



# North Carolina Floodplain Mapping Program Updates

April 20, 2018



North Carolina Emergency Management  
Floodplain Management Section



# Topics

- Flood Map Status
- LiDAR Data and Spatial Data Download
- FRIS
- Case Study

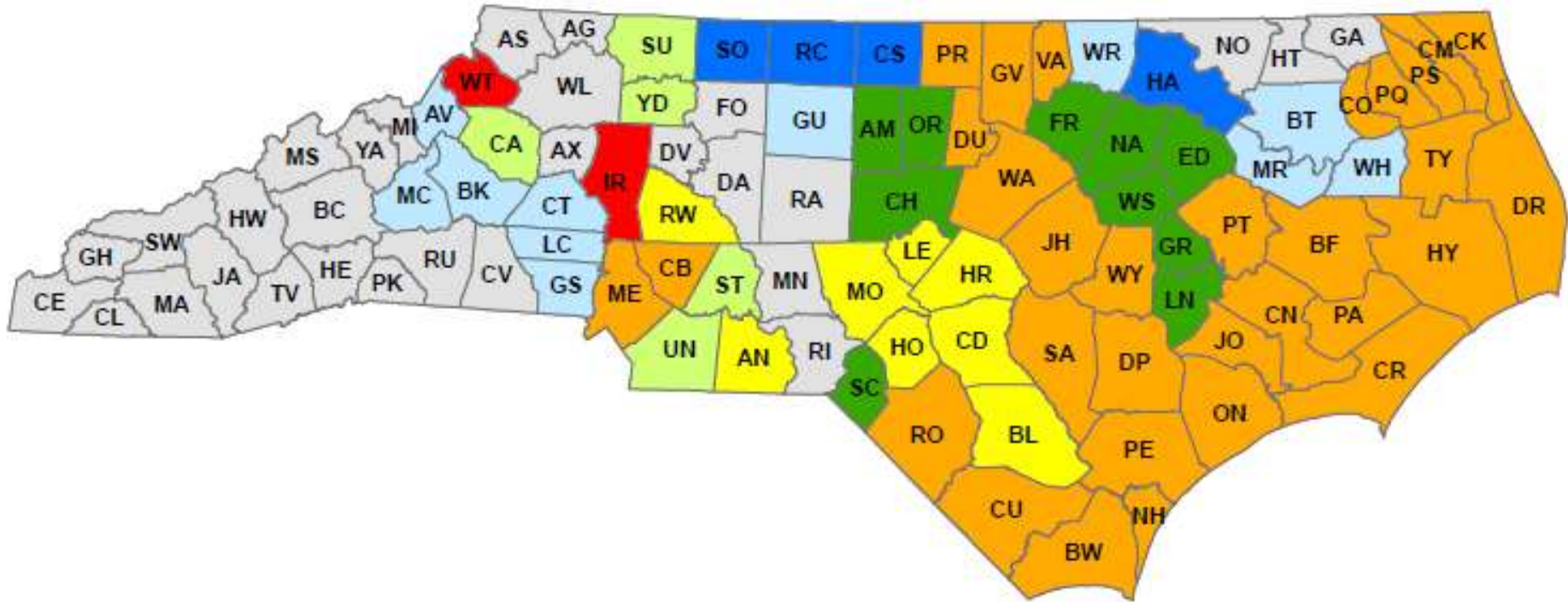


**North Carolina Emergency Management  
Floodplain Management Section**











2



# Flood Map Status (as of 3/5/2018)



## Legend

- |  |                               |   |  |
|--|-------------------------------|---|--|
|  | Not Started                   |  | Coastal Workmaps Quality Control       |
|  | Effective                     |  | Coastal Workmaps Approved              |
|  | Preliminary                   |  | Hydrology & Hydraulics Quality Control |
|  | Flood Approved                |  | Hydrology & Hydraulics Approved        |
|  | Flood Mapping Quality Control |  | Survey Quality Control                 |



# Flood Map Status

## Upcoming Effective Dates

### ➤ Effective:

- November 17, 2017: Alamance, Chatham, Orange

### ➤ Upcoming:

- June 20, 2018: Duplin, Johnston, Sampson, Wayne
- August 28, 2018: Brunswick, New Hanover
- October 19, 2018: Durham
- November 16, 2018: Cabarrus, Mecklenburg
- December 21, 2018: Camden, Chowan, Currituck, Pasquotank, Perquimans



**North Carolina Emergency Management  
Floodplain Management Section**



# LiDAR Phases

Phase 1- Collected by USGS and NCFMP with Hurricane Sandy funds 2014 - Available on SDD

Phase 2- collected by NCFMP and NCDOT in conjunction with USGS – 2014 - Available on SDD

Phase 3- collected by NCFMP and NCDOT with assistance from the General Assembly-2015- Available on SDD

Phase 4- collected by NCFMP and NCDOT-2016-17 Available by request-working website availability by summer

Phase 5- collected by NCFMP and NCDOT -2017 Currently in process- should be available end of the year

Phase 1 - Acquired at 2ppsm- linear sensor  
 Phase 2 - Acquired at 2ppsm- linear sensor  
 Phase 3 - Acquired at 2ppsm- linear sensor  
 Phase 4 - Acquired at 8ppsm- Geiger sensor  
 Phase 5 - Acquired at 8ppsm- Geiger sensor



All available Data will be provided on [rmp.nc.gov/sdd](http://rmp.nc.gov/sdd)

# Spatial Data Download

North Carolina Spatial Data Download

WELCOME TO NORTH CAROLINA'S SPATIAL DATA DOWNLOAD

Login below with your NCID  
A North Carolina ID (NCID) is required.  
Don't have a NCID? Sign up here.

NCID USER NAME:  
bsmorgan

PASSWORD:  
\*\*\*\*\*

LOGIN

**Hazards**  
Information provided with Floodplain Mapping.

**Base Data**

- Quality Level 2 LiDAR
- Legacy LiDAR
- Digital Elevation Models

**Built Environment**  
Data set structures and other built environments.

SPATIAL Data Download

NC Floodplain Mapping Program  
4105 Weedy Creek Drive  
Raleigh, NC 27607

Mailing Address  
4218 Mall Service Center  
Raleigh, NC 27699-4218

Phone: (919) 715-5711  
Fax: (919) 715-0408  
Email: rmcj@andship@ncdps.gov

# Spatial Data Download

The screenshot shows a web browser window with the URL <https://mp.nc.gov/SDD/DataDownload.aspx>. The page title is "Please Select Data Type for Download". Below the title, there is a blue bar with the text "Click one of the blue boxes to view and download data. Then draw or select an area of interest on the map." The main content area is divided into three columns: "Hazards", "Base Data", and "Built Environment".

- Hazards**
  - FLOOD ZONES**  
Download the 100 year flood zones and associated layers such as cross sections, benchmarks, political areas, counties.
- Base Data**
  - QL2 LIDAR**  
2 points per meter dataset from 2014 to the present covering 60 counties.
  - ELEVATION**  
Digital Elevation Model (DEM) data for both Legacy and QL2 source data.
  - LEGACY LIDAR**  
Bare Earth points (ascii comma delimited)
- Built Environment**
  - SCHOOLS**  
Build points for Schools Campus points for school polygon for campus
  - BUILDING INFORMATION**  
Building footprints Building points

At the bottom of the page, there is contact information for the NC Floodplain Mapping Program, including the address (4105 Reedy Creek Drive, Raleigh, NC 27607), phone number (919) 733-3711, fax number (919) 715-0408, and email (sdd@nc.gov).

