



NATIONAL WEATHER SERVICE

NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION

STORM COURIER

Charleston, SC
Weather Forecast Office

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2019: A Continuation of Active Hurricane Seasons

by Robert Bright - Meteorologist

The 2019 Atlantic hurricane season turned out to be the 4th year in a row of an above normal number of tropical storms, which is only the 2nd time on record this has occurred. Unfortunately, southeast South Carolina and southeast Georgia were not immune to impacts yet again, this time from Hurricane Dorian, which affected the area in early September.

After stalling out in the northern Bahamas and causing incredible damage as a Category 5 hurricane with 185 mph sustained winds (tied for 2nd strongest on record), Dorian finally turned north and came eerily close to the South Carolina coast as a Major Category 3 storm. Fortunately, the storm stayed just far enough offshore to limit the extent and severity of impacts across the Georgia Coastal Empire and South Carolina Lowcountry. Still, hurricane force wind gusts near 80 mph were recorded along the SC coast with gusts near

click image to enlarge



Hurricane Dorian
GOES-16 Satellite Image
8 AM EDT - 9/5/2019

100 mph just offshore. The combination of these wind speeds along with several inches of rain (up to ~11 inches in some locations) led to many downed trees and power lines across the area. Luckily, the storm surge inundation was limited greatly due to the strongest onshore winds not aligning perfectly with the high tide cycles. This was a great example of the difficulty forecasters have in pinpointing the storm surge inundation, especially days in advance.

Check out our complete event summary on [Hurricane Dorian](#) and the National [Hurricane Center 2019 Storm Reports](#) for more information.

A Record Year for Coastal Flooding

by Blair Holloway - Meteorologist

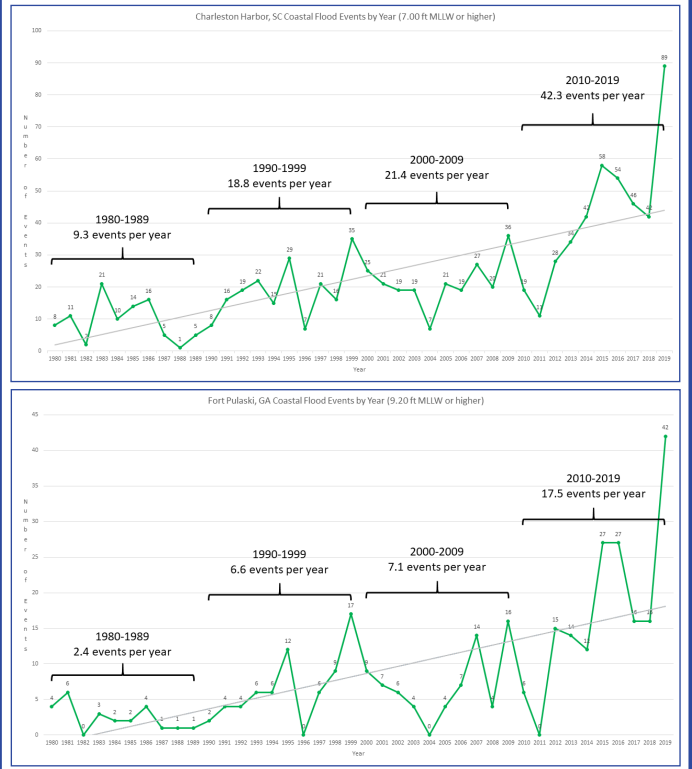
Has it seemed like a busy year for coastal flooding along the southeast Georgia and southeast South Carolina coast? It certainly should have since both the [Charleston Harbor](#) tide gauge and the [Fort Pulaski](#) tide gauge recorded the most coastal flood events on record (dating back to 1980).

In Charleston Harbor, the coastal flood threshold is 7 feet Mean Lower Low Water (MLLW), and tides reached or exceeded this height 89 times. This far exceeds the previous record of 58 which occurred in 2015. At Fort Pulaski, the coastal flood threshold is 9.2 feet MLLW, and tides reached or exceeded this height 42 times. This easily exceeded the previous record of 27 which occurred in both 2015 and 2016.

