NATIONAL WEATHER SERVICE

NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION

STORM COURIER

Charleston, SC

Weather Forecast Office

Inside this issue:

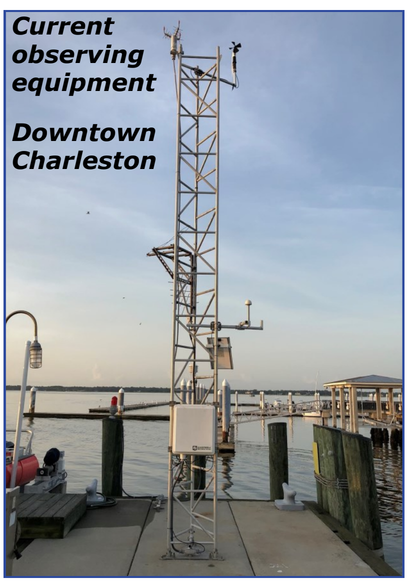
Help Us Improve - Take Our [Newsletter Survey]

Climate Site Receives Centennial Designation

by Emily McGraw - Meteorologist

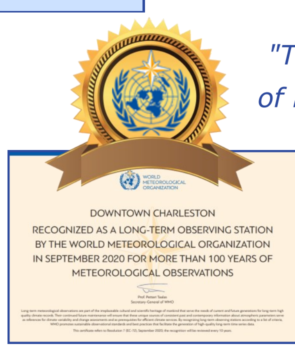
In September 2020, the World Meteorological Organization (WMO) recognized the Downtown Charleston climate site as a Centennial Observing Station. Nominated by governments, these protected sites provide quality-controlled, long-term meteorological observations that are not only vital for weather forecasting, but also for understanding the variability and change of Earth's climate. In addition, the records provide a unique perspective on the evolution of instrumentation and weather observing methods.

WMO began formal recognition to stations in 2016, and Downtown Charleston is now one of only eight stations in the country, 234 in the world, with this designation. While continuous records did not begin here until the mid/late 1800s, the first informal observations were taken in the 1700s - over 250 years ago. Automated observations continue at the site today.



Current observing equipment

Downtown Charleston



"These long-term measurements...are the backbone of both weather forecasting and climate science. It is highly important that we ensure the long-term sustainability of these measurements."

Prof. Petteri Taalas, Secretary-General, World Meteorological Organization

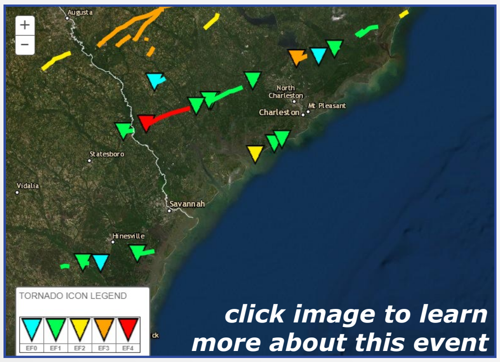
To learn more about Centennial Observing Stations, head to the [WMO webpage] or check out this informative [video].

If you're interested in the history of observations in the Charleston and Savannah area, check out these timelines: [Charleston] | [Savannah].

Historic April 13, 2020 Tornado Outbreak

by Steve Rowley - Science and Operations Officer

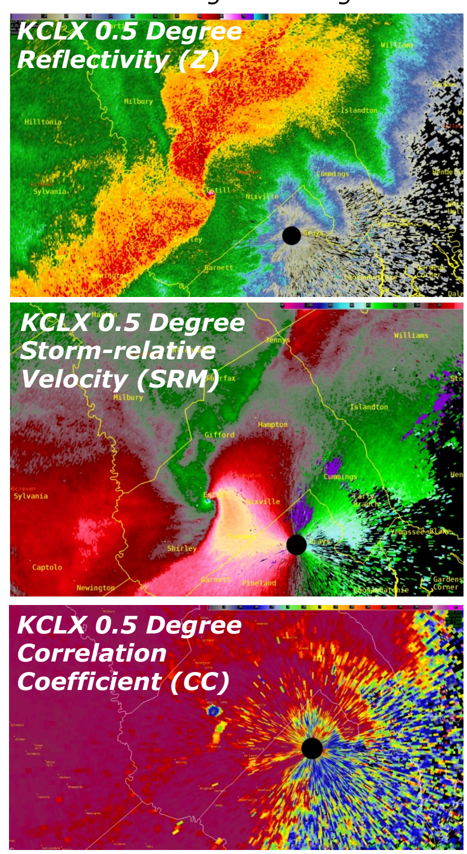
While tornadoes occur virtually every year within the NWS Charleston SC service area, most of these tornadoes are isolated, short-lived, and of EF-0 or EF-1 strength. However, ahead of a cold front and during the early morning hours of April 13, 2020, an ideal environment for damaging, long-tracked tornadoes spread across the forecast area. The unusual combination of warm/moist air and intense winds spawned an unprecedented outbreak of 16 tornadoes and widespread, damaging thunderstorm winds.



