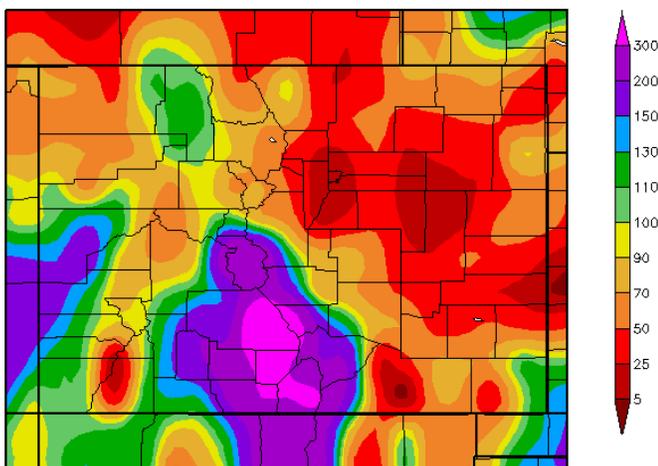


NOVEMBER PRECIPITATION

The month of November brought a flip-flop in precipitation patterns to some areas compared to the previous month, especially for locations in the foothills north of I-70 and in south-central Colorado's San Luis Valley. It remained wet in the Grand Valley on the western slope and dry in the Arkansas River valley east of Pueblo.

The last half of November delivered quite a bit of snow to Alamosa with 18.1" that melted down to 1.63" of water. For a part of the world that averages less than 10 inches of water each year, this was a big deal, especially in a month that's typically dry. November was 1.21" wetter than normal for Alamosa. The snow was enough that the month is now the third snowiest November on record, only behind 1972 (19.8") and 1940 (20").

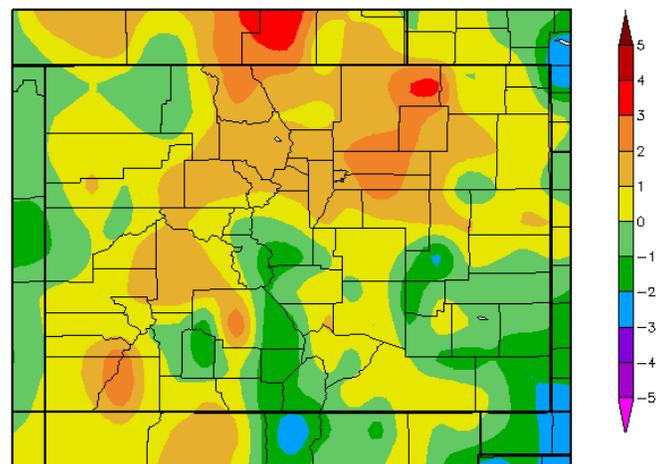
Percent of Normal Precipitation (%)
11/1/2013 - 11/30/2013



NOVEMBER TEMPERATURES

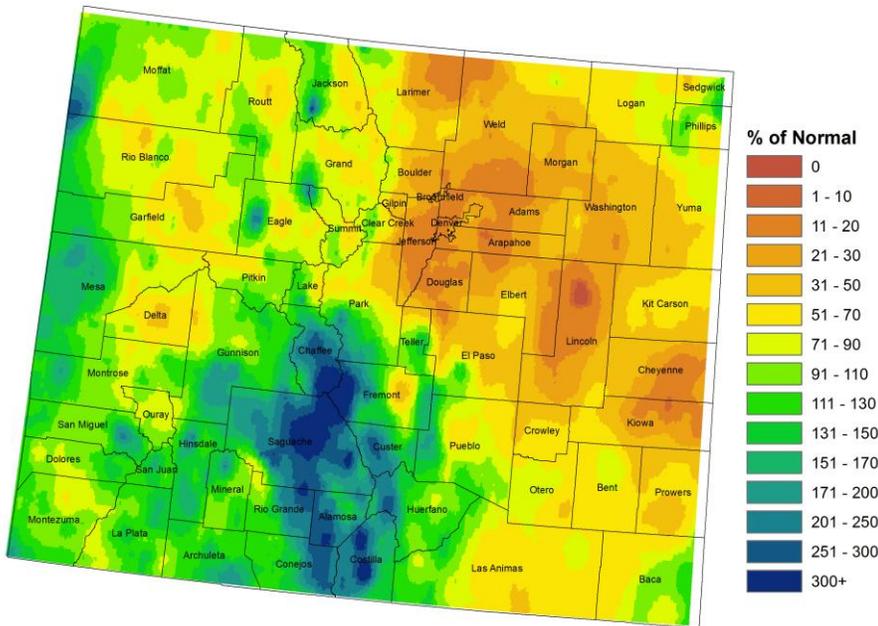
Overall, November was a fairly mild and quiet month across the state. Most places were at or slightly above normal with a few exceptions. One of the coldest areas in the state was the San Luis Valley, largely due to the snowfall during the last half of the month. In fact, Alamosa dropped into the teens below zero nightly once the snow was on the ground. They ended the month about 2 degrees below normal.

