

# CAROLINA COCORAHHS

Community Collaborative Rain, Hail, and Snow Network  
"CoCoRaHS-Because Every Drop Counts!"



## 2014 Precipitation Annual Review

The entire state of South Carolina experienced quite a variety of precipitation in 2014! Wintry weather was seen from the Upstate all the way to the coast with a few records made along the way. Monthly rainfall amounts ranged from 13.93" in Edisto Middleton Gardens in July to as dry as 0.53" in Santuck and Aiken in October. Below is a recap of a few intense precipitation events that occurred in 2014.

Wintry weather events in January, February, and November brought freezing rain, sleet, and snow to most of the state, as well as record-breaking events in Columbia and in the state of South Carolina as a whole. On January 28, South Carolina saw snow as far south as Hilton Head. More wintry weather returned on February 7th and 11-12th. Ten inches of snow fell in Clover and six inches fell in both Antreville and Winnsboro on February 12th. On the morning of November 1st, an observation of a "trace" of snow fell at Columbia's Metropolitan Airport which made it the earliest seasonal observation of snow on record (see story on page 3). The official measurement of three inches of snow in Pelion made that South Carolina's earliest known measurable snow in record-keeping.

Severe hail producing storms occurred in late May and early June across the Upstate and Midlands. This included golf ball-sized hail in Spartanburg County on May 23rd. Thunderstorms were concentrated along the coast throughout most of the summer. Three CoCoRaHS observers reported more than 12 inches of rain during the first two weeks of August. Charleston Airport reported 18 days of measurable rain in September which tied their record set in 1979.



Frozen USC Library Reflection Pool  
Jan. 8, 2014, Photo Credit: Wes Tyler

## March Madness 2015

During the month of March, all 50 states compete in the national CoCoRaHS March Madness competition to see who can recruit the most new volunteers. This year South Carolina placed 2<sup>nd</sup> by recruiting 57! We placed 4<sup>th</sup> in the per capita count at 12.32%. These results are up from 2014 when we recruited only 22 new volunteers with 4.76% per capita. We jumped from 18<sup>th</sup> place in 2014 to 2<sup>nd</sup> place this year in the traditional rankings!

### 2014 Results:

22 new volunteers (18<sup>th</sup>)  
4.76% per capita (14<sup>th</sup>)

### 2015 Results:

57 new volunteers (2<sup>nd</sup>)  
12.32% per capita (4<sup>th</sup>)

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## Drought Impact Report

- **What is drought?**

Drought is "a period of abnormally dry weather sufficiently long enough to cause a serious hydrological imbalance" (American Meteorological Society). You can best understand drought by understanding its impacts.

- **What are drought impacts?**

They are the consequences of the abnormally dry conditions caused by drought. There are both direct (e.g., poor crop conditions, increased threat of wildfires) and indirect (e.g., low reservoir levels leading to restrictions, reduction of crops leading to reduced income) impacts from drought.

- **When do I file a drought report?**

When abnormally dry conditions are developing and occurring, think about how they affect you and your community. Report them by writing a short "Drought Impact Report". As drought worsens, make sure to report how the impacts are worsening in each way.

- **How can I file a drought impact report?**

On the CoCoRaHS website, after clicking on "My Data", look under the "Enter My New Reports" column and there will be an option to select "Drought Impact Report". From there, you will have a form to enter data and observations.

### Drought Impact Report Example:

5/25/2015 Station SC-BF-10

"May has been a relatively dry month. With less than a week to go, we need another ~1.50" of rain to meet our normal. It's getting hotter and lawns and gardens need to be watched carefully. Lagoon levels are falling slightly. Hoping to add some rain today from an expected forecast!"

## Measuring Reference Evapotranspiration

- **What is evapotranspiration (ET)?**

Evapotranspiration is the sum of water transferred from the earth to atmosphere by transpiration and evaporation. Transpiration is the movement and loss of water through a plant into the atmosphere. Evaporation is the movement of water to the air from sources on the ground such as the soil and bodies of water.

- **What is reference evapotranspiration?**

It is the evapotranspiration from a large surface of grass ( $ET_0$ ) that is of uniform height, well-watered, and completely covers the ground.

- **Are you interested in becoming a  $ET_0$  observer?**

We are looking for observers who report on a consistent and daily basis and who have ideal locations. These locations are open with surrounding vegetation that is a good representation of the area you live in. Please keep in mind the instrument used, ETgauge, is a significant investment that you or your sponsor will make (\$222 *plus tax and shipping from weatheryourway.com*).



Visit CoCoRaHS's website at <http://cocorahs.org/Content.aspx?page=et> for information about this program.

