NFIP BASICS FOR COASTAL AREAS

North Topsail Beach Information Seminar

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North Carolina Emergency Management

Floodplain Management Section

Purposes of the NFIP

- Identify & map flood hazard areas
- Provide a framework for floodplain management regulations
- Make flood insurance available in Communities that participate in the NFIP

NFIP Background

Prior to the creation of the NFIP in 1968:

- Flood insurance coverage was not available
- No national flood mapping program
- No Federal minimum standards for floodplain management
- Escalating costs to taxpayers for flood disaster relief

NFIP Goals

- Reduce loss of life & loss of property
- Reduce rising disaster relief costs
- Increase importance of hazard mitigation (flood resistant construction, guide future development, & prohibit development in floodplains that would increase flood levels)
- Restore & protect natural resources & functions of floodplains
- Decrease taxpayer-funded disaster costs
- Make Federally backed insurance coverage available to property owners

Community Participation in the NFIP

To join NFIP, communities must submit:

- Resolution of intent to "maintain in force…adequate land use & control measures" & to cooperate with FEMA
- Their adopted floodplain management regulations (often are referenced within zoning ordinances, building codes, subdivision ordinances, sanitary ordinances, or floodplain ordinances)

Role of NFIP Participating Community

- Issuing or denying floodplain development &/or building permits
- **Inspecting all development to ensure compliance with local ordinances**
- Maintaining records of floodplain development
- Assisting in preparation & revision of floodplain maps
- Helping residents obtain information on flood hazards, floodplain map data, flood insurance, & proper construction measures

Sanctions for Non-Participation

- No Federal grants or loans for development in Special Flood Hazard Areas (SFHAs) under Federal programs
- No Federal disaster assistance to repair insurable buildings located in SFHAs
- No Federal mortgage insurance or loan guarantees in SFHAs
- Federally insured or regulated lenders must notify applicants seeking loans in SFHAs that:
  - There is a flood hazard
  - The property is not eligible for Federal disaster relief

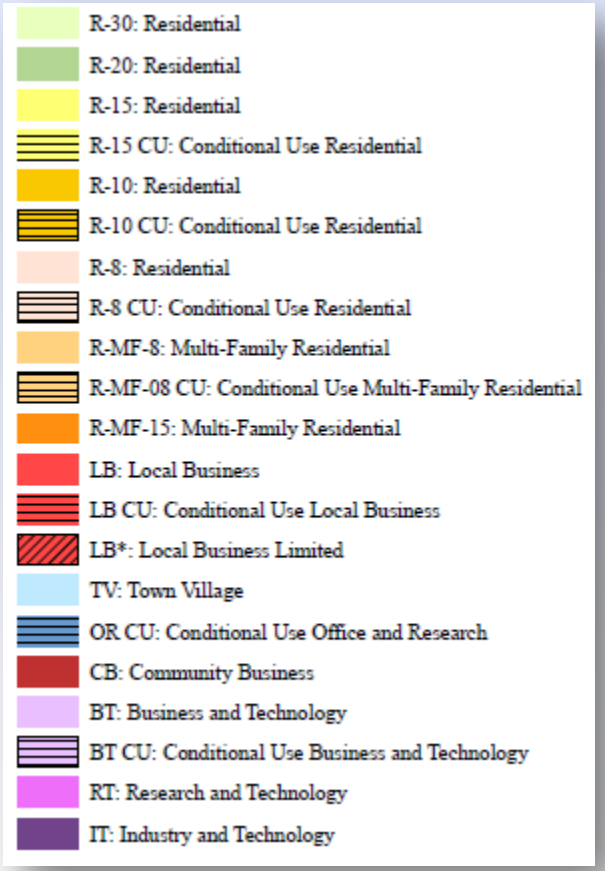
NFIP Regulations

- Communities must adopt & enforce ordinances that meet or exceed NFIP criteria
- **NFIP criteria ensures that new buildings will be protected from flood levels shown on digital FIRM**
- Over time, stock of pre-FIRM buildings should be replaced with post-FIRM buildings & risk to flooding reduced

