand Junction CWA

Product

Current Weather Summary

Go

[ROMAN Home](#)

[MesoWest Home](#)

[Weather Near Fires](#)

[Main Help](#)

[Status](#)

Current Weather Summary for CO - Grand Junction CWA

Settings: All Networks CO - Grand Junction CWA Reports within last 12 hrs

Time: 16:00 UTC 12/7/2010 mm/dd/yyyy

As of: 16:08 UTC 12/7/2010

[Sort by elevation](#)

[Help](#)

QC Flag: [Ok](#), [Caution](#), [Suspect](#)

CO001: Lower Yampa River Basin

Station	Elev	Time		Current					24 Hour					Precipitation			
		LOCAL	UTC	TEMP	RH	WIND	DRCT	PKWIND	MAX T	MIN T	MAX RH	MIN RH	MAX G	1 HR	3 HR	6 HR	24 HR
CALICO	6720 ft	0853MST	1553	30	96	3	W	11	35	27	98	66	16	0	0	0	0
DINOSAUR 2E	6000 ft	0815MST	1515	27	-	-	-	-	41	26	-	-	-	0	0	0	0.01
DINOSAUR NM SUCC	5960 ft	0822MST	1522	30	83	0	SE	6	39	29	97	75	11	0	0	0	0
DRAGON ROAD	6300 ft	0821MST	1521	32	77	3	SSW	8	40	29	94	73	11	0	0	0	0
LADORE	5940 ft	0823MST	1523	37	59	10	NW	20	46	28	88	52	24	0	0	0	0.01
LITTLE SNAKE - L	5685 ft	0800MST	1500	30	-	-	-	-	39	27	-	-	-	0	0	0	0
RANGELY	5275 ft	0755MST	1455	28	100	0	N	-	43	25	100	81	-	-	-	-	-
RANGLEY 1E (POWE)	5290 ft	0600MST	1300	26	-	-	-	-	40	23	-	-	-	0	0	0	0

CO002: Central Yampa River Basin

	Time	Current	24 Hour	Precipitation
--	------	---------	---------	---------------

Figure 29. ROMAN Real-Time Weather Summary Table.

http://raws.wrh.noaa.gov/cgi-bin/roman/raws_ca_monitor.cgi?state=GJT&rawsflag=290&timeobs=12&orderby=n&type=0

SITE INFORMATION

ID: CAGMS
 NAME: GRAND MESA
 - SKYWAY POINT
 LATITUDE: 39.05930
 LONGITUDE: -
 108.06075
 ELEVATION: 10628 ft
 MNET: CAIC



(Click [for topo/terrain map](#))

(Click [for satellite](#))

SITE LINKS

- [Help](#)
- [ROMAN](#)
- [Metric Units](#)
- [Local Time](#)
- [2 Week Summary](#)
- [Past Data](#)
- [Data Quality](#)
- [Station Information](#)

Weather Conditions for CAGMS

Current time: December 7, 2010 - 16:14 GMT

Most Recent Observations at December 7, 2010 - 15:00 GMT

	15:00	Max since Midnight	Min since Midnight	24 Hour Max	24 Hour Min
Temperature	17.0° F	19.1 at 7:00	17.0 at 15:00	27.4 at 18:00	17.0 at 15:00
Dew Point	16.2° F	18.3 at 7:00	16.2 at 15:00	26.1 at 20:00	16.2 at 15:00
Relative Humidity	97%	98 at 9:00	96 at 14:00	99 at 23:00	86 at 18:00
Wind Speed	3 mph from ENE	3 at 15:00	2 at 10:00	13 at 21:00	2 at 10:00
Wind Gust	15 mph	15 at 15:00	8 at 13:00	29 at 21:00	8 at 13:00

Tabular Listing: December 6, 2010 - 15:14 through December 7, 2010 - 16:14 GMT

Time(GMT)	Temperature ° F	Dew Point ° F	Relative Humidity %	Wind Speed mph	Wind Gust mph	Wind Direction	Quality check	Snow depth in
15:00	17.0	16.2	97	3	15	ENE	OK	25.28
14:00	17.2	16.4	96	3	15	SE	OK	25.16
13:00	17.4	16.6	97	2	8	S	OK	25.16
12:00	17.7	16.9	97	3	12	NW	OK	25.08
11:00	17.8	17.1	97	2	8	NNW	OK	25.12
10:00	18.0	17.4	97	2	9	NW	OK	25.39
9:00	17.9	17.5	98	2	9	NNW	OK	25.51
8:00	18.3	17.5	97	2	9	NW	OK	25.51
7:00	19.1	18.3	97	3	10	WNW	OK	25.51
6:00	19.9	18.0	92	3	10	W	OK	25.47
5:00	20.0	20.4	98	3	13	W	OK	25.47

Figure 30. ROMAN Real-Time and Historical Weather Observation Site Information Page.

COMMUNITY COLLABORATIVE RAIN, HAIL & SNOW NETWORK (COCORAHS)

CoCoRaHS is a grassroots volunteer network of backyard weather observers of all ages and backgrounds working together to measure and map precipitation (rain, hail and snow) in their local communities. By using low-cost measurement tools, stressing training and education, and utilizing an interactive website, our aim is to provide the highest quality data for natural resource, education and research applications. The only requirements to join are an enthusiasm for watching and reporting weather conditions and a desire to learn more about how weather can effect and impact our lives. Our web page provides the ability for our observers to see their observations mapped out in "real time", as well as providing a wealth of information for our data users.

Learn more at: www.cocorahs.org



UPCOMING TRAINING SESSIONS



WEATHER OBSERVATION SYSTEMS

Weather Radar

National Display

www.weather.gov/radar_tab.php

Regional Display

radar.weather.gov/Conus/northrockies.php

Eastern Utah and Western Colorado

radar.weather.gov/radar.php?rid=gjx

Weather Satellite

Radar.

NOAA NESDIS Display

www.goes.noaa.gov

NWS DISPLAY

www.weather.gov/sat_tab.php?image=ir

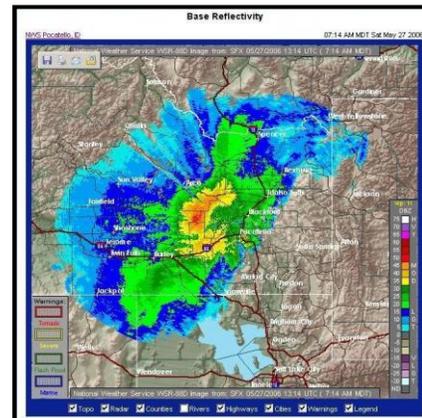


Figure 30. WSR-88D

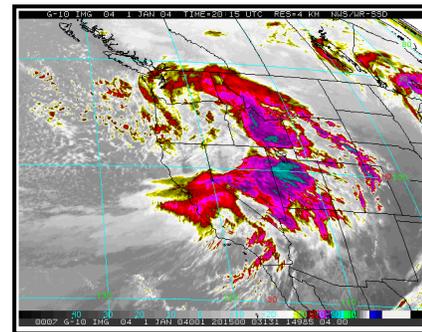


Figure 31. Infra-red Satellite Imagery.

