

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

Prepared by: Jennifer Curtis



Maine Floodplain Management Program

Department of Agriculture, Conservation and Forestry

ZONE AE
(EL 10)

MYRTLE AVENUE

ZONE VE
(EL 13)

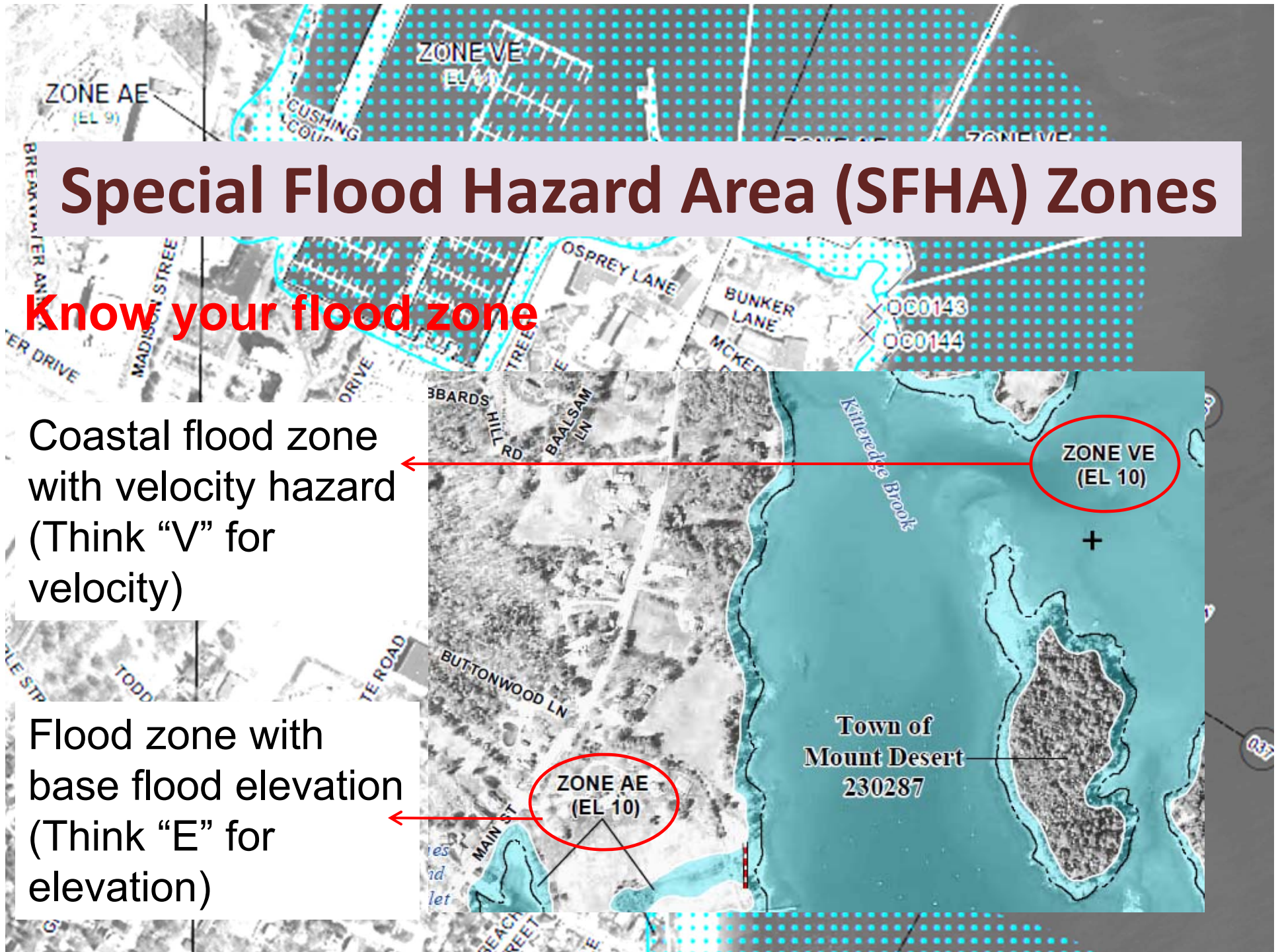
Sept 2016

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?



Maine Floodplain Management Program

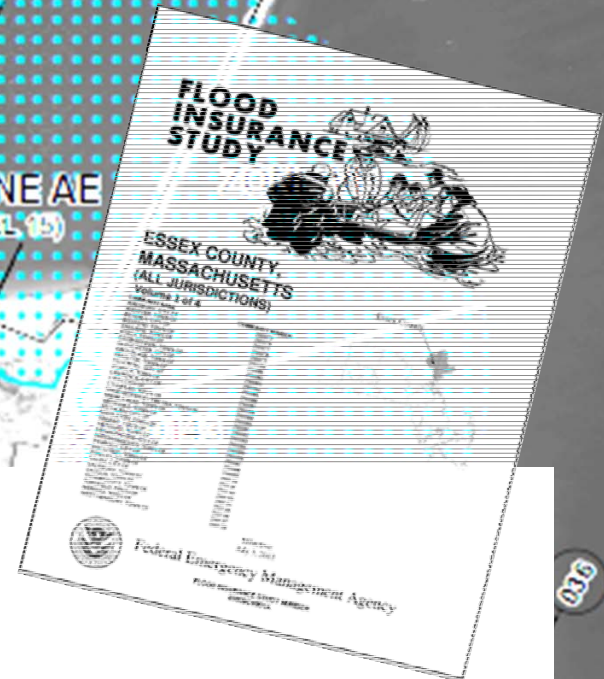
Department of Agriculture, Conservation and Forestry

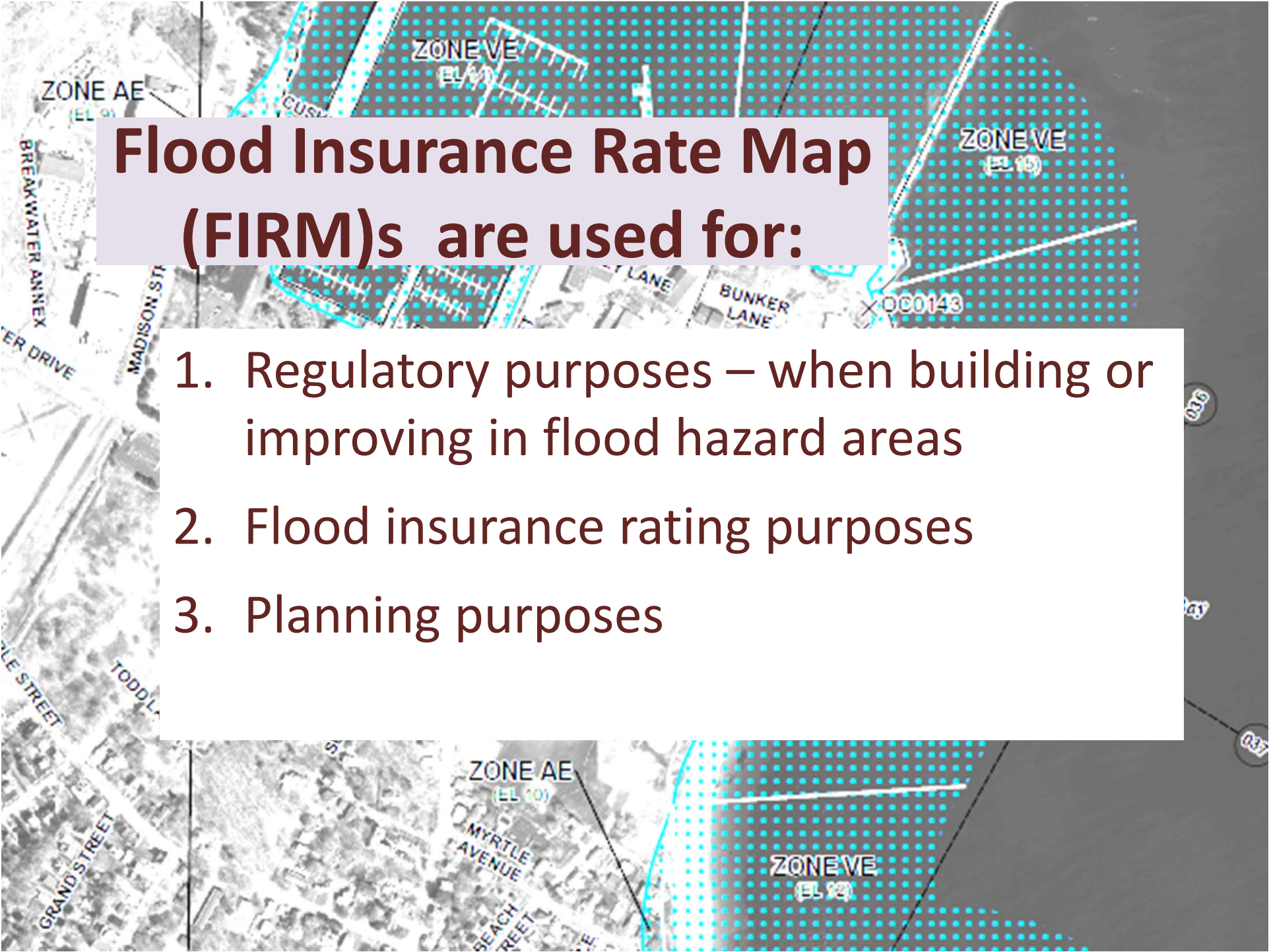
ZONE VE
EL 12'



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

A background map showing flood hazard zones. The map includes labels for 'ZONE VE', 'ZONE AE (EL 15)', and 'ZONE VE (EL 15)'. Street names like 'Lighthouse Circle', 'Breakwater Annex', and 'Lighthouse Circle' are visible. A purple semi-transparent box contains the title 'Terms to Review'.

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 $\geq 3\text{ft}$), 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



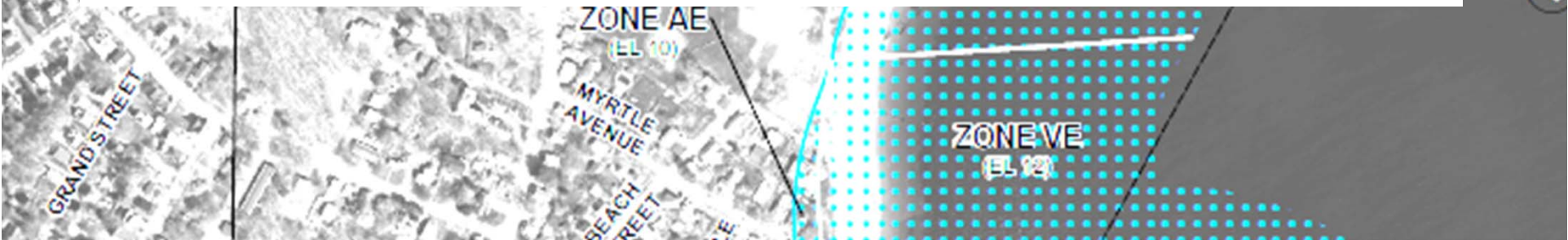
Updated Coastal County Mapping Schedule

- Lincoln, Sagadahoc and Waldo Counties are became final in July 2015
- Hancock & Knox Counties became final in 2016
- Washington County is in the preliminary stage