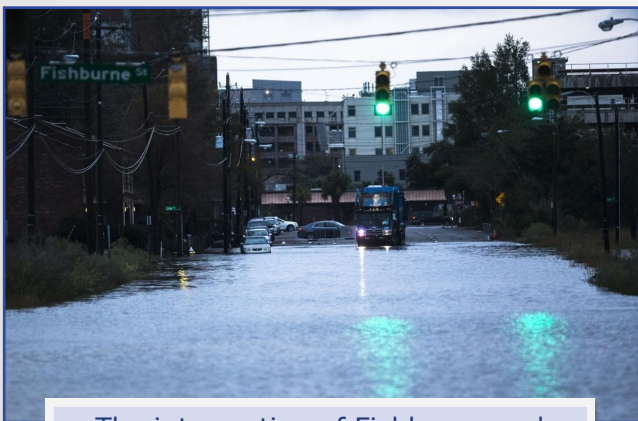
At both sites, 2019 continued the notable increasing trend in the number of coastal flood events recorded in the last 5 years. Each year of the 2015-2019 period ranks in the top 5 years for total number of events at both sites (dating back to 1980). 2019 also marks the end of the decade and continues an increasing trend in the average number of coastal flood events per year within each decade dating back to the 1980's. Unfortunately, coastal flooding is only expected to [increase in frequency](#) in the years to come based on National Ocean Service (NOS) [sea-level rise projections](#).

Coastal Flood Events by Year for Charleston Harbor (top) & Fort Pulaski, GA (bottom)

click graph to enlarge



National Weather Service Charleston recently developed a coastal flood climatology for Charleston Harbor and Fort Pulaski and created a [web page](#) to house the data, as well as a collection of interesting graphs. Check it out for more information. Also, NWS Charleston routinely makes tide forecasts for [Charleston Harbor](#) and [Fort Pulaski](#), providing a good way to see when coastal flood events might be coming so you can plan accordingly.



The intersection of Fishburne and Hagood Street, early Thursday, December 24th. Picture by Andrew J. Whitaker of the Post & Courier.



If you ever come across flooding associated with a high tide, let us know about it. You can contact us 24 hour a day at 888-383-2024, by email at nws.charlestonsc@noaa.gov, or via [Facebook](#) and [Twitter](#) (@NWSCharlestonSC).

Marine Products Reformatted & Small Craft Advisory Headlines Consolidated

by Pete Mohlin - Meteorologist

As of December 3, 2019, every marine product issued by all NWS offices have been reformatted. One of the outcomes of the NWS Hazard Simplification Workshop and feedback from users and customers of these products indicated strong support for a consolidation and shortening of NWS marine hazard products.

The vast number of products often caused confusion and, in the worst cases, sometimes caused an indifference of critical NWS life-saving information. As a result, the NWS identified a requirement to reduce the number of marine products, as well as to simplify and shorten the information – with a focus on impacts.

The following marine products have been consolidated:

WARNINGS

Storm Warning
Coastal Flood Warning
Gale Warning
Hurricane Force Wind Warning
 High Surf Warning
 Lakeshore Flood Warning
 Volcanic Ashfall Warning
 Hazardous Seas Warning
 Heavy Freezing Spray Warning

ADVISORIES

High Surf Advisory
Coastal Flood Advisory
Dense Fog Advisory
Small Craft Advisory
Dense Smoke Advisory
 Brisk Wind Advisory
 Lakeshore Flood Advisory
 Heavy Freezing Spray Advisory
 Low Water Advisory

WATCHES

Coastal Flood Watch
Gale Watch
Hurricane Force Wind Watch
Storm Watch
 Hazardous Seas Watch
 Heavy Freezing Spray Watch
 Lakeshore Flood Watch

STATEMENTS

Coastal Flood Statement
Rip Current Statement
 Lakeshore Flood Statement
 Beach Hazards Statement

Only products listed in ***bold italics*** are issued by NWS Charleston. The other products are issued by various other NWS offices.

In addition, all of the above products have been reformatted into:

- * WHAT
- * WHERE
- * WHEN
- * IMPACTS
- * ADDITIONAL DETAILS (optional)
- * PRECAUTIONARY/PREPAREDNESS ACTIONS



Click the marine product to the right to see a current example of the above format.

Lastly, all Small Craft Advisory (SCA) headlines issued by all NWS offices have been consolidated into just one SCA headline. These changes were based on a [public survey](#) that began in 2017, and the results of the survey indicated that a majority of users favored these changes.