Surface Weather Observations

Surface Weather in XML / RSS formats

www.weather.gov/xml/current_obs

ROMAN – Real-Time National Observation and Analysis Network

raws.wrh.noaa.gov/roman/

Regional Display

www.opc.ncep.noaa.gov/UA/USA_West.gif

Eastern Utah and Western Colorado

raws.wrh.noaa.gov/cgi-bin/roman/raws_ca_monitor.cgi?state=GJT&rawsflag=290&timeobs=12&orderby=n&type=0

Climate Monitoring

www.cpc.ncep.noaa.gov/products/MD_index.shtml

Cooperative Observation Network (COOP)

www.nws.noaa.gov/om/coop/index.htm



Figure 32. Upper air balloon.

National Buoy Center

www.ndbc.noaa.gov/rmd.shtml

River Levels

<http://water.weather.gov/ahps/>

Space Weather Monitoring

www.swpc.noaa.gov

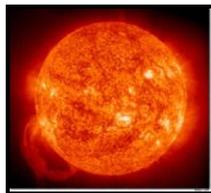


Figure 33. COOP.

NATIONAL WEATHER SERVICE: EQUIPMENT

The NWS operates many instruments to measure weather and hydrologic elements such as moisture, wind, river stage and precipitation. A partial list of these instruments follows:

EQUIPMENT	USES
Airline Communications, Addressing and Reporting System (ACARS)	Commercial airplanes measure temperature, moisture, wind
Advanced Weather Interactive Processing System (AWIPS)	Display system for hydro-meteorological operations
Automated Surface Observation System (ASOS) Automated Weather Observation System (AWOS)	Wind, temperature, moisture, cloud bases, weather and obscurations, pressure
Co-Operative Observation Networks (COOP)	Temperature, precipitation, snow
Doppler Weather Radar	Precipitation intensity and amounts, wind, severe weather patterns
Hydrologic Observing Systems	Temperature, precipitation, river stage/flow
Marine Buoys	Wave heights, wind, pressure
Mesonets	Temperature, wind, precipitation, pressure
Mobile Weather Units	On-site weather observations and forecasts
National Lightning Data Network	Lightning strikes, intensities and trends
NOAA Weather Radio	Official warning and forecast voice of the NWS
Personal Computers	Localized forecast models and text generation
River Gauges	River stage and flow
Satellite	Cloud tops, temperatures, moisture content, large scale winds, sea surface temperatures
Ship Observing Networks	Temperature, moisture, wind, pressure
Special Communications	National Warning Alert System (NAWAS), amateur radio
Spotter Networks	Weather reports and observations
Upper Air Balloon Soundings	Wind, temperature, moisture, pressure levels
Wind Profilers	Wind patterns



NOAA CLIMATE SERVICES

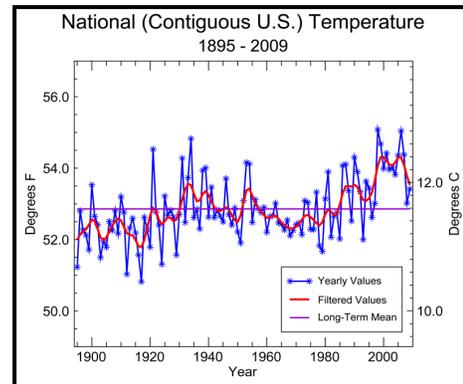
The NOAA Climate Service encompasses a core set of longstanding NOAA capabilities with proven success. The climate research, observations, modeling, predictions and assessments generated by NOAA's top scientists provides the scientific foundation for extensive on-the-ground climate services that respond to several requests each day for data and other critical information.

NOAA Climate Services

www.noaa.gov/climate.html

NOAA Climate Portal

www.climate.gov/#climateWatch



Climate Data and Information

The National Climatic Data Center (NCDC) collects many forms of weather data including radar and satellite images, forecasts and observations from airports and upper air balloons, as well as summarized reports of all storm events impacting the United States. NCDC is the world's largest active archive of weather data. NCDC also produces numerous climate publications and responds to data requests from all over the world. NCDC supports a three tier national climate services support program - the partners include: NCDC, Regional Climate Centers, and State Climatologists. Volunteer Cooperative Observer (COOP) data, which consists of daily temperatures and/or precipitation amounts, is also archived by NCDC.



National Climatic Data Center
Federal Building
151 Patton Avenue
Asheville, NC 28801-5001
Telephone: (828)271-4800
www.ncdc.noaa.gov/oa/ncdc.html



**Western Regional
Climate Center**

Western Regional Climate Center
2215 Raggio Parkway
Reno, NV 89512
Telephone: (775)674-7010
www.wrccc.dri.edu

Applied Climate Information System (ACIS)

Designed for decision makers to find and display local climate data online:

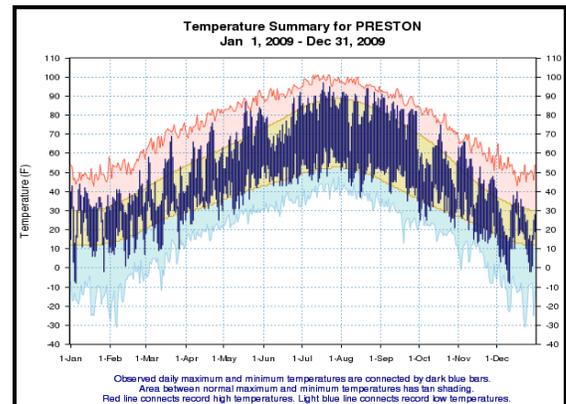
www.rcc-acis.org/

Eastern Utah and Western Colorado Searchable Data:

xmacis.nrcc.cornell.edu/GJT/

For Climate Data across the Nation:

xmacis.nrcc.cornell.edu/



Climate Data and Forecasts on the Internet

The NWS provides climate data for thousands of locations nationwide, as well as seasonal climate forecasts, El Niño and La Niña data and drought information. Climate information is available via the internet from a number of web sites, which are below.