Incredibly, a single, tornadic supercell thunderstorm tracked across inland counties and produced a family of 9 tornadoes, ranging from EF-0 to EF-4 intensity. The first tornado, an EF-1, touched down just before 6:00 am in rural southeastern Screven County, GA. Over the next couple of hours, this long-lived supercell produced tornadoes and straight-line wind damage across parts of Hampton, Colleton, Dorchester and Berkeley Counties in SC.

Radar Images of EF4 Tornado in Hampton County, SC

click image to enlarge



Most notably, a deadly, unprecedented EF-4 tornado with estimated winds as high as 180 mph tore a path almost 25 miles long across southern Hampton County, SC. Sadly, this tornado produced 5 fatalities and destroyed/damaged many homes and other structures. This was the first EF-4 tornado ever documented within South Carolina counties served by NWS Charleston.

Later on, this same supercell produced 3 tornadoes in Colleton County, SC, including an EF-1 in and around Walterboro that damaged hangars and tossed planes at the Lowcountry Regional Airport. Also in Walterboro, a tree blown down by damaging thunderstorm wind fell on a residence and caused the 6th fatality of the outbreak. This supercell thunderstorm then continued to produce EF-1 tornado damage, as well as episodes of impressive straight-line wind damage across Colleton and Dorchester Counties. Then, this supercell plowed into Berkeley County SC and produced an EF-3 tornado, which touched down just southeast of Moncks Corner, SC, crossed Route 402 near Cordesville, SC, and continued east into the Francis Marion National Forest. Finally, this long-lived supercell thunderstorm produced 2 additional brief, EF-0 and EF-1 tornadoes in rural areas of central and eastern Berkeley County. An EF-1 tornado touched down near State Route 45, south of Jamestown, SC, just before 8 am, before this supercell crossed the Santee River and continued to produce tornadoes.

April 13th Tornado Outbreak - Continued

While the tornadic supercell that tracked from Screven County, GA, through Berkeley County, SC, produced many reports of tornado and straight-line wind damage as well as fatalities and injuries, the geographic spread of this event provided unique challenges for NWS Meteorologists. Other supercell thunderstorms produced tornadoes of EF-0 to EF-2 intensity in locations as far separated as Edisto and Kiawah Islands on the SC coast, Long, Liberty and Bryan Counties in GA, and in rural areas of eastern Allendale County, SC.

This incredible event serves as a stark reminder that deadly tornado outbreaks, although exceedingly rare in our region, can still develop and wreak havoc across the southeast United States, especially during the spring and autumn months.

Damage Images from NWS Charleston's April 13, 2020 Storm Damage Survey

For more information, visit the our [Significant Weather/Climate Event Archive page](), which includes a detailed summary of the [April 13, 2020 tornado outbreak]().

The Storm Damage Survey Process & How Drones Fit In

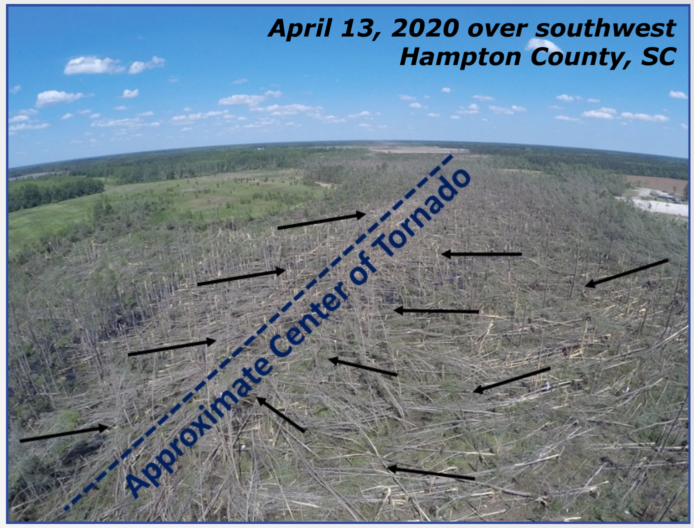
by Ron Morales - Warning Coordination Meteorologist