We are looking for observers! If you are interested in measuring evapotranspiration, please contact: Zach at [info@cocorahs.org](mailto:info@cocorahs.org) and include a photo of the site where you wish to install the gauge.

# November 1, 2014: Record Breaking Snowfall!

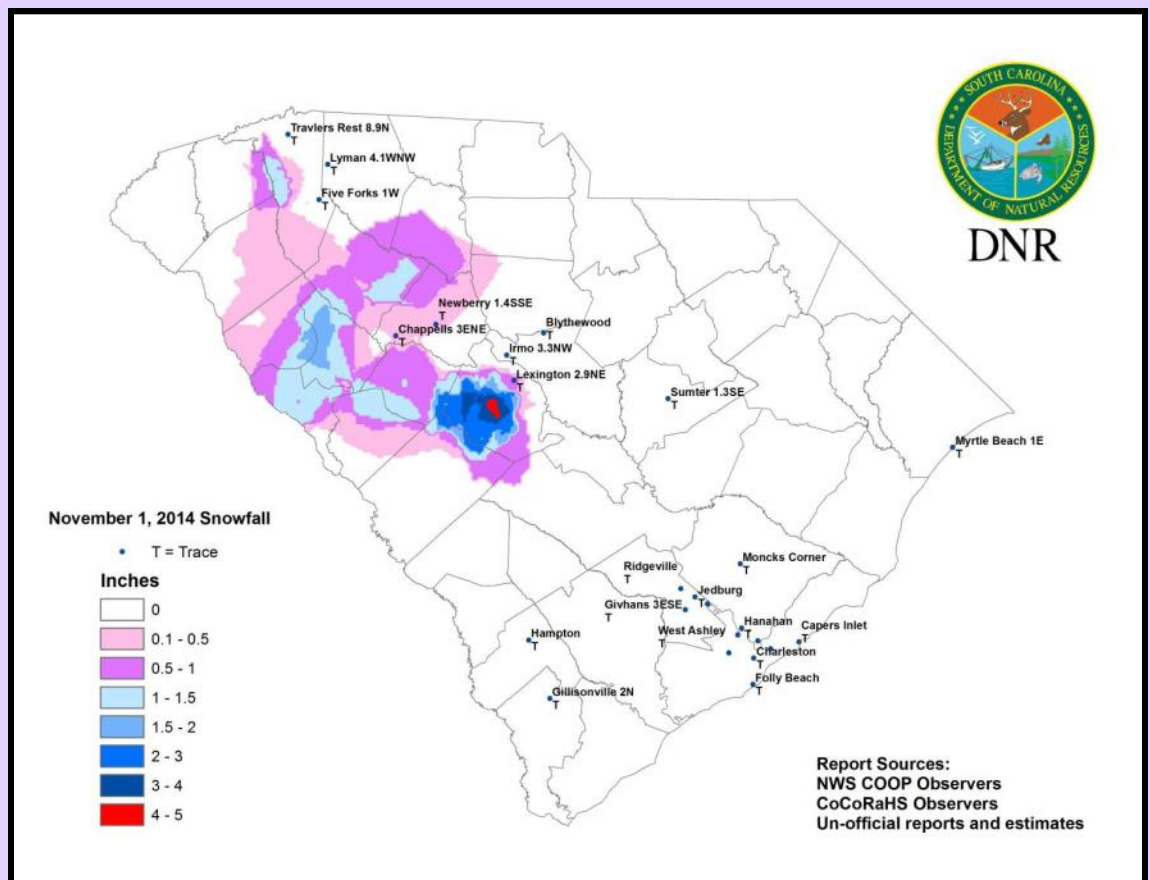
A record setting winter weather event moved through South Carolina on November 1, 2014. On the morning of the 1<sup>st</sup>, the Columbia Metropolitan Airport observation of a “trace” of snowfall went into the record books as the earliest seasonal snowfall for the Columbia area. The previous record was a “trace” of snowfall that occurred on November 9, 1913. Snow was not observed in only Columbia, but in many places throughout the state. Three inches of snow fell in Pelion which made it the earliest known measurable snow in the history of record-keeping in South Carolina. The previous record was 3.0” that fell in Caesars Head on November 4, 1930. During this event, stations throughout the state received anywhere from a “trace” to a over four inches of snow. Interstate 20 in Lexington County was temporarily closed and there were widespread disruptions to electricity services because of downed branches from the weight of the snow.

