



Colorado CoCoRaHS

Because Every Drop Counts!

September 2014
Volume 2, Issue 9

U.S. PRECIPITATION (% OF AVERAGE) – LOOKING BACK AT AUGUST 2014

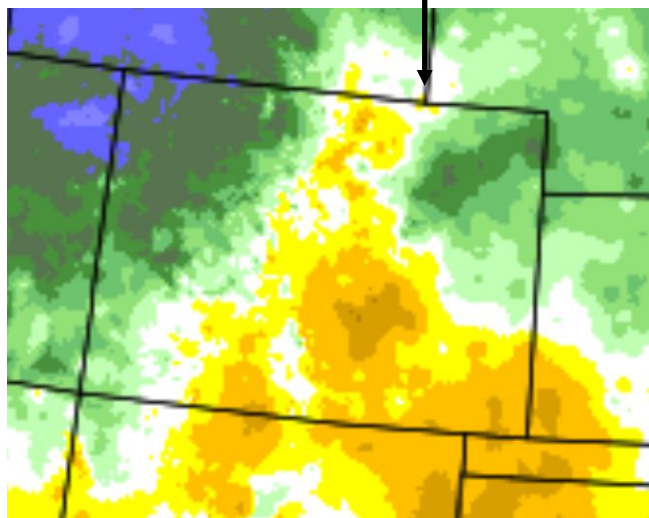
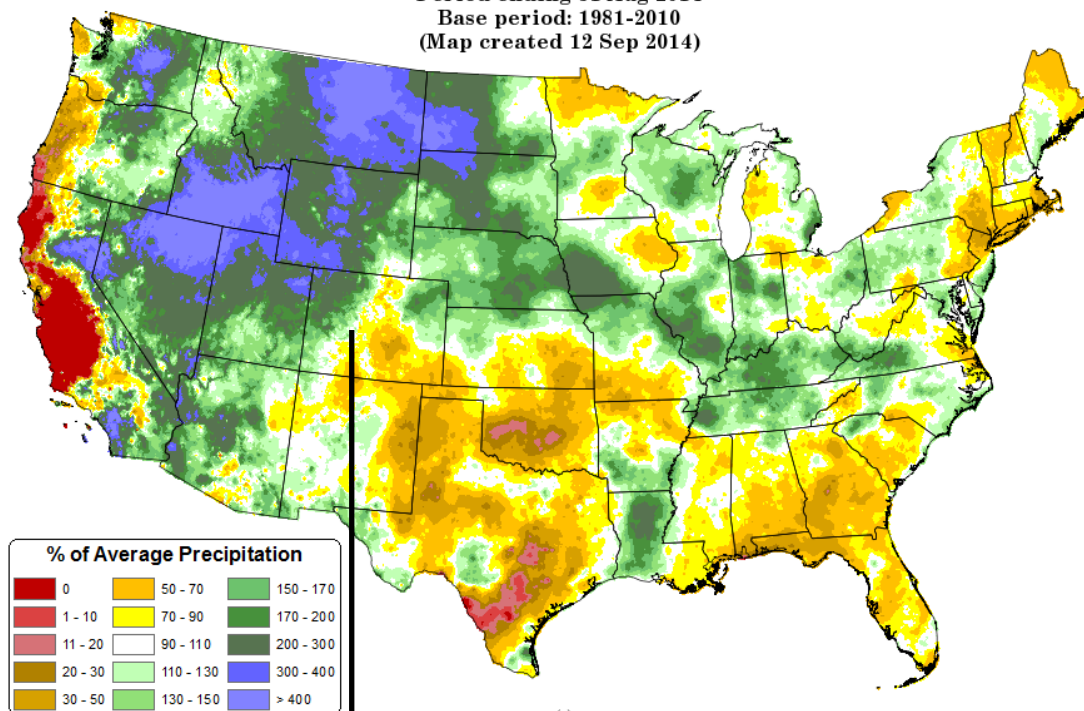
August brought an extremely wet pattern for the northern Rockies, parts of the desert southwest and northern plains. The immediate west coast and much of the east were drier-than-normal. In Colorado, the western slope received much needed moisture while it was pretty dry along the Front Range and across southern counties. It was wetter-than-normal in the northeast corner.

