

# Floodplain Flash

## Am I really at risk of flooding?

Charlotte-Mecklenburg is updating its floodplain maps. These maps are not only about flood insurance. The maps help you understand your property's risk of being damaged by flooding. While it sounds like a cliché, "new and improved" really does describe the revised maps.

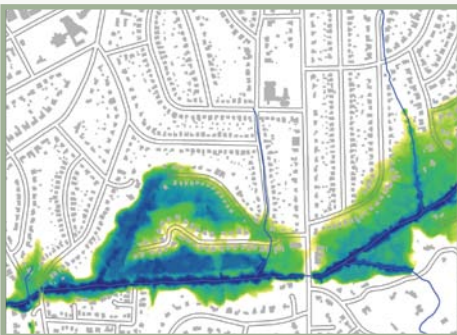
### What's new?

The mapping technology is new. It's called LIDAR. It's like SONAR but uses pulses of light instead of sound. This technology detects even slight variations in the earth's surface. LIDAR helps us figure out where floodwater from creeks is likely to flow.

The mapping data is also new. Existing local floodplain maps use data that is as much as 14 years old. Land use in Charlotte-Mecklenburg has changed dramatically since 1997. Up-to-date information about land use is part of the new mapping data. So is LIDAR's precise picture of our community's terrain, often called "topography." Enhanced computer software uses the new data to calculate flood projections. The result is revised floodplain maps that are much more accurate than those of the past.

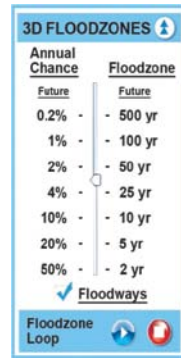
### What's improved?

The new floodplain maps look different, making it much easier to understand your property's flood risk. Think of a square drawn on a piece of paper. In the past, floodplain maps have been like that square. They've shown only two dimensions: length and width—such as how far floodwater will spread across the ground. Compare that simple square to a cube. Our new floodplain maps are more like a cube. They use colors to show depth—how deep the floodwater will get. They even show how fast the floodwater will flow.



It's important to know how wide floodwater will spread. It's just as important to know how deep that floodwater is expected to be. Because our new floodplain maps show height, width and depth, we are calling them "3-D Floodplain Maps."

Our new maps also show flood risks for many different types of storms, from a fairly common



downpour to a rare "500-year flood." As before, the one-percent chance flood or "100-year flood" is still the benchmark for floodplain development regulations and for flood insurance. But smaller rain events can still cause flood damage. Our new maps help show how your flood risk changes depending on the size of the storm.

The new maps have not been formally approved yet. That means the new floodplain maps are not being used for insurance or regulatory purposes. The new maps will not become official until they get federal approval and are adopted locally by city and town councils and by the county board starting in 2012.

See a draft version of the new and improved 3-D Floodplain Maps for the central and southeastern portions of Charlotte-Mecklenburg at: <http://mapserver.mecklenburgcountync.gov/fmr>

## How new maps affect you

The draft maps show that flood risks have significantly changed for about 80 percent of local property owners in the watersheds mapped so far. For some, the new maps show their flood risk is lower than they thought. For others, the new maps show their flood risk has increased. The changes can affect how much you pay for flood insurance or how floodplain development regulations apply to your property.

**The flood risk is real.  
Be prepared.**

## You own property in a floodplain

Flooding is a natural occurrence during or after heavy rain. This annual newsletter is to help you understand the risks and responsibilities of living in a mapped floodplain.

### Flood facts:

- Flooding can happen anywhere, even outside of mapped floodplains.
- Your property's flood history is not the best indicator of current or future risk.
- Flooding is the nation's #1 natural disaster. It is also the most common—and most expensive—natural disaster in Charlotte-Mecklenburg.
- 97% of the U.S. population lives in a county that has experienced a flood disaster since 1980.
- There are more than 4,000 buildings in Charlotte-Mecklenburg floodplains.
- Regular homeowners insurance doesn't cover flood damage.
- 25% of businesses with flood damage never reopen.
- Everyone lives in a flood zone. There are high, moderate and low risk areas.
- Rules for construction, renovation, paving and grading are more restrictive in the floodplain.
- 80% of flood deaths happen in vehicles.
- Charlotte-Mecklenburg Storm Water Services won three national awards in 2010 for education and outreach about the dangers of flooding.

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## 3 inches = \$22,590

Three inches of floodwater in a typical Charlotte-area home would cause more than \$22,000 in damage. That's far more than an average annual flood insurance premium.

- Regular insurance does not cover flooding.
- A separate flood insurance policy is needed to protect your home, business or belongings.
- Federal law mandates that mortgage lenders require a flood insurance policy for any property at high risk of flooding. Flood insurance policies can also be purchased for properties at low to moderate risk.
- Your premium depends on your property's risk, level of coverage, deductible, and the date and type of construction of your home.
- You can get a separate flood insurance policy for your belongings such as furniture, clothing and appliances.
- About 100 private insurance companies sell flood insurance.
- Flood insurance rates are set nationwide and do not differ from company to company, or from agent to agent.
- Because of local efforts to reduce flood risks, flood insurance rates are discounted 25 percent in Charlotte and Pineville.
- Typically, there's a 30-day waiting period before flood insurance takes effect.

