



CAROLINA COCORAHS



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Carolina CoCoRaHS 2013

Our Wettest Summer

Your outdoor plans, your garden or your creek may have taken notice — South Carolina has definitely seen its share of rainfall this summer! The statewide average precipitation total of 26.26" resulted in our wettest summer on record since 1895!

Highlights:

- There were no rain-free days in SC from May 29 to August 25 – meaning there was measurable precipitation recorded somewhere in the state every single day for almost three months
- Statewide year-to-date (January 1 - August 31) second wettest on record
- Highest CoCoRaHS reported daily precipitation total — 8.96" in Clemson on July 13 (Station SC-PC-13)
- River flooding occurred on many of South Carolina's waterways. In fact, this is only the second time in its 50-year history that Hartwell Dam opened all 12 of its flood gates

The rain also kept the temperatures down.

For the first time in 40 years, no 100°F days reported in the entire state so far this year!

Despite the inconvenience, abundant rainfall does have its share of benefits. It replenished some of our state's water supply that was negatively affected by years of drought.



Hartwell Dam, July 9, 2013. Photo Credit: Doug Young



Congaree River Flooding, May 7, 2013.
Photo Credit: Wes Tyler



Carolina CoCoRaHS 2013

Celebrating Five Years of CoCoRaHS!

We are proud to announce that thanks to you we are celebrating five years of CoCoRaHS in South Carolina! You have collectively recorded 337,989 daily observations during this time, in addition to 6,637 multi-day observations! Give yourselves a well-deserved pat on the back and keep up the great work!

Notable 5-Year Accomplishments

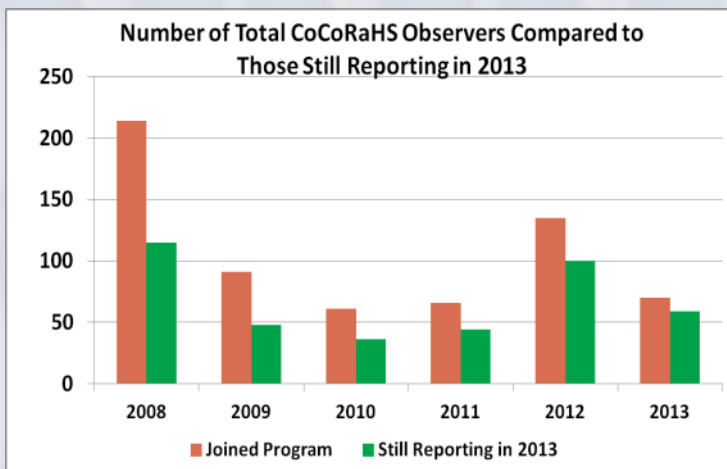
Number of Drought Reports	83	Number of Hail Reports	231
Number of Significant Weather Reports	766	Largest Hail Size (SC-YR-3)	2.75"
Daily Precipitation Reports $\geq 5"$	113	Daily Precipitation Reports $\geq 7"$	23



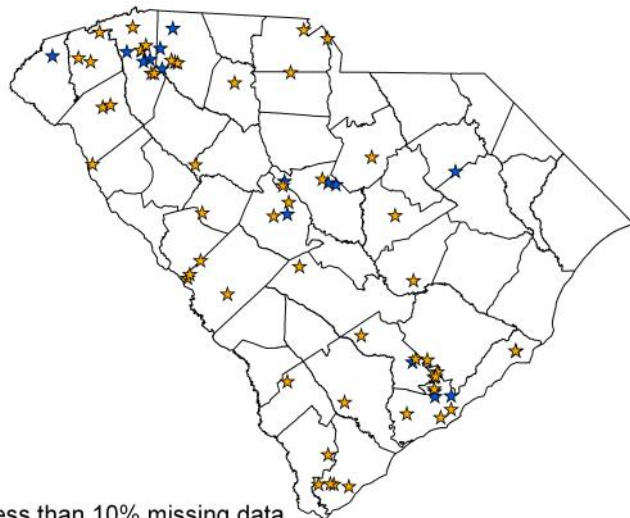
Retention Rates

CoCoRaHS observers are invaluable and the longer your record of observation, the more useful your data becomes. Every observation — just like every drop of rain — counts, and we would like to recognize the stations that have been taking observations since 2008. The map below reflects the five-year stations with less than 20% missing observations.

Two goals moving forward are to improve our retention rates and to increase our active observers by county. The graph to the right demonstrates that a high percentage of observers stop actively reporting over time. Also, a majority of counties only have 1-5 stations and four counties have no observers reporting over 50% of the time.