Zoning vs. Flood Zones

Zoning

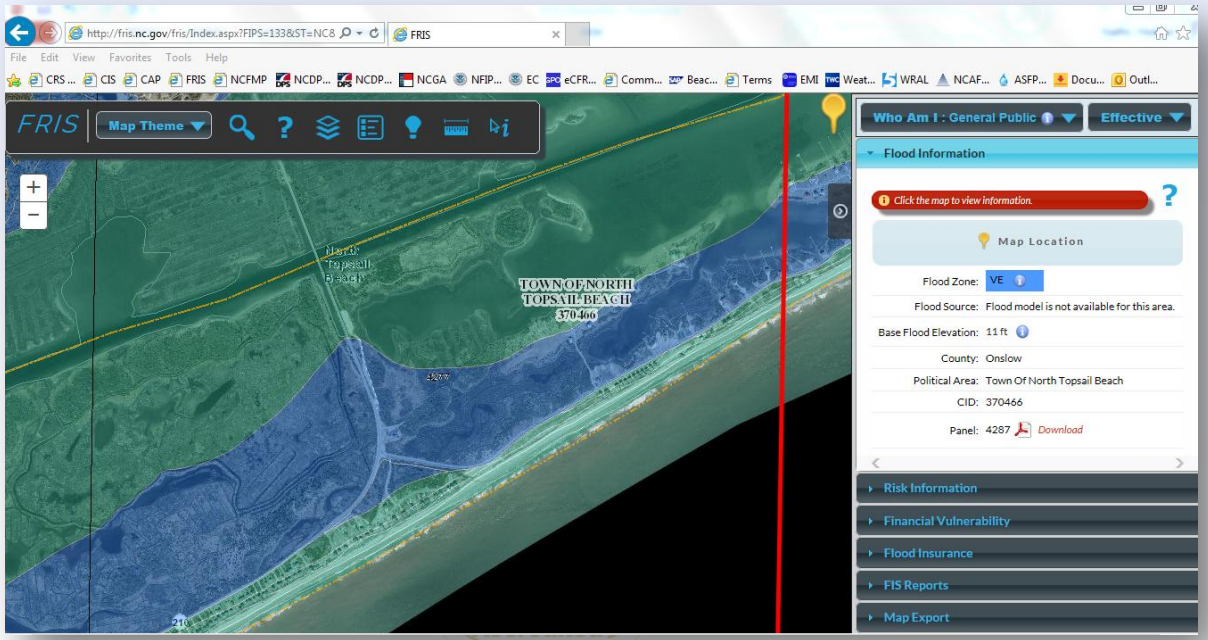
- The separation or division of a municipality into districts, the regulation of buildings and structures in such districts in accordance with their construction and the nature and extent of their use, and the dedication of such districts to particular uses designed to serve the general welfare.



Zoning vs. Flood Zones

Flood Zone

- A geographical area shown on a Flood Hazard Boundary Map or Flood Insurance Rate Map that reflects the severity or type of flooding in the area.



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DEPARTMENT OF PUBLIC SAFETY

Flood Zone Designations

A	Areas of 1% annual chance flood determined by approximate methods; base flood elevations not determined
AE	SFHAs inundated by 1% annual chance flood; base flood elevations are shown
V	SFHAs inundated by 1% annual chance flood; coastal floods with velocity hazards (wave action); no base flood elevations are determined
VE	SFHAs inundated by 1% annual chance flood; coastal floods with velocity hazards (wave action); base flood elevations are shown

Flood Zone Designations

X (unshaded)	Areas determined to be outside the 0.2% annual chance floodplain
X (shaded)	Areas of 0.2% annual chance flood; areas subject to 1% annual chance flood with average depths less than 1 foot or with contributing drainage area less than 1 square mile; and areas protected by levees from base flood

