

NC CoCoRAHS

From the Mountains to the Coast... Every Drop Counts!



A WET YEAR IN NORTH CAROLINA

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Whether it was during our soaking summer, the tropical torrents, or a flooded fall, in 2020, we couldn't escape wet weather across the state.

Officially, according to the National Centers for Environmental Information, 2020 ranked as our **2nd-wettest year** on record since 1895, trailing only 2018. In addition, we tied with 2017 for the **3rd-warmest year** on record out of the past 126 years.

While 2020 didn't have a single record-breaking storm like Florence in 2018, we instead saw the remnants of more than half a dozen tropical systems drench the state. All through the year, CoCoRaHS observers helped document the prolific precipitation in North Carolina.

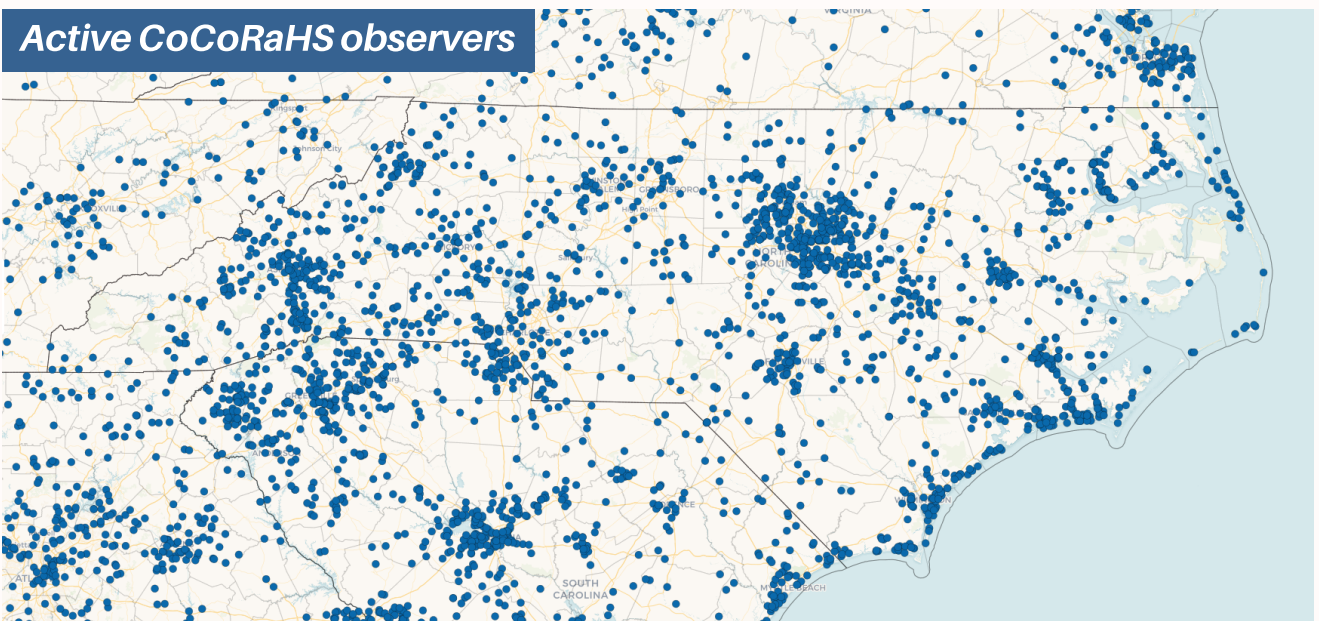
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OBSERVER OVERVIEW

With plenty of precipitation to measure throughout the year, North Carolina's CoCoRaHS observers rose to the challenge in 2020. Across the state, there were **almost a quarter-million** rain, hail, and snow reports submitted, setting a new annual record for statewide observations!