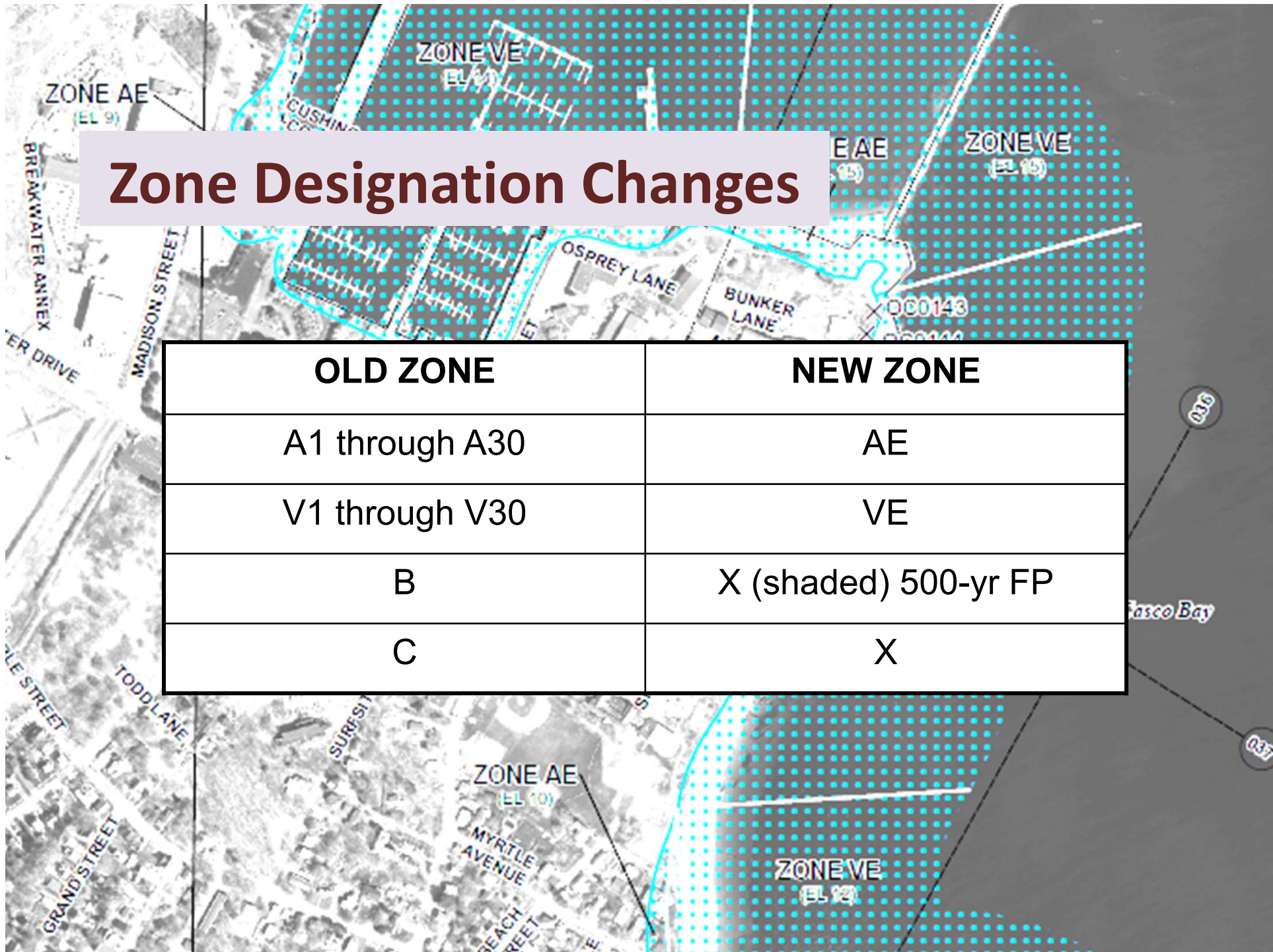
Status of York and Cumberland County Maps

- 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

| OLD ZONE | NEW ZONE |
|----------------|----------------------|
| A1 through A30 | AE |
| V1 through V30 | VE |
| B | X (shaded) 500-yr FP |
| C | X |



An aerial photograph of a coastal area with various flood zones overlaid. The zones are labeled 'ZONE AE', 'ZONE VE (EL 10)', and 'ZONE VE (EL 15)'. The zones are shaded with a blue dotted pattern. Street names visible include 'BREAKWATER ANNEX', 'ER DRIVE', 'TLE STREET', 'GRAND STREET', 'TURTLE AVENUE', 'BEACH STREET', 'CIRCLE', and 'OSPREY LA'. A 'Bay' label is also visible on the right side of the map. The title 'Coastal County FIRM Updates' is centered over the map in a dark red font.

Coastal County FIRM Updates

- New map data is overlaid 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

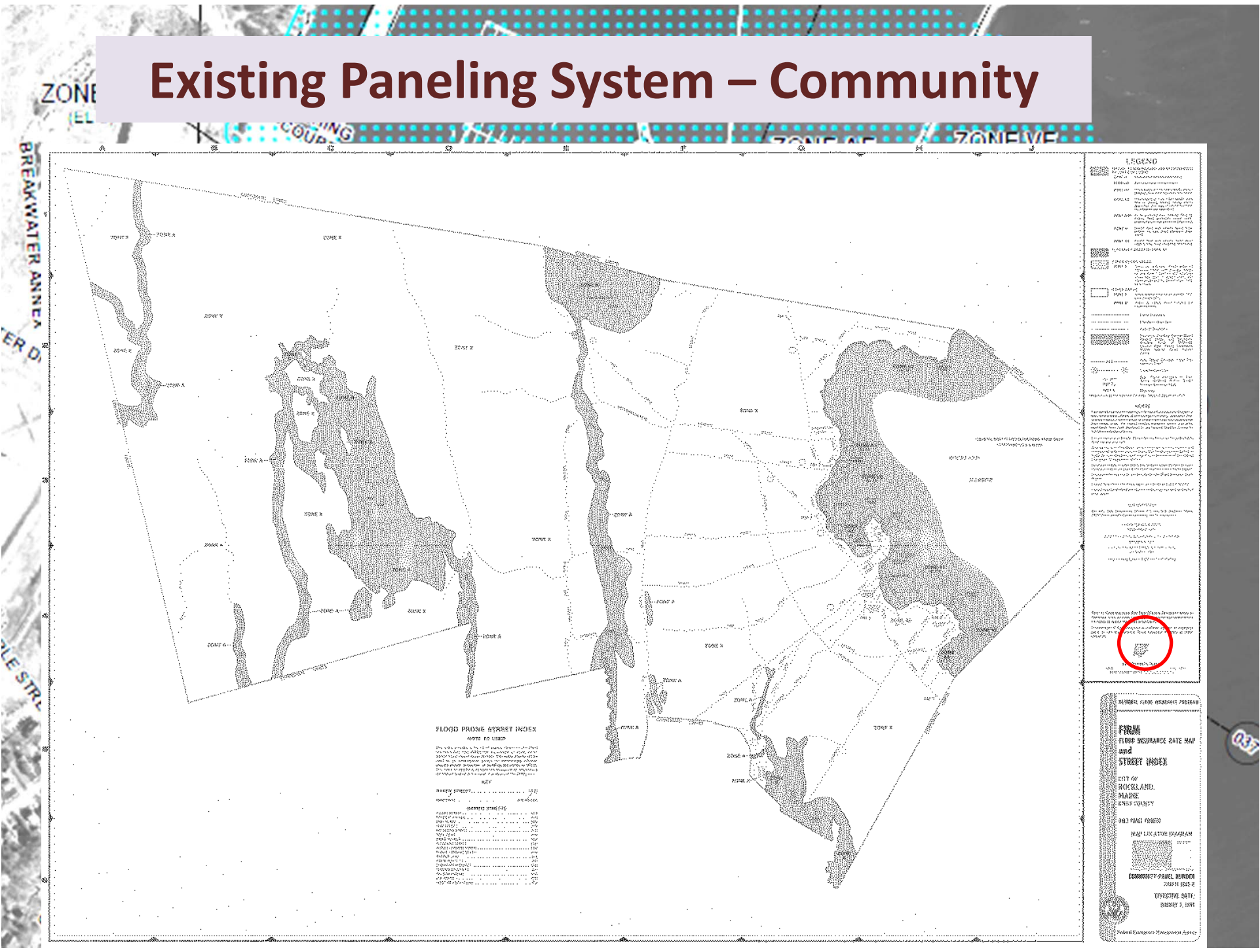
Updates Include:

- ❖ 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)

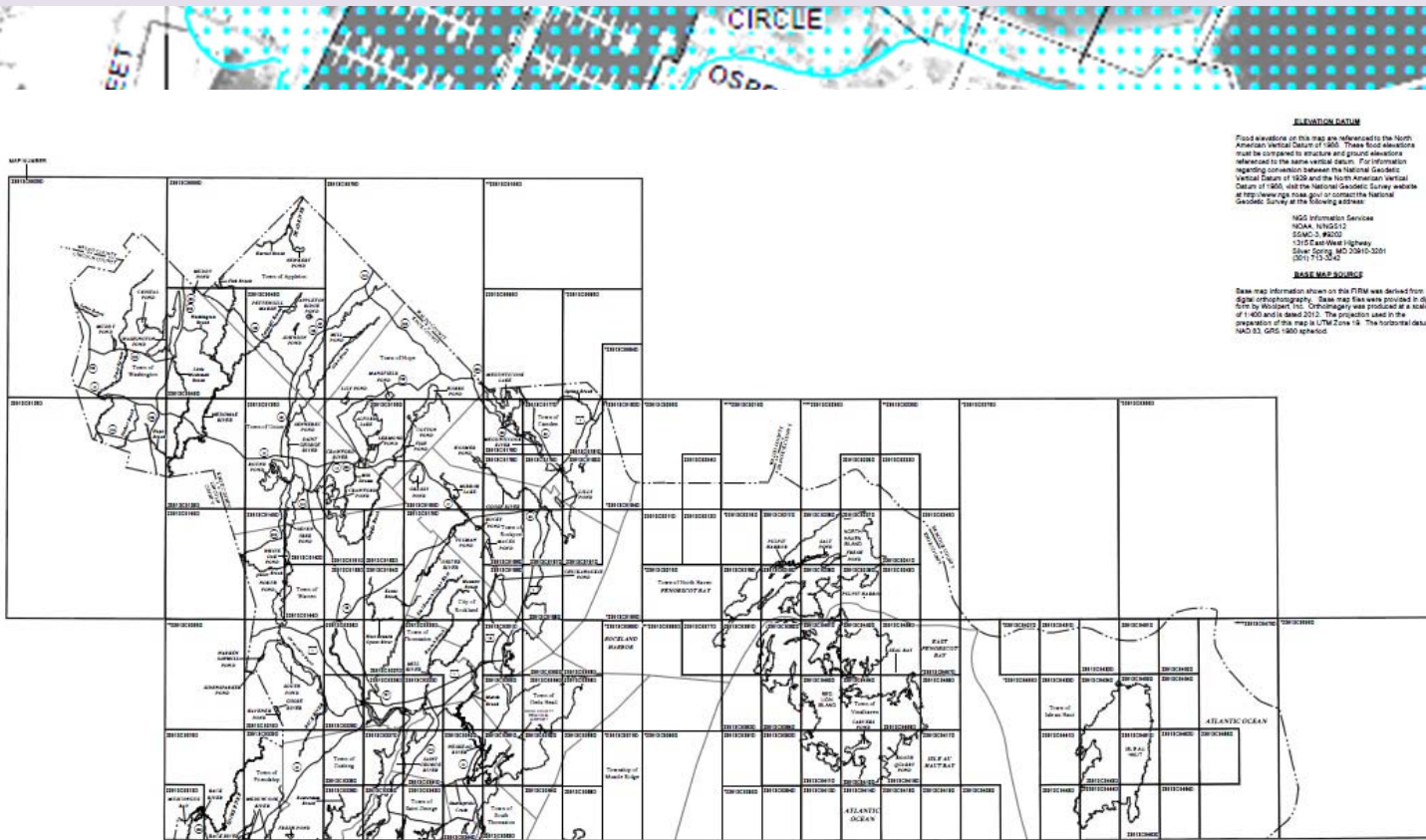
Conversion Factor

- 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



ELEVATION DATUM
 Flood elevations on this map are referenced to the North American Vertical Datum of 1988. These flood elevations must be converted to structure and ground elevations referenced to the same vertical datum. For information regarding conversion between the National Geodetic Vertical Datum of 1988 and the North American Vertical Datum of 1988, visit the National Geodetic Survey website at <http://www.ngv.noaa.gov/> or consult the National Geodetic Survey at the following address:
 NSD Information Services
 NOAA NWS12
 5200-C, Rd 3
 1315 East-West Highway
 Silver Spring, MD 20910-3201
 301-771-3142

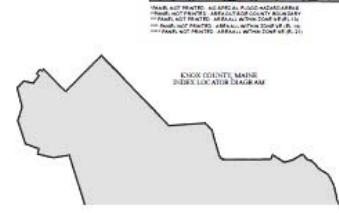
BASE MAP SOURCES
 Base map information shown on this FIRM was derived from digital orthophotography. Base map has been processed in digital form by Woodbury, NJ. Orthophotography was produced as a result of an aerial photo taken in 2012. The projection used in the preparation of this map is LTM Zone 18. The horizontal datum is NAD 83, GRS 1980 spheroid.

MAP NOTES
 This FIRM index displays the map data for each FIRM panel at the time that the index was printed. Because this index may not be distributed to unaffiliated communities in subsequent revisions, users may determine the current map data for each FIRM panel by visiting the FEMA Map Service Center website at <http://www.fema.gov/> or by visiting the FEMA Map Information Exchange (FMIX) at 1-877-336-3367.
 Communities receiving land or adjacent FIRM panels must obtain a current copy of the adjacent panel as well as the current FIRM index. These may be ordered directly from the Map Service Center at the number listed above.

NOTE TO USER
 Future revisions to this FIRM index will only be issued to communities that are located on FIRM panels being revised. This FIRM index therefore contains valid but FIRM panel data (date) of water.
 Please refer to the MOST RECENT FIRM PANEL DATE column in the LEGEND for Communities to determine the most recent FIRM index date for each community.