Shaded X is a.k.a. 500-year storm event

COBRA vs. Flood Zones

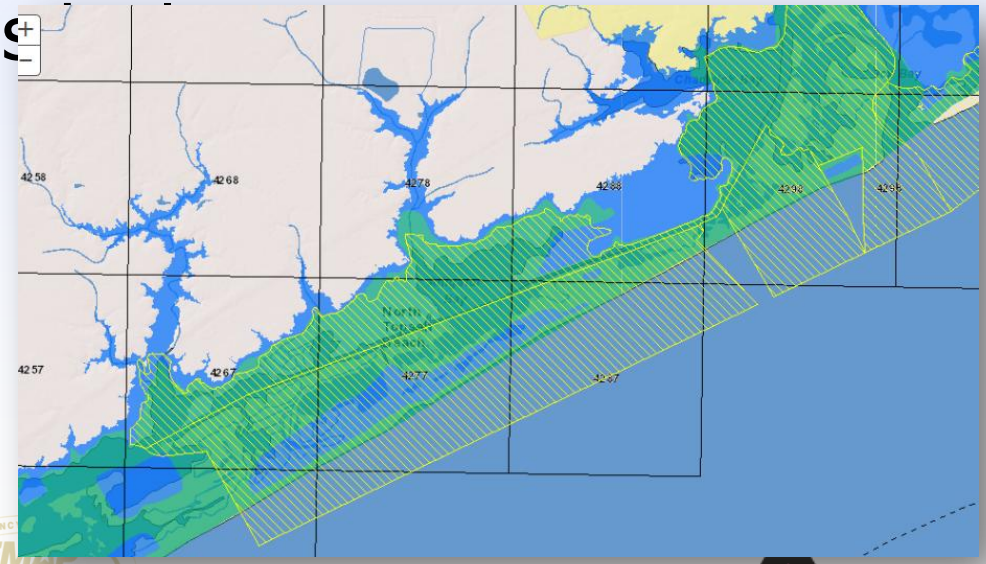
Coastal Barrier Resources System (CBRS)

- Consists of undeveloped portions of coastal and adjoining areas established by the Coastal Barrier Resources Act (COBRA) of 1982, the Coastal Barrier Improvement Act (CBIA) of 1990, and subsequent revisions, and includes areas owned by Federal or State governments or private conservation organizations identified as Otherwise Protected Areas (OPA).

COBRA vs. Flood Zones

Coastal Barrier Resources System (CBRS)

- Commonly called COBRA zones.
  - COBRA banned the sale of NFIP flood insurance for structures or substantially improved on or after a specified date. (10/1/83 and 11/16/90)



NFIP Regulations for Coastal Construction (V-Zone)

Found in 44 CFR 60.3(e)

1. Comply with all other NFIP regulations
2. Maintain elevation records
3. Landward of mean high tide
4. i: Lowest horizontal structural member must be above BFE
   ii: Designed to resist flotation, collapse, and movement due to wind & wave forces

NFIP Regulations for Coastal Construction (V-Zone)

5. Free of obstructions
6. Prohibit structural fill
7. Prohibit alteration of sand dunes and mangrove stands
8. Manufactured Home Regulations
9. Recreational Vehicle Regulations

Summary of Minimum VE Zone Elevation/Construction Requirements

- Elevation to BFE – must be on pile or column foundation
- No structural fill permitted
- Protection of all utilities to BFE
- Flood Resistant materials below BFE
- V Zone Certification – for entire structure and all hazards
- Free of Obstructions or Breakaway Walls below BFE
- Certified Elevation data
- No dry floodproofing permitted for commercial structures

V-Zone: Building Code

SECTION R322
FLOOD-RESISTANT CONSTRUCTION

R322.1 General. Buildings and structures constructed in whole or in part in flood hazard areas (including A or V Zones) as established in Table R301.2(1) shall be designed and constructed in accordance with the provisions contained in this section. See additional provisions of Chapter 46.

Exception: Buildings and structures located in whole or in part in identified floodways shall be designed and constructed in accordance with ASCE 24.

R322.1.1 Alternative provisions. As an alternative to the requirements in Section R322.3 for buildings and structures located in whole or in part in coastal high-hazard areas (V Zones), ASCE 24 is permitted subject to the limitations of this code and the limitations therein.

R322.1.2 Structural systems. All structural systems of all buildings and structures shall be designed, connected and anchored to resist flotation, collapse or permanent lateral movement due to structural loads and stresses from flooding equal to the design flood elevation.