NOAA National Climate Services

www.noaa.gov/climate.html

Climate Prediction Center (CPC)

www.cpc.ncep.noaa.gov/index.php



**National Weather Service
Climate Prediction Center**

Home Site Map News Organization

Search the CPC

Climate News

- **Drought Expected to Persist and Expand Across the Southern Tier of States During the Winter Months**
- **La Niña Advisory Continues**
- **NOAA: Another Winter of Extremes in Store for U.S. as La Niña Strengthens**

6-10 Day Outlook		One Month Outlook	
Temperature	Precipitation	Temperature	Precipitation
8-14 Day Outlook		Three Month Outlook	
Temperature	Precipitation	Temperature	Precipitation
U.S. Hazards Assessment		U.S. Drought Assessment	
Temp./Wind	Precip. Soil/Wildfire	Drought Monitor	Drought Outlook

Click on product title to go to product page. Move cursor over product parameter name to display the graphic -- click to enlarge. Links to these same products are also available below.

Figure 34. NOAA NWS Climate Prediction Center (CPC) Web page.

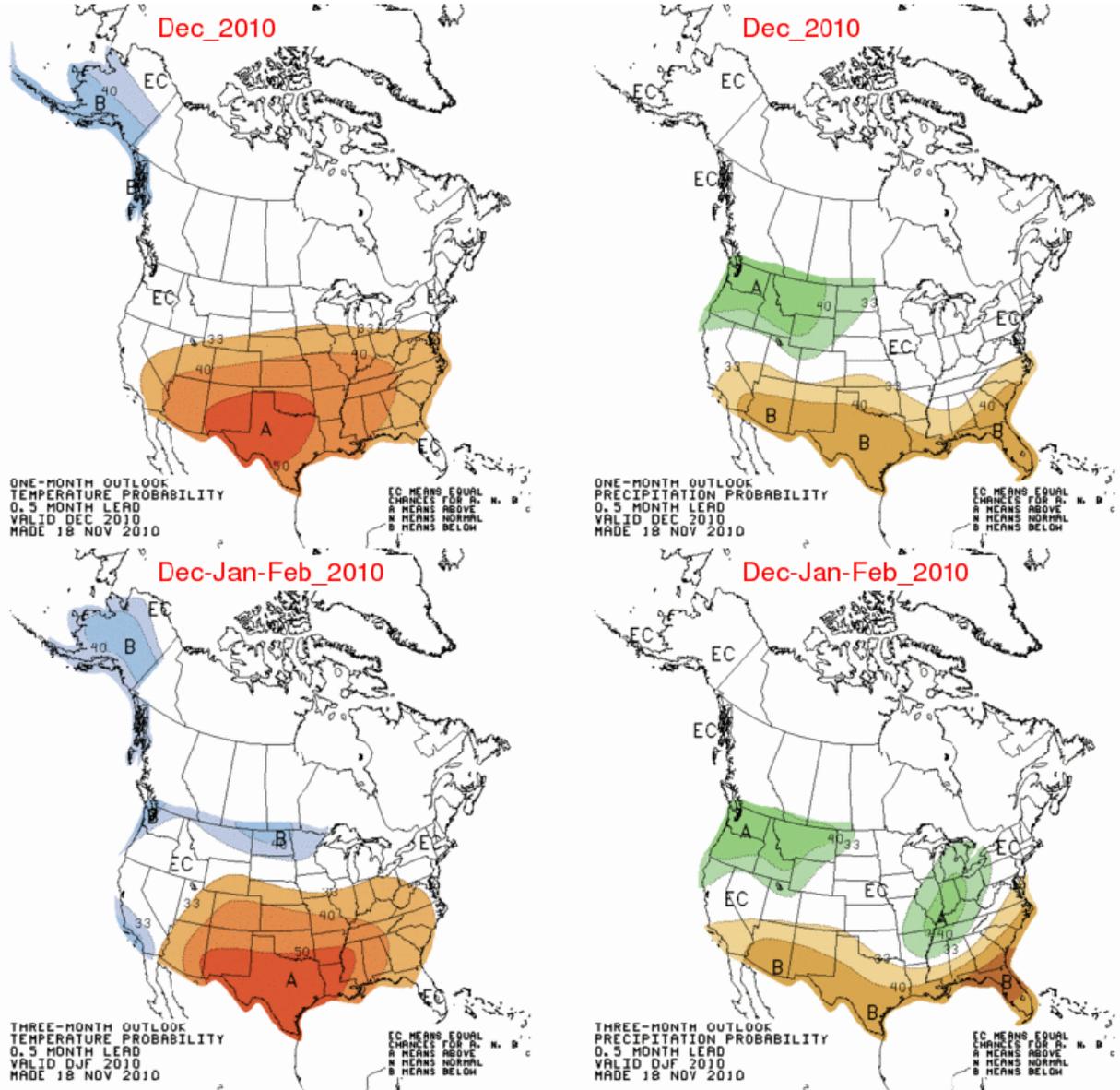
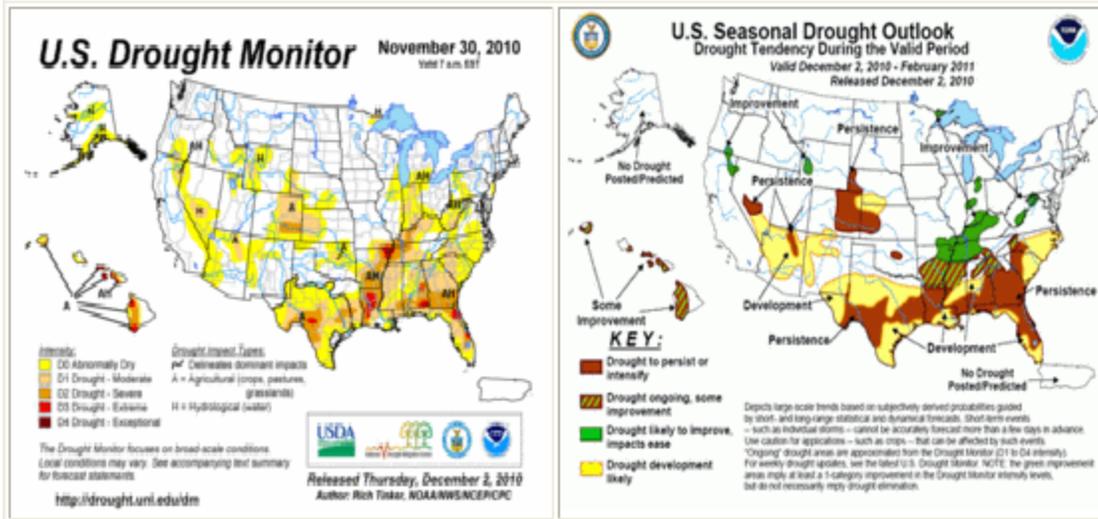


Figure 35. CPC long-range temperature and precipitation forecasts.