The following SCA headlines have been consolidated into one SCA headline:

Small Craft Advisory Small Craft Advisory for Rough Bar
 Small Craft Advisory for Hazardous Seas Small Craft Advisory for Winds

Coastal Hazard Message
 National Weather Service Charleston SC
 350 AM EST Fri Dec 13 2019

SCZ048>050-131600-
 /O.NEW.KCHS.CF.Y.0094.191213T1200Z-191213T1600Z/
 Beaufort-Coastal Colleton-Charleston-
 350 AM EST Fri Dec 13 2019

...COASTAL FLOOD ADVISORY IN EFFECT FROM 7 AM TO 11 AM EST THIS MORNING...

* **WHAT**...Up to one half foot of inundation above ground level expected along shorelines and tidal waterways (7.1 to 7.3 feet Mean Lower Low Water at Charleston).

* **WHERE**...Coastal southeast South Carolina including down town Charleston.

* **WHEN**...From 7 AM to 11 AM EST this morning.

* **IMPACTS**...This could result in some roads becoming impassable.

* **ADDITIONAL DETAILS**...High tide will occur around 8:20 AM today at Charleston. Saltwater inundation will be possible 1 to 2 hours before and after high tide.

PRECAUTIONARY/PREPAREDNESS ACTIONS...

If travel is required, allow extra time as some roads may be closed. Do not drive around barricades or through water of unknown depth. Take the necessary actions to protect flood-prone property.



Unmanned Aerial Systems Program: Viewing Storm Damage from Above

by Ron Morales - Warning Coordination Meteorologist

Over the past several years, the National Weather Service (NWS) Office in Charleston, SC has been working diligently on trying to find ways to obtain aerial imagery of storm damage from Unmanned Aerial Systems (UASs)/drones. Why is aerial imagery so important? In short, viewing storm damage, especially tornadic damage, can be easier to see from above than when on the ground.



3DR Solo Quadcopter Drone

During the first several years of our journey to obtain UAS aerial imagery, it seemed the only viable option was to acquire it from other agencies that may have flown their own drones over the damage area and were willing and able to share it with the NWS. However, over the past year, both our office and the NWS Office in Blacksburg, VA have been approved for a Pilot Project that will allow our two offices to obtain and operate our own drones, primarily for assisting with our storm damage surveys. Currently, no other NWS office has formal approval from our parent agency, the National Oceanographic and Atmospheric Administration (NOAA), to fly their own drones, which makes this initiative historic for the NWS!

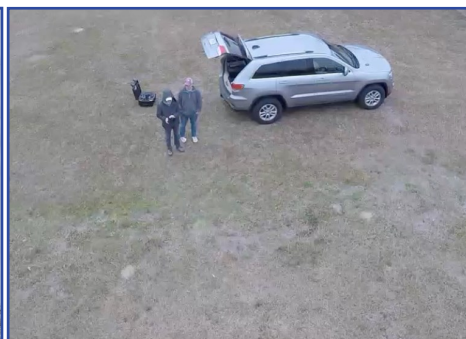


Remote Pilot Class Exercise at
Piedmont Virginia Community College

Three individuals from each NWS Pilot Project office have not only completed a week long Remote Pilot Airman Course at Piedmont Virginia Community College (PVCC) but have also acquired their [FAA Part-107](#) small UAS Pilot certifications. Part 107 is short for "Part 107 to Title 14 Code of Federal Regulations." This certification allows routine civil small UAS (< 55 lbs.) operations in the National Airspace (NAS). We are working closely with NOAA's

Office of Marine and Aviation Operations (OMAO) and Aircraft Operations Center (AOC) throughout our project to develop guidelines, policies and procedures for operating our small UAS specifically for surveying storm damage. Going forward, we will continue to participate in practice flights to help hone our piloting skills. In the event a damage survey is needed in 2020, we will be ready to put this technology to use!

Images from NWS Charleston's December 2019 practice flight near Summerville, SC.



Southern Winter Storms: Unique Forecasting Challenges

by Steve Rowley - Science and Operations Officer

Just north of 30 degrees latitude, most of our winters pass with little more than brief episodes of cold temperatures and perhaps a few snowflakes. So, our daily activities do not routinely account for the more dangerous, wide ranging disruptions caused by major winter storms. Since winter storms remain uncommon here, the societal impacts of snow/ice events are magnified in our region as compared with northern communities where winter storms are part of daily life. For National Weather Service meteorologists who serve warmer climates, these rare winter storms pose unique challenges.

