

Colorado CoCoRaHS: Welcome to Fall

Hello everyone, and welcome to fall in Colorado. Welcome to wearing a jacket on your way to work, and short sleeves on the way home. The leaves are changing. As I write you, there is a dry, westerly wind blowing outside my window, which will now be a common occurrence on the Front Range until mid-May.



Measuring Snow: No, Peter! Don't talk about snow; I'm not ready! Well tough! The snow is coming whether you like it or not, and I'm putting this section first because it's the section I most want everybody to read. The San Juan Mountain Range will likely receive their first big snowstorm this weekend. Some mountain areas could see 1-2 feet. Low temperatures next week will likely dip well into the 30's, maybe even the 20's for the Urban Corridor. This weekend is as good a time as any to blow out the sprinklers.

Some of you have never taken a snow measurement with CoCoRaHS before. It's not terrible, I promise. Usually it's not much more complicated than sticking a ruler in the snow. You've probably been doing that since you were a kid. But, much like a good card game, it can take a little experience to get comfortable with the finer points. The most important rule of frozen precipitation measurement is BE SAFE! Don't put yourself in harm's way to make a measurement. This sounds funny to some of you young whipper snappers, I know, but we would feel terrible if somebody slipped on ice and cracked a hip trying to collect data for CoCoRaHS.



Photo from CoCoRaHS snow measurement training materials. Featuring Noah Newman, CoCoRaHS Education Coordinator

You can learn everything you need to know about CoCoRaHS snow measurement through several different sources:

For those who read the manual: https://cocorahs.org/Content.aspx?page=training_slideshows

YouTube for the audio/visual learner: https://www.youtube.com/channel/UCaKwgzqBIG2n_nTLuObUtFA (training animations playlist videos 5-12)

For the kinesthetic learner: I'll be working to set up snow measurement training sessions along the urban corridor, probably between Halloween and Thanksgiving. Watch out for notifications. These are a great opportunity to learn the tricks of the trade from CoCoRaHS personnel like me, and meet other CoCoRaHS volunteers in your area! If any of you regional and county coordinators are interested in hosting a training session in other parts of the state, let's talk. I'll be on the west slopes a couple times this fall for field work.

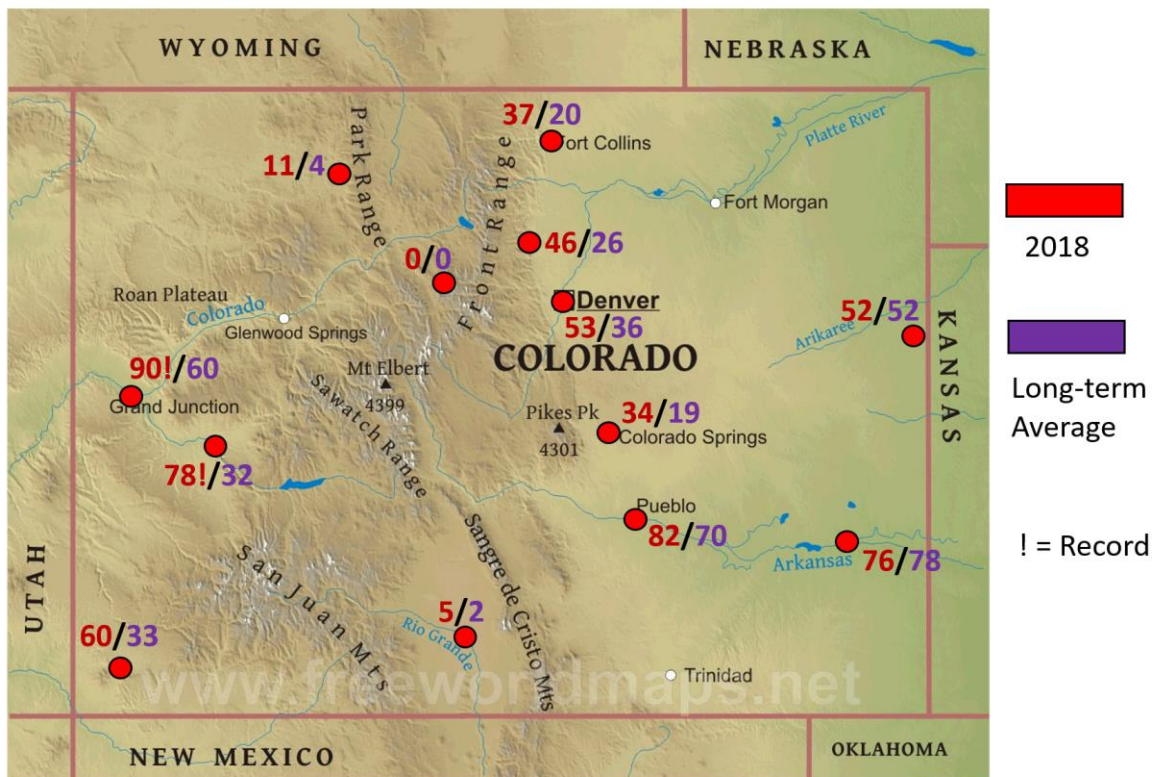
For those who enjoy the company of a lonely climatologist: I'm always happy to answer questions about measuring snow. Peter.goble@colostate.edu. 970-491-8312.