# Spatial Data Download

SPATIAL Data Download

ADMIN DATA DOWNLOAD LARGE DATA REQUEST MY ACCOUNT LOGOUT

QL2 LIDAR DATA DOWNLOAD

SELECT DATA TO DOWNLOAD Pick A County

SELECT 1 TILE COUNTY DRAW BOX DRAW AREA

QL2 LIDAR

Phase

- Phase 1 - 2014 USGS
- Phase 2 - 2014 NC

NC Floodplain Mapping Program  
4105 Reedy Creek Drive  
Raleigh, NC 27607

Mailing Address  
4218 Mail Service Center  
Raleigh, NC 27699-4238

Phone: (919) 715-5711  
Fax: (919) 715-0408



North Carolina Emergency Management  
Floodplain Management Section





# Spatial Data Download – Clip and Ship

Data Download

https://rmp.nc.gov/SDD/DataDownload.aspx#

SPATIAL Data Download

ADMIN DATA DOWNLOAD LARGE DATA REQUEST MY ACCOUNT LOGOUT

0L2 LIDAR DATA DOWNLOAD

SELECT DATA TO DOWNLOAD Pick A County

+ - SELECT 1 TILE COUNTY DRAW BOX DRAW AREA

No legend

NC Floodplain Mapping Program  
4105 Reedy Creek Drive  
Raleigh, NC 27607

Mailing Address  
421B Mail Service Center  
Raleigh, NC 27699-421B

Phone: (919) 715-5711  
Fax: (919) 715-0408



North Carolina Emergency Management  
Floodplain Management Section



# Spatial Data Download – Clip and Ship

The screenshot shows a web browser window with the URL <https://rmp.nc.gov/SDD/DataDownload.aspx#>. A modal window titled "LiDAR Download" is open, providing instructions and selection options. The modal text reads: "Click here for an explanation of the state LiDAR project for all years with specifications per phase. [View LiDAR Fact Sheet.](#) Select the classes of LiDAR you wish to include in your output .LAS file." There are three main selection categories: "ALL CLASSES" (selected), "BARE EARTH", and "INDIVIDUAL CLASSES". Under "ALL CLASSES", it states: "This dataset contains all classes including ground, roads, vegetation and water." Under "BARE EARTH", it states: "This dataset represents the earth's surface with all vegetation and human-made structures removed. The output .LAS file will contain classes 2 (Ground) and 13 (Roads)." Under "INDIVIDUAL CLASSES", there are checkboxes for "Ground", "Strata/Vegetation", "Buildings", "Roads", and "Bridges". A blue "SUBMIT REQUEST" button is located at the bottom right of the modal. Below the modal, there are three bullet points: "All selected datasets will be delivered as a single zip file.", "It may take up to 24 hours to generate your zip.", and "You will receive an email when your zip file is ready for download." The footer of the page contains the "SPATIAL Data Download" logo, contact information for the NC Floodplain Mapping Program (4305 Sandy Creek Drive, Raleigh, NC 27607), and mailing address (4218 Mall Service Center, Raleigh, NC 27699-6218). Phone: (919) 715-5711, Fax: (919) 715-0408.

# Spatial Data Download – Clip and Ship

**Please Select Data Type for Download**

Click one of the blue boxes to view and download data. Then draw or select an area of interest on the map.

**WOULD YOU LIKE TO USE THE CURRENT AREA YOU HAVE SELECTED?**

**Hazards**

- FLOOD ZONES**  
Download the 100 year flood zones and associated layers such as cross sections, benchmarks, political areas, counties.

**Base Data**

- OL2 LIDAR**  
2 points per meter dataset from 2014 to the present covering 60 counties.
- ELEVATION**  
Digital Elevation Modal (DEM) data for both Legacy and QL2 source data.
- LEGACY LIDAR**  
Bare Earth points (ascii comma delimited)

**Built Environment**

- SCHOOLS**  
Build points for Schools Campus points for school polygon for campus
- BUILDING INFORMATION**  
Building footprints Building points

**Current Jobs**

Your jobs are processing.  
This may take several minutes depending on the size of your area. When your job is complete, click the Download button to retrieve your zip file. If you would like to extract more data from this same area, you may click the 'Select Data to Download' button and you will be prompted to reuse the same area.

LIDAR Data Request may take up to 24 hours.  
[click here to check the status of your request](#)

NC Floodplain Mapping Program  
4105 Sandy Creek Drive  
Raleigh, NC 27607  
Phone: (919) 715-3711  
Fax: (919) 715-0408

Mailing Address  
4213 Mail Service Center  
Raleigh, NC 27699-4213

# Spatial Data Download – Flood Data

**SPATIAL Data Download**

## FLOOD ZONES DATA DOWNLOAD

DATA DOWNLOAD | LARGE DATA REQUEST | MY ACCOUNT | LOGOUT

Please Select Layers and Formats

Select one or more layers for download. Choose your output format and click Submit Job. The data will be processed in a few minutes and you will see a link to download your .zip file.

- BASE FLOOD ELEVATIONS (FT)
- BENCHMARKS
- COASTAL TRANSECT
- STRUCTURES
- CROSS SECTION
- STREAM CENTERLINE
- COASTAL BARRIER RESOURCE SYSTEMS
- POLITICAL AREAS
- FLOOD HAZARD LINES
- FLOOD HAZARD AREAS
- WATER AREAS
- COUNTIES

Shapefile - SHP - .shp

**SUBMIT JOB**

**Current Jobs**

Your jobs are processing.  
This may take several minutes depending on the size of your area. When your job is complete, click the Download button to retrieve your .zip file. If you would like to extract more data from this same area, you may click the "Select Data to Download" button and you will be prompted to reuse the same area.

UDAR Data Request may take up to 24 hours.  
[click here to check the status of your request](#)

NC Floodplain Mapping Program  
4305 Reedy Creek Drive  
Raleigh, NC 27607

Mailing Address  
4218 Mail Service Center  
Raleigh, NC 27699-4218

Phone: (919) 723-5711  
Fax: (919) 715-0408

# Spatial Data Download - DEMS

The screenshot shows the 'SPATIAL Data Download' web application interface. A central dialog box titled 'Multiple Counties Selected' is displayed, containing the following text: 'You have selected data from multiple counties. Each selected county will be processed separately so that file sizes will be optimized for download. When your data is ready, you will receive an email for each county selected.' Below this text is a list of four counties with checked checkboxes: SAMPSON, CUMBERLAND, ROBESON, and BLADEN. At the bottom of the dialog are 'CLOSE' and 'OK' buttons. In the bottom-left corner, a blue notification box titled 'Current Jobs' states: 'Your jobs are processing. This may take several minutes depending on the size of your area. When your job is complete, click the Download button to retrieve your .zip file. If you would like to extract more data from this same area, you may click the "Select Data to Download" button and you will be prompted to reuse the same area.' Below the notification is a grey box with the text 'LIDAR Data Request may take up to 24 hours. click here to check the status of your request' and a 'Refresh' button. The background shows a map with a grid and various navigation controls.

