

South Carolina CoCoRaHS Rain Gauge Gazette

South Carolina State Climatology Office



Steve, an observer in Edgefield County,
pictured with his helpers Holden and Derby

Message from SC's State Coordinator

Hello everyone!

Welcome to the 'South Carolina CoCoRaHS Rain Gauge Gazette.' We are transitioning our newsletter to this new format, which will be issued at the end of every year to highlight the impact of your observations.

Whether you have been with us for ten years or ten days, know that your reports have been instrumental in monitoring drought and flooding across the Palmetto State. Speaking of ten years, I would like to thank the more than 30 observers that celebrated ten years of service and the 45 observers that have reported since 2014.

If you have any questions, please feel free to contact me at GriffinM@dnr.sc.gov or 803-734-9091.

Happy Holidays,
Melissa Griffin

10+ Year Observers:

SC-AK-16, SC-GT-1, SC-AK-20,
SC-GT-2, SC-AK-23, SC-GT-4,
SC-AN-13, SC-GV-27, SC-AN-20,
SC-GV-28, SC-AN-21, SC-HM-6,
SC-CA-2, SC-LN-4, SC-CL-3,
SC-LR-7, SC-CL-5, SC-LR-8,
SC-CL-6, SC-LX-43, SC-CR-42,
SC-CR-49, SC-OC-15, SC-OC-20,
SC-PC-9, SC-RC-30, SC-SP-23,
SC-SP-25, SC-SP-26, SC-YR-6,
SC-YR-7, SC-YR-9, SC-YR-10

South Carolina Wins the 2019 March CoCoRaHS Campaign

Since 2006, the CoCoRaHS program has run an annual campaign during March to recruit additional citizen observers to measure precipitation across the United States. For the second year in a row, South Carolina won the traditional count portion of the friendly competition, beating out New Mexico by recruiting the highest number of new observers here in the Palmetto State. During the 31-day event, 166 new volunteers signed up, ensuring the CoCoRaHS Cup would remain in the state and prominently displayed at the State Climatology Office.

Over the past two years, the additional observers have been extremely helpful in tracking extreme rainfall associated with Tropical Storm Florence, Hurricane Dorian, and drought across the state.



New Observer Information

To all observers old and new, here's some refresher information on observing! Here is some quick information about the program for both new and current observers:

- 1. Purchase your rain gauge.** You can find the links to our two partner vendors to offer the 4" Stratus Rain Gauge on the CoCoRaHS Home Page.
- 2. Review the online training materials.** The CoCoRaHS Team has produced slideshows, PDF documents, and videos to help you make sure you are providing the best possible precipitation observation to the network. You can view them on the website or the CoCoRaHS YouTube Channel.
- 3. Double check your report before you hit submit.** Occasionally you may be contacted by someone at CoCoRaHS HQ, a regional coordinator or myself about a flagged rainfall value. Two of the most common mistakes are entering the time of observation as the rainfall total and misplacing the decimal.
- 4. Report your zeroes.** Even on days when there is nothing in your rain gauge, that 0.00" value is extremely important to many individuals and agencies.
- 5. Check out the Wx Talk Webinars offered by CoCoRaHS.** Each webinar features a different weather-related topic and gives a chance for our observers to interact with the speaker.

