



SHORELINES – August 2016

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New Preliminary Flood Insurance Rate Maps (FIRMs) Released

FEMA’s **Flood Insurance Rate Maps (FIRMs)** are the agency’s official record delineating the areal extent of the base 1% annual chance floodplain (aka - Special Flood Hazard Area, or SFHA). The “1% annual chance” is sometimes used synonymously with the term “100-year storm” – the latter title can be a touch misleading as it implies the storm and resulting flood elevation levels will only occur once every 100 years. Again that is not quite correct – it’s the storm and resulting water surface elevation has a 1% chance of occurring in *any* given year. Hence 1 in 100 years is the 1% annual chance (= 1/100), while the 1 in 500 year event (= 1/500) is the 0.2% annual chance, and so on.

More practically speaking however, FIRMs dictate if a property is within the 1% annual chance floodplain and to which zone within the floodplain a property may be subject to (AE zone, VE zone, etc.) as neatly presented in Figure 1. This information ultimately determines flood insurance rates and requirements, and where floodplain development regulations may apply.

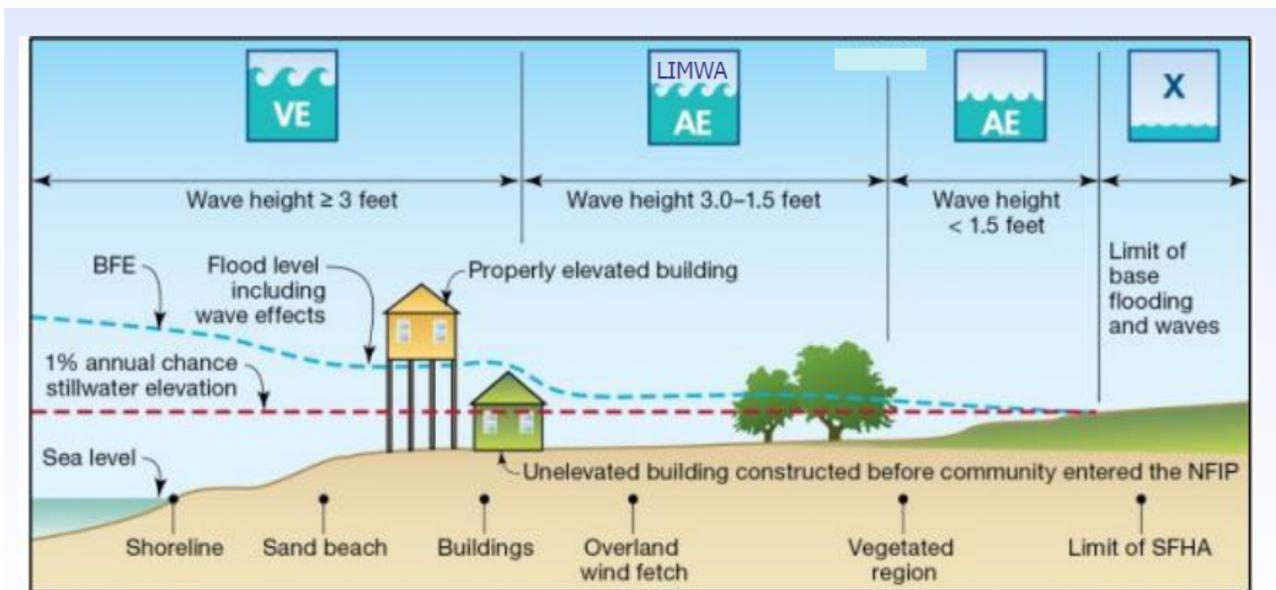


Fig. 1 – Cross-sectional map demarcating the zones and elevations depicted FIRMs.

“FIRM Terminology”.

Despite all the alien looking acronyms you see in Figure 1; we can get just about all the baseline information we need to understand right from this figure. So let’s touch on the more important components;

BFE (BASE FLOOD ELEVATION). This is a big one – it’s the water surface elevation resulting from the flood that has a 1% percent chance of occurring in any given year. Very importantly; the BFE is comprised of two constituents - (1) the **Stillwater Elevation**, which is the storm surge including wave setup and is coupled with; (2) the **Wave Effects**, which is the sum of the wave crest elevation or wave runup added to the Stillwater Elevation. In other words the BFE is the surge + the waves on top.

