Updates to Maine Coastal Flood Insurance Rate Maps: What a Local Official Should Know

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Special Flood Hazard Area (SFHA) Zones

Know your flood zone

Coastal flood zone with velocity hazard (Think “V” for velocity)

Flood zone with base flood elevation (Think “E” for elevation)
Coastal vs. Riverine Flood Effects

Riverine Flooding (A Zones):
inundation, velocity, debris, duration

Coastal Flooding (V Zones):
waves, velocity, erosion, debris, inundation
Built *after* building codes and regulations

Built *before* building codes and regulations

NFIP wants to know:
When and how was the house built? (Pre or Post FIRM? To code?)
Structural elevations relative to the base flood elevation?
FIS Information

- Flooding sources
- Flood history
- Stillwater Elevations (10%, 2%, 1%, and 0.2% Annual Chance)
- Base Flood Elevations (BFEs) including wave height and wave runup and setup effects
- FIRMs are developed in conjunction with the FIS to depict much of the information in the FIS, such as the SFHA boundaries
Flood Insurance Rate Map (FIRM)s are used for:

1. Regulatory purposes – when building or improving in flood hazard areas
2. Flood insurance rating purposes
3. Planning purposes
**Terms to Review**

**Base Flood** = 1% Annual Chance = 100-year flood

Engineers assign statistical probabilities to different size floods. The flood that has a 1% chance of occurring in any given year is the base flood. *It can happen multiple times in one year or not for a couple hundred years.*

**Base Flood Elevation**

The elevation to which floodwater is anticipated to rise during the base flood is the Base Flood Elevation (BFE)

**Special Flood Hazard Area**

Areas covered by flood waters if water rises to the BFE
What do FIRMS show?

- Flood maps show the **Special Flood Hazard Area (SFHA)**, also known as the 100 year flood, the 1% annual chance flood, or the base flood. Lots of terms; one meaning.

- Flood zones – V zones (coastal SFHAs subject to wave action ≥ 3ft), A zones (inland SFHAs), and B (now X) zones (areas subject to the 500-year flood, or .02% annual chance)

- Base Flood Elevation (BFE), where available
Updated Coastal County Mapping Schedule

- Lincoln, Sagadahoc and Waldo Counties became final in July 2015
- Hancock & Knox Counties became final in 2016
- Washington County is in the preliminary stage
Status of York and Cumberland County Maps

• Inland areas have been re-studied using newly acquired LiDAR (high-resolution topographic) data and have gotten newly modeled A-zones and redelineated AE’s. Work maps have been issued.

• Post-preliminary appeals period will not take place until after scientific resolution panel has ruled on coastal methodology
### Zone Designation Changes

<table>
<thead>
<tr>
<th>OLD ZONE</th>
<th>NEW ZONE</th>
</tr>
</thead>
<tbody>
<tr>
<td>A1 through A30</td>
<td>AE</td>
</tr>
<tr>
<td>V1 through V30</td>
<td>VE</td>
</tr>
<tr>
<td>B</td>
<td>X (shaded) 500-yr FP</td>
</tr>
<tr>
<td>C</td>
<td>X</td>
</tr>
</tbody>
</table>
Coastal County FIRM Updates

- New map data is overlayed on orthoimagery (aerial) maps
- They will benefit from greatly improved topographical data (from 10 or 20’ contours on the old maps to 2’ contours in most areas on the new maps)
- New maps will be available in digital format and can be integrated with GIS systems
Coastal County FIRM Updates

Updates Include:

- New coastal flood hazard analysis
- Redelineated Zone AE’s in coastal areas and some inland areas
- Newly modeled Zone A’s in areas with 2’ topographical contour
- Flood Risk Products (non-regulatory)
Conversion Factor

- The previous effective study was referenced to the NGVD Datum

- All new studies are referenced to the NAVD 88 (North American Vertical Datum of 1988)

- The conversion factor from NGVD 29 to NAVD 88 is -0.7 feet.
Existing Paneling System – Community
New Paneling System - county-wide format based on USGS quads
Digital FIRM (DFIRM) Components

Base + Topography + Flood Data

Digital FIRM
Historic Paper FIRM vs. Modern Digital FIRM
New digital FIRM
Coastal Flood Hazard Analysis

- Stillwater Elevations
- Wave Modeling
- Transect Analysis
- Floodplain mapping
Limit of Moderate Wave Action

LiMWA

- Areas subject to wave heights greater than 1.5 feet
- Defines Coastal A Zone
- Recommendation of building to V zone standards
What LIMWA looks like on the Map
 Ups and Downs

