Planning Lunches at Noon (PLAN) Monthly Webinar Series

Welcome to the March 2025 PLAN Webinar!

“Floodplain Management Program”

Check out OPD’s Planning and Zoning Training webpage for:

- Slides and recording of past PLAN Webinars and conferences
- Planning Board and Zoning Board 101 slides and recordings
- Planning Board and Zoning Board Handbooks
- Optional Tests and Certificates

BEA New Hampshire Department of BUSINESS AND ECONOMIC AFFAIRS

Floodplain Management Program

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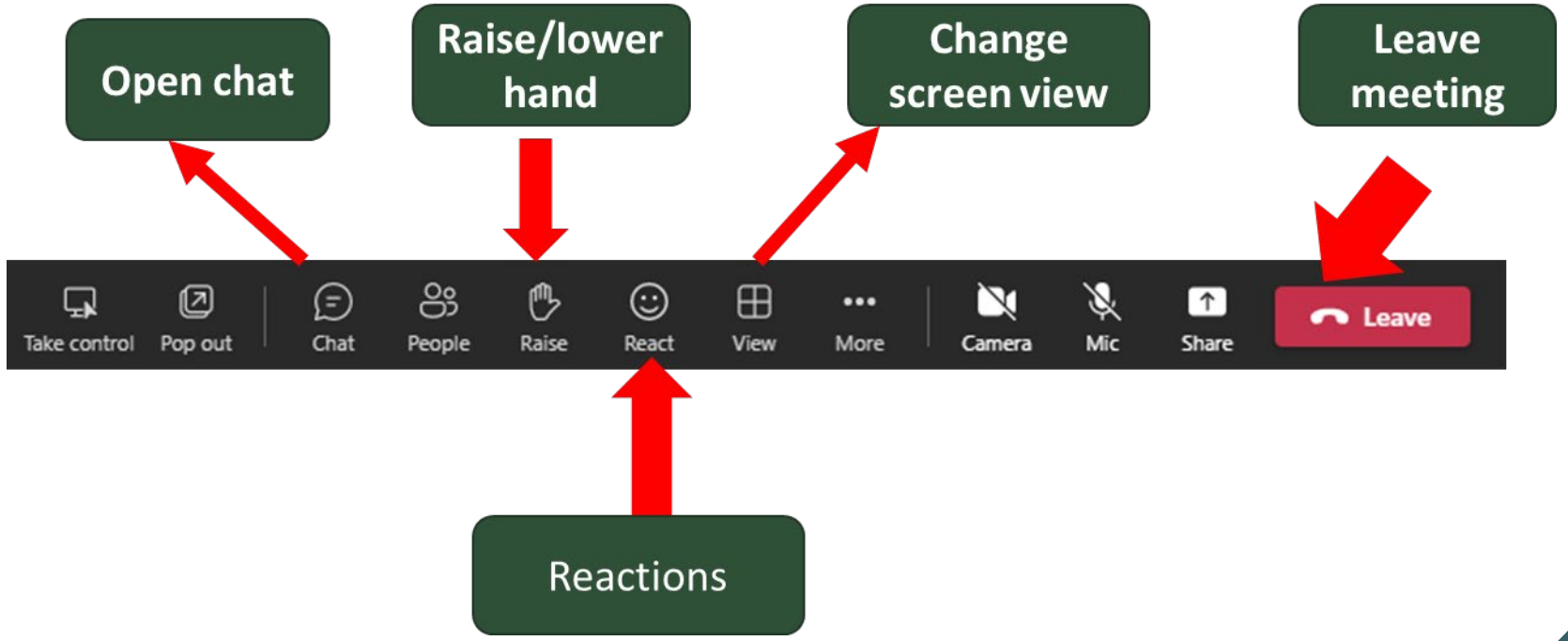
March 20, 2025

New Hampshire Department of BUSINESS AND ECONOMIC AFFAIRS

How To Participate

- For questions, type them into the chat box
- We will do our best to answer all questions by the end of the webinar



New Hampshire Department of BUSINESS AND ECONOMIC AFFAIRS

Floodplain Management Program

Sarah Thunberg & Stephanie Frechette, NFIP Coordinators

BEA

New Hampshire Department of
BUSINESS AND
ECONOMIC AFFAIRS

Agenda

- Flooding Hazards
  - Flash, costal, riverine, ice jam
- Flood-smart resources
  - Maps
  - Forecasts
  - Mitigation
- NH NFIP participation and benefits
  - Community responsibility
  - Insurance premium calculations
  - CRS

Why Floodplain Management

Water doesn't stop at the town line, it doesn't even stay in the floodplains.

Anywhere it rains, it can flood.

Did you know… 25%-30% of claims come from low-to-moderate risk areas?

Development anywhere should be conscious of the flood risk and maintain effective water management infrastructure.