X, AE, and VE ZONES – The BFE help determine how far inland the 1% annual-chance flood event will go. If a property is on the “dry” side of the 1% annual-chance flood event, then the property is out of the floodplain and is in an **X Zone**. If the property is on the “wet” side of the 1% annual-chance flood event, then it is in the floodplain – it is subject to inundation by the 1% annual-chance flood event. There’s two important designations within the floodplain – AE and VE zones. These zones within the floodplain are determined by looking at the Wave Effect constituent of the BFE mentioned above. If the wave effects are less than 3 feet, then it is in an **AE Zone**. If the wave effects exceed 3 feet, then it is in a **VE zone**. And lastly, you will see the LIMWA or **Coastal A Zone** – this is an area where the Wave Effects are between 3 and 1.5 feet and it is recommended (but not mandatory) that building requirements should be of a VE Zone, but the flood insurance requirements are still of the less risk AE zone.

Understanding these zonal concepts are very important because they have major implications with respect to flood insurance and building requirements. If a structure is in the floodplain (remember Zones AE or VE) and has a mortgage from federally regulated or insured lenders; then flood insurance is a mandatory requirement. There is no mandatory coverage requirements for structures outside the floodplain (Zone X), yet individual lenders may require it. Flood insurance is provided by the National Flood Insurance Program (NFIP) that is administered by FEMA, who works with more than 80 private insurance companies to offer flood insurance to homeowners, renters, and business owners. Rates are set nationally and do not differ from company to company or agent to agent. These rates depend on many factors, which include the date and type of construction of your home, along with your building's level of risk (ex. – Zone AE or VE). In order to qualify for flood insurance, the home or business must be in a community that has joined the NFIP and agreed to enforce floodplain management standards.

The Release of the New FIRMs.

The existing FIRMs for Carteret County were adopted in 2003 and new Preliminary FIRMs were released on June 30, 2016. This is a big deal – the 1% annual-chance flood event has been constrained using the latest computer models and therefore the BFE and flood zone designation of 1,000s of structures and properties are changing. Accordingly, this will impact insurance and building requirements within the County on a rather large scale.

Although the FIRMs are often prepared by FEMA, the State of North Carolina via the Department of Public Safety – Emergency Management Section (NCEM) has assumed this responsibility. ***There will be no paper copies of the maps this time – all the updated, preliminary FIRMs will be available interactively on-line at <http://fris.nc.gov/fris/>.*** If you have visited any type of GIS-based website, such as you would to look up a tax value of a property; then you should encounter little problems concerning navigation and functionality when visiting <http://fris.nc.gov/fris/>. Figure 2 is a screen grab as an example along with a few highlighted items.