Our stats show that as the precipitation begins to freeze, some of you will be packing it in for the winter. That's okay. We're grateful you're volunteering any of your time. We'll happily accept your data when the days start getting long again.

A Hot and Dry Summer: Colorado had its third hottest summer (June-August) on record according to the National Centers for Environmental Information. The statewide average temperature was 3.0 F above normal. This qualifies as a distant third behind 2002 (+3.8 F), and 2012 (+4.2 F). September was hot too!

We are hopefully done with 90-degree heat for the year, and thank goodness! The Montrose weather station, which has a record of over 100 years, shattered its record number of 90 degree days in a calendar year. The new record is 78 days. The previous record, which has stood since the dust bowl, is only 60. Grand Junction tied their long term record of 90 days in 1977. Remember that if you get sick of the heat next summer, retreating to higher elevation is a tried and true method for escaping. Most of the county does not have that option when a heat wave hits.

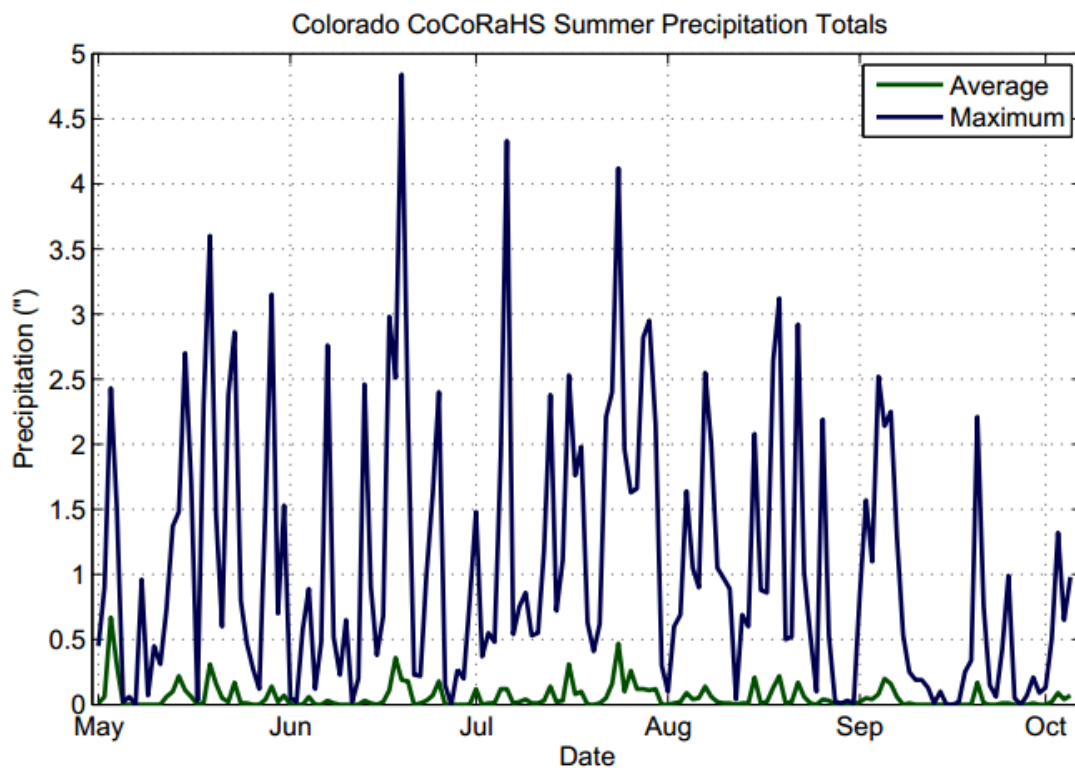
Number of 90 Degree Days



Colorado summertime precipitation was also on the low end, the lowest we've

seen since 2012. Some areas east of the divide had above average moisture this summer, but that has balanced by historic dryness on the West Slopes. 2002 was the last summer this dry or drier for Colorado west of the Continental Divide. Thanks to all of those who continued to report their zeros. I want to give a special shout out to CO-MT-5. Among stations that reported every single day from May 1st – September 30th, CO-MT-5 had the lowest precipitation total (1.57"). A summer with so little moisture can be discouraging, and even make one feel a little bitter when checking their gauge. Zero reports are a big help for those of use keeping tabs on the evolution of drought in Colorado.

