

Craven County Preliminary Flood Insurance Rate Map Public Open House

November 3, 2016



North Carolina Emergency Management

PURPOSE OF NFIP



To make flood insurance available

To identify floodplains and areas at risk of flooding

To provide standards, guidance, and a framework to help communities manage floodplains

DEFINITIONS

Flood Insurance Rate Map (FIRM)

- A digitally-produced FIRM, whether viewed in hardcopy or in digital form
- All FIRMs produced by the North Carolina Floodplain Mapping Program are digital FIRMs

Flood Insurance Study (FIS)

- Details the examination, evaluation, and determination of flood hazard areas
- FIRMs are part of the FIS

Base Flood Elevation (BFE)

- On the FIRM, viewed in the FRIS 'point and click' this is shown to the nearest 0.1' of a foot of the 1% annual chance flood
- Regulated to the nearest tenth of a foot; detailed information provided in the FIS and displayed on the FRIS

DEFINITIONS

Special Flood Hazard Area (SFHA)

- The 1% annual chance floodplain, where NFIP regulations must be enforced by the community as a condition of participation in the NFIP

Floodway (and Non-Encroachment Area)

- The portion of the SFHA, including the channel of a river or other watercourse, that must be reserved (free of obstruction) in order to allow the discharge of the base flood without increasing the water-surface elevation more than one foot at any point along the stream

MINIMUM FLOODPLAIN REGULATIONS UNDER THE NFIP

Elevate all structures in SFHAs to at least the BFE published by FEMA (non-residential structures in A Zones may flood-proof in lieu of elevation)

Protect all utility systems to at least the BFE published by FEMA

Prohibit encroachment/development in the floodways and non-encroachment areas

COMMUNITY RATING SYSTEM

- ⦿ Voluntary incentive program that rewards floodplain management initiatives that exceed the minimum NFIP requirements
- ⦿ Three goals:
 - Reduce flood losses
 - Facilitate accurate insurance rating
 - Promote the awareness of flood insurance
- ⦿ Initiatives that meet these 3 goals can result in reduced flood insurance premiums for citizens

COMMUNITY RATING SYSTEM

<u>Community</u>	<u>Class</u>	<u>Discount</u>
Craven County	8	10%
Havelock	8	10%
River Bend	8	10%

THE POST-PRELIMINARY PROCESS

POST-PRELIMINARY PROCESSING

- ⦿ Preliminary panels are issued
 - 2 notices in local newspaper
- ⦿ 90-day Appeal/Comment Period
 - Educational/Public Outreach Meetings
- ⦿ Resolution of Appeals and Comments
- ⦿ The 6-month Compliance Period
 - Letter of Final Determination from FEMA
 - Map Adoption and Update of Flood Damage Prevention Ordinance

POST-PRELIMINARY PROCESSING

- Preliminary flood hazard data for Craven County was provided as a link in the mailed Preliminary Issuance letter on **June 30, 2016**
- 90-Day Appeal/Comment Period: **TBD**
- Preliminary FIRM Meeting: **August 11, 2016**
- Public Participation Meeting: **November 3, 2016**
 - Opportunity for public to view, comment on, and ask questions about the new FIRMs

POST-PRELIMINARY PROCESSING Appeals

An appeal is a formal objection to new or revised BFEs, SFHA and Floodway boundaries in the preliminary data that is submitted during the 90-day appeal period

Appeals are based on data that show proposed BFEs to be scientifically or technically incorrect

*See Expanded Appeals Process Fact Sheet
for additional Information and online resources*

POST-PRELIMINARY PROCESSING Comments

- ⦿ A comment is a formal objection to the information in the FIS Report and/or shown on the FIRM panels not related to BFEs
- ⦿ Comments generally involve concerns regarding the corporate limits, Extraterritorial Jurisdiction (ETJ) boundaries, and road names or locations

POST-PRELIMINARY PROCESSING Appeals & Comments

SUBMIT TO:

John Dorman, Director
NCFMP
4218 Mail Service Center
Raleigh, NC 27699-4218
(919) 715-5711

Kristen Martinenza, P.E., CFM
FEMA-R4 (Hollins Building)
3003 Chamblee-Tucker Road
Atlanta, GA 30341
(770) 220-3174

The appeal period for Craven County is
[Yet to be Determined](#)

POST-PRELIMINARY PROCESSING

Effective Date

Changes to the preliminary flood data [i.e. flood zones, boundaries and base flood elevations] will not affect flood insurance policies until the **effective** date of the FIS

This date will be established by FEMA through the Letter of Final Determination (LFD) once submitted appeals and comments are evaluated and resolved

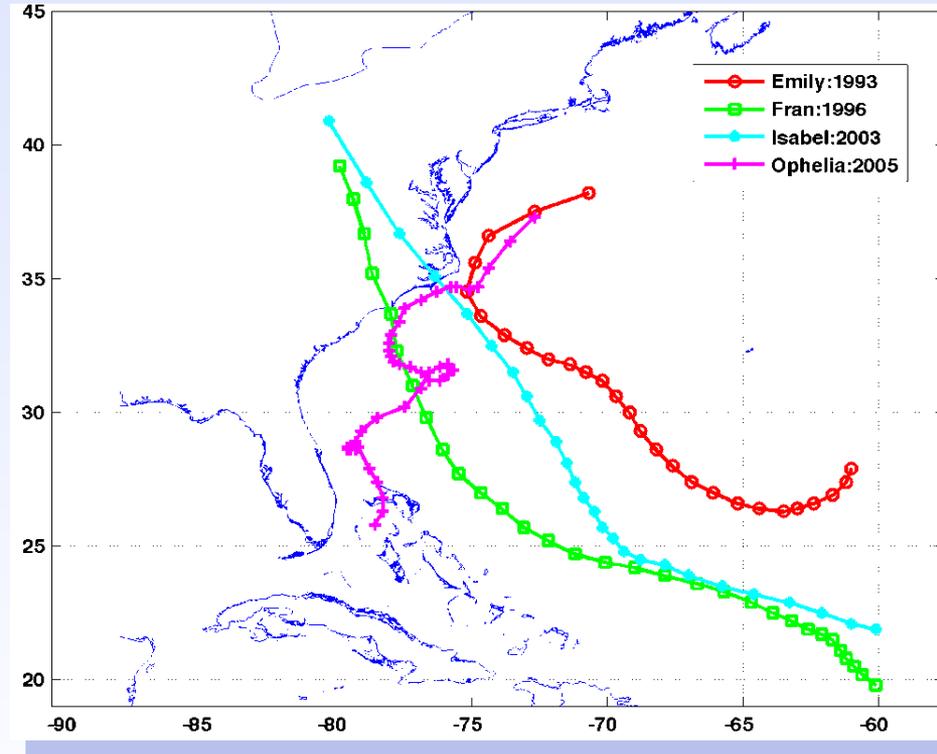
Context for the New Study

Current Effective Studies (Details in FIS)

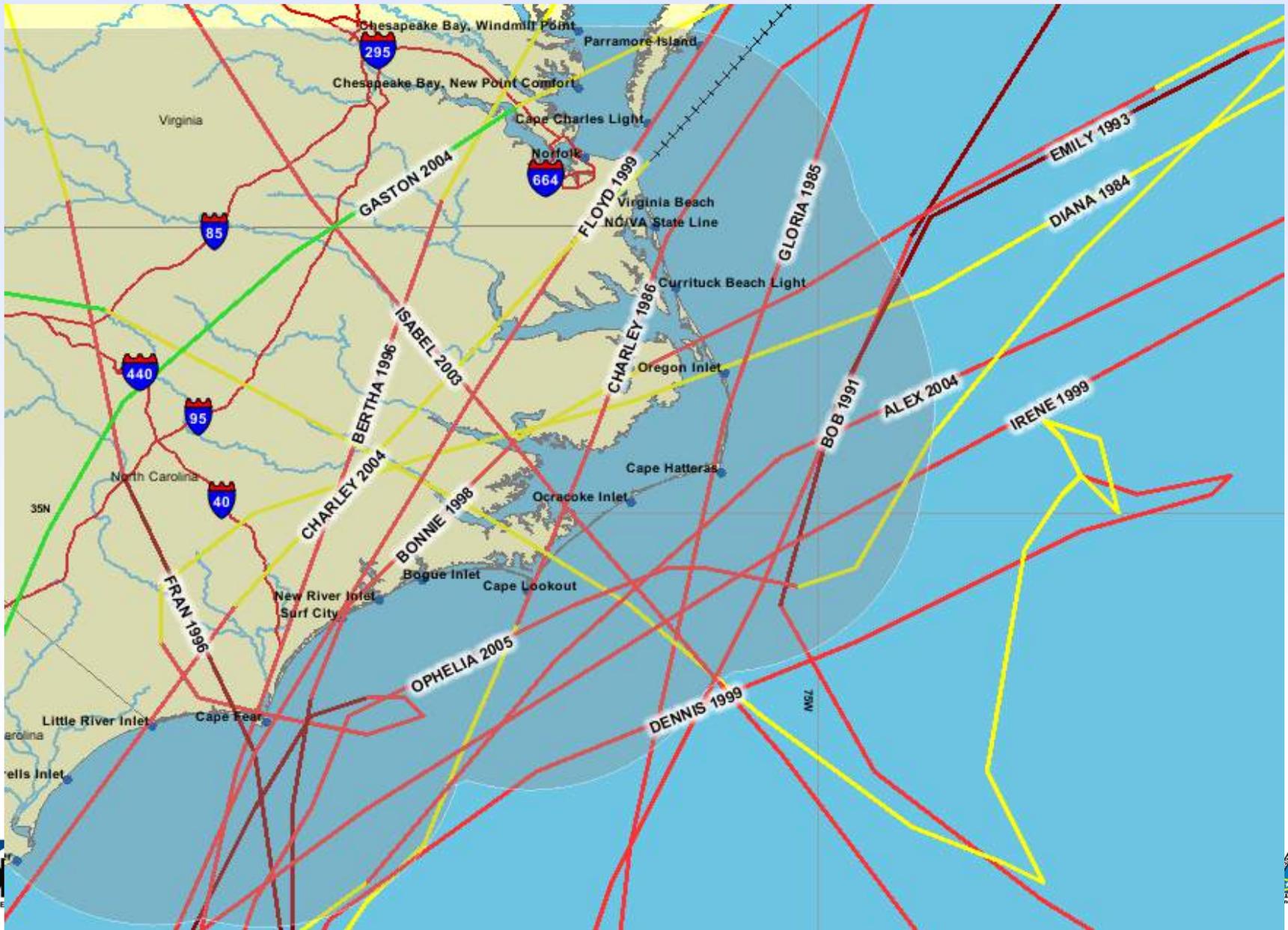
- No Surge Updates (Surge performed in 1981)
- Added single wave setup value for some counties
- New overland wave analyses in some counties

Reason for Update

- Advances in coastal surge modeling methods
- Significant Surge Events since 1980 (Emily, Fran, Isabel, Ophella)
- Changes in FEMA Coastal Mapping Guidelines (LIMWA and 2% Runup)



22 Hurricanes since 1980

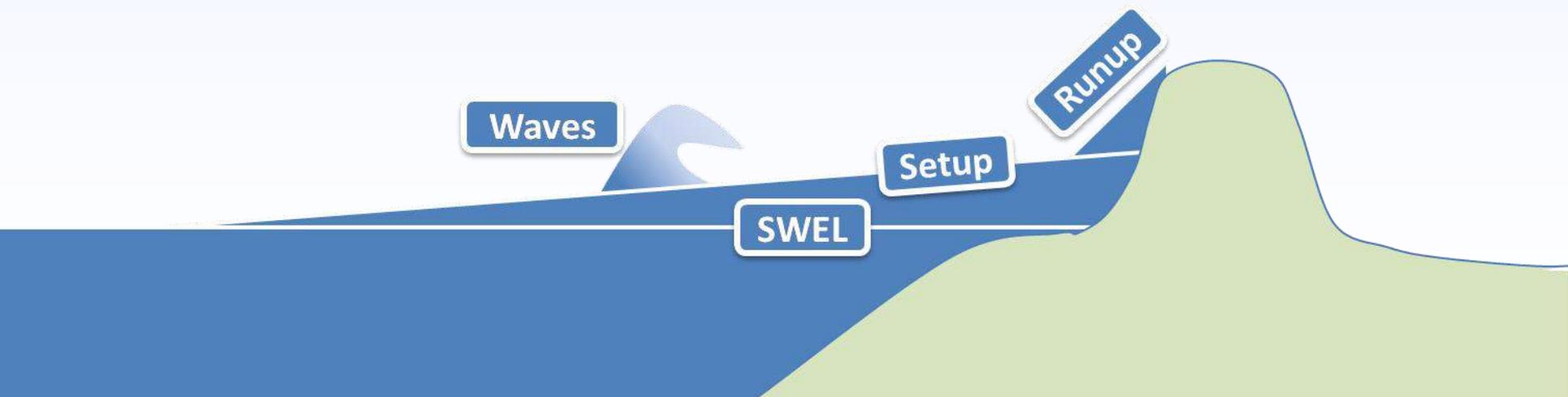


FEMA Coastal Flood Hazards

Base flood elevation (BFE) or regulatory water surface elevation on FIRM includes 4 components:

