



US Army Corps
of Engineers ®

The Official Georgia Hurricane Guide



**Are You
Prepared?**



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Jan. 17, 2019

Dear Fellow Citizens,

Time is essential when planning and preparing for any hurricane event, as they can cause catastrophic damage. Tropical systems can produce storm surges, flooding, tornadoes and destructive winds for both coastal and inland areas in Georgia, and I encourage all residents take the initiative to prevent loss of life and property, and improve community awareness before a storm occurs.

The U.S. Army Corps of Engineers, Savannah District, and the National Weather Service, in partnership with the Georgia Emergency Management and Homeland Security Agency, bring our citizens the Official Georgia Hurricane Guide to improve community awareness before a storm occurs. This detailed guide covers tips on preparedness and what to do during and after a tropical event, as well as provides key facts about hurricanes.

Developing a disaster plan, reviewing emergency preparations, creating emergency checklists, building a Ready kit and staying current with weather situations can make a tremendous difference when a hurricane is approaching.

GEMA/HS and our partners are dedicated to serving the community and keeping residents safe when hurricanes and other severe weather-related events occur. We ask that you assist us in these efforts and encourage you to read this guide so you and your loved ones will be better prepared for this upcoming hurricane season. Visit Weather-Ready Nation at www.weather.gov/contact/weatherreadynation to find your local National Weather Service office and learn about building a strong community before disaster strikes. I also encourage you to visit the GEMA/HS website at www.gema.ga.gov for additional information on hurricane preparation methods.

Thank you for your continued commitment to personal preparedness.

Be Prepared. Stay Informed.

Best,

Homer Bryson

About Hurricanes



Hurricane Floyd
NOAA-14 AVHRR HRPT
Multi-spectral False Color Image
September 15, 1999 @ 2018 UTC

Hurricanes are strong tropical cyclones that develop over warm ocean waters with sustained winds of at least 74 mph. They typically occur in the Atlantic Basin (which includes the Atlantic Ocean, Caribbean Sea, and the Gulf of Mexico) from June through November, although they can occasionally occur outside of this period if ocean and atmosphere conditions are favorable.

Above: Satellite image of Hurricane Floyd, 1999.

Tropical Storm

Sustained winds 39-73 mph

Watch: Conditions possible within 48 hours

Warning: Conditions expected within 36 hours

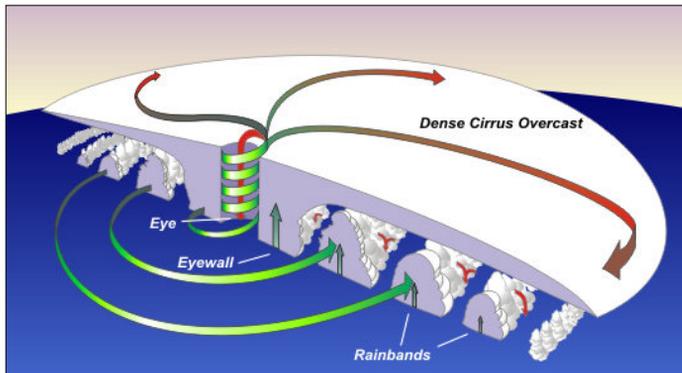
Hurricane

Sustained winds 74 mph+

Watch: Conditions possible within 48 hours

Warning: Conditions expected within 36 hours

The structure of a hurricane consists of 3 main parts: the eye, eyewall, and rain bands. Although the eye of the storm in the center is calm with little wind, the surrounding eyewall contains the strongest winds, including possible tornadoes. This area is typically the most destructive part of the storm. The outer rain bands swirl around the eye and contain rain, gusty winds, and sometimes tornadoes.



Above: Diagram of hurricane structure. Photo Credit NOAA.

Storm Surge

Flooding and large waves produced by hurricanes and strong tropical storms pose an extreme threat to life and property along and near the Georgia coast. The storm surge that could affect the Georgia coast could be rather similar to that which occurred along the Gulf Coast from Hurricane Katrina in 2005.

Storm surge is defined as an abnormal rise of sea water generated by a hurricane or other intense storm, over and above the astronomical tide. The storm tide is the actual level of sea water resulting from the astronomical tide combined with the storm surge. Because of the shape of Georgia's coast, storm tides up to 32 feet above mean sea level are possible.

A major hurricane (Category 3-5) can flood, or inundate, almost all of the Georgia coastal counties and can push saltwater as much as 30 miles inland. Inundation is the depth of the storm tide over normally dry land, and a major hurricane could inundate many coastal counties to a depth of 10 to 15 feet above ground level.

The National Hurricane Center began issuing Storm Surge Warnings and Watches during the 2015 hurricane season. Those storm surge maps are instrumental in properly planning for possible storm surge depths along the Georgia coast. Those products are displayed on pages 4 and 5.

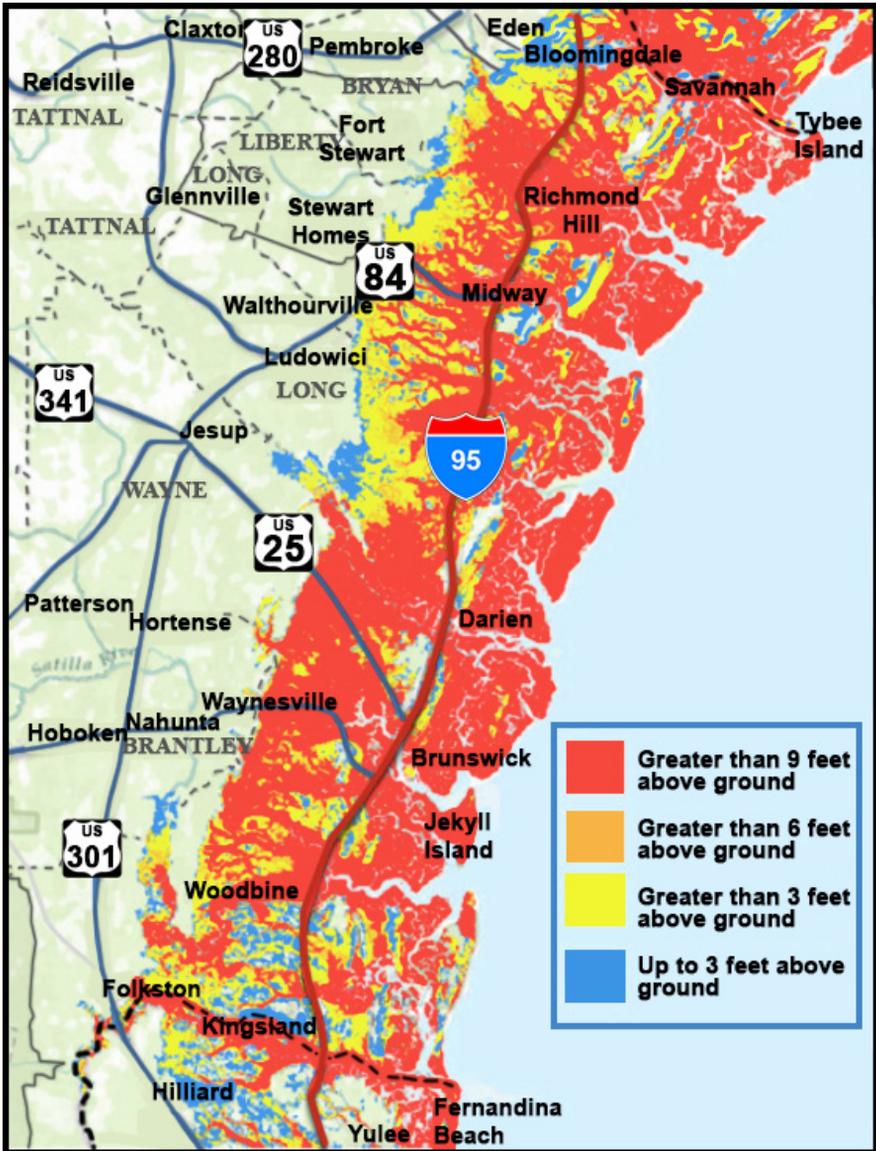


Above: Estimated storm tide inundation on River Street if a maximum of maximum Category 4 hurricane hit Savannah, GA.