# Spatial Data Download - DEMS

The screenshot shows the 'SPATIAL Data Download' website interface. A modal window titled 'Elevation Download' is open, prompting the user to 'Select one or more elevation datasets. You may choose any combination of datasets from both Legacy and QL2.' The modal is divided into two columns: 'Legacy' and 'QL2'. Under 'Legacy', there are radio buttons for DEM10, DEM20, and DEM50. Under 'QL2', there are radio buttons for DEM03, DEM05, DEM10, DEM20, DEM40, and INTENSITY\_IMAGES. A 'SUBMIT JOB' button is located at the bottom right of the modal. Below the modal, there is a 'Current Jobs' section with a status of 'Your jobs are processing.' and a 'Flood Zones' section with a status of 'JOB COMPLETE' and a 'DOWNLOAD' button. The background shows a map of North Carolina with various geographical features and a search bar.

# Flood.nc.gov

The screenshot shows the flood.nc.gov website in a browser window. The browser's address bar displays "https://flood.nc.gov/ncflood/". The website header includes the logo "flood.NC.gov" and navigation links for "Home", "Property Risk", "Mapping Program", "Find a Document", "Events", "Floodplain Management", "LOMC", "Mitigation", "Flood Warning", and "Industries". A search bar is present with the placeholder text "Search an address" and a "Use my current location" button. The main content area features a large aerial photograph of a residential neighborhood with a blue flood overlay. A "Property Risk" callout box is overlaid on the left side of the image, containing the text: "Learn about flood risk at a specific address, to include flood hazard, structural and content impacts, potential insurance rates, mitigation opportunities and the location of flood warning sites near you." Below the callout is a "Learn More" button. At the bottom of the main content area, there is a dark blue navigation bar with four icons: a house with a person, a person with a dollar sign, a person with a person, and a group of people.

Flo

Base Flood Elev.

Map Panel

For more detailed informat

### Understa

Property Flood probability values determined based on estimates of building first floor elevations, multiple flood frequency analysis and other data. Flood impacts and probabilities may vary based on local conditions and storm intensity.

## Building Information

Estimated Replacement Values<sup>1</sup>

Building Value  Content Value

Heated Sq. Ft.

Number of Stories

Foundation Type

Occupancy Type

<sup>1</sup>: Building and Content replacement values are estimates based on available information as necessary based on best available information. For locations selected that do not have a calculation form. Please adjust values as necessary.

## Impact Simulator

Adjust settings and information to refine flood impact

## Building Information

Base Flood Elev.  First Floor Elev.

Number of Stories

Foundation Type

Occupancy Type

Building built after 01/05/1978?

## Coverage Options

Adjust settings and information to refine insurance coverage options for the selected property.

Building Coverage  Contents Coverage

Building / Contents Deductible

CRS Discount (based on NFIP CRS class)

as Annual CRS Discount (Town Of Tarboro)

## Estimated Impact/C

Note: Building and Content Damages are based on FEMA and US Army Corps of Engineers Depth-Damage Curves and represent average building characteristics. Individual damage may vary with flood severity and structure / content characteristics. In addition, some structures may report damages below the first floor elevation based on utilities and other building components. Negative flood depths report flood levels below the first finished floor.

## Estimated Premium

Flood Insurance premium estimates are not a guarantee of actual rates. Rates are estimated based on the November 2015 FEMA NFIP rate guidance. For more information, please contact your agent or visit [www.floodsmart.gov](http://www.floodsmart.gov)

Annual

Monthly



# Flood.nc.gov- Property Mapping

North Carolina Emergency Management has developed an online application (FIMAN) to provide citizens with near real time flood inundation, impacts and alerting for selected areas of the state. Within the FIMAN application, users can sign up for alerts if current or forecasted conditions reach flood levels.

Please use the slider bar below to adjust the reach distance from your selected location for available flood inundation and warning sites. For more information about each site, click on the site name and you will be redirected to the FIMAN site.

There are 16 flood alert gages within 25 miles of you.

Adjust Search Radius (miles)



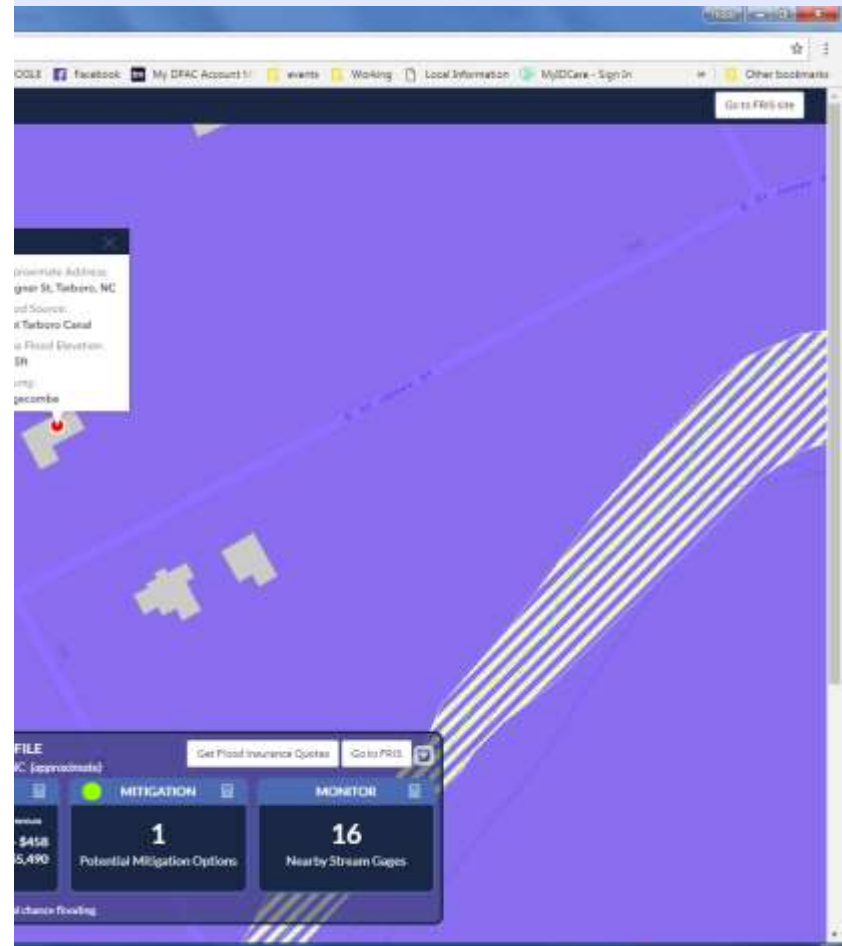
## Results (ordered by proximity)

Click gage below to open in FIMAN

- Tar River at Tarboro
- Swift Cr. at 97 Nr. Leggett
- Fishing Cr at 97 near Leggett
- Town Creek at Us 258 near Pinetops
- Tar River at 97 at Rocky Mount
- Tar River at Us 301 Bypass at Rocky Mount
- Tar River at Us 264 Bypass near Rock Springs
- Stony Cr. at Winstead Ave. Rocky Mount
- Fishing Creek near Enfield
- Tar River at Greenville
- Hominy Swamp at Forest Hills Rd near Wilson
- Swift Creek at Hilliardston
- Little Fishing Cr nr White Oak
- Chicod Cr at SR1760 near Simpson
- Tar River at SR 1565 near Grimesland
- Tranters Cr. at Clarks Neck Rd. nr Washington

## Legend

- Normal
- Monitor
- Minor Flooding
- Moderate Flooding
- Major Flooding



# Flood.nc.gov- Mapping Program

**flood.NC.gov**

Home Property Risk Mapping Program Find a Document Events Floodplain Management LOMC Mitigation Flood Warning Industries

### County Status

This map shows the current status of all active flood insurance studies throughout the state. Counties shown here are in the various stages of mapping including discovery, engineering analysis, floodplain mapping, preliminary and effective.

