NATIONAL WEATHER SERVICE
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION

STORM COURIER

Charleston, SC
Weather Forecast Office

Inside this issue:

Is Coastal Flooding Occurring More Often?

by Ron Morales—Warning Coordination Meteorologist

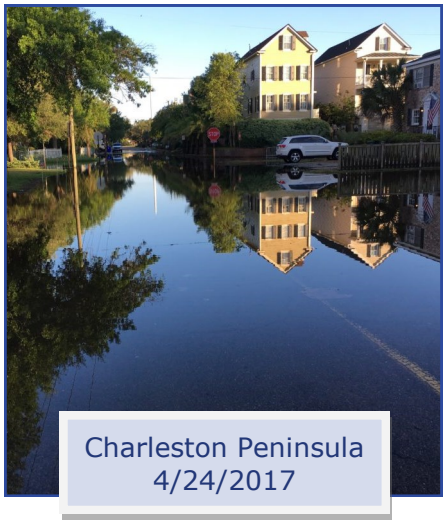
If you live or have lived along the coast for any length of time, you have likely heard about or personally experienced the impacts of coastal flooding. "Coastal flooding" is defined as the phenomenon when salt water from the ocean floods or inundates areas that are normally dry. You might think these flooding tides are mainly the result of strong storms or hurricanes. However, it's really coastal flooding from very high astronomical or "normal tides", which are a result of the gravitational pull of the Sun and the Moon on the water surfaces of the Earth, that have been on the increase. When these high astronomical tides combine with winds blowing from the water toward the coast, the water levels can be even higher and more damaging. To make the situation worse, cities such as Charleston, SC have an added issue with coastal flooding. When heavy rainfall occurs around the time of high tide (even tides not reaching coastal flooding levels) the result is even more widespread flooding of streets, roads, and some homes and businesses across the city.

Coastal Flooding Images

King Tide reports courtesy of MyCoast.org; click image for more details

James Island
12/14/2017

Charleston Peninsula
12/4/2017



Charleston Peninsula
4/24/2017

Coastal Flooding - Continued

Tide data from the past few decades indicate a clear upward trend in the number of times the tide heights have reached levels that caused impacts from coastal flooding along our entire southeast SC and southeast GA coastline. The upward trend is most pronounced at the Charleston, SC gauge (figure 1), which has been reaching flood levels, on average, about three times more than Fort Pulaski, GA (figure 2).

Why are flooding tide occurrences increasing? One major factor appears to be the rising of global temperatures. As global temperatures rise/warm, large land ice masses, such as Greenland and Antarctica, melt, pushing more water into the oceans. Rising temperatures also cause a warming of the Earth's oceans, forcing the ocean surface to "sit higher" than if it was cooler. This higher "water/sea level" makes it easier to flood the coast, especially within areas that are very low in elevation, which is common across our coastline.

The charts below show the number of times the tides at the Charleston, SC tide gauge (figure 1) and the Fort Pulaski, GA tide gauge (figure 2) reached coastal flooding levels (2000-2016).

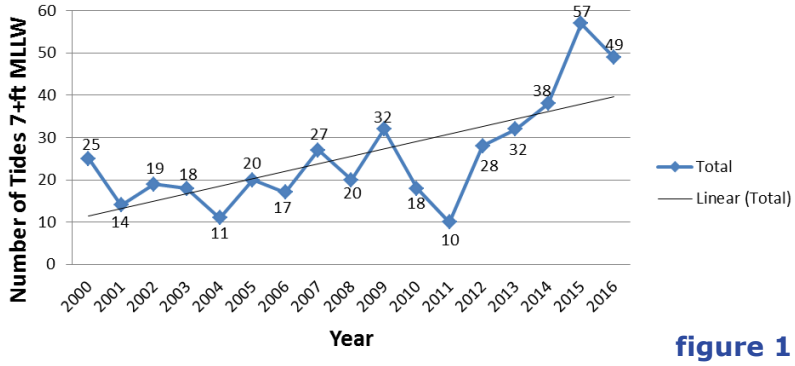


figure 1

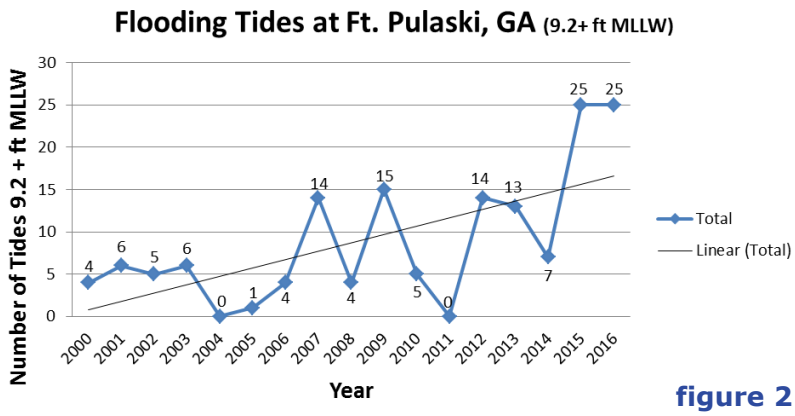


figure 2

Data courtesy of tidesandcurrents.noaa.gov; click charts to enlarge

What next?