R322.1.3 Flood-resistant construction. All buildings and structures erected in areas prone to flooding shall be constructed by methods and practices that minimize flood damage.

V-Zone: Building Code

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V-Zone: Building Code

R322.3.2 Elevation requirements.

1. All buildings and structures erected within coastal high-hazard areas shall be elevated so that the lowest portion of all structural members supporting the lowest floor, with the exception of piling, pile caps, columns, grade beams and bracing, is:
   1.1 Located at or above the design flood elevation, if the lowest horizontal structural member is oriented parallel to the direction of wave approach, where parallel shall mean less than or equal to 20 degrees (0.35 rad) from the direction of approach, or
   1.2 Located at the base flood elevation plus 1 foot (305 mm), or the design flood elevation, whichever is higher, if the lowest horizontal structural member is oriented perpendicular to the direction of wave approach, where perpendicular shall mean greater than 20 degrees (0.35 rad) from the direction of approach.

V-Zone: Building Code

R322.3.2 Elevation requirements (continued).

2. Basement floors that are below grade on all sides are prohibited.
3. The use of fill for structural support is prohibited.
4. Minor grading, and the placement of minor quantities of fill, shall be permitted for landscaping and for drainage purposes under and around buildings and for support of parking slabs, pool decks, patios and walkways.

Exception: Walls and partitions enclosing areas below the design flood elevation shall meet the requirements of Sections R322.3.4 and R322.3.5.

R322.3.3 Foundations. All buildings and structures erected in coastal high-hazard areas shall be supported on pilings or columns and shall be adequately anchored to such pilings or columns. Pilings shall have adequate soil penetrations to resist the combined wave and wind loads (lateral and uplift). Water loading values used shall be those associated with the design flood. Wind loading values shall be those required by this code. Pile embedment shall include consideration of decreased resistance capacity caused by scour of soil strata surrounding the piling. Pile systems design and installation shall be certified in accordance with Section R322.3.6. Mat, raft or other foundations that support columns shall not be permitted where soil investigations that are required in accordance with Section R401.4 indicate that soil material under the mat, raft or other foundation is subject to scour or erosion from wave–velocity flow conditions. Slabs, pools, pool decks and walkways shall be located and constructed to be structurally independent of buildings and structures and their foundations to prevent transfer of flood loads to the buildings and structures during conditions of flooding, scour or erosion from wave-velocity flow conditions, unless the buildings and structures and their foundation are designed to resist the additional flood load.

Building Code Definition

BUILDING. Building shall mean any one- and two-family dwelling or portion thereof, including *townhouses*, that is used, or designed or intended to be used for human habitation, for living, sleeping, cooking or eating purposes, or any combination thereof, and shall include accessory structures thereto.

V-Zone: Building Code

SECTION AG103
SWIMMING POOLS

AG103.1 In-ground pools. In-ground pools shall be designed and constructed in conformance with ANSI/NSPI-5 as listed in Section AG108.

AG103.2 Above-ground and on-ground pools. Above-ground and on-ground pools shall be designed and constructed in conformance with ANSI/NSPI-4 as listed in Section AG108.

AG103.3 Pools in flood hazard areas. In flood hazard areas established by Table R301.2(1), pools in coastal high hazard areas shall be designed and constructed in conformance with ASCE 24.

R322.3.4 Walls below design flood elevation. Walls and partitions are permitted below the elevated floor, provided that such walls and partitions are not part of the structural support of the building or structure and:

1. Electrical, mechanical, and plumbing system components are not to be mounted on or penetrate through walls that are designed to break away under flood loads; and
2. Are constructed with insect screening or open lattice; or
3. Are designed to break away or collapse without causing collapse, displacement or other structural damage to the elevated portion of the building or supporting foundation system. Such walls, framing and connections shall have a design safe loading resistance of not less than 10 (470 Pa) and no more than 20 pounds per square foot (958 Pa); or
4. Where wind loading values of this code exceed 20 pounds per square foot (958 Pa), the construction documents shall include documentation prepared and sealed by a registered design professional that:
   4.1. The walls and partitions below the design flood elevation have been designed to collapse from a water load less than that which would occur during the design flood.
   4.2. The elevated portion of the building and supporting foundation system have been designed to withstand the effects of wind and flood loads acting simultaneously on all building components (structural and nonstructural). Water loading values used shall be those associated with the design flood. Wind loading values used shall be those required by this code.