NOTE TO USERS
 FEMA maintains information about map features, such as street locations and names, in or near designated flood hazard areas. Requests to revise information in or near designated flood hazard areas may be provided to FEMA during the community review period, at the State Construction Coordinator's meetings, or during the standard 60-day appeal period. Approved requests for changes will be shown on the final printed FIRM.

NOTE:
 Designated CRRS Areas are located on panels 0501.



LISTING OF COMMUNITIES

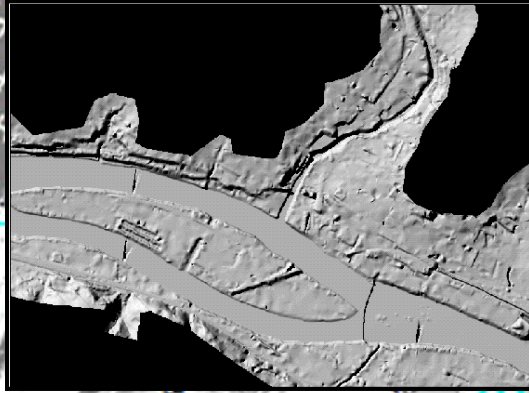
| COMMUNITY NAME | COMMUNITY NUMBER | LOCATED ON PANEL(S) | INITIAL FIRM MAP DATE | INITIAL FIRM PANEL DATE | MOST RECENT FIRM PANEL DATE |
|----------------------|------------------|---|-----------------------|-------------------------|-----------------------------|
| APRILTON TOWN OF | 220274 | 0400 0500 0505 0705 0705 | AUGUST 1, 1974 | COCKSCOMB - 1985 | |
| CAMDEN TOWN OF | 220274 | 0075 0080 *0204 *0306 0400 0716 0716 0719 0719 0720 0720 0724 *0724 0724 *0724 | MAY 31, 1974 | MAY 4, 1985 | |
| CRANFORD TOWNSHIP OF | 220274 | 0807 0808 *0820 *0820 *0820 0824 *0825 *0825 *0825 | JANUARY 3, 1975 | JULY 11, 1980 | |
| CUSHING TOWN OF | 220274 | 0300 0309 0309 0309 0307 0308 0309 0304 0307 0309 0311 0312 0312 0314 0314 0315 | | | |

FIRM
 FLOOD INSURANCE RATE MAP
 KNOX COUNTY, MAINE
 (ALL JURISDICTIONS)

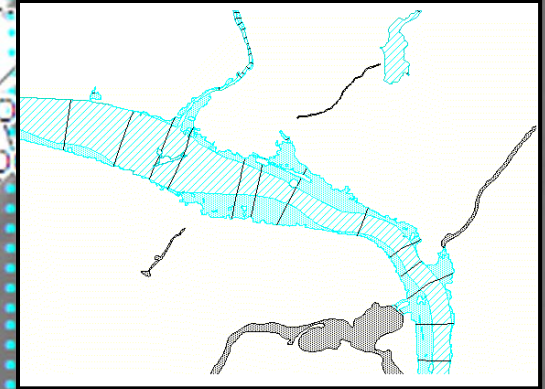
Digital FIRM (DFIRM) Components



Base



Topography

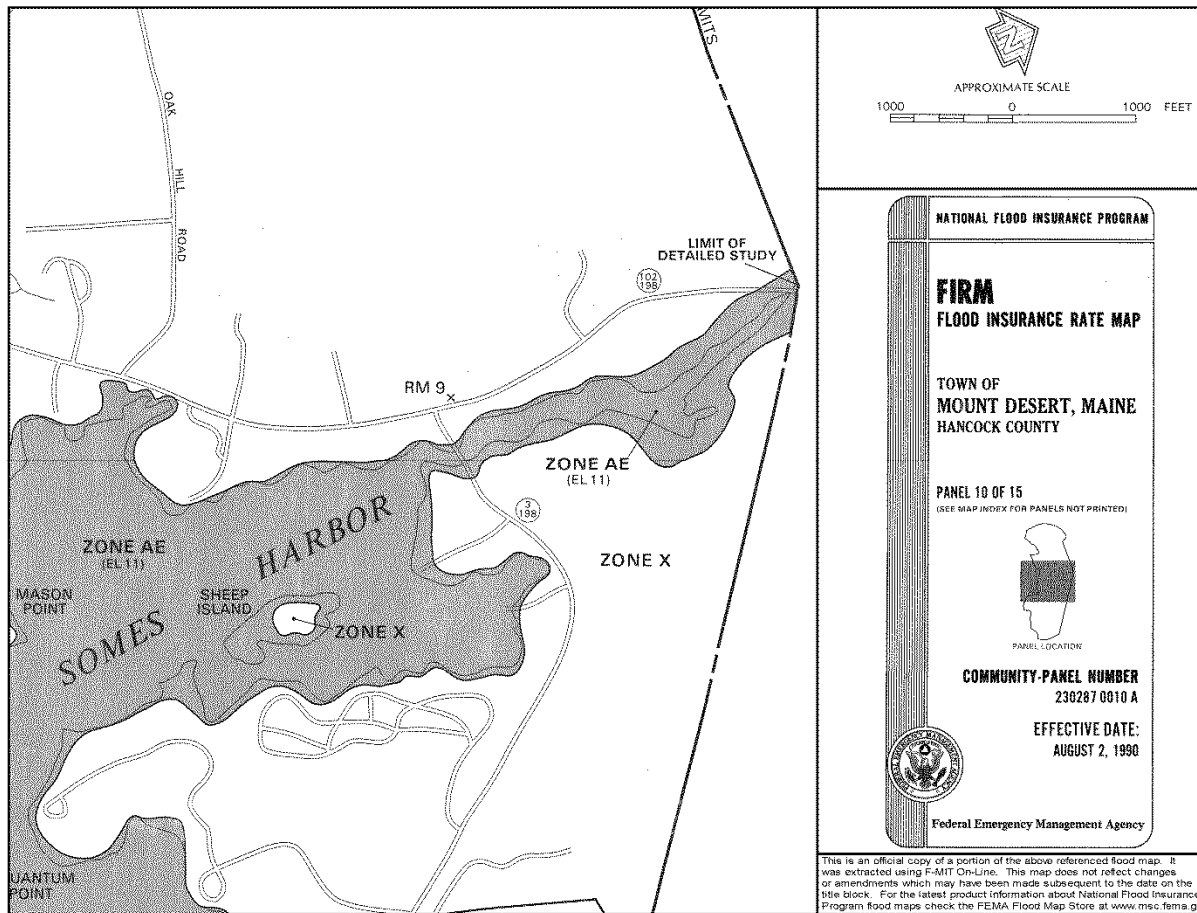


Flood Data



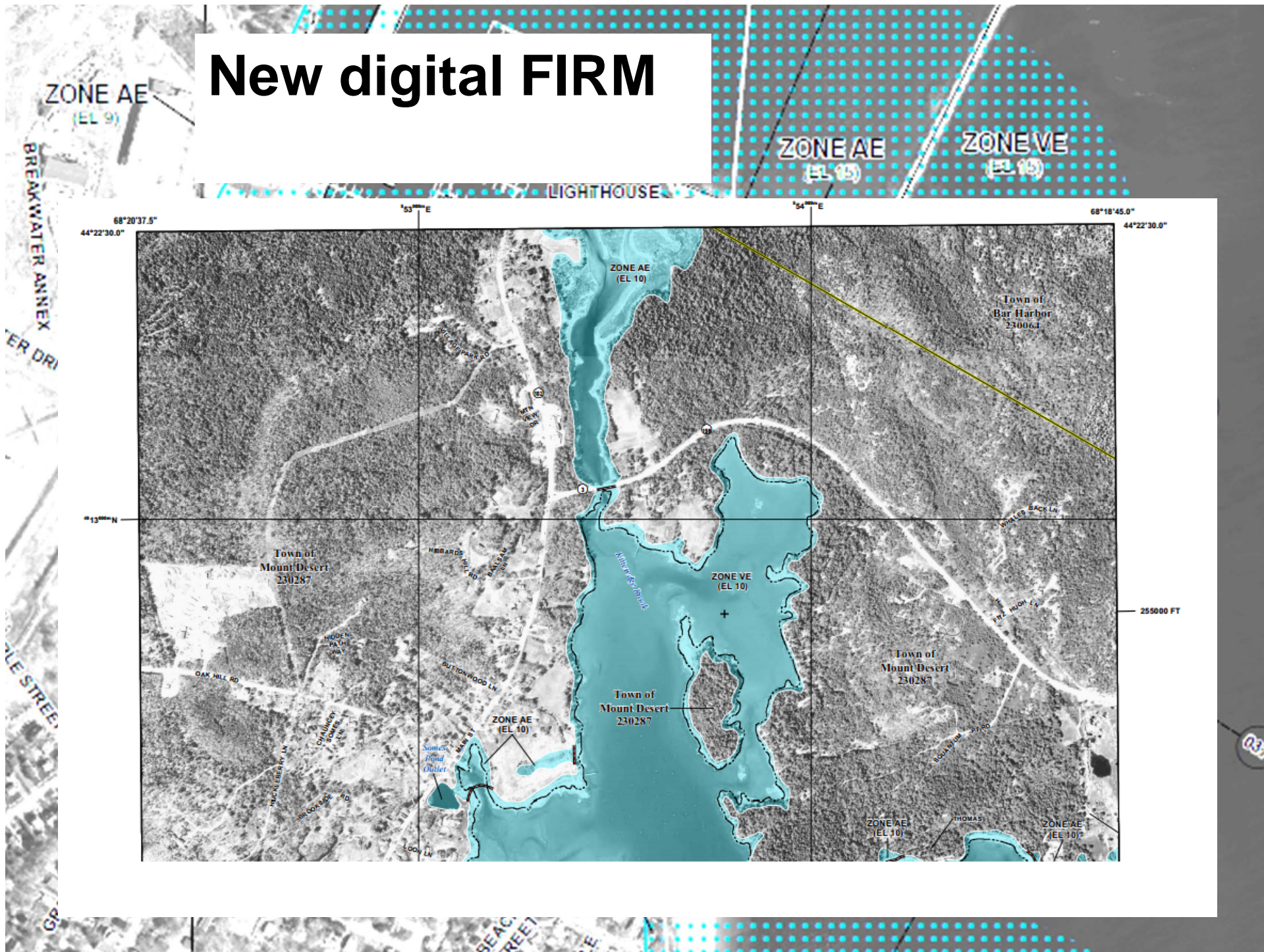
Digital
FIRM

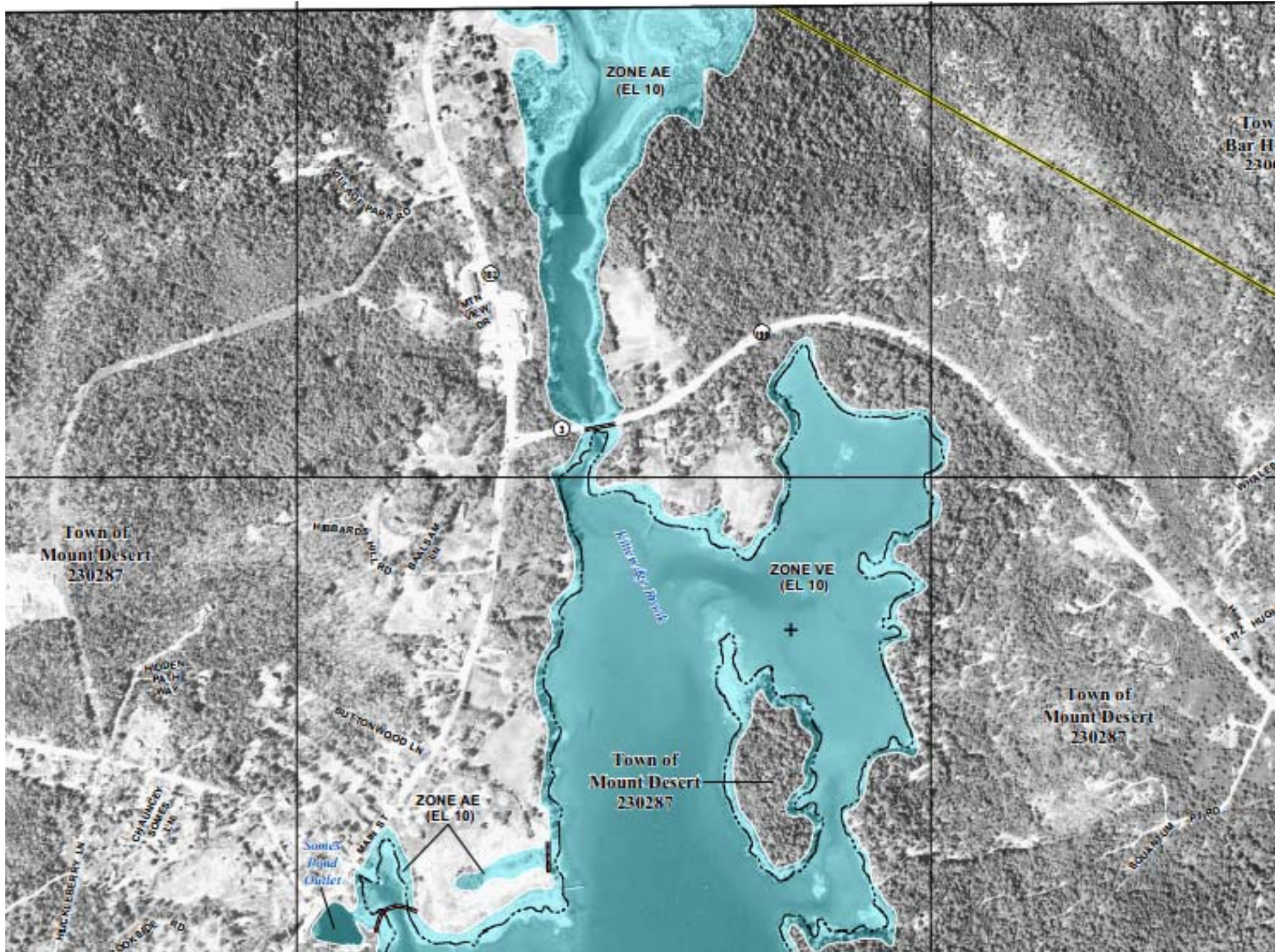
Historic Paper FIRM vs. Modern Digital FIRM