Total Precipitation Anomaly: August 2014

Period ending 31 Aug 2014

Base period: 1981-2010

(Map created 12 Sep 2014)



	Aug. Precip (in.)	Departure From Average
Alamosa	0.53	-0.74
Aspen	0.04	-1.09
Co. Springs	2.34	-1.00
Denver	2.73	1.04
Durango	1.93	-0.25
Fort Collins	0.58	-1.02
Grand Junction	3.16	2.21
Lamar	2.02	-0.26
Pueblo	1.26	-1.06



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U.S. TEMPERATURES (ANOMALY) – LOOKING BACK AT JUNE 2014

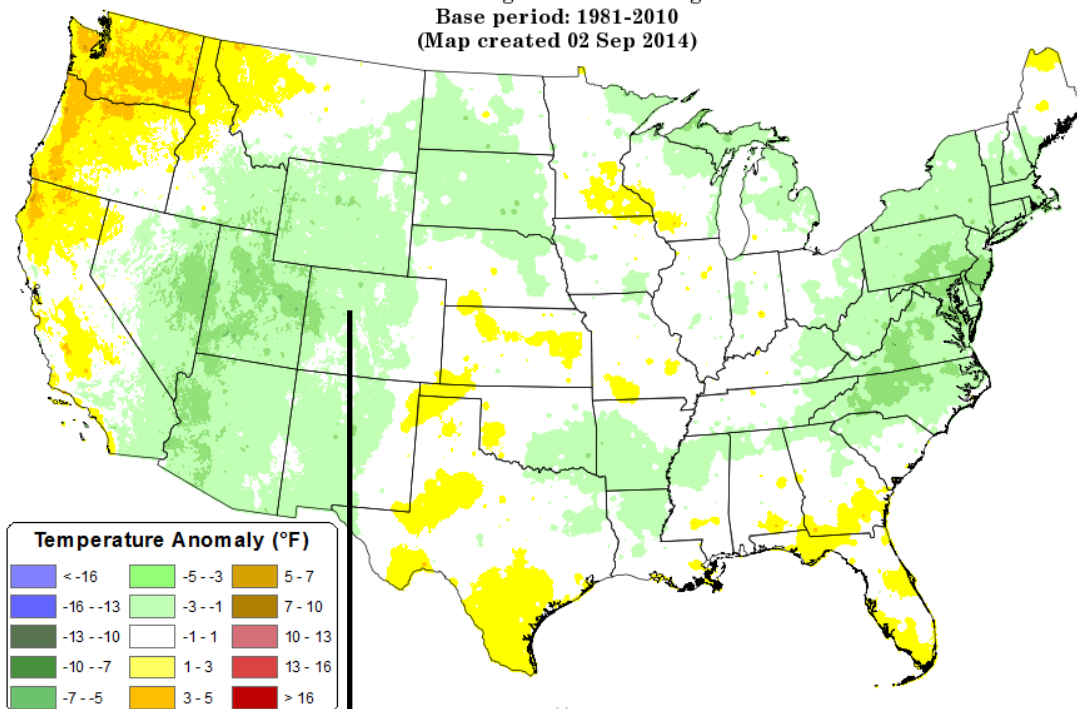
August was cooler-than-normal for a large part of the country, including almost all of Colorado. Grand Junction was the coolest compared to average out of the major reporting stations.

