

SPRING IS OVER, CLIMATOLOGICALLY SPEAKING ANYWAY

In the world of climate, spring 2013 has officially come to an end. The months of March, April and May constitute the climatological spring. But according to the calendar, we know that spring doesn't really end until June 20 at 11:04 pm (MDT).

This spring season will be remembered for a long time to come. Take a look at these amazing facts from the High Plains Regional Climate Center, showing just how vastly different things were this year compared to last year.

	Spring 2013	Spring 2012	
Location	Average Temp & Rank	Average Temp & Rank	Period of Record
Alamosa, CO	41.3°F, 31st coolest	45.7°F, 2nd warmest	1906-2013
Colorado Springs, CO	45.9°F, 51st coolest	53.4°F,warmest	1894-2013
Denver, CO	45.8°F, tied for 19th coolest	54.3°F, warmest	1872-2013
Grand Junction, CO	51.3°F, 34th coolest	56.3°F, 4th warmest	1893-2013
Pueblo, CO	49.5°F, 30th coolest	55.5°F, 2nd warmest	1888-2013





SUMMERTIME STORMS BRING THE RISK OF TORNADOES

June, July and August make up the climatological summer, and in Colorado, that means it is time for the afternoon thunderstorm cycle. Summer storms are a crucial part of our local climate, especially on the eastern plains. But along with those storms come threats to both life and property, including hail, high winds, dangerous lightning, flooding rains and tornadoes.



An EF-3 tornado struck Windsor on May 22, 2008. (Photo is courtesy of 9news.com)

We've all seen the terrible devastation of tornadoes on the news over the past few weeks, especially around Oklahoma City, Oklahoma. While rare, large and violent killer tornadoes can occur in Colorado, such as the one pictured above. This tornado traveled over 30 miles on a northwest path between Windsor and Laramie, Wyoming, causing widespread damage. Over 1/3 of all tornadoes recorded in Colorado since 1950 have happened during the month of June. Most of these are on Colorado's eastern plains, along and east of Interstate 25.



While most tornadoes occur between 2 and 7 p.m. local time, they can happen at almost any hour of the day. Since 1950, tornadoes have been documented in Colorado during every hour of the day expect 4 am, 5am and 8am.

JUNE'S "OBSERVER SPOTLIGHT"

This month we will kick off a feature called the "Observer Spotlight," where one Colorado observer will be selected to share a little about why they enjoy being part of CoCoRaHS.

Meet Steve Unterman, otherwise known as CoCoRaHS station CO-DN-16.

Steve has been reporting precipitation to CoCoRaHS for over a decade. He first attended a training session at Denver Water back in the summer of 2002, right after the devastating Hayman Fire. Colorado was in the middle of an extreme drought at the time



and there was a lot of attention in the media for the need to monitor Colorado's climate.

Steve filed his first report on July 29, 2002. Since then, he has measured over 185" of water and 644" of snow at his station in central Denver.

Why did you join CoCoRaHS? Weather was always my #1 hobby, and also my major in college (Atmospheric Science at Cornell). CoCoRaHS gives me a chance to practice what I enjoy, and be part of an exciting new project from its beginnings. I still enjoy submitting my daily report, and viewing the maps, especially when measuring snow and comparing the amounts that fell throughout the city and the state.

What have you learned from measuring

precipitation? I've definitely become better at guessing how much precipitation has fallen each day. But, there are still days when I'm surprised to see how much rain (or snow) has accumulated so quickly. Also, I now realize it takes a lot of dedication to go outside every morning and empty the gauge and measure the snow and submit a report. I understand why volunteers are hard to retain for the long haul.

Has being a CoCoRaHS observer made you more aware of climate?

Yes. It's more fun to follow and observe the climate when you play an active role every day. When I get 1" of rain and see the streets and sewers and creeks overflowing in my neighborhood, I now understand how a slow-moving thunderstorm that drops 4 or 5

inches of rain can create catastrophic flooding. Hopefully, our data will help scientists to better understand our extreme climate and help to save lives with better and more accurate warnings in the future.



Denver County CoCoRaHS Observer, Steve Unterman.

A LOOK BACK AT MAY 2013

What a difference a month can make!

April was cool and wet for much of the state, allowing for vast improvements in the drought situation across portions of northern and central Colorado. Things improved so much for the Northern Colorado Water Conservancy District that they were able to ease drought restrictions.

While May wasn't really notable for any type of extreme, for the most part, it was drier and warmer than normal across the state.



The exception was across portions of the northern and central mountains where the trend of slightly cooler and wetter than normal conditions continued.