U.S. Drought Assessment



[The Latest Weekly Assessment From the United States Drought Monitor](http://drought.unl.edu/dm)

[The Latest Seasonal Outlook](#)

National Drought Monitor Center

www.drought.unl.edu/dm/monitor.html

www.ncdc.noaa.gov/oa/climate/monitoring/drought/nadm/index.html

Grand Junction Forecast Office Internet Climate Page

www.weather.gov/climate/index.php?wfo=gjt

Observed Weather	Climate Locations	Climate Prediction	Climate Resources	Local Data/Records	Astronomical	NOWData
------------------	-------------------	--------------------	-------------------	--------------------	--------------	---------

Observed Weather Reports

1. Product »

- Daily Climate Report (CLI)
- Preliminary Monthly Climate Data (CF6)
- Record Event Report (RER)
- Monthly Weather Summary (CLM)
- Regional Summary (RTP)
- State Summary (Temp/Precip)

2. Location »

Grand Junction (& others)

3. Timeframe »

- Most Recent
- Archived Data:

December 6th, 2010
 December 5th, 2010
 December 4th, 2010
 December 3rd, 2010
 December 2nd, 2010
 December 1st, 2010

4. View »

Go

Storm Event Database (SPC)
 Storm Data (NCDC)

Product Description:

DAILY CLIMATE REPORT - issued daily:
 Detailed daily weather statistics (usually for yesterday), including temperature, precipitation, degree days, wind, humidity, sunrise/sunset, and record temperature data for the following day. Precipitation data includes both calendar year and water year totals, percent of normal values, and comparisons to normal. This product is available for up to 2 months.

SOURCES FOR NWS PRODUCTS

Dissemination Techniques

The NWS strives to use the latest technologies available to disseminate climate, water, and weather information in gridded, graphical, and text form.

The NWS vision for communicating information to users is to:

- Make a wide range of information readily available to a diverse user community
- Disseminate all NWS information nationwide
- Deliver critical information to the public, the hazards community, and other users

www.weather.gov/om/disemsys.shtml

Gateway Telecommunications Hub

www.weather.gov/tg/

www.weather.gov/tg/cominfo.html

GIS Data Portal

www.weather.gov/gis/

KML/KMZ Formats

www.srh.noaa.gov/gis/kml/

Shapefile Formats

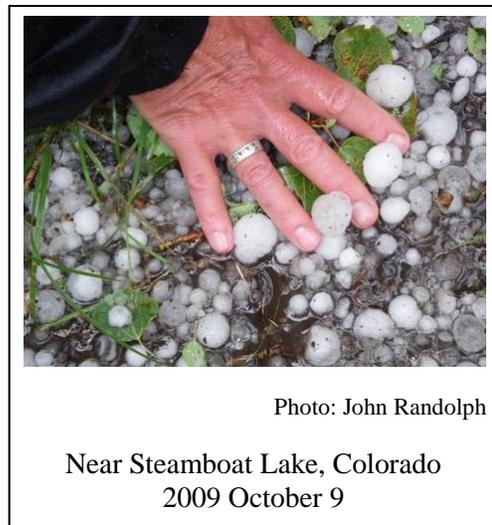
www.weather.gov/gis/shapepage.htm

NOAA Geospatial Data Resources

www.weather.gov/gis/geospatial_data_resources_2007.pdf

National Digital Forecast Database (NDFD) & Simple Object Access Protocol (SOAP) - Web Service

www.weather.gov/xml/



National Oceanic and Atmospheric Association (NOAA)

www.noaa.gov

The screenshot shows the NOAA website homepage. At the top, the NOAA logo and name are displayed, along with the text "NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION" and "UNITED STATES DEPARTMENT OF COMMERCE". Navigation links include "About NOAA", "Contacts", "Staff Directory", and "Help". A search bar is located on the right. The main content area features a large image of a flooded house with the headline "Water's Destructive Power" and "Get Flood Safety Tips From NOAA". Below this, there are several news items under the heading "NOAA NEWS", including "GOES-15 Weather Satellite Captures Its First Image of Earth" and "NOAA Announces First Tsunami Awareness Week". On the left side, there are links to "Weather.gov Forecast", "NOAA WATCH", "www.climate.gov", and "RECOVERY at NOAA". The bottom of the page includes a "STAY CONNECTED" section with social media icons and a footer with various policy and contact links.

National Weather Service on the Internet

www.weather.gov

The screenshot shows the National Weather Service website. The header includes the NOAA logo, the text "National Oceanic and Atmospheric Administration's National Weather Service", and the "weather.gov" URL. Navigation links include "Site Map", "News", "Organization", and "Search". A search bar is present. The main content area features a headline: "...50th Anniversary of the Satellite that 'Forever Changed Weather Forecasting' ...". Below this, there are several tabs for "Warnings & Forecasts", "Graphical Forecasts", "National Maps", "Radar", "Water", "Air Quality", "Satellite", and "Climate". A "Warnings By State" dropdown menu is visible. The main content area displays a map of the United States with various weather indicators. The map is titled "Created: 04/07/10 at 22:12 UTC". The bottom of the page includes a "Click Below To Zoom In" section and a "Tabs At A Glance" section.

Grand Junction Weather Forecast Office

www.weather.gov/gjt

National Weather Service Weather Forecast Office
Grand Junction, CO

weather.gov

Home Site Map News Organization Search for: NWS All NOAA Go

Local forecast by "City, St" or Zip Code
City, St Go

XML RSS Feeds
Current Hazards
Watches/Warnings
Outlooks
Submit Report
Current Conditions
Observations
Radar
Satellite
Observed Precip
Forecasts
Forecast Discussion
Local Area
Activity Planner
Aviation Weather
Fire Weather
Severe Weather
Winter Weather
Hurricane Center

Top News of the Day
October Ranked 8th Warmest on Record

Watches & Warnings Observations Forecast Graphics Rivers & Lakes Climate Fire Weather

Click on the map below for the latest forecast.