Departure from Normal Temperature (F)
11/1/2013 - 11/30/2013



The below normal temperature trend in the San Luis Valley could persist for several more weeks. Past years have taught us that if the valley accumulates a deep snow pack in late November or early December, it leads to a persistent temperature inversion, trapping cold air in the valley until the snow melts or sublimates.

Colorado November 2013 Precipitation as a Percentage of Normal

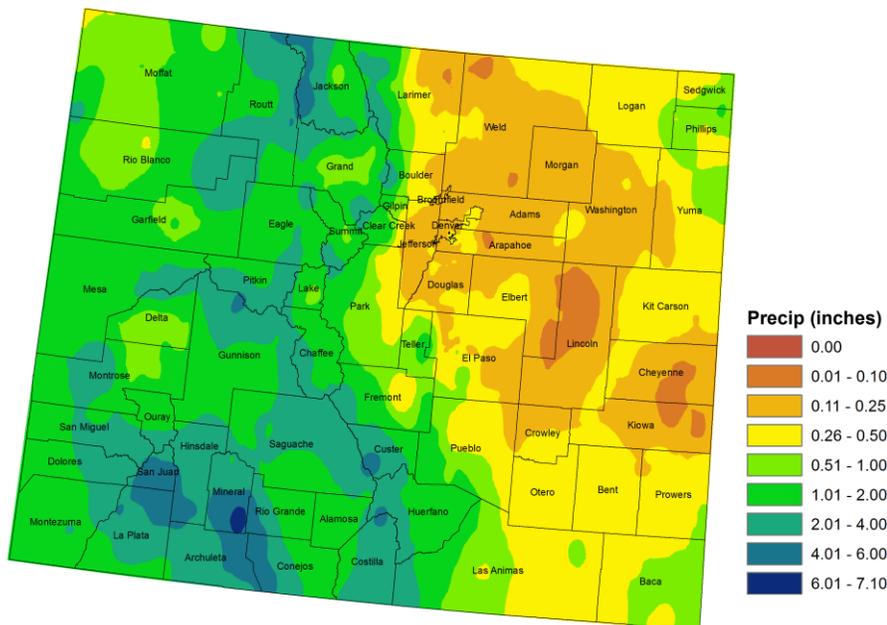


In past CoCoRaHS newsletters, we've shown percent of normal maps from the High Plains Regional Climate Center, like on the previous page of this newsletter. Going forward, we'll also be showing you a few products produced at the Colorado Climate Center. These maps look slightly different than the High Plains analysis because it includes your CoCoRaHS reports.

Top Left: Nov. 2013 Percent of Normal Precipitation

Bottom Left: Nov. 2013 Precipitation in Colorado

Colorado November 2013 Precipitation



COLORADO WEATHER HISTORY

Question: *Where was the highest confirmed wind gust in Colorado measured?*

Answer: At the National Center for Atmospheric Research in Boulder (147 mph on January 25, 1971).

Note: A wind gust of 201 mph was also confirmed on Longs Peak in the winter of 1981.



NOVEMBER FUN FACTS FROM AROUND COLORADO

*As of 4 pm, 12/09/2013

- 1,137 stations filed at least one daily report
- 861 stations reported at least half of the month
- 361 stations filed a report every day
- Wettest station: CO-LP-66 (Rockwood 6.7 N) with 4.68” of precipitation and 41.7” of snow
- Driest station that reported all 30 days: CO-AR-276 (Foxfield 4.0 ESE) and CO-LR-981 (Livermore 1.3 SE) both with 0.00” of precipitation and no snow measured for the entire month
- 78 stations filed a multi-day accumulation report
- 848 stations reported measurable snow (greater than a Trace) during November with the most being 52” at station CO-GN-18 (Crested Butte 6.2 N). This station was also the snowiest in Colorado for the months of September and October.