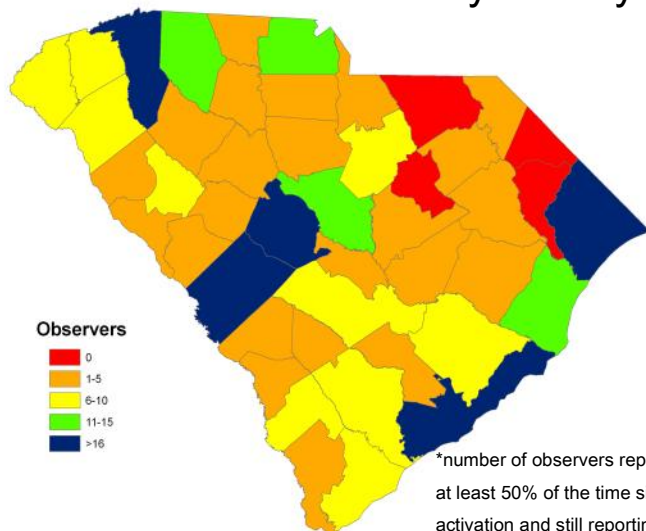


Five-Year Observers



- ★ Less than 10% missing data
- ★ 11-20% missing data

Active Observers by County*



Observers

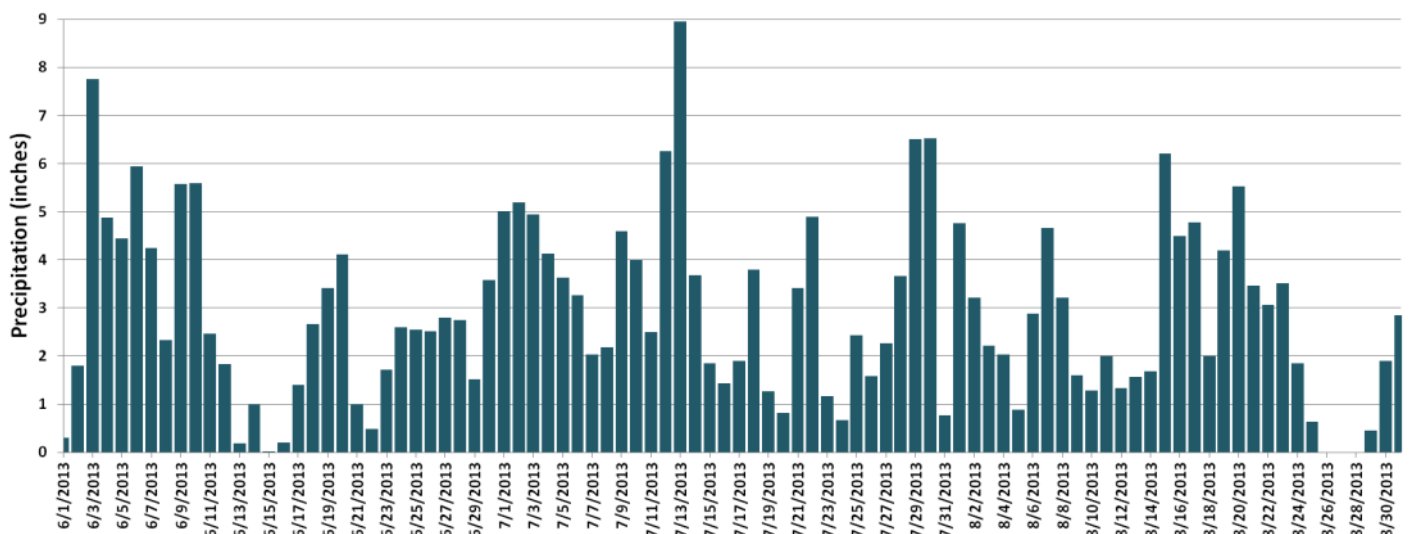
- 0
- 1-5
- 6-10
- 11-15
- >16

*number of observers reporting at least 50% of the time since activation and still reporting in 2013

Your observations (and zeros & comments) matter!

As a CoCoRaHS observer, your data is used in an assortment of ways. The chart below, depicting highest daily precipitation values for the entire state, demonstrates just one of the ways your observations are used in data analysis. Entering zeros helps remove uncertainty about what occurred at your location and allows us to generate long term statistics for specific stations such as wet/dry streaks. It is just as important to know who did not receive any rain, as who did. Thunderstorms can produce heavy rainfall in extremely localized areas while a station a few miles away does not see a single drop. In graph shown here, the zeros entered at the end of August helped us determine when our statewide rain streak had come to an end.

