

South Carolina CoCoRaHS Rain Gauge Gazette

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Welcome to the second edition of the 'South Carolina CoCoRaHS Rain Gauge Gazette.'

This newsletter will discuss some of the top precipitation-related stories during 2022 and highlight the impact of your observations. Whether you have been with us for ten years or ten days, know that your data has been instrumental in monitoring drought and flooding across the Palmetto State.

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 worthwhile citizen science project.

Sincerely,
Melissa Griffin
South Carolina CoCoRaHS State
Coordinator

If you have any questions, please feel free to contact me at GriffinM@dnr.sc.gov.

Observer Corner



We want to thank the [Harry Hampton Wildlife Fund](#) for its continued support of the South Carolina CoCoRaHS program over the last few years. We have provided rain gauges to schools, educational centers, and other observers across the state through their generous donations.

25th Anniversary – CoCoRaHS at AMS

Part of the delay in the 2022 Rain Gauge Gazette is partly due to the travel I had at the beginning of the year to Denver, CO, for the 103rd Annual Meeting of the American Meteorological Society (AMS). During the conference, there was a focus on the benefits of CoCoRaHS, everything from how the data is being used for forensic meteorology, helping re-engage youth in STEM education, visualizing droughts and flooding, adding to the climatological record, providing additional snow observations, and a sneak peek at the new-and-improved rain gauge.

The highlight for me was catching up with Mr. CoCoRaHS and my dear friend, Nolan Doesken. Nolan sends his regards and thanks to you all for your continued participation in the program.



2022 Program Highlights

- Citizen Weather Observer Week (March 2022)
- 3rd Place in the March Recruitment Campaign (51 new sign-ups)
- Years of Service
 - 34 Active observers started in 2012 (10 years)
 - 26 Active observers started in 2017 (5 years)

Your South Carolina CoCoRaHS Team

Southeast Region (NWS Charleston)



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

Midlands Region (NWS Columbia)

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Upstate Region (NWS Greer)

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Jeff Taylor (jeff.taylor@noaa.gov)

Northeast Region (NWS Wilmington)

Tim Armstrong (timthoy.armstrong@noaa.gov)

January 2022 – Winter Events

Three separate winter weather events impacted the state during a twelve-day period between January 16 and 28.

The first event (January 16) produced widespread snow across the Upstate, with some CoCoRaHS observers recording between 5 and 10 inches of snow. Some locations recorded up to half an inch of ice accretion in the Midlands and Pee Dee.



Ice accretion in Fairfield County



Snow in Pickens County



Snow Angel in Lexington County

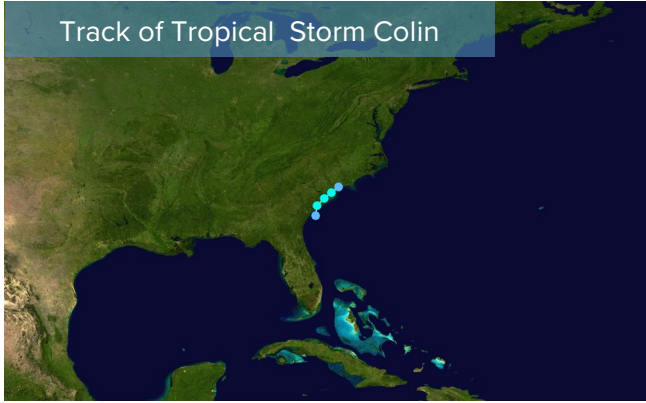
The second event (January 21-22) produced widespread 2 to 3 inches of snow across the Midlands and Pee Dee. A few observers near Hartsville in Darlington County recorded more than 4 inches of snow from the event. The official total of 2 inches of snow at the Columbia Metropolitan Airport broke the streak of 1839 days without measurable snow.

The final event (January 28) produced 1 to 2 inches of snow across the northern Midlands and Pee Dee. A few observers in Horry County recorded half an inch of snow, and multiple observers reported a trace of snow in Charleston County.

The table (right) reflects some of the snowfall totals across the state during January 2022.