- Storm surge stillwater elevation (SWEL)
- Wave setup
- Wave height above storm surge elevation
- Wave runup above storm surge limits

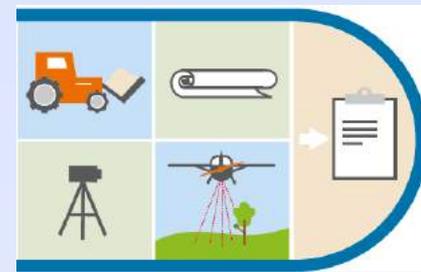
All applied to an eroded beach profile



Elements of the Coastal Flood Risk Analysis and Mapping Process

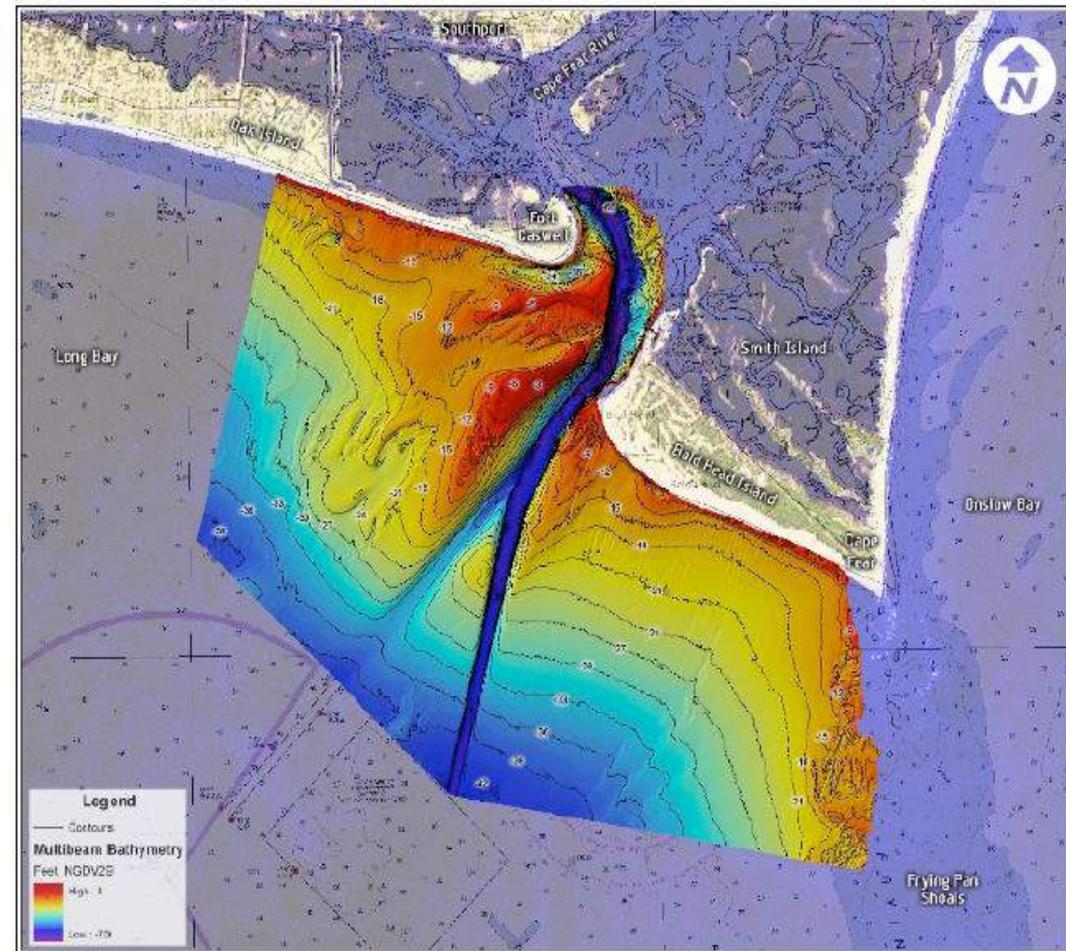
- Define Base Topography
- Evaluate Water Levels and Storm Surge
- Define Cross-shore Transects
- Identify the Primary Frontal Dune
- Evaluate Storm-induced Erosion
- Wave Hazard Modeling
- FIS and FIRM Production

Define Base Topography



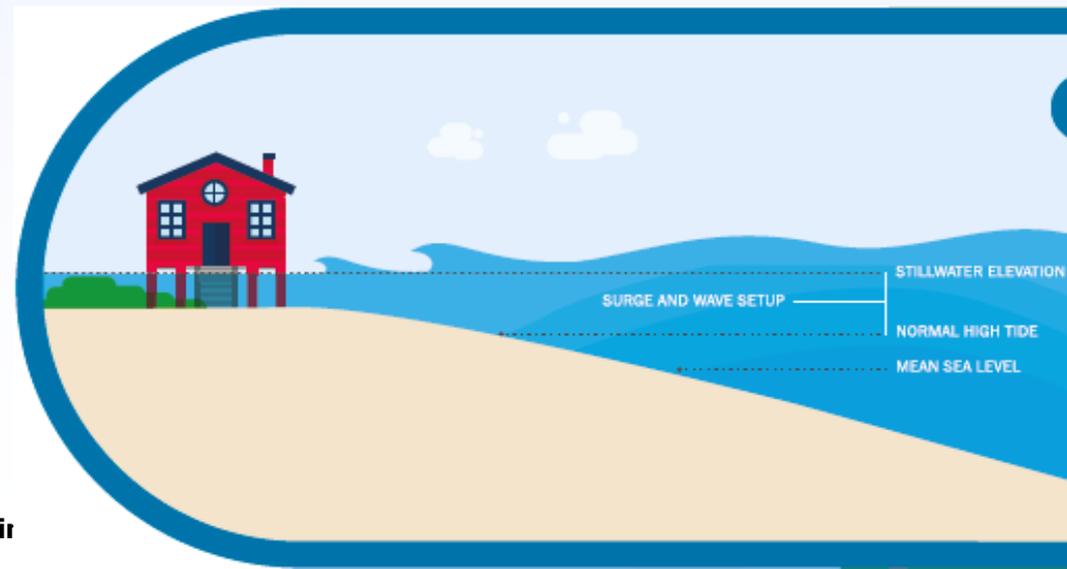
■ The best available Topographic and Bathymetric Data Sources were compiled from:

- NOAA
- USGS
- National Geophysical Data Center
- US Army Corps of Engineers
- Naval Postgraduate School
- UNC-Chapel Hill
- NC Flood Mapping Program



Evaluate Water Levels and Storm Surge

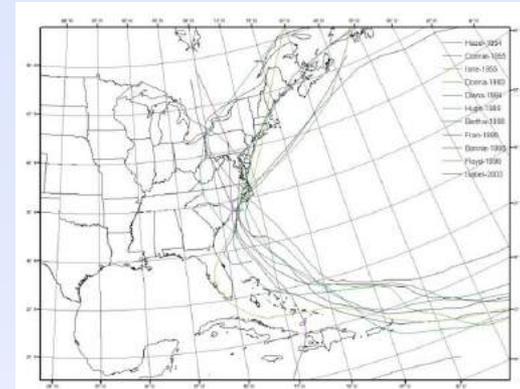
- Using a suite of coastal models, we analyzed sea level , tides and storm surge.
- Calibrated and validate the coastal models using tide gage data and 6 historical storms.
- High Water Marks were used to validate model results to each storm
- Surge results were then applied to model shoreline wave impacts



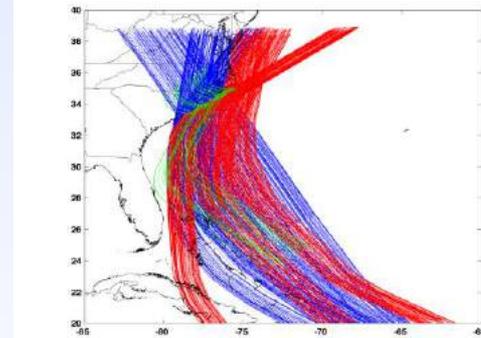
Storm Surge Model

Statistical Run Storms

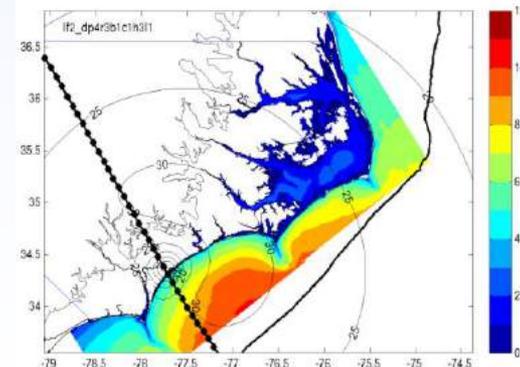
- **24 Historical Tropical Storms** - After 1940 – Significant storms that impacted NC and SC used to determine typical tracks, wind speeds and pressures
 - Validation Storms: Emily ('93), Fran ('96), Isabel ('03), & Ophelia ('05)
- **675 tropical synthetic** tracks were developed based on historical storms
- **22 Extratropical** Historical Storms (Northeasters)
 - Validation Storms: 2006 Thanksgiving storm, and 2006 Decayed extratropical storm Ernesto