Current
paper FIRM

New digital FIRM





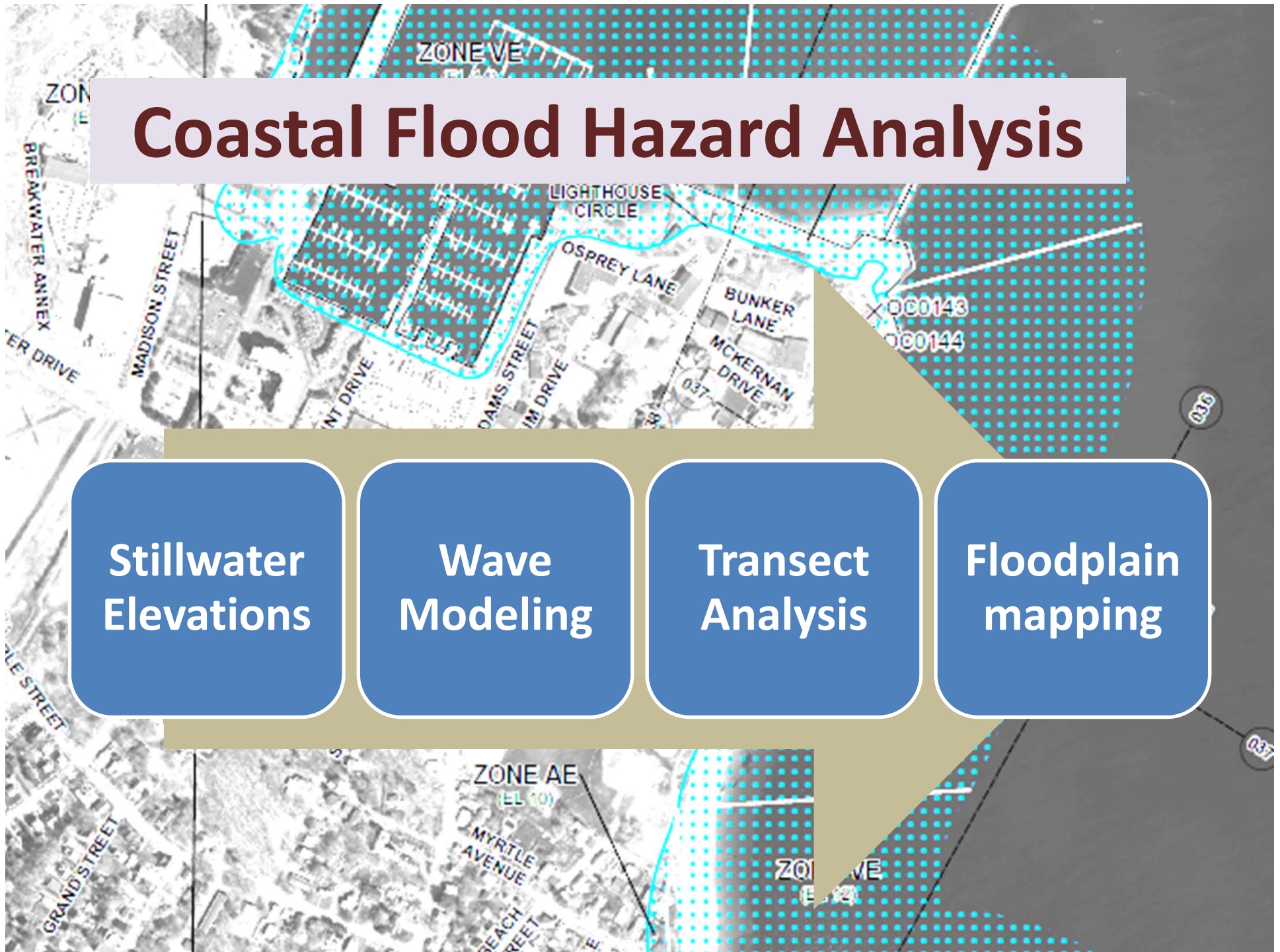
Coastal Flood Hazard Analysis

Stillwater
Elevations

Wave
Modeling

Transect
Analysis

Floodplain
mapping

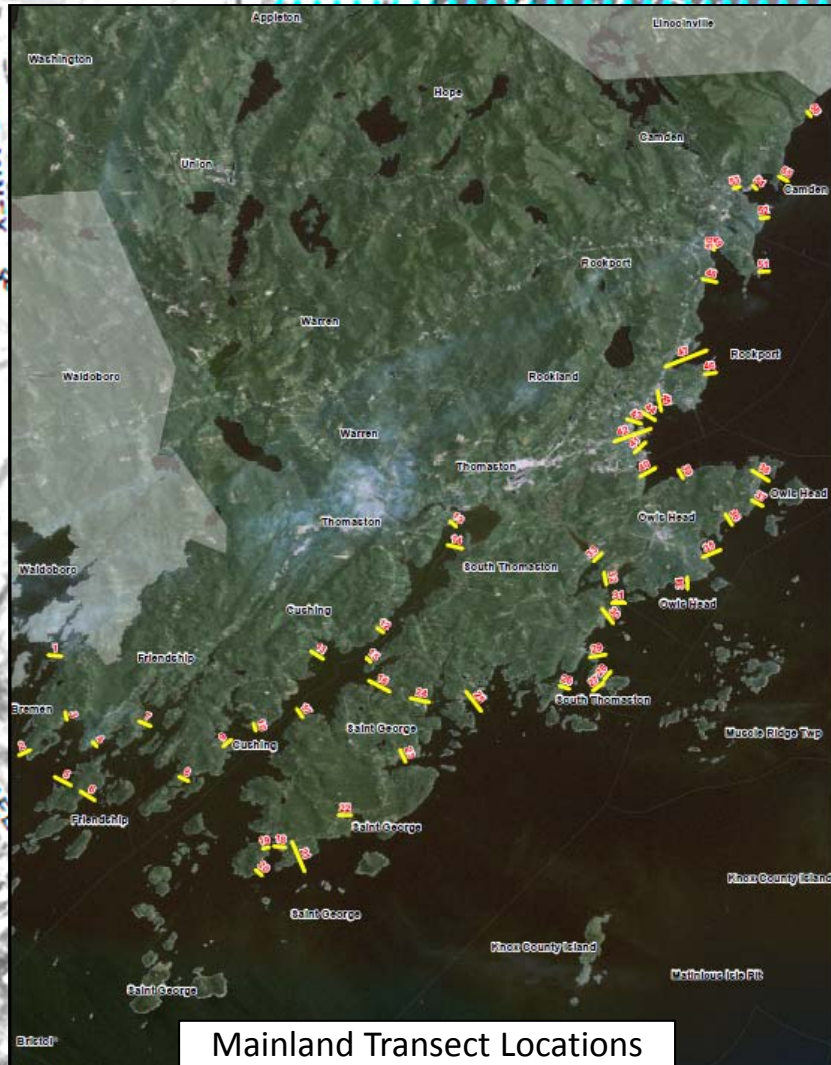


Transect Analysis

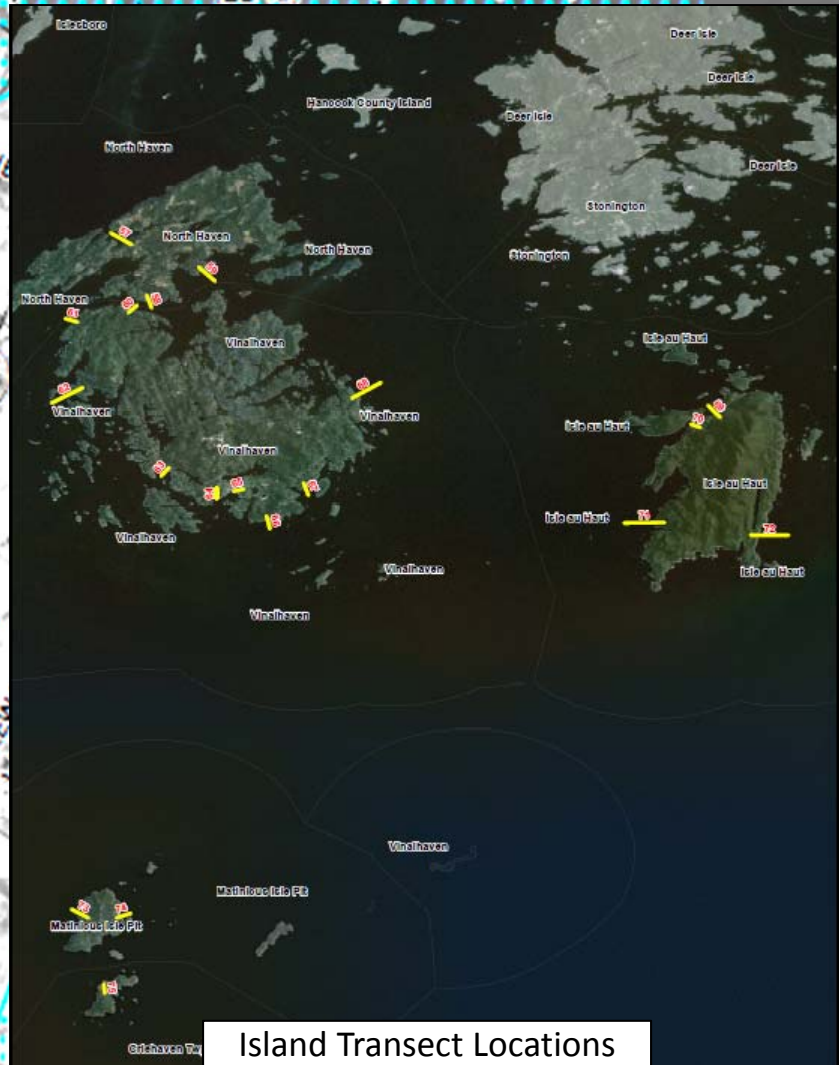
ZONE AE
(EL 9)

ZONE AE
(EL 10)

ZONE VE
(EL 10)