Read watches, warnings & advisories
Zoom Out

Blizzard Warning	Red
Winter Storm Warning	Pink
High Wind Warning	Orange
Avalanche Warning	Yellow
Winter Weather Advisory	Light Blue
Wind Advisory	Light Green
Winter Storm Watch	Light Purple
Fire Weather Watch	Light Yellow
Hazardous Weather Outlook	Light Orange

Last map update: Tue, Nov. 23, 2010 at 11:46:25 am MST

Social Media

Social media broadly describes online tools used to share and spread information through social interaction. This mode of dissemination, based on real-time simple publishing techniques online, relies as much on the audience as the publisher. Social media provides a platform from which content transforms into community.

www.noaa.gov/socialmedia/

Facebook



Facebook fan pages lets users create their own sets of "fans" among whom they share brief updates, photos, links, or other information. NOAA and NWS Facebook fan pages offer users a place to follow updates and share information.

www.facebook.com/US.National.Weather.Service.gov

www.facebook.com/usnoaagov



Podcasts



A podcast is an audio recording, usually on one particular topic, ranging anywhere from several minutes to a half-hour or more.

www.weather.gov/rss/

www.podcast.noaa.gov/



RSS Feeds



Really Simple Syndication (RSS) is a family of web formats used to publish frequently updated digital content. It's a way to have news and information delivered to subscribers via "feeds." RSS content can be accessed through various "supported web browsers.

www.weather.gov/rss/

www.weather.gov/alerts-beta/

www.rss.noaa.gov/

www.noaawatch.gov/rss/



Twitter



Twitter is a "microblogging" service that allows users subscribe to receive brief updates or "tweets" (a maximum 140 characters) from others whom they choose to "follow." NOAA tweets include various announcements and links to its Web site. You can Tweet your weather report to the NWS at: ***#wxreport***
WW location WW give your report

twitter.com/usnoaagov

YouTube



YouTube allows users to post videos that are shared with others. NOAA's YouTube Channel offers quick access to many videos and links.

Youtube.com/usnoaagov



NOAA WEATHER RADIO ALL HAZARDS

Broadcasting accurate and timely weather information is a crucial aspect of the NWS mission and NOAA Weather Radio All Hazards (NWR) is a primary communication link to NWS customers.

NWR is a nationwide network of radio stations broadcasting continuous weather information directly from the nearest NWS office. NWR broadcasts official NWS warnings, watches, forecasts and other hazard information 24 hours a day on over 1,000 NWR transmitters to 90% of the country's population. The Grand Junction WFO maintains eight transmitters providing NWR coverage for eastern Utah and western Colorado. Also, overlapping into the Grand Junction WFO area of responsibility are broadcasts from two transmitters maintained by the Salt Lake City WFO, one maintained by the Albuquerque WFO, and one by the Riverton WFO. In addition, the Colorado Department of Transportation (CDOT) maintains a network of AM and FM stations that transmit the NWR broadcasts to parts of Colorado.

Working with the Federal Communication Commission's (FCC) Emergency Alert System (EAS), NWR is an "All Hazards" radio network, making it the only official 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-incident information for all types of hazards, including natural (e.g. earthquakes or avalanches), environmental (e.g. chemical releases or oil spills), and public safety (e.g. AMBER alerts or 911 Telephone outages).

Specially designed radios, some of which have special features that alarm when the NWS issues a warning, are available from a number of commercial vendors. NWR is also available through scanners and in some vehicles and televisions.

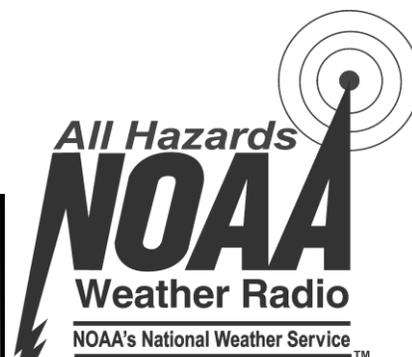
Learn more about NOAA Weather Radio All Hazards and purchasing the special receivers by visiting the NWR website:

www.weather.gov/nwr

Learn how to program your radio - (SAME)

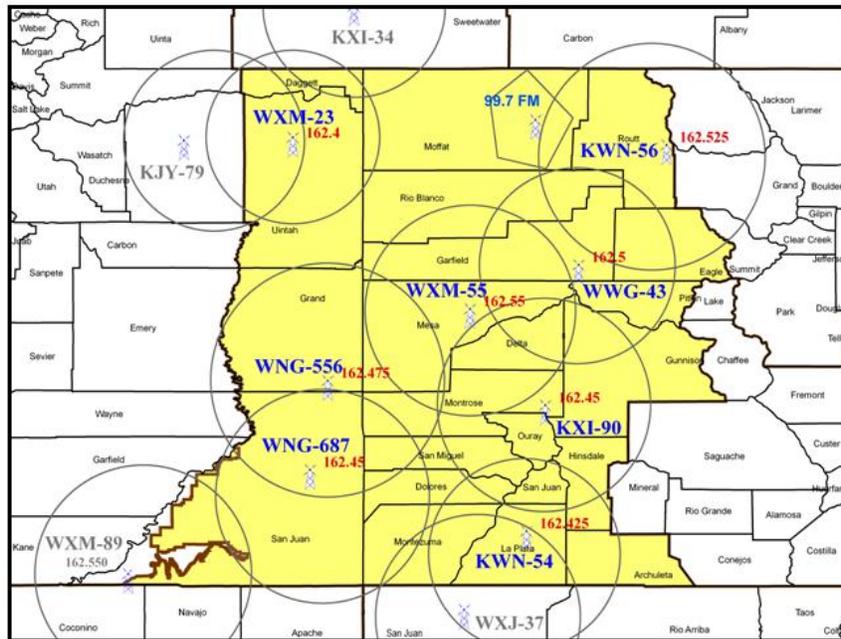
www.nws.noaa.gov/nwr/nwrsame.htm

LOCATION	FREQUENCY (MHz)
Grand Junction	162.550
Montrose	162.450
Glenwood Springs	162.500
Steamboat Springs	162.525
Durango	162.425
Vernal	162.400
Moab	162.475
Monticello	162.450
Farmington, NM	162.400
Lake Powell, UT	162.550
Tabiona (Mt Tabby), UT	162.550
Rock Springs, WY	162.550