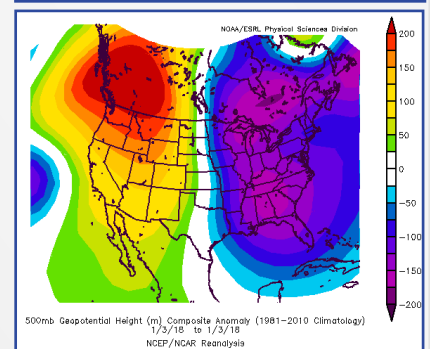
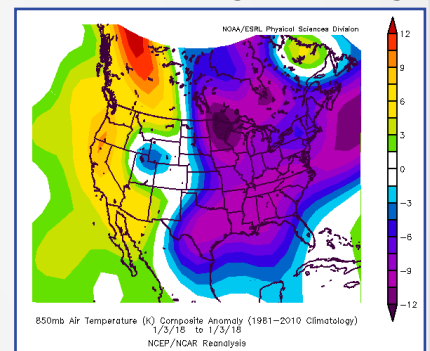
Why are winter storms so infrequent in our region? Simply put, very cold air and ample moisture rarely arrive here at the same time; one of these ingredients is usually exiting as the other enters our area. However, our weather history is punctuated by historic winter storms produced by this uncommon meeting of cold air and moisture.

Some of you reading this article may recall storms which blanketed parts of our region with heavy snow in [February 1973](#) and [December 1989](#). More recently, during the past 13 winters, we have experienced five major winter storms featuring some combination of snow and ice, which disrupted our lives with dangerous travel conditions, hazardous cold temperatures, power outages and tree and structure damage. That works out to a major winter storm only about once every 2.5 years, even accounting for the ice storms which occurred within a 2 week period during January and February 2014. Due to the relative rarity of winter storms - in stark contrast to our more common experience with mild weather during our winter months - even recent winter storms can fade from our collective memory. This limited exposure to dangerous winter storms influences meteorologists as well as our wider society: you probably don't frequently contemplate winter storms, and local NWS forecasters devote much of the year immersed in weather that is far removed from the winter realm.

click images to enlarge

So, how do NWS Charleston meteorologists tackle the daunting task of forecasting unusual winter storms? These complex systems and the associated forecasts can change quickly, push the limits of predictability and always introduce some degree of uncertainty. Despite these complications, all winter storms exhibit common characteristics, and our seasonal preparation focuses on these basic, recurring ingredients. We have found that an annual review of these elements offers forecasters a guide for a thorough, systematic assessment of winter storm data, and this preparation has contributed to our recent successful forecasts for snow and ice storms.

First, we have identified basic weather patterns that favor winter storms in our region. For instance, the images to the right from the [January 3, 2018 snow storm](#) illustrate much colder than normal air over our region (top panel, purple shading) accompanied an unusually strong, deep upper low (bottom panel, purple shading).

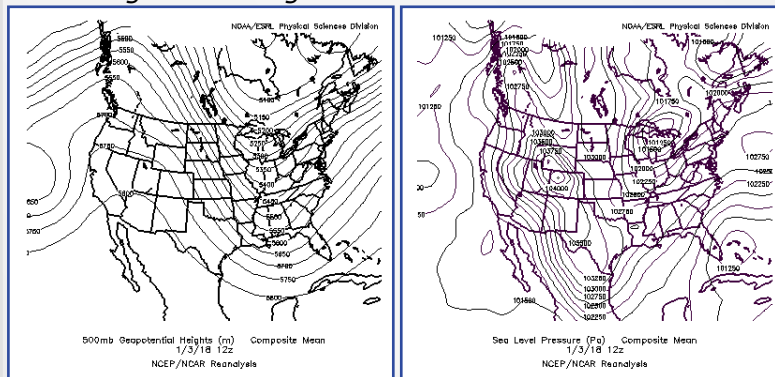


Southern Winter Storms - Continued

Also, the below images show the upper low (left panel) and surface low (right panel) that created the [January 2018 snow storm](#). When the surface low is forecast to track south and east of our area, as was the case during this storm, meteorologists recognize this pattern as a classic scenario for a southeast winter storm. Identifying these uncommon weather patterns in advance of winter storms builds the groundwork for an effective forecast.