Mainland Transect Locations



Island Transect Locations

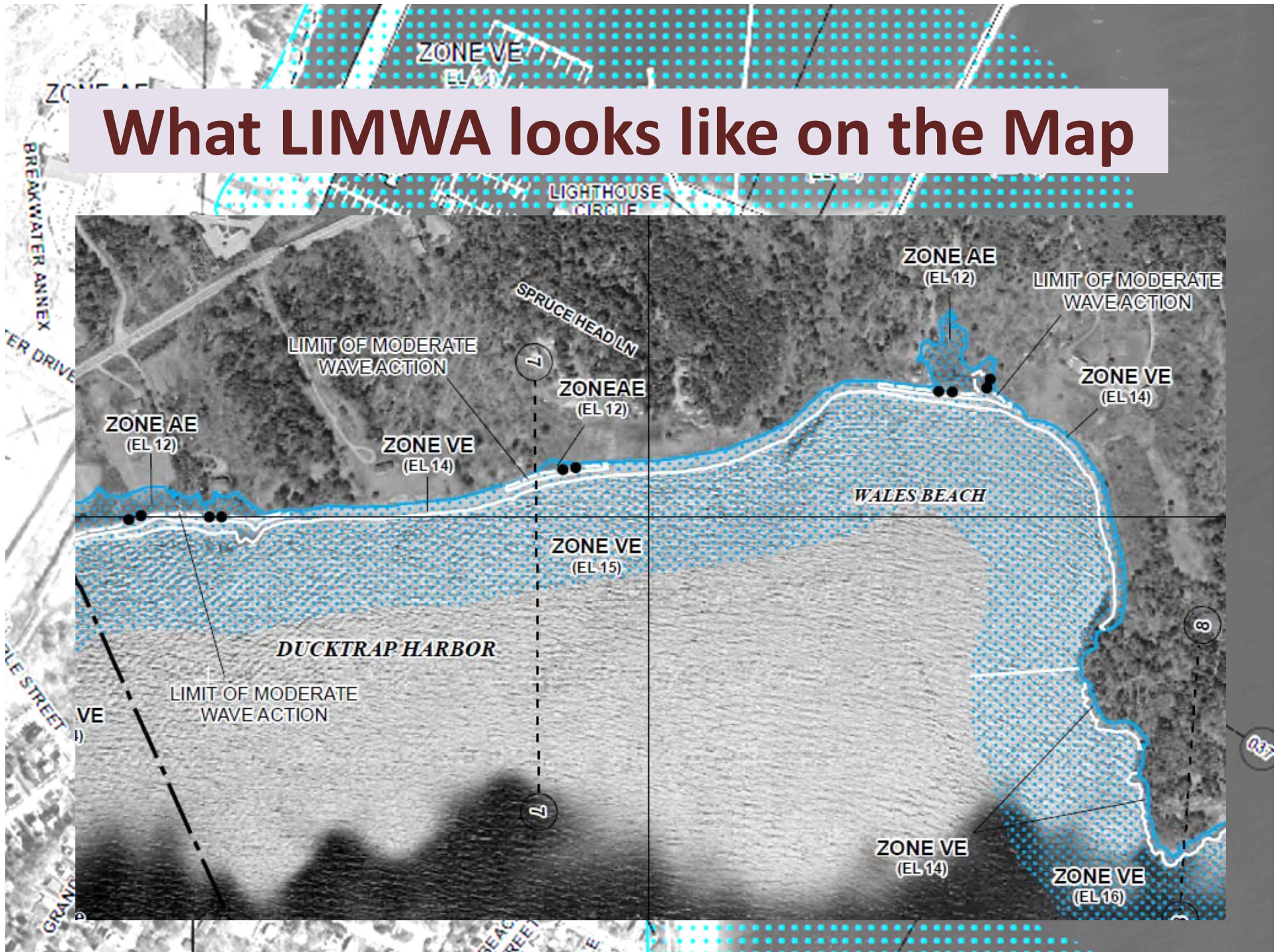


Limit of Moderate Wave Action

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



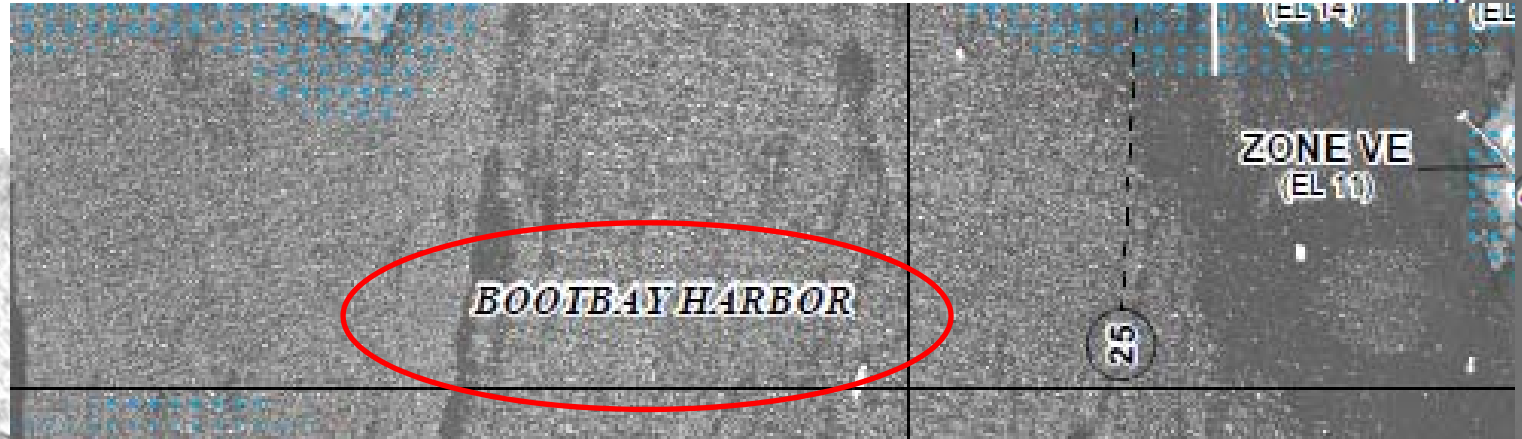


Ups and Downs

- 💧 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

An aerial photograph of a coastal area with various flood risk overlays. A blue dotted pattern covers a large portion of the map, indicating a flood risk zone. A red line traces a path through the area, possibly representing a waterway or a specific boundary. Labels on the map include 'ZONE VE', 'CIRCLE', 'OSPREY LANE', 'BUNKER LANE', 'X000143', 'BREAKWATER ANNEX', 'SON STREET', 'GRANDS', 'BEACH STREET', and 'LE STREET'.

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

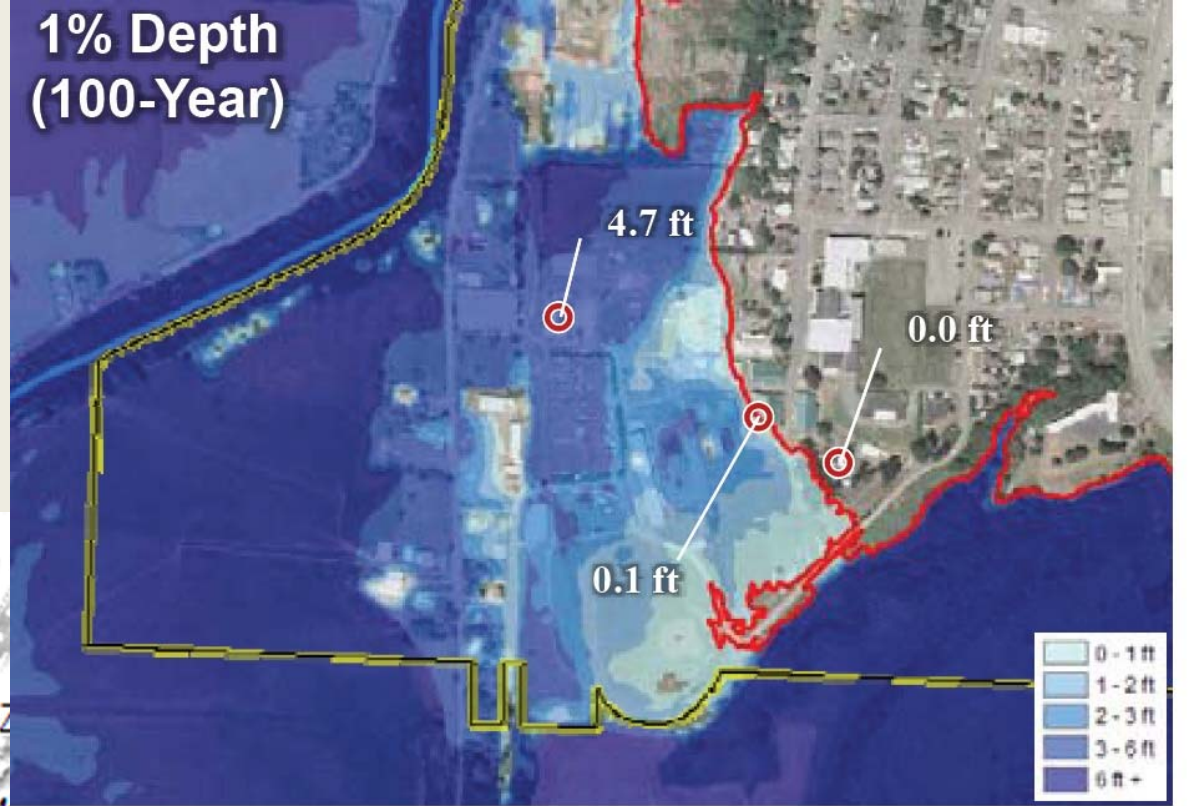


Depicts flood risk in terms of census data and identifies areas of mitigation interest



Depth Grids

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

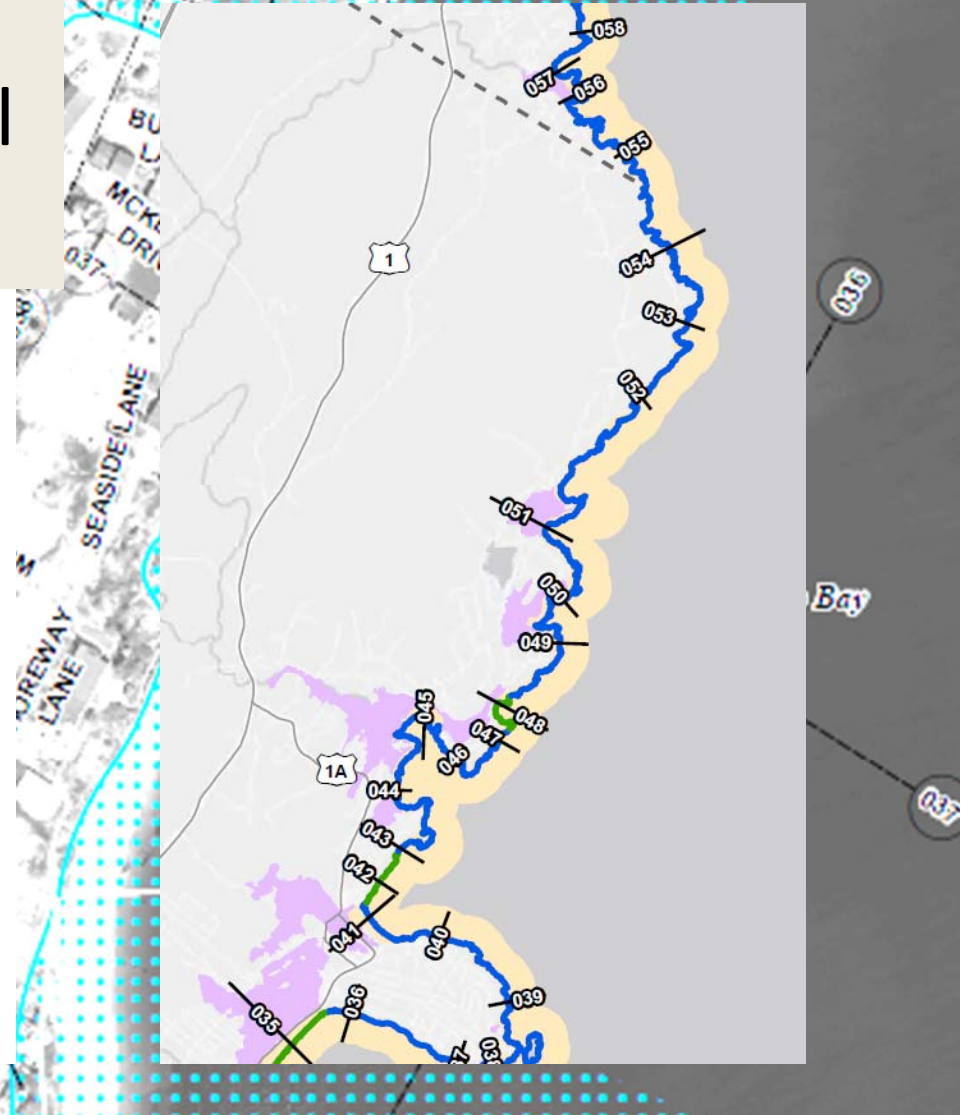


Coastal Hazard Identification



Provides transects and dominant coastal hazard info

| | | |
|---|--|---------------------------|
| OTHER FEATURES | | Coastal Transect |
| DOMINANT FACTOR DEFINING COASTAL HIGH HAZARD AREA | | Wave Runup |
| | | Overland Wave Propagation |
| | | Primary Frontal Dune |
| COASTAL FLOOD ZONES | | SFHA - Zone AE |
| | | SFHA - ZONE VE |



Flood Risk Report

Contains:

- 💧 Flood Risk Analysis
- 💧 Actions to Reduce Flood Risk
- 💧 Additional Resources
- 💧 Data Used to Develop Flood Risk Products



Flood Risk Report

Knox County, Maine

Andrews Island, Town of Appleton, Bar Island, Birch Island, Brig Ledge, Town of Camden, Camp Cove Ledge, Camp Island
(continued on next page)