Daily Mean Temperature Anomaly: August 2014

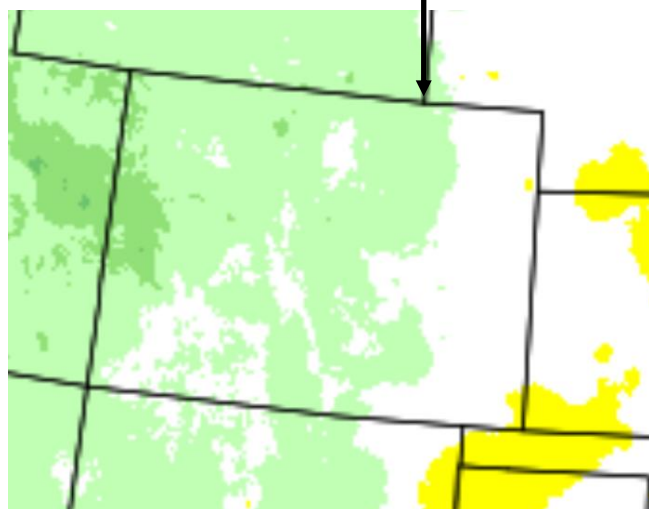
Period ending 7 AM EST 31 Aug 2014

Base period: 1981-2010

(Map created 02 Sep 2014)



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	Aug. Mean Temp. (°F)	Anomaly
Alamosa	61.7	-1.0
Aspen	60.7	-0.6
Co. Springs	68.4	-0.3
Denver	70.6	-1.9
Durango	66.1	-1.1
Fort Collins	69.9	-0.6
Grand Junction	71.7	-3.8
Lamar	76.5	1.1
Pueblo	73.4	0



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COLORADO DROUGHT UPDATE

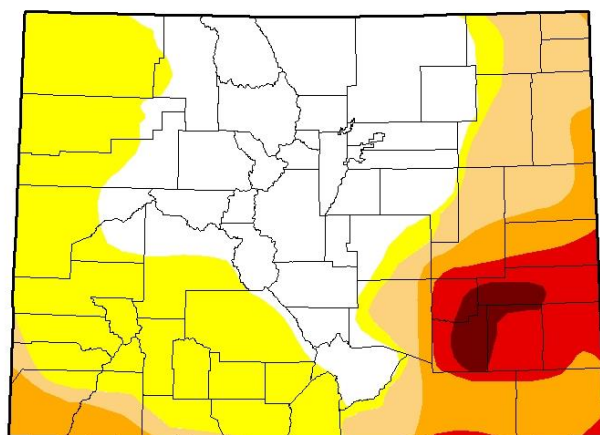
The maps below show how late spring and most of summer helped to put a dent in the drought, especially across southeast Colorado. It's great news to see that as of this month, the worst category of drought, D4, has been erased from the Arkansas River Valley. Meanwhile, a bit of extreme drought has crept into extreme southwest Colorado.

U.S. Drought Monitor Colorado

May 6, 2014

(Released Thursday, May 8, 2014)

Valid 8 a.m. EDT



Intensity:

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

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

Author:
Mark Svoboda
National Drought Mitigation Center



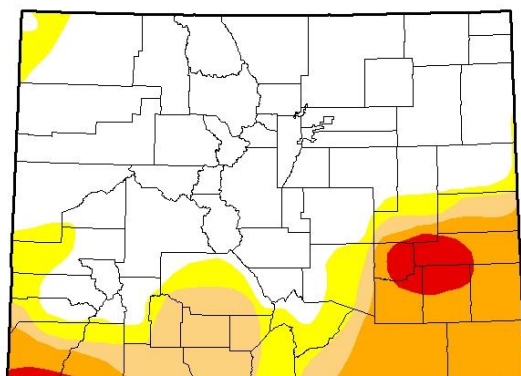
<http://droughtmonitor.unl.edu/>

U.S. Drought Monitor Colorado

September 16, 2014

(Released Thursday, Sep. 18, 2014)

Valid 8 a.m. EDT



Drought Conditions (Percent Area)