Representative Storms



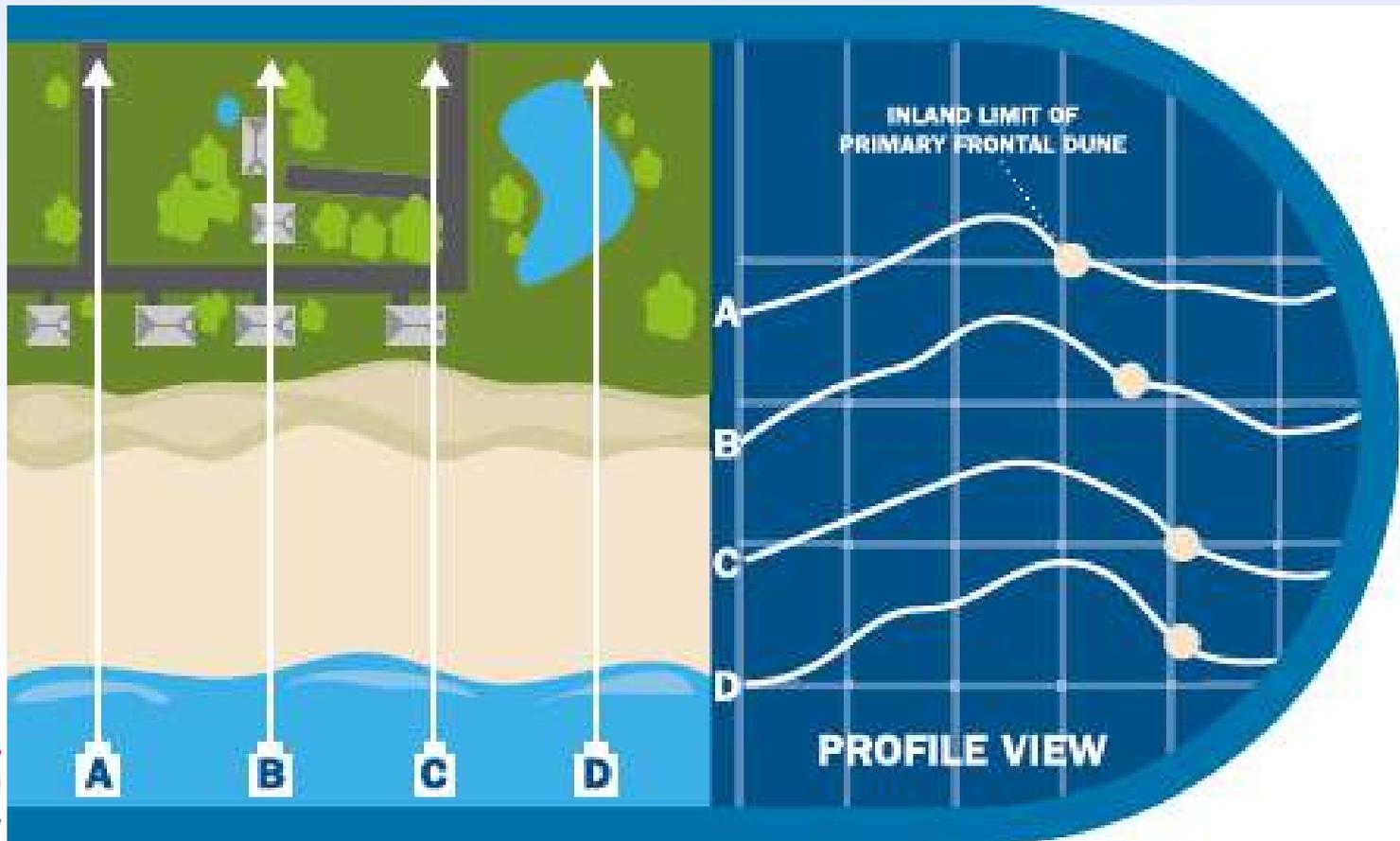
Tropical Storm Tracks



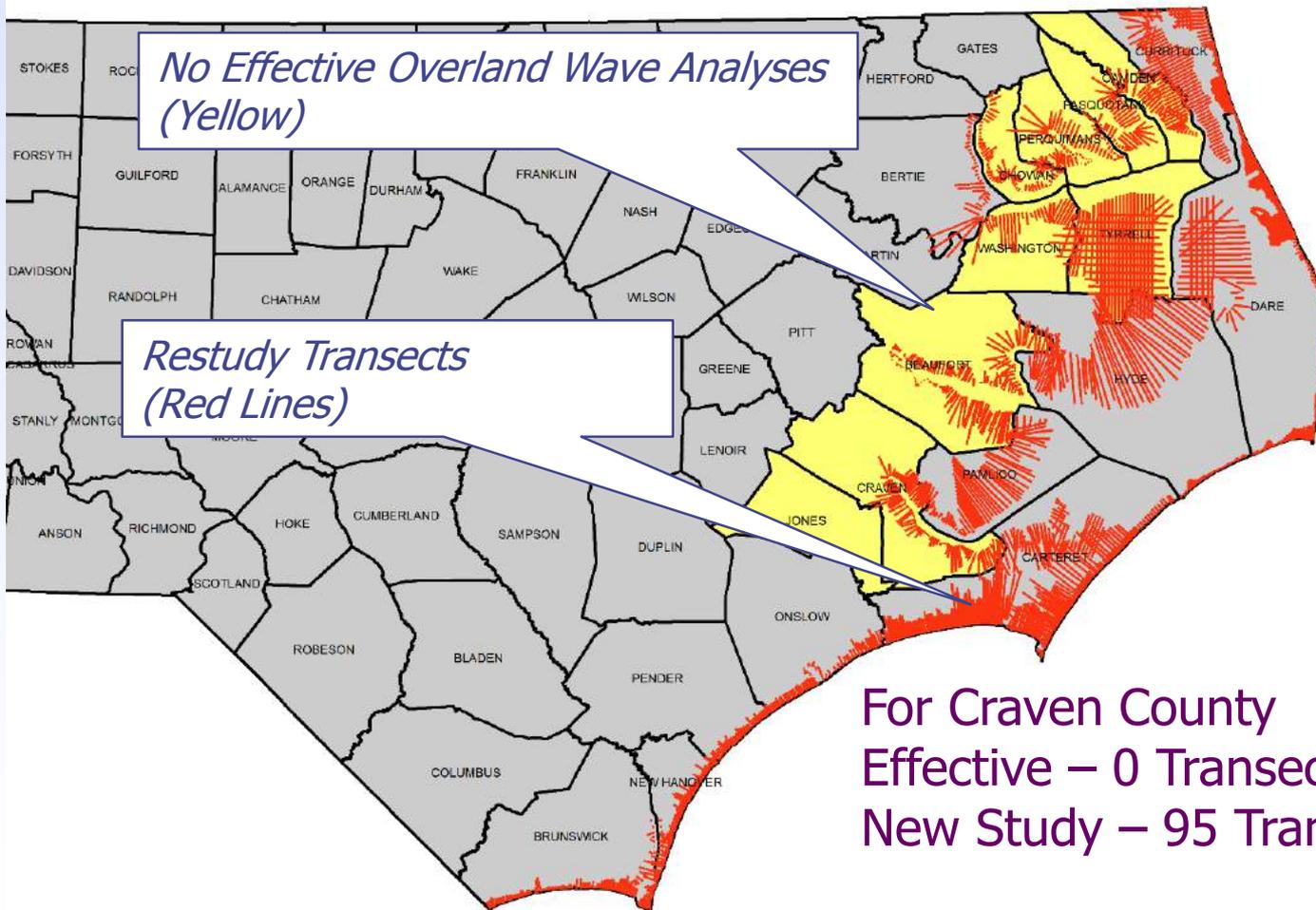
Statistical Run Water Levels

Define Cross-Shore Transects

- Engineers and surveyors divided the shoreline (open coast and sound) into segments and represent each segment with a transect to model how topography, land use and development will influence waves



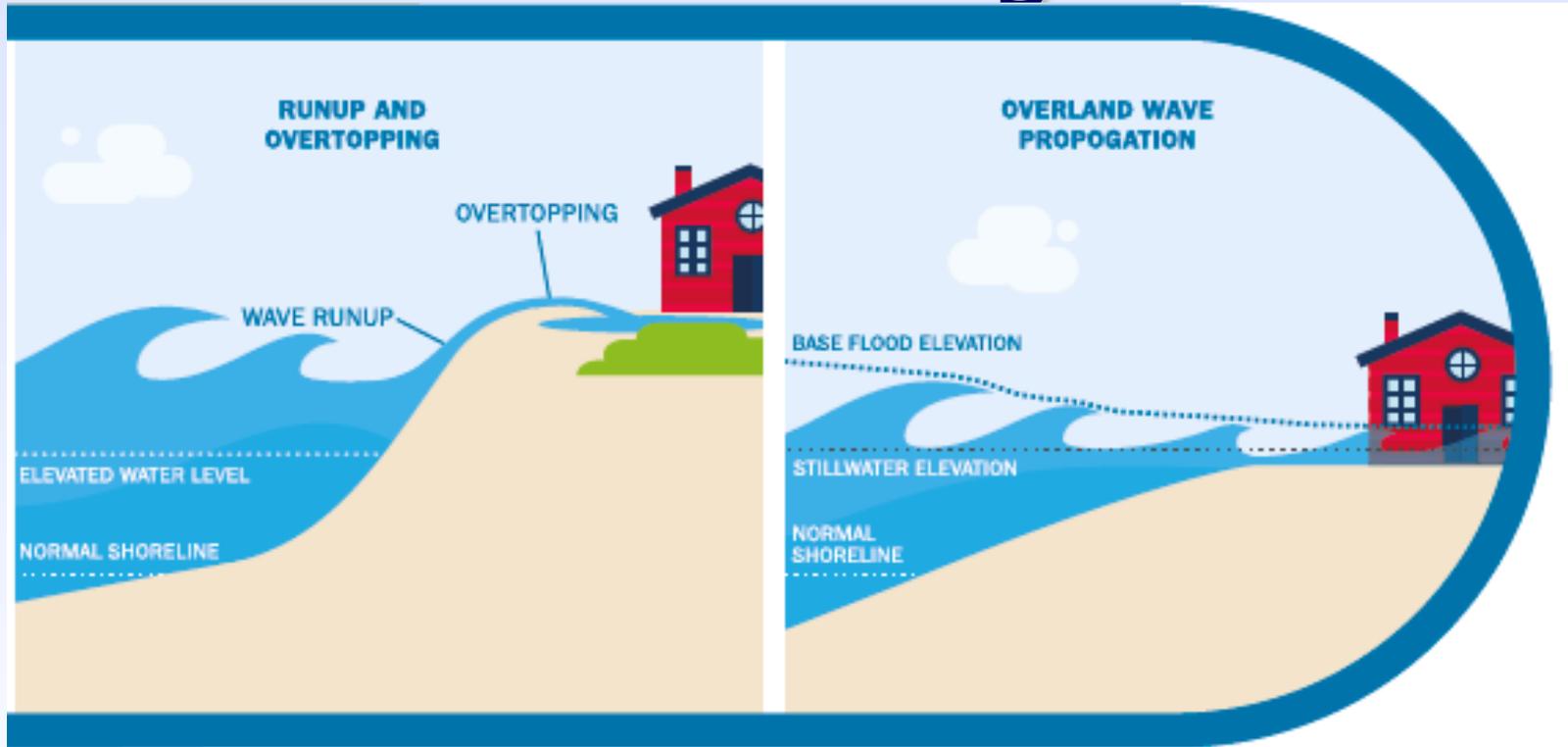
Overland Wave Analyses



For Craven County
Effective – 0 Transects
New Study – 95 Transects

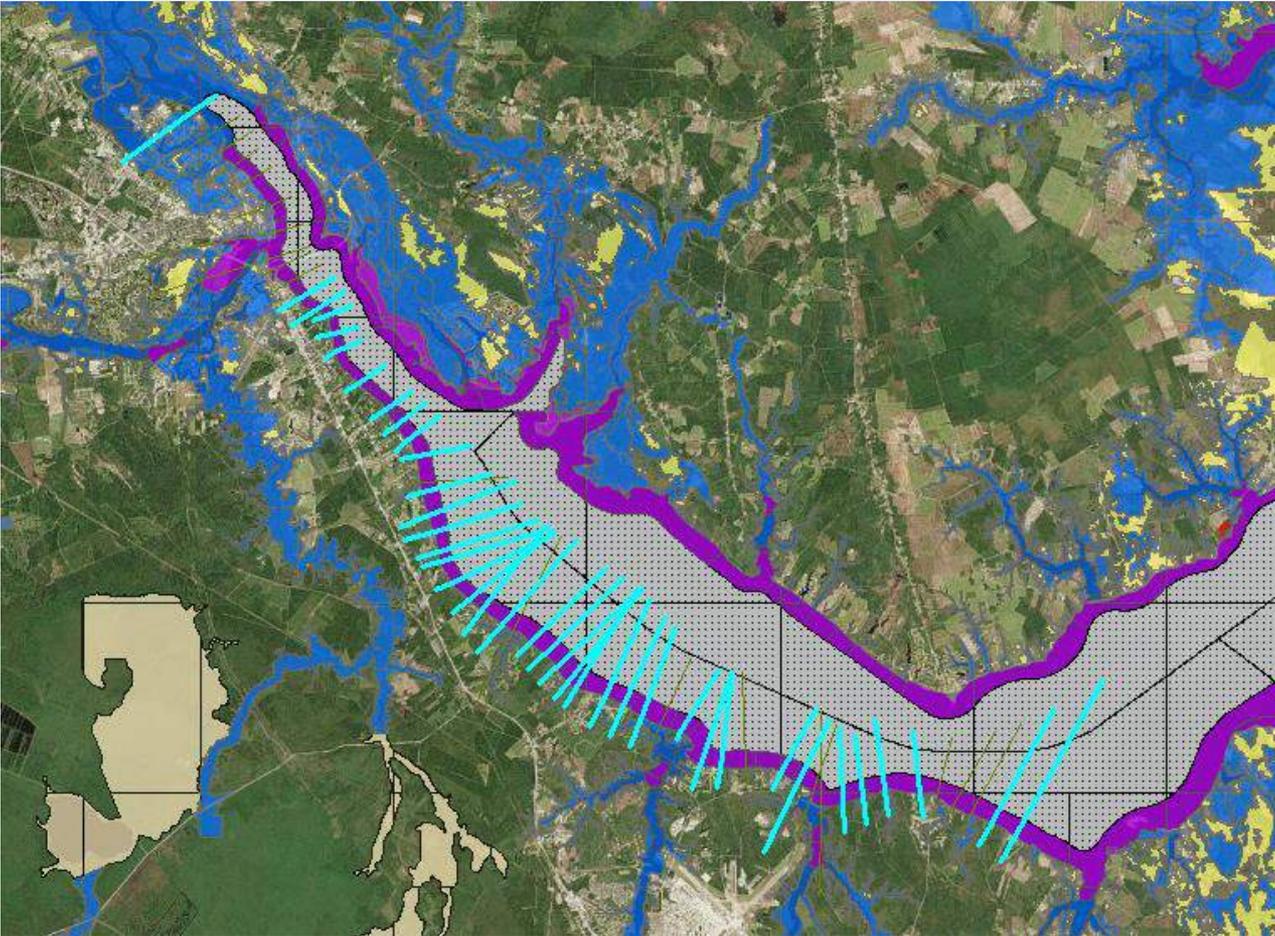
9 New Counties (New FEMA Sheltered
Water Guidelines and Specifications)

Wave Hazard Modeling



- During a flood, waves ride on the elevated water levels and can impact buildings and land that is normally dry.
- Wave hazard modeling evaluates the risks from overland wave propagation, runup and overtopping to determine BFEs.