Beginning in January 2020, the National Weather Service (NWS) Offices in Charleston, SC and Blacksburg, VA officially began a Pilot Project to determine the utility of flying small Unmanned Aerial Systems (UAS) to assist with storm damage surveys. We are the first two NWS offices approved by NOAA to operate our own drones for storm damage surveys! Between practice and operational missions, we have logged just under 10 hours of flight time to date.

We got our first chance to use our drone to survey storm damage following the April 13, 2020 tornado outbreak, which impacted much of the southeast United States. Although there were 16 separate tornado damage paths that were produced across our forecast area, time and staffing constraints allowed us to use the drone for only five of those paths. Overall, the drone proved very useful, especially when it came to viewing damage over very remote and/or areas inaccessible by foot.

How Drones Fit In - Continued

Being able to "see" remote areas allowed us to get a more accurate depiction of the true extent of the tornado damage path on the ground. Also, being able to view the damage from above made it easier to distinguish whether the damage was caused by tornadic or straight line winds. The image to the right shows a portion of an EF-3 tornado path from the April 13th event over Hampton County, SC. In this image, you can clearly see that the trees fell in a convergent (coming together) pattern.



Damage Images from NWS Charleston's April 13, 2020 Storm Damage Survey

What happens during a storm damage survey?

To start, storm damage surveys can be one of the most stressful tasks performed by a local forecast office, mainly because we typically must organize and mobilize a storm damage survey team within 12 hours or less of an event. Not all storm damage rises to the level of requiring a survey from our office. Typically, when damage is relatively widespread and severe, it will get the attention of local or national media, prompting our office to conduct a survey.

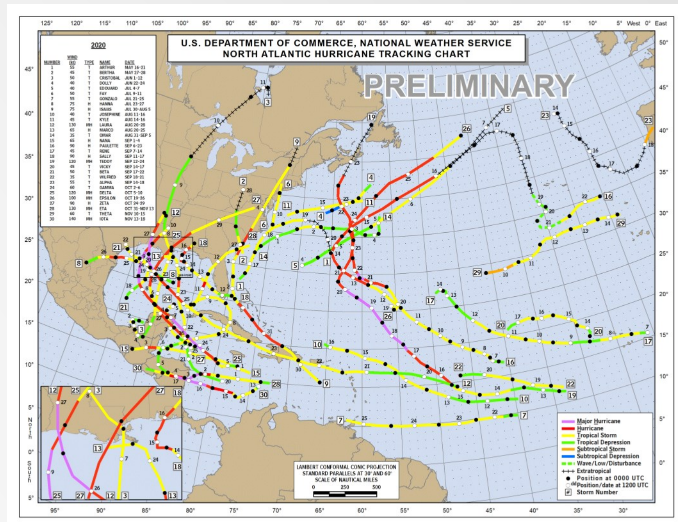
The main goal of a survey is to figure out whether the storm damage was due to a tornado or straight line wind (more common). For tornadoes, we make an estimate of the maximum winds, along with the damage path length and width. Surveying just one area of storm damage can easily take 10-15 hours to complete, including travel to/from the damage site, performing the ground and air survey, and compilation of the final storm survey report. Adding the logistics for a drone operation on top of the foot/ground survey has admittedly increased the amount of preparation time and resources needed for a typical damage survey. However, the benefits have far outweighed the negatives.

We would like to thank NOAA's Aircraft Operations Center (AOC), and NWS national and regional headquarters for their continued support of this project.

The SC Lowcountry & GA Coastal Empire Spared During Record-breaking 2020 Atlantic Hurricane Season

by Robert Bright - Meteorologist

click image to enlarge



Thanks mostly to warmer than normal ocean temperatures and weak La Nina conditions, the 2020 Atlantic hurricane season was the 6th consecutive above normal season, including a record 30 named storms as well as the most continental U.S. landfalling storms (12). It also tied for the 2nd most major hurricanes (Category 3 or higher) in a season, one of which (strong Category 4 Hurricane Iota) became the most intense storm on record so late in a season (mid-November). Furthermore, 10 tropical storms developed in September, the most of any month on record. Fortunately, the South Carolina Lowcountry and Georgia Coastal Empire were spared from significant impacts, unlike the Gulf Coast where 5 hurricanes made landfall. This year was certainly a great reminder that localized impacts are pretty much independent of the overall activity across the entire Atlantic basin (Atlantic Ocean, Caribbean Sea and the Gulf of Mexico).