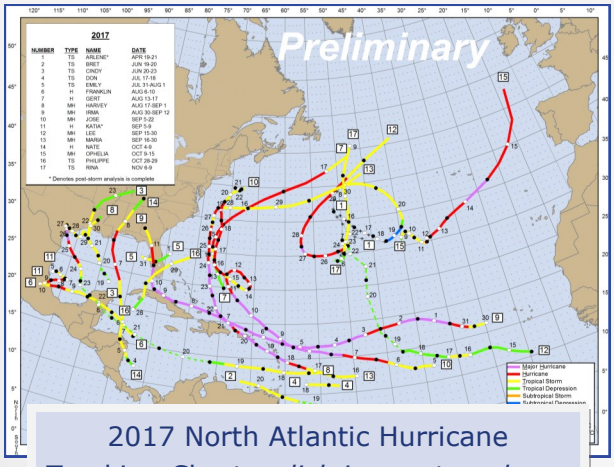
Given we know that sea levels are rising and coastal flooding events are increasing, what can we do? The first step is to be aware of the increasing hazard. Next is to determine cost effective ways to mitigate the effects of coastal flooding. Finally, and arguably most importantly, we have to learn how to adapt and be resilient to the changes that higher sea levels will bring to our coastline and our lives.

You can help document coastal flooding events in your area by posting pictures on MyCoast.org. The more we document and learn about the impacts of coastal flooding events, the better we can forecast and warn people of their occurrence.

Active Atlantic Hurricane Season Review

by Robert Bright - Meteorologist

Preliminary data indicates the 2017 Atlantic hurricane season was a very active season with 17 tropical storms, 10 of which became hurricanes (6 were Category 3 or higher). This was largely a result of the favorable atmospheric and oceanic conditions, particularly a strong western African monsoon, weak wind shear and warmer than normal sea surface temperatures. In fact, it was the first season since 2005 in which 4 hurricanes made landfall in the U.S., although only one storm (Irma) had substantial impacts in southeast South Carolina and Georgia. Hurricane Harvey was the 1st major hurricane (Category 3+) to make landfall in the U.S. since Hurricane Wilma in 2005 and caused a record 60" of rain in southeast Texas. Unfortunately, many Caribbean islands also suffered tremendous damage from several storms, including Hurricanes Irma and Maria.



2017 North Atlantic Hurricane Tracking Chart - *click image to enlarge*

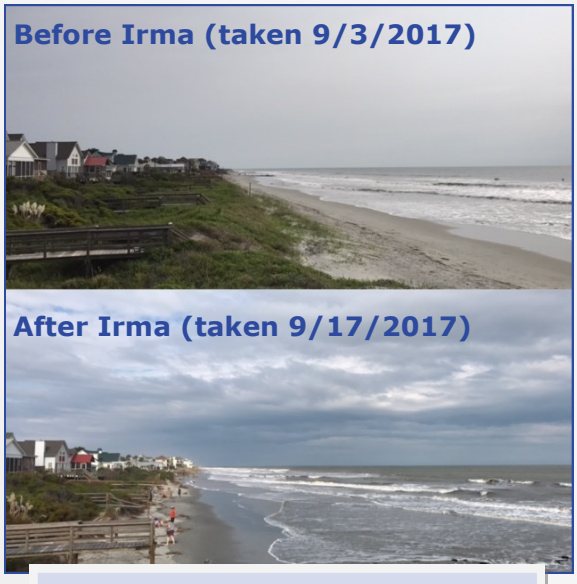
Hurricane Irma was a Category 4 hurricane when it struck southern Florida, then weakened to a tropical storm before reaching southwest Georgia. Although the storm was relatively weak and a good distance away, the storm contributed to significant coastal flooding along the coast of southern South Carolina and northern Georgia with some areas seeing nearly 6 feet of inundation (i.e., water height above ground level) from the high storm tides. The tide gage at Charleston Harbor actually rose to the 3rd highest level on record, while the gage at Fort Pulaski recorded its 2nd highest water level. This was largely a result of the weather pattern in place, particularly a strong area of high pressure to the north which maintained strong onshore winds for several days ahead of the storm. This storm was an excellent reminder that impacts are not directly associated with the strength of the storm!

Irma Beach Erosion Photos

Courtesy of NWS Charleston; click image to enlarge

Tybee Island, GA

Edisto Beach, SC



Before & After of Folly Beach

Tropical Storm Irma's Unusual Tornadoes

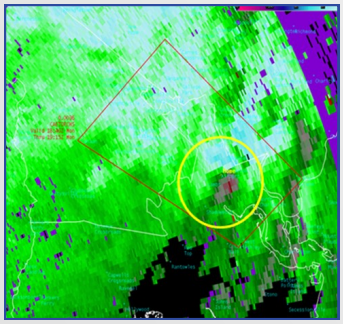
by Steve Rowley - Science and Operations Officer

National Weather Service Storm Survey Teams determined that Tropical Storm Irma produced 4 tornadoes within the NWS Charleston forecast area on September 11, 2017. While we sometimes experience tornadoes when tropical cyclones pass over or west of our region, this event was somewhat unusual for several reasons. Of particular interest, 3 of these tornadoes occurred several hours after the worst of Irma's wind, rain and storm surge inundation had ended. Further, Irma was weakening rapidly and was moving away from our area, and this scenario can sometimes indicate that the threat for tornadoes will diminish. However, quite the opposite occurred, and 3 of the 4 tornadoes touched down at different locations within a 90 minute time frame – a virtual blink of the eye as compared with the longer duration impacts of Irma.

The first tornado touched down on Joint Base Charleston at 248 pm. This EF-0 tornado was on the ground for less than 2 minutes.