Report Number 001
6/6/2014

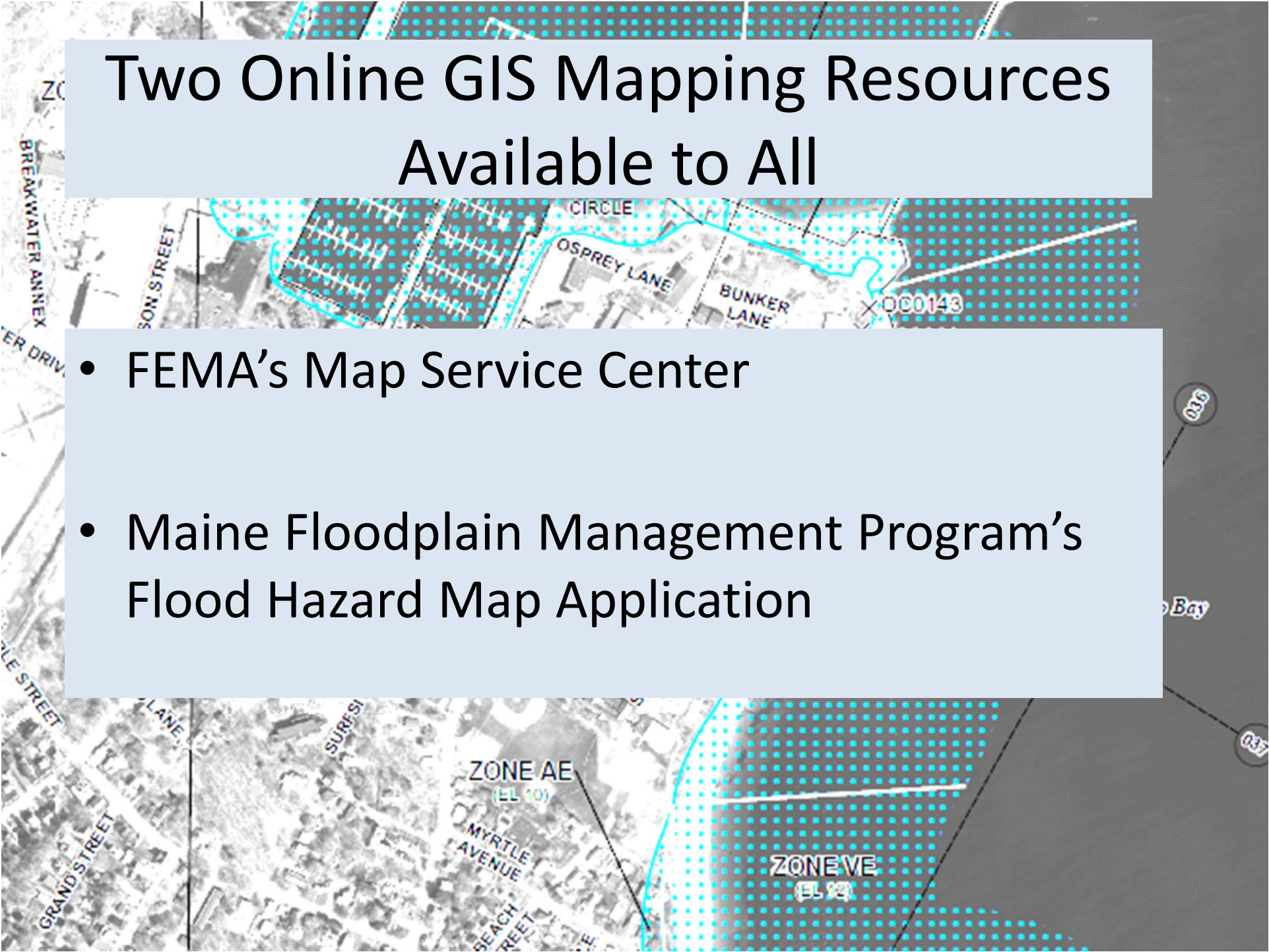
Final



FEMA

RiskMAP
Increasing Resilience Together

037

An aerial GIS map showing flood zones. The map features a grid of streets and a blue dotted pattern representing a flood zone. Labels include 'BREAKWATER ANNEX', 'SON STREET', 'CIRCLE', 'OSPREY LANE', 'BUNKER LANE', 'OC0143', 'MYRTLE AVENUE', 'SEACH STREET', 'ZONE AE (EL 10)', 'ZONE VE (EL 12)', 'GRAND STREET', 'LANE', 'SURFESI', 'Bay', '036', and '037'.

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



FEMA

Welcome to
FEMA's Flood Map Service Center

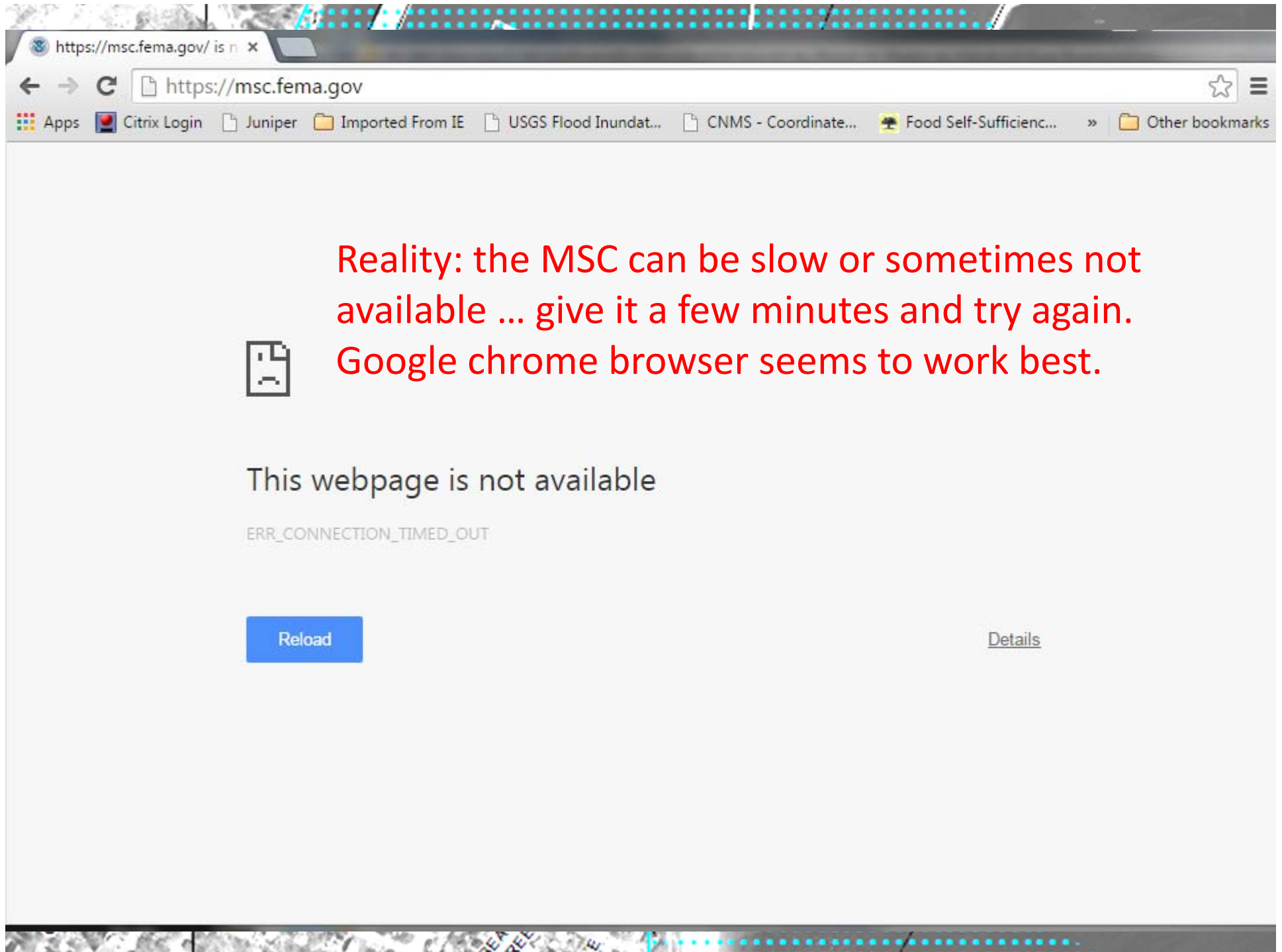
Looking for a Flood Map?

About Flood Map Service Center

Enter an address, a place, or longitude/latitude coordinates:

[Search All Products](#)

The FEMA Flood Map Service Center (MSC) is the official public source for flood hazard information produced in support of the National Flood Insurance Program (NFIP). Use the MSC to find your official flood map, access a range of other flood hazard products, and take advantage of



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.



This webpage is not available

ERR_CONNECTION_TIMED_OUT

Reload

[Details](#)

Select "view" option on left



FEMA

You have selected a location in
**WISCASSET, TWN /
LINCOLN CO**

The flood map for the selected area
is number **2302230010B**, effective
on **04/16/1991**



VIEW



DOWNLOAD

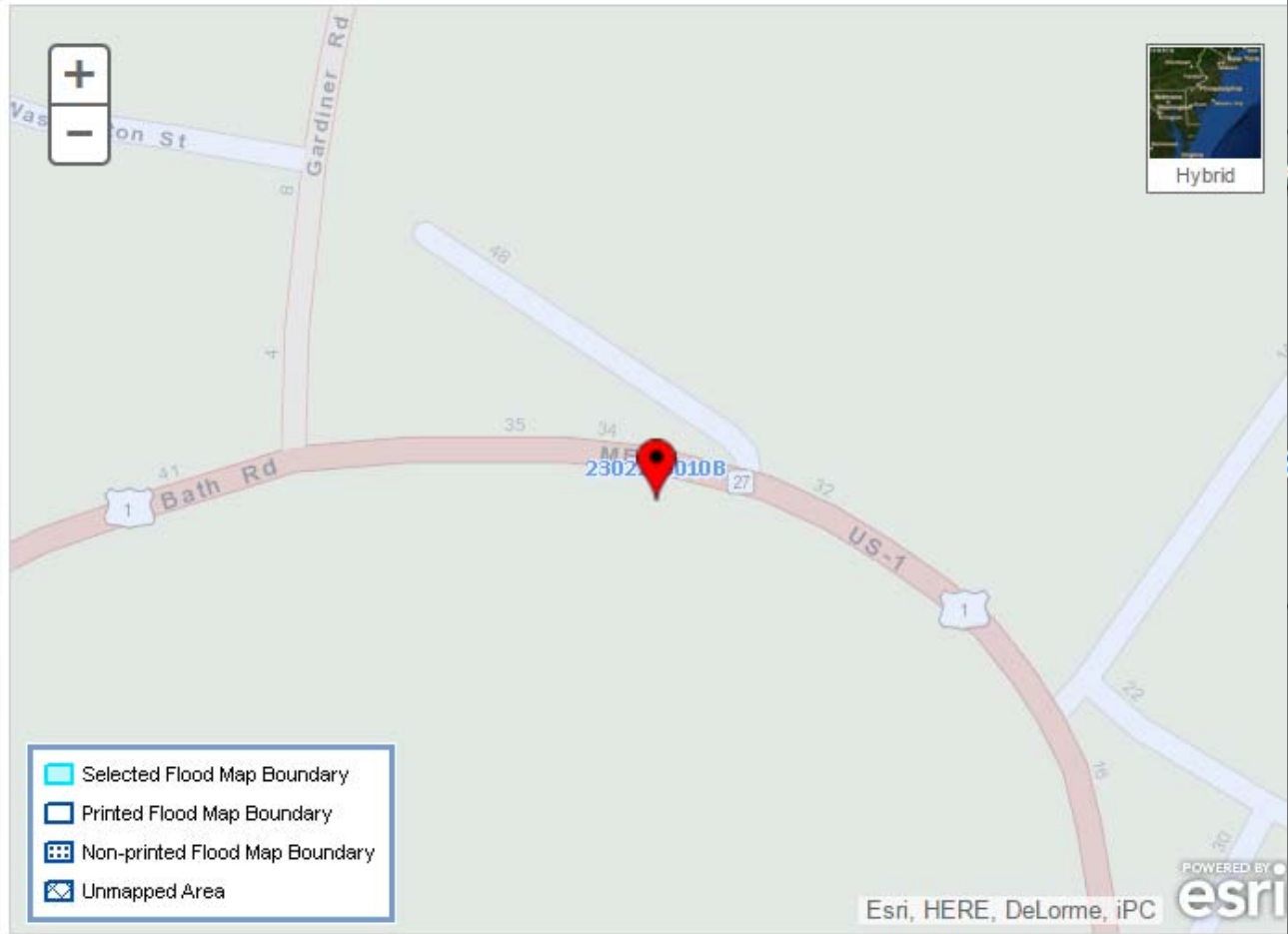
Letters of Map Change

- Revisions (0)
- Amendments (0)
- Revalidations (0)