Wave Run Up Transects (39)

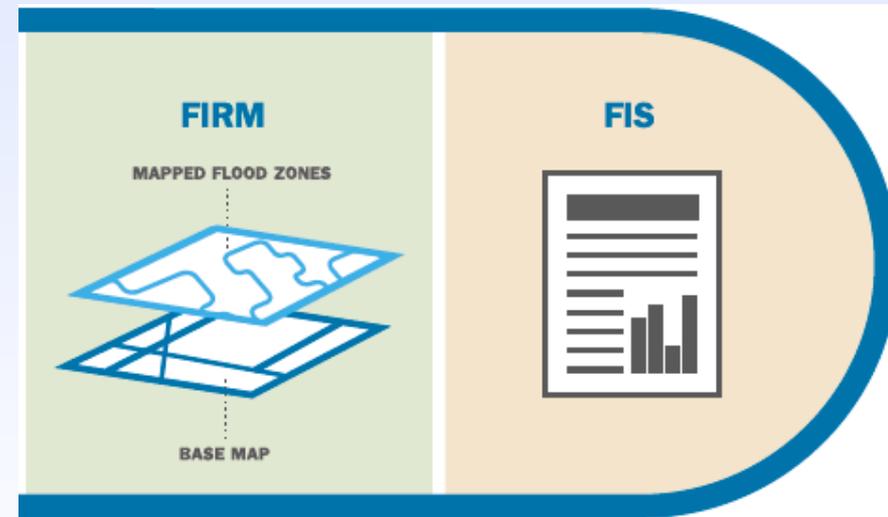


FIS and FIRM Production

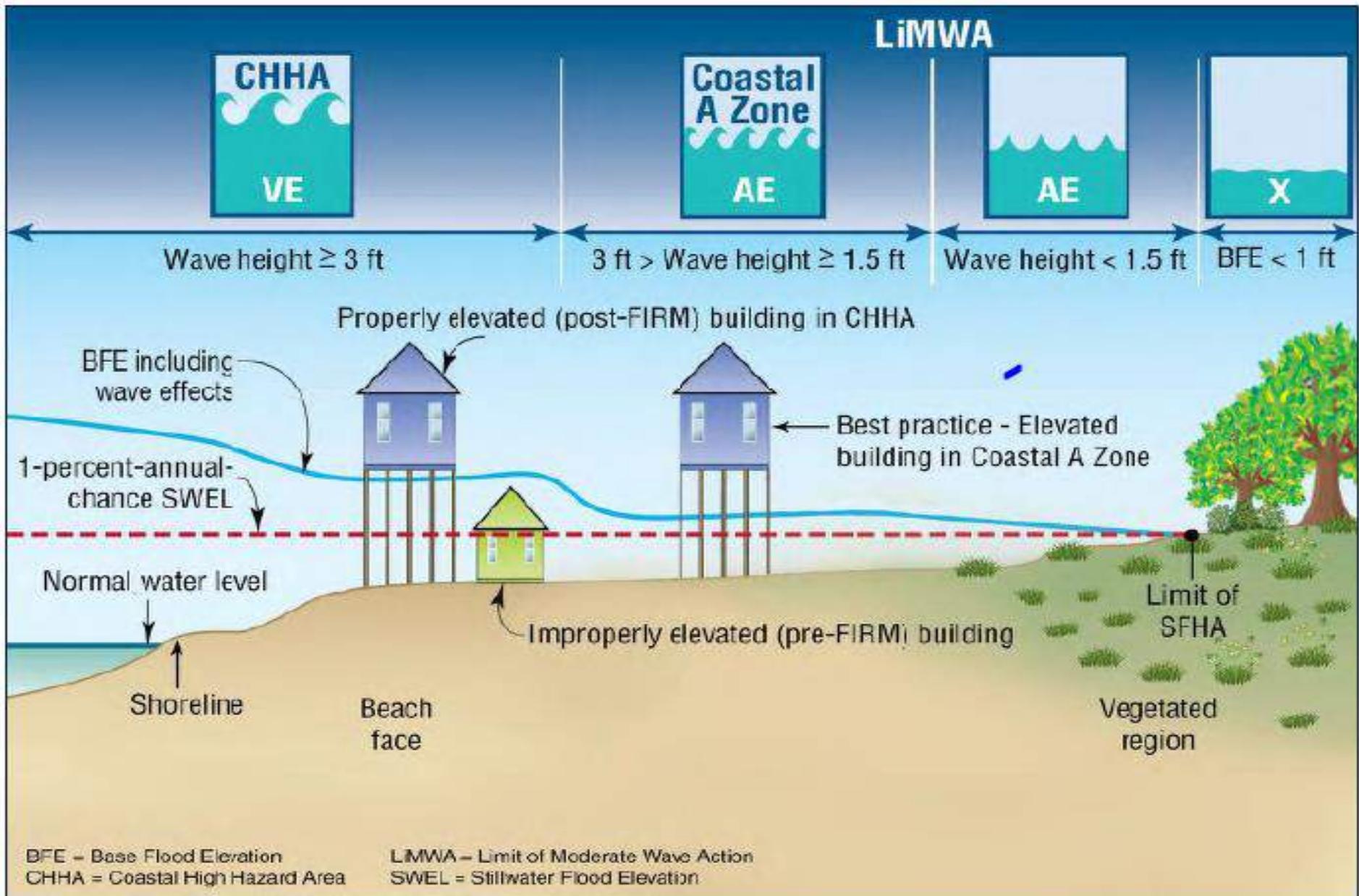
Flood zones are mapped using both the coastal flood analysis and the riverine mapping data to create a seamless flood hazard map.

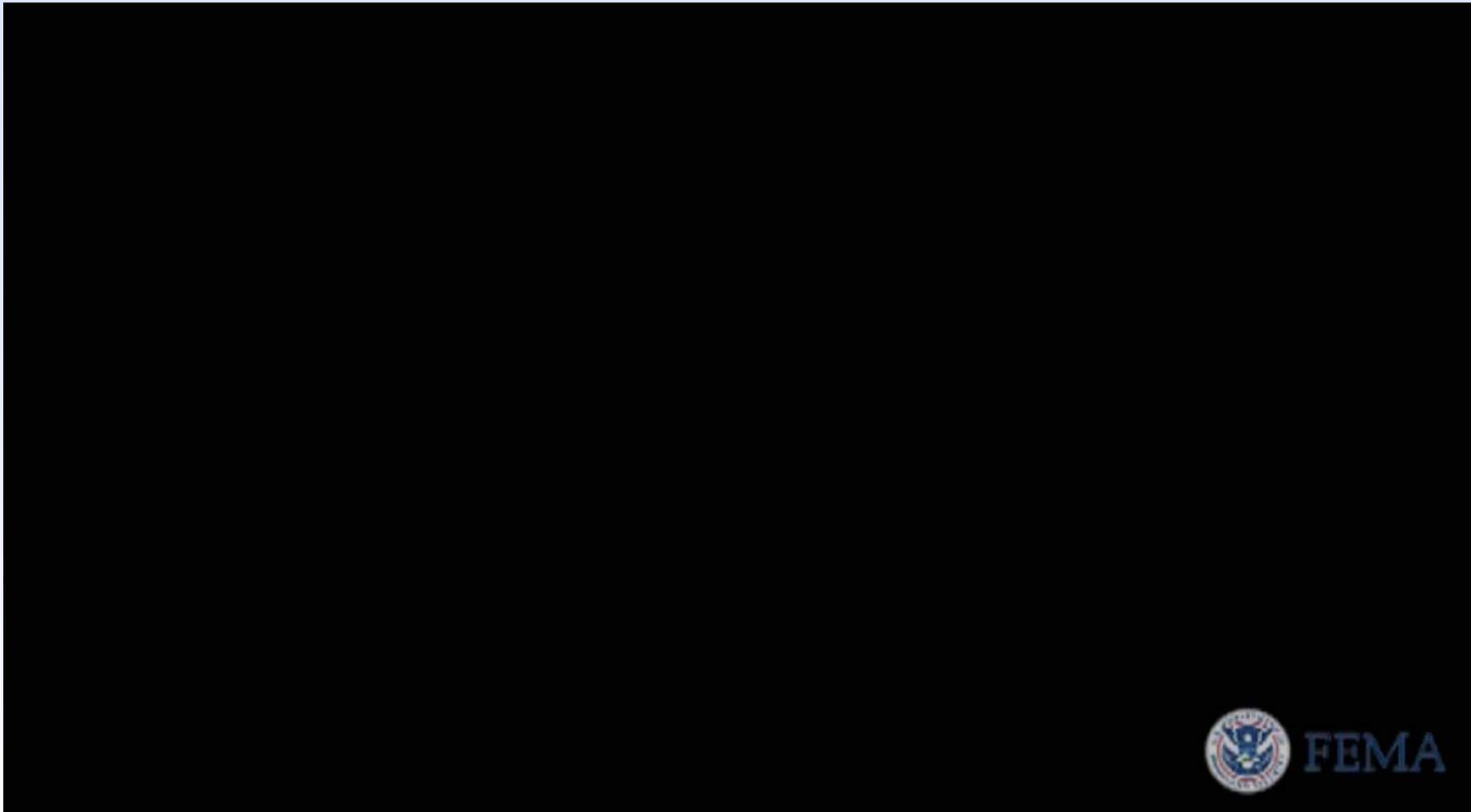
The Flood Insurance Study (FIS) is prepared which summarizes the engineering methods and results.

All data is available on the FRIS site.