Above: Boats that were washed into the Isle of Palms, South Carolina by Hurricane Hugo's storm tide in 1989.

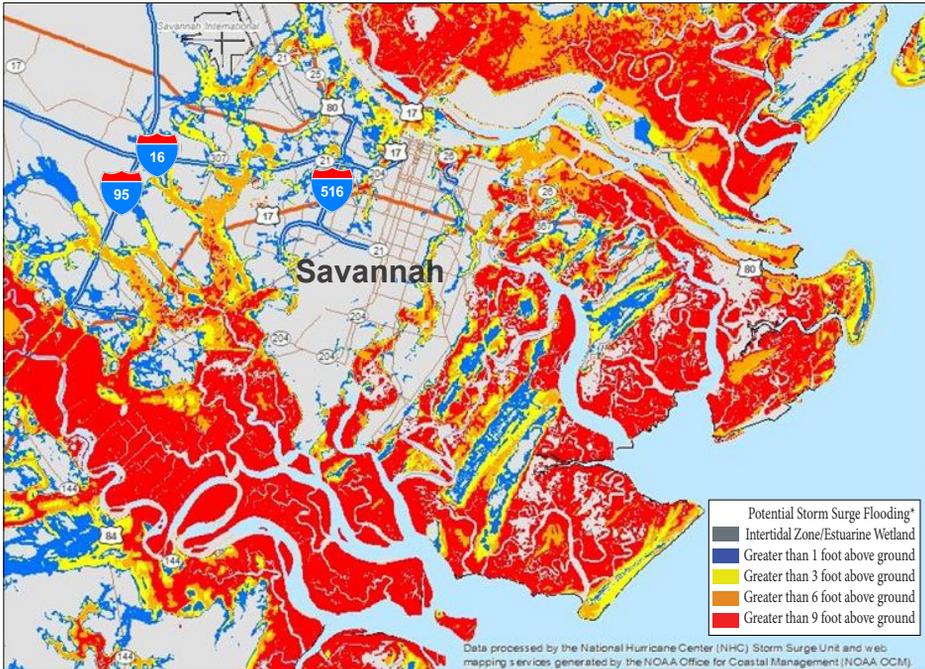
Possible Storm Surge Flooding



This graphic depicts a near worst case storm surge flooding scenario using a Category 4 Hurricane. The purpose of this map is to illustrate that storm surge is not just a coastal concern. For the deeply cut estuary system of southeast Georgia, storm surge can travel inland up to 30 miles in some locations.

NHC Potential Storm Surge Flooding Map

Potential Storm Surge Flooding Map from Hurricane Matthew



Above: This is an example of the Potential Storm Surge Flooding Map from the National Hurricane Center that was issued during Hurricane Matthew for Savannah, GA.

The National Hurricane Center (NHC) will continue to issue the Potential Storm Surge Flooding Map for areas along the Atlantic and Gulf coasts at risk of storm surge from a tropical cyclone. The map shows geographical areas where inundation from storm surge could occur and how high above ground the water could potentially reach in those areas, based on the latest official NHC forecast.

Things to know about the map:

- The first map would usually be issued at the same time as the initial tropical storm/hurricane watch.
- The map represents a reasonable worse-case scenario for water levels above ground level (i.e. inundation).
- The map is subject to change every 6 hours in association with each new NHC full advisory package.
- The map is part of an interactive display made available on the NHC website (www.hurricanes.gov).

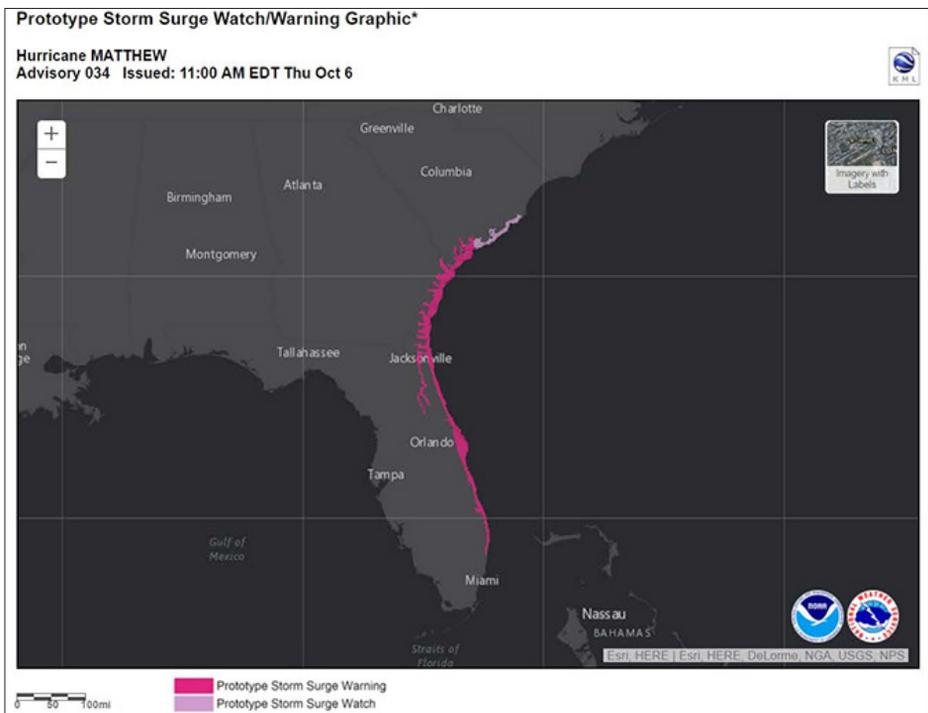
Important Note: Isolated areas which are not flooded but that are surrounded by flood waters could be cut-off from rescue during the storm. Those areas could be without power, water, and proper sanitation. They could also become refuge areas for wildlife, including insects and reptiles, fleeing from flood waters.

NHC Storm Surge Watches and Warnings

Storm surge causes nearly half of the fatalities associated with tropical cyclones in the United States. They can occur at different times and at different locations from a tropical cyclone's hazardous winds. Tropical Storm and Hurricane Watches/Warnings are issued only for areas where hazardous tropical cyclone winds are expected, while Storm Surge Watches/Warnings are issued for areas where life-threatening storm surge is expected.

