

FLOODING IN CARTERET COUNTY Brief Overview...

The dominant source of flooding in Carteret County is wind-driven storm surge that is generated in the Atlantic Ocean by tropical storms and hurricanes. The surge gets pushed into Bogue Inlet, Beaufort Inlet, Bogue Sound, Back Sound, Core Sound, Goose Bay, the Intracoastal Waterway, Pamlico Sound, Shackelford Slough, the Straits, and further extends into Adams Creek, Neuse River, Newport River, North River, and the White Oak River.

North Carolina experiences hurricanes, tropical storms, and strong low-pressure systems in the fall and winter usually referred to as "Nor'easters".

High winds associated with tropical storms, hurricanes, and Nor'easters can also produce extremely high waves and sustained strong winds which may create a storm surge. The wave action during coastal surge flooding can be much more damaging than the high-water levels.

Storms, such as Hurricane Florence (2018) Hurricane Ophelia (2005), Hurricane Isabel (2003), Hurricane Floyd (1999), and Hurricane Bonnie (1998), have produced severe coastal flooding as well as extensive structural damage. In September 2018, Hurricane Florence caused extensive structural damage to thousands of homes in Carteret County with winds over 100 mph, a storm surge of 5-7 feet, and 20-30+ inches of rain. In September of 2005, Hurricane Ophelia produced over 9 inches of rainfall and wind gusts over 90 mph, resulting in a storm surge up to 6 feet in portions of Carteret County. In September of 2003, Hurricane Isabel caused damage to hundreds of homes in Carteret County with a storm surge of 4-7 feet along Core Sound.

DID YOU KNOW?

Your Local Planning and Inspections Department has copies of the FEMA Flood Insurance Rate Maps, which identify properties located in the 100-year flood zone

NATURAL AND BENEFICIAL FUNCTIONS OF FLOODPLAINS.

Undisturbed floodplains provide a wide range of benefits, such as:

- **Natural flood and erosion control:** provides flood storage and conveyance and reduces flood velocity
- **Water quality:** filters nutrients and impurities from runoff
- **Groundwater recharge:** reduces frequency and duration of surface flow
- **Biological resources:** supports high rate of plant growth, provides breeding and feeding grounds and enhances waterfowl habitat
- **Societal resources:** provides open space and aesthetic pleasures. Also, in areas of scientific study, provides opportunities for environmental research

FLOOD SAFETY BE PREPARED Before a storm threatens...

- Find out if your home is subject to flooding
- Learn to recognize the warning signals of your local government
- Inventory your property & personal belongings
- Review your insurance policies
- Familiarize yourself with the Carteret County Emergency Preparedness page and Flood Information page: <http://www.carteretcountync.gov/140/Emergency-Preparedness>
- <http://nc-carteretcounty.civicplus.com/244/Carteret-County-Flood-Information>
- Learn your children's school and/or day-care center's emergency plans
- Learn the emergency plans at your place of employment
- Choose an alternate location to meet if an emergency happens while your family is away from home and cannot return
- Post all emergency plans/phone numbers in a prominent place

When a Hurricane Watch is Issued...

- Stay informed of the latest emergency instructions by listening to local radio and television broadcasts
- Consider evacuating early to avoid long hours on limited evacuation routes
- Keep your car fueled should evacuation be necessary
- If you are advised to evacuate by your local government, do so promptly and follow local evacuation routes

Safety Tips for Buildings...

- Turn off power at the main electrical circuit breaker panel
- Close the main gas valve
- Shut off water and power to all docks and piers
- Store important documents in waterproof containers
- Move valuables to upper floors or higher elevations
- Board up windows or protect them with storm shutters
- Bring outdoor possessions inside the house or tie them down securely
- If you're caught in the house by suddenly rising waters, move to a second floor and, if necessary, to the attic

Always remember to include your pets as part of your evacuation plan.

DID YOU KNOW?

Carteret County has a 'pet friendly' shelter located at the Newport Middle School. To pre-register, please call: 252-728-8470. Also, a list of 'pet friendly' hotels can be found on the County's Emergency Services website.

EVERY FAMILY SHOULD HAVE A FAMILY EMERGENCY PLAN

For more information visit: <http://www.ready.gov/> or <http://www.readync.org/EN/index.html>

Flooding causes more property damage in the United States than any other type of natural disaster.

PROPERTY PROTECTION MEASURES

Things you can do...