Coastal Flood FIRM Mapping





<https://www.fema.gov/media-library/assets/videos/82399>

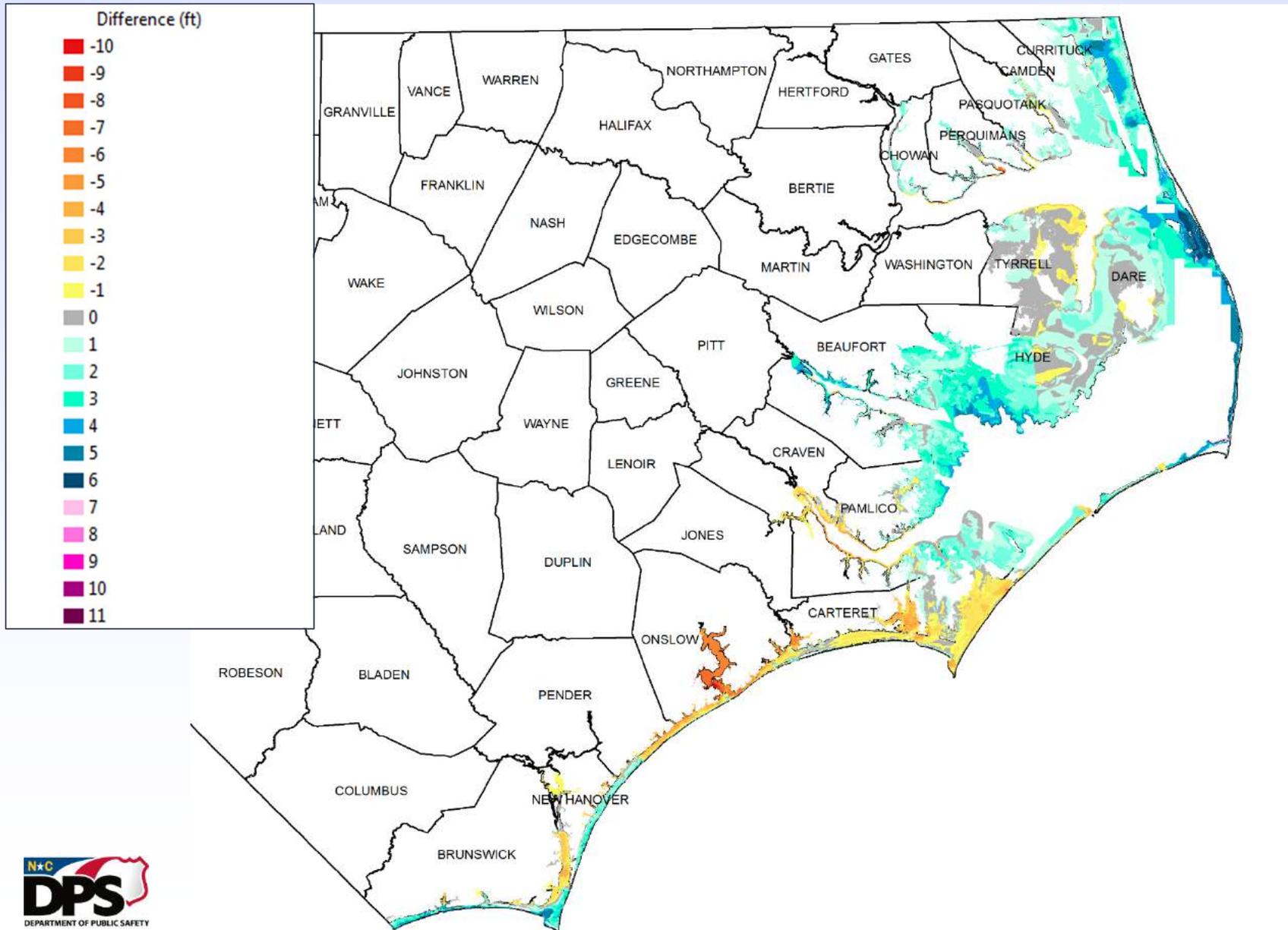


North Carolina Emergency Management

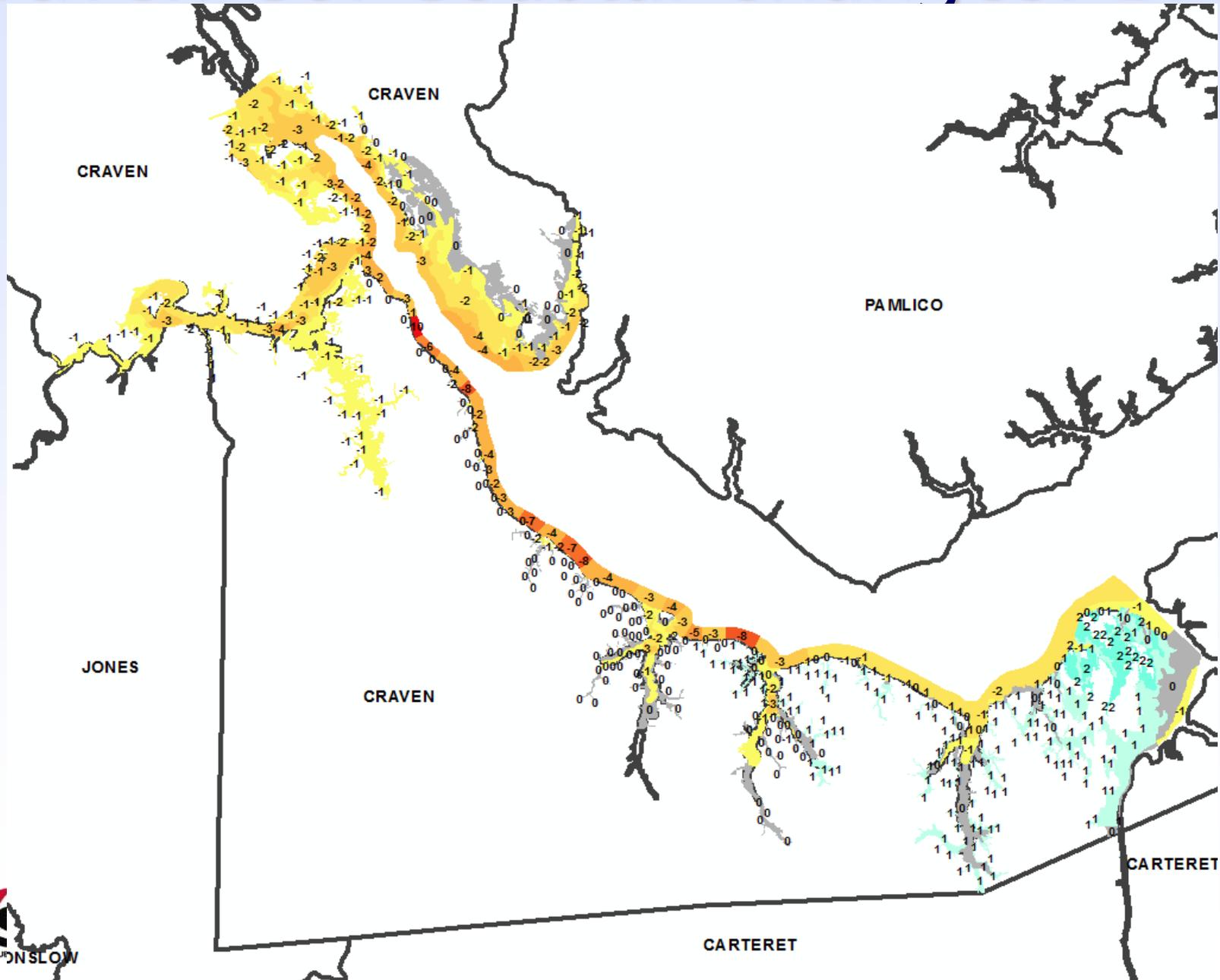


CRAVEN COUNTY REVISION RESULTS

Statewide Base Flood Elevation (BFE) Changes



Craven Co. Coastal Changes: BFEs



Why the Big Jump in BFE Inland?

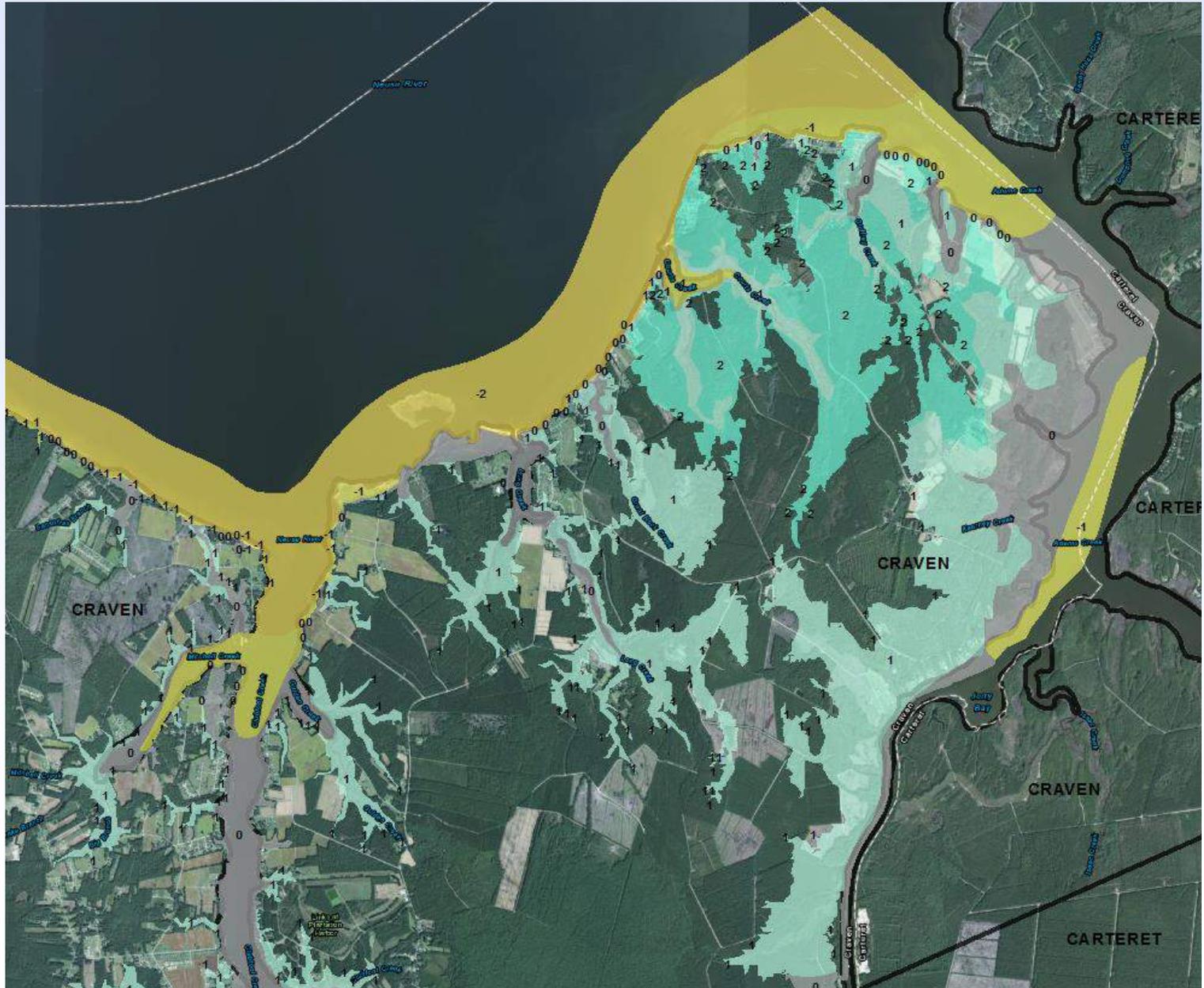
New Coastal Study; first since early 1980's

- More Strong Hurricanes in the model
- Increased number of synthetic storms modeled
- Higher-resolution storm surge model grid/mesh
- Higher storm surge than the 1980's model
- Topographic constrictions factored in modeling
- Wave set up in model (adds 1/4" to the surge)
- Added coastal/riverine combined probability
- More detailed wind fields
- Higher resolution topo data (LiDAR vs Quads)

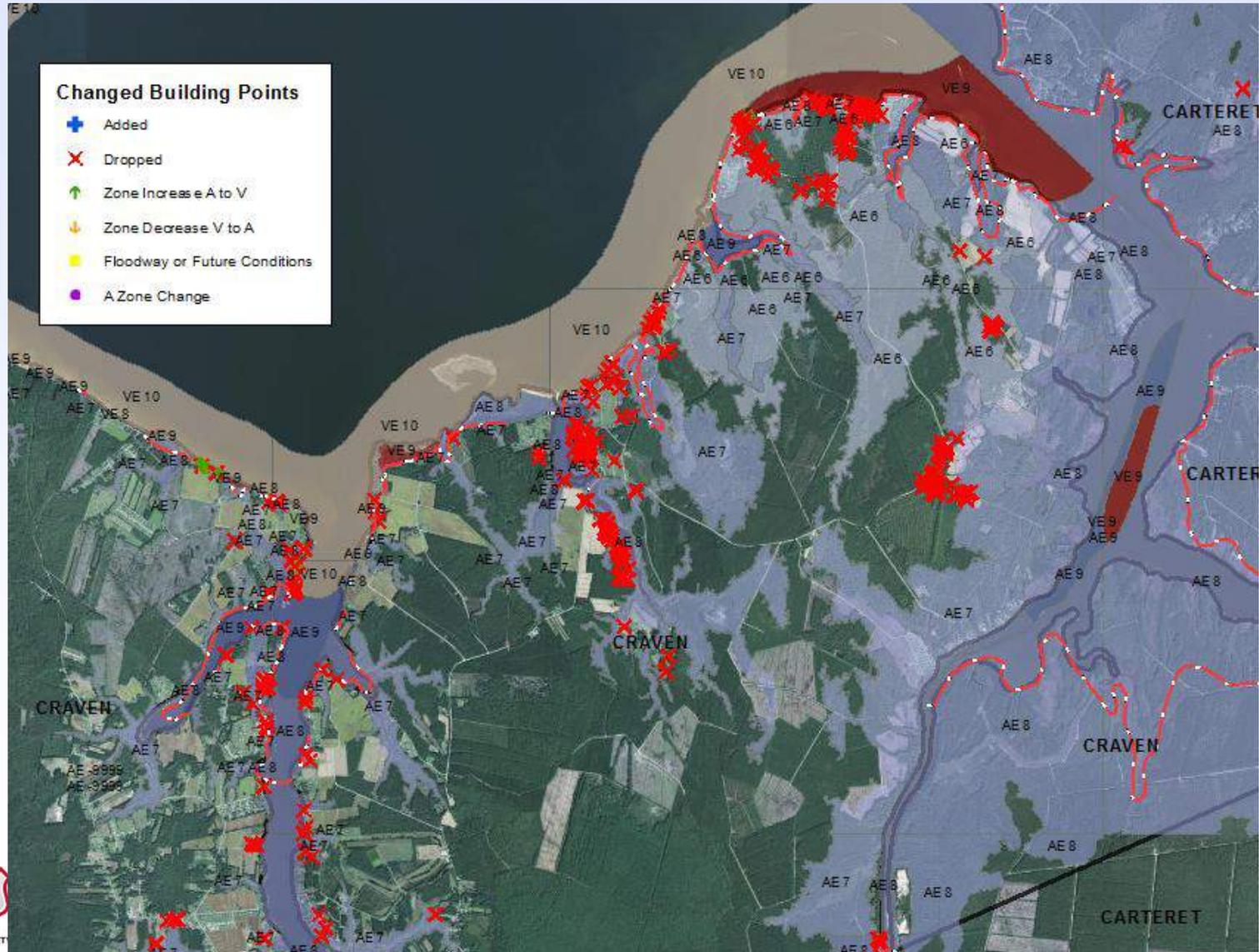
Changes In Craven Co: Buildings in SFHA

	Buildings			
	V Zone		A Zone	
	Current	Updated	Current	Updated
CRAVEN COUNTY	0	45	4094	3970
NEW BERN	0	24	2494	3184
VANCEBORO	0	0	26	26
HAVELOCK	0	0	46	54
RIVER BEND	0	0	521	582
TRENT WOODS	0	0	270	314
BRIDGETON	0	8	210	256
COVE CITY	0	0	0	0
DOVER	0	0	0	0