1,580
active observers

249,151
total precipitation reports



254
new observers in 2020

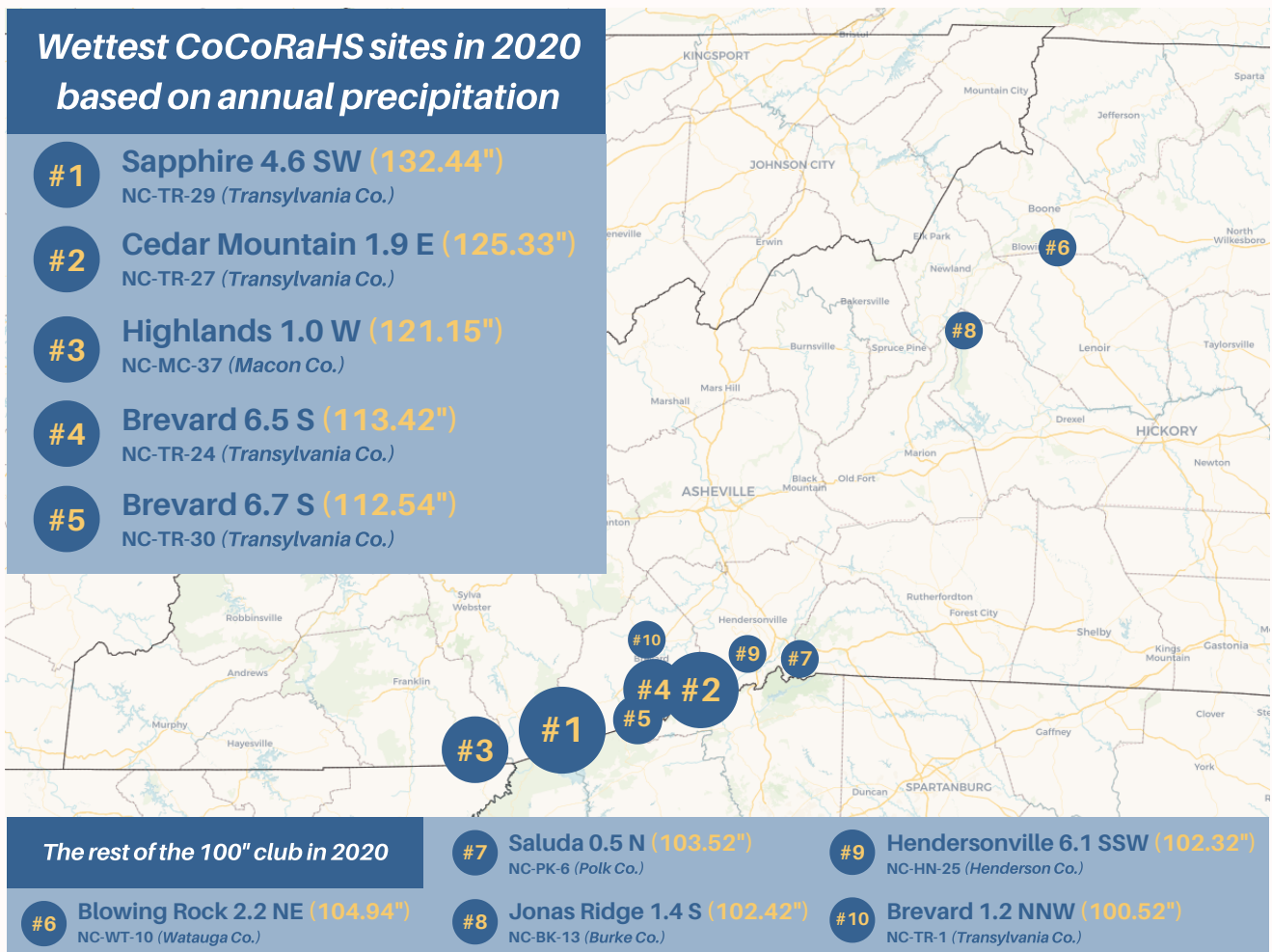
10
stations with 100"+ in 2020



THE TOP SPOTS FOR PRECIPITATION

While 2020 generally ranked as one of the top-five wettest years on record all across the state, the heaviest precipitation fell in western North Carolina. In fact, **all ten of the CoCoRaHS observing sites that recorded at least 100 inches of rain last year are in the Mountains**, and eight of those ten are in the southern Mountains from Macon through Polk counties.