Station	January Total Snowfall (inches)
Taylors 6.1 NNW	10.6
Moore 4.9 NW	9.0
Fountain Inn 4.1 ESE	8.2
Pickens 6.9 W	7.1
Clio 1.6 WNW	6.3
Blacksburg 3.2 NW	5.8
Tamassee 0.9 NW	5.7

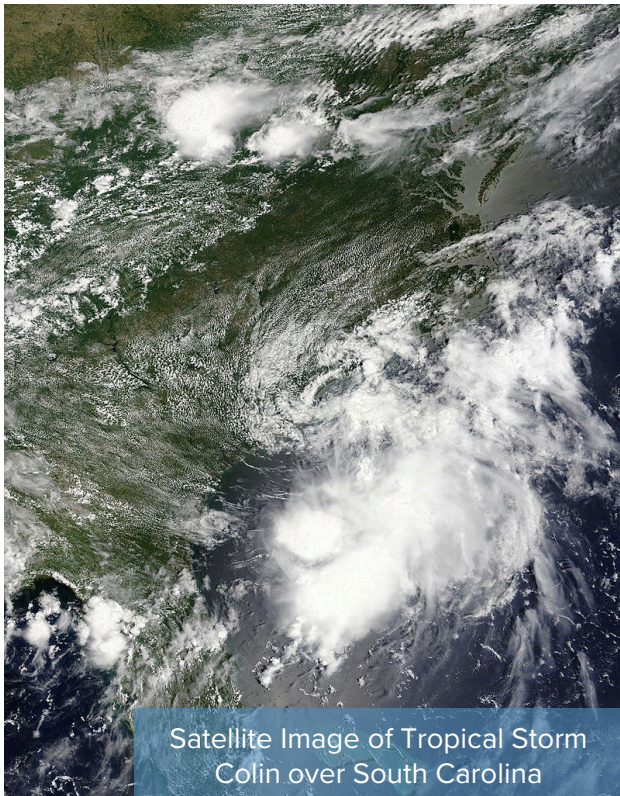
Tropical Storm Colin



On Friday, July 1, a low pressure developed along the stationary front off the South Carolina and Georgia coasts and tracked northeastward along the coast. Moisture streamed into portions of the Lowcountry, causing heavy rain across much of Charleston County. CoCoRaHS observers on Kiawah Island, James Island, Johns Island, and Sullivans Island reported rainfall totals ranging from four to seven inches.

The table (right) highlights some of the highest totals recorded by CoCoRaHS observers from June 30 – July 3, 2022. Most of the rainfall associated with Tropical Storm Colin was confined to the immediate coast, and many locations outside this area received less than an inch of rain.

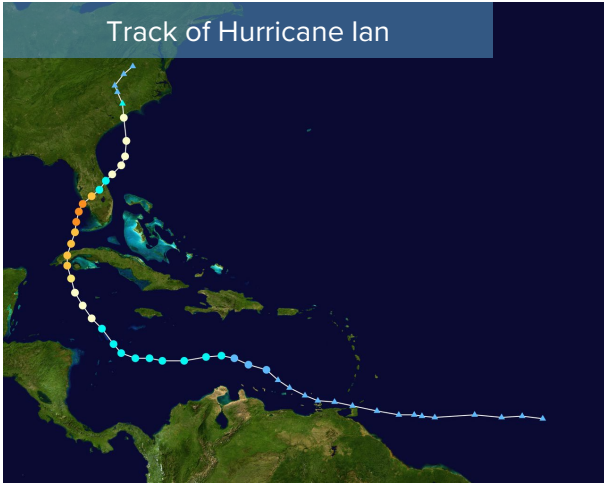
Station	Rainfall Total (in)
Wadmalaw Island 4.1 NE	8.14
Mount Pleasant 8.2 NE	7.44
Johns Island 3.3 WNW	7.38
Isle of Palms 0.1 E	7.14
Kiawah Island 1.0 SW	5.73
Edisto Island 2.2 ESE	4.63
Pawleys Island 2.6 N	4.34



The low moved over the warm waters of the Gulf Stream and transitioned into a tropical cyclone, with sustained tropical storm-force winds of 40 mph measured just off the coast of Charleston, SC. The National Hurricane Center declared the system Tropical Storm Colin early on July 2, the third system to form in the Atlantic during the 2022 Hurricane Season. It made landfall near Hunting Island, South Carolina. The storm's center remained within 20 nautical miles of the coast as it headed north. The storm was downgraded to a Tropical Depression late Saturday evening as it pushed through North Carolina.