## Some descriptive comments we received...

“Wet snow this morning – 37 degrees- no accumulation.” SC-LX-49 Chapin 1.3 SSE (0.4 total precipitation)

“Snow accumulation at 8:00 am was 2.2 inches and large wet snow falling... Observation was taken again at 9:30 am and an accumulation was taken at 3.5 inches” SC-LX-39 Gilbert 1.2 SSW (3.5 total precipitation)

“Snow early. Covered grass before melting quickly.” SC-GV-20 Simpsonville 5.4 N (0.5 total precipitation)



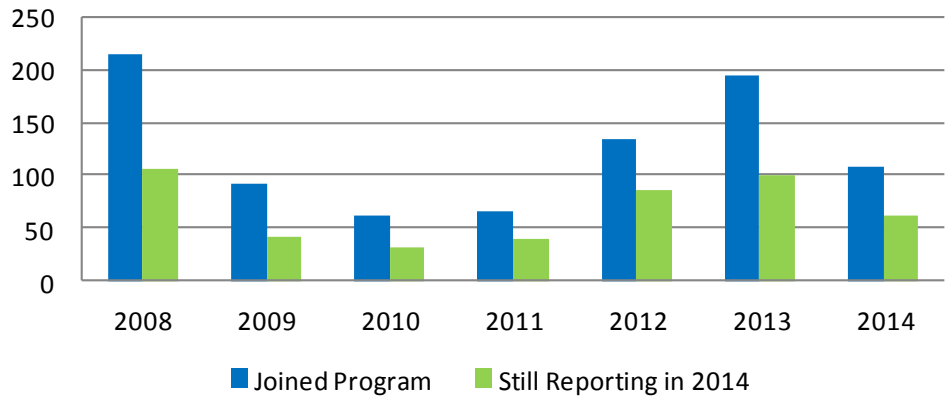
# CAROLINA COCORAHS RETENTION RATES

**Special thanks  
to the  
observers  
who reached  
the milestone  
of reporting  
for  
five years!**

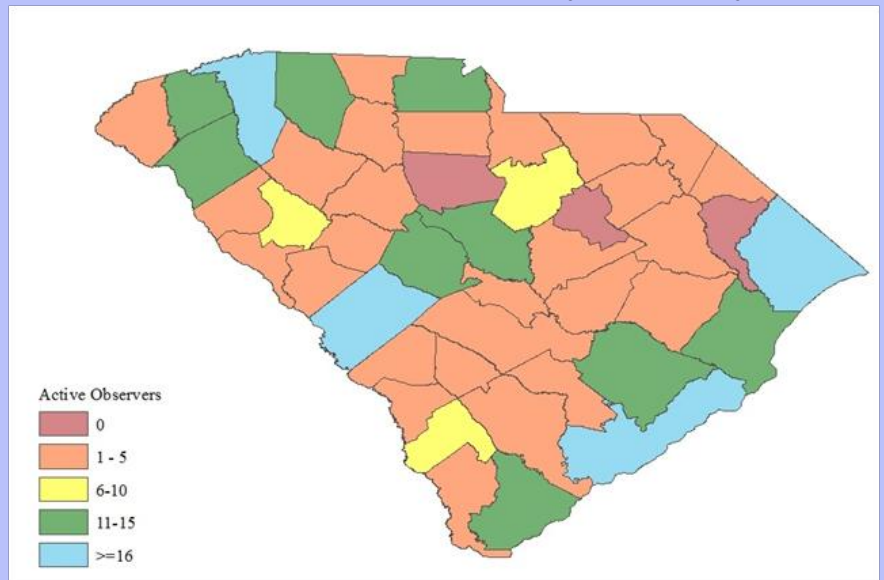
**111 observers in  
2008-2013**

**40 observers in  
2009-2014**

**Total Number of CoCoRaHS Members  
Joined Compared to Those Still  
Reporting at End of 2014**



**Active Observers by County\***



\*The map to the right shows the number of observers reporting at least 50% of the time since activation and still reporting at the end of 2014. A majority of the state only has 1-5 observers per county, with three counties having no one reporting over 50% of the time. This is an area of the program that we should aim to improve. The bar graph at the top demonstrates the retention rates and that a large amount of observers stop actively reporting over time.

## Statewide-By the Numbers Spring 2015

<b>Number of Active Observers</b>	314
<b>5 Counties with Highest Number of Active Observers</b>	Aiken, Charleston, Greenville, Oconee, Spartanburg
<b>Counties with Under 3 Active Observers</b>	Allendale, Bamberg, Barnwell, Calhoun, Chester, Chesterfield, Darlington, Dillon, Fairfield, Lee, Marion, Marlboro, McCormick, Union, Williamsburg



# A NOTE FROM YOUR STATE CLIMATE OFFICE...

South Carolina CoCoRaHS Observers,

Many thanks to those who continue to devote their time to CoCoRaHS and to the 151 volunteers who reached a milestone of five years volunteering for CoCoRaHS. Without your dedication, the success of the program would not happen.