Although we often think of the coast as receiving the brunt of rainfall from tropical systems, because so many storms and their remnants tracked through the Gulf of Mexico last year, it was instead our southwestern counties that were soaked the most by these moisture-rich systems in 2020.



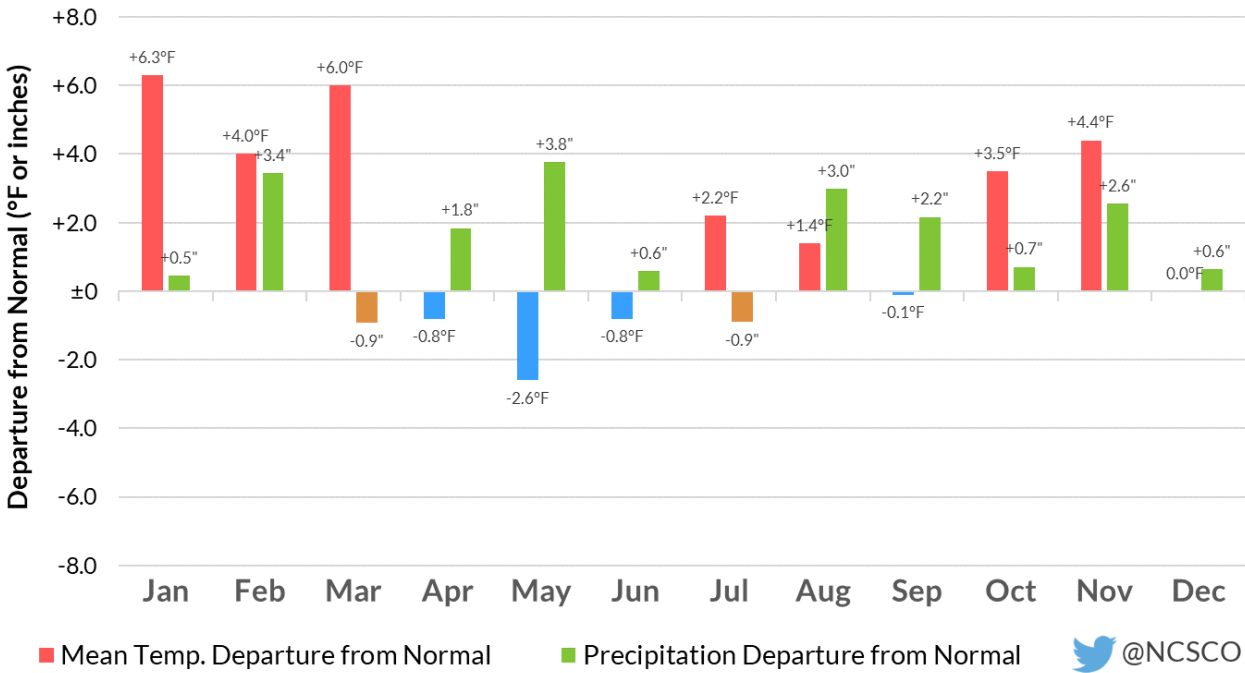


THE WEATHER YEAR IN REVIEW

Among a warm, wet year, no one month stands out in driving that trend. We began with unseasonable warmth in the winter and an early-emerging spring growing season, followed by our few cooler months in the late spring. Once the summer heat and humidity arrived, it was here to stay in July and August. And a tropical airmass from the south remained in place throughout the fall, complete with multiple heavy rain events from tropical storms and their remnants.

Ten out of twelve months in 2020 were wetter than normal statewide, and eight of twelve had temperatures at or above normal. That meant our warm and wet weather was almost unescapable, no matter which season or part of the state you look at.