	None	D0-D4	D1-D4	D2-D4	D3-D4	D4
Current	63.98	36.02	25.12	15.56	2.67	0.00
Last Week 9/9/2014	63.14	36.86	25.25	15.58	2.67	0.00
3 Months Ago 6/17/2014	50.84	49.16	26.49	17.30	9.31	1.89
Start of Calendar Year 12/01/2013	32.04	67.96	22.33	13.56	4.01	1.47
Start of Water Year 10/1/2013	24.91	75.09	37.88	12.01	4.01	1.47
One Year Ago 9/17/2013	15.79	84.21	64.59	16.99	4.01	1.47

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Author:
Michael Brewer
NCDC/NOAA



<http://droughtmonitor.unl.edu/>



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SEPTEMBER'S FEATURED COLORADO COUNTY – DENVER

It may be known as the city and county of Denver, but it wasn't always that way. The city of Denver was actually the seat of Arapahoe County until 1902, when it became its own county.

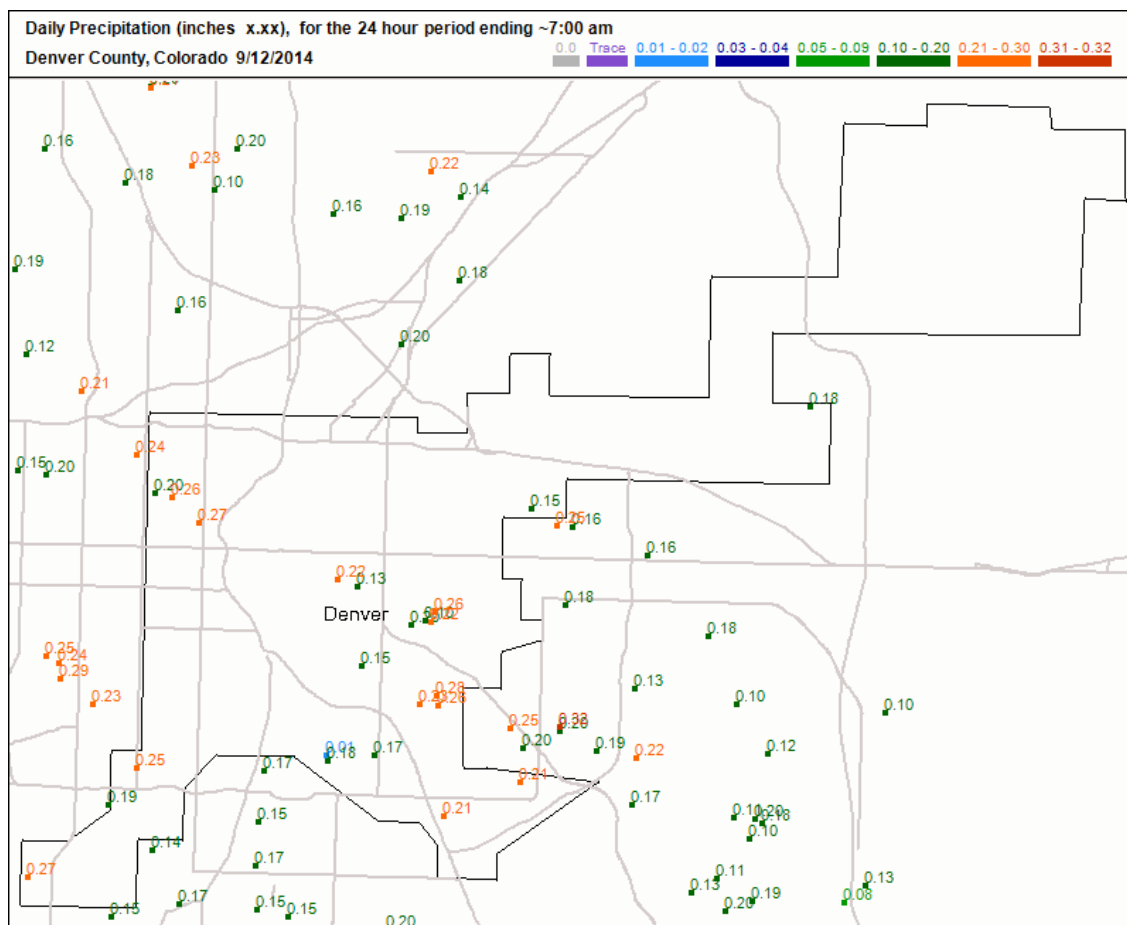
Denver is roughly 155 square miles in size with about 1.6 square miles of water. The elevation ranges from 5,130 to 5,690 feet.