Departure from Normal Temperature (F) 5/1/2013 - 5/31/2013



Generated 6/2/2013 at HPRCC using provisional data.

Regional Climate Centers

Departure from Normal Precipitation (in) 5/1/2013 - 5/31/2013



Generated 6/2/2013 at HPRCC using provisional data.

Regional Climate Centers

FUN MAY FACTS FROM AROUNDCOLORADO*As of 2 pm on 6-4-13*

- 1,148 stations in Colorado filed at least one daily report (+10% increase over April)
- Nearly 800 stations reported for more than half of the month.
- 279 stations filed a report everyday during May (+15% increase over April)
- May's Wettest Station in Colorado: CO-LR-885 (Fort Collins 3.7 S) with 4.54 inches of precipitation
- May's Driest Station in Colorado: CO-BN-7 (Las Animas 8.1 NE) with 0.03 inches of precipitation
- 43 stations filed a multi-day accumulation report
- 627 stations reported at least 0.1" of snow during May

TOP 10 SNOWIEST STATIONS

		MAY
STATION	NAME	SNOW
CO-GN-18	Crested Butte 6.2 N	35
CO-PK-78	Fairplay 2.7 SW	29.4
CO-CC-7	Idaho Springs 4.7 SSE	25.6
CO-SU-40	Breckenridge 3.3 SE	23.2
CO-LR-251	Stove Prairie 2 WNW	23
CO-LK-27	Twin Lakes 3.1 WSW	22.8
CO-LR-387	Bellvue 2.4 SSW	22.7
CO-LK-10	Leadville 6.3 S	22.5
CO-LK-28	Leadville 0.5 NW	21.8
CO-LR-85	Bellvue 10.3 W	21



HOW TO EASILY CHECK YOUR STATION'S RECORD FOR MISSING REPORTS

If you're anything like us here at CoCoRaHS Headquarters, you're very busy. You may have thought that you logged on to the website to file a report when you really didn't. (most of the time it is a ZERO)

There is an easy way to periodically check for missing reports; simply utilize the "Monthly Zeros" report option on your data entry page. A calendar showing your station's data will pop up like the one below, helping you quickly tell what days were missed. If they were all zeros, you can file all of the reports at once by checking the boxes and hitting submit!





Chris Spears, station CO-AR-179, author of Colorado CoCoRaHS.

Colorado Weather Trivia

Question: When and where did Colorado's strongest tornado (since 1950) occur?

Answer: Baca County on May 18, 1977

It's the only F4 tornado ever documented in Colorado, touching down near Boise City, Oklahoma, and traveling northeast into Baca County. It was on the ground in Colorado for just over 9 miles and caused significant damage, but not deaths or injuries.

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U.S. Drought Monitor Colorado

May 28, 2013 Valid 7 a.m. EST

	Drought Conditions (Percent Area)					
	None	D0-D4	D1-D4	D2-D4	D3-D4	D4
Current	0.00	100.00	93.18	71.71	23.85	15.84
Last Week (05/21/2013 map)	0.00	100.00	93.18	71.71	23.84	15.84
3 Months Ago (02/26/2013 map)	0.00	100.00	100.00	91.30	51.14	24.92
Start of Calendar Year (01/01/2013 map)	0.00	100.00	100.00	95.06	53.47	13.48
Start of Water Year (09/25/2012 map)	0.00	100.00	100.00	100.00	61.75	16.89
One Year Ago (05/22/2012 map)	4.44	95.56	68.59	29.60	7.27	0.00

Intensity:





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

http://droughtmonitor.unl.edu

Released Thursday, May 30, 2013 Brad Rippey, U.S. Department of Agriculture

THE FACE OF "D-4 DROUGHT"

Despite a cool and wet spring, the entire state remains abnormally dry, with 93% of Colorado experiencing some level of drought. All of southeast Colorado, roughly 16% of the state, is in "exceptional," or Category D-4 drought.

So what does the worst category of drought look like? Well, it's scary. The following information was submitted via the "Drought Impacts Report" from CoCoRaHS Station CO-PW-28 (Lamar 3.7 S). The observer submitted the following pictures last month.



Enter My New Reports

- Daily Precipitation
- Multi-Day Accumulation
- <u>Hail</u>
- Significant Weather
- Monthly Zeros
- Drought Impact Report FROST Reports
- Frost
- Optics
- Snowflake
- <u>Thunder</u>

Got Drought? Tell us!

Fill out the "Drought Impact Report" when you notice changes in your area. For more info, view the slideshow in the training section on the home page.