Click a county on the map to view the status information.

[View Full Map in ArcGIS](#)

### Documents and Information

- Fact Sheets**: Brief informational documents on commonly asked questions about the mapping program, insurance and mitigation.
- Flood Insurance Rate Maps**: Flood Insurance Rate Maps (FIRMs) are the primary tool for state and local governments to mitigate areas of flooding. [Learn More](#)
- Letters of Map Change**: Letters issued by FEMA that revise or amend the flood hazard information.
- Discovery**: Document supporting NCFMPS discovery process to identify and prioritize future floodplain studies.
- Data Download**: Find and download GIS, Elevation and LIDAR data using the NC Spatial Data Download Portal.
- Issue Papers**: Click here to view various Issue Paper documents developed by the mapping program.

Meetings and Training

# Flood.nc.gov- Documents

The North Carolina Floodplain Mapping Program will use this website for storage and dissemination of various documents for use in education, outreach and various technical uses for floodplain management. The Document Center provides users online tools for searching, filtering, viewing and downloading various types of documents including Letters of Map Change (LOMC), Technical Issue Papers developed by the program, National Flood Insurance Program information (NFIP), Meeting documentation and information, FAQs as well as regulatory information for preliminary and effective flood studies.

Begin your selection below by selecting a document type below

Document Type: NFIP [Reset]

Search for documents...

Title	Project Description	File
MF-2 LOMC Fees	Fees Schedule for Processing Requests for Map Changes, for Flood Insurance Study Backup Data, and for National Flood Insurance Program Map and Insurance Products	
Model Ordinances (Coastal)	2017 North Carolina Coastal Model Ordinance	
Model Ordinances (Non-Coastal)	2017 North Carolina Non-Coastal Model Ordinance	
National Flood Insurance Program Coastal Flood Hazard Analysis	Description of differences between existing effective and preliminary coastal analysis and mapping	
FFMA Elevation Certificate	FFMA National Flood Insurance Program Elevation Certificate and instructions	
Executive Order 11882	Executive Order 11882- Floodplain Management	
Executive Order 123	Uniform Floodplain Management Policy	
NC No Risk Guidance Document	This document provides guidance to engineers, planners, and community officials for the preparation and review of No Risk Certificates needed to demonstrate compliance with NFIP regulations for encroachments within floodways and non-encroachment areas.	

# Flood.nc.gov- Events

**flood.NC.gov**

Home Property Risk Mapping Program Find a Document **Events** Floodplain Management LOMC Mitigation Flood Warning Industries

Go to FRIS site Go to FMAN site

Manager Certification The North Carolina Association of Floodplain Managers has established a state program for professional certification of floodplain managers. The program recognizes continuing education and professional development that enhance the knowledge and performance of local, state, federal and private sector floodplain managers. The OPM examination is a "closed book" and is held in a proctored classroom environment. All examinations will be successful and the results will be held in strict confidence. NCAPRM requires that 70% of the answers be correct in order to earn a passing grade. Please see their for more information.

## Meetings, Trainings and Events

County/Community:

Audience Type:

After the following date:

Title	Start Date	End Date	Location	URL	Description
Floodplain Administrators Workshop (NC-FPA-10) Central Region	09/14/2018		1036 Gold Star Drive, Raleigh NC 27607	<a href="#">Link</a>	This is a free one day course is geared towards local government employees responsible for floodplain management but who have little or no training and formal education in the field of floodplain management and/or the National Flood Insurance Program. Workshop topics include the basic information any individual new to the position may need to effectively perform their floodplain administrative duties. Topics are a basic introduction to the field describing the Duties of a Floodplain Administrator, Preparing for a Community Assistance Visit (CAV), Available Training for FPMs, Basic Insurance Information, How to Access the New Flood Risk Information System (FRIS), Building Codes - How they contrast and compare with NFIP regulations and The Basic Tie-ins with Mitigation Planning & Projects involving Floodplain Management.
Floodplain Administrators Workshop (NC-FPA-10) Western Region	05/03/2018		Carroll Community College Watauga Campus Building W141 (Occupational Training Facility) Room 105-372 Community College One Boone NC 28607	<a href="#">Link</a>	This is a free one day course is geared towards local government employees responsible for floodplain management but who have little or no training and formal education in the field of floodplain management and/or the National Flood Insurance Program. Workshop topics include the basic information any individual new to the position may need to effectively perform their floodplain administrative duties. Topics are a basic introduction to the field describing the Duties of a Floodplain Administrator, Preparing for a Community Assistance Visit (CAV), Available Training for FPMs, Basic Insurance Information, How to Access the New Flood Risk Information System (FRIS), Building Codes - How they contrast and compare with NFIP regulations and The Basic Tie-ins with Mitigation Planning & Projects involving Floodplain Management.
NCAPRM 2018 Annual Conference	04/13/2018	04/13/2018	Hilton Wilmington Riverside 301 N Water Street Wilmington, NC 28401	<a href="#">Link</a>	The North Carolina Association of Floodplain Managers holds two conferences each year: a Spring Annual Conference, typically in April or May on the East coast; and a Fall Floodplain Institute in October or November in the mountains of North Carolina. Both conferences provide opportunities to attend workshops and presentations, take the Certified Floodplain Manager exam, and mingle with your fellow floodplain managers. <a href="http://www.ncdfpm.org/annual_conf.html">http://www.ncdfpm.org/annual_conf.html</a>
Certified Floodplain Manager Exam (CPM-001)	04/18/2018		Hilton Wilmington Riverside 301 N Water Street Wilmington, NC 28401		North Carolina Floodplain Manager Certification The North Carolina Association of Floodplain Managers has established a state program for professional certification of floodplain managers. The program recognizes continuing education and professional development that enhance the knowledge and performance of local, state, federal and private sector floodplain managers. The OPM examination is a "closed book" and is held in a proctored classroom environment. All examinations will be successful and the results will be held in strict confidence. NCAPRM requires that 70% of the answers be correct in order to earn a passing grade. Please see their for more information.