Why Floodplain Management

Like every disaster, flooding occurs in phases

- Preparation: gather resources and develop a community plan
- Response: provide emergency assistance as needed
- Recovery: file claims, rebuild
- Mitigation: planning, purchase insurance, HMPs, construction/terrain alteration

Many industries are involved in disaster relief efforts: emergency management, planning, insurance, construction, forecasting, healthcare, etc.

Smart planning and zoning decisions are some of the most effective mitigation strategies against flooding.

Types of Flooding Hazards

River / Inland Flooding

Water levels rise over the top of riverbanks due to excessive rainfall, persistent thunderstorms, snow melt, etc.

- Long duration (days)
- Large area of impact
- Usually spreads out along the mapped floodplain
- More predictable

Storm Surge / Coastal Flooding

Inundation of land areas along the coast caused by an abnormal rise in water level. Higher than average high tide, heavy rain, and onshore winds can coincide to exacerbate flooding.

- Long duration (hours to days)
- Large area of impact
- Stays along the coast and in mapped floodplain areas
- More predictable

Flash Flood

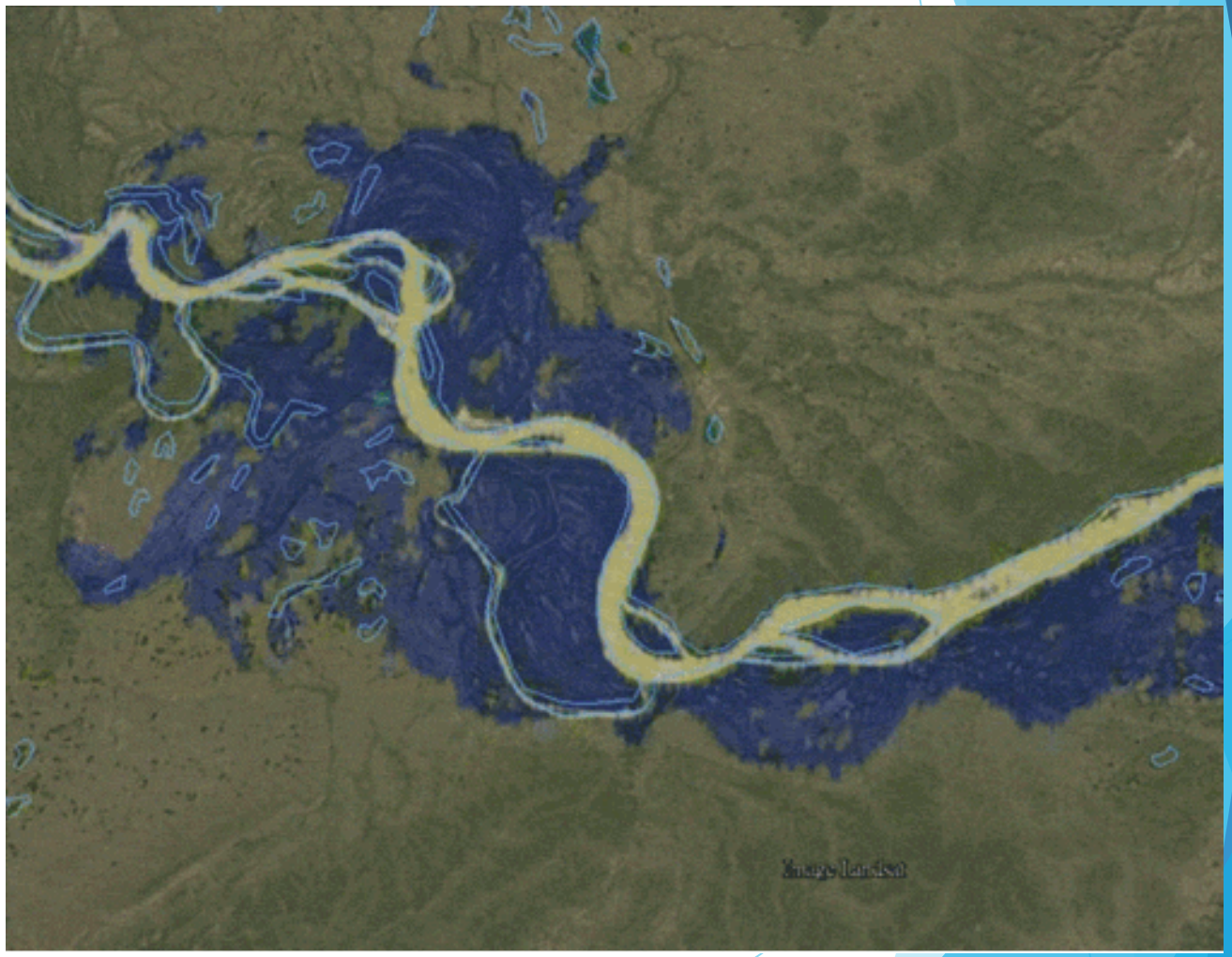
Excessive rainfall in a short period of time – generally less than 6 hours. High velocity torrents after heavy rains that rip through river beds, urban streets, or mountain canyons.