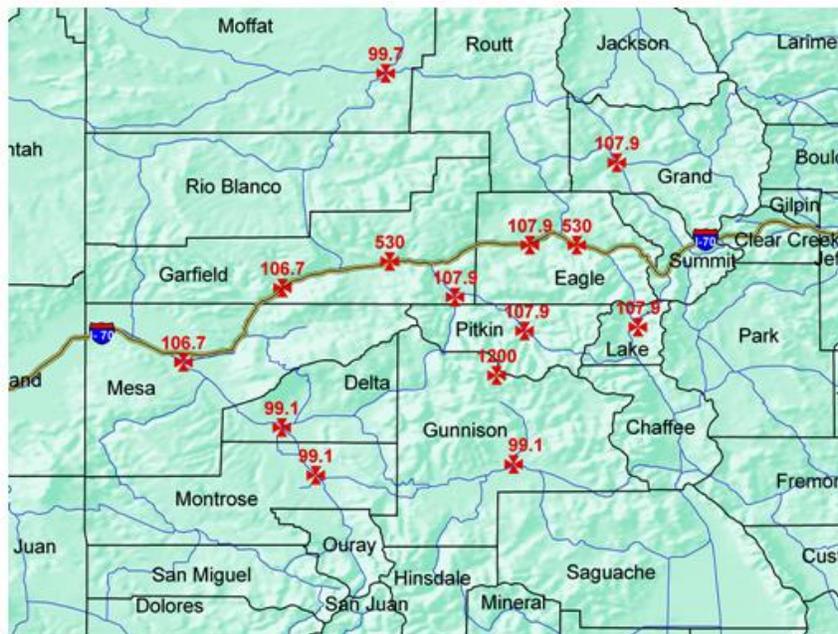


NOAA Weather Radio All Hazards transmitters serving eastern Utah and western Colorado.

NOAA WEATHER RADIO ALL HAZARDS COVERAGE



CDOT AM/FM Repeater Stations



The Colorado Department of Transportation (CDOT) AM/FM repeater stations transmit weather information 24 hours a day. However, CDOT will occasionally interrupt weather broadcasts with important highway and travel information.

*Please note: weather radio alarm features will **NOT** work on AM/FM radios.*

Mobile Services:

Cell phones and email – “Interactive NWS”

Text Message Alerts
Cell Phone Applications

Mobile Weather Web Page
Mobile Aviation Page

inws.wrh.noaa.gov

nwsmobile.wrh.noaa.gov

Home My Alerts News FAQ About Login Register

 **iNWS - Interactive NWS**
National Weather Service Mobile Decision Support Services (MDSS)

iNWS MOBILE ALERTING
Receive customized text message and e-mail alerts for National Weather Service products that you care about.

Welcome.
InteractiveNWS (iNWS) is the home of new mobile and desktop innovations of the National Weather Service. This application suite allows NWS partners to receive National Weather Service products in new and innovative ways, such as text messaging and mobile-enabled webpages. iNWS strives to fulfill our mission of protecting life and property by using new technology to reach out to our customers.

Recent News.
[New iNWS Terms of Use Are In Effect](#)
[Text Message Alerts Unlocked for All iNWS Users](#)
[New Version of the iNWS Web Page Released](#)
[All Advisories, Watches and Warnings Restored to iNWS Text Message Alerts](#)
[iNWS Text Message Alerts Limited to Warning Products](#)

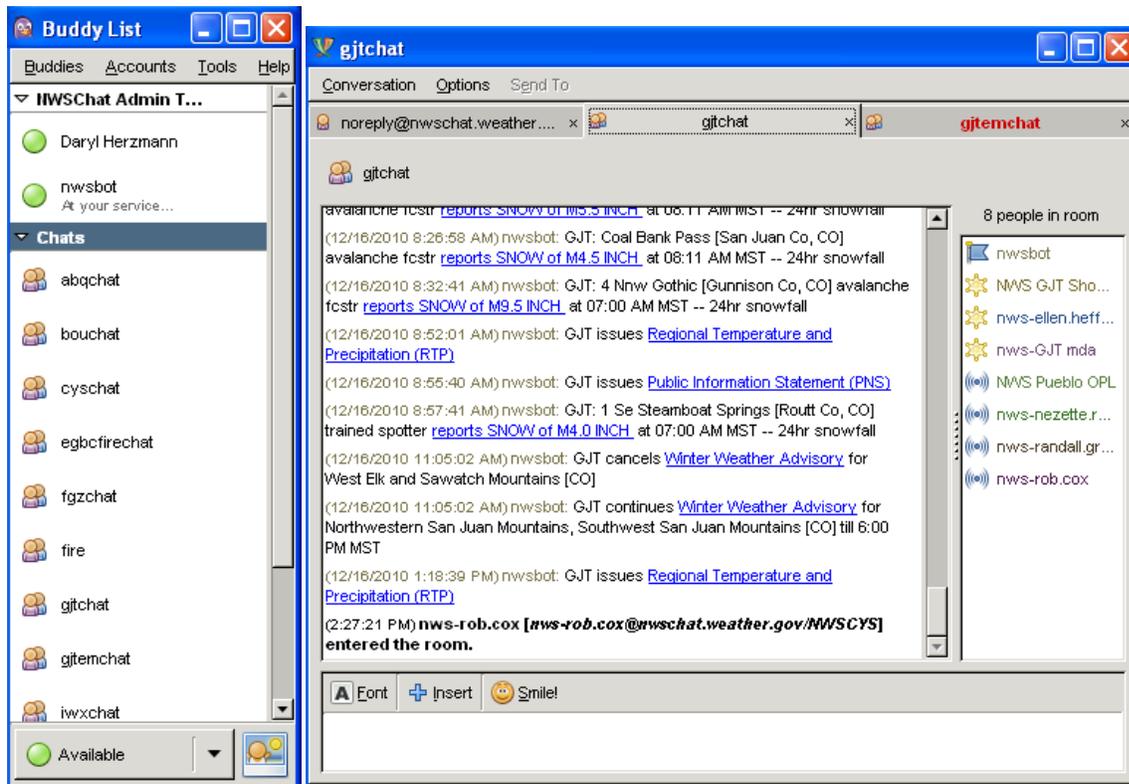
iNWS is an experimental service intended for NWS core partners, including emergency managers, community leaders and other government agencies only. You are encouraged to complete a [short survey](#) on iNWS. See the [iNWS Service Description Document](#) for more information.

DOC - NOAA - National Weather Service - iNWS Version 4 - Switch to Mobile Version
[Privacy Policy](#) | [Terms of Use](#) | [FOIA](#) | [Information Quality](#) | [Disclaimer](#) | [Glossary](#) | [Texting While Driving](#)

DECISION SUPPORT SYSTEMS

Decision Support Systems are designed for emergency managers, law enforcement, first responders and incident commanders to communicate in real-time with the NWS and other partners and receive our latest warning products. Two services provided by the Grand Junction office include NWSChat and EWARN. Contact our office if you would like to sign up and participate.