The peak storm surge observed was 1.1 feet above Mean Higher High Water (MHHW) at the Charleston Cooper River Entrance Gauge, and there were no reports of flooding due to the storm surge.

Hurricane Ian



Hurricane Ian was the strongest storm of the 2022 Hurricane season to make landfall along the United States Coast. The Category 4 hurricane made landfall near Punta Gorda, Florida, on September 28. The storm produced a massive storm surge (up to 15 feet) and over 20 inches of rain that caused inland flooding and a few tornadoes. The storm moved across the Florida Peninsula and emerged off the east coast of Florida on September 29.

Ian turned northward and restrengthened to a Category 1 hurricane before making a second United States landfall near Georgetown on September 30. The storm had a maximum sustained wind speed of 85 mph and pushed a 3 to 6-foot surge into portions of the Grand Strand. A rain band set up along the Interstate 26 corridor as the storm moved ashore, producing localized heavy rain in and near the Charleston area.

The storm followed an eerily similar track to Hurricane Charley in 2004, which also made landfall in southwest Florida and the South Carolina Coast. Hurricane Ian was also the first hurricane to make landfall along the SC coast since Hurricane Matthew in 2016.

Station	Rainfall Total (in)
Charleston 5.4 SSE	10.75
Charleston 1.7 SE	9.44
Summerville 2.6 E	7.52
North Charleston 4.0 SSE	7.35
Holly Hill 2.6 WNW	7.00
Pawleys Island 2.4 NW	6.10
Georgetown 13.3 NW	5.96

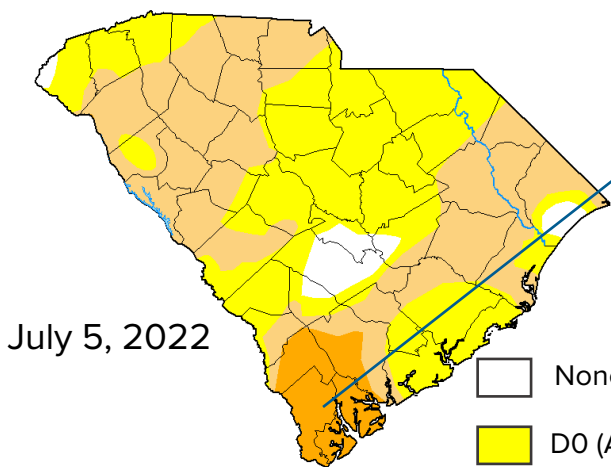
The table (right) highlights some of the highest totals recorded by CoCoRaHS observers from September 30 – October 1, 2022. Areas west of Interstate 26 measured less than an inch of rain, exacerbating dry conditions, especially along and near the Savannah River.

Statewide Drought Conditions

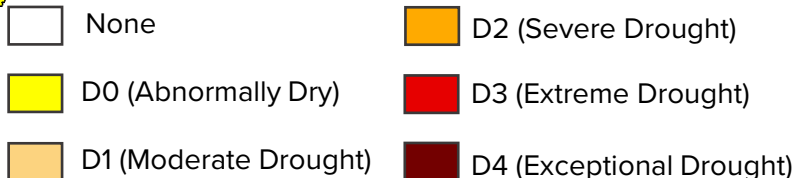
The statewide average precipitation for 2022 was 45.27 inches, 2.51 inches below the long-term average for the month (1895-2021) of 47.78 inches, making 2022 the 44th driest year on record for South Carolina. However, parts of the Lowcountry and Pee Dee started the year with below-normal precipitation. Multiple counties, including Allendale, Bamberg, Georgetown, Hampton, and Orangeburg, reported one of their driest Februaries on record. The dry trend continued until the end of April when rain helped improve conditions. Unfortunately, by the beginning of July, the lack of precipitation caused increased drought conditions across the entire state. Rainfall from Tropical Storm Colin and Hurricane Ian helped ease some drought conditions in the Lowcountry and Pee Dee. However, with the lack of rain during the Fall, dry conditions worsened across the state. By the end of November, portions of the Pee Dee region were experiencing severe drought conditions. The measured streamflow values were well below average in parts of the Catawba and Pee Dee river basins, and soil moisture was short in the top and subsoil. The three climate divisions that make up the Upstate and northern Midlands regions recorded average annual rainfall below normal. The National Weather Service (NWS) station at the Anderson Regional Airport reported a yearly total of 37.42 inches, 9.80 below normal. t the fourth driest November since 1948 and the second driest Fall (September to November) with a seasonal total of 3.66 inches.