- Short duration (minutes to hours)
- Small area of impact
- Waters will eventually drain into the floodplain, but can originate from anywhere
- Low predictability

Ice Jam Flooding

Chunks of ice pile up at narrow river channels and restrict the flow of water. Water quickly rises upstream of the jam flooding the surrounding area.

- Variable duration
- Large area of impact
- Usually spreads out along the mapped floodplain
- Low predictability



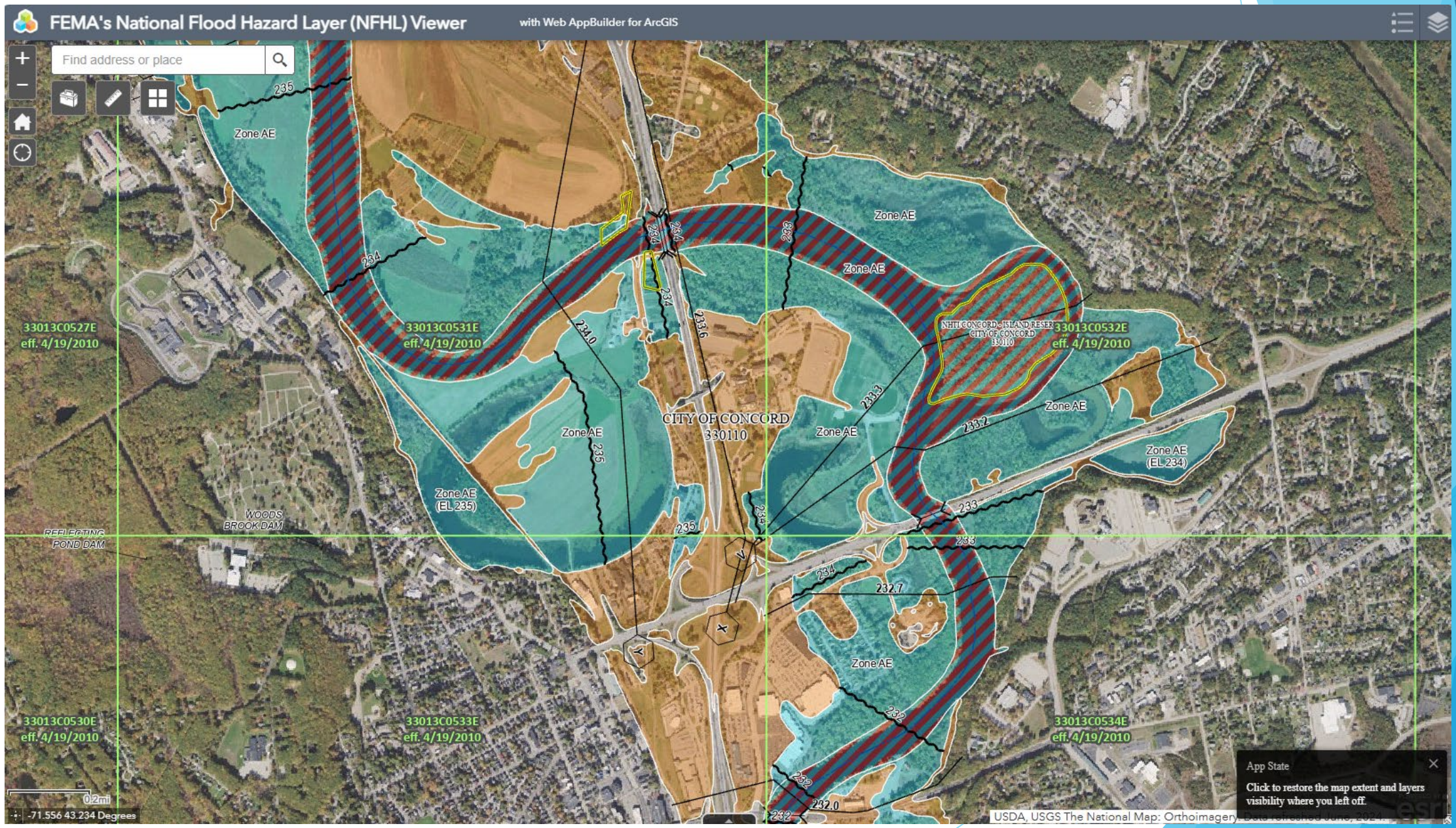
Flood-Smart Resources

Flood-Smart Resources: How to View Maps