To find a local flood insurance agent or to estimate your premiums, call the National Flood Insurance Program at 1-888-379-9531 or go to [www.floodsmart.gov](http://www.floodsmart.gov).



## Mapping updates continue through 2015

It will take several years to create and approve new 3-D Floodplain Maps for all of Charlotte-Mecklenburg. So far, draft maps are complete for the county's central and southeastern portions. Draft floodplain maps for the western and northeastern sections will be completed in the next two to three years.

### *Little Sugar/Briar Creek Watersheds:*

(shown on map in pink above dark line)

Public meetings were held in the fall of 2010 to explain the new draft maps. They are expected to take effect for flood insurance purposes in 2012.

### *McAlpine/Goose Watersheds:*

(shown on map in pink below dark line)

Public meetings to explain the new draft maps are being held in 2011. They are expected to become effective for flood insurance purposes in 2012.

### *McDowell/Steele Watersheds:*

(shown on map in green)

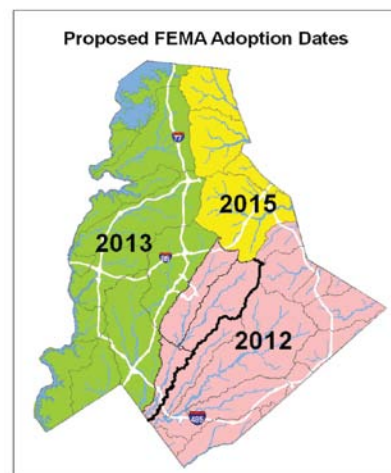
New data will be used to create draft floodplain maps in 2012. Public meetings will follow and

the maps are expected to take effect for flood insurance purposes in 2013 or 2014.

### *Rocky River/Mallard Watersheds:*

(shown on map in yellow)

New data will be used to create draft floodplain maps in 2013 or 2014. Public meetings will follow with the maps expected to take effect for flood insurance purposes in 2015.



## What are floodplains and why do they flood?

Floodplains are the areas along streams or rivers that are likely to experience repeated flooding.

If it rains hard enough or long enough, creeks will spill onto the floodplain. That means anything in or near a floodplain is at risk of flooding. Floodplain maps do not put people in the floodplain. Nature has already done that. The maps just show which property is at highest risk of flooding.

The primary cause of flooding in Charlotte-Mecklenburg is heavy rain. Due to local weather patterns, flooding downpours are common with thunderstorms, tropical storms and hurricanes. Locally, one inch of rain in one hour can cause a flash flood on some streams.

Most local floods happen with little warning. Intense rainfall can suddenly flood streets or send creeks surging over their banks. Floodwater in Charlotte-Mecklenburg often rises quickly and falls quickly.

A study completed in 2010 concluded that "flooding remains a highly-likely occurrence throughout identified flood hazard areas (mapped floodplains) in Mecklenburg County."

### Reducing flood risks

Storm Water Services cannot prevent creeks from overflowing onto the floodplain. Flood risks are not measurably reduced by cutting vegetation along creeks, lining the banks with rocks or dredging stream channels.

Storm Water Services improves drainage by installing larger storm water pipes and culverts. Crews also work year-round to remove blockages from culverts and creek channels. While flooding cannot be prevented, the 2010 Multi-Jurisdictional Hazard Mitigation Plan concluded that Charlotte-Mecklenburg "continues to reduce the likelihood of repetitive flood losses through its ongoing flood mitigation programs...and other regulatory policies for new development" in areas at higher risk of flooding.

## How floodplain maps are used

Since the late 1970s, Charlotte-Mecklenburg has used floodplain maps to identify the likelihood and extent of flooding for a one-percent chance annual flood. That's sometimes called a "100-year flood." Residents should use current and new maps to help understand their flood risk and take appropriate action to protect lives and property.

Floodplain maps are used to determine who must

have flood insurance and to rate new policies. Maps are also used to regulate new development. Regulations on floodplain construction are aimed at reducing flood insurance claims. With up-to-date floodplain maps, local government agencies can develop a more comprehensive approach to emergency management planning, land use and zoning, environmental projects, and economic development.

# Floodplain construction

A Mecklenburg County Floodplain Development Permit is required for any:

- new building construction
- building renovation or addition
- land-altering activity such as grading, filling or paving

in the FEMA or Community Floodplain.

New construction or any addition to existing buildings in the regulated floodplain must comply with all floodplain development ordinances.

## Substantial Improvement

There are limits on how much you can spend to renovate or repair your home or business in the regulated floodplain. The limits apply to one-time

expenses as well as to multiple projects over a ten year period. If the cost of reconstruction, repairs or an addition equals or goes above 50 percent of the building's market value, then the building must meet the same floodplain construction requirements as a new building.

If the structure's lowest floor is below the current base flood elevation, the "substantial improvement rule" applies. The building often must be elevated (raised) above projected flood levels before it is renovated or repaired.