Get additional products for
WISCASSET, TWN / LINCOLN CO



- Selected Flood Map Boundary
- Printed Flood Map Boundary
- Non-printed Flood Map Boundary
- Unmapped Area

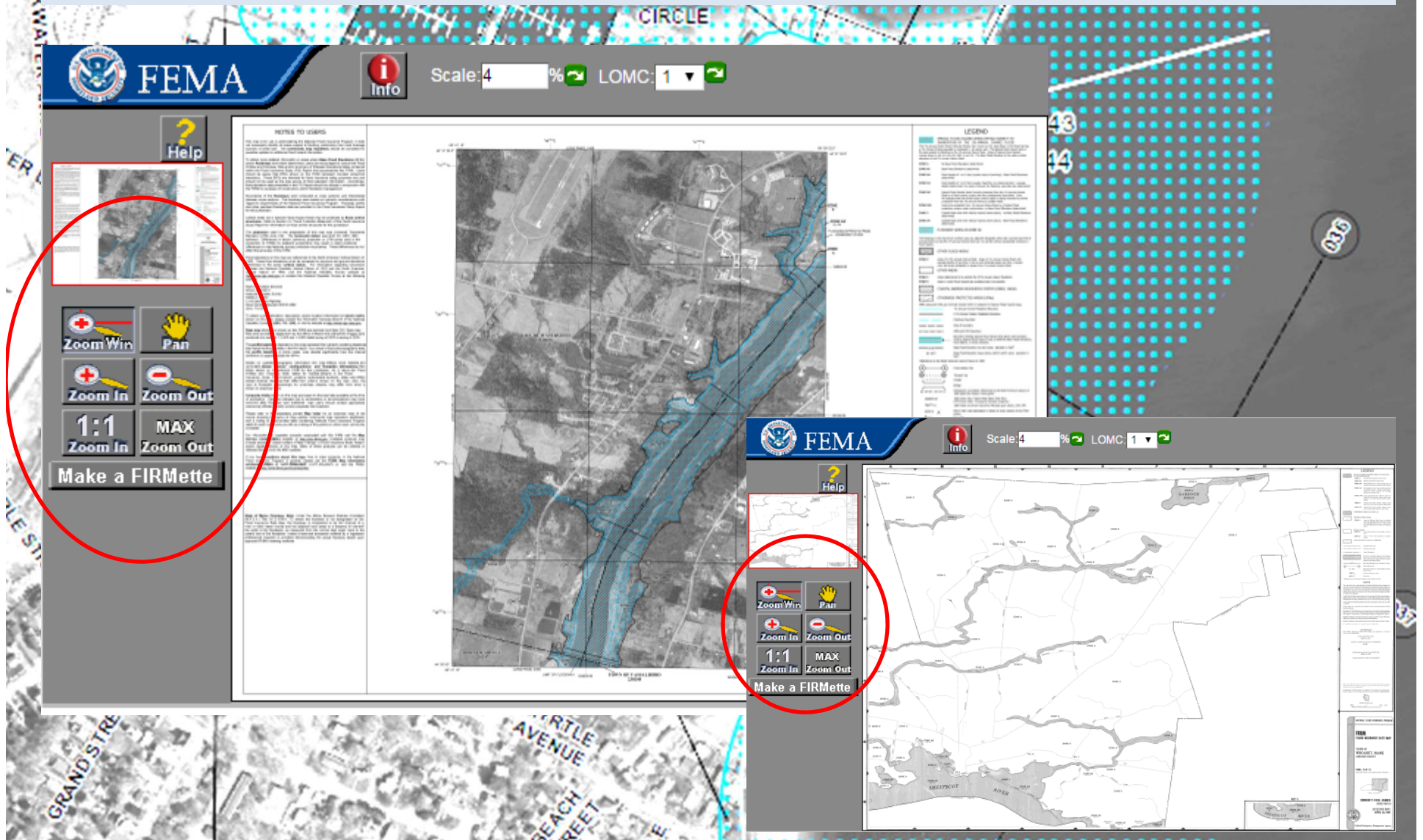


Hybrid

Esri, HERE, DeLorme, iPC



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



Welcome to
FEMA's Flood Map Service Center

Looking for a Flood Map?

Enter an address, a place, or longitude/latitude coordinates:

[Search All Products](#)

About Flood Map Service Center

The FEMA Flood Map Service Center (MSC) is the official public source for flood hazard information produced in support of the National Flood Insurance Program (NFIP). Use the MSC to find your official flood map, access a range of other flood hazard products, and take advantage of

To Look up Preliminary Map Info (cont)

The screenshot displays a web application interface for Gouldsboro Town. The main map area shows a location marked with a red pin, with a blue label '2302830020B' below it. The map includes street names 'Prospect Point Rd' and 'Whitten Rd'. On the right side, there is a blue dotted pattern with the text 'go to: arddata' and some numbers '0143' and '0144'. A circular icon with '036' is also visible.

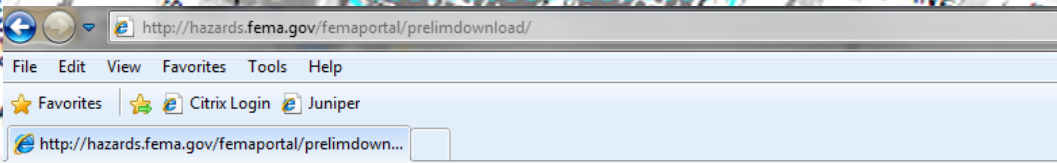
On the left side, there is a sidebar with the following elements:

- GOULDSBORO TOWN
- The flood map for the selected area is number 2302830020B, effective on 06/04/1987 ?
- VIEW MAP (magnifying glass icon)
- SAVE MAP (green arrow icon)
- Show all products for this area (blue arrow icon) - circled in red
- Letters of Map Change ?
 - Revisions (2)
 - Amendments (16)
 - Revaluations (0)
 - Effective Products (58) ?
 - Preliminary Products (419) ? - circled in red
 - Pending Product (0) ?
 - Historic Products (0) ?
 - Flood Risk Products (3) ?

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

Google/FEMA Preliminary Map Info go to:
www.fema.gov/preliminaryfloodhazarddata



Preliminary FEMA Map Products

Preliminary flood hazard data (preliminary data) provide the public an early look at their home or community's projected risk to flood hazards. Preliminary data may include: new or revised Flood Insurance Rate Maps (FIRM), Flood Insurance Study (FIS) reports, and FIRM Databases. This tool makes nation-wide preliminary data available in a centralized and easily accessible location, along with FEMA's other flood hazard mapping products. For more information about preliminary data, go to FEMA's [Preliminary Flood Hazard Data](#) webpage.

Please note, if you do not see your community's preliminary data, contact the [FEMA Map Information eXchange \(FMIX\)](#) for further support.

Disclaimer: Preliminary data are for review and guidance purposes only. By viewing preliminary data and maps, the user acknowledges that the information provided is preliminary and subject to change. Preliminary data, including new or revised FIRMs, FIS reports, and FIRM Databases, are not final and are presented on the MSC as the best information available at this time. Additionally, preliminary data cannot be used to rate flood insurance policies or enforce the Federal mandatory purchase requirement. FEMA will remove preliminary data once effective data are available.

Search

Use the following selection boxes to find your area of interest.

Select a State, District, or Territory

FEMA ID

1

Select a County, Parish, etc.

2

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



FEMA



State

MAINE

County

WALDO COUNTY

Community

WALDO COUNTY-WIDE

Jurisdiction Name or FEMA ID

(Ex. Fairfax County-wide or 51059C)

Product ID

(Ex. Panel Number, LOMC Case Number)

Map Service Center Posting Date Range (optional) ?

Date From

Date To

Search

Clear All Fields

Search Results for WALDO COUNTY-WIDE

Click [subscribe](#) to receive email notifications when products are updated.

Effective Products (1) ?

Preliminary Products (0) ?

Pending Product (118) ?

Historic Products (0) ?

Flood Risk Products (4) ?

037

An aerial photograph of a coastal area with various flood hazard overlays. A light blue shaded area with a grid pattern is labeled 'ZONE VE (EL 10)'. A darker blue shaded area with a grid pattern is labeled 'ZONE VE (EL 12)'. A red line with a dashed pattern is labeled 'CIRCLE'. Other street names visible include 'BREAKWATER ANNEX', 'MYRTLE AVENUE', 'SEACH STREET', and 'GRAND STREET'.

National Flood Hazard Layer

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

Interactive Map

You have selected a location in
WISCASSET TOWN

The flood map for the selected area
is number 23015C0243D, effective
on 07/16/2015 ?



VIEW MAP



SAVE MAP



INTERACTIVE
MAP

Show all products for this area

Letters of Map Change ?



For areas with NFHL data, the
“Interactive Map” feature will be
available on the left hand sidebar

Interactive Map Features

Zone AE (EL 11 Feet)

PANEL 5C0226D eff. 7/16/2015

PANEL 23011C0775D eff. 6/16/2011

LOMA 03-01-1516A-230084 eff. 8/19/2003

AREA OF MINIMUM

ZONE AE

ZONE VE

(1 of 4)

LOMA Case 03-01-1516A

Letter of Map Amendment (LOMA) point locations are approximate. The location of the LOMA is referenced in the legal description of the letter itself: [Download Letter Here.](#)

03-01-1516A-230084
TAX MAP U1, LOT 7 (PORTION OF)--
MIDDLE ROAD

Status is: Completed
Date Ended: August 18, 2003
Determination type: DetermLetter

For the Community of:
DRESDEN, TOWN OF, 230084

[Zoom to](#)

LOMAs are geo-referenced and can be downloaded

Interactive Map Features

Share Print Measure Find address or place

Find area, length, or location

Measure Distance | Feet

Measurement Result

92.6 Feet

Measure distances

AREA OF MINIMAL FLOOD HAZARD Zone X

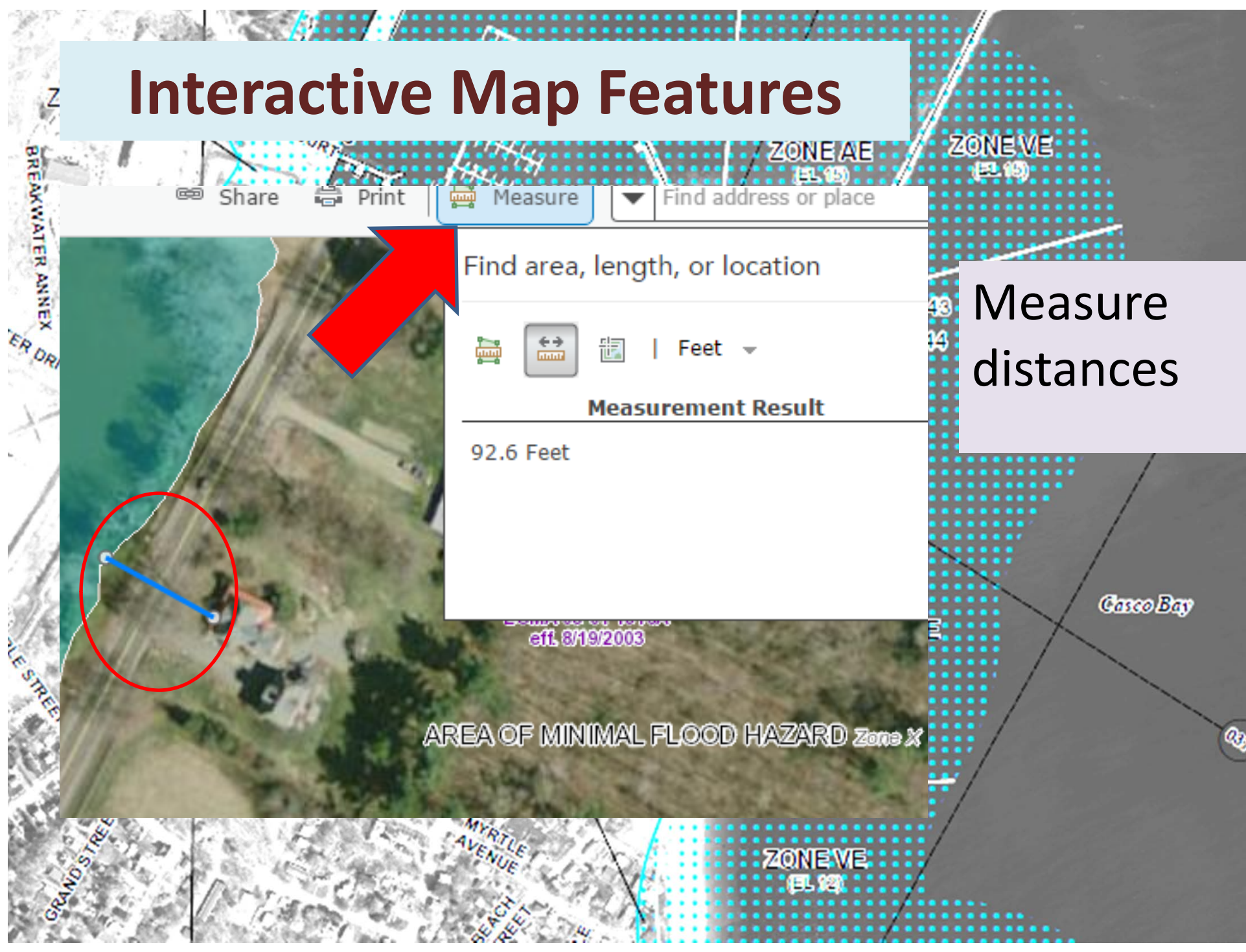
eff. 8/19/2003

Casco Bay

ZONE VE
(EL 12)