R322.3.5 Enclosed areas below design flood elevation. Enclosed areas below the design flood elevation shall be used solely for parking of vehicles, building access or storage.

Alert! Insurance implications for enclosures larger than 300 sf in Zone V

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Obstructions: 60.3.c.5

Enclosed Space Below BFE:

- Only for parking, access, storage
- Free of obstructions or enclosed only by non-supporting materials (e.g., insect screening, open lattice, breakaway walls)
- Specific requirements for breakaway walls
- Bracing allowed if designed for impact load

What Is An Enclosure?

An "enclosure" is formed when any space below the BFE is enclosed on all sides by walls or partitions. A V-zone building elevated on an open foundation, without an enclosure or other obstructions below the BFE, is said to be free-of-obstructions, and enjoys favorable flood insurance premiums (a building is still classified free-of obstructions if insect screening or open wood lattice is used to surround space below the BFE).

Elevated Structures

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Conversion of Enclosures

- Converting enclosures below BFE to additional living area is prohibited.
- Older structures may have living area below BFE because they were constructed prior to being in a flood zone that required the structure to be elevated.

Conversion of Enclosures Violates the NC Residential Code

R322.1.5 Lowest floor. The lowest floor shall be the floor of the lowest enclosed area, including *basement*, but excluding any unfinished flood-resistant enclosure that is useable solely for vehicle parking, building access or limited storage provided that such enclosure is not built so as to render the building or structure in violation of this section.

Conversion of Enclosures Violates the NC General Statute

§ 143-215.58. Violations and penalties.

(a) Any willful violation of this Part or of any ordinance adopted (or of the provisions of any permit issued) under the authority of this Part shall constitute a Class 1 misdemeanor.

(a1) A local government may use all of the remedies available for the enforcement of ordinances under Chapters 153A and 160A of the General Statutes to enforce an ordinance adopted pursuant to this Part.

(b) Failure to remove any artificial obstruction or enlargement or replacement thereof, that violates this Part or any ordinance adopted (or the provision of any permit issued) under the authority of this Part, shall constitute a separate violation of this Part for each day that the failure continues after written notice from the county board of commissioners or governing body of a city.