1 2

Contact

NC Floodplain Mapping Program 4218 Mail Service Center Phone: 919-715-5711



**North Carolina Emergency Management  
Floodplain Management Section**



# Flood.nc.gov- Floodplain Management

The screenshot displays the flood.nc.gov website. The main navigation bar includes links for Home, Property Risk, Mapping Program, Find a Document, Events, Floodplain Management (selected), LOMC, Mitigation, Flood Warning, and Industries. The Floodplain Management section features a sub-header, a description of the National Flood Insurance Program, a list of important links (NC Flood Risk Information System, NC Flood Inundation & Mapping Alert Network, FEMA Map Service Center, FEMA Media Library), and a frequently asked questions section. A sidebar on the left contains news and updates, and a sidebar on the right lists documents such as the NC Flood Quick Guide and Model Ordinance (Coastal).

## Floodplain Management

### National Flood Insurance Program

Floodplain management is a process that aims to achieve reduced losses due to flooding. It takes on many forms, but is realized through a series of federal, state, and local programs and regulations, in concert with industry practice, to identify flood risk, implement methods to protect man-made development from flooding, and protect the natural and beneficial functions of floodplains.

#### Important Links:

- NC Flood Risk Information System
- NC Flood Inundation & Mapping Alert Network
- FEMA Map Service Center
- FEMA Media Library

For additional information, questions, or requests please contact Dan Brubaker at [dbrubaker@ncdps.gov](mailto:dbrubaker@ncdps.gov)

#### Frequently Asked Questions

- When are my preliminary maps going effective?  
The map release process involves multiple steps of public notification and review. Comments and appeals can take time to resolve. Also, the federal notification requirements through the Federal Register can take several months at a time. To get the most up-to-date estimate for map release, please contact your local floodplain administrator or your NFIP Regional Planner.
- How do I determine if I'm in a Non-Encroachment Area?

# Flood.nc.gov- LOMC

The screenshot shows the flood.nc.gov website. The main navigation bar includes links for Home, Property Risk, Mapping Program, Find a Document, Events, Floodplain Management, LOMC, Mitigation, Flood Warning, and Industries. The LOMC section is highlighted, featuring a sub-header 'LOMC' and a main heading 'Letters of Map Change'. Below this, a paragraph states that the North Carolina Floodplain Mapping Program (NCFMPS) received delegation of processing and issuance of North Carolina MT-2 Letters of Map Change (LOMCs) from the Federal Emergency Management Agency on July 1, 2006. A section titled 'MT-2 LOMC Application Packages may be submitted:' lists three options: electronically via FTP, electronically via FEMA's Online LOMC Portal, and US Post or overnight delivery to the NC MT-2 LOMC Depot at 4218 Mail Service Center, Raleigh, NC 27699-4218. A 'Frequently Asked Questions' section follows with two questions: 'What are the Endangered Species Act (ESA) Requirements for MT-2 applications?' and 'What are the current fees for Letters of Map Change (LOMC)?'. To the right, a 'Documents' sidebar lists 'MT-2 LOMC Forms and Instructions', 'MT-2 LOMC Fees', and 'Download Effective MT-2 LOMCs'. A 'News and Updates' sidebar on the left shows dates 03/19/2018 and 03/23/2018 with links to 'L-273: Managing Floodplain Development Through the NFIP' and 'Certified Floodplain Manager Exam'. A 'Documents' sidebar on the right lists 'MT-2 LOMC Forms and Instructions', 'MT-2 LOMC Fees', and 'Download Effective MT-2 LOMCs'. A 'Frequently Asked Questions' section follows with two questions: 'What are the Endangered Species Act (ESA) Requirements for MT-2 applications?' and 'What are the current fees for Letters of Map Change (LOMC)?'. An aerial map with a legend and a 'FIRM' (Flood Insurance Rate Map) document are also visible. The map shows a floodplain area with various zones and a legend indicating '15 Flood Hazard Zone', '100 Year Flood Zone', '500 Year Flood Zone', and 'Special Flood Hazard Area'. The FIRM document is titled 'FIRM' and includes the text 'REVISION TO REPLEAT LOMC EFFECTIVE APRIL 16, 2019'.

# Flood.nc.gov- Mitigation

The screenshot shows the website <https://flood.nc.gov/nc/flood/mitigation.html>. The navigation bar includes links for Home, Property Risk, Mapping Program, Find a Document, Events, Floodplain Management, LOMC, Mitigation, Flood Warning, and Industries. The main content area features a 'Mitigation' section with the heading 'What is Mitigation?' and a definition: "Mitigation is any cost-effective action that reduces or eliminates the long-term risk of damage to buildings, manufactured homes and other structures or property from flooding or other natural hazard impacts." Below this is a list of 'Important Links' including FEMA, NCDPS-NCEM/Recovery, North Carolina Emergency Management, ReBuild NC, and Hurricane Matthew Recovery. A 'Frequently Asked Questions' section is also present, with questions about grant eligibility and common mitigation measures. A sidebar on the right titled 'More Answers from the Quick Guide' lists various topics like 'Overview: National Flood Insurance Program (NFIP)', 'Flood Map Information', and 'Freeboard: Build Higher, Reduce Damage, Save on Insurance'. A photograph of a flooded house is shown in the center-right of the page.

# Flood.nc.gov- Flood Warning

The screenshot shows the flood.nc.gov website with the following content:

- Navigation:** Home, Property Risk, Mapping Program, Find a Document, Events, Floodplain Management, LOMC, Mitigation, Flood Warning, Industries.
- FIMAN Mission:** To provide rain and stage gage data, flood inundation maps, flooding impacts, and alerts in real-time to support risk-based decision regarding flooding.
- FIMAN Goals:**
  - Gather and distribute reliable and accurate rain and stage gage data
  - Provide real-time flood inundation maps and alerts
  - Provide better information about flooding risks and impacts
  - Prevent and reduce the loss of lives and property
- Flood Warning Section:**
  - NC FIMAN (Flood Inundation Mapping Network)**
  - Text: FIMAN provides real-time data on stream elevation, rainfall and weather parameters from over 550 gages across North Carolina. Some sites may be rain or stage gages only while some may have weather data available. Many of these gages are operated by the Division of Emergency Management (NCEM) while some are operated by local government agencies and private organizations. Additionally, gages from the U.S. Geological Survey are included in this network.
  - [Link to NC FIMAN](#)
- FIMAN Contact:**
  - NC Floodplain Mapping Program
  - 4105 Ruddy Creek Drive
  - Raleigh, NC 27607
  - Mailing Address: 4218 Mail Service Center, Raleigh, NC 27699-4218
  - Phone: (919) 715-5711, Fax: (919) 715-0408
  - Email: [fimanhelp@ncdps.gov](mailto:fimanhelp@ncdps.gov)
- Contact Section:**
  - NC Floodplain Mapping Program
  - 4218 Mail Service Center, Raleigh, NC 27699-4218
  - Phone: 919-715-5711, Fax: 919-715-0408, Email: [fimanhelp@ncdps.gov](mailto:fimanhelp@ncdps.gov)
- Footer:** EMPLOYEE DIRECTORY, ACCESSIBILITY, TERMS OF USE, PRIVACY POLICY, NC OPENBOOK, Nothing Compares.