The latest census report shows the population of Denver County just shy of 650,000 people, making it the second most populous county in Colorado. El Paso County has the highest population with just over 655,000 people.

You would think with that many people, having at least one CoCoRaHS rain gauge per square mile would be an easy goal to obtain, but it is actually quite challenging, especially in the highly industrial parts of the county.

In the areas where we do have a nice rain gauge density, the precipitation patterns from each passing storm are fascinating to see.

If you know someone who lives in Denver County that would enjoy being a part of CoCoRaHS, encourage them to join!





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SEPTEMBER FUN FACTS FROM AROUND COLORADO

*As of 7 am, 9/18/2014

- 1,251 stations filed at least one daily report
- 925 stations reported at least half of the month
- 358 stations filed a report every day
- Wettest station: CO-PH-45 (Holyoke 0.3 WSW) with 7.29" of precipitation
- Driest station that reported all 31 days: CO-LR-1020 (Fort Collins 4.9 N) with 0.41" of precipitation
- 133 stations filed a multi-day accumulation report
- No snow was reported during the month of August at any CoCoRaHS stations, but snow was observed several times above tree line, including on Pikes Peak and Mount Evans

THE SCIENCE BEHIND FALL COLOR

As long summer days turn into cooler and longer nights, the annual fall color show explodes across Colorado.

It happens as the production of chlorophyll in deciduous plants and trees slows down and stops.

Chlorophyll is what gives leaves their green color during the summer. As the production of chlorophyll tapers off, carotenoids, which produce yellow, orange and brown colors, and anthocyanins, which produce red, purple and blue colors, take over inside the leaf.

This process produces a brilliant canvas of color, with yellow and gold being most common color in Colorado. This is especially true on mountain sides, where large stands of aspen trees intermingle with other species, such as evergreens.



(photo credit: CBS4)

The weather plays a key role in how vivid the color show will be each year. Some of the best fall color comes when late summer features dry, sunny days and cool, dry nights, with just an occasional light rain.

This allows for a slow and steady conversion of color in the leaves as the chlorophyll production gradually slows down.

Sudden and unseasonable cold snaps or storms with a lot of wind and precipitation can impact the color, including how long it lasts. .



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This year, there are already early signs of fall color, even across some of the lower elevations.

Recent cold and wet weather seems to have accelerated things just a bit, but the weather over the next 2 to 3 weeks will ultimately determine just how nice this year's color will be.

IT'S THAT TIME OF YEAR AGAIN

Believe it or not, it's time to start paying attention to the overnight low temperatures, especially for those of you who live in higher elevations.

As low temperatures start to dip toward the freezing mark, make sure your all-weather rain gauge doesn't freeze and crack with any overnight precipitation.

The large, outer cylinder can stay outside, but the inner tube and funnel lid should come inside when temperatures dip below 32 degrees and precipitation is in the forecast.