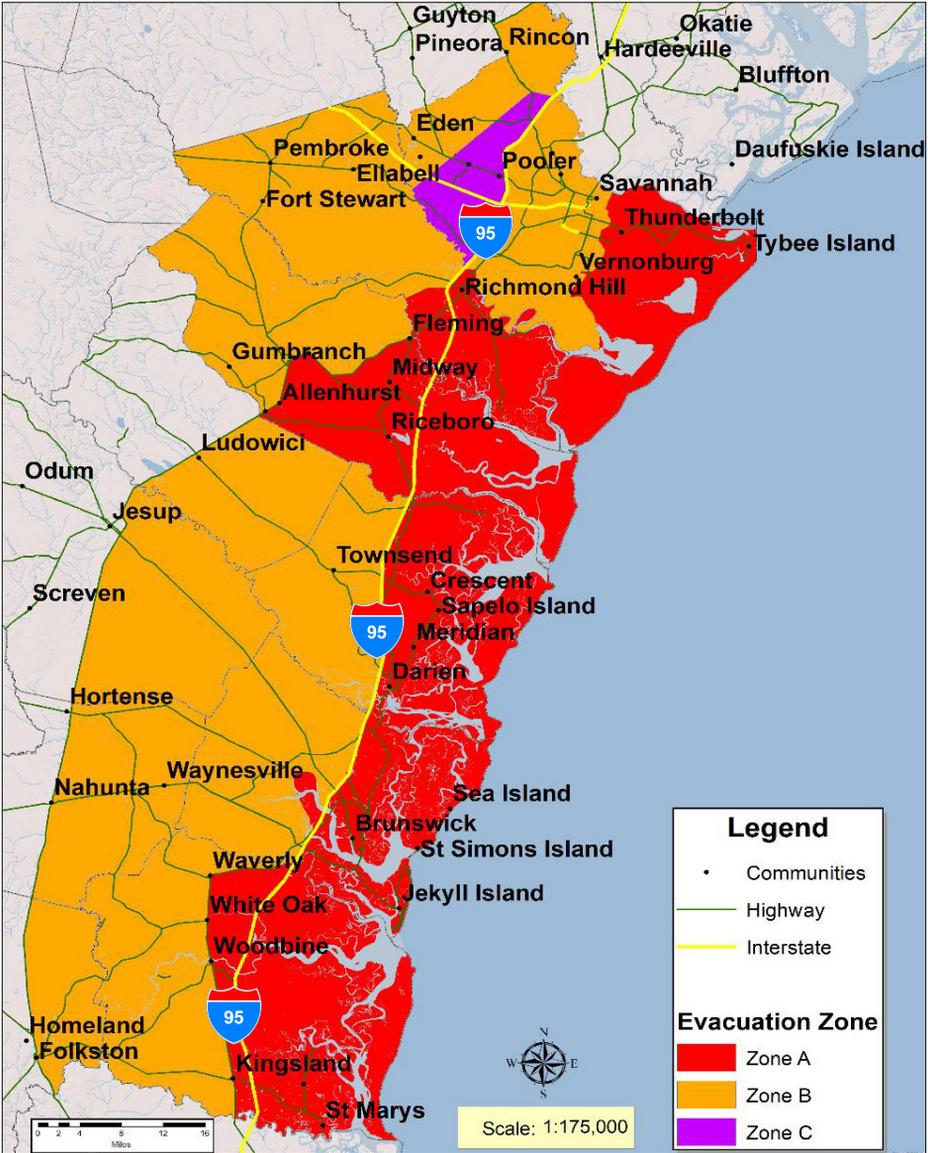
- Storm Surge Watch: Life-threatening storm surge possible within 48 hours
- Storm Surge Warning: Life-threatening storm surge expected within 36 hours

NOAA's NHC provides Storm Surge Watch/Warning graphics to highlight those areas along the Gulf and Atlantic coasts of the United States that have a risk of life-threatening storm surge from a tropical cyclone. Life-threatening storm surge is defined as at least 3 feet of water depth.



While most coastal residents can remain in their homes sheltered from a tropical cyclone's winds, evacuations are generally needed to keep people safe from storm surge. Having separate warnings for wind and storm surge provides emergency managers, the media, and the public better guidance on the hazards they face when tropical cyclones threaten them.

Hurricane Evacuation Zones



This image displays the Hurricane Evacuation Zones for coastal Georgia. While the zones are based on flooding, many other considerations go into creating the evacuation zones and you should always follow the orders of your local officials with respect to evacuations.

Dangerous Surf & Rip Currents

Rip currents are powerful channels of water that flow seaward from the shoreline, through the surf zone, and past the line of breaking waves. Rip currents can occur at any beach with breaking waves, and can become particularly prevalent and dangerous many days before a hurricane or tropical storm makes landfall. Even if the storm remains offshore, dangerous and deadly rip currents can still form. Over the past 10 years, on average, 45 to 50 people each year are killed by rip currents. For more information about rip currents please visit: <http://www.ripcurrents.noaa.gov/>.



Hurricane Matthew surf at Tybee Island, GA. Photo Credit to Reuters.

Rip Current Safety

- Know how to swim, and never swim alone.
- If in doubt, don't go out!

If Caught in a Rip Current

- Remain calm, and never swim against the current.
- Swim parallel to the shore until you are out of the rip current, then follow breaking waves back to shore at an angle.
- If you are unable to swim out of the rip current, float or calmly tread water. When out of the current, swim toward the shore.
- If you need help, wave your arms, and yell for help.

Rescuing Someone Caught in a Rip Current

- Get help from a lifeguard or call 911.
- Throw the victim something that floats.

Never attempt to rescue a rip current victim unless you know how to escape a rip current yourself.

In addition to deadly rip currents, high surf will develop several days ahead of an approaching hurricane or tropical storm. Beach goers and surfers should never enter the water in areas that have no life guards and/or have been closed due to dangerous conditions.

Rainfall Flooding

There are numerous examples of significant flooding caused by land-falling tropical cyclones in Georgia. Storms with a slow forward motion are the most dangerous as heavy rains persist for a longer period of time.

Five Practical Ways to Protect Yourself and Others From the Dangers of Inland Flooding

Protect Your Personal Documents and Special Items

- Store valuables in plastic tubs with locking tops.
- In case of evacuation, you should be able to secure and move all your valuables within 15 minutes.

Buy Flood Insurance: A Plan for Replaceable Items

- The National Flood Insurance Program (NFIP) is available from an insurance agent or the NFIP.
- For more information, see www.floodsmart.gov.

Floodproof Your Home – Take Steps to Minimize Flood Damage

- Shut off the main circuit breaker to prevent short circuiting and eliminate the threat of electrocution.
- Raise outside air conditioning units onto platforms above the flood level.
- Store rarely used or expensive items in the attic or on high shelves.
- Check your downspout; make sure to drain away from the house.
- Keep debris and pollutants out of ditches and storm drains.
- All projects should be 10 feet from the property line so the drainage between homes is not altered.

Develop a Family Flood Plan

- Develop a plan of action to keep from panicking during an emergency.
- Have an evacuation route and alternatives planned in the event you are asked to evacuate.
- Communicate your plans with friends or family outside of your home.

Never Drive on Flooded Roads

- Driving into flooded roadways puts your life and the lives of others at risk.
- Unless told to evacuate, you are probably safest staying at your current location.
- If you encounter flood waters when driving, Turn Around, Don't Drown!



Destructive Winds and Tornadoes

Destructive Winds and Tornadoes

Strong, destructive winds are one of the most well-known characteristics of a hurricane. Hurricane strengths are defined using the Saffir-Simpson Scale, which categorizes hurricanes based on their sustained or continuous wind speeds. Sustained winds must be at least 74 mph for a storm to be classified as a “hurricane,” and 111 mph or greater to be a “major hurricane.” Even a minimal hurricane can cause extensive damage to trees and mobile homes, as well as widespread power outages. In addition, any loose or poorly secured items left exposed to these strong winds become missiles, which can easily rip through walls and roofs of even well-built buildings or homes. The most violent and destructive winds usually occur near the center of the hurricane, in a region known as the “eyewall”. Although the distance that hurricane force winds extend outward from the center varies, they can easily reach 100 to 200 miles away. In addition to the rain



The Ben Sawyer Bridge to Sullivan’s Island, SC, was damaged by Hurricane Hugo in 1989. Photo Credit: NOAA/National Weather Service.



Mobile home destroyed by a tornado. Photo Credit: NOAA/National Weather Service

bands in the right front quadrant (relevant to its motion) of a storm making landfall. Even though these tornadoes are typically weak and relatively short lived, they can still be deadly, and may cause damage in areas where the sustained winds are below hurricane force.

Evacuation of Mobile Homes in a Hurricane

Mobile homes can become unsafe even with winds below hurricane strength. Once winds become hurricane force, no mobile home provides a safe shelter. If you live in a mobile home, evacuate when ordered to do so by authorities.

Saffir-Simpson Hurricane Wind Scale

- Category 1 - Winds 74 to 95 mph
- Category 2 - Winds 96 to 110 mph
- Category 3 - Winds 111 to 129 mph
- Category 4 - Winds 130 to 156 mph
- Category 5 - Winds 157 mph or higher

Storm Preparedness

Home Preparation

Elevation Matters

- Know the elevation of your home! Are you in a flood and/or evacuation zone?

Mobile Homes

- Check tie-downs for rust or breakage.
- Residents of mobile homes must evacuate when ordered to do so!

Landscaping

- Trim trees, shrubbery, and dead limbs.
- Repair or replace broken or damaged fences.

Roofing

- Inspect the roof for loose tiles, shingles, or debris. Consider replacing old or damaged shingles with new ones rated for hurricane force winds.
- Clear loose and clogged rain gutters and downspouts.