November 2013 Snow		
Top 10		
CoCoRaHS stations in Colorado		
Station	Name	Snow
CO-GN-18	Crested Butte 6.2 N	52
CO-LP-66	Rockwood 6.7 N	41.7
CO-RT-43	Steamboat Springs 1.9 E	36.5
CO-CS-12	San Luis 8.8 SW	35
CO-SA-2	Crestone 1.2 SSE	33
CO-JK-23	Walden 16.3 WSW	32
CO-HF-32	Gardner 5.2 ENE	30.3
CO-GF-56	Glenwood Springs 7.8 ESE	29.5
CO-CU-13	Westcliffe 7.9 NNW	29.4
CO-RT-25	Steamboat Springs 1 SE	29.4

HAIL REPORTS DURING NOVEMBER

There were no reports of hail by CoCoRaHS observers during the month.

SIGNIFICANT WEATHER REPORTS

There were five significant weather reports during the month of November from CoCoRaHS observers. Four of them had to do with snow, including this fascinating report...

- Lightning strikes with thunder snow, one at 7:14pm and another at 7:18 pm on November 15th. (CO-RG-21, Monte Vista 10.8 SW)

The fifth report had to do with heavy, dense fog that rolled in and reduced the visibility to 500 feet at station CO-LP-26 outside of Hesperus on November 30th.

We welcome any feedback or ideas you may have for future newsletters!

If you are on Facebook or Twitter, don't forget to follow [CoCoRaHS](#) and the [Colorado Climate Center](#)!



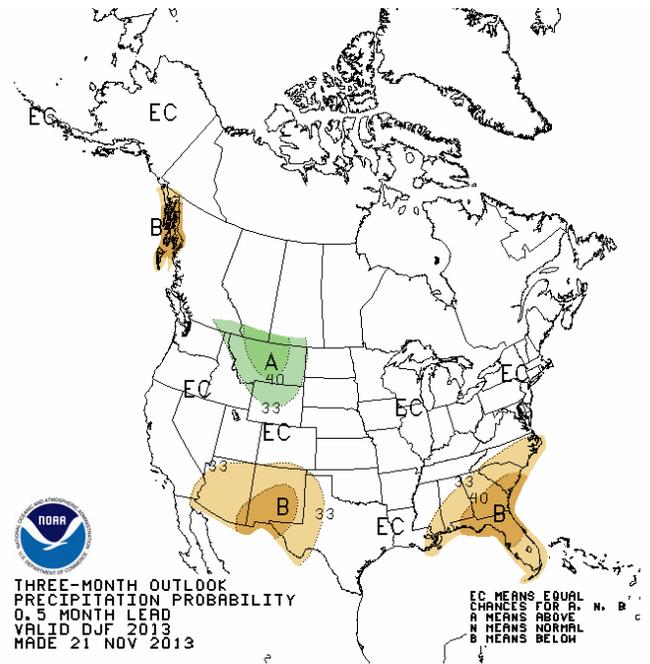
An early season snow from CoCoRaHS station CO-MT-42 south of Montrose.

CLIMATOLOGICAL WINTER ARRIVES

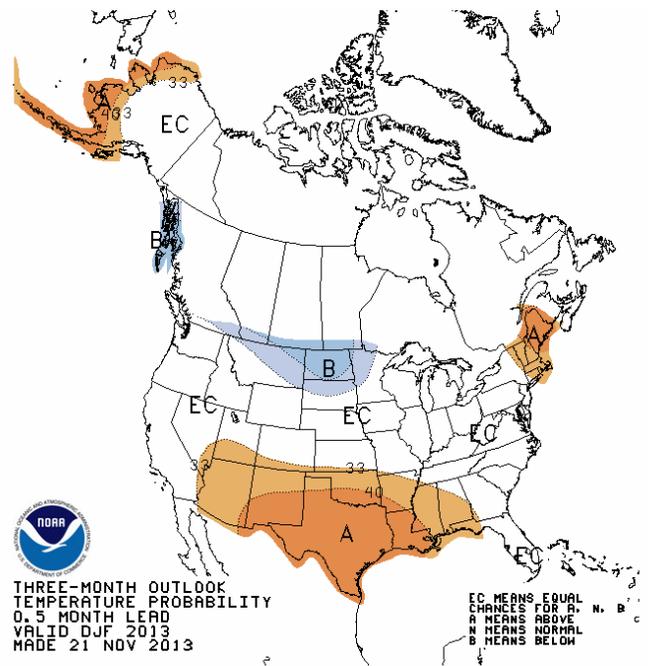
As we know it, the winter season officially starts with the Winter Solstice just before Christmas. But for the purposes of climate study, the seasons are divided a bit differently, with the climatological winter running from the beginning of December through the end of February.