Tornado 1:

click images to enlarge

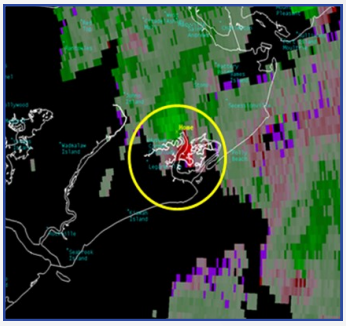


EF-0, Joint Base Charleston, 248 PM EDT
Photo courtesy of NWS Storm Survey Team

The second tornado touched down on John's Island, SC, at 545 pm. This EF-1 tornado, the strongest tornado of the day, was actually filmed by a private security camera and by an individual located on the far side of the Stono River.

Tornado 2:

click images to enlarge

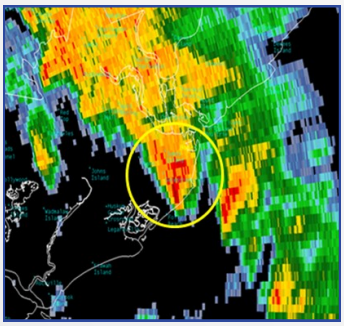


EF-1, Johns Island, 545 PM EDT; 9/11/2017
Top photo courtesy of Billy Hughes, bottom photo courtesy of NWS Storm Survey Team

The third tornado, an EF-0, touched down briefly on James Island, SC, at 619 pm.

Tornado 3:

click images to enlarge

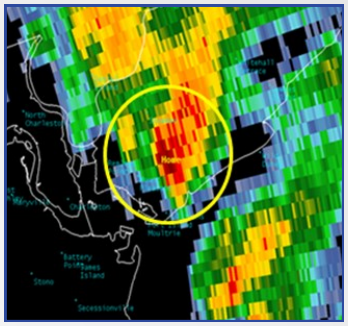


EF-0, James Island, 619 PM EDT
Photo courtesy of NWS Storm Survey Team

Irma's Tornadoes - Continued

Tornado 4:
click images to enlarge

The fourth and final tornado, another EF-0, touched down briefly in Mt. Pleasant at 713 pm.



EF-0, Mt. Pleasant, 713 PM EDT
Photo courtesy of NWS Storm Survey Team

As is typical with tropical tornadoes, each September 11 tornado was on the ground for less than 2 minutes and followed a narrow, short path. The brief nature of these tornadoes offered unique challenges for radar meteorologists. Even as radar rapidly gathered data and generated new images every 2 minutes, the brief life spans and small, tight circulations of these tornadoes could not be fully sampled and illustrated by radar.

The main lesson from Irma's tornadoes? Tropical cyclones wield far-reaching influence. Even as Irma was weakening and moving away from our area, and even hours after the strongest wind, heaviest rain and storm surge flooding had ended, Irma's circulation was still capable of producing rotating convection and brief tornadoes. Thus, you should remain weather aware until long after tropical cyclones have moved away or dissipated.

2017 Extra Balloon Releases

by James Carpenter - Meteorologist

Every day, the National Weather Service sends weather balloons into the stratosphere as part of a global effort to monitor and forecast the weather. These balloons are released at approximately the same time twice a day. Across the United States and its territories, these launches occur at 92 sites, of which the Charleston Forecast Office is one.

For more about balloon releases and additional methods of collecting data, check out this YouTube video.

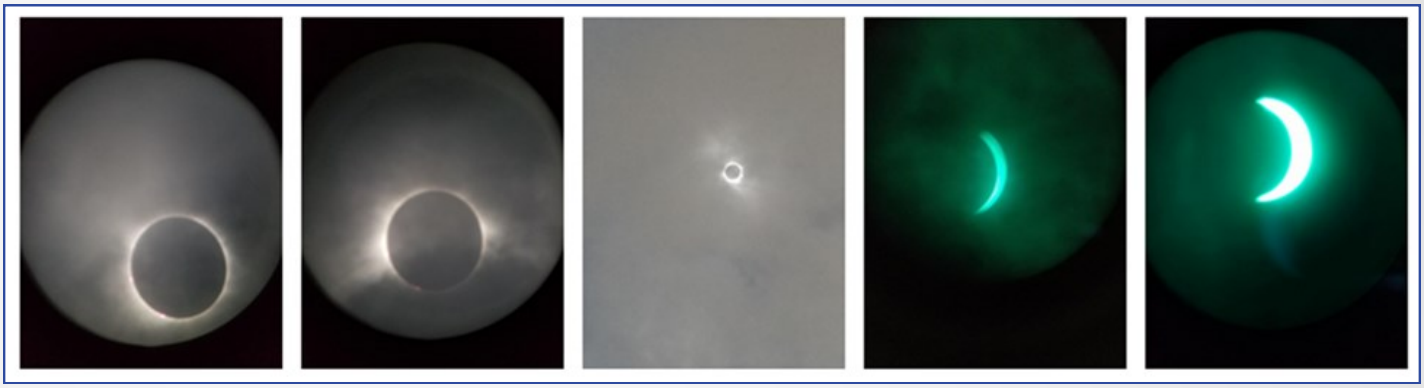
Occasionally, extra balloon launches, called special soundings, are authorized for particular purposes, including evaluating the atmosphere before severe weather occurs, assisting in forecasting tropical cyclone tracks, and conducting special scientific studies. This year, the Charleston Forecast Office conducted 30 special soundings, including 20 in the month of September alone. The majority of these special soundings were in support of tropical cyclone forecasting, including cyclones Irma, Jose, and Maria. Additionally, five special soundings were launched to evaluate the potential for severe weather outbreaks, primarily during the spring.

Unique to this year were the releases of three special soundings for a scientific study to examine the effects a total solar eclipse has on Earth's atmosphere. For more about this study, check out our Total Solar Eclipse article.