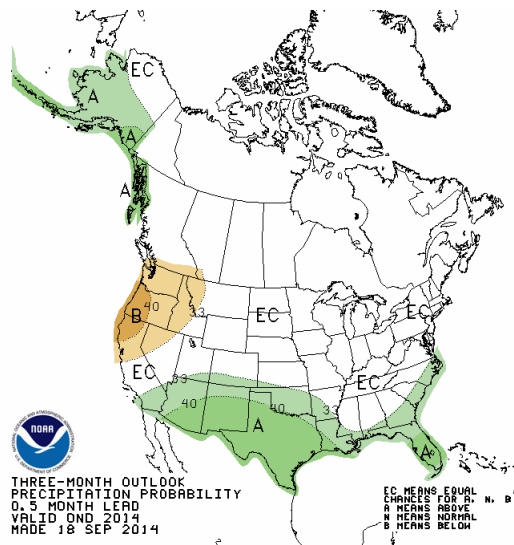
Photo Courtesy: Chris Spears

FALL WEATHER OUTLOOK

With the fairly cool and wet summer we've experienced across Colorado, many are wondering what the fall and winter might have in store.

The latest three month precipitation outlook from the Climate Prediction Center shows the recent trend of wetter-than-normal conditions to our south with drier-than-normal conditions across the Pacific Northwest should continue.

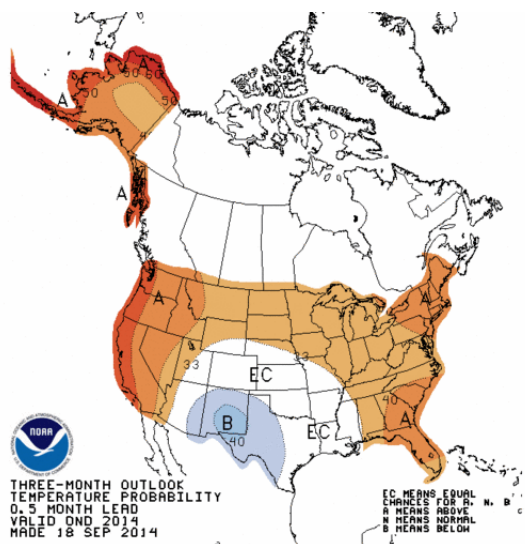
Most of the rest of the country, including much of Colorado, have equal chances to see above, below or simply normal conditions.



The 90-day temperature trend shows a good part of the country with warmer-than-normal conditions on average over the next three

months with cooler conditions found over the southern Rockies.

Colorado shows up as an area with equal chances to see either extreme.



WATER YEAR COMING TO A CLOSE

The 2013-2014 water year will soon come to a close.

Hydrologists and climatologists often use the "Water Year" calendar for tracking water resources. While the definition may vary regionally, a common definition of "water year" is October 1 through September 30th.

In the cool months, evaporation rates are very low, snow accumulates in cold regions, storms tend to be widespread, and most areas see accumulation of moisture in the soil.

As spring arrives, its accompanied by snow melt and high runoff from mountainous regions and higher latitudes. The summer

months bring high evaporation rates. Precipitation (much from thunderstorms) becomes much more localized. Soil moisture may be gradually depleted during summer as vegetation uses large volumes of water. Streams run slower and clearer. As this water year draws to a close, now is a good time to look back through your data and see if you have missed any data entry. Check the maps in your area before doing the data entry. It can be easy to make a mistake since you are reporting a 24-hour total that ends on the following calendar day.

How did Slumgullion Pass, east of Lake City in southwest Colorado, get its name?

The pass is named for the nearby [Slumgullion Earthflow](#), a gigantic landslide whose yellowish soil reminded early settlers and miners of slumgullion stew.

The slide began about 700 years ago when weak volcanic tuff and breccia on the southern flank of Mesa Seco slumped several miles down the steep mountainside. Approximately 300 years ago, a second earthflow started from the top of the mountain and is still active, moving as much as twenty feet (six meters) per year. Trees growing on the newer slide are tipped at odd angles.

The first flow was so large and cataclysmic that it blocked the Lake Fork of the Gunnison River and created [Lake San Cristobal](#), Colorado's second largest natural lake.