The following maps were made at the end of November and show the current trend for precipitation and temperatures averaged out over the course of the climatological winter. As you can see, they tell us very little, with Colorado mostly in the “equal chances” classification, which simply means there is no definite trend one way or the other.

The first 10 days of December brought extreme cold, but remember, this forecast is a seasonal average, and a lot can change between now and February.



The outlook for December-February calls for no real trend in precipitation with equal chances for above-normal, near-normal, or below-normal moisture across Colorado.



The outlook for December-February calls for no real trend in temperatures across Colorado with the exception of slightly above normal conditions possible near the southern border.



2013-2014 SNOW SEASON

So what exactly is a snow season?

A snow season runs from July 1st through June 30th of the following year. CoCoRaHS stations around Colorado didn't report measurable snow during July or August of this season, but for some mountain locations, the snowfall has been pretty impressive since September.

The following is a list of all CoCoRaHS stations in Colorado that measured more than three feet of snow between July 1st and November 30th.

Station	Name	Snow Total (In.)
CO-GN-18	Crested Butte 6.2 N	94
CO-RT-43	Steamboat Springs 1.9 E	64.3
CO-GF-56	Glenwood Springs 7.8 ESE	63.6
CO-LP-66	Rockwood 6.7 N	59
CO-SU-6	Silverthorne 2.1 WSW	52
CO-JK-23	Walden 16.3 WSW	51.5
CO-RT-25	Steamboat Springs 1 SE	50.5
CO-HF-32	Gardner 5.2 ENE	44.3
CO-CS-12	San Luis 8.8 SW	41.1
CO-GN-57	Cimmaron 13.0 SE	41.1
CO-SU-39	Breckenridge 0.9 NNE	40.3
CO-SA-2	Crestone 1.2 SSE	38.6
CO-ME-61	Mesa 5.7 SSE	38
CO-EG-21	Vail 0.9 WNW	37.9
CO-MN-1	Pagosa Springs 9.1 NNW	37.3
CO-RT-16	Steamboat Springs 1.1 E	37.2
CO-EG-19	Vail 2.6 E	37
CO-PK-5	Alma 3.1 N	37
CO-RT-45	Steamboat Springs 1.5 WNW	36.6
CO-RT-52	Steamboat Springs 2.5 N	36.4
CO-RT-28	Steamboat Springs 0.6 NNW	36

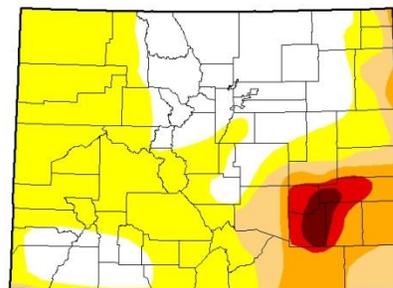
OBSERVER SPOTLIGHT FEATURE

Due to everyone having such busy schedules during the holiday season, this feature will return in January.

COLORADO DROUGHT UPDATE

If only we could get some decent moisture to our friends in southeast Colorado, the drought situation wouldn't be looking too bad. It remains extremely dry in that part of the state, especially in the Arkansas River Valley just east of Pueblo.

U.S. Drought Monitor Colorado



December 3, 2013
(Released Thursday, Dec. 5, 2013)
Valid 7 a.m. EST

	Drought Conditions (Percent Area)					
	None	D0-D4	D1-D4	D2-D4	D3-D4	D4
Current	32.04	67.96	20.95	12.01	4.01	1.47
Last Week 11/26/2013	32.04	67.96	20.95	12.01	4.01	1.47
3 Months Ago 9/2/2013	1.91	98.09	93.75	59.65	21.67	3.01
Start of Calendar Year 1/1/2013	0.00	100.00	100.00	95.06	53.47	13.48
Start of Water Year 10/1/2012	24.91	75.09	37.88	12.01	4.01	1.47
One Year Ago 12/4/2012	0.00	100.00	100.00	95.06	53.43	13.48

Intensity:
 D0 Abnormally Dry D3 Extreme Drought
 D1 Moderate Drought D4 Exceptional Drought
 D2 Severe Drought

The Drought Monitor focuses on broad-scale conditions. Local conditions may vary. See accompanying text summary for forecast statements.

Author:
Michael Brewer
NCCO/NOAA

USDA National Drought Mitigation Center <http://droughtmonitor.unl.edu/>

“LIVING WEST” EXHIBIT AT HISTORY COLORADO

If you're in Denver anytime soon, there is a fantastic exhibit at History Colorado called "Living West." It allows you to experience what it was like to have lived during a massive dust storm that hit Baca County during the Dust Bowl of the mid 1930s.