Doors

- Reinforce garage doors and tracks or replace with a hurricane-tested door.
- Reinforce double entry doors with heavy duty foot and head bolts.
- Use a security dead bolt with an one-inch minimum bolt length.

Windows

- If possible, install tested/manufactured hurricane shutters.
- Inspect existing shutters to ensure they are in good working order.
- Alternative: Use 5/8" or greater exterior grade plywood secured by two-inch screws and/or special clips. Obtain wood and fasteners, cut wood to size, pre-drill holes, and place anchors on homes.

Renters Should Prepare Too

- Prepare for the possibility of damage or loss of your personal property. Flood insurance and renter's insurance can help to replace your belongings if they are damaged. Remember that a landlord does not provide insurance for a tenant's personal property.
- If you live on a high floor and your building is outside the evacuation zone, you should relocate to a low floor. Be aware that winds are stronger at higher elevations.
- Ask your landlord questions. Will your landlord take steps to protect the rental property? If not, you should make preparations to ride out the storm in a protected location, even if you are in a non-evacuation zone.
- Make sure to reread your lease and related materials.



Storm Preparedness

Business and Employee Preparation

- Identify and protect vital records. Backup and store files off site.
- Protect electronic equipment from possible water damage.
- Have extra cash and blank checks in case extra money is needed after the storm.
- Develop a 24-hour emergency contact list with phone numbers of key employees.
- Set up telephone numbers for employees to check in and receive company information.
- Establish a temporary location for business operations in case your facility is damaged.
- Give employees enough time to secure their homes and families.
- Consider paying employees before they leave to prepare their homes.

Marine Preparations

- Check with the manufacturer for proper ways to secure your boat during a storm.
- Purchase necessary hurricane materials, such as additional mooring lines, crew anchors, fenders, fender boards, chafing gear, and anchors.
- Safe storm moorings should consist of good-conditioned ropes of sufficient diameter and length, with at least three or four substantial anchor points.
- Do not moor parallel to the shore. Receding tides often capsize boats in this type of anchorage.

Preparing for Your Pet's Safety

- Your pet should be part of your overall hurricane preparation plans. Below are a few important things to help you prepare.
- Make sure your pet's vaccinations are current and have record of proof. Do not assume that a public shelter or hotel will accept your pet.
- Have a current photo of your pet.
- Each animal should have a properly sized pet carrier. The carrier should be large enough for the animal to stand up and turn around.
- Pack enough food and bottled water for the duration of your evacuation. Do not let your pet eat food or water from outside; it may be contaminated from the storm.
- Pack all medications that your pet may need along with a muzzle, collar, leash, paper towels, and trash bags.
- Ensure your pet has a proper ID collar.

Preparing Livestock

- Ensure all animals have some form of identification.
- Evacuate animals whenever possible. Map out primary and secondary routes in advance.
- Make available vehicles and trailers needed for transporting and supporting each type of animal. Make experienced handlers and drivers available.
- Ensure destinations have food, water, veterinary care, and handling equipment.
- If evacuation is not possible, animal owners must decide whether to move large animals to a shelter or turn them outside.

Functional and Medical Needs

HURRICANE REGISTRY

FOR THOSE WITH FUNCTIONAL, ACCESS, OR MEDICAL NEEDS

The Hurricane Registry for those with functional, access, or medical needs is a list maintained by health departments in Bryan, Camden, Chatham, Effingham, Glynn, Liberty, Long, and McIntosh counties of residents who may need transportation or medical assistance and have no resources such as family members, neighbors, or friends to help them evacuate if a hurricane is threatening.

- Residents must apply to be on the Registry and can do so by calling toll-free, 1-833-CHD-REGISTER (1-833-243-7344) and following the phone prompts which will connect them directly with their county health department. The application can also be downloaded at gachd.org/registry. Residents who meet criteria and get on the Registry will be evacuated when there is serious threat of a hurricane.
- The time to apply for the Registry is when there are no storms threatening. It is important to note that Registry applications will stop being accepted 72 hours prior to the arrival of tropical storm force winds.

Those with functional or access needs – including children or adults with physical, sensory, or intellectual disabilities who need assistance with the activities of daily living including eating, taking medication, dressing, bathing, communicating, transferring from bed to chair and chair to bed, and toileting – will be evacuated to a gymnasium type setting far enough inland so that they are safe from the storm. The accommodations at the shelter will be basic (a cot with 20-40 square feet of space, bathroom facilities, meals, etc.) and the shelter may be several hours away.

Those with medical needs – including those who need the help of trained medical professionals for things like IV medication or who may be dependent on a respirator or other medical equipment – may be taken to a healthcare facility which will likely be located several hours inland.

Anyone who lives in a nursing home, assisted living, or personal care facility is not eligible for the registry and must follow their facility's emergency plan. The Registry is truly a last resort but it is important that local emergency management agency and public health department officials have a list of residents who have certain needs and no other way to evacuate should that become necessary.

For more information on the Hurricane Registry for those with functional, access, or medical needs, or to download an application, go to gachd.org/registry.

Before the Storm

- New and existing policies will not be written or modified when a storm impacts the Gulf of Mexico or the western Atlantic Ocean.
- Make certain that you fully understand what perils are covered and excluded in your policy.
- Ensure that your coverage is adequate to replace your home and contents in today's dollar. Determine whether your policy covers additional living expenses for a temporary residence if you are unable to live in your home due to storm damage.
- Before hurricane season, prepare detailed written and/or photographic inventory of your home's contents and store it in a safe place with your policy.
- If your insurance policy does not cover flood damage, ask about coverage through the National Flood Insurance Program.
- NOTE: Even if your location does not reside within FEMA Flood Zone X, it does not mean that your location will not flood. Buildings in Flood Zone X could be flooded by severe, concentrated rainfall coupled with inadequate local drainage systems or by hurricane storm surge. All coastal community residents should have a flood insurance policy to protect themselves and their property.

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After the Storm

- Give prompt written notice to your insurance company.
- Photograph or videotape damaged structures and all damaged property. Make a list of damaged or lost items.
- Do not throw out damaged property before your adjuster has inspected the debris unless it is a health hazard or impedes local cleanup.
- Protect your property from further damage.
- Keep an accurate record of temporary repair and living expenses if a loss of use is suffered.

Important Online Insurance Information



FloodSmart.gov
The Official site of the NFIP

Evacuation Supply Kit

Your local Georgia Chapter of the American Red Cross recommends that you have, at minimum, the items listed on the adjacent page in your Hurricane Supply Kit. Make sure to have a family meeting before hurricane season, and review your communication information and evacuation plan. Make sure contact information such as home, work, school, cell phone numbers, and your "Out of Town" contact person's information is current.



American Red Cross

Additional Items for Hurricane Supply Kit:

- American Red Cross: redcross.org
- FEMA: ready.gov/basic-disaster-supplies-kit

Emergency Contact Information

Out of Town Address: _____

Out of Town Contact Phone Number: _____

Work Telephone Number: _____

Cell Number/Spouse Cell Number: _____

Children Cell Number: _____

School Telephone Number: _____

Doctor Telephone Number: _____

Bank/Credit Card Telephone Number: _____

Insurance Company Information: _____

**Whatever comes your way, you'll know what to do.
Red Cross mobile apps put help in your hand.**

24 hour number to call for assistance

**1-800-RED CROSS
(1-800-733-2767)**



First Aid App



Hurricane App



Earthquake App



Wildfire App



Tornado App



Download our preparedness apps today. Call ****REDCROSS** from your mobile phone and we'll send you a link to download the apps, or search the iTunes app store or Google Play for American Red Cross

Hurricane Supply Kit

Your chapter of the American Red Cross recommends that you have the following items in your Hurricane Supply Kit.