**North Carolina Emergency Management  
Floodplain Management Section**





# Flood.nc.gov- Real Estate Agents

The screenshot displays the flood.nc.gov website interface. At the top, the navigation bar includes links for Home, Property Risk, Mapping Program, Find a Document, Events, Floodplain Management, LOMC, Mitigation, Flood Warning, and Industries. The main content area is titled "Real Estate Agents" and features a sub-header "For Agents Who Sell Real-Estate in a Flood-Hazard Area" with a quote: "Potential buyers want to know how to mitigate flood hazards on property within the flood plain." Below this, there is a section for "Important Links" listing resources like the NC Flood Risk Information System, FEMA Map Service Center, and North Carolina NFIP Updates. A "Frequently Asked Questions" section follows, addressing queries about SFHA determination, elevation certificates, and LOMA/LOMR-F status. On the left sidebar, there are tools for Property Risk Estimator and Insurance Costs Estimator, along with an "Events & Training" calendar listing upcoming events. On the right, a "More Answers from the Quick Guide" section provides links to various resources and FAQs.

# Flood.nc.gov- Insurance Agents

The screenshot displays the flood.nc.gov website interface. At the top, there is a navigation bar with the site logo and various menu items including Home, Property Risk, Mapping Program, Find a Document, Events, Floodplain Management, LOMC, Mitigation, Flood Warning, and Industries. Below the navigation bar, there are several utility buttons: Property Risk ESTIMATOR, Calculate Risk Level, Insurance Costs ESTIMATOR, and Calculate Premiums. The main content area is titled "Insurance Agents" and includes a sub-heading "For Insurance Agents Who Cover Property in Flood-Hazard Areas". A quote states: "Residents in communities that participate in the Community Rating System may receive up to a 45 percent premium discount on their flood insurance policies." Below this, there is a section for "Important Links" with items like ASFFM Insurance Agent Training Signup, Key Fundamentals Training, North Carolina NFIP Updates, and Find Meetings & Training. A photograph shows three people in business attire reviewing documents. To the right, a sidebar titled "More Answers from the Quick Guide" lists various resources such as "Useful Resources and Common Acronyms", "North Carolina's Disaster Declarations", and "Overview: National Flood Insurance Program (NFIP)". At the bottom of the page, there is a "Frequently Asked Questions" section with three questions and their respective answers.

# Flood.nc.gov- Professional Engineers/Surveyors

The screenshot shows the flood.nc.gov website with the following content:

- Navigation:** Home, Property Risk, Mapping Program, Find a Document, Events, Floodplain Management, LOMC, Mitigation, Flood Warning, Industries.
- Left Sidebar:**
  - Property Risk ESTIMATOR: Calculate Risk Level
  - Insurance Costs ESTIMATOR: Calculate Premiums
  - News and Updates:
    - 03/14/2018: Floodplain Administrators Workshop (NC-FPA-101) Central Region
    - 03/19/2018: L-273: Managing Floodplain Development Through the NFIP
    - 03/23/2018: Certified Floodplain Manager Exam
- Main Content:**
  - Professional Engineers/Surveyors**
  - For Professional Engineers & Surveyors**
  - "Accurate, up-to-date floodplain information can be invaluable to Engineers and Surveyors working in flood-prone areas."*
  - Important Links:**
    - NC FRIS Engineering Models
    - Spatial Data Download
    - NC Geodetic Survey
    - NC Society of Surveyors
    - NC Certified Floodplain Surveyor
    - FEMA Letter of Map Changes (LOMC)
    - Endangered Species Act (ESA)
    - Charlotte/Mecklenburg LOMC Website
  - For additional information, questions, or requests please contact Tim Langan at [engineeringhelp@floodpac.gov](mailto:engineeringhelp@floodpac.gov)
  - Frequently Asked Questions:**
    - 1. What are the MT-2 Endangered Species Act Requirements for MT-2s (ESAs)?  
For information go to: [MT-2 Application Forms and Instructions](#)
    - 2. What are the current fees for letters of map changes (LOMCs)?  
For information go to: [Flood Map-Related Fees](#)
    - 3. What are the current hydraulic numerical models meeting the minimum requirements of the NFIP?  
For information go to: [Hydraulic Numerical Models Meeting the Minimum Requirement of National Flood Insurance Program](#)
    - 4. What are the current hydrologic numerical models meeting the minimum requirements of the NFIP?  
For information go to: [Hydrologic Models Meeting the Minimum Requirement of National Flood Insurance Program](#)
- Right Sidebar:** More Answers from the Quick Guide
  - MT-2 LOMC Forms and Instructions
  - MT-2 LOMC Fees
  - Download Effective MT-2 LOMCs
  - Riverline H&H Engineering Guidelines and Standards
  - Coastal Flood Study Map Maintenance Changes
  - National Flood Insurance Program Elevation Certificate and Instructions
  - No-Rise Guidance Document

# Flood.nc.gov- Community Officials

The screenshot displays the flood.nc.gov website interface. At the top, the browser address bar shows the URL https://flood.nc.gov/ncflood/communityofficial.html. The website header includes the logo 'flood.NC.gov' and navigation links for Home, Property Risk, Mapping Program, Find a Document, Events, Floodplain Management, LOMC, Mitigation, Flood Warning, and Industries. Below the header, there are buttons for 'Go to FRIS site' and 'Go to FIMAN site'. The main content area is titled 'Community Officials' and features a sub-section 'For Local Floodplain Administrators' with a quote: "Residents in communities that participate in the Community Rating System may receive up to a 45 percent premium discount on their flood insurance policies." Below this, there is a section for 'Important Links' listing resources like the NC Flood Risk Information System and NC Flood Inundation & Mapping Alert Network. A photograph shows a group of people in a meeting room. To the right, a sidebar titled 'More Answers from the Quick Guide' lists various topics such as 'Useful Resources and Common Acronyms', 'North Carolina's Disaster Declarations', and 'Why Communities Regulate the Floodplain'. On the left side of the page, there are three toolboxes: 'Property Risk ESTIMATOR', 'Insurance Costs ESTIMATOR', and 'News and Updates' with a list of recent events.

# FRIS



Am I at risk of flooding?

General Public

Enter all or part of your address and click GO.

Address, City, or ZIP

GO



## Benefits of Floodplain Mapping

Floods are among the most frequent and costly natural disasters in terms of human hardship and economic loss. North Carolina's Digital Flood Insurance Rate Maps (DFIRM) more accurately assess flood risks.