click images to enlarge



Following this pattern recognition exercise, we encourage forecasters to pose a set of key, fundamental questions about impending winter storms. In the simplest terms, will moisture and cold air arrive at the same time over our region? For virtually all expected precipitation events in our vicinity, the answer is “no”, and we then proceed to forecast an upcoming rain event. However,

ever so often the answer is a jarring “yes” or a troubling “maybe.” For the forecaster, these alternate responses raise red flags about the potential for a low probability, high impact event, the defining characteristics of our worst winter storms. As a result, forecasters then ask more probing questions. Follow-up queries might include: will the temperature be sufficiently cold to produce freezing rain, sleet or snow? Cold air can travel into our area (usually from the north), can develop over our region due to forced upward motion (ascent) in the atmosphere or can be created by changing ice to water (melting) or changing water to water vapor (evaporation). If a combination of these processes produces ample cold air, will moisture support heavier wintry precipitation, which could accumulate on our roads? The combination of sub-freezing air and copious moisture sets the foundation for all major winter storms.

Answers to these basic questions open doors to more complex issues, and the evaluation continues. How is the cold air distributed horizontally (at the Earth’s surface) and vertically through the atmosphere? Will onshore winds push warmer air into the region? Will processes in the atmosphere promote strong lift (upward motion), which can increase precipitation intensity and amounts? How long will snow, sleet or freezing rain accumulate on roads? What is the chance that this storm could completely bypass our area or deviate from the latest forecast? Once meteorologists have identified the basic outline of the forecast challenge, attention turns to solving the rest of the puzzle – the critical “what, where and when” of the upcoming winter storm.

Thus, the Winter Storm Watches and Warnings and predictions of snow/ice accumulations, dangerous travel, unusually cold temperatures and power outages that we provide to you and your neighbors in southeast communities of South Carolina and Georgia represent the culmination of a systematic, practiced forecast process. These methods are always available in our forecaster “tool box,” even if our recollection the most recent snow or ice storm has faded with time.

NOAA Hollings Undergraduate Student Project: A Synoptic Climatology of Tropical Cyclones Affecting Southeast SC and Southeast GA

by Robert Bright - Meteorologist

This past summer, we had the great opportunity to host another [NOAA Hollings Undergraduate Student Scholarship](#) recipient, Abigail Pettett, from Texas A&M University. The main focus of her research was to expand the local tropical cyclone database to include climate indices, such as [El Nino Southern Oscillation \(ENSO\)](#) and the [North Atlantic Oscillation \(NAO\)](#). She examined all tropical cyclones that passed near our forecast area of southeast SC and southeast GA. The goal was to determine if any patterns existed which could aid in our forecaster's understanding of the more favorable conditions for local tropical cyclone impacts. Ultimately, we hope to use the information to improve our [impact-based decision support services](#) for our partners.

A few of the main research findings thus far include:

- ⇒ Although most tropical cyclones from 1950 to 2018 occurred during [La Nina](#) (i.e., cooler than normal ocean conditions in the Pacific Ocean), most of the tropical cyclones that affected the area early in the year, prior to the official start of the Atlantic hurricane season in June, occurred when El Nino conditions were present.
- ⇒ Most tropical cyclones from 1950 to 2018 during El Nino conditions developed closer to the local area in the Caribbean and Gulf of Mexico compared to during La Nina when most developed farther away in the Atlantic Ocean.
- ⇒ Most landfalling tropical cyclones in southeast SC/GA from 1950 to 2018 occurred during neutral (neither El Nino or La Nina) ENSO conditions, with a slight preference during El Nino compared to during La Nina. Furthermore, most landfalling tropical cyclones occurred during the positive phase of the [NAO \(North Atlantic Oscillation\)](#).
- ⇒ Most of the stronger tropical cyclones, in terms of wind speed, from 1950 to 2018 occurred during La Nina conditions.
- ⇒ Most tropical cyclones from 1950 to 2018, especially hurricanes, occurred during the positive phase of the NAO instead of the negative phase.
- ⇒ The combination of La Nina and positive NAO conditions lead to the most tropical cyclones from 1950 to 2018.

Although we are still analyzing some of the data, we plan to eventually incorporate key findings into our [local tropical cyclone history webpage](#).

Stay tuned!



In addition, Abigail shadowed NWS Charleston forecasters and assisted in balloon releases. Thanks Abby!

Application Period for Summer 2020 Volunteer Program Now Open!

by Emily McGraw - Meteorologist

National Weather Service Charleston, SC is now accepting applications for the Summer 2020 Volunteer Program! Competition for positions within NOAA's National Weather Service has increased in recent years, and it has proven beneficial for recent college students to have prior forecasting operational experience. This volunteer program allows current college students to gain hands-on operational experience in a Weather Forecast Office and conduct a guided research project focusing on the local forecast area.