- At least a 7-day supply of non-perishable food and water. One gallon of water per person per day is recommended
- Battery powered portable television or radio with extra batteries
- Flashlight with extra batteries
- First Aid kit and manual
- Sanitation and hygiene items such as instant hand sanitizing gel, moist towelettes, toilet paper, and feminine hygiene products
- Whistle
- Kitchen accessories, cooking utensils, and manual can opener
- Cash
- Extra clothing, blankets, and sleeping bags
- Matches in a waterproof container
- Photocopies of identification, insurance, prescriptions, household inventory, credit cards, and your latest utility bill
- CD or photocopies of important documents such as birth/marriage certificates and titles
- Prescription medications, eyeglasses, contact lens solution, and hearing aid batteries
- Formula, baby food, diapers, and pacifiers
- Pet carrier, leashes, shot records, and food for each animal evacuating with you
- A good map showing country roads and highways
- Tire repair kit, booster cables, pump, and flares
- White distress flag
- Toys and games for children
- List of family phone numbers and addresses outside the area
- Multi-Purpose Tool
- Cell phone with charger

Georgia Area Hurricane Tracking Chart



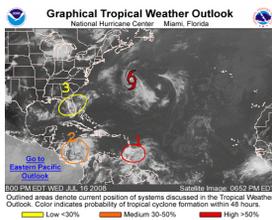


Forecast Information

Important Websites

- National Hurricane Center: hurricanes.gov
- NWS Charleston Tropical Webpage: weather.gov/chs/tropical
- NWS Jacksonville Tropical Webpage: srh.noaa.gov/jax/?=tropical
- NWS Tallahassee Tropical Webpage: srh.noaa.gov/tae/?=tropical
- NWS Columbia Tropical Webpage: <http://www.weather.gov/cae/tropical.html>

The National Hurricane Center (NHC) in Miami, Florida, is the official source for tropical cyclone advisories and forecasts and is responsible for issuing tropical cyclone watches and warnings for the United States. The local NWS forecast offices provide detailed forecasts and potential impacts.



Graphical Tropical Weather Outlook

- This NHC product provides an overview of all tropical cyclone activity and indicates areas of interest that have potential for tropical cyclone development.



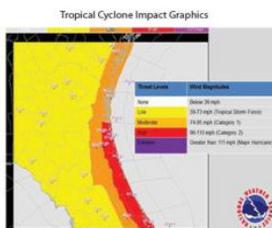
NHC Forecast Advisory

- This product identifies the most recent position for a storm along with all coastline watches and warnings, including a 5-day track with error cone representing a 5-year average error. Storms only stay within the error cone roughly 60 to 70 percent of the time. Do not focus too closely on the exact track forecast.



Wind Speed Probability Graphics

- These graphics show the probability of tropical storm and hurricane force winds for various periods through the next 5 days.



Hurricane Threats and Impacts

- These graphics are issued by local NWS office to summarize potential storm impacts and recommended preparedness actions.
- Each colored area describes potential impacts.

Recommendations

Actions to Take When a Storm is in the Atlantic or Gulf

- Listen frequently to radio, TV, or NOAA weather radio for bulletins and forecasts of the storm's progress.
- Double check items in your emergency supply kit.
- Fuel and service your vehicle.
- Inspect and secure mobile home tie-downs.
- Board up windows (if you do not have shutters) in case the storm moves quickly and you need to leave.
 - **Tape provides no protection! It is a waste of your time!**
- Store lawn furniture and other loose, lightweight objects, such as garbage cans and garden tools.
- Garage or store vehicles that are not being used.
- Follow instructions issued by local officials.
 - **Evacuate if ordered to do so!**

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Final Actions to Take if Leaving

- Turn off propane tanks.
- Unplug small appliances.
- Empty refrigerator and freezer.
- Turn off utilities if ordered to do so.
- Lock home securely.
- Take pets with you.



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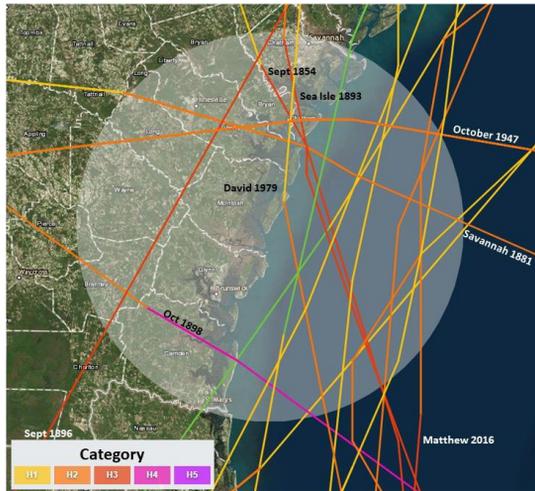
Final Actions to Take if Staying

- Close storm shutters.
- Notify family members of your evacuation plans.
- Lower water level in swimming pool by one foot.
- Turn refrigerator or freezer to coldest setting and open only if necessary. (25 pounds of ice will keep a 10-cubic foot freezer below freezing for 3-4 days.)
- Follow instructions from emergency managers and be prepared.
- Board up remaining doors, brace garage door, and remain inside.
- Stay away from boarded up windows.
- Take refuge in a predetermined safe room, such as an interior closet, bathroom, or hallway.

DO NOT EXPECT EMERGENCY RESPONDERS TO BE OF ANY ASSISTANCE DURING A LANDFALL HURRICANE!

Georgia's Hurricane History

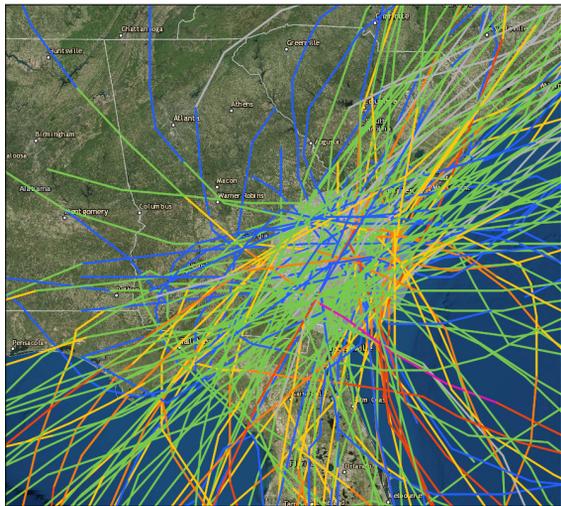
Georgia is no stranger to the impacts and dangers of hurricanes! While the 20th century was relatively quiet, numerous major hurricanes impacted Georgia in the 19th century. The map to the right shows the storms which impacted coastal Georgia from 1851 to 2016 including Hurricane Matthew. Other devastating hurricanes hit the area in 1804, 1813 and 1824 killing many people along the coast. With Matthew and Irma (2017), it would appear that coastal Georgia has become active again. However, it is important to realize the conditions along the coast were really tropical storm conditions not hurricane. The last major hurricane to hit the coast was in 1898, *before anyone alive can remember*, and was as strong as Hurricane Katrina in 2005.



Hurricanes Impacting Coastal Georgia 1851 to 2017

Plot historic hurricane tracks! coast.noaa.gov/hurricanes/

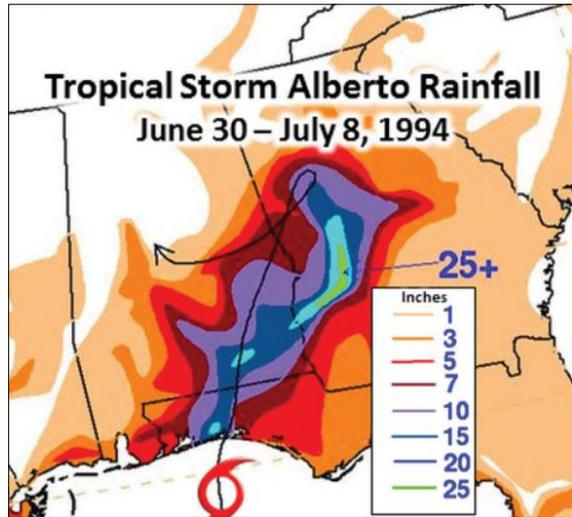
Although many hurricanes made landfall along coastal Georgia, the interior areas of the state are also prone to hurricane impacts due to the southern portion of the state being close to the Gulf of Mexico. Hurricane and strong tropical storm force winds can occur well-inland with fast moving storms. Tornadoes and major flooding have also occurred across the state from storms making landfall in Florida and Alabama. In fact, Hurricane Michael (2018) brought devastating conditions as far north as Albany, ripping off roofs and destroying highway billboards. Many homes and businesses in southwest Georgia were destroyed or heavily damaged in a very short period of time.