- There are some changes to the flood zones and base flood elevations.
- Because of the improved elevation data, there will be properties newly mapped in, and newly mapped out, even in areas where the base flood elevation remains the same.
- The overall upside is that the new maps will much more accurately reflect which properties should be in and out of the SFHA.
Comments and Appeals

- An appeal must be submitted during the appeal period, and be based on data showing the flood hazard data is scientifically or technically incorrect.
- Comments can be submitted at any time during the preliminary map stage. Comments may reflect base mapping errors or omissions, such as incorrect street names.
Flood Risk Products - Background

All of these products, based on GIS data, are intended to help communities better understand and communicate flood risk.
Flood Risk Products - Background

Some or all of the following flood risk products are being produced for Maine’s coastal county studies:

- Countywide Flood Risk Map
- Depth Grids
- Coastal Hazard Identification maps
- Flood Risk Report
Flood Risk Map

Depicts flood risk in terms of census data and identifies areas of mitigation interest
Depth Grids

Displays depth of flooding within 1%-annual-chance floodplain

1% Depth (100-Year)

- 4.7 ft
- 0.1 ft
- 0.0 ft

Legend:
- 0-1 ft
- 1-2 ft
- 2-3 ft
- 3-6 ft
- 6 ft+
Coastal Hazard Identification

Provides transects and dominant coastal hazard info
Flood Risk Report

Contains:
- Flood Risk Analysis
- Actions to Reduce Flood Risk
- Additional Resources
- Data Used to Develop Flood Risk Products
Two Online GIS Mapping Resources Available to All

- FEMA’s Map Service Center
- Maine Floodplain Management Program’s Flood Hazard Map Application
How to look up a FIRM

Google “FEMA FIRM”
Or go to https://msc.fema.gov/portal
Type in the address
Reality: the MSC can be slow or sometimes not available ... give it a few minutes and try again. Google chrome browser seems to work best.
Select “view” option on left
Use the lefthand toolbar to make a FIRMette
To Look up Preliminary Map Info

Google “FEMA FIRM”

Or go to https://msc.fema.gov/portal and enter in an address for the area of interest
To Look up Preliminary Map Info (cont)

1. Select “show all products “ on left hand side
2. On the next page, select preliminary products
3. On the next page, scroll to the bottom of the list of PDFs to one starting with “IND” for index. Use the Index map to locate the relevant map panel
To Look up Preliminary Map Info

www.fema.gov/preliminaryfloodhazarddata

1. Select “Maine”
2. Select your county
3. On the next page, scroll to the bottom of the list of PDFs to one starting with “IND” for index. Use the Index map to locate the relevant map panel
“Pending” Maps

To access maps that are no longer “preliminary” and are scheduled to go final:

http://msc.fema.gov/portal/advanceSearch

Search for Maine, your County, and community (or select the County name-county wide option under the community search pulldown menu – for example: “Waldo – County Wide”)

Pending Maps
Once the maps become effective the GIS data for the maps will become part of the National Flood Hazard Layer (NFHL), which is served up both by FEMA’s Map Service Center at
https://hazards.fema.gov/femaportal/wps/portal/NFHLWMS
Important Note about NFHL

The NFHL Special Flood Hazard Area data is immensely helpful in planning and estimating, but does not by itself represent a regulatory product as the effective printed maps do. For that reason, if you are making a regulatory decision, please use FEMA’s Map Service Center to create a FIRMette to use as your reference of the effective map.
For areas with NFHL data, the “Interactive Map” feature will be available on the left hand sidebar.
Interactive Map Features

LOMAs are geo-referenced and can be downloaded
Interactive Map Features

Choose from a variety of basemaps
Accessible through the Maine Floodplain Management Program Website
Maine Flood Hazard Map Features

View parcel data
Find Potential Hurricane Inundation Mapping online at:

Look for the postcard-sized handouts with links and info:
Can you repeat the part of the stuff where you said all about the things?
Questions about properties, maps, or flood zones? Contact us!

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Maine Floodplain Management Program
Department of Agriculture, Conservation and Forestry
WEB LINKS

- Preliminary Data
  - [www.fema.gov/preliminaryfloodhazarddata](http://www.fema.gov/preliminaryfloodhazarddata) (Make sure to use Index Map to find your FIRM)
- Effective Data (including Future Effective)
  - [msc.fema.gov](http://msc.fema.gov)
- Mitigation Ideas
  - [www.fema.gov/library/viewRecord.do?id=6938](http://www.fema.gov/library/viewRecord.do?id=6938)
- National Flood Insurance Program
  - [www.floodsmart.gov](http://www.floodsmart.gov)
- Flood Insurance Reform Act