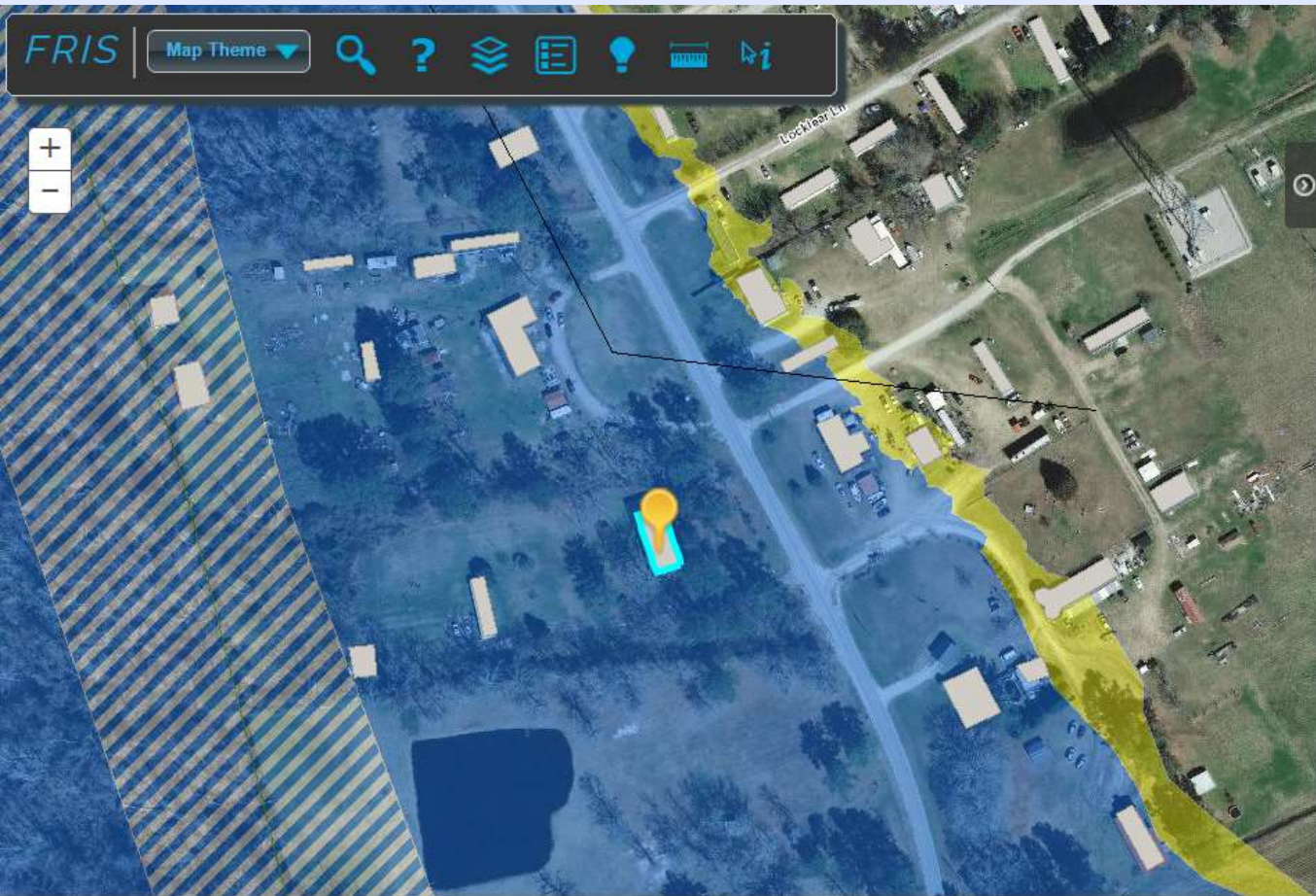
### Welcome to FRIS

The State of North Carolina provides this website as a public service to the citizens of North Carolina. The Flood Risk Information System (FRIS) contains digitally accessible flood hazard data, models, maps, risk assessments and reports that are database driven. This site also provides geospatial base map data, imagery, LIDAR data, along with hydraulic and hydrologic models that is available for download and use. The North Carolina Floodplain Mapping Program has made every effort to insure accuracy of this information. Contact information for the North Carolina Floodplain Mapping Program is available at [www.ncfloodmaps.com](http://www.ncfloodmaps.com) under the Contacts Menu or (919) 715-5711.

OK



# Recent Issue – Case Study



Who Am I : General Public | Effective

### Flood Information

Click the map to view information.

Map Location

Flood Zone: AE

Flood Source: Mills Branch

Base Flood Elevation: 13.6 ft

County: Craven

Political Area: Craven County

CID: 370072

Panel: 5582 [Download](#)

Map Number: 3720558200J

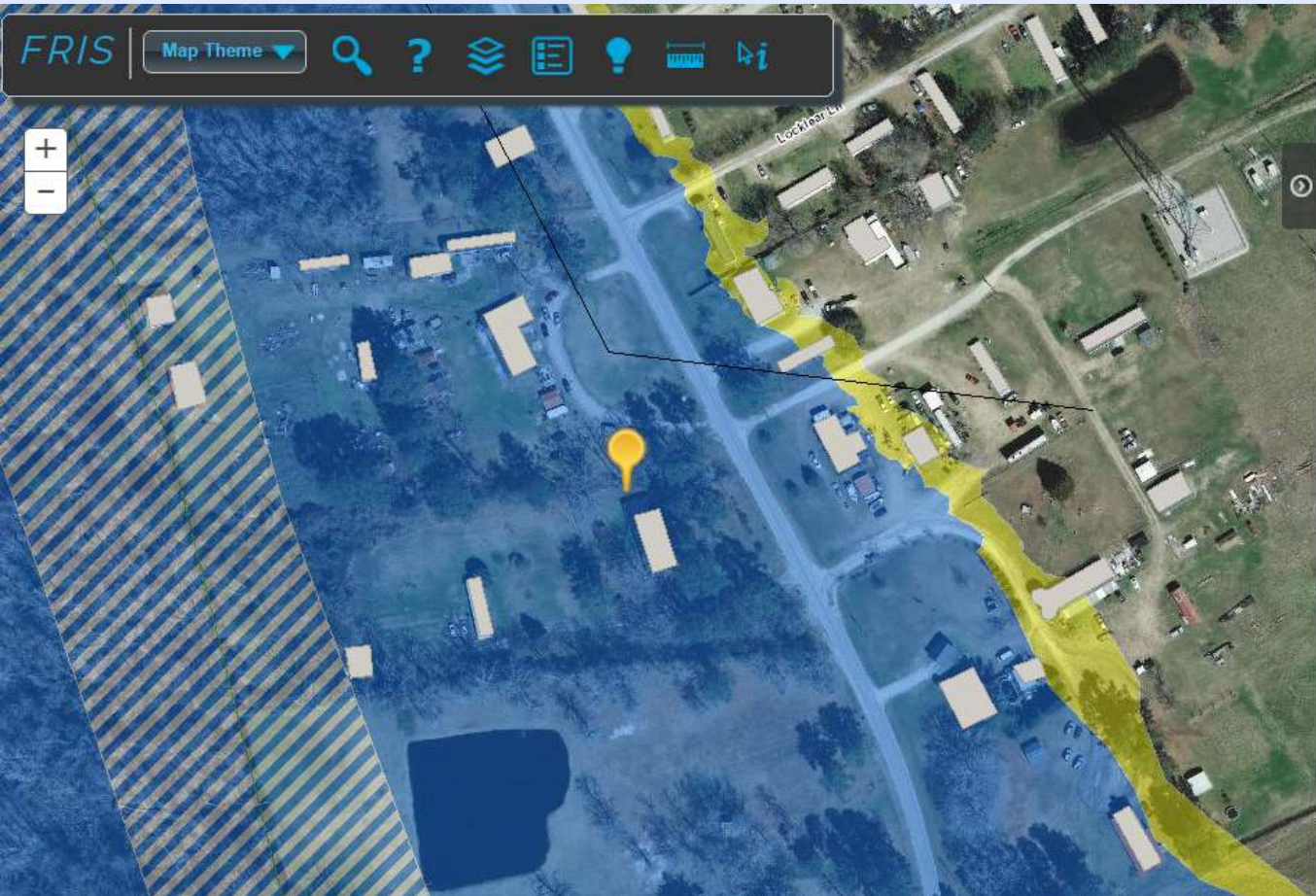
- Risk Information
- Financial Vulnerability
- Flood Insurance
- FIS Reports
- Map Export
- Data Export



North Carolina Emergency Management  
Floodplain Management Section



# Recent Issue – Case Study



Who Am I : General Public | Effective

Flood Information

Click the map to view information.