Total Solar Eclipse - August 21, 2017

by Neil Dixon - Meteorologist

Photos courtesy of Neil Dixon



It was totally awesome (pun intended)! On Monday, August 21, 2017, all of North America was treated to an eclipse of the sun, with the path of totality crossing over portions of 14 states, including South Carolina.

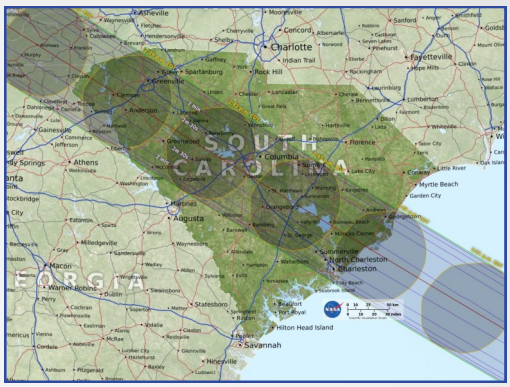


Photo courtesy of Fred Espenak - NASA/Goddard Space Flight Center

How did this celestial event fit into the NWS Mission: **Provide weather, water, and climate data, forecasts and warnings for the protection of life and property and enhancement of the national economy**? Here's how it did in our area:

Provide weather, water, and climate data, forecasts and warnings:

At a minimum, it only required a 2.5 minute period of unobstructed view of the sky to see the best part of the eclipse: sun's corona. In preparation for this event, NWS Charleston, Columbia, and Greenville-Spartanburg developed eclipse web pages to highlight our various Web forecast formats: Point-and-Click, Hourly Weather Graph, Weather Activity Planner, and User Defined Area Forecast. Unfortunately, an area of low pressure developed off the Atlantic coast of Florida on Sunday, August, 20th and tracked northeast near the Georgia and South Carolina coast the day of the eclipse. The forecast did feature the fine details of where the offshore low and where the afternoon sea breeze would be positioned during the eclipse, showing enhanced areas of cloud and thunderstorms coverage.

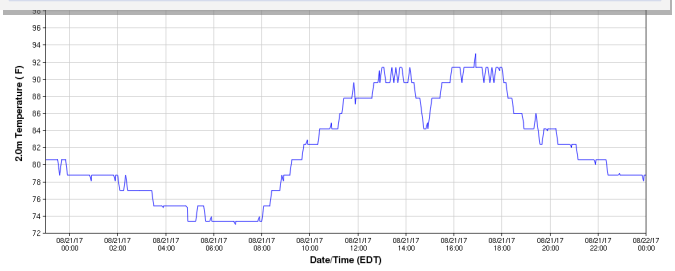
Three radiosondes used at NWS Charleston during the eclipse

Our office participated with a multi-federal agency, academic, and public project to conduct the largest geographic radiosonde campaign ever undertaken; called Eclipse Ballooning Project. We were one of three NWS offices to launch balloons before, during, and after the eclipse, collecting upper air measurements of temperature, relative humidity, wind speed, wind direction, and pressure.

Total Solar Eclipse - Continued

The observed surface temperature trends were very interesting to view. Unfortunately, the thunderstorm activity across the Lowcountry did have a noticeable impact on the temperature trace during the eclipse. It is interesting to note that the daily minimum temperature at Charleston and downtown Charleston occurred during the eclipse.

Observed temperatures at the Clemson-Oconee County Airport the day of the eclipse



Protection of life and property:

Thunderstorm activity during the eclipse was monitored very closely for severe weather, excessive rainfall, and lightning. In fact, a Flood Advisory was issued for portions of Berkeley County during the peak of the eclipse, noting impassable/flooded roads in the College Park area.

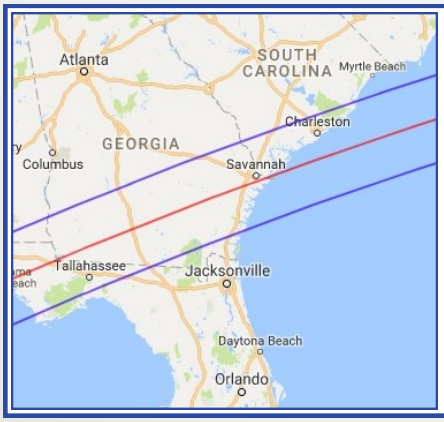
Example of a NWS Charleston social media post about eclipse eye safety

We highlighted in multiple social media posts that the only way to safely look at the sun was by using special light filters.

Enhancement of the national economy:

South Carolina was the last state in the path of the total eclipse, and the last place in the United States to see the corona of sun was the Cape Romain National Wildlife Refuge near McClellanville, SC. Research conducted by the South Carolina Department of Parks, Recreation, and Tourism (SCPRT) indicated that an estimated 1.6 million people traveled to or within South Carolina to witness this historic event. In addition, based on hotel bookings and travel expenditures, it is estimated that the tourism associated with the eclipse contributed $269 million to the state's economy.

Interest in the eclipse was certainly observed in analytics of our web page traffic. In total, the NWS CHS, GSP, and CAE eclipse pages were viewed 207,090 times in 2017. We hope that the (CHS, GSP, and CAE) web pages and social media posts generated additional interest in this event and provided eclipse observers with detailed weather information. Based SCPRT data, the <u>total solar eclipse was the largest single tourist event in SC's history!</u>



It will be 34 years until the next total solar eclipse is observed across Coastal Empire of Georgia and the Lowcountry of South Carolina. On March 30, 2052, Savannah, GA will see three minutes and 30 seconds of totality.