This opportunity is open to students currently enrolled in an undergraduate or graduate program and majoring in Meteorology, Atmospheric Science or a related discipline.

For more information about the program and how to apply, head to our [Volunteer Webpage](#).



Applications are due February 15, 2020.

9th Annual NWS Week of Service: Coming Together to Give Back

by Emily McGraw - Meteorologist

The 9th Annual National Weather Service Week of Community Service was held September 29 - October 5, 2019. During the Week of Service, offices around the country make an effort to reach out to help those in need in their local communities. All of these events occur outside of normal working hours.



This year, National Weather Service Charleston, SC brought in donations for My Sister's House, a local organization that provides services and resources to empower victims of domestic violence to live free from abuse. Their vision is to end the cycle of domestic violence in the Charleston tri-county area and align with the South Carolina Coalition Against Domestic Violence and Sexual Assault (SCCADVASA) in the effort to end domestic violence in South Carolina.



The donations included cleaning supplies, non-perishable foods, and other miscellaneous household items that will be used at the shelter, as well as move-in kits for victims transitioning from the shelter to a loving home.

Check out the [2019 Week of Service](#) page to see how other National Weather Service offices came together to give back to their communities.

SKYWARN® Recognition Day

by Pete Mohlin - Meteorologist

Since it was first started in 1999 by the National Weather Service (NWS) and the American Radio Relay League (ARRL), [SKYWARN® Recognition Day](#) celebrates the contributions that SKYWARN® volunteers make to the NWS mission of the protection of life and property. It also recognizes the importance that amateur radio and amateur radio operators (HAMs) provide during severe weather and tropical weather.



For the last 20 years, the first Saturday of each December is recognized as SKYWARN® Recognition Day, and it strengthens the bond between Amateur Radio operators and the National Weather Service. It acknowledges the contributions of these public service volunteers who provide essential weather information as it's happening. Each year on the first Saturday in December, the day honors those volunteers, and their efforts to keep their communities safer by communicating NWS warnings to others, and sharing with us reports of severe weather that they have received.

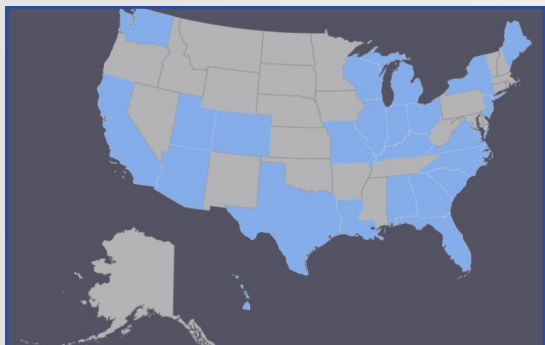
Around the country, nearly 290,000 Skywarn® weather spotters and amateur radio operators volunteer their time. As members of their community, they are vital resources both locally and on a national basis. The Amateur radio operators also provide important communication between the NWS and emergency management if normal communications become inoperative. During the SKYWARN® Recognition Day, amateur radio operators visit NWS offices and contact other radio operators across the world.

2019 SKYWARN® Recognition Day at NWS Charleston:

On December 6 and 7, 2019, from 7 pm Friday until 7 pm Saturday, several HAM Radio Operators came to our office and participated in the 2019 SKYWARN® Recognition Day. There were 8 volunteers, led by Bobby McBride, that spent the 24 hour period making a total of 206 contacts to other operators around the United States, Canada and even in Australia. Bobby and others have been participating in SKYWARN® Recognition Day at NWS Charleston each December since 2002. We thank them immensely for their outstanding efforts year after year.

In total, contacts were made by our volunteers in 24 different states during the 2019 SKYWARN® Recognition Day. One of the contacts in Texas was the USS Lexington in Corpus Christi.

Below is a map of all the states (in **blue**) that the HAM Radio Operators from our office were able to make contact.



To learn more about becoming a SKYWARN® Storm Spotter:

Check out the [NWS SKYWARN® webpage](#) or our [local webpage](#) for details. From our local webpage, you can see if a [SKYWARN® Storm Spotter Training Session](#) is scheduled in your area.

Thank you to all our SKYWARN® Storm Spotters!

Want to Join an Observing Network?

You can help support warnings, forecasts and build a climatological database by becoming a volunteer weather observer. [COOP](#) and [CoCoRaHS](#) observers provide invaluable weather data to meteorologists, climatologists, and many more. See details below to learn which observing network might be right for you!