For the 6th year in a row, the season started prior to the official beginning on June 1 as Tropical Storm Arthur formed off the east coast of Florida. Fortunately, the storm stayed well enough away to not cause any impacts to the Lowcountry/Coastal Empire. However, not too long after that in late May was Tropical Storm Bertha, which developed quickly just off the SC coast before coming ashore at Isle of Palms. Although not strong or large enough to cause significant impacts, this storm was a great reminder of just how quickly tropical systems can develop and affect land. In early August we saw another close call when Tropical Storm Isaias tracked north off the GA and southern SC coasts before strengthening to a Category 1 hurricane about 50 miles east of Charleston. Then in September we got a taste of how even distant storms can bring significant impacts as the remnants of Hurricane Sally, passing northwest of the area through central GA/SC, caused two EF-1 tornadoes across our forecast area.

click image for video loop

For more information, check out NOAA's Article on the 2020 Atlantic Hurricane Season and our local Tropical Cyclone History webpage.

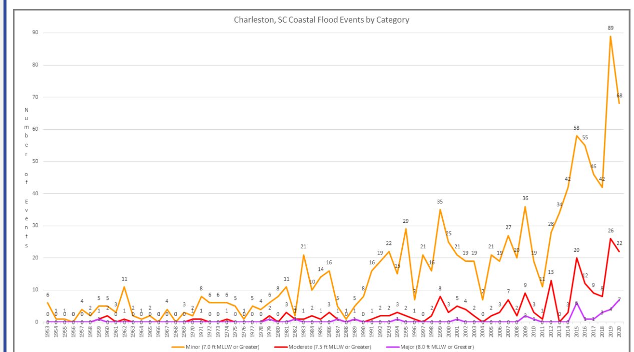
Another Busy Year for Coastal Flooding

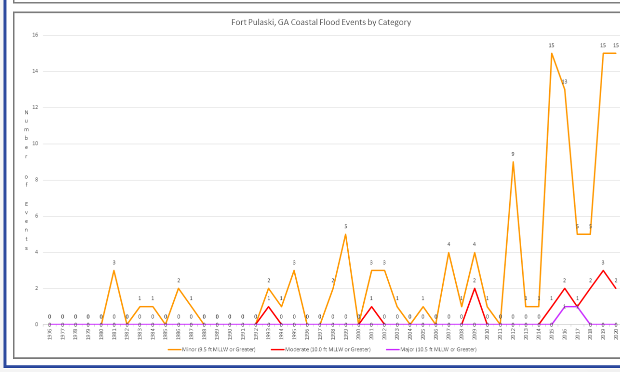
by Blair Holloway - Meteorologist

As the first year of the new decade has passed, 2020 brought another record setting year for coastal flooding to the southeast South Carolina and southeast Georgia coast. At the Charleston Harbor tide gauge, the coastal flood threshold is 7.0 feet (ft) Mean Lower Low Water (MLLW), and high tide reached or exceeded this height 68 times. This ranks as the 2nd most on record (dating back to 1953), only trailing 2019 when it occurred 89 times. Furthermore, high tide reached or exceeded 7.5 ft MLLW (Moderate flood category) 22 times, which also only trails 2019 when it occurred 26 times. Finally, the tide level reached or exceeded 8.0 ft MLLW (Major flood category) 7 times which is a new annual record. The previous record was 6, which occurred in 2015 and 2019. Interestingly, of the 7 high tides of 8.0 ft MLLW or higher, none were attributable to a tropical cyclone.

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

click graph to enlarge





At the Fort Pulaski tide gauge, the coastal flood threshold is 9.5 ft MLLW, and high tide reached or exceeded this height on 15 occasions. This ties 2015 and 2019 for the most on record (dating back to 1976). High tide reached or exceeded 10.0 ft MLLW (Moderate flood category) 2 times, which is tied for the 2nd most on record (2009, 2016, and 2018). The record remains 3 from 2019. Tide levels did not exceed 10.5 ft MLLW (Major flood category) in 2020. As a reminder, the flood categories for the Fort Pulaski tide gauge were increased on 5/1/2020. The Minor flood category was raised from 9.2 to 9.5 ft MLLW, Moderate flood category increased from 9.6 to 10.0 ft MLLW, and Major flood category went from 10.0 to 10.5 ft MLLW. These changes were made to better reflect the impacts from flooding following collaboration and coordination with customers and partners along the southeast Georgia coast.