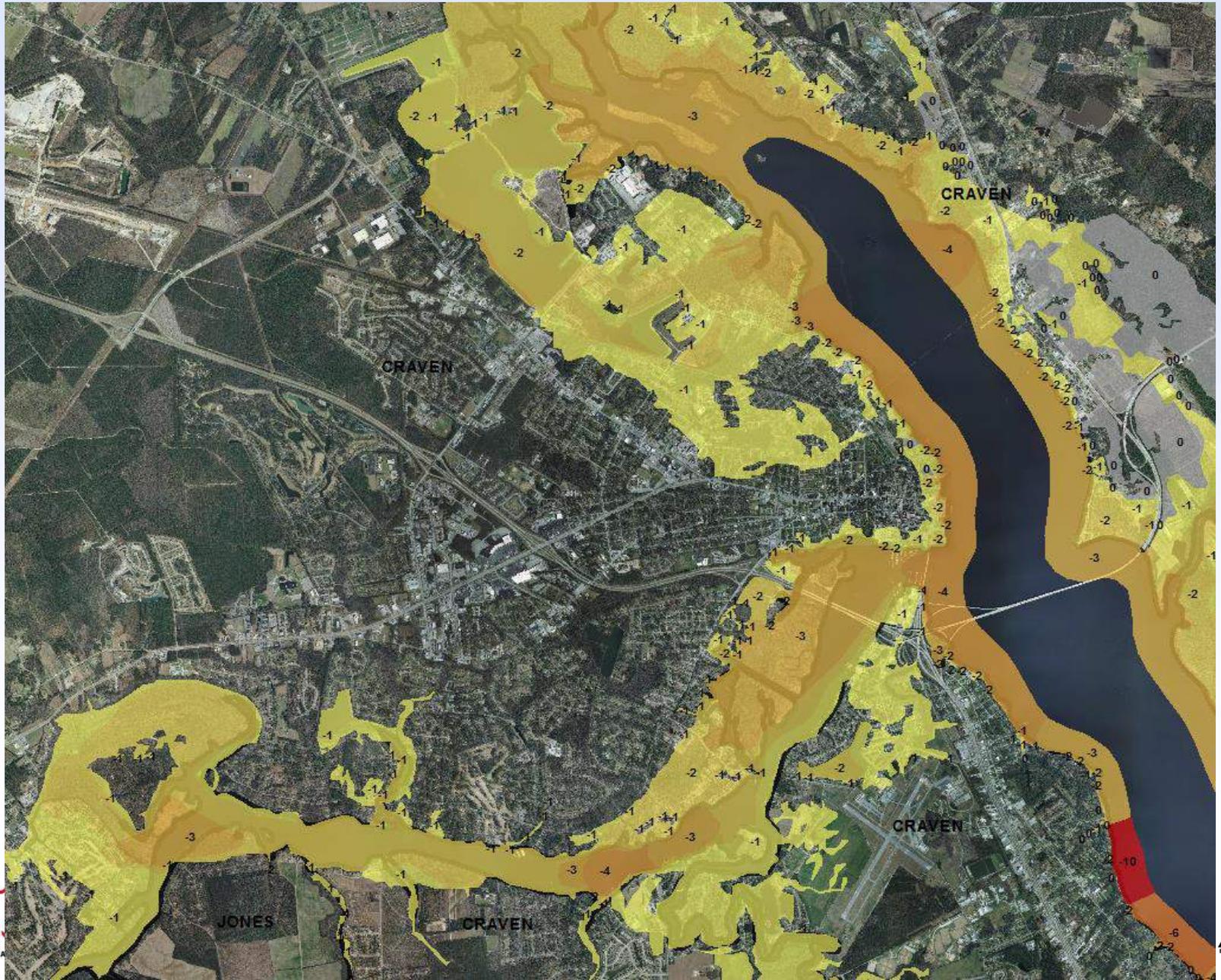
Changes along Neuse River (Eastern Corner) : Inland BFEs Decrease



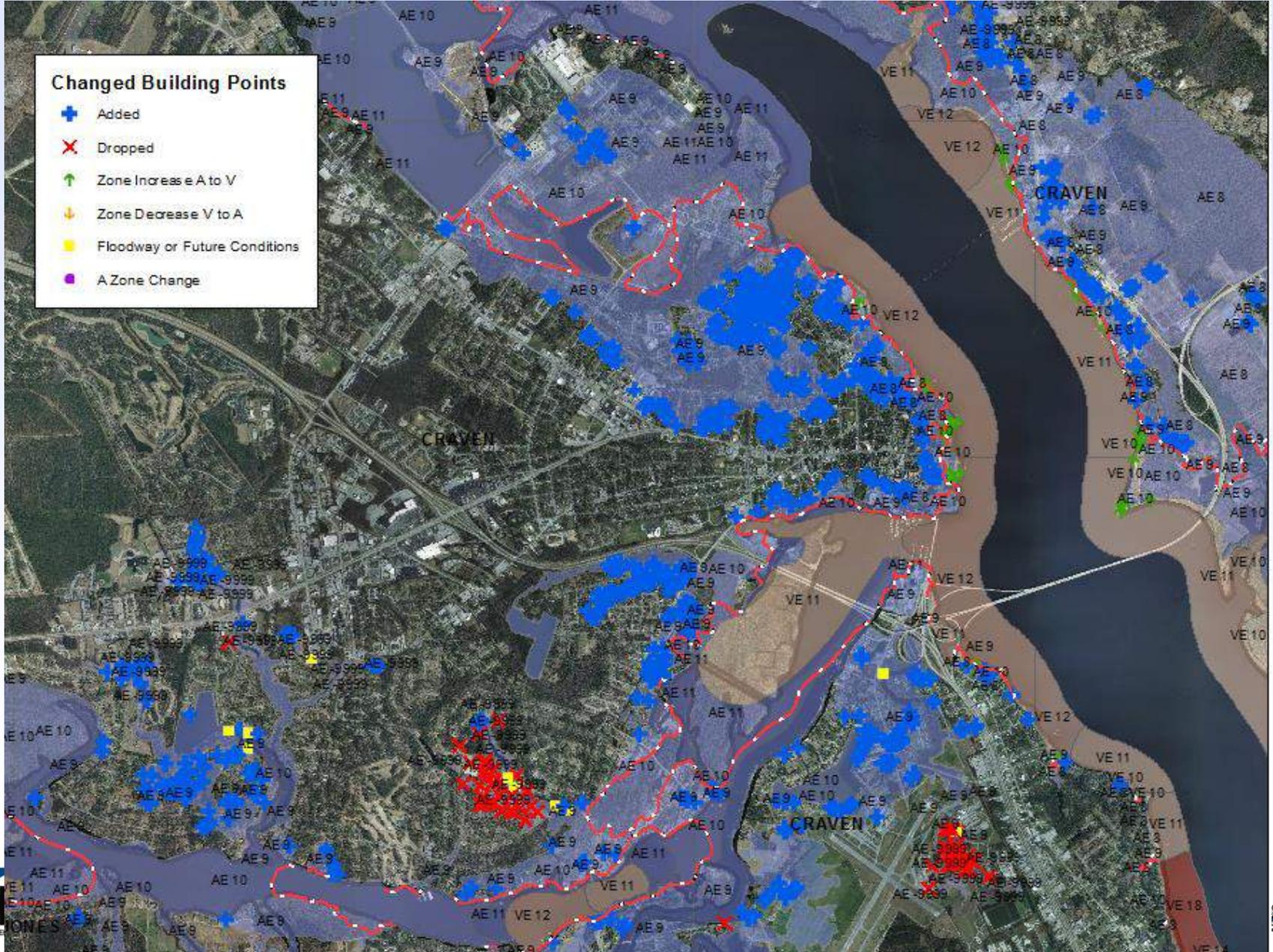
Craven Co. Changes along Neuse River: Eastern Corner, Inland BFEs Decrease



New Bern Changes: BFEs Increase



New Bern Changes: VE Added/SFHA Expands



IMPACT ON LOMCs

Community receives Summary of Map Actions (SOMA) listing all LOMAs, LOMRs, and LOMR-Fs issued since last FIRM effective date

SOMA online at - <http://www.ncfloodmaps.com/soma.htm>

PRELIMINARY SUMMARY OF MAP ACTIONS

Community: Durham County, Unincorporated Areas, North Carolina
 Community No.: 370085
 Revised Map Panels: 3710979600, 3710979700, 3710979800, 3720070600, 3720070700, 3720070800, 3720070900, 3720071600, 3720071700, 3720071800, 3720072700, 3720072800, 3720073700, 3720073800, 3720073900, 3720074700, 3720074800, 3720074900, 3720075700, 3720075800, 3720075900, 3720076800, 3720076900, 3720077800, 3720077900, 3720078900, 3720080000, 3720080100, 3720080200, 3720080300, 3720080500, 3720080600, 3720080700, 3720081100, 3720081200, 3720081300, 3720081400, 3720081500, 3720081600, 3720081700, 3720081800, 3720081900, 3720082300, 3720082400, 3720082500, 3720082600, 3720082700, 3720082800, 3720083000, 3720083300, 3720083400, 3720083500, 3720083600, 3720083700, 3720084000, 3720084100, 3720084200, 3720084300, 3720084400, 3720084500, 3720084600, 3720084700, 3720084800, 3720085000, 3720085100, 3720085200, 3720085300, 3720085400, 3720085500, 3720085600, 3720085700, 3720086000, 3720086100, 3720086200, 3720086300, 3720086400, 3720086500, 3720087000, 3720087100, 3720087200, 3720087300, 3720087400, 3720088000, 3720088100, 3720088200, 3720091000, 3720092000, 3720093000, and 3720094000

Date Issued: March 31, 2015
 Page: 1 of 4

To assist your community in maintaining the Flood Insurance Rate Map (FIRM), we have summarized below the previous Letter of Map Change (LOMC) actions (i.e., Letters of Map Revision (LOMRs) and Letters of Map Amendment (LOMAs) that will be affected by the preparation of the enclosed revised FIRM panels.

1. LOMRs and LOMAs Incorporated

The LOMRs and LOMAs listed below have been incorporated into and are reflected on the final FIRM. However, until the revised FIRM becomes effective, the LOMRs and LOMAs will remain in effect.

<u>LOMC</u>	<u>Case No.</u>	<u>Effective Date</u>	<u>Project Identifier</u>	<u>New Panel</u>	<u>New Zone</u>
LOMR	09-04-5688P	July 24, 2009	NC-09-174 – Winsford in the Park at Northeast Creek	3720073900	AE

IMPACT ON LOMCs

- ◎ SOMA shows how each LOMC was affected by the preliminary FIRM
- ◎ Possible Actions:
 - **Incorporated** (if LOMC can be mapped)
 - **Superseded** (if flood hazard was restudied and ground elevation is below new BFE)
 - **Revalidated** (if LOMC is unaffected by map revision but is too small to show on FIRM)
- ◎ Revalidation letters are sent to affected communities prior to the new FIRM effective date and will become effective the following day

IMPACT OF NEW MAPS ON FLOOD INSURANCE RATES

SAMPLE FLOOD INSURANCE RATES

Annual Flood Insurance Premiums**

Rates are as of April 2016 and are subject to change

Zone X	\$1,402*
Zone AE	\$1,679
Zone VE	\$3,854

- * If the structure has not had previous flood claims or received previous Federal Disaster Assistance payments, it might qualify for a Preferred Risk Policy in Zone X with the lowest possible rate of \$349 for \$100,000 building/\$40,000 contents coverage

Flood insurance coverage of \$100,000 building/\$25,000 contents on an NFIP compliant structure (free of obstruction/enclosure) with a policy deductible of \$1,000.

SAMPLE FLOOD INSURANCE RATES

Flood Insurance Premiums When Structure is Built **ABOVE** the BFE*

Lowest Floor Elevation	Rates Effective April 2016	
	AE Zone	VE Zone
BFE	\$1,679	\$3,854
BFE + 1 ft.	\$849	\$3,066
BFE + 2 ft.	\$552	\$2,269
BFE + 3 ft.	\$444	\$1,680
BFE + 4 ft.	\$423	\$1,499

* Flood insurance coverage of \$100,000 building/\$25,000 contents on an NFIP compliant structure (free of obstruction/enclosure) with a policy deductible of \$1,000.