NWSChat – using Pidgin display software



EWARN – Email messaging system that sends warnings for your area.

<p>URGENT - WEATHER MESSAGE NATIONAL WEATHER SERVICE GRAND JUNCTION CO 828 PM MST TUE DEC 7 2010</p> <p>UTZ024-081130- /O.NEW.KGJT.FG.Y.0015.101208T0328Z-101208T1600Z/ EASTERN UINTA BASIN- INCLUDING THE CITIES OF...VERNAL...JENSEN...BALLARD... FORT DUCHESNE...RANDLETT 828 PM MST TUE DEC 7 2010</p> <p>...DENSE FOG ADVISORY IN EFFECT UNTIL 9 AM MST WEDNESDAY...</p> <p>THE NATIONAL WEATHER SERVICE IN GRAND JUNCTION HAS ISSUED A DENSE FOG ADVISORY...WHICH IS IN EFFECT UNTIL 9 AM MST WEDNESDAY.</p> <p>* TIMING...AREAS OF DENSE FOG WILL PERSIST THROUGH WEDNESDAY MORNING.</p> <p>* VISIBILITY...LESS THAN 1/2 MILE AND AS LOW AS HUNDREDS OF FEET AT TIMES.</p> <p>* IMPACTS...THE PATCHY NATURE OF THE FOG WILL DROP VISIBILITIES QUICKLY IN A SHORT DISTANCE. VISIBILITIES MAY BECOME SEVERELY RESTRICTED NEAR RIVERS...LAKES... BRIDGES...AND LOW LYING AREAS.</p> <p>PRECAUTIONARY/PREPAREDNESS ACTIONS...</p> <p>A DENSE FOG ADVISORY MEANS VISIBILITIES WILL FREQUENTLY BE</p>	<p>URGENT - WINTER WEATHER MESSAGE NATIONAL WEATHER SERVICE GRAND JUNCTION CO 701 PM MST MON NOV 22 2010</p> <p>COZ017>019-UTZ028-231015- /O.UPG.KGJT.BZ.A.0002.101124T0100Z-101124T1900Z/ /O.EXB.KGJT.BZ.W.0002.101124T0100Z-101124T1900Z/ UNCOMPAGHRE PLATEAU AND DALLAS DIVIDE- NORTHWEST SAN JUAN MOUNTAINS-SOUTHWEST SAN JUAN MOUNTAINS- LA SAL AND ABAJO MOUNTAINS- INCLUDING THE CITIES OF...RIDGWAY...GLADE PARK...OURAY... TELLURIDE...LAKE CITY...SILVERTON...RICO...HESPERUS... MONTICELLO AND VICINITY 701 PM MST MON NOV 22 2010</p> <p>...BLIZZARD WARNING IN EFFECT FROM 6 PM TUESDAY TO NOON MST WEDNESDAY...</p> <p>THE NATIONAL WEATHER SERVICE IN GRAND JUNCTION HAS ISSUED A BLIZZARD WARNING...WHICH IS IN EFFECT FROM 6 PM TUESDAY TO NOON MST WEDNESDAY. THE BLIZZARD WATCH IS NO LONGER IN EFFECT.</p> <p>* TIMING...SNOW WILL REDEVELOP TUESDAY EVENING AND CONTINUE THROUGH WEDNESDAY MORNING.</p> <p>* SNOW ACCUMULATION...POTENTIAL SNOWFALL TUESDAY NIGHT AND WEDNESDAY MORNING WILL BE 4 TO 8 INCHES.</p> <p>* WINDS...STRONG SOUTHWEST WINDS 30 TO 50 MPH WITH GUSTS REACHING 75 MPH OVER EXPOSED MOUNTAIN PASSES WILL BE LIKELY TUESDAY NIGHT AND WEDNESDAY MORNING. THE STRONG</p>
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EMERGENCY ALERT SYSTEM (EAS)

The Emergency Alert System (EAS) alerts local communities about emergency information and warnings through local broadcast and cable media. Local, state and federal agencies generate and transmit messages to radio, television and cable networks. Hazard alerts include power outages, tornadoes, flash floods, severe thunderstorms, blizzards, dam failures, nuclear accidents, toxic leaks or any hazardous incident.

Activation of the EAS system typically occurs when life threatening weather or potential damage to property may occur. Weather and hydrologic incidents that activate the system via NOAA Weather Radio All Hazards system include tornadoes, flash floods, severe thunderstorms and rapidly developing blizzards. Select officials may also request system activation for items such as dam failures or messages from county emergency management directors who must alert their community to a hazard, such as a toxic spill. The NWS also assists in Amber Alerts and national emergency messages from the president of the United States.

Upon system activation, certain tones interrupt the audio portion of radio and television programming. Television stations may choose whether to use a text crawler and/or an audio portion to discuss the purpose of the alert. After relaying the emergency message, stations return to normal programming.

Additional information on the Emergency Alert System is available online:

National EAS Information

www.fcc.gov/pshs/services/eas

National Weather Service EAS

www.nws.noaa.gov/om/dissemination/eas_codes.shtml



America's Weather Industry - Private Weather Vendors

Private weather vendors who carry the NOAA Weather Wire also disseminate NWS text products as well as Doppler weather radar and satellite imagery. Many commercial weather services provide a wide variety of weather products and graphics, however, some may require a usage fee.

www.nws.noaa.gov/im

www.weather.gov/im/more.htm



EDUCATION AND CAREER RESOURCES

Educational Resources

The NWS works with educators to provide training materials for all levels of learning. Information is available online via the following web sites.

NWS & NOAA Education Resources

Atmosphere, Earth & Ocean Sciences – NOAA for Teachers & Students

www.education.noaa.gov/index.html

Especially for Children

www.education.noaa.gov/sweather.html

JETSTREAM – Online School for Weather

www.srh.weather.gov/srh/jetstream/index.htm

NOAA Central Library – Photos, Articles, etc.

www.lib.noaa.gov

Various Education Links

www.weather.gov/education.html

Weather Links

www.education.noaa.gov/cweather.html

American Meteorological Society

www.ametsoc.org/amsedu

American Red Cross – Masters of Disaster

www.redcross.org/

National Weather Association

www.nwas.org

Cooperative for Operational Meteorology, Education and Training (COMET)

www.comet.ucar.edu



Photo: Jim Pringle

Career Information

NWS careers vary from meteorologists and hydrologists to computer programmers and electronics technicians. Preferred majors for entry-level positions include the atmospheric, computer and earth sciences, as well as electronics, geography, hydrology, mathematics, meteorology and physics. Special summer internship programs are occasionally available. Job applicants may obtain employment information from a local NWS office or through the US Government Office of Personnel Management (OPM).