ZONE VE
(EL 10)

ZONE AE
(EL 10)



Interactive Map Features

Details Basemap

About

Select a basemap

Imagery Imagery with Labels Streets

Topographic Dark Gray Canvas Light Gray Canvas

National Geographic Oceans Terrain with Labels

OpenStreetMap USA Topo Maps USGS National Map

Esri.com · Help · Terms of Use · Privacy · Contact Esri · Contact Us · Report Abuse

Choose from a variety of basemaps

Maine Flood Hazard Map

Maine.gov Agencies | Online Services | Help | Search Maine.gov

DEPARTMENT OF Agriculture, Conservation and Forestry

About DACF | Animals & Plants | Forest | Geology | Recreation | Farming | Planning | Licensing & Regulations

DACF Home → Bureaus & Programs → Maine Floodplain Management Program → Floodplain Mapping Resources

Floodplain Home

Floodplain Mapping Resources

Publications

Flood Insurance

Floodplain Ordinances & Permit Forms

Flood Information for

Featured links

Maine Floodplain Management Program

Mapping Resources

Floodplain Maps Online

- View the [Maine Flood Hazard Map](#) application. This interactive web map contains:
 - National Flood Hazard Layers (NFHL): This layer contains the most current flood hazard data approved by FEMA.
 - Q3 Flood Maps: This is a layer of digitized maps with confirmation from the official, printed maps.
- The [FEMA Map Service Center](#) is an excellent source. This page has a helpful index of commonly requested information:
 - [Effective Date](#) for Floodplain Maps (alphabetical)
 - Online access to [Maine Floodplain Maps](#)
 - [Check for changes](#) to floodplain maps
 - [Flood Insurance Rate Studies \(FIS\)](#) provide detailed information in several sections but most importantly it details:
 - The study area
 - Engineering methods used to determine base flood elevations
 - Exhibits showing flood profiles
 - Tables showing floodway data, summary of discharges and still

Accessible through the
Maine Floodplain
Management Program
Website

Maine Flood Hazard Map Features

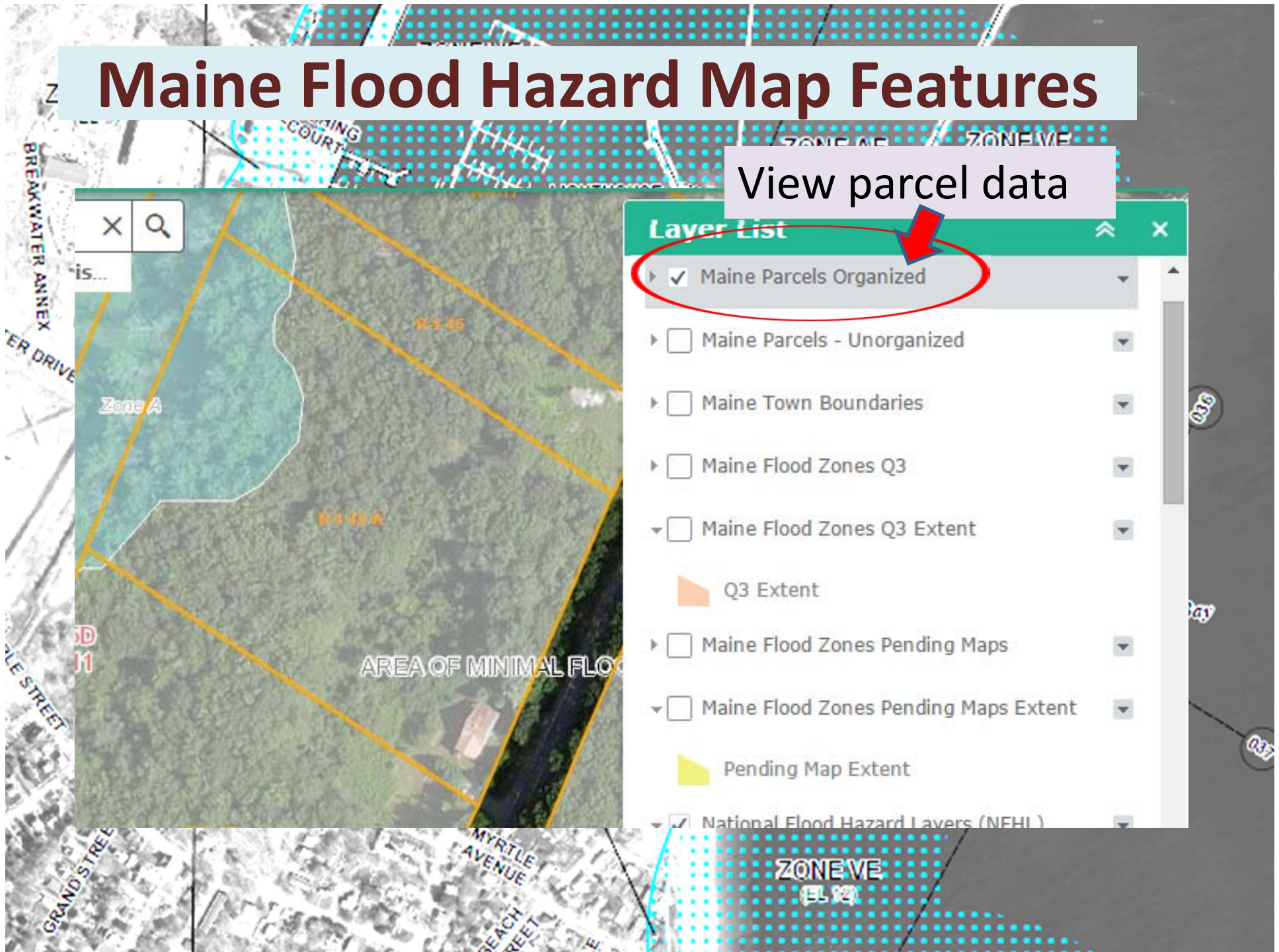
View parcel data

Layer List

- Maine Parcels Organized
- Maine Parcels - Unorganized
- Maine Town Boundaries
- Maine Flood Zones Q3
- Maine Flood Zones Q3 Extent
- Maine Flood Zones Pending Maps
- Maine Flood Zones Pending Maps Extent
- National Flood Hazard Layers (NEH1)

Q3 Extent

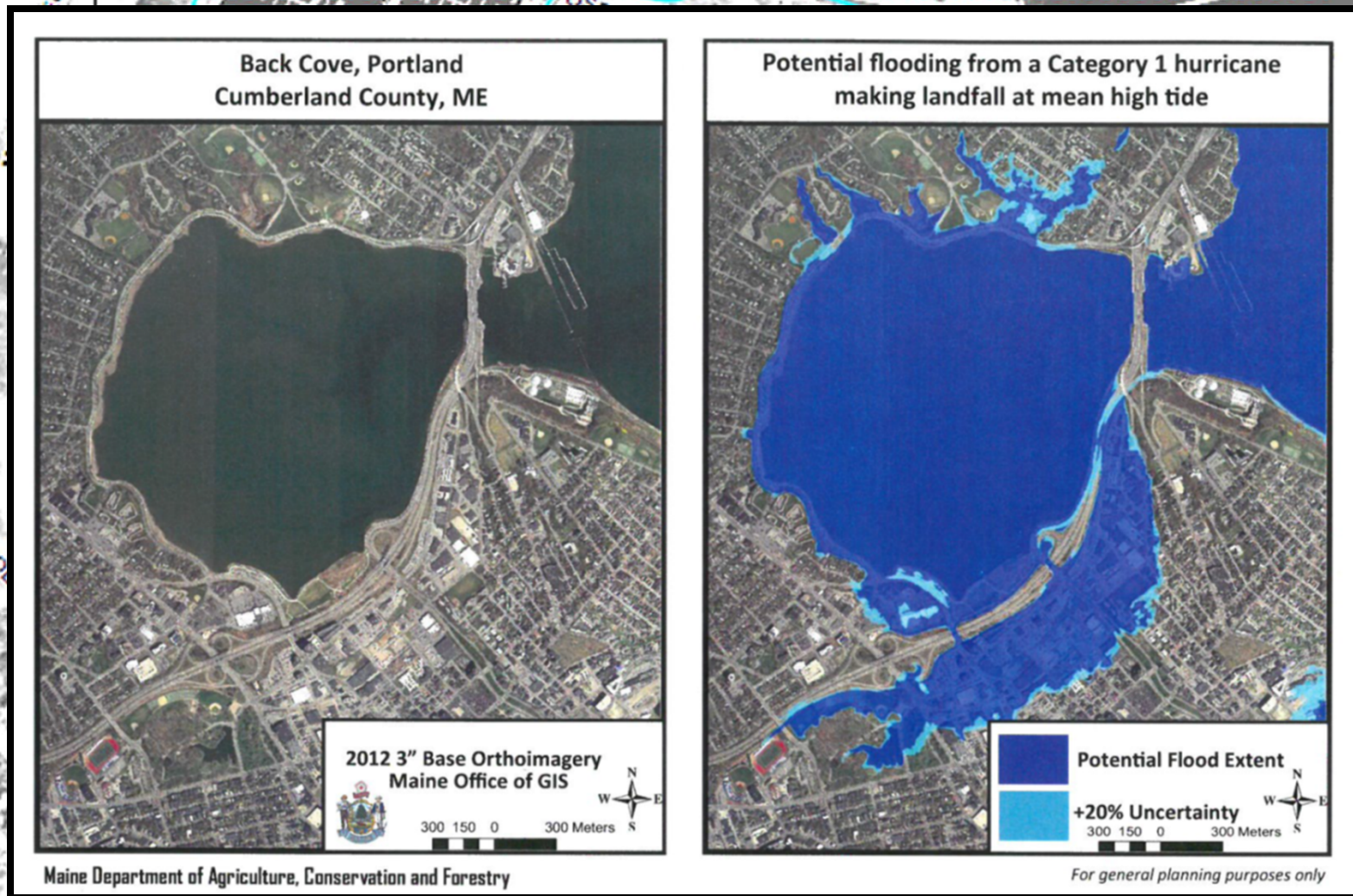
Pending Map Extent



Find Potential Hurricane Inundation Mapping online at :

<http://www.maine.gov/dacf/mgs/hazards/slosh/index.shtml>

Look for the postcard-sized handouts with links and info:



Questions?



Can you repeat the part of the stuff where you said all about the things?

**Questions about properties, maps, or
flood zones? Contact us!**

Sue Baker, State NFIP Coordinator

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Janet Parker, Planner II

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Maine Floodplain Management Program

Department of Agriculture, Conservation and Forestry

An aerial photograph of a coastal area with a blue dotted flood zone overlay. The map shows several streets: Breakwater Annex, On Street, Lighthouse Circle, Osprey Lane, Bunker Lane, Grand Street, Beach Street, and Avenue. Flood zones are labeled as ZONE AE (EL 9), ZONE VE (EL 10), ZONE AE (EL 13), and ZONE VE (EL 15). A marker 'X000143' is visible on the right side of the map. A semi-transparent light blue box with the text 'WEB LINKS' is overlaid on the map.

WEB LINKS

- Maine Floodplain Management Program Mapping Resources
<http://www.maine.gov/dacf/flood/mapping.shtml>
- Preliminary Data
 - www.fema.gov/preliminaryfloodhazarddata (Make sure to use Index Map to find your FIRM)
- Effective Data (including Future Effective)
 - msc.fema.gov
- Mitigation Ideas
 - www.fema.gov/library/viewRecord.do?id=6938
- National Flood Insurance Program
 - www.floodsmart.gov
- Flood Insurance Reform Act
 - www.fema.gov/national-flood-insurance-program/flood-insurance-reform-act-2012