Monthly Temperature and Precipitation Departures from Normal in 2020
(data from the National Centers for Environmental Information)



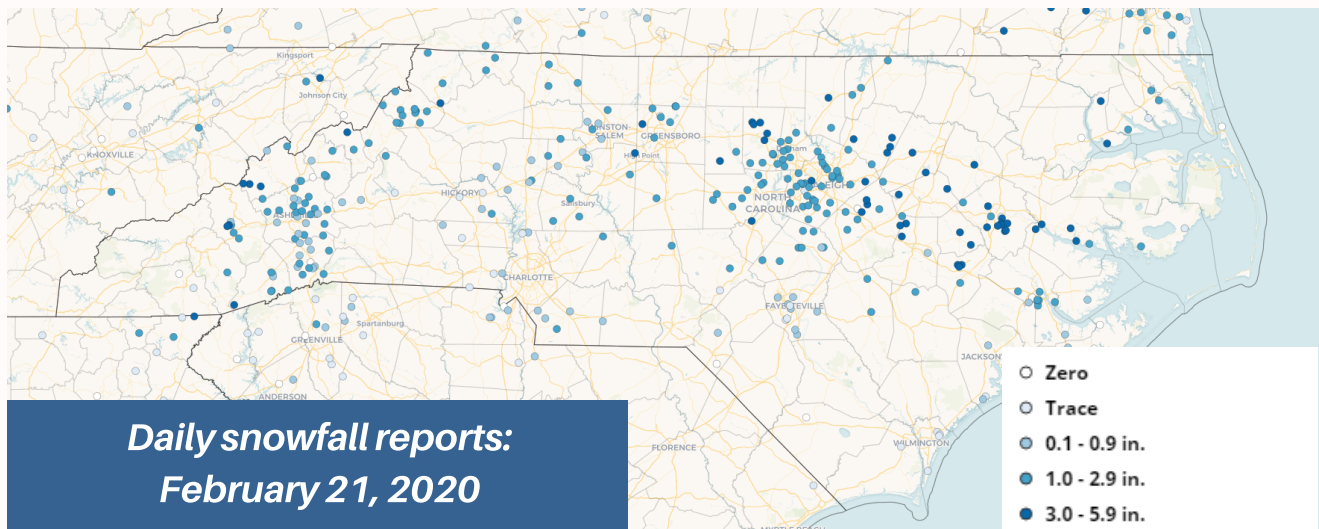
For more on the past year in our weather and climate, including a link to the recording of our Year in Review Webinar, check out our recent blog post recapping 2020 in NC: <https://climate.ncsu.edu/climateblog?id=331>



SCANT SNOWFALL AMID A WARM WINTER

As temperatures surged early in the year, wintry weather was tough to come by in North Carolina. Even Boone recorded only 6.1 inches of snow during the entire year, compared to an annual average of 35.3 inches! **That meant the chances to measure snowfall were few and far between.**

In many areas, the only snow event of note during 2020 was on February 20 and 21, when 1 to 3 inches of snow fell across the Mountains and Piedmont with 3 to 5 inches in the northern Coastal Plain, as measured by CoCoRaHS observers around the state.



**Daily snowfall reports:
February 21, 2020**

The greatest accumulation reported during that storm was from an observer 3.7 miles SSE of Franklinton. In their daily remarks on February 21, they helpfully explained how their measurement was made -- and how you can create a similar DIY snow board to accurately track the white stuff, if and when it falls this winter:

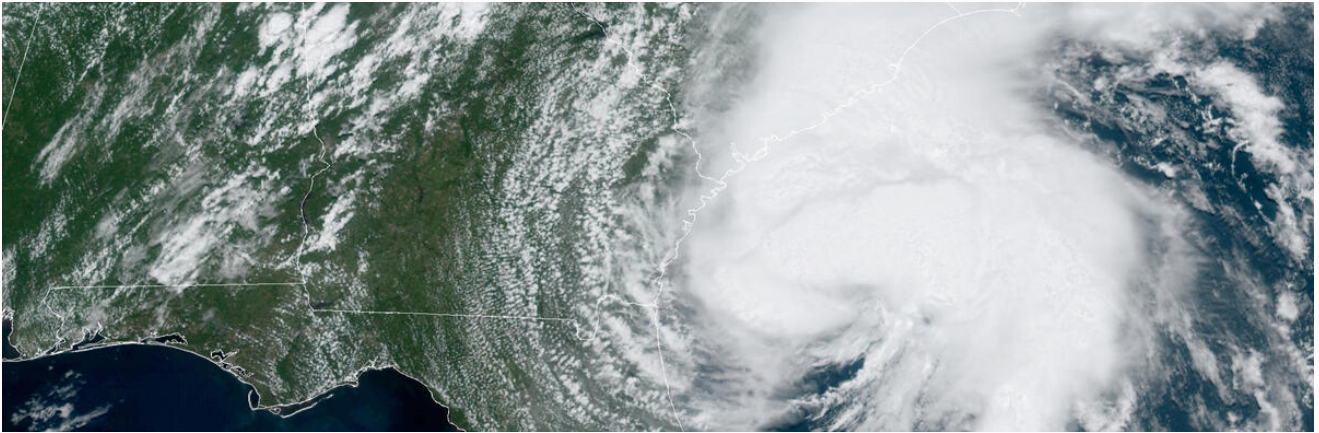
4.6 inches of snow measured on a 24" x 24" snow board made of 3/4" plywood mounted on two 2x6 rails on each side . Painted with 4 coats of white flat latex paint.