SAMPLE FLOOD INSURANCE RATES

Flood Insurance Premiums
When Structure is Built **BELOW** the BFE*

Lowest Floor Elevation	Rates Effective April 2016	
	AE Zone	VE Zone
BFE	\$1,679	\$3,854
BFE - 1 ft.	\$3,945	\$4,707
BFE - 2 ft.	Submit for Rate	\$5,803
BFE - 3 ft.	Submit for Rate	\$7,116
BFE - 4 ft.	Submit for Rate	Submit for Rate

* Flood insurance coverage of \$100,000 building/\$25,000 contents on an NFIP compliant structure (free of obstruction/enclosure) with a policy deductible of \$1,000.

LOCAL FREEBOARD & NFIP STATISTICS

Community	Joined NFIP (Regular Program)	Freeboard	Policies	Insurance in Force
Craven County	5/4/1987	2 foot	2,203	\$532,398,200
Town of Bridgeton	5/4/1987	2 foot	76	\$14,707,700
Town of Cove City	7/2/2004	2 foot	0	\$0
Town of Dover	5/29/2007	2 foot	0	\$0
City of Havelock	5/4/1987	2 foot	171	\$42,381,500

LOCAL FREEBOARD & NFIP STATISTICS

Community	Joined NFIP (Regular Program)	Freeboard	Policies	Insurance in Force
City of New Bern	6/1/1978	2 foot	1,399	\$319,758,300
Town of River Bend	8/19/1986	2 foot	448	\$102,161,800
Town of Trent Woods	5/4/1987	2 foot	243	\$69,185,900
Town of Vanceboro	8/4/1988	2 foot	4	\$1,203,500

IMPACT ON FLOOD INSURANCE RATES AS A RESULT OF NEW LEGISLATION

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

HFIAA Provisions

Rate-increase limitations

- Limit increases for individual premiums to 18% of premium
- Limit increases for average rate classes to 15%
- The annual surcharge and Federal Policy Fee are not included in the rate calculation and could result in the total amount charged to the policyholder to increase more than 18%

Deductibles

- Maximum residential deductible limits are increased from \$5,000 to \$10,000.

What's Changing for Pre-FIRM

Subsidized rates to be *phased out*

- Non-primary residences
- Business properties
- Severe repetitive loss properties (1-4 residences), and properties where claims payments exceed fair market value

New policies to be *issued at full-risk rates*

- After a lapse in insurance coverage
- Properties for which there was a refusal to mitigate

What's Changing for Pre-FIRM

Pre-FIRM Non-Primary Residence Policies

- Includes vacation homes, secondary residences, and rental properties
- 25% annual increase at policy renewal until premium reaches full-risk rate

Pre-FIRM Business Policies

- Future rates will increase by 25% per year until premium reaches full-risk rate until FEMA can separate businesses from other non-residential structures

HFIAA Provisions

All policies get a new annual surcharge based on occupancy

- **\$25 for primary residential:** single-family and individual condominium units
- **\$250 for other** non-residential properties, non-primary residential properties, and multifamily residential
- Surcharges to be deposited in the NFIP Reserve Fund, which was established to ensure funds are available for meeting the expected future obligations of the NFIP

HFIAA Provisions

Properties Newly Mapped in SFHA

- Eligible to receive a Preferred Risk Policy for 1 year after the maps become effective.
However, the Federal Policy Fee will be \$50 rather than \$22.
- Rates at renewal will increase no more than 18% each year.
- Grandfathering remains a cost-saving option for policyholders when new maps show their structure in a higher risk area (increased BFE or Zone AE to Zone VE).

Grandfathering

When the FIRM changes, the NFIP provides a lower-cost flood insurance rating option refer to as “grandfathering”.

Grandfathering is available to property owners who:

- Have flood insurance policies in effect when the new flood maps become effective and maintain continuous coverage; OR
- Have built in compliance with the FIRM in effect at the time of construction.

FLOODPLAIN MANAGEMENT STANDARDS

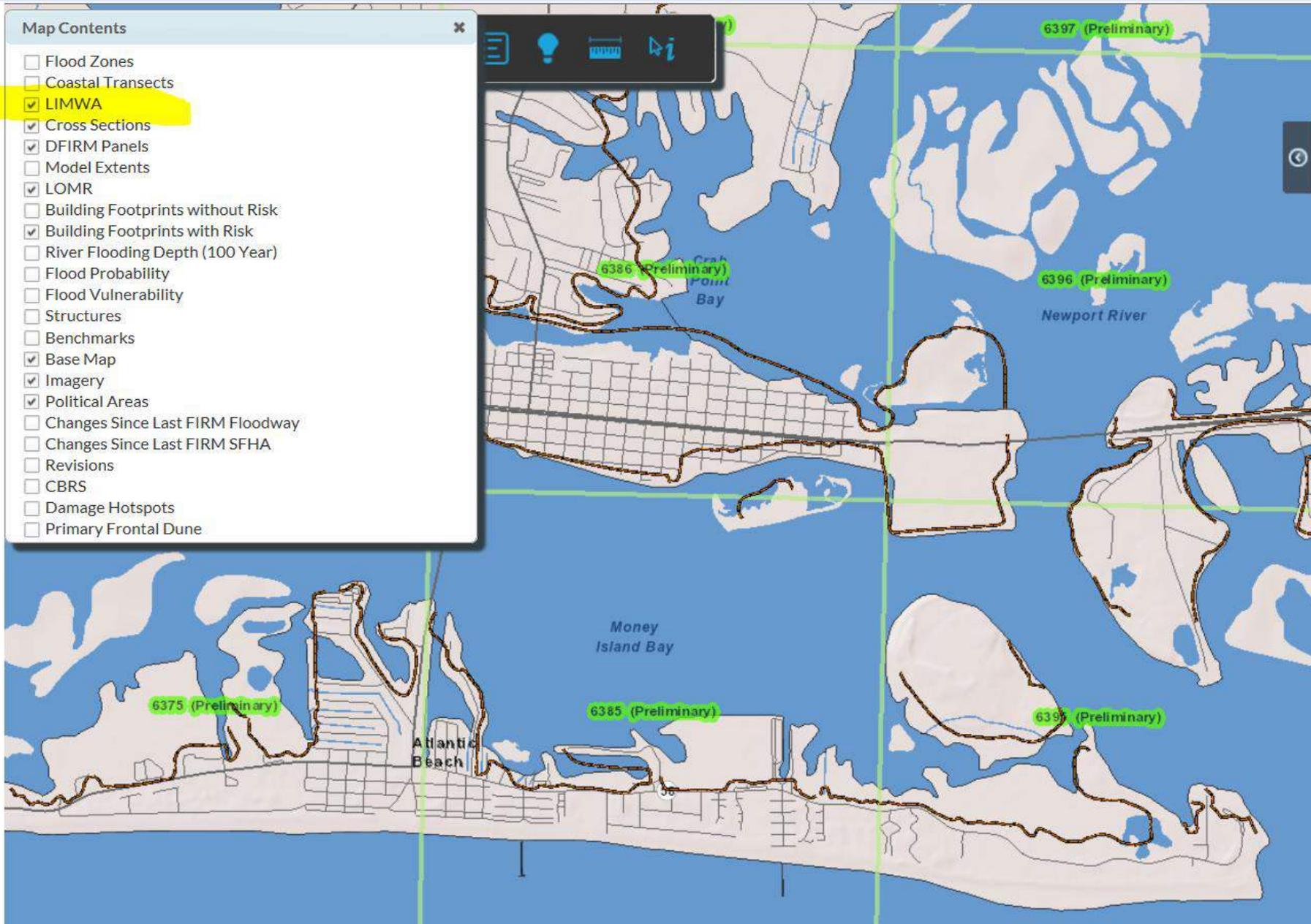
FLOODPLAIN MANAGEMENT STANDARDS

- ⦿ No changes to development standards as a result of the new mapping:
 - ⦿ “Development” definition per 44 CFR 59 is the same
- ⦿ A Floodplain Development Permit is required for all `development in the SFHA
 - ⦿ Keep records of all Permits, Inspections, C.O.’s, Variances, etc.
- ⦿ A No-Rise/No Impact Certification from a PE is required for any development in the Floodway or non-encroachment area

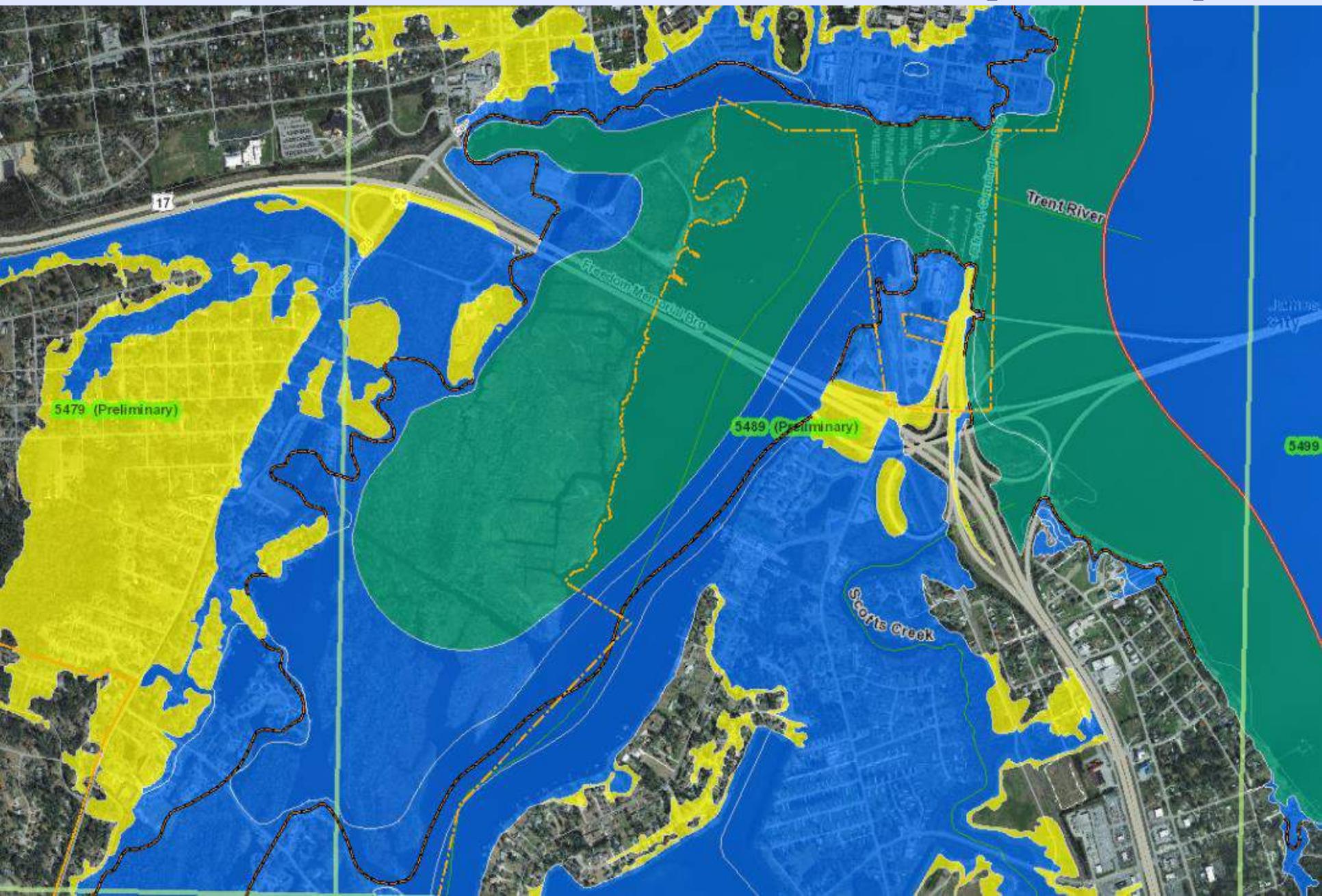
NC Building Code (2012)

- Defines 'Coastal Hazard' areas as those with 1.5 foot waves (LiMWA defines on new maps)
 - As adoption of the ASCE 24
- Non-residential buildings in Coastal Hazard areas must meet VE Zone building standards
 - Piers/columns/pilings foundations
 - Lowest floor measured at lowest horizontal structural member
 - V-Zone Certification by Professional Engineer

Limit of Moderate Wave Action (LiMWA)



Limit of Moderate Wave Action (LiMWA)



IMPACT OF NEW MAPS

FURTHER INFORMATION

Best Available Data Fact Sheet

- Available online at www.ncfloodmaps.com/fact_sheets.htm
- Provides information as to what data may be used immediately from the preliminary DFIRM and FIS Report as best available data for Zone A areas (BFEs, floodway/non-encroachment area data)



Using Data from Preliminary Flood Maps

Preliminary flood hazard maps contain valuable information that can be used for floodplain management before they become effective. This fact sheet provides guidance on how these data can and should be used in accordance with National Flood Insurance Program (NFIP) regulations, at 44 Code of Federal Regulations, Section 60.3, under specific Subparagraphs cited throughout this document.