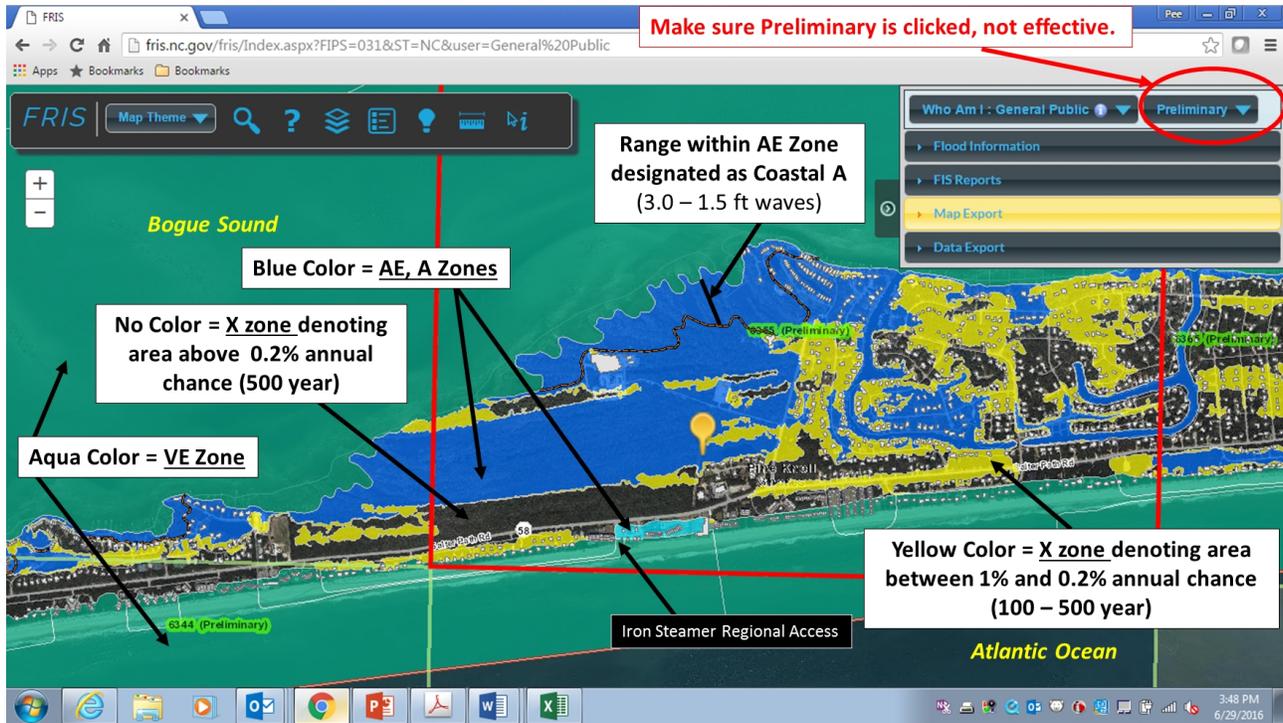


Fig. 2 – “Screen grab” from <http://fris.nc.gov/fris/> in the Pine Knoll Shores area with key floodplain zones identified. The updated FIRMS will not be made available in paper copy.

Timeline.

There is a relatively long period before the Preliminary Maps become Effective – roughly 18 to 24 months (~2018). This is necessitated in a large part by a statutory 90-day appeal period for floodplain designations and BFEs, which will likely begin in January 2017. An additional 30 days is provided for further conflict resolution, and lastly an independent Scientific Resolution Panel can be requested. This schedule also affords the local municipalities time to update and adopt their floodplain ordinances to stay compliant with the NFIP.

Appeals.

Property owners can appeal the preliminary floodplain designations, the BFE, and other components to NCEM. Appeals can take many different forms – for instance the elevation of your land or first living floor may indeed be above the BFE but the FIRMS depict otherwise. In this case obtaining a flood elevation certificate could be a way to provide data for an appeal. Issues such as having vegetative buffers on your property that may have not been realized by NCEM could also “slow down” the 1% chance storm and prevent the water elevation from impacting your home. This could be another approach to take. Talk to your local government planning department as a first step. They can also assist you with understanding the <http://fris.nc.gov/fris/> website as well.

General trends.

For the County in very general terms, we’re seeing a decrease in the VE zone along most of Bogue Banks – either a decrease to an AE Zone or even out of the floodplain altogether (X Zone). This is a result of a better consideration of the Primary Frontal Dune along the island – i.e., the frontal stops/buffers the 1% annual chance storm. On the

converse, we're experiencing an expansion of the AE Zone along our estuarine rivers and creek areas. Mostly a trend shifting properties/structures out of the floodplain (X Zone) to inside the floodplain (AE Zone). Improved modeling of storm surge in the sounds, rivers, and creeks is the justification provided for this adjustment. Table 1 provides a summary of the changes in the numbers of structures in the V and A Zone between the effective (current) and preliminary (updated) maps.

JURISDICTION	V ZONE - Current (3,700)	V ZONE - Updated (1,159)	A ZONE – Current (14,050)	A ZONE – Updated (16,287)
Atlantic Beach	858	24	2,025	2,085
Beaufort	1	24	1,050	1,451
Bogue	6	3	37	46
Carteret County	212	101	7,193	7,509
Cape Carteret	16	11	211	232
Cedar Point	87	11	352	461
Emerald Isle	1,135	441	740	923
Indian Beach	705	77	476	498
Morehead City	24	21	1,384	2,262
Newport	0	0	299	335
Peletier	0	3	54	62
Pine Knoll Shores	656	443	229	423

Table 1 – Summary of the V and A Zone changes between the current (effective 2003) and preliminary (updated) maps. Note these numbers are for any structure in the floodplain – it does depict vacant properties that are within the floodplain or take into account structures that are in the floodplain, but do not have a federally regulated or insured mortgages.

Two Closing Reminders.

(1) Questions concerning floodplain designations, BFEs, the <http://fris.nc.gov/fris/> website, floodplain building ordinances, the appeal process, and similar questions should be directed toward the planning department of the political jurisdiction of your property.

(2) Questions concerning insurance however should be directed to your insurance agent – especially if your property is going towards a negative or even positive floodplain designation change. Significant changes to the NFIP have recently been implemented with the passage of the Biggert-Waters Flood Insurance Reform Act of 2012 (BW-12) and the Homeowner Flood Insurance Affordability Act of 2014 (HFIAA). These laws are impacting annual surcharges, deductibles, pre-FIRM buildings/properties, secondary homes, and implements mandated insurance increases of subsidized policies and newly mapped properties.

Note: **Pre-FIRM** buildings were constructed before the effective date of the first FIRM for a community, and hence before detailed flood hazard data and flood elevations were provided to the community and usually before the community enacted comprehensive regulations on floodplain regulation. Pre-FIRM buildings can be insured using "subsidized" rates.