- NC-FK-25 (Franklin County) observer



A sample snow board, from cocorahs.org





Hurricane Isaias, from NOAA

THE TROPICS STORM TO LIFE

In the tropical Atlantic, **2020 was a record-breaking hurricane season, with 30 named storms in total.** A warm ocean surface, plenty of disturbances moving off the African coast, and favorable environmental conditions with limited wind shear across the Atlantic fueled that record activity.

Hurricane season officially begins on June 1, but last year, two storms formed in May, and both brought rain to parts of North Carolina. **Arthur** doused the southern coastline, while **Bertha** brought 2 to 4 inches of rain to the southern and western Piedmont.

Our only direct landfalling tropical storm in North Carolina last year was **Hurricane Isaias**, which hit the southern coast on August 3 and raced across the Coastal Plain the following day. After Isaias, CoCoRaHS observers noted mostly wet conditions in their Condition Monitoring Reports.



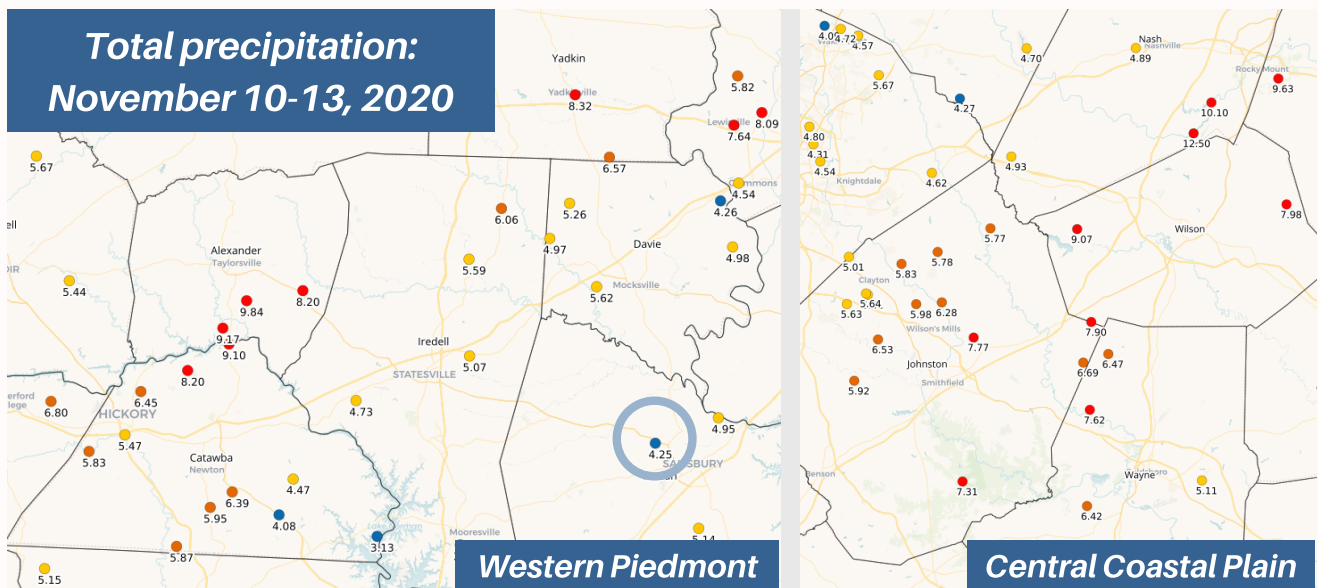
0.50" in gage this morning. We had 1.87" Thursday afternoon and 1.47" Monday night when Hurricane Isaias skirted by. Ground is saturated and soggy. Most farmers planted corn this year and it stood tall from high winds when Hurricane Isaias went by. Tree limbs down but no damage. Purple martins have headed south and have left [the] colony. Time to clean gourds.
 - NC-PR-5 (Perquimans County) observer