For a more detailed look at the history of coastal flooding at various tide height thresholds for Charleston Harbor and Fort Pulaski, be sure to check out our Coastal Flood Event Database web page. Also, NWS Charleston routinely makes tide forecasts for Charleston Harbor and Fort Pulaski, providing an excellent way to monitor tide levels and prepare for upcoming coastal flooding.

CONTACT US

If you ever come across flooding associated with a high tide, be sure to let us know. 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).

The Challenge of Probabilities

by Steve Rowley - Science and Operations Officer

You've probably heard statements such as, "chance of rain, 30 percent," for as long as you've been seeking weather forecasts. These common declarations seem simple, but probability statements actually offer many layers of important information. Why does the National Weather Service use probability terminology, and, more importantly, what do these probabilities really mean?

Every weather forecast of any quantity - such as rainfall, snowfall, temperatures, wind speed - contains elements of uncertainty. Also important, all probabilities refer to a specified time period (an hour, a 12 hour period, or a calendar day) and a defined geographic location (your yard, community, county, or state). Accounting for all these variables, meteorologists express probabilities to classify the degree of forecast uncertainty. For example, in the simplest terms, a typical forecast states that at any given location within a defined geographic area, there is a 30 percent chance for measurable rainfall (more than a trace of rain) during a specified time period. Most commonly, you can interpret this to mean that during a 12 hour period, say 8 am to 8 pm, there's a 30 percent chance for measurable rainfall for your location. However, this also states that there's a 70 percent chance that you will *not* receive measurable rainfall at your location during the same 8 am to 8 pm time period.

Keep in mind, all weather events, regardless of what the earlier forecast may have stated, eventually either occur (100 percent probability) or do not occur (zero percent chance). Thus, the 30 percent chance of rain in the morning forecast will always become either 100 percent or zero percent for any time and location. So, why don't meteorologists simply forecast probabilities of zero or 100 percent? What's the use of all the numbers in between these extremes? Perhaps some simple techniques can help answer these questions.

The most useful way to understand and incorporate probability into your plans is to adopt an interpretation strategy – a quicker way to "read between the lines." For example, for any specified time period and defined geographic location, you could approximately translate "probability of rain" to "coverage of rain showers." Consider a typical summer afternoon in our area when a normal chance for a thunderstorm might be 20-30 percent at any given locale. If thunderstorms cover 20-30 percent of a defined region (such as a county), that means that 70-80 percent of this same region will remain rain-free. Now, if the forecast states a 50-60 percent chance for thunderstorms, that's really a forecast of above-average thunderstorm coverage for any given summer day. In this case, the forecaster has identified factors that favor greater-than-normal coverage of thunderstorms. The forecast may explicitly state 50 percent – and in football parlance that may seem like a "punt" – but in reality this deserves your consideration and anticipation. In this instance, by "reading between the lines" you should be prepared for, not be surprised by, a thunderstorm at your location.

For rare, extreme events such as hurricane-force winds, 10 to 15 inches of rain, or tornadoes, any probability that exceeds zero percent, even only a 5-10 percent chance, warrants your heightened attention. These events are exceedingly infrequent and will

The Challenge of Probabilities - Continued

often not justify the high probability (say, 80 percent chance) that you would prefer to see before you take action, for instance, 3 to 5 days before the significant event. As an illustration, the 5 percent chance for a tornado (a 95 percent chance for no tornado) sounds highly unlikely but is actually well above the "normal" chance for a tornado.

This discussion barely touches the tip of the probability iceberg. In the coming years, the National Weather Service will expand the use of probabilities in weather forecasts. In our view, why should we provide you with forecasts that do not account for inevitable uncertainty, such as single low temperature next Tuesday night or single snow accumulation next Wednesday, when we can provide a more realistic story by offering you a reasonable range of possibilities?