Careers in Climate, Hydrology and Weather

www.weather.gov/careers.php

NOAA Careers

www.noaa.gov/jobs.html

Department of Commerce Online Resume Preparation

www.commerce.gov/JobCareerOpportunities/index.htm

All Federal Employment

www.usajobs.gov



Photo: Jim Pringle
Mesa County Safety Fair
11 February 2010

NATIONAL WEATHER SERVICE PARTNERS

The NWS collaborates with numerous government agencies and public service groups to serve the community in time of disasters. Some Grand Junction NWS partners and their web sites are below.

US Federal Government Web Portal

www.usa.gov



Federal Emergency Management Agency

www.fema.gov

Homeland Security

Colorado www.colorado.gov/homelandsecurity

Utah publicsafety.utah.gov/homelandsecurity/



US Department of Agriculture – Forest Service

www.fs.fed.us



US Department of Interior – Bureau of Land Management

www.blm.gov

Colorado www.co.blm.gov

Utah www.ut.blm.gov



US Department of Interior - National Park Service

www.nps.gov



National Interagency Fire Center

www.nifc.gov



Geographic Area Fire Coordination Centers

Eastern Great Basin: <http://gacc.nifc.gov/egbc/>

Rocky Mountain Area: <http://gacc.nifc.gov/rmcc/>

Craig, Upper Colorado River, Montrose and Durango Interagency Fire Centers

gacc.nifc.gov/rmcc/dispatch_centers/r2crc/

gacc.nifc.gov/rmcc/dispatch_centers/r2gjc/

gacc.nifc.gov/rmcc/dispatch_centers/r2mtc/

gacc.nifc.gov/rmcc/dispatch_centers/r2drc/

Uintah Basin and Moab Interagency Fire Centers

gacc.nifc.gov/egbc/dispatch/ut-ubc/

www.utahfireinfo.gov/mifc/

US Bureau of Reclamation – Upper Colorado Region

www.usbr.gov/uc



USDA Natural Resources Conservation Service

www.id.nrcs.usda.gov/snow



State Official Website

Colorado: www.colorado.gov

Utah: www.utah.gov

State Highway Patrol

Colorado: csp.state.co.us/

Utah: publicsafety.utah.gov/highwaypatrol/index.html

Department of Transportation

Colorado: www.cotrip.org

Utah www.udot.utah.gov

Emergency Management Association

Colorado www.cemacolorado.com

Utah: www.des.utah.gov

Colorado State Forest Service

csfs.colostate.edu/

Utah Division of Forestry, Fire and State Lands

www.forestry.utah.gov/ffsl.htm

State Parks

Colorado: www.parks.state.co.us/

Utah: www.stateparks.utah.gov

Native American Tribal Websites

Navajo: www.navajo.org

Southern Ute: www.southern-ute.nsn.us

Ute Mountain: www.utemountainuteenvironmental.org

Ute Tribe, Uintah and Ouray Reservation: www.utetribe.com

OTHER NWS COLLABORATION AND SERVICES

Visit these web sites for additional weather and weather-related information.

Avalanche Information

National Avalanche Information

www.avalanche.org

Colorado Avalanche Information Center (CAIC)

<http://avalanche.state.co.us>

Utah Avalanche Center

<http://utahavalanchecenter.org>

Climate Prediction

www.cpc.ncep.noaa.gov

Daily Weather Maps

www.hpc.ncep.noaa.gov/dailywxmap/index.html

Hurricane Forecasts, Warnings and Maps

www.nhc.noaa.gov/index.shtml

Marine and Coastal Weather Information

www.weather.gov/om/marine/home.htm

Ocean Forecasts, Warnings and Maps

www.opc.ncep.noaa.gov

NOAA Public Affairs

www.nws.noaa.gov/pa/index.php

National Weather Service Publications

www.weather.gov/om/publications.shtml

Space Weather and Aurora Forecasts and Warnings

www.swpc.noaa.gov

Sun or Moon Rise and Set Tables

Severe Weather Safety Brochures

www.nws.noaa.gov/om/brochures.shtm

Severe Weather Safety Services

www.nws.noaa.gov/om/severeweather/index.shtml

Weather Computer Modeling Data

wwwt.emc.ncep.noaa.gov

Weather Model Maps and Analysis

www.nco.ncep.noaa.gov/pmb/nwprod/analysis



Photo: CAIC Silverton
Lime Creek Slide, 16 February 2001



Photo: Dave Olsen
Ash Devil, Moffat County 14 July 2006



Photo: Bea Hutton
Funnel Cloud and Rainbow
Delta, Colorado, 11 September 2002

WEATHER-RELATED WEBSITES

NWS Offices - Nearby

Albuquerque, NM	www.weather.gov/abq
Boulder, CO	www.weather.gov/boulder
Cheyenne, WY	www.weather.gov/cheyenne
Flagstaff, AZ	www.weather.gov/flagstaff
Grand Junction, CO	www.weather.gov/gjt
Pueblo, CO	www.weather.gov/pueblo
Riverton, WY	www.weather.gov/riverton
Salt Lake City, UT	www.weather.gov/saltlakecity

Arkansas-Red Basin River Forecast Center	www.srh.noaa.gov/abrfc
Colorado Basin River Forecast Center	www.cbrfc.noaa.gov
NWS Central Region Headquarters	www.crh.noaa.gov
NWS Western Region Headquarters	www.wrh.noaa.gov
National Weather Service Headquarters	www.nws.noaa.gov/hdqtrr.php
National Weather Service Forecasts	www.weather.gov
NWS Digital Forecast Database	www.nws.noaa.gov/ndfd
National Center for Environmental Prediction	www.ncep.noaa.gov
Climate Prediction Center	www.cpc.noaa.gov/index.php
National Climatic Data Center	www.ncdc.noaa.gov
Storm Prediction Center	www.spc.noaa.gov
National Severe Storms Laboratory	www.nssl.noaa.gov
American Red Cross	www.redcross.org
American Meteorological Society	www.ametsoc.org/amsedu
National Weather Association	www.nwas.org
University Center for Atmospheric Research	www.ucar.edu/ucar



NOAA NATIONAL OCEANIC AND
ATMOSPHERIC ADMINISTRATION
UNITED STATES DEPARTMENT OF COMMERCE