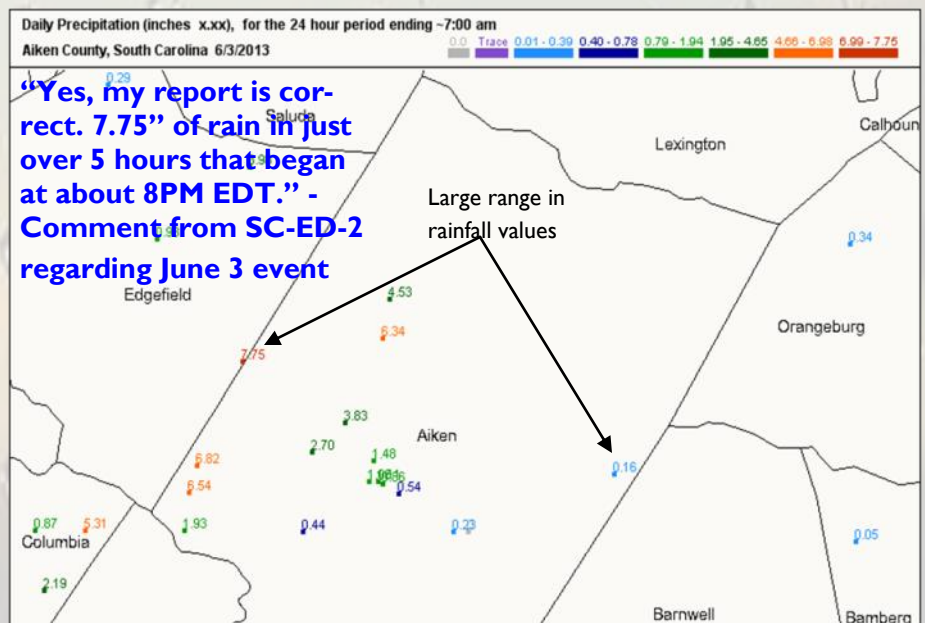
South Carolina's Highest Daily Precipitation Totals (CoCoRaHS)



On June 3, in Aiken County alone, daily precipitation totals ranged from 0.16" to 6.82". Station SC-ED-2, just across the border in Edgefield County, reported 7.75" in just over five hours.

Without CoCoRaHS we would not have been able to accurately document the extreme range in precipitation values for this event. This local variability is too great to be picked up by doppler radar.

Also, please include report comments to supplement your numerical observations as often as possible. We do read your comments and they help us verify precipitation amounts and paint a picture of exactly what you experienced at your location.



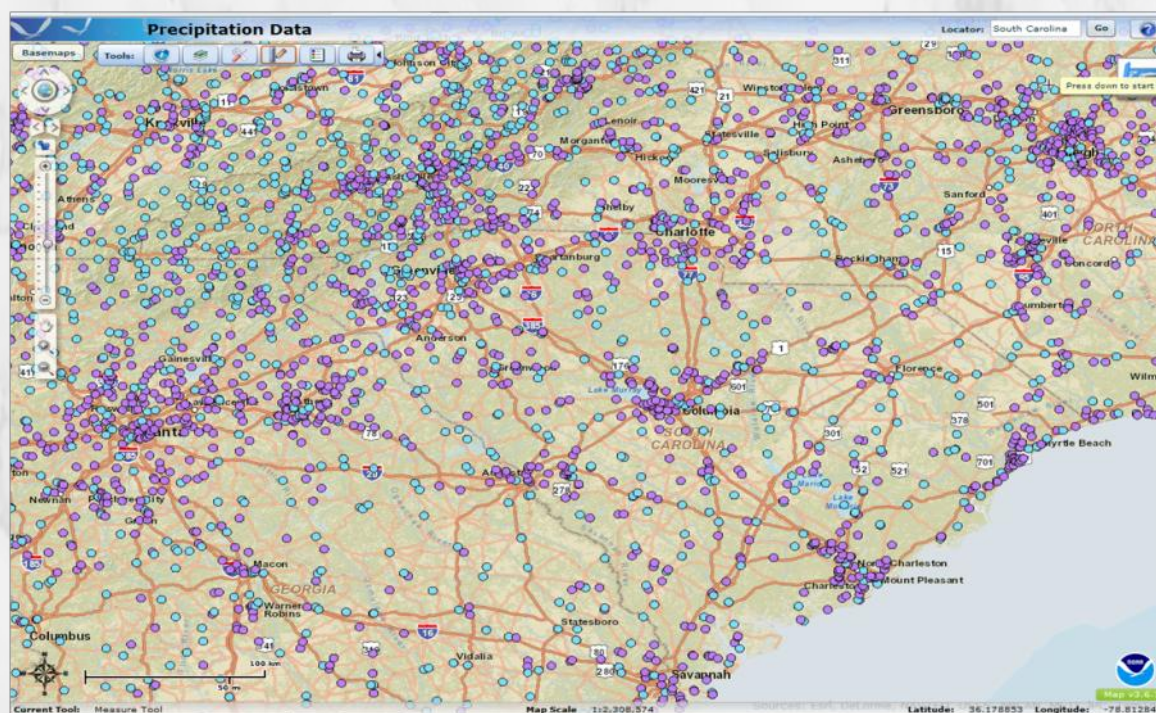
CoCoRaHS in the Global Historical Climatology Network

The National Climatic Data Center (NCDC) is now including CoCoRaHS data as part of the nation's long-term climate record. This official record, known as the Global Historical Climatology Network (GHCN), is an integrated database of climate summaries from global land surface stations. Initially, this network only consisted of observations obtained from weather stations that met National Weather Service (NWS) standards, which were usually located at airports.