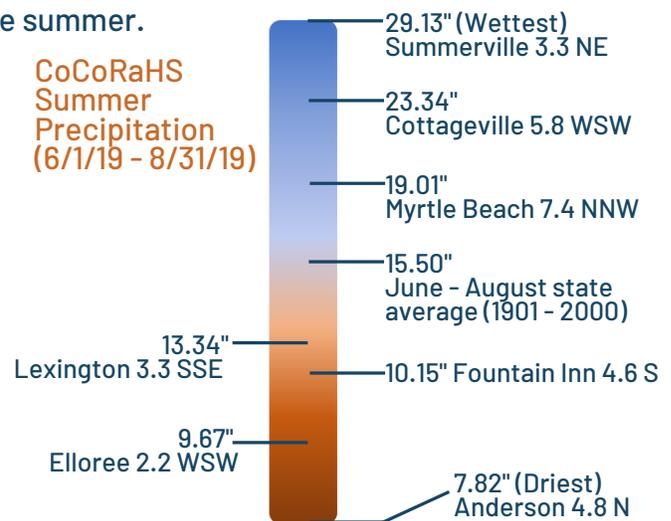
Drought Strikes South Carolina

South Carolina had two droughts in 2019, a flash drought that began in May and an agricultural flash drought from September to October. The South Carolina Drought Response Committee (DRC) was convened via conference call 9 times from May to December to evaluate drought conditions throughout the state. A combination of high temperatures and below normal precipitation led to increased wildfires, struggling agriculture, and low stream flows.

Wildfire activity increased significantly in late May and early June. South Carolina Forestry Commission responded to more than 312 wildfires across the state that burned almost 2,000 acres. There was overwhelming evidence of severe agricultural drought for many counties. The Committee specifically heard from beef producers that had been forced to feed their limited supply of winter hay to their cattle in late summer.

Both droughts were associated with extremely high temperatures. May - October 2019 is the hottest May-October period on record for South Carolina.

During each call, CoCoRaHS observations were used to assist the committee in the drought declaration process!

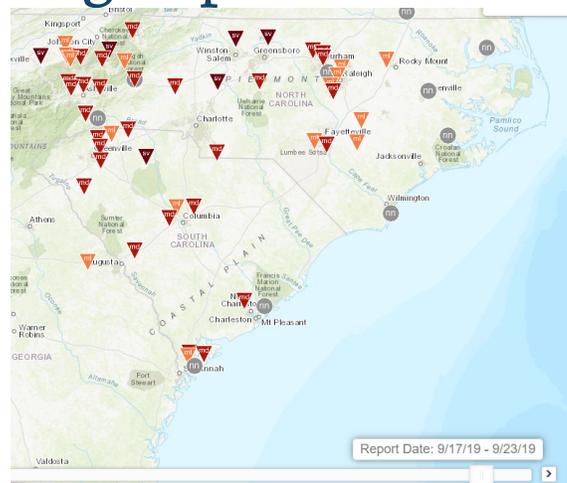


Condition Monitoring Reports

We need your reports!

CoCoRaHS Condition Monitoring reports provide a wealth of information about the conditions that citizen scientists are experiencing in the region as a complement to other drought indices used for drought monitoring and decision making.

Consistent reporting aids in the early detection of drought, details of its intensification, when a region is coming out of drought conditions, and what effects are being experienced during heavy precipitation events.



For more information, use the QR code to the left, or visit the CISA webpage about Condition Monitoring.

2018 Sets New Statewide Annual Rainfall Record



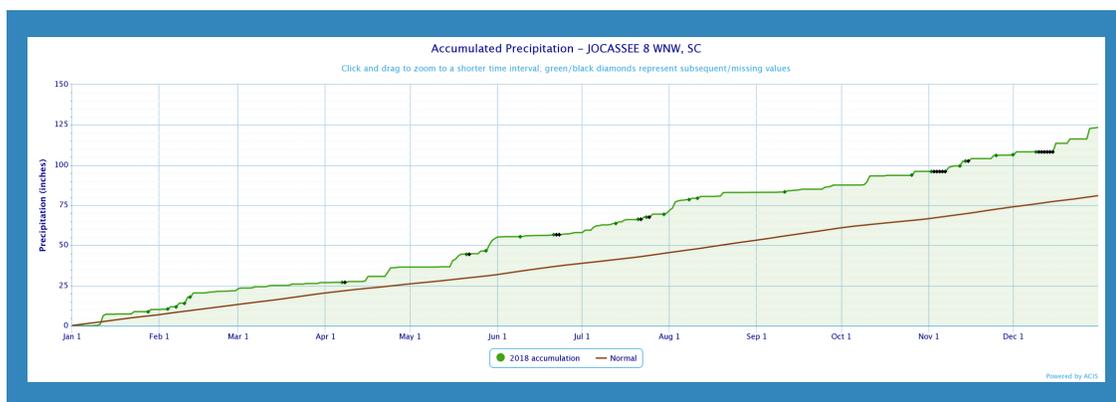
After a thorough review of the available data, the State Climate Extremes Committee (SCEC) unanimously voted to accept the 2018 rainfall total of 123.45" observed by a National Weather Service (NWS) Cooperative Station, Jocassee 8 WNW, as the new official state annual rainfall record for South Carolina. This value surpasses the previous official record of 119.16" measured at