Tracks of 33 hurricanes that passed within approximately 200 miles of Macon, Georgia since 1851 (image NOAA).

Georgia's Hurricane History

Hurricanes do not have to make landfall along the Georgia coast to have significant impacts. In addition to land-falling storms along the Atlantic coast, some storms move over the state from the Gulf of Mexico. In July 1994, Tropical Storm Alberto stalled over western portions of the state and produced 10 to 20 inches of rainfall over a widespread area, with some areas picking up more than 25 inches. In October 2018, Hurricane Michael left a path of destruction through Georgia with estimated damage in the billions. This was the first major hurricane (Category 3) to impact Georgia since 1898 and the strongest ever to come through the Florida Panhandle.



Rainfall amounts from Tropical Storm Alberto, 1994 (image courtesy of the NOAA/NWS/Weather Prediction Center)



Flooding in Albany, Georgia as a result of Tropical Storm Alberto, 1994 (image courtesy of the Albany Herald).



For more history of tropical cyclones affecting southeast Georgia, checkout weather.gov/chs/TChistory



Evacuation Routes

Follow orders provided by your local officials.

An **Evacuation Order** will be issued when local officials think it may be in your best interest to evacuate the targeted area. An Evacuation Order is a general statement used to encourage residents to evacuate.

A **Mandatory Evacuation Order** is an executive directive requiring all residents, visitors, businesses, and others in the targeted area to evacuate. Personal discretion is not an option.

When choosing an evacuation route and destination, evacuees should consider the projected path of the hurricane.

Final Actions before Evacuating

- Take your Hurricane Supply Kit.
- Leave as early as possible to avoid heavy traffic and hazardous weather.
- Do not stay in a mobile home near the coast under any circumstances.
- Remember that large boats and travel trailers may not be allowed to cross local bridges and causeways once high winds commence.
- Prepare to stay at your evacuation destination for a week or more, as re-entry into the affected area may be restricted.

Contra-Flow I-16 One-Way Driving Guides

Normally, Interstate 16 (I-16) carries east and westbound traffic. In the event of a mandatory evacuation from coastal Georgia, I-16 eastbound lanes will become “contra-flow lanes,” or reverse lanes. All I-16 lanes will be westbound traffic only from Savannah to west of U.S. 441 in Dublin, a total of 125 miles. Georgia DOT can also “contra-flow” other interstates in case of emergencies.



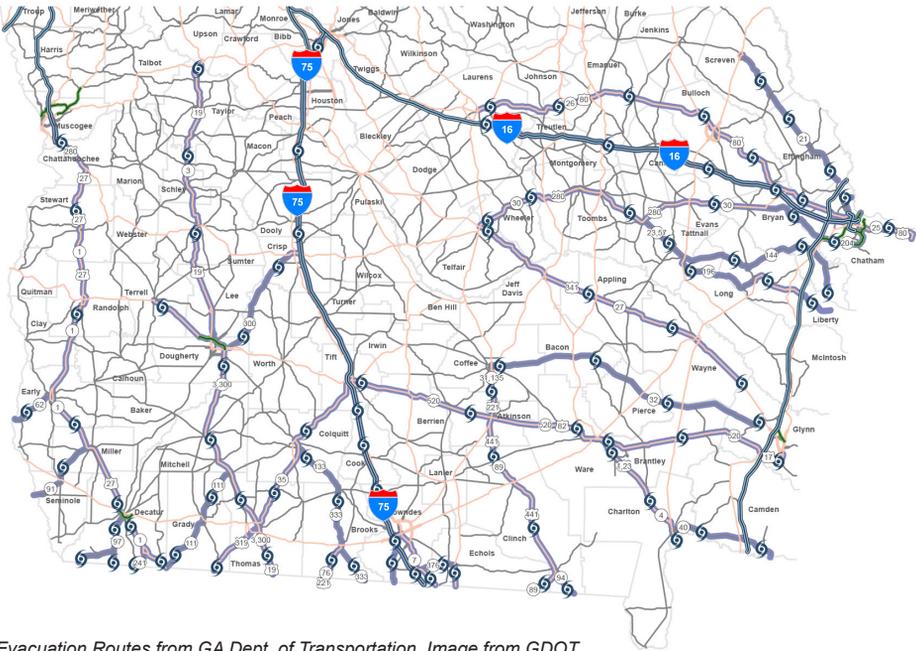
Georgia Public Radio

Georgia Public Radio, in cooperation with Georgia DOT, Georgia Emergency Management and Homeland Security Agency (GEMA/HS), Georgia State Patrol (GSP) and the Georgia Public Broadcasting System, will provide updates on road and traffic conditions in the event of a hurricane.

Tune into these FM stations for severe weather and hurricane information:

Albany	91.7	Dahlongea	89.5
Athens	91.7/97.9	Ft. Gaines	90.9
Augusta	90.7	Macon	89.7
Brunswick	88.9	Savannah	91.1
Carrollton	90.7	Tifton	91.1
Columbus	88.1	Valdosta	91.7
Demorest	88.3	Waycross	90.1

Evacuation Routes



Evacuation Routes from GA Dept. of Transportation. Image from GDOT

For your evacuation route, visit:

www.dot.ga.gov/DriveSmart/Emergency/Documents/Hurricane/EvacuationRoutes.pdf

Georgia Road Information & Travel Alerts

- GDOT (Georgia Department of Transportation)
- Call 511 or 1-877-694-2511
- www.511ga.org
- Twitter: @GAdeptofTrans
- Facebook: Georgia Department of Transportation

Channels of Communications

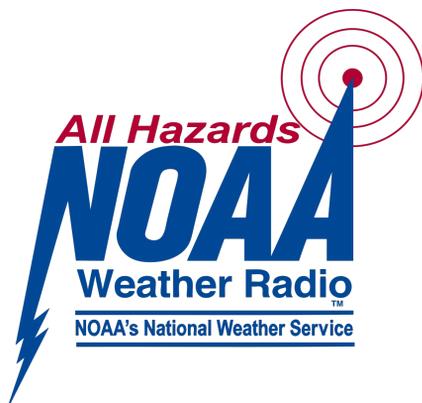
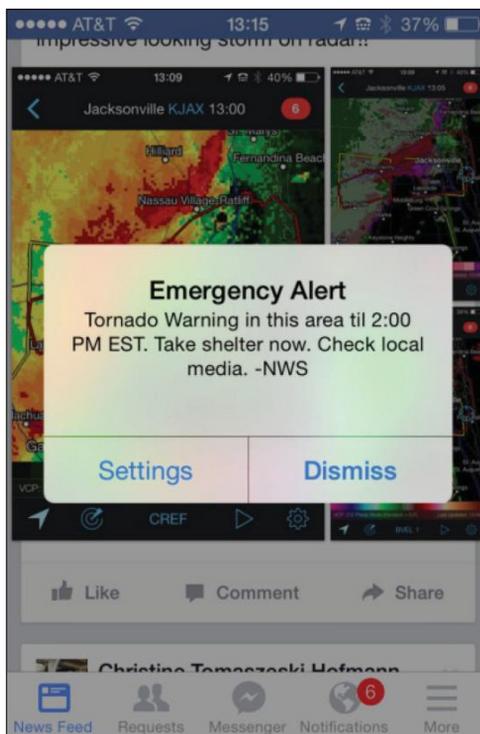
America's wireless industry is building a Weather-Ready Nation through a nationwide text emergency alert system called Wireless Emergency Alerts (WEA).



WEA are emergency messages sent by authorized government agencies, including the National Weather Service, to alert customers of hazards through their mobile carriers.

WEA Messages include:

- Hurricane Warnings
- Tornado Warnings
- Flash Flood Warnings
- Extreme Wind Warnings



NOAA All Hazards Weather Radio (NWR) broadcasts weather forecast and watch and warning information 24 hours a day.

During hazardous weather situations, the NWR will automatically tone alert severe weather watches and warnings using the Emergency Alert System (EAS) which provides emergency notification targeted at specific areas.