Map Location

Flood Zone: AE

Flood Source: Mills Branch

Base Flood Elevation: 13.8 ft

County: Craven

Political Area: Craven County

CID: 370072

Panel: 5582 Download

Map Number: 3720558200J

- Risk Information
- Financial Vulnerability
- Flood Insurance
- FIS Reports
- Map Export
- Data Export


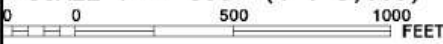


North Carolina Emergency Management  
Floodplain Management Section



# Recent Issue – Case Study



  
**GRID NORTH**  
**SCALE 1" = 500' (1 : 6,000)**  


**NFIP**

PANEL 5582J

**NATIONAL FLOOD INSURANCE PROGRAM**

**FIRM**  
**FLOOD INSURANCE RATE MAP**  
**NORTH CAROLINA**

**PANEL 5582**  
(SEE LOCATOR DIAGRAM OR MAP INDEX FOR FIRM PANEL LAYOUT)

CONTAINS:

COMMUNITY	NUMBER	PANEL	SUFFIX
DRAVIN COUNTY	370072	5582	J

Notice to User: The Map Number shown below should be used when placing map orders; the Community Number shown above should be used on insurance applications for the subject community.

**EFFECTIVE DATE**  
**JULY 2, 2004**

**MAP NUMBER**  
**3720558200J**



State of North Carolina  
 Federal Emergency Management Agency

This is an official copy of a portion of the above referenced flood map. It was extracted using F-MIT On-Line. This map does not reflect changes or amendments which may have been made subsequent to the date on the title block. For the latest product information about National Flood Insurance Program flood maps check the FEMA Flood Map Store at [www.msc.fema.gov](http://www.msc.fema.gov)






# Recent Issue – Case Study



# Recent Issue – Case Study

Page 1 of 2		Date: March 29, 2017	Case No.: 17-04-3598A	LOMR-F-DEN	
		<b>Federal Emergency Management Agency</b> Washington, D.C. 20472			
<b>LE</b> <b>DET</b>		<b>FILL</b> <b>NOVAL)</b>			
COMMUNITY AND MAP PA		DESCRIPTION			
LOT	BLOCK/ SECTION	SUBDIVISION	EQUAL CE D ION 88) et	LOWEST ADJACENT GRADE ELEVATION (NAVD 88)	LOWEST LOT ELEVATION (NAVD 88)
--	--	--	13.9 feet	--	--



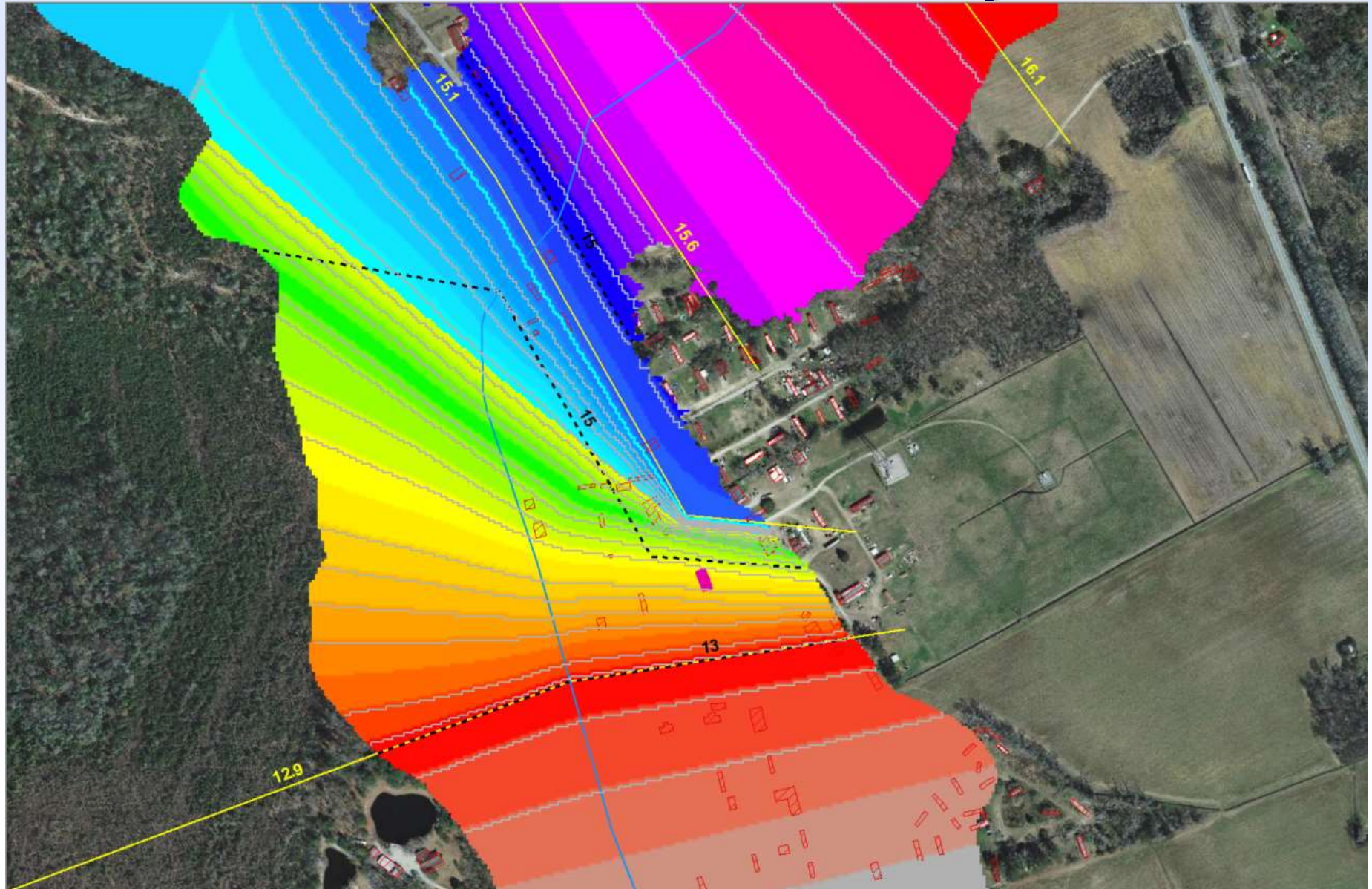
**Special Flood Hazard Area (SFHA)** - The SFHA is an area that would be inundated by the flood having a 1-percent chance of being equaled or exceeded in any given year (base flood).



**North Carolina Emergency Management  
Floodplain Management Section**



# Recent Issue – Case Study



# Questions?



**North Carolina Emergency Management  
Floodplain Management Section**