This Summer's Biggest Thunderstorms: A warmer atmosphere can hold more water, and has an easier time dumping it all in one place, so summertime is when we see the highest precipitation totals on the CoCoRaHS map. Look for the number of multi-inch totals on our state map to drop way off over the cold season. 4.84" on June 19th was the highest 24 hour total anybody recorded this summer. There were two totals recorded over four inches in July, and they landed in the same gauge! That's right, the first and second highest totals since July 1st fell on the same station (CO-EP-370). Non-coincidentally, CO-EP-370 also took the cake for most precipitation in Colorado during the warm season (19.01").



More Hail: Hail was a big conversation piece this summer. The image below actually comes from the June 13th storm that hit Fountain, CO after the midnight

hour. Other damaging hail storms fell in the same area just about a month and a half later. On August 6th, 2018, a disastrous hail storm descended on the Cheyenne Mountain Zoo. This storm injured eight people, killed five animals, and totaled hundreds of cars; altogether very sad. The Fort Carson military base took it on the chin as well.



Photo from Jennifer Stark of National Weather Service. Pueblo, CO

Stats on Fire: This section is depressing. If you feel as though there's too much negative news in the world these days you might consider giving it a skip. There were several major fires raging in southern Colorado when the last newsletter was released in July, Spring Creek Fire, and 416. These fires have since been put out, but believe it or not, this fire season continues to cause problems in Colorado. Among the largest fires still active are the Ryan Fire near Steamboat, which has claimed over 28,000 acres, the Silver Creek Fire (20,000), and the Bull Draw Fire (35,000). The number of total acres burned in 2018 is roughly equivalent to 2% of the state's forested land; it is unsustainable to burn at this rate every year. The burn scars will leave a mark for many years to come. It will be important to keep an eye on these burn scars for a number of summers as the charred soils become

hydrophobic. These areas will be especially vulnerable to flash flooding for the next five years.

Changing Leaves: 'Tis the season for peak fall colors! We may actually be a little past peak season for higher elevations. This is a fun time of year to get out and enjoy the scenery across much of Colorado (and much of the US). If you've been up in the mountains, or even in your own backyard, scoping out the foliage, please send pictures! I would love to see and potentially share them.

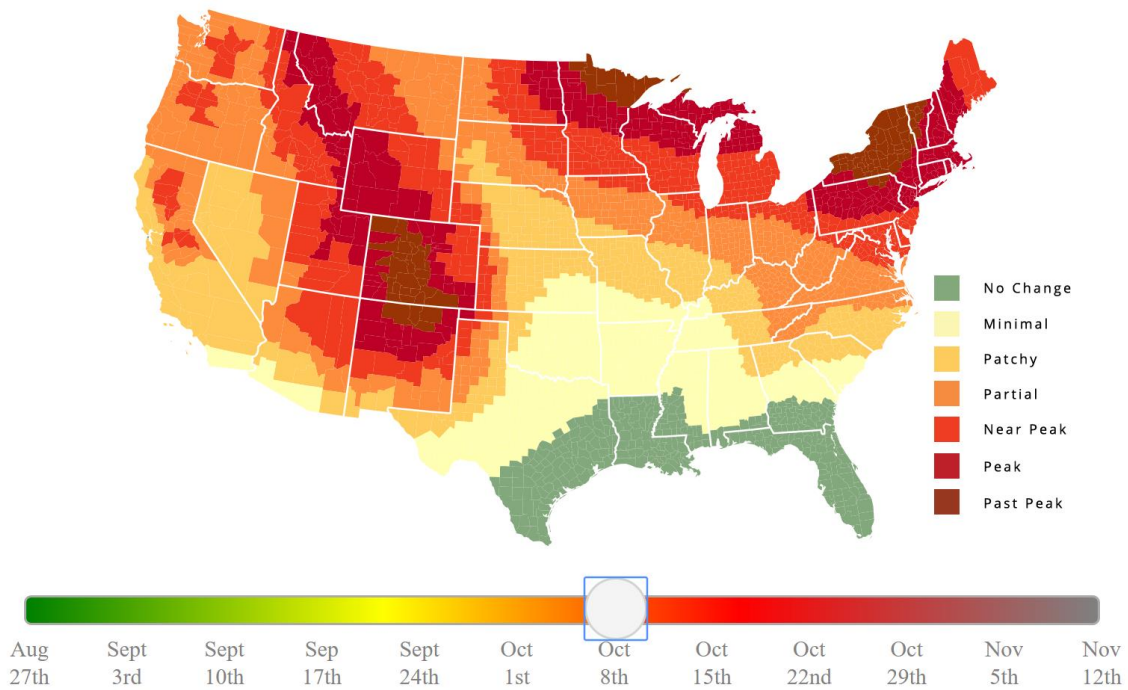


Image courtesy of smokymountains.com

Thanks so much,
Peter Goble
Colorado CoCoRaHS Coordinator