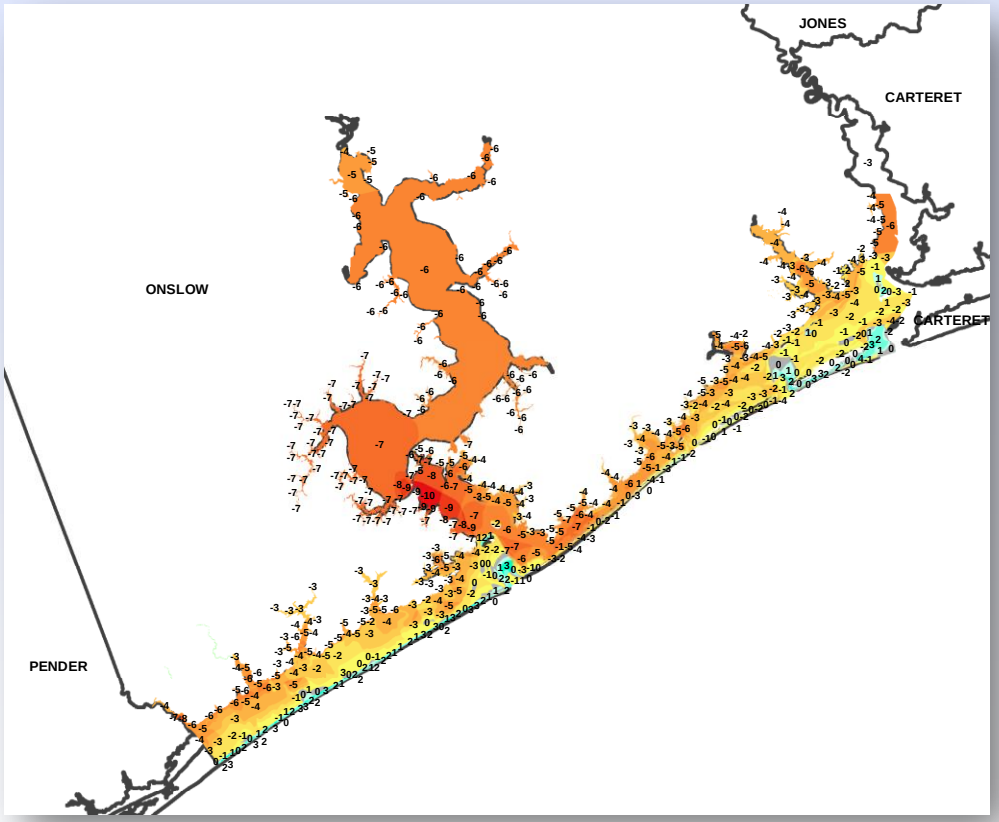
Pre-FIRM vs. Post-FIRM

On or before 12/31/74 or before the original FIRM date

After 12/31/74 and on or after the original FIRM date

New FIRM Data

- Onslow County has some changes in BFEs
- Communities can use new Data to plan for future development in the SFHA until the new data becomes effective.



IMPACT ON FLOOD INSURANCE RATES AS A RESULT OF NEW LEGISLATION

Highlights of the Homeowners Flood Insurance Affordability Act of 2014 (HFIAA)

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HFIAA Provisions

- **Rate-increase limitations**
  - Limit increases for individual premiums to 18% of premiums
  - Limit increases for average rate classes to 15%
- **Deductibles**
  - Maximum residential deductible limits are increased from $5,000 to $10,000
- **New annual surcharge**
  - $25 primary residential
  - $250 for all other policies

The surcharge is NOT included in the rate calculation, *so the total amount charged to the policyholder may increase more than 18%*

Big Changes to Pre-FIRM Policies

- **Subsidized rates to be phased out (25%/year)**
  - Non-primary residences
  - Business properties
  - Severe repetitive loss properties (1-4 residences), and properties where claims payments exceed fair market value

HFIAA Provisions

- **Properties Newly Mapped in SFHA**
  - **Eligible to receive a Preferred Risk Policy for <u>1 year after the maps become effective</u>.**
  - Rates at renewal will increase no more than 18% each year.
  - Grandfathering remains a cost-saving option for ***Post-FIRM*** policyholders when new maps show their structure in a higher risk area (increased BFE or Zone AE to Zone VE).

Talk to your Insurance Agent

- They can provide structure- and policy-specific details on how to save money on your premiums
  - **Get an Elevation Certificate** to be sure you premium accurately reflects your structure's risk to flooding
- Flood insurance is required (for properties in the SFHA) if you have a mortgage from a federally regulated or insured lender
- A policy can be assigned to a new owner, allowing them to keep the lower rate
- **Purchasing a policy before the new maps go into effect will maximize your savings**
- More than 20% of all NFIP claims come from areas outside the SFHA.

Community Rating System

- NFIP Community Rating System (CRS) is a voluntary incentive program that recognizes and encourages community floodplain management activities that exceed the minimum NFIP requirements.

Community Rating System

- As a result, flood insurance premium rates are discounted to reflect the reduced flood risk resulting from the community actions meeting the three goals of the CRS:
- Reduce flood damage to insurable property;
- Strengthen and support the insurance aspects of the NFIP, and
- Encourage a comprehensive approach to floodplain management.