*Learn the requirements before you begin grading, building or repairing in a regulated floodplain. Call Storm Water Services at 704-432-RAIN.*

# Flood safety

When it comes to natural disasters, the biggest threat in Charlotte-Mecklenburg is flooding. Records of severe local floods date back to 1916. Since 1995, floods in Charlotte-Mecklenburg have claimed three lives and caused more than \$27 million in damage.

## Before it floods:

- Buy flood insurance or review your policy.
  - Have an evacuation plan.
  - Create a "flood file" with information about your flood insurance and all possessions you might list on a flood insurance claim. Store the file in a safe, waterproof place.
  - Clear trash and debris from storm drains.
  - Don't rake or blow leaves or grass clippings into the street or storm drains. It's a violation of local ordinances to throw anything into the public drainage system.
  - Pay attention to flood watches and warnings on local radio or TV stations such as WBTV, WCCB, WCNC or WSOC, NOAA weather radio 162.475MHz, or on weather websites.
  - Be prepared to turn off electrical power and natural gas service to your home or business.
  - Have a three day emergency supply of water and food.
- Report downed power lines or suspected natural gas line ruptures.
  - Check for structural damage before re-entering your home. Have a building inspector check the integrity of a flooded structure.
  - If your home or belongings are damaged, call your insurance agent to file a claim. Take photographs of damaged property, structure damage and flood heights.
  - Throw away food, medicine and any item that came in contact with floodwater and cannot be disinfected.
  - To kill mold or mildew, clean with a combination of ½ cup bleach and one gallon of water.



## Property Protection

The most effective way to protect a building from flood damage is to move it out of the floodplain. Elevating the structure above flood heights is another way to reduce flood losses. FEMA and local funding may be available to acquire or elevate buildings that are at greatest risk.

Flow vents in crawl spaces can reduce flood damage. Raising air conditioners, furnaces, electrical components and fuel tanks at least 12 inches above projected flood heights can protect them from floodwater. To protect against minor flooding, use sandbags, plastic sheeting and flood shields. For specific advice on how to reduce flood damage to your property, call Storm Water Services at 704-432-RAIN.

## During a flood:

- If lives or property are in danger, call 911.
- If told to evacuate, do so immediately.
- Don't drive through flowing water.

## After a flood:

- Avoid direct contact with floodwater because it is often contaminated.

## Two floodplains

Since 2000, Charlotte-Mecklenburg has shown both current and future floodplains on its official maps.

Both floodplains:

Restrictions on construction, renovation, building repairs, land grading and filling.

FEMA Floodplain:

Flood insurance is required.

Community Floodplain:

Flood insurance is recommended.

## Flood Information & Notification System

If heavy rain is falling or streams are rising in Charlotte-Mecklenburg, emergency responders know about it instantly. Rain and stream gauges are located throughout the entire county. The gauges send automatic alerts to local firefighters and other emergency personnel. The Flood Information & Notification System (FINS) shows where rainfall is the heaviest and where streams are most likely to overflow their banks.



FINS provides advanced notice so emergency crews can barricade roads or begin evacuating buildings. You can monitor FINS gauges in real time. Go to <http://finslive.mecklenburgcountync.gov/finslive/#>. While the FINS Live website is not a flood warning system for the public, it can be used to accurately monitor rainfall amounts and stream depths.

## Check it out!

See where your property is within the regulated floodplain. Go to: <http://stormwater.charmeck.org>.



Click on: Drainage and Flooding. Then: Am I in a Flood Zone? Then: Floodzone Interactive Map.

Type in your address. Blue shows the FEMA Floodplain. Gray shows the Community Floodplain, where flooding is likely in the future. Regulations apply to both the FEMA and Community Flood Zones.

Remember that this map shows the regulated floodplain. Flooding can also occur in areas not shown on the Flood Zone map.

## Who to call:

Minor flooding or drainage problems,  
or to volunteer:

**311** or **704-336-7600**

Floodplain Maps, Floodplain Permits,  
Floodplain construction:

**704-432-RAIN**

Flood insurance:

**1-888-379-9531**

700 North Tryon Street  
Charlotte, NC 28202

<http://stormwater.charmeck.org>

Printed on recycled paper,  
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## The benefits of floodplains

Most people love a trip to the beach. It's where the land and ocean come together—and there's no place like it. Floodplains are where land and surface water come together. In a floodplain, the environments of water and land overlap to provide a lush habitat for a wide variety of plants, insects, reptiles, birds and mammals. There's no place like it.

Undeveloped or restored floodplains usually have marshes or wetlands. The floodplain provides food, shelter and nesting areas for many types of aquatic life and wildlife, including migrating birds. In North Carolina, 70 percent of endangered or threatened species depends on wetlands for survival.

Floodplains are beneficial to people, too. One acre of undeveloped floodplain can store 1.5 million gallons of floodwater. Plants naturally found in undeveloped or restored floodplains can filter out pollutants like sediment, excess nutrients and some harmful chemicals. Restored floodplains also provide a great place for greenway trails, bird-watching or connecting with nature.

Five percent of Charlotte-Mecklenburg land is in a regulated floodplain. Storm Water Services works to restore the natural and beneficial functions of floodplains.



700 North Tryon Street, Charlotte, NC 28202