2017 Weather & Climate Wrap-up

by Emily Timte - Meteorologist

2017 started off with not winter storms - but severe weather! Four tornadoes were confirmed in southeast Georgia on January 21-22 as an organized system of thunderstorms advanced through the area. As we continued into our peak severe weather season, spring, we did have a few other prominent severe weather events including one on April 3 that had over 45 reports of damaging winds and hail and also one on May 4 when four tornadoes occurred. However, the season overall was fairly quiet - just over 100 Severe Thunderstorm Warnings were issued which is well below the normal average. The tropical season on the other hand was quite active. For a summary of the 2017 Atlantic hurricane season, check out this article.

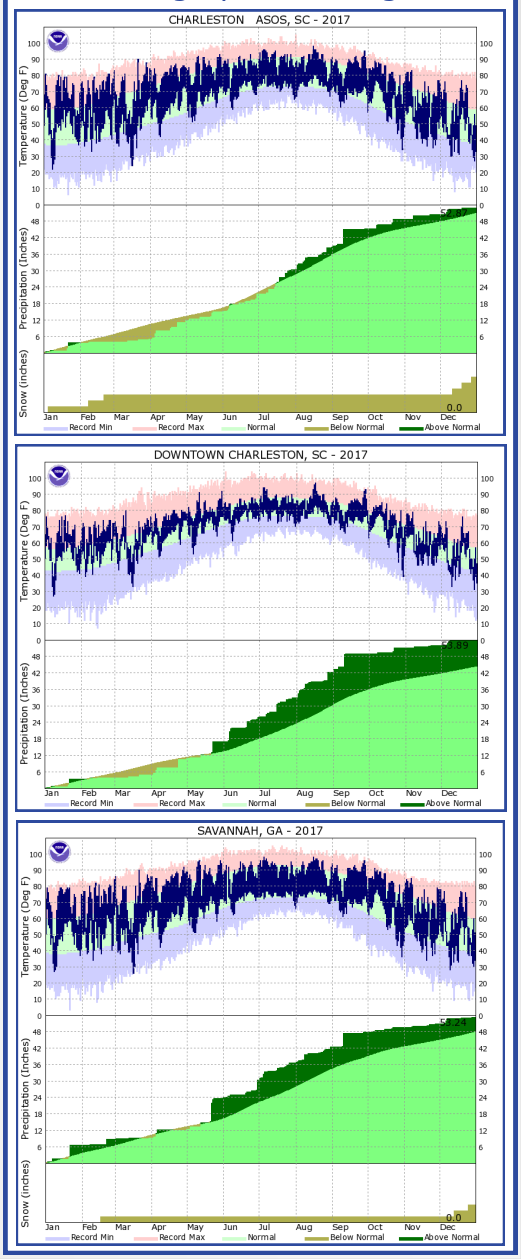
Temperatures throughout the first part of the year ran well above normal with both February and April taking a spot in the top 5 warmest on record for their respective months at all three climate sites: Charleston International Airport (CHS), Downtown Charleston (CXM), and Savannah International Airport (SAV). Following an unseasonably warm February, a cold air outbreak in mid-March brought widespread freezing temperatures to the Southeast, which devastated crops and caused over $1 billion in agricultural losses. It was estimated that about 90% of peaches in South Carolina and about 80% of blueberries in southern Georgia were destroyed, among others. As we moved forward to the summer and fall, temperatures were generally closer to normal. Despite that, average annual temperatures ended up being around 2-3 degrees above normal. 2017 became the warmest year on record at SAV, whereas CHS and CXM came in 3rd place. See the complete top 5 rankings here.

Precipitation also fell on the above normal side, thanks to a couple of abnormally wet months. May 2017 even came in as the wettest May on record at SAV with a precipitation total of 11.54 inches. 6.61 inches of that total fell within a 24 hour period, which broke the daily rainfall record (May 22). Annual rainfall totals were generally in the range of 52 to 54 inches, which was not high enough to break any top 5 records.

Full annual climate summaries can be found here. Records date back to 1938 at CHS; 1871 at SAV; 1870 at CXM.

2017 Climate Plots

click graph to enlarge

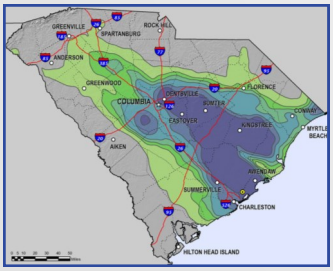


Average Recurrence Intervals It's a How Many Year Event?

by Blair Holloway - Meteorologist

Over the last few years, there have been a number of extreme rainfall events across the United States including Hurricanes Maria and Harvey, as well as significant events in Ellicott City, MD and West Virginia. We have even experienced extreme rainfall in southeast Georgia and South Carolina, including Hurricane Matthew and the South Carolina event of October 2015. One way to describe an extreme rainfall event is to determine its Average Recurrence Interval (ARI). By definition, an ARI is the average period (in years) between exceedances of an event at a given location. Essentially, how frequently does an event of a particular magnitude occur on average? The event can be a flood, earthquake, or in this case rainfall. ARI's for rainfall are derived from NOAA Atlas 14 precipitation frequency estimates and are a measure of the rarity of an observed rainfall amount at a particular location. For example, if 10.10" of rain falls at the Charleston International Airport in 24 hours, the ARI would be 100 years. Furthermore, ARI's can also be expressed as an Annual Exceedance Probability (AEP) which provides the likelihood of a given event occurring in any given year. The AEP is simply the inverse of the ARI, so for a 100 year ARI the AEP would be 1/100 or 1%.