The current majority of GHCN observations comes from the NWS Cooperative Observers Network (COOP) — volunteer weather observers using NWS-provided equipment that also take daily observations at a specific time. Unlike CoCoRaHS, COOP observers also record maximum and minimum temperature, and sometimes other variables. The advent and inclusion of CoCoRaHS has provided the opportunity to collect even more data giving scientists a better understanding of smaller scale climate variations and the extent of specific precipitation events. Another benefit of adding CoCoRaHS stations to the ever-expanding national database is that it provides data in areas where there are no COOP observers.

Once you have recorded at least 100 daily observations, your station data will become a part of the GHCN. Therefore, if there is no rainfall, entering zeros is very important because not only does it allow for a better account of precipitation in your area, it also gets your data into the GHCN faster if you are a new observer. Once in the GHCN, your data can be used in larger scale regional analysis products such as maps showing precipitation totals and departures. These maps can be useful in determining the regional climate of an area for a period of months to years.

Below is a snapshot of the GHCN weather stations for our region. Light blue dots show COOP weather stations that are part of the GHCN and purple dots show CoCoRaHS observers. Notice how many more of South Carolina's GHCN weather stations are from CoCoRaHS observers! This really illustrates how valuable observers like you are to our national climate record. The GHCN mapping tool can be accessed here: <https://gis.ncdc.noaa.gov/map/viewer/#app=cdo&cfg=cdo&theme=precip&layers=000111>



Drought Impacts Reporting

All counties in SC are currently in a 'normal' status, free of drought conditions (as of September 2013). However, the multi-year drought from which we have just recovered, that began in 1998, is still fresh in the minds of many. On-the-ground drought impacts reporting and baseline condition data collection can help to improve our understanding of drought and how it impacts people and the environment, and will allow us to better prepare for future drought conditions in the state. The [Carolinas Integrated Sciences and Assessments](#) (CISA) is working with the [National Integrated Drought Information System](#) (NIDIS) and the SC State Climate Office to increase the number and usefulness of CoCoRaHS drought impact reports in the Carolinas. CISA will be sending information about this project to South Carolina CoCoRaHS volunteers in a separate e-mail. Learn more about reporting drought impacts through CoCoRaHS [here](#).

Your Notable Comments

"I have rarely witnessed hours of constant down-pour like I did yesterday! Mosquitoes for everyone!" SC-CR-19 8/15/2013

1.72"... And two bugs. :)" SC-FR-5 6/6/2013

"3.39" fell in an hour. Erosion damage and overwhelmed culverts as bad as I have ever seen here." SC-PC-4 7/21/2013

"Still dealing with Miss (TS) Andrea here and she's giving us plenty of rainfall..." SC-CA-13 6/7/2013

"Stationary thunderstorm dropped 2.50 inches of rain between 6:30 PM and 7:40 PM. The second time we have had 2.5 inches or more this month, very unusual." SC-SM-10 7/29/2013

Carolina CoCoRaHS Summer 2013 Contributors:

Ivetta Abramyan, South Carolina State Climatology Office - Editor and Primary Author
 Hope Mizzell, PhD, SC State Climatologist, State Coordinator - Secondary Author
 Amanda Brennan, Carolinas Integrated Sciences and Assessments—Author of 'Drought Impacts Reporting'
 Mark Malsick, South Carolina State Climatology Office—Creator of Five-Year Retention Maps

If you are not a CoCoRaHS observer and are interested in joining, please visit cocoahs.org to sign up!



<https://www.facebook.com/CoCoRaHS.SouthCarolina>

South Carolina State Coordinator
 Hope Mizzell
 South Carolina State Climatology Office
 Mizzellh@dnr.sc.gov

Southeast Regional Coordinator
 Julie Packett
 National Weather Service
 Julie.Packett@noaa.gov

Northeast Regional Coordinator
 Josh Weiss
 National Weather Service
 Joshua.Weiss@noaa.gov

Midlands Regional Coordinator
 Leonard Vaughan
 National Weather Service
 Leonard.Vaughan@noaa.gov

Upstate Regional Coordinator
 Patricia Tanner, Jeffrey Taylor
 National Weather Service
 Patricia.Tanner@noaa.gov,