Water Level Forecasts: Terminology & Products

by Robert Bright - Meteorologist

Flooding can come from freshwater sources, like rain and rivers, as well as saltwater sources. Forecasting each of these separately can be challenging enough, let alone when one or more occur together. The ultimate goal is to be able to predict the "total" water level (i.e., the combination of water levels from all sources). Total Water Level forecasts are in MLLW (mean lower low water) datum values. MLLW represents the mean level of the lowest of the 2 daily low tides and is used since it is well known to the marine community.

Throughout the year, NWS Charleston forecasts the tide levels for 72-hours into the future at the National Ocean Service (NOS) tide gage sites at Charleston Harbor, SC and Fort Pulaski, GA relative to the mean lower low water (MLLW) tidal datum. These forecasts, are available online through the Advanced Hydrologic Prediction Service (AHPS). The NWS currently produces additional types of water level forecasts during tropical events using different datums that can lead to some confusion to the customer. A summary of these datums follows:

MHHW/MSL- MLLW can be converted to other tidal datums such as mean higher high water (MHHW) or mean sea level (MSL) using the site-specific datum conversions available through the NOAA Tides and Currents website. In tidal areas, the MHHW level is a proxy for the amount of inundation or the depth of water above ground level (AGL).

Inundation- Over land, ground level is considered the actual level of the ground. During tropical systems that could pose a risk of storm surge, the NWS provides forecasts of the amount of inundation. For example, a forecast of 3 to 5 feet of inundation means that the water level could reach 3 to 5 feet above the ground. These forecast include the astronomical tides so no extra adjustments to the forecast are needed. If you're looking to get an idea of how much inundation to plan for, you should check out the Potential Storm Surge Flooding Map, but keep in mind that this is best used earlier in an event when forecast confidence is usually lower and may not be totally representative for all areas during the entire event.

NWS Charleston Waterspout Research

by Pete Mohlin - Meteorologist

Waterspouts are a natural phenomena that occur in the National Weather Service Charleston forecast area, and in 2020, Meteorologists Doug Berry and Peter Mohlin teamed together to develop a local waterspout project to determine just how frequently they occurred, where they occurred, and when they occurred.

Data was collected from the NCEI Storm Events Database regarding the date, time, location and any specific information on all reported waterspouts in the forecast/ warning area going back to 1956. Furthermore, the data obtained was then made into numerous images showing not only the location of each waterspout, but also breaking down the waterspouts to show the spatial distribution of the criteria (including the time of day, weekly, bi-weekly, monthly and yearly). For an example, check out this image of all waterspouts during the month of June from 1956 to 2020.

Standout Waterspout Data from NCEI

(1956 to 9/17/2020, the last report of a waterspout in the area)

- There have been 236 waterspouts reported (both non-tornadic and tornadic***)
- There have been 15 tornadic waterspouts reported
- There have been no waterspouts reported during January or February
- Most waterspouts were reported between 9AM to 1159 AM (89 waterspouts) followed by 6AM to 859 AM (76 waterspouts)
- July has experienced the most reported waterspouts (79 waterspouts) followed by August (68 waterspouts)
- The most waterspouts reported in a calendar month was July 2017 and June 2019 (11 waterspouts in both months)
- The most waterspouts reported in a calendar year was 2015 (22 waterspouts) followed by 2009 (21 waterspouts)
- The earliest non-tornadic waterspout reported is April 21st
- The latest non-tornadic waterspout reported is November 7th

***Waterspouts fall into two categories: non-tornadic waterspouts and tornadic waterspouts. Non-tornadic waterspouts usually form along the dark, flat bases of a line of developing cumulus clouds. They are generally not associated with thunderstorms. Tornadic waterspouts are tornadoes that form over water or move from land to the water. They have the same characteristics as a land tornado. They are associated with severe thunderstorms and are often accompanied by hazards such as strong winds, large seas, hail and frequent lightning. While tornadic waterspouts develop downward in a thunderstorm, non-tornadic waterspouts develop on the surface of the water and work their way upward to the cloud base.

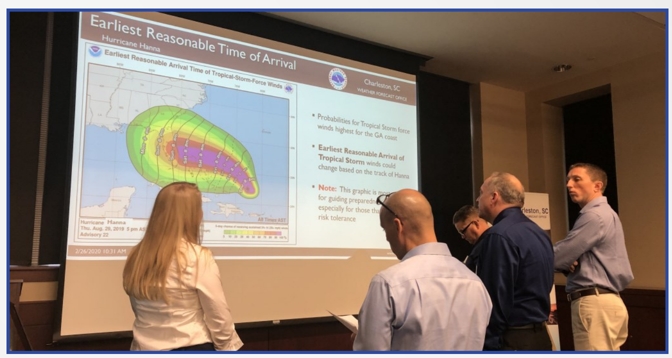
Each year as waterspouts develop, they will be included in this database and updated through the season. Data from this project will be utilized for forecasts and warnings, as well as for use in research, either on station or outside the office.