Hogback Mountain in 1979. The Jocassee 8 WNW station is located at the SC Department of Natural Resources Walhalla Fish Hatchery. The station received a soaking of 17.25" of rain in December 2018 pushing their annual total to a record-breaking 123.45".

Annual Rainfall Totals Near Jocassee 8 WNW Used to Confirm the New Record

Station Name	Network	2018 Annual Precipitation Total
Slicking Rock Mountain	USGS	118.21"
Caesar Head	COOP	117.29"
Sunfish Mountain	USGS	112.98"
Table Rock	COOP	100.37"
Slater-Marietta 6.4 NW	CoCoRaHS	101.11" (350 reports)
Sunset 0.5 NW	CoCoRaHS	97.45"
Westminster 6.0 WNW	CoCoRaHS	92.07" (364 reports)
Walhalla	COOP	84.27"
Cleveland 3S	COOP	82.43"

The 123.45" is a staggering 37.69" above their normal annual rainfall. It wasn't one big event or even one big month, but an overall pattern of much above normal rainfall throughout the year. By February 2018 they had already accumulated over 21 inches of rain. The 17.74" received in May did set a new record for their wettest May. The SCEC examined rainfall data from the surrounding area (table above), along with weather patterns throughout the twelve months to come to their conclusion to validate the total. The SCEC team consisted of the SC State Climatology Office, NWS - Greenville-Spartanburg, Southeast Regional Climate Center (SERCC), NWS Eastern Region Headquarters, and the National Centers for Environmental Information (NCEI).



To read the full report, view the South Carolina Extremes Committee report.

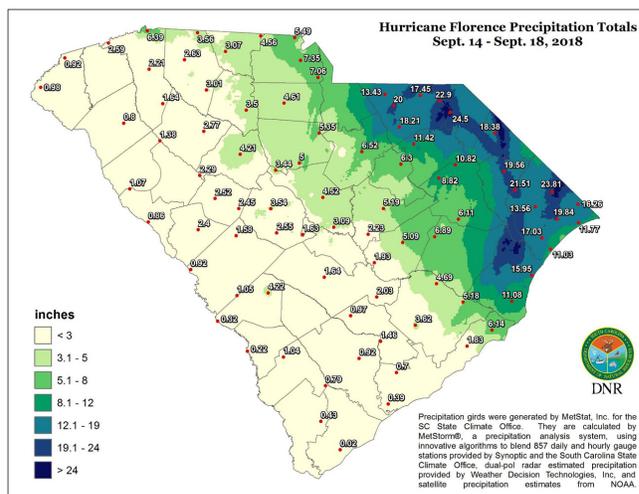


2018 & 2019 Hurricane Seasons

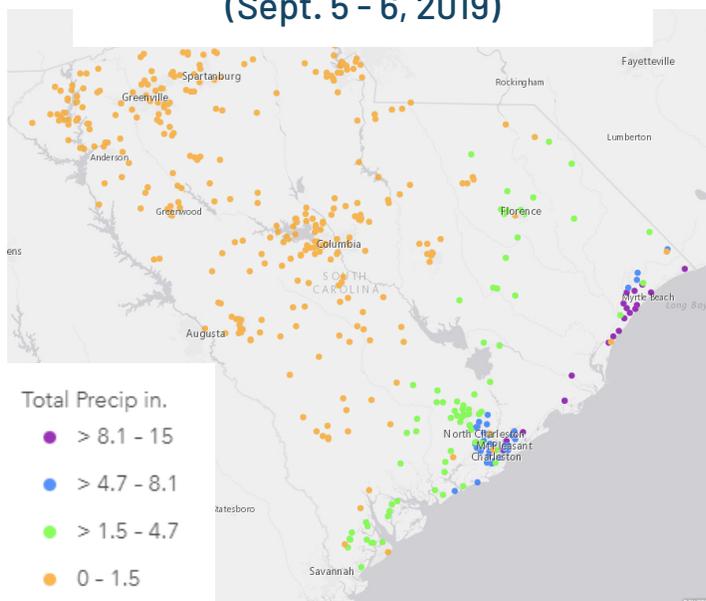
The 2018 hurricane season brought the effects of three storms into South Carolina. Tropical Storm Alberto (May 29 - 30) caused one tornado near Cameron, SC and several stations in the Upstate recorded between 2" and 5" of precipitation during the event.