Community Rating System

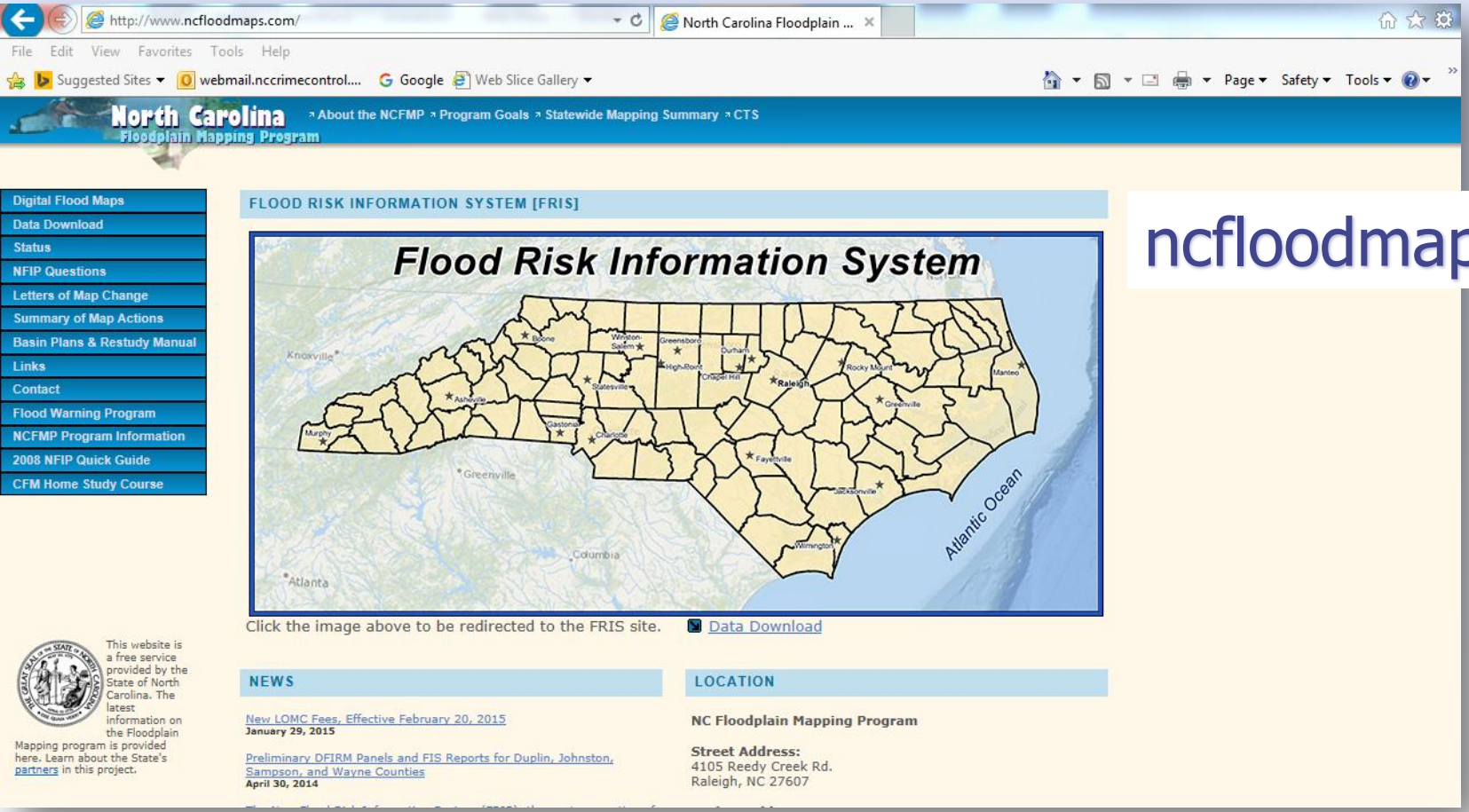
The amount of discount is dependent upon a jurisdiction's rating. Most communities enter the program rated as a "9" (5% reduction in premiums) and upgrade after a year to an "8" (10% reduction in premiums) or lower classification.

- North Topsail Beach – Class 7
- Topsail Beach – Class 5
- Onslow County – Class 7

Online Resources

- FEMA
  http://www.fema.gov/national-flood-insurance-program
- Flood Smart
  https://www.floodsmart.gov/floodsmart/?cid=Search_GoogleAdwords_FEMABrand_c_g_b_flood%20smart
- FRIS
  http://fris.nc.gov/fris/Home.aspx?ST=NC
- NC Floodplain Mapping Program
  http://www.ncfloodmaps.com/
- FEMA Independent Study Courses
  https://training.fema.gov/is/

Flood Risk Information System



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