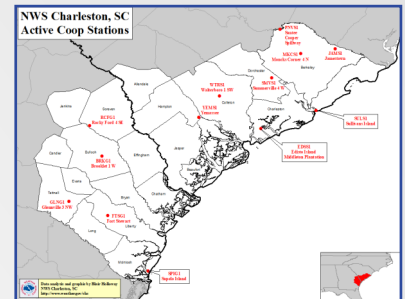
Cooperative Observer Program (COOP)

by *Rebecca Davidson - Meteorologist*

COOP formally began in 1890 and consists of individuals that take observations every day. The observations include maximum, minimum and current temperatures, as well as rain and snow measurements. The sites range from automated, to family run, to institution based. By having observers, the National Weather Service is able to obtain data in rural areas, mountains, islands and large cities. The data observers report is crucial to understanding our climate.

Currently, our office has 13 COOP observers/sites that are consistently taking observations on a daily basis. Our Yemassee observer has been taking observations for 31 years, while our Jamestown site has been in service since 1963. If you are interested in becoming a COOP observer, contact us at 843-747-5860 or by email at nws.charlestonsc@noaa.gov.

click map to enlarge



"It has been an honor and privilege to serve NOAA for the past 30 years."

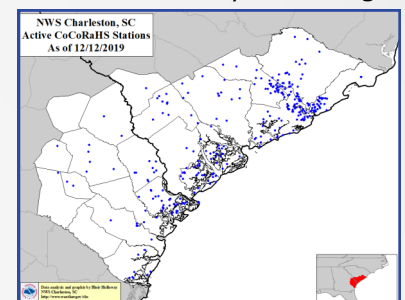
*Jean - Observer since 1988
Observing site since 1963
Jamestown, SC*

Community Collaborative Rain, Hail & Snow (CoCoRaHS)

by *Julie Packett - Administrative Support Assistant*

CoCoRaHS is a non-profit, community-based network of volunteers of all ages and backgrounds working together to measure and map precipitation. Volunteers take daily rain, snow and hail measurements in their backyard and report their observations online. As of 2019, CoCoRaHS is in all fifty states and has over 20,000 active observers in the U.S., Canada, Puerto Rico, the U.S. Virgin Islands and the Bahamas. In the NWS Charleston forecast area, over 300 active CoCoRaHS observers contribute to the daily weather puzzle!

click map to enlarge



"Being a CoCoRaHS contributor has been rewarding for me in many ways. My daily observations combine with others to portray the weather as it moves across the landscape. I feel a sense of community with the other volunteers and look forward to seeing their daily reports and comments. The ten years of annual summaries of my reports are useful to me in recalling individual events and better understanding the climate here."

I'm glad I decided to become a CoCoRaHS volunteer."

Observer since 2008 - GA-BR-2



CoCoRaHS March Madness

Each March, CoCoRaHS hosts a friendly recruiting contest between all 50 states to see who can recruit the most new volunteers. South Carolina took home the CoCoRaHS March Madness Cup in 2019 with 166 new volunteers!

For more information about CoCoRaHS and how to become a volunteer observer, Check out our [local CoCoRaHS webpage!](#)

Weather-Ready Nation Ambassadors & 2019 Ambassador of Excellence

by Emily McGraw - Meteorologist & Ron Morales - Warning Coordination Meteorologist

Weather-Ready Nation (WRN) Ambassadors are a vital part in improving the nation's readiness, responsiveness, and resilience against extreme weather, water, and climate events. WRN Ambassadors are comprised of organizations, businesses, academia, and more who are committed in spreading the weather safety and preparedness message. Locally, NWS Charleston, SC has over 75 WRN Ambassadors! Check them all out on our [local webpage](#).



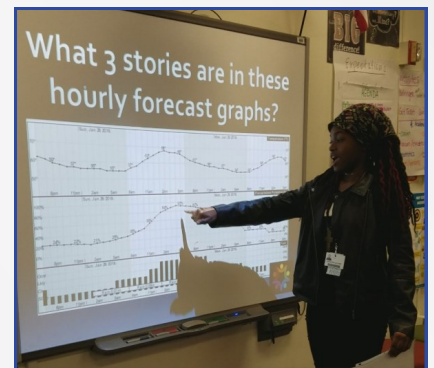
2019 WRN Ambassador of Excellence:

Each year, NWS formally recognizes Ambassadors who have made significant contributions to building a Weather-Ready Nation. We'd like to congratulate Kids Teaching Flood Resilience (KTFR) on being our [2019 Ambassador of Excellence](#).