Strengthening Our Partner Relationships

by Ron Morales - Warning Coordination Meteorologist

Last February, just before COVID-19 significantly changed how we could interact with our partners, the National Weather Service (NWS) in Charleston led an Integrated Partner Workshop (IPW, also sometimes referred to as an Integrated Warning Team meeting). This workshop was hosted by the Department of Public Safety and Emergency Management on the campus of the University of SC in Beaufort, SC.

Attendees at the workshop represented a wide range of backgrounds, including, but not limited to: local, county, and state emergency management, TV and print media, NOAA's Office of Coastal Management, U.S. Corp of Engineers, Coast Guard, and staff from surrounding National Weather Service Offices. Given there was no particular theme to the workshop, the agenda was free to cover a wide spectrum of topics, including NWS Decision Support Services and Messaging of High Impact Events, Hydrology, Coastal Flooding, and Tropical Messaging. The workshop featured a balance of presentations by both the NWS and their partners, with ample time for discussions and partner feedback.



In addition to presentations, the workshop also included an exercise called "Brief the Briefer." During this exercise, participants were broken into small groups and given an 8 to 10 minute tropical weather briefing by a NWS meteorologist. Each group then chose a volunteer to brief the most important information from the original NWS briefing to a mock target audience, including either the general public or county elected officials. The goal of the exercise was to demonstrate the process of transferring key information from an NWS weather briefing to another customer group (i.e., general public, elected county official) using a succinct, actionable briefing. The exercise generated a lot of discussion about the challenges and best practices for providing an effective weather briefing. The exercise also allowed the NWS to gain better insight about how to improve briefings to their partners.

Given the feedback received by many of the attendees, the workshop appeared to be a big success, and we are tentatively planning to host another IPW in early 2021. However, given that restrictions for in-person meetings are expected to continue through the winter due to COVID, the workshop will be done virtually.

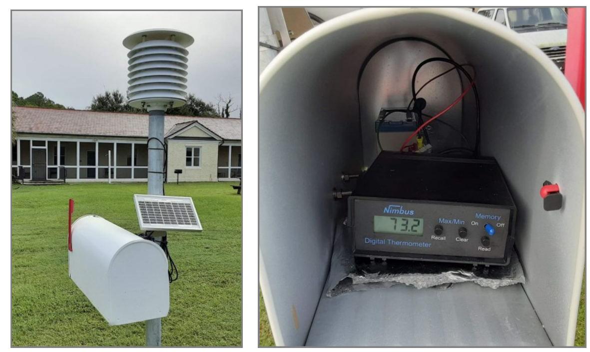
Cooperative Observer Program (COOP)

by Rebecca Davidson - Meteorologist

The Cooperative Observer Program consists of volunteers around the country that collect daily temperatures and rain observations. In our area, we have 12 sites, with a few dating back to the late 1800’s. In 2020, the COOP site in Yemassee hit a milestone of 125 years of observations, while the Summerville site hit 123 years. COOP sites are quite important as the observations help scientists with climate research. This year, on Sapelo Island, GA, new equipment was installed to ensure many more years of observations.

Check out our new [local COOP webpage](), which highlights our current observers and makes it easier to access observations. We are also looking for new observers. The ideal spot for COOP equipment is in an open space without influences from buildings or objects that could shelter the temperature sensor and rain gauge, as well as a spot inside a building to place the temperature readout. If you are interested or have more questions, please email [Rebecca Davidson]().

Sapelo Island COOP Site



This site on runs off of solar energy that charges a battery and connects to the temperature readout. The solar panel method is more energy efficient and allows for more accurate readings each day. The temperature display is called a NIMBUS and can save up to a month worth of daily observations.

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 2021, 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, nearly 250 active CoCoRaHS observers contribute to the daily weather puzzle!

CoCoRaHS March Madness

Each March, CoCoRaHS hosts a friendly recruiting contest between all 50 states to see who can recruit the most new volunteers.