Bluffton 7.0 W

Station Number	SC-BF-50 (47 CM Reports in prior 12 months)
Report	2.11" of rain fell in the past week. This is more than we have had as of late but we are still experiencing drought conditions. It has also been very hot with high humidity. Bluebird fledging has left the box (only one). Plants and veggies doing well with help of watering and spraying for bugs and fungi. Many angel's trumpet flowers this week but trumpets rather small. Egg plants taking off. Roses recovering from onslaught of japanese beetles.
Condition	Moderately Dry
Date	Fri Jul 08 2022
Summary Data	CoCoRaHS summary data by week for this station.



July 5, 2022



United States Drought Monitor

Week	None	D0 – D4	D1 – D4	D2 – D4	D3 – D4	D4
2022-01-04	51.78	48.22	31.63	7.87	0.00	0.00
2022-04-05	45.71	54.29	30.37	0.00	0.00	0.00
2022-07-05	4.49	95.51	50.05	7.16	0.00	0.00
2022-10-04	86.28	13.72	0.00	0.00	0.00	0.00

Winter Weather and Severe Weather Reporting

As you share your pictures of wintry precipitation or severe weather via social media, make sure to include the following information:

- Weather or Precipitation Type (rain, snow, sleet, or ice)
- Location
- Time and Duration
- Amount
- Impacts

Tag your local National Weather Service Office. These reports provide valuable data to meteorologists and emergency managers during these events.

Twitter: [@NWSGSP](https://twitter.com/NWSGSP) [@NWSColumbia](https://twitter.com/NWSColumbia) [@NWSCharlestonSC](https://twitter.com/NWSCharlestonSC) [@NWSWilmingtonNC](https://twitter.com/NWSWilmingtonNC)

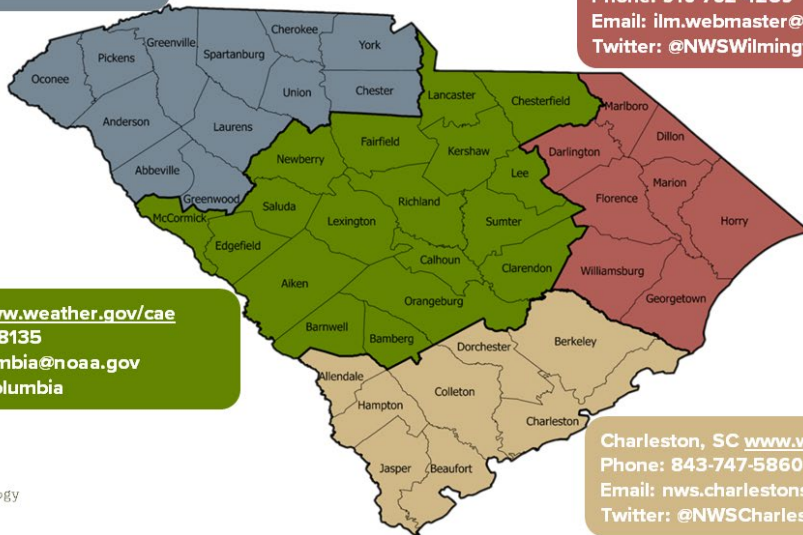
NATIONAL WEATHER SERVICE OFFICES SERVING SOUTH CAROLINA

Greer, SC www.weather.gov/gsp
Phone: 864-848-3859
Email: gsp.webmaster@noaa.gov
Twitter: @NWSGSP