One of the most efficient and effective ways to tackle the challenge of helping to make ALL of the citizens of our country more Weather-Ready, is by educating our school children. KTFR is a collective impact project being facilitated by Dr. Merrie Koester of the University of South Carolina Center for Science Education. This outreach is taking place in schools serving low income neighborhoods that are highly vulnerable to extreme weather hazards like flooding. KTFR positions youth as vital resources of knowledge and hazard resilience on behalf of their communities. They are learning what to Notice, Know, and Do in the event of an extreme weather event. Please DO share this music video, "[Step Up, Get Ready, Respond!](#)" created with students at Simmons Pinckney Middle School!



In addition, Dr. Koester worked with NWS Charleston meteorologists to develop the weather science curriculum for this emerging outreach effort. Recently, a bilingual KTFR/WRN program called "Get Listo!" was developed with Latino students at Stall High School.



How to become a WRN Ambassador:

If you'd like your organization or business to join the initiative, [sign up here](#) or email [Emily McGraw](#) for more information. You can also check out our [local webpage](#) to see all of our WRN Ambassadors in the area.

We'd like to thank all of our WRN Ambassadors for their efforts!

Thank you to our NWS Charleston Weather Ready Nation Ambassadors!

- | | | |
|--|--|--|
| ABC News 4 | Chucktown Wind Report | Liberty County EMA |
| AECOM | Coastal Heritage Society | Long County Emergency Management |
| American Red Cross of Southeast & Coastal Georgia | Coastal Millwork and Supply, LLC | Lowcountry CERT |
| Anderson Insurance Associates | College of Charleston | Lowcountry Healthcare Coalition |
| Atlantic Business Continuity Services | College of Charleston American Meteorological Society | Maritime Bureau, Inc. |
| Awendaw McClellanville Fire Department | Colleton County Fire-Rescue | Metter Fire-Rescue |
| Beaufort County Broadcast Services | Crescent Insurance Advisors | MUSC Health |
| Beaufort County Economic Development Corporation | Dorchester County Emergency Management Department | My Sister's House |
| Beaufort County Sheriff's Office Emergency Management | Dunes West POA | Newport HOA (Port Wentworth, GA) |
| Ben Pogue Law | Effingham County ARES | Palmetto Bluff Conservancy |
| Boeing South Carolina | Effingham County Emergency Management Agency | PASOs and BJHCHS, Inc. |
| Bulloch VOAD | Emlaw Academy | Patriots Point Fire/Life Safety Division |
| Burke High School | Etiwan Pointe Condominium Council of Owners, Inc. | Pinewood Preparatory School |
| C.T. Lowndes & Company | Filos Tile Installers | Queen's Grant Property Owner's Association |
| Candler County Sheriff's Office Emergency Management | Fort Pulaski National Monument | Roper St. Francis Healthcare |
| Carolina SportsCare and Physical Therapy | Georgia Southern University | Savannah Skin & Pathology, LLC |
| Charleston Amateur Radio Society (CARS) | Great Atlantic Corporation | Simpson Construction |
| Charleston County School District | Grice Connect | Slack Tide Studio |
| Charleston County Park and Recreation Commission | Hampton County Emergency Management | South Carolina State Climatology Office |
| Charleston Junior Woman's Club | Home Owners Association of Long Creek Plantation | Summerville Elks Lodge #2719 |
| Charleston RiverDogs | Hunt Club Community Weather Station | The Citadel |
| Charleston Water Taxi | Jasper County Emergency Services | The Sign Chef |
| Charleston Weather / @chswx | Joint Base Charleston 628 CES/CEX | Town of James Island |
| Chatham Emergency Management Agency | Kids Teaching Flood Resilience/USC Center for Science Education | Town of Mount Pleasant |
| Coastal Health District (GA Dept of Public Health) | Laing Middle School of Science and Technology | Trident Technical College |
| | LEADistics, LLC | Triple-T Truck Centers |
| | | United States Army Corps of Engineers - Savannah District |
| | | WCBD News 2 |
| | | West Point Subdivision Social Committee |

**National Weather Service
Charleston Weather Forecast Office
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North Charleston, SC 29406
(843) 747-5860
www.weather.gov/chs**

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