ARI's are calculated using frequency analysis of observations from stations with at least 20 years of hourly rainfall data and 30 years or more of daily rainfall data. The data are then fit to a frequency distribution that allows for the calculation of ARI's at time ranges longer than the period of data (100 years, 500 years, 1000 years). However, it should be noted that the higher the ARI, the less reliable it is considered, but it is still a useful tool to help us express the rarity of an event. Also, it should be stressed that there is not a one-to-one relationship between rainfall events and flood events. For example, a 100 year rainfall event will not necessarily produce a 100 year flood event. This is because rainfall is only one of many factors (basin size, duration, antecedent conditions, land use) that determine the severity of a flood event.



Oct 2015 SC Flood AEPs for the Worst Case 24-hr Rainfall

A great example of this is the October 2015 South Carolina flood event. Analysis shows that a large area experienced a rainfall event over 72 hours with an ARI of 1000 years or greater (AEP of 0.1%). However, USGS analysis of its stream gauges in this area show no indication that a 1000 year flood discharge occurred. One final consideration with ARI's is that the term "100 year" does not mean that it will only happen once in a 100 year period. Instead, a 50 year ARI event could occur in consecutive years, or a 100 year ARI event could happen only once in a 500 year period.

For more about ARI's and their use in NWS operational products, be sure to check out the Weather Prediction Center's Experimental Extreme Precipitation Monitor.

Hazards, Simplified...

by Jonathan Lamb - Meteorologist

Did you know the NWS produces more than 120 different warnings, watches, advisories, and statements? Based on numerous product surveys conducted by the NWS, there are too many different hazard products and the formats can be confusing. Starting in 2011, social science has become a powerful tool to help the NWS assess how to most effectively message hazardous weather information. The impetus was a devastating tornado that ripped through Joplin, Missouri on May 22, 2011. Despite substantial advance warning of the impending tornado, 158 people were killed and more than 1,000 injured. In the past, NWS Service Assessments have focused internally: were policies followed and was advance notice provided. There is now a much stronger focus on external factors: did people receive the warnings and how were they interpreted. The NWS Hazard Simplification (HazSimp) Project has been working with social scientists and collecting survey data to provide clearer, more consistent messaging of hazardous weather information.

The team's approach is two-pronged: reduce the number of redundant products and simplify the format. The first iteration was implemented on November 1st for Winter Weather. The main change to the list of products for SC and GA is the elimination of a separate Freezing Rain Advisory. These conditions will instead be handled with a Winter Weather Advisory. More significantly, the winter weather hazards have adopted a new, standardized "3W" format, rather than non-standard bullets for each hazard type. The team is now assessing ways to simplify flooding products.

NWS Winter Product Change to "3W" Format

New for Winter 2017-18: Experimental Probabilistic Snowfall Products

Photo courtesy of Bob Bright

by Neil Dixon - Meteorologist

Is it really going to snow? This is the question that comes to mind every time you see a snow forecast for our area. As we saw on January 3rd, 2018, it can snow across southeast South Carolina and Georgia. Fortunately, large scale winter storms occur relatively infrequently in our climate. In fact, prior to 2018, our last widespread winter events occurred in 2014: ice and snow storm on January 28th-29th and a major ice storm on February 11th–13th. However, major impacts on our transportation system can occur with only a light coating of wintry precipitation. In all events, big to small, decisions will be based on using the best possible forecast information. Beginning this winter, NWS Charleston is excited to produce experimental probabilistic snowfall products, allowing us to better communicate forecast uncertainties and provide decision makers with valuable snowfall accumulation information.

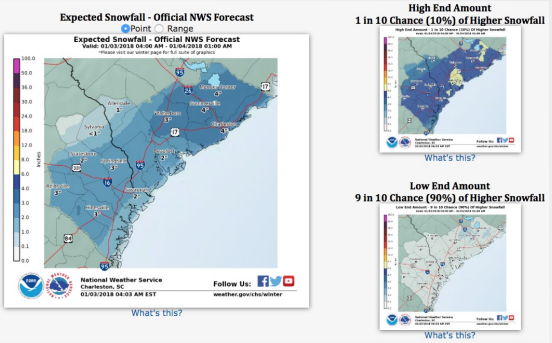
Probabilistic Snowfall - Continued

The purpose of the experimental probabilistic internet-based snow products is to provide a range of snowfall possibilities during upcoming winter events. These products will indicate the "Low End Amount", "High End Amount", and the "Expected Snowfall" accumulations across southeast South Carolina and Georgia. The probabilistic information will be provided in three different formats: maps of the Low End Amount, High End Amount, and Expected Snowfall, maps of various snowfall thresholds probabilities (showing 0.1", 1", 2", 4", 6", 8", 12", 18"), and a table showing the probability of snow falling within specified ranges and the probability of exceeding specified snowfall amounts for numerous locations across the region. As for the scientific basis, a 46 member multi-model ensemble will serve as the basis for computing the 5th, 10th, 25th, 50th, 75th, 90th, and 95th percentile boundaries of expected accumulation, with forecasters adjusting the most likely snowfall amount based on experience. These probabilistic products were initially introduced to the NWS Washington DC/Baltimore Emergency Management community during the winter of 2012/2013 with overwhelmingly favorable feedback.

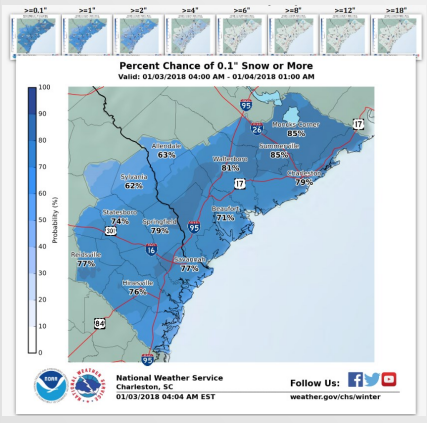
Probabilistic Storm Total Snowfall Product examples:

click image to enlarge

The graphic to the right depicts the Low End Amount, High End Amount, and Expected Snowfall for a winter weather event across southeast South Carolina and Georgia.