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

“I enjoy reporting the daily rainfall as it pertains to our farming community. I got started through HAM radio and became interested in CoCoRaHS after I became a member of Skywarn. It's very fascinating to hear and compare others' weather reports. I have even been contacted by the National Weather Service (NWS), which was very exciting!"

Observer since 2008 - SC-HM-2

Annual NWS Week of Service: *10 Years of Coming Together to Give Back*

by Emily McGraw - Meteorologist

The National Weather Service (NWS) recently held it's 10th Annual Week of Service. During this week, offices around the country make an effort to reach out to help those in need in the local communities. All of these events occur outside of normal working hours.

This year, NWS Charleston, SC collected donations for East Cooper Community Outreach (ECCO), a local organization that provides safety net services to low income neighbors, while empowering them to create a better future for themselves, their families, and communities. ECCO helps individuals and families with a range of services including food, clothing, emergency financial assistance, comprehensive medical and dental care, medications, counseling, and educational opportunities. Due to COVID-19, ECCO has seen numbers increase from serving 400 families a month to 900 families a month.

NWS Charleston was able to collect over 230 pounds of donations - including hygiene items, cleaning supplies, and non-perishable foods.

Weather-Ready Nation Ambassadors

by Emily McGraw - 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 to spreading the weather safety and preparedness message.

AMBASSADOR™ WRN WEATHER-READY NATION

Locally, NWS Charleston, SC has over 90 WRN Ambassadors! We'd like to thank all of our WRN Ambassadors for their efforts! Check them all out on our local webpage.

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.

Thank you to our NWS Charleston Weather Ready Nation Ambassadors!

ABC News 4

AECOM

Allendale County Emergency Management Agency

American Red Cross of Southeast & Coastal Georgia

Anderson Insurance Associates

Atlantic Business Continuity Services

Awendaw McClellanville Fire Department

Beaufort County Broadcast Services

Beaufort County Economic Development Corporation

Beaufort County Sheriff's Office Emergency Management

Ben Pogue Law

Boeing South Carolina

Bulloch VOAD

Burke High School

C.T. Lowndes & Company

Candler County Sheriff's Office Emergency Management

Carolina Sportscare and Physical Therapy

Charleston Amateur Radio Society (CARS)

Charleston County School District

Charleston County Park and Recreation Commission

Charleston Junior Woman's Club

Charleston RiverDogs

Charleston Water Taxi

Charleston Weather / @chswx

Chatham Emergency Management Agency

Chucktown Wind Report

Coastal Health District (GA Dept of Public Health)

Coastal Heritage Society

Coastal Millwork and Supply, LLC

College of Charleston

College of Charleston American Meteorological Society

Colleton County Fire-Rescue

Crescent Insurance Advisors

Dorchester County Emergency Management Department

Dunes West POA

Effingham County ARES

Effingham County Emergency Management Agency

Emlaw Academy

Etiwan Pointe Condominium Council of Owners, Inc.

Filos Tile Installers

Fort Pulaski National Monument

Georgia Southern University

Great Atlantic Corporation

Grice Connect

Hampton County Emergency Management

Home Owners Association of Long Creek Plantation

Hunt Club Community Weather Station

Jasper County Emergency Services

Joint Base Charleston 628 CES/CEX

Kiawah Island Community Association

Kids Teaching Flood Resilience/USC Center for Science Education

Laing Middle School of Science and Technology

LEADistics, LLC

Liberty County EMA

Long County Emergency Management

Lowcountry CERT

Lowcountry Healthcare Coalition

Maritime Bureau, Inc.

Metter Fire-Rescue

MUSC Health

My Sister's House

Newport HOA (Port Wentworth, GA)

Palmetto Bluff Conservancy

Palmetto Hall Property Owners Association

PASOs and BJHCHS, Inc.

Patriots Point Fire/Life Safety Division

Pinewood Preparatory School

Port Wentworth Emergency Management

Queen's Grant Property Owner's Association

Roper St. Francis Healthcare

Savannah Skin & Pathology, LLC

SEGAR (Southeast Georgia Radio)

Simpson Construction

Slack Tide Studio

South Carolina State Climatology Office

Summerville Elks Lodge #2719

The Citadel

The Sign Chef

Town of James Island

Town of Mount Pleasant

Trident Technical College

Triple-T Truck Centers

United States Army Corps of Engineers - Savannah District

USCB

WCBD News 2

West Point Subdivision Social Committee

WJCL-TV

WSAV News 3

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Charleston Weather Forecast Office
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