Many houses existing today were built when little was known about floods and other hazardous events or how buildings should be protected. Therefore, there are a significant number of existing homes that continue to be susceptible to repetitive flood losses. Recent improvements in construction practices and regulations have made new homes less prone to flood damage.

FEMA has published a manual that describes various techniques that can be used to make an existing building more flood resistant. This process is also known as "retrofitting". Retrofitting is making changes to an existing building to protect it from flooding or other hazards, such as high winds and earthquakes.

Temporary and Emergency Measures

- Moving furniture and equipment to upper floors
- Sandbagging to hold back rising waters
- Building temporary levees

Permanent Measures & Examples of Retrofitting



- Elevating the structure
- Wet Floodproofing
- Dry Floodproofing
- Relocation/Acquisition

The Federal Emergency Management Agency (FEMA) has published **Engineering Principles and Practices for Retrofitting Flood-Prone Residential Structures**. This publication presents a series of permanent retrofitting measures that can be incorporated into an existing house to reduce or eliminate the potential of future flooding. Other publications are available that discuss various ways to mitigate a structure's flood risk. They are available from FEMA free of charge. To order please contact:

https://www.fema.gov/sites/default/files/2020-08/fema259_complete_rev.pdf

**FEMA Distribution Center
1-800-480-2520**

WHAT TO INCLUDE IN YOUR HURRICANE KIT:

- First aid kit
- Non-perishable food supply to last at least 3 days per person
- Bottled water 1 gallon per person per day to last at least 3 days
- N95 masks
- Extra family medications, prescriptions, etc.
- Flashlights and Batteries, battery powered lanterns
- Important documents (i.e. insurance policies, birth certificates)
- Driver's license and/or other identification
- Property inventory list
- Special medical information
- Cash
- Extra clothing & blankets, cell phone chargers, candles, tool kit,
- NOAA weather radio, duct tape, tarps, hand sanitizer

TIP: Fill bathtubs, sinks and jugs with clean water in case regular supplies are contaminated (sanitize these items by first mixing 1 teaspoon of bleach for each gallon of water. Discard bleach water and fill with clean potable water).

FLOOD WARNING SYSTEMS

Residents should listen to local radio and TV broadcasts and visit internet sites to be alert to local advisories.

Radio: WLGP (FM 100.3) WRMR (FM 98.7) WOTJ (FM 90.7) WMGV (FM 103.3) WBJD (FM 91.5) WTKF (FM 107.3) WRHT (FM 96.3) WKNS (FM 90.3) WNBB (FM 97.9)

Local TV Stations:

WITN (Channel 7) WUND (Channel 2)
WNCT (Channel 9) WCTI (Channel 12)
WYDO (Channel 14) WUNM (Channel 19)

Internet Sites:

<http://www.weather.gov/mhx/> or <http://www.carteretcountync.gov/525/Emergency-Notification>

Other Tools: NOAA weather radio, standard AM/FM battery radio, smartphone weather apps

In an unlikely event of a storm developing at night, with no opportunity for prior warning to the public, the local fire and rescue and law enforcement have the capability to deliver flood warning messages.

Carteret County Emergency Services maintains direct contact with the National Weather Service and National Hurricane Center and relays updates of threatening weather to government, media, hospitals, etc. They can override the local cable broadcast system to provide storm and flood information. **For more information on Carteret County Flood Warnings, please call Carteret County Emergency Services at 252-222-5841**

FLOOD INSURANCE RATE MAP (FIRM)
Are you curious about what flood zone you are in?

Local governments will provide you with information about whether or not a property is located in special flood hazard areas within their respective jurisdictions. In addition, elevation certificates may be on file for any new construction and substantial improvements

In addition, FIRMs can be found online at <https://arcgisweb.carteretcountync.gov/maps/> or <https://fris.nc.gov/fris/Home.aspx?ST=NC> or contact your local permit office.

FLOOD INSURANCE
Take advantage of flood insurance...

Flood damage is not covered by most standard homeowners' policies. Separate insurance policies are needed for protection against flood damage, which people frequently don't realize until it is too late. You can protect your home, business, and belongings from a flood by purchasing flood insurance.

Flood insurance guarantees compensation for flood damages because the federal government backs the National Flood Insurance Program (NFIP). It compensates all covered losses, even when federal disaster funds are not available. Flood insurance covers structural and mechanical damage that resulted from flooding, as well as flood debris cleanup and floor surfaces (like tile and carpeting). You can purchase additional coverage to insure your personal property and belongings.

Plan ahead and get your flood insurance today. There is a 30-day waiting period before your coverage goes into effect.