A wide range between minimum and maximum snow amounts indicates large uncertainty in the forecast. Conversely, a narrow range indicates high confidence in the forecast.

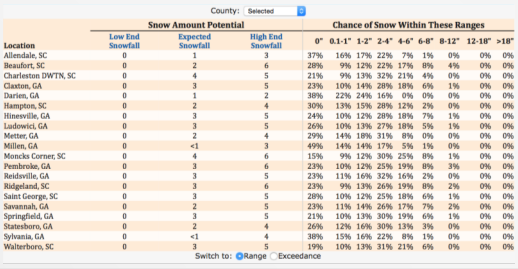


click image to enlarge

The graphic to the left shows the probabilities of exceeding certain snowfall threshold amounts in whole inches with color curve probabilities from zero to 100 percent. In this example, clicking on the thumbnail picture with the >= 0.1" threshold at the top displays an enlarged image at that particular criteria.

The final graphic is a text-based exceedance probability table. Selecting a county displays a list of specific cities within that county and shows the probability of snow amounts exceeding a particular threshold for each location. The table can be switched to portray the probability of snow amounts falling within specific range bins, as well.

click image to enlarge


County: Selected

Location	Snow Amount Potential: Low End Snowfall	Expected Snowfall	High End Snowfall	Chance of Snow Within These Ranges: 0"	0.1-1"	1-2"	2-4"	4-6"	6-8"	8-12"	12-18"	>18"
Allendale, SC	0	1	3	37%	16%	17%	22%	7%	1%	0%	0%	0%
Beaufort, SC	0	2	6	28%	9%	12%	22%	17%	8%	4%	0%	0%
Charleston DWTN, SC	0	4	5	21%	9%	13%	32%	21%	4%	0%	0%	0%
Claxton, GA	0	3	5	23%	10%	14%	28%	18%	6%	1%	0%	0%
Darien, GA	0	1	2	38%	22%	24%	16%	0%	0%	0%	0%	0%
Hampton, SC	0	2	4	30%	13%	15%	28%	12%	2%	0%	0%	0%
Hinesville, GA	0	3	5	24%	10%	12%	28%	18%	7%	1%	0%	0%
Ludowici, GA	0	3	5	26%	10%	13%	27%	18%	5%	1%	0%	0%
Metter, GA	0	2	4	29%	14%	18%	31%	8%	0%	0%	0%	0%
Millen, GA	0	<1	3	49%	14%	14%	17%	5%	1%	0%	0%	0%
Moncks Corner, SC	0	4	6	15%	9%	12%	30%	25%	8%	1%	0%	0%
Pembroke, GA	0	3	6	23%	10%	12%	25%	19%	8%	3%	0%	0%
Reidsville, GA	0	3	5	23%	11%	16%	32%	16%	2%	0%	0%	0%
Ridgeland, SC	0	3	6	23%	9%	13%	26%	19%	8%	2%	0%	0%
Saint George, SC	0	3	5	28%	10%	12%	25%	18%	6%	1%	0%	0%
Savannah, GA	0	2	5	23%	11%	14%	26%	17%	7%	2%	0%	0%
Springfield, GA	0	3	5	21%	10%	13%	30%	19%	6%	1%	0%	0%
Statesboro, GA	0	2	4	26%	12%	16%	30%	13%	3%	0%	0%	0%
Sylvania, GA	0	<1	4	38%	15%	16%	22%	8%	1%	0%	0%	0%
Walterboro, SC	0	3	5	19%	10%	13%	31%	21%	6%	0%	0%	0%

Switch to: Range Exceedance

NEW! Summer Internship Program

by Carl Barnes - Meteorologist

Leland MacDonald (left) & Vance Joyner (right)

The National Weather Service in Charleston, SC unveiled a new formal student volunteer program in 2017. Interested college students applied, and went through an interview process designed to mimic an actual hiring process for an entry level position with the National Weather Service. Students from across the Southeast applied, and two exemplary students were chosen: Leland MacDonald, a rising junior at Texas A&M University, and Vance Joyner, a Masters Candidate in Meteorology at Florida State University.

Over the course of the summer, each volunteer completed more than 150 hours of research and operational shadowing experience. Under the new curriculum, they spent at least one day a week on operational training and shadowing with a forecaster, gaining exposure to the challenges and nuances of forecasting for a humid, convectively active coastal area. They also spent one to two days a week working on a locally pertinent research study. Their research topics focused on exploring some of the Southeast's most difficult forecast challenges. Leland explored the influence on the low level jet on marine boundary layer winds during cold air advection events, and Vance studied the utility of GOES-16 10.33 μm Clean Window Infrared Band brightness temperatures for identifying pulse severe storms along the Southeast coast.

Both students felt that their time was well spent over the summer. Leland said, "During this program, I got a lot of valuable hands-on experience in WFO operations and improved my research skills. I am grateful to everyone at the office for their kindness, patience, and insight throughout the summer!" Additionally, Vance called the summer unforgettable, stating that the positive environment at the office creates an awesome program for student volunteers.

Both students presented their research at an end of summer workshop. Presentation recordings are available at www.weather.gov/chs/studentvolpresentations.

7th Annual NWS Week of Service

by Emily Time - Meteorologist

Every year in the fall, the National Weather Service holds the National Week of Community Service. During this week, offices around the country make an effort to reach out to help those who are in need in our communities. All of these events occur outside of our normal working hours.