Our recruitment of volunteers during this year's March Madness was outstanding! We placed 2nd in the country with number of new volunteers. Some counties like Greenville continue to expand with over 15 dedicated observers. We would like to see this enthusiasm spread statewide. While the network is growing, there are still 3 counties with no observers (Fairfield, Lee, Marion).

Your comments and drought impact reports are essential to better understand conditions across the state. Also, it is very important to report no rainfall as 0 rather than nothing at all.

Thank you !

Your Team at the South Carolina State Climatology Office



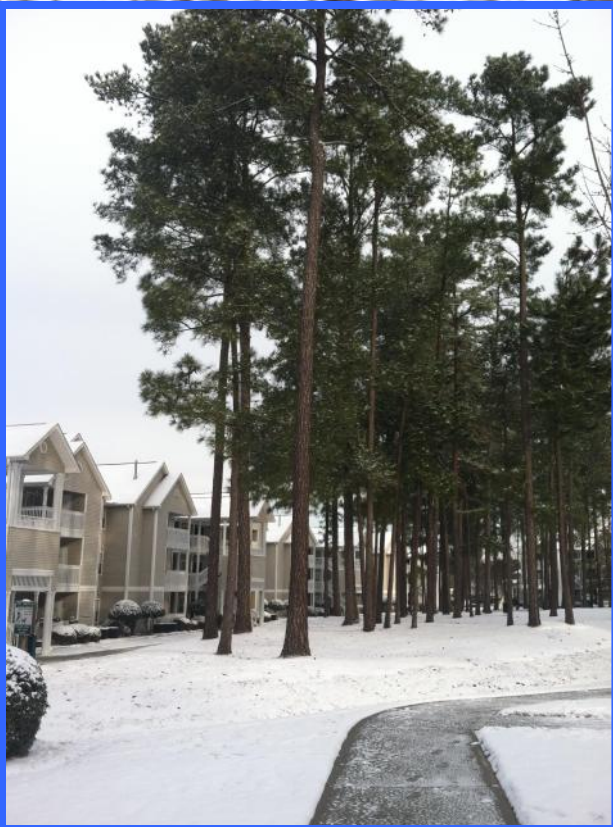
## Seven Year CoCoRaHS Accomplishments

Number of Drought Reports	417
Number of Significant Weather Reports	918
Number of Hail Reports	251
Largest Hail Size	2.75" (SC-YR-3)
Number of Daily Precipitation Reports $\geq 5"$	145
Number of Daily Precipitation Reports $\geq 7"$	23

## Never Missed A Day! 2014

Daufuskie Island 1.7 SW  
St. Matthews 3.6 NW  
Lyman 5.3 WNW  
Taylors 2.8 W  
Five Forks 1.0 W  
Greenville 5.4 WNW  
Greenwood 3.4 NNW  
Pawleys Island 5.6 NNE

Pickens 6.9 W  
Central 5.3 NW  
Irmo 4.2 NNW  
Kingstree 7.9 NW  
Tega Cay 1.6 ESE  
Bennettsville 3.8 SE  
Lexington 2.9 NE



Snow on January 29, 2014 in Columbia  
Photo from USC student, Rachel Reeves.



**Don't forget to enter descriptive comments like these below. They help us better understand the precipitation and weather phenomena occurring throughout South Carolina.**

**Your  
Notable  
Comments!**

2/13/2014 Snow starting before dawn, changed over to sleet about 10am, then freezing rain about 4 pm. Distinct crust of ice on top of snow. Newberry 1.0 N

4/29/2014 Thunderstorm overnight, one short, heavy downpour.  
Walhalla 1.5 NW

9/19/2014 Water still pooling on property as the ground is so saturated. Killing grass in some locations.  
Beaufort 2.7 N

10/23/2014 Trace from dew. Clear cool days that warm up in the afternoon. Sprinkling to keep the newer plants moist. Irmo 4.1 NNE

12/13/2014 Currently 28 degrees F under Clear Skies, Unrestricted Visibility and Calm Winds with Thick Frost on the ground and rooftops. Sumter 1.3 SE

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If you are not a CoCoRaHS observer and are interested in joining,  
please visit [cocorahs.org](http://cocorahs.org) to sign up!



Visit our Facebook page:  
[www.facebook.com/CoCoRaHS.SouthCarolina](http://www.facebook.com/CoCoRaHS.SouthCarolina)



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