Channels of Communications

The National Weather Service uses various communication channels, including social media, to relay potentially high impact weather events. Weather forecasts and briefings are available not only on your local NWS website, but you can also get the latest weather information for your area by following your local NWS office on Facebook and Twitter.



National Weather Service	Webpage	Twitter twitter.com	Facebook facebook.com US National Weather Service	Youtube youtube.com
Atlanta	weather.gov/ffc	@NWSAtlanta	Peachtree City	
Greer	weather.gov/gsp	@NWSGSP	Greenville-Spartanburg	NWSGreer
Charleston	weather.gov/chs	@NWSCharlestonSC	Charleston	NWSCharleston
Jacksonville	weather.gov/jax	@NWSJacksonville	Jacksonville	NWSJacksonville
Tallahassee	weather.gov/tae	@NWSTallahassee	Tallahassee	NWSTallahassee
Columbia	weather.gov/cae	@NWSColumbia	Columbia	NWSColumbia

US National Weather Service Jacksonville Florida added a new photo to the album: Graphiccast 1051 PM Sep 3.
Published by NWSBot Integration 171 - September 3, 2017

Forecast track for Major Hurricane Irma. Local interests should continue to monitor the latest official forecast from the National Hurricane Center.
weather.gov/jax

Category 3 Hurricane Irma
1100 p.m., Sunday 9/3/2017

Jacksonville, FL
Weather Forecast Office

Northeast Florida and Southeast Georgia

Synopsis & Timing
Category 3 Hurricane Irma was located about 2,000 miles southwest of Miami, FL. Irma is expected to remain a major hurricane as it moves westward and then curve east-northeastward this week.

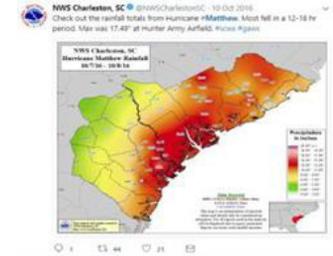
Potential Local Impacts

- What We Know:**
 - Irma's beachfront threats including high surf & strong rip currents are expected to end at the end of the week toward weekend.
 - Adverse rainfall will be above normal.
 - Small Craft Advisory conditions forecast over the adjacent Atlantic coast starting Thursday or Friday.
- What We Don't Know:**
 - Sea swell to speculate on other potential local impacts from Irma.
 - Forecast models will continue to differ through midweek with Irma's track, and they will likely have a better grasp of Irma's track mid-week.
 - Revisit of unannounced speculation based on these forecast models at this time.

Recommended Preparedness Actions

- Monitor the latest official forecast: nws.noaa.gov and weather.gov/jax
- Ensure your supply kits are stocked.
- Revisit your family's hurricane plan.

Briefing Time: 9/3/2017 10:47 PM
US National Weather Service Jacksonville



Returning Home

If you evacuated the area, wait for notification from the city or county before attempting to return to your home. Be prepared to show proof of residence by having a copy of your latest utility bill.

PHASES OF RE-ENTRY AFTER EVACUATION

Phase 1:

This restricted phase of re-entry consists of teams that make the area safe for first responders. Personnel must have an official local, state, or federal government photo ID.

Phase 2:

This restricted phase consists of life safety operations such as search and rescue, fire suppression, and utility restoration to critical locations. Personnel must have an official local, state, or federal government photo ID.

Phase 3:

This restricted phase consists primarily of those individuals that support the re-establishment of critical infrastructure and support services (i.e. utilities, medical services, fuel, etc.). Personnel must have an official local, state, or federal government photo ID or a Disaster Critical Workforce Re-Entry Permit.

Phase 4:

This semi-restricted phase includes all residents, property owners, and business owners. Local public safety officials will likely ask those attempting to gain access to show a valid state-issued identification card and a document of proof that they have reason to enter the impacted area (i.e. property deed, utility bill, etc.).

Phase 5:

This is the final phase of re-entry in which local officials may determine all or portions of their county are relatively safe for the general public to enter. There are no special ID requirements for re-entry in Phase 5. However, this phase may have specific restrictions in place, such as curfews and restricted portions of the area.



Utility Cleanup

- Check for gas leaks. If you smell or hear gas leaking, leave immediately. Do not use the phone or turn on lights in your home. Call the gas company from a neighbor's phone.
- Report any visible damage of power lines to the electric company. Turn off power at main breaker if any electrical equipment or circuits have been exposed to water.
- Do not connect generators to your home's electrical circuits. If a generator is on the line when electrical service is restored, it can become a major fire hazard. Also, line workers working to restore power will be endangered if a generator is hooked up to a home's circuits.
- It is likely that an electric company other than your own will reconnect the lines to your home; however, they cannot turn the service back on. Only your electric company can actually restore power to your house.

Sewage Cleanup

- If you suspect water or sewage lines are damaged, do not use your plumbing (toilets, sinks, etc.). Contact the water company or a plumber for repairs.
- A chemical portable commode can be created by the following:
 - Use 5-gallon buckets with tight lids, lined with heavy duty plastic garbage bags.
 - Add kitty litter to the bucket as a disinfectant and deodorizer. Keep lids on firmly.
 - Keep buckets in a cool, dark place. Clean and disinfect buckets immediately.
- Your toilet can also be used by flushing until the bowl has no water. Then, line with heavy duty trash bags and disinfect with chlorine bleach after each use. Remove waste to an outside location.
- If significant sewer outages have occurred, instructions for disposal of human wastes will be announced.
- Do not dispose of human waste through your regular trash!

Individual Water Supply System (Wells)

In the event of a natural disaster, individual water supplies are at great risk of becoming contaminated especially if they are covered by flood waters. The following procedures should be used to determine the safety of individual water supplies:

- Ensure flood waters haven't overtopped wells.
- Clean well head thoroughly.
- Flush system until water is clear.
- Chlorinate well (chlorination process:
<http://aesl.ces.uga.edu/publications/watercirc/shockchlorination.pdf>)
- Allow chlorine to remain in the system for at least 8 hours.
- Flush system to remove chlorine.
- Test water for presence of coliform bacteria at the local health department or appropriate agency or available laboratory.

Emergency Management Information

Appling County
912-367-8170

Atkinson County
912-422-3968

Bacon County
912-632-7979

Baker County
229-734-3000

Ben Hill County
229-426-5111

Berrien County
229-686-6588

Brantley County
912-462-7874

Brooks County
229-263-4262

Bryan County
912-858-4636

Bullock County
912-489-1661

Calhoun County
229-310-5124

Camden County
912-729-5602

Candler County
912-685-4600

Charlton County
912-496-1081

Chatham County
912-201-4500

Clay County
229-768-2505

Clinch County
912-487-3700

Coffee County
912-389-1705

Colquitt County
229-616-7417

Cook County
229-896-4464

Decatur County
229-248-3869/3011

Dougherty County
229-431-2155

Early County
229-723-3029

Echols County
229-59-8500

Effingham County
912-754-8200

Evans County
912-739-1991

Glynn County
912-554-3645

Grady County
229-378-2271

Irwin County
229-468-9616

Jeff Davis County
912-375-6628

Jenkins County
478-982-6112

Lanier County
229-482-2595

Lee County
229-759-6090

Liberty County
912-368-2201

Long County
912-545-2143/318-3049

Lowndes County
229-671-2790/431-2155

McIntosh County
912-437-5170

Miller County
229-758-4122

Mitchell County
229-336-2072

Pierce County
912-449-2040

Quitman County
229-334-8865

Randolph County
229-671-2790

Screven County
912-451-8000

Seminole County
229-524-8956

Tattnall County
912-557-6820

Terrell County
229-995-4476

Thomas County
229-225-4190

Tift County
229-388-6061

Turner County
229-567-0313

Ware County
912-287-4394

Wayne County
912-427-5992

Worth County
229-776-8223

National Weather Service Office

There are 122 local National Weather Service (NWS) forecast officers. No matter where or when you travel in the U.S., including Alaska, Hawaii, Guam and Puerto Rico, there is a NWS office monitoring weather conditions and providing forecast information for that specific area.