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The wheat crop as of late May that is all dried up; it should be green and at least 1 foot tall. **Photos Courtesy: CoCoRaHS Observer CO-PW-28.**



This is not a scene from a movie; it's a dust storm in Prowers County that was photographed in April.



Visibility reduced as a result of a dust storm on May 24 south of Lamar; just one of many experienced of late across SE Colorado.

HELP US GROW

CoCoRaHS in Colorado had an exceptional month of May with several dozen new stations filing their first report. Many other stations reactivated after being gone for the winter. Welcome back!



This is not a scene from Iraq, nor a picture from the Great Sand Dunes; it's a fence line on a ranch 3.7 miles south of Lamar, CO.

We are still looking for several hundred more volunteers to help monitor Colorado's climate like never before. Word of mouth is the best form of advertising and we appreciate your helping in spreading the word!



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	Stations	Stations			Stations	Stations	
County	Reporting	Reporting	% Difference	County	Reporting	Reporting	% Difference
	in April	in May			in April	in May	
Adams	29	34	17.24%	Kit Carson		10	11.11%
Alamosa	5	5	0.00%	Lake	5	5	0.00%
Arapahoe	42	55	30.95%	La Plata	21	22	4.76%
Archuleta	3	4	33.33%	Larimer	181	200	10.50%
Baca	8	9	12.50%	Las Animas	7	6	-14.29%
Bent	2	3	50.00%	Lincoln	9	17	88.89%
Boulder	84	81	-3.57%	Logan	4	9	125.00%
Broomfield	3	3	0.00%	Mesa	32	33	3.13%
Chaffee	9	9	0.00%	Mineral	2	2	0.00%
Cheyenne	3	5	66.67%	Moffat	2	2	0.00%
Clear Creek	6	6	0.00%	Montrose	15	13	-13.33%
Conejos	0	0	0.00%	Montezuma	14	9	-35.71%
Costilla	2	2	0.00%	Morgan	6	15	150.00%
Crowley	1	1	0.00%	Otero	9	10	11.11%
Custer	2	3	50.00%	Ouray	5	5	0.00%
Delta	14	15	7.14%	Park	12	15	25.00%
Denver	30	30	0.00%	Phillips	10	15	50.00%
Dolores	1	1	0.00%	Pitkin	5	4	-20.00%
Doulgas	47	53	12.77%	Prowers	7	6	-14.29%
Eagle	11	10	-9.09%	Pueblo	26	26	0.00%
Elbert	12	14	16.67%	Rio Blanco	2	2	0.00%
El Paso	67	71	5.97%	Rio Grande	8	10	25.00%
Fremont	22	22	0.00%	Routt	15	16	6.67%
Garfield	15	16	6.67%	Saguache	6	6	0.00%
Gilpin	2	3	50.00%	San Juan	0	0	0.00%
Grand	11	11	0.00%	San Miguel	3	5	66.67%
Gunnison	10	10	0.00%	Sedgwick	2	2	0.00%
Hinsdale	0	0	0.00%	Summit	10	7	-30.00%
Huerfano	9	9	0.00%	Teller	5	5	0.00%
Jackson	2	4	100.00%	Washington	6	11	83.33%
Jefferson	78	79	1.28%	Weld	57	67	17.54%
Kiowa	8	14	75.00%	Yuma	7	11	57.14%

CoCoRaHS GROWTH ACROSS COLORADO



HELP THE NATIONAL WEATHER SERVICE MONITOR SEVERE WEATHER IN YOUR AREA

If you're at your CoCoRaHS station during intense weather situations and can safely file a "Significant Weather" report, we encourage you to do so! These reports go directly to the National Weather Service in real-time and can provide the information forecasters need to accurately issue warnings for your area.

During May, there were 21 significant weather reports filed from around Colorado, including a report of 1 inch of rain in just 45 minutes from station CO-WE-402 (Keenesburg 5.1 SSE). That type of rainfall rate can create a fast-moving and potentially deadly flash flood situation.

So what type of information constitutes a "Significant Weather" report? Well, the answer is it varies from location to location, so go with your gut. If you feel it is something the National Weather Service should know, then file a report.



SELECTED OBSERVER COMMENTS DURING MAY

"Lots of dark clouds and thunder but not very productive. Occasional sprinkles were downright disappointing!"

"Just a few drops on the window; does that count? Didn't even get the sidewalk wet."

THE ANSWER IS YES! YOU WITNESSED PRECIPITATION SO THAT COUNTS AS TRACE!

"Last bit of snow in shaded areas melted today"

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

If you are on Facebook or Twitter, don't forget to follow <u>CoCoRaHS</u> and the <u>Colorado Climate Center</u>!