Tropical Storm Florence (Sept. 13 - 17) affected the state after making landfall in Wrightsville Beach, NC as a Category 1. Florence brought heavy rainfall and widespread flooding to the state. Almost every USGS river gauge in the Pee Dee region marked a record peak flood stage. You can read more about Florence's impacts on the Palmetto State in the State Climatology Office's story journal about the event.

Hurricane Michael, which made a catastrophic landfall at Mexico Beach, FL as a Category 5, tracked through the Midlands region of South Carolina (Oct. 8 - 9), bringing tropical-storm-force winds and heavy rainfall. Because this storm was moving quickly, the rainfall wasn't as prolonged as seen with Hurricane Florence and therefore the flooding impacts were significantly less than those a month prior.



Dorian CoCoRaHS Observations (Sept. 5 - 6, 2019)



Hurricane Dorian (Sept. 5 - 6), the first major hurricane of the 2019 Atlantic Hurricane season, formed on August 24th. Dorian intensified to a Category 5 storm on September 1st, with wind speeds up to 180 mph over the Bahamas. On September 2nd, Dorian became stationary north of the Bahamas. The hurricane weakened and slowly moved towards the northwest. Tropical-storm force winds arrived in South Carolina on September 5th, and on September 6th the storm's movement sped up along the coast of North Carolina. Over the 2-day period between September 5th and September 6th, the highest precipitation total recorded was 15.21", reported by CoCoRaHS station Pawleys Island 5.6 NNE. The storm's highest rainfall totals in South Carolina were along the northern coast of South Carolina between Georgetown and Myrtle Beach.

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Help Us Recruit More Observers!

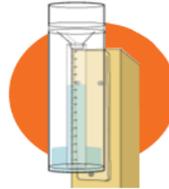
Due to the variability of precipitation, amounts measured can be different even cross short distances. South Carolina CoCoRaHS is always looking for new observers to help understand where it did or did not rain. If you know someone that enjoys the weather, encourage them to sign up to participate in this beneficial citizen science project.



Register



View Online
Training
Slideshow



Purchase a
Rain Gauge



Record and
Report
Observations

Throughout the newsletter, you saw how your observations during each of the events provided additional information. When you enter your observation there is a space for you to include comments, and we encourage you to do so! Your comments add context to your observation, which can be extremely useful to the variety of people and organization that use CoCoRaHS data.

If comments are helpful, I am sure you can imagine the impact and information a simple photo could convey. If you have any pictures you took while making an observation (rainfall, floods, drought impacts, beautiful sunrises, and sunsets, or anything else you'd like to share) please send them to me.

Your South Carolina CoCoRaHS Team

If you have any questions, please feel free to contact myself (GriffinM@dnr.sc.gov) or your regional coordinator:

Southeast Region (NWS Charleston)

Julie Packett (julie.packett@noaa.gov)
Emily McGraw (emily.mcgraw@noaa.gov)

Midlands Region (NWS Columbia)

Leonard Vaughn (leonard.vaughn@noaa.gov)

Upstate Region (NWS Greer)

Chris Horne (christopher.horne@noaa.gov)
Jeff Taylor (jeff.taylor@noaa.gov)

Northeast Region (NWS Wilmington)

Tim Armstrong (timothy.armstrong@noaa.gov)