Weather-Ready Nation
Saving Lives and Livelihoods

weather.gov

From advisors to educators, forest rangers to mariners, the NWS has the weather information you need to keep you and yours safe and prosperous!

NWS Atlanta
weather.gov/tlc

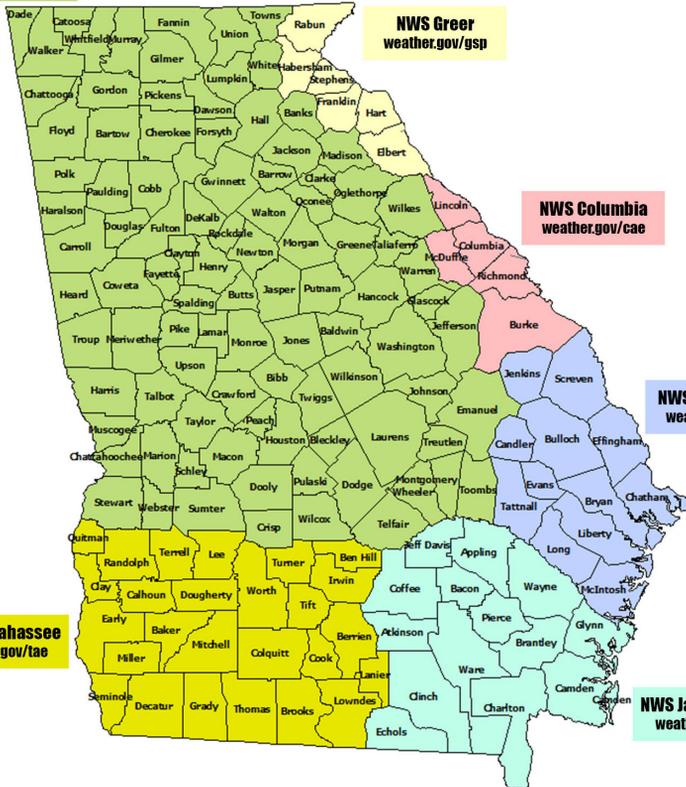
NWS Greer
weather.gov/gsp

NWS Columbia
weather.gov/cae

NWS Charleston
weather.gov/chs

NWS Tallahassee
weather.gov/tao

NWS Jacksonville
weather.gov/jax



Proudly Serving & Protecting since 1870

Weatherwise Kids

Hurricane Season

Complete the crossword below. The answers are located on bottom of this page.

The crossword puzzle grid consists of white squares for letters and black squares for empty space. The numbered starting points are: 1 (Down, top), 2 (Down, top), 3 (Across, left), 4 (Down, top), 5 (Across, middle), 6 (Down, middle), and 7 (Across, bottom).



Created on: *TheTeachersCorner.net* Crossword Maker

Across

3. An abnormal rise in sea level accompanying a tropical cyclone.
5. The name of the scale that categorizes hurricane intensity from 1 to 5 based on wind speed.
7. Powerful channels of water that flow seaward from the shoreline.

Down

1. The word that describes a hurricane with winds greater than 111 mph.
2. A tropical cyclone with winds between 39 and 73 mph.
4. Issued when hurricane conditions are possible for a certain area within 48-hours.
6. The K-name of the 2021 season.

How can kids help prepare for a storm?

- Help pick up small things lying around your yard, like toys or games, and bring them inside.
- Make an emergency back pack to keep with you during the storm including things like: sturdy shoes, a sweatshirt, extra water, snacks, a radio, a flashlight, extra batteries, adhesive bandages, and a cell phone.

Weather Jokes...

What did one hurricane say to the other hurricane?

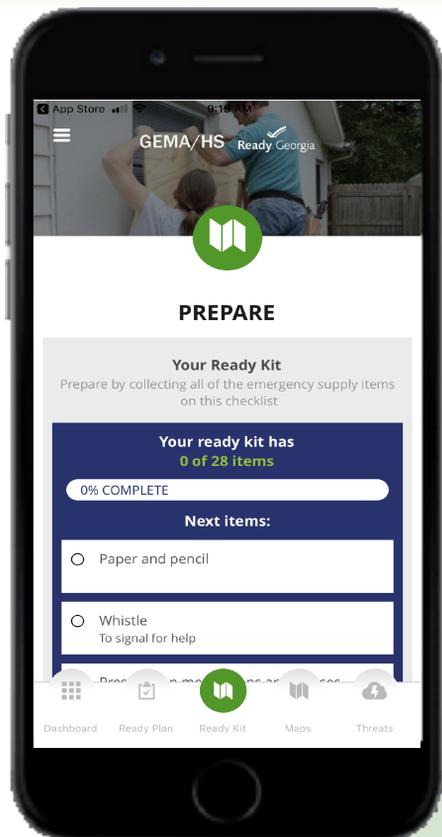
I've got my eye on you.

Across: 3. Storm surge, 5. Saffir-Simpson, 7. Rip currents, Down: 1. Major, 2. Tropical storm, 4. Hurricane watch, 6. Kate

Atlantic Hurricane Names

2019	2020	2021
Andrea	Arthur	Ana
Barry	Bertha	Bill
Chantal	Cristobal	Claudette
Dorian	Dolly	Danny
Erin	Edouard	Elsa
Fernand	Fay	Fred
Gabrielle	Gonzalo	Grace
Humberto	Hanna	Henri
Imelda	Isaias	Ida
Jerry	Josephine	Julian
Karen	Kyle	Kate
Lorenzo	Laura	Larry
Melissa	Marco	Mindy
Nestor	Nana	Nicholas
Olga	Omar	Odette
Pablo	Paulette	Peter
Rebekah	Rene	Rose
Sebastien	Sally	Sam
Tanya	Teddy	Teresa
Van	Vicky	Victor
Wendy	Wilfred	Wanda
2022	2023	2024
Alex	Arlene	Alberto
Bonnie	Bret	Beryl
Colin	Cindy	Chris
Danielle	Don	Debby
Earl	Emily	Ernesto
Fiona	Franklin	Florence
Gaston	Gert	Gordon
Hermine	Harold	Helene
Ian	Idalia	Isaac
Julia	Jose	Joyce
Karl	Katia	Kirk
Lisa	Lee	Leslie
Martin	Margot	Michael
Nicole	Nigel	Nadine
Owen	Ophelia	Oscar
Paula	Philippe	Patty
Richard	Rina	Rafael
Shary	Sean	Sara
Tobias	Tammy	Tony
Virginie	Vince	Valerie
Walter	Whitney	William

READY GEORGIA APP!

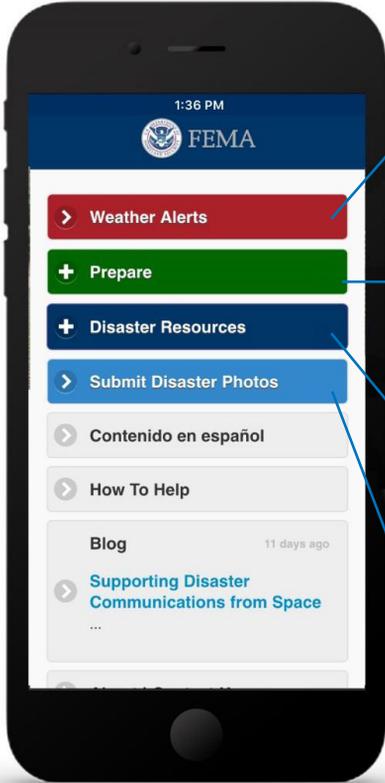


Get everything you need to be prepared for emergencies with the official app of the Georgia Emergency Management and Homeland Security Agency



 Ready Georgia

WEATHER THE STORM DOWNLOAD THE FEMA APP



Receive alerts from the National Weather Service for up to five locations.

Get safety reminders, read tips to survive natural disasters, and customize your emergency checklist.

Locate open shelters and where to talk to FEMA in person (or on the phone).

Upload and share your disaster photos to help first responders.



FEMA





Building Strong®

US Army Corps of Engineers®



Prepare for Tomorrow

www.sas.usace.army.mil