ABUNDANT RAINFALL THIS FALL

By late summer, the prevailing storm track across the Atlantic took storms into the Gulf of Mexico, and as those storms curved to the northeast, their remnants tended to move over North Carolina. In September and October, storms such as **Sally**, **Beta**, **Delta**, and **Zeta** all brought rain and high winds to North Carolina, even hundreds of miles inland after hammering the Gulf coast.

One of the heaviest rain events was on November 10-13 when **Tropical Storm Eta pumped in moisture ahead of a cold front crossing the Carolinas**. More than 8 inches of rain fell across parts of the western Piedmont and the central Coastal Plain, and with streams and rivers already full after a soggy summer and fall, flash flooding was widespread across the region.



After receiving 4.25" of rain from the remnants of Tropical Storm Eta, we are above normal for November already after a very dry start. Farms, yards and streams are flooded, and it will take a while to recover. Farmers will have to adjust, and downed limbs and leaves are everywhere in yards, roads and fields. Waters are muddy for wildlife and fishing, but water quality for use in homes and businesses is good. Wildfires are non-existent. Park activities will be back to normal soon after the debris is cleaned up.

- NC-RW-17 (Rowan County) observer



THANK YOU, OBSERVERS!

Throughout 2020, you helped document heavy rainfall and multiple extreme precipitation events across the state. **These reports fill in gaps in automated observing networks**, which helps the National Weather Service, the State Climate Office, and other scientists better monitor the impacts of our weather and respond to local conditions such as heavy snow or flood risk. Your diligence in reporting daily -- even the zeroes! -- is always appreciated. And remember, **every drop counts!**

MARCH MADNESS STARTS SOON

Despite all of our recent rainfall, North Carolina is in a drought... **we haven't won the CoCoRaHS March Madness contest to sign up the most new observers since 2015!** Help us top the charts this year and bring the CoCoRaHS Cup back to North Carolina by inviting new observers to register beginning on March 1.

Contact one of our state coordinators (listed below) for more information about how you can sign up and start observing.



The CoCoRaHS Cup, from NWS Key West

STATE COORDINATORS:

Sean Heuser

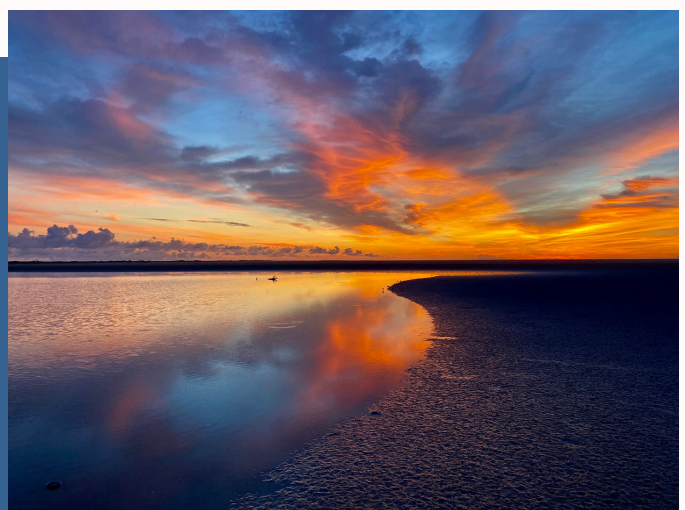
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Sunrise on Ocracoke Island on August 20, from the Cape Hatteras National Seashore
([Twitter](#) @CapeHatterasNPS)