The National Flood Insurance Program is available in your community! Contact your insurance company today for more information or visit: <https://www.floodsmart.gov/>



THE MOST SERIOUS THREAT OF COASTAL FLOODING IS DURING THE OFFICIAL HURRICANE SEASON JUNE 1ST THROUGH NOVEMBER 30TH OF EACH YEAR. HOWEVER, FLOODING CAN OCCUR ANY MONTH OF THE YEAR

FLOODPLAIN DEVELOPMENT

All properties located in the "Special Flood Hazard Area" on the community's Flood Hazard Boundary Map or Flood Insurance Rate Map are subject to regulations and any development activities will require a floodplain development permit.

Any man-made change to improved or unimproved property, such as:

- BUILDINGS
- EXCAVATION
- DREDGING
- FILLING
- GRADING
- PAVING

The community may levy a fine and/or obtain a court order to have the owner correct the construction, if built without a permit or if not built according to the approved plans. **For information on floodplain development or to report illegal floodplain development, contact your local permit office (See back of brochure for contact information).**

SUBSTANTIAL IMPROVEMENT REQUIREMENTS

A "substantial improvement" is any reconstruction, rehabilitation, addition, or other improvement to a building, the cost of which exceeds 50% of the market value of the building before the start of construction of the improvement. However, when the building is damaged and the cost of restoring the building to its before-damage condition exceeds 50% of the market value prior to the damage occurring, it is termed, "substantial damage".

New construction or substantial improvement of any structure (residential, commercial, industrial, or non-residential) located in a special flood hazard area shall have the lowest floor, including basement, all ductwork, and machinery elevated to or above the base flood elevation plus any freeboard requirements. Non-residential structures can be floodproofed to the base flood elevation plus any freeboard requirements.

Contact your local permit office for rules and requirements regarding "substantial improvement" and "substantial damage".

DRAINAGE SYSTEM MAINTENANCE

Drainage systems are the responsibility of the homeowners' association, NCDOT, the local municipality, or the individual property owner.

It is important to keep drainage systems properly maintained. Streams, channels, ditches and detention/retention basins lose their carrying capacities as a result of dumping, sedimentation, and growth of vegetation. When a drainage system loses a portion of its carrying or storage capacity, flooding occurs and waters reach higher elevations.

Dumping in streams, creeks, rivers, sounds, and the ocean is illegal and should be reported to NC DEQ at 910-796-7215.

For more information on Flood and Hurricane Preparedness, please visit your local permit office or a Carteret County Library.

Contact information for local building permit offices:

- Atlantic Beach 252-726-4456
- Beaufort 252-728-2141
- Carteret County 252-728-8545 or 252-222-5833
- Cape Carteret 252-393-8483
- Cedar Point 252-354-7898
- Emerald Isle 252-354-3338
- Morehead City 252-726-6848 ext.125
- Newport 252-223-3733
- Pine Knoll Shores 252-247-4353 ext. 11

Contact your local permit office for retrofitting advice and information, as well as assistance or to request a site visit if you experience flood or drainage problems.

IMPORTANT WEBSITES:

Carteret County Information, including GIS maps & County Ordinances: <http://nc-carteretcounty.civicplus.com/>

Carteret County Flood Information:
<http://nc-carteretcounty.civicplus.com/244/Carteret-County-Flood-Information>

Carteret County Emergency Services:
<http://nc-carteretcounty.civicplus.com/138/Emergency-Services>

Carteret County's Hurricane Information:
<http://nc-carteretcounty.civicplus.com/140/Emergency-Preparedness>

Federal Emergency Management Agency: www.fema.gov

US Department of Homeland Security Emergency Preparedness: <https://www.ready.gov/>

Ready NC: <http://www.readync.org/EN/Index.html>

North Carolina Department of Environmental Quality:
<https://deq.nc.gov/>

North Carolina Flood Risk Information System:
<http://fris.nc.gov/fris/Home.aspx?ST=NC>

National Hurricane Center: <http://www.nhc.noaa.gov/>

National Weather Service: <http://www.weather.gov/>

Your property is in or near a "Special Flood Hazard Area"

ARE YOU PREPARED?

FLOOD TIPS & FLOOD INFORMATION BROCHURE



FOR CARTERET COUNTY PROPERTY OWNERS AND RESIDENTS

Published by the Carteret County Planning and Development Department

**3820 Bridges Street Suite B
Morehead City, NC 28557**

252-728-8545 or 252-222-5833

<http://nc-carteretcounty.civicplus.com/>