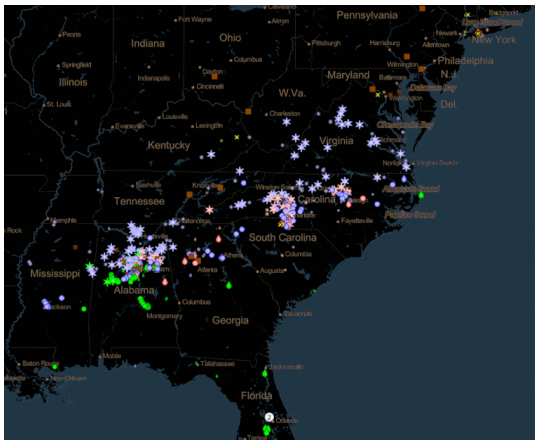
Wilmington, NC www.weather.gov/ilm
Phone: 910-762-4289
Email: ilm.webmaster@noaa.gov
Twitter: @NWSWilmingtonNC

Columbia, SC www.weather.gov/cae
Phone: 803-822-8135
Email: NWS.Columbia@noaa.gov
Twitter: @NWSColumbia

Charleston, SC www.weather.gov/chs
Phone: 843-747-5860
Email: nws.charlestonsc@noaa.gov
Twitter: @NWSCharlestonSC



SCDNR | State Climatology Office



In addition to noting if you see rain, sleet, or snow in the comments box with your observation, I highly recommend downloading the mPING App on your phone. This easy-to-use tool provides vital information on the type of precipitation falling at your location.

For more information:

<https://mping.nssl.noaa.gov/>

Odds and Ends

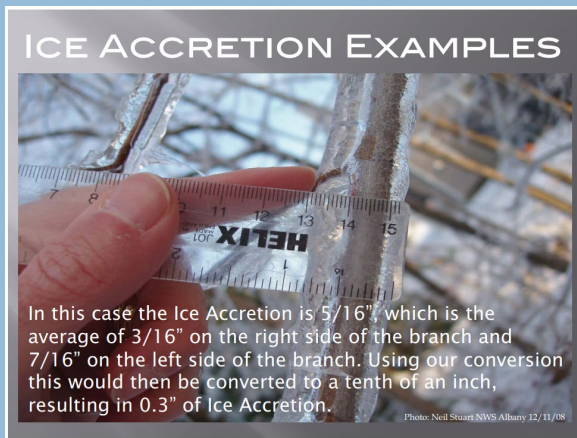
Here's some information on reporting precipitation for all observers, old and new!

Double-check your report before you hit submit. Occasionally, someone at CoCoRaHS HQ may contact you, a regional coordinator, or myself about a flagged rainfall value. Two of the most common mistakes are entering the observation time as the rainfall total and misplacing the decimal.

Report your zeroes. Even when there is nothing in your rain gauge, that 0.00" value is extremely important to many individuals and agencies.

Do not report dew or fog. Moisture from dew or frost does not count as precipitation, so if you suspect that amount came from dew, make the total 0.00", and include notes in the comments field of your report.

As we head into the heart of Winter, take a few moments to read the [training slideshows](#) or watch the [instructional videos](#) on snow measuring, measuring snow water equivalent (SWE), and ice accretion. While I know winter weather is rare in the state, it does happen – just like last year!



As CoCoRaHS celebrates 25 years, we would like to hear from you! We are collecting your stories to highlight this fantastic citizen science program's continued importance and help recruit new observers. If you are willing, click the banner and submit your experience. We'd like to hear about the following:

- 1) Why did you join CoCoRaHS?
 - 2) What do you enjoy about CoCoRaHS?
 - 3) Do you have a memorable CoCoRaHS event?
- You can either type your response or leave a voice message. And make sure to include your station number!

CoCoRaHS Testimonials

Tell us your story!

Celebrating 25 years