Background

A Flood Insurance Study (FIS) uses detailed hydrologic and hydraulic analyses to model the 1% annual chance flood event, determine Base Flood Elevations (BFEs), and designate floodways and flood risk zones (e.g., Zones AE and VE). The flood hazard data are shown in tables in an FIS Report, shown graphically as flood profiles, and portrayed planimetrically on a Flood Insurance Rate Map (FIRM).

New flood hazard information is released to the public in a preliminary FIS Report and FIRM for review and comment during the statutory 90-day appeal period. The preliminary BFEs and floodway data are subject to change until a notice of final flood elevation determination is provided to the community in a Letter of Final Determination (LFD) by FEMA.

Most communities participating in the NFIP have a FIRM depicting areas expected to be inundated during the 1% annual chance flood. These Special Flood Hazard Areas (SFHAs) are determined by using one of two types of engineering methods: 1) detailed studies which determine BFEs, and 2) approximate studies which do not determine BFEs and are designated as Zone A.

Applicability

When land has been designated as being located in the SFHA on a community's Flood Hazard Boundary Map (FHBM) or FIRM, and no BFEs or floodway have been identified, communities are required to apply the provision contained in Subparagraph 60.3(b)(4) requiring communities to:

Obtain, review and reasonably utilize any base flood elevation and floodway data available from a Federal, State, or other source...

Communities should use preliminary flood data and require that new construction and/or substantial improvement projects be built with the lowest floor elevated to or above the preliminary BFE. Communities should also prohibit any encroachment in the floodway that would result in any increase in base flood levels during the occurrence of a 1% annual chance flooding event. Subparagraph 60.3(b)(4) also states that available BFE or floodway data should be used as long as they:

Reasonably reflect flooding conditions expected during the base flood; are not known to be scientifically or technically incorrect; and represent the best data available.

Data from a preliminary FIS constitute available data.

Use of Preliminary FIS Data Land Currently within Zone A

For areas currently identified within a Zone A on the community's effective FHBM or FIRM, the BFE and floodway/non-encroachment data from a preliminary FIS Report constitute available data under Subparagraph 60.3(b)(4). The requirement in Subparagraph 60.3(b)(4) is an important floodplain management tool for reducing flood damage in areas currently designated as Zone A. Communities must regulate floodplain development using the data in the preliminary FIS Report and FIRM under

ACCESSING DIGITAL FLOOD HAZARD DATA FROM THE FLOOD RISK INFORMATION SYSTEM (FRIS)

[HTTP://FRIS.NC.GOV/FRIS/](http://FRIS.NC.GOV/FRIS/)



FRIS

North Carolina Flood Risk Information System

[Download](#)

Am I at risk of flooding?

General Public



Enter all or part of your address and click GO.

Address, City, or ZIP

GO

OR select a county

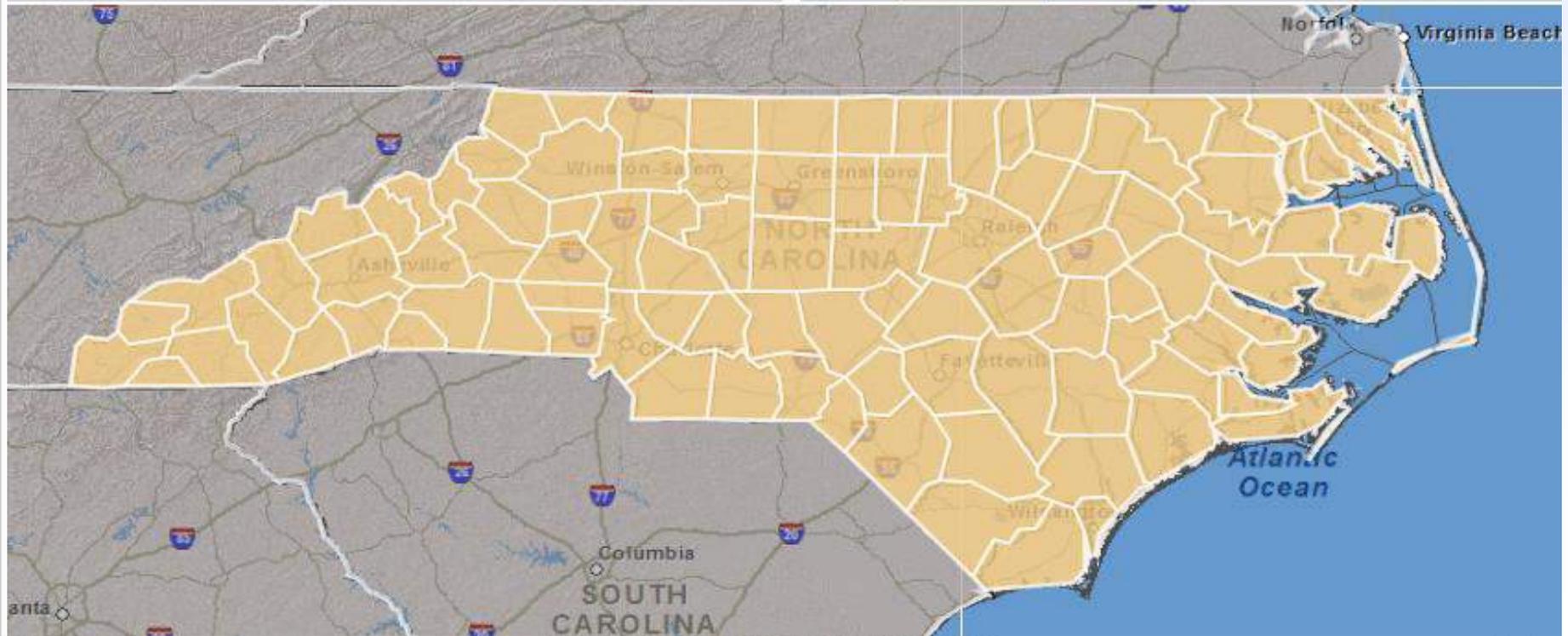
Craven



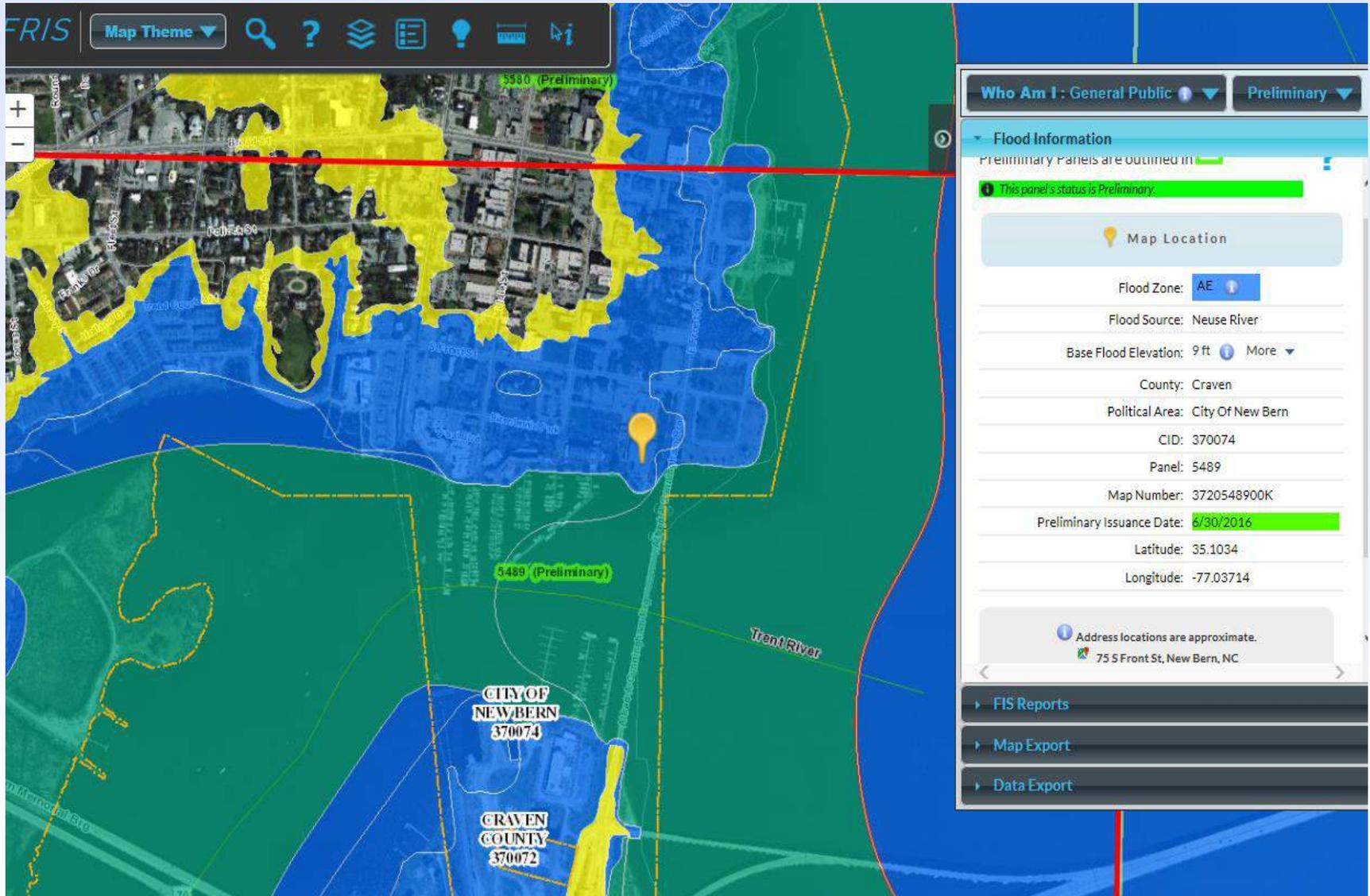
Benefits of Floodplain Mapping

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) enable business leaders and residents to more accurately predict flood hazards and prepare for flood risks.

Go to [NC Floodmaps](#) for more information.



FRIS FIRM Map Symbology





Reviewing the Data

FRIS

Map Theme



Map Contents

- Flood Zones
- Coastal Transects
- LIMWA
- Cross Sections
- DFIRM Panels
- Model Extents
- LOMR
- Building Footprints without Risk
- Building Footprints with Risk
- River Flooding Depth (100 Year)
- Flood Probability
- Flood Vulnerability
- Structures
- Benchmarks
- Base Map
- Imagery
- Political Areas
- Changes Since Last FIRM Floodway
- Changes Since Last FIRM SFHA
- Revisions
- CBRS
- Damage Hotspots
- Primary Frontal Dune

ZONE AE

Who Am I : General Public

Preliminary

Flood Information

Preliminary Panels are outlined in

This panel's status is Preliminary

Map Location

Flood Zone: 0.2% Annual Chance Flood Hazard

Flood Source: Mills Branch

Base Flood Elevation: Not available for this area. More

County: Craven

Political Area: Craven County

CID: 370072

Panel: 5581

Map Number: 3720558100K

Preliminary Issuance Date: 6/30/2016

Latitude: 35.14747

Longitude: -77.04029

FIS Reports

Map Export

Data Export

ZONE VE
(EL 11)

Sea Level Rise/Climate Change: Not Factored Into the Mapping

DFIRMs are based on existing shoreline characteristics, and wave and storm climatology at the time of study

By current Code of Federal Regulations, we cannot map flood hazards based on anticipated future sea levels or climate change.

Congress directed FEMA to establish a Technical Mapping Advisory Council to provide recommendations on future flood hazard mapping guidelines—including recommendations for future mapping conditions, the impacts of sea level rise and future development. FEMA will be required to incorporate future risk assessment in accordance with the recommendations of the Council.

ADDITIONAL RESOURCES

- ◎ NC Office of Geospatial and Technology Management – Floodplain Mapping Program
 - Randy Mundt, CFM, AICP Outreach Coordinator
919-825-2339 randy.mundt@ncdps.gov
 - Hope Morgan, GIS Manager 919-825-2336
hope.morgan@ncdps.gov
 - Tyler Longberry, PE, CFM, Engineer 919-825-2338
tyler.longberry@ncdps.gov
 - Heather V. Keefer, CFM, NFIP Planner 919-825-2289
heather.keeper@ncdps.gov
- ◎ Federal Emergency Management Agency
 - 1-877-FEMA-MAP
 - www.fema.gov

QUESTIONS?



FEMA'S COOPERATING

TECHNICAL PARTNER

North Carolina Emergency Management