NWS Week of Service - Continued

For the 7th Annual NWS National Week of Service, NWS Charleston, SC brought in food donations to make "On-the-go Meal Kits" for the Ronald McDonald House of Charleston. At the end of the donation period, several staff members worked together to assemble the kits. We were able to make 100 kits!

Each kit contained a microwaveable entree, side, drink, and plastic utensils. The RMH of Charleston houses 32 families while children undergo extensive medical treatment. It allows parents & children to lead a life as normal as possible without having to pay for hotels/travel expenses.

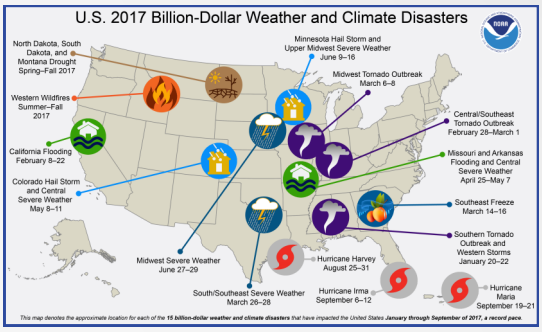
NWS Charleston staff members assembling "On-the-go Meal Kits" for RMH of Charleston

Check out the 2017 Week of Service page to see what other NWS offices did, as well as an event summary.

click image to enlarge

Are You Weather-Ready?

by Julie Packett - Administrative Support Assistant



Each year, people are impacted, some seriously injured or killed, by all types of extreme weather. In 2017, there were over a dozen weather and climate disaster events with losses exceeding $1 billion each across the United States. Southeast Georgia and southeast South Carolina were not immune to such disasters. The Southeast Freeze that occurred during mid-March caused extensive damage to the agricultural industry. Hurricane Irma wreaked havoc on parts of Puerto Rico, the U.S. Virgin Islands and Florida peninsula prior to tracking northward across Georgia. The storm brought significant storm surge inundation and wind gusts near hurricane-force to local coastal areas, as well as, several tornadoes, flooding rainfall, and river flooding.

Knowing how to stay weather prepared can make a significant difference for you and your family. Stay weather-ready during 2018 by knowing your risk, taking action, and educating others.

Know your risk

⇒Bookmark weather.gov/chs

⇒Follow us on Facebook & Twitter

Take action

⇒Obtain a NOAA Weather Radio

⇒Learn about Wireless Emergency Alerts

⇒Create a disaster supply kit

Working Together to Build a Weather Ready Nation

Many of our partners, especially local emergency management (EM), are familiar with the Storm Ready and Tsunami Ready programs, but do you know there is another Weather-Ready Nation (WRN) initiative that might be right for you?

WRN Ambassadors inspire others to be a force of nature by being ready, responsive, and resilient to the dangerous impacts of extreme weather by partnering with NOAA and other Ambassadors. The influence of peers is often more effective at motivating people to change behaviors than information alone. The best way to influence others is by making wise decisions when dangerous weather arrives. Once you become informed, it's time to influence!

Become a WRN Ambassador by submitting a short online application.

Who can become a WRN Ambassador?

- Local, state, and federal government
- Schools & faith-based organizations
- Small and corporate businesses
- Non-profit and associations

Thank you to our NWS Charleston WRN Ambassadors!

MUSC Health

Dorchester County EMD

Charleston County School District

Charleston Weather @chswx

Charleston Junior Woman's Club

Emlaw Academy

Pinewood Preparatory School

Liberty County EMD

Laing Middle School of Science & Technology

Queen's Grant Property Owner's Association

The Sign Chef

Triple-T Truck Centers

Hunt Club Community Weather Station

American Red Cross of Southeast & Coastal Georgia

Effingham County ARES

The Citadel

Filos Tile Installers

Hampton County EMD

Long County EMD

2018 Community & Partner Events

Upcoming Skywarn Spotter Training

Want to join a community of Storm Spotter volunteers and learn more about hazardous weather across southeast South Carolina and Georgia? If so, check out our latest Storm Spotter Training Schedule to see if an event has been scheduled near you.

Community & Partner Events - Continued

2018 Integrated Partner Workshop

During late January 2018, the NWS Forecast Offices serving the state of South Carolina will host a workshop for emergency managers, broadcast media, and other partners that play a key role in supporting the NWS mission of protecting life and property. This workshop will focus on hydrologic/flooding related issues, and our goal is to better communicate and message the hazards posed during high impact flood events.

38th Annual Charleston Boat Show

The 2018 Charleston Boat Show will be held at the Charleston Area Convention Center in North Charleston, January 26th through the 28th. Similar to pervious years, NWS Charleston will host a booth to hand out weather safety brochures, cloud charts, marine charts, NOAA Weather Radio information, hurricane tracking charts and other important weather information. For the kids, we usually have stickers and temporary tattoos, plus copies of Owlie Skywarn's Weather Book. We will showcase our website and direct you to other marine weather websites, as well as answer your questions about weather and climate.

This is an excellent way for you to meet some of our staff, and for us to meet members of the marine community that we serve. This also provides us with an opportunity to educate you about the National Weather Service and our operations, as we strive to protect life and property. We enjoy hearing your comments and suggestions, and about ways that we might be able to improve our forecasts and services.

Charleston Boat Show

Event Hours:
1/26, Fri, 12pm-6pm
1/27, Sat, 10am-6pm
1/28, Sun, 11am-5 pm

Location: Booth 183

If you would like NWS Charleston to be at your 2018 event, please submit a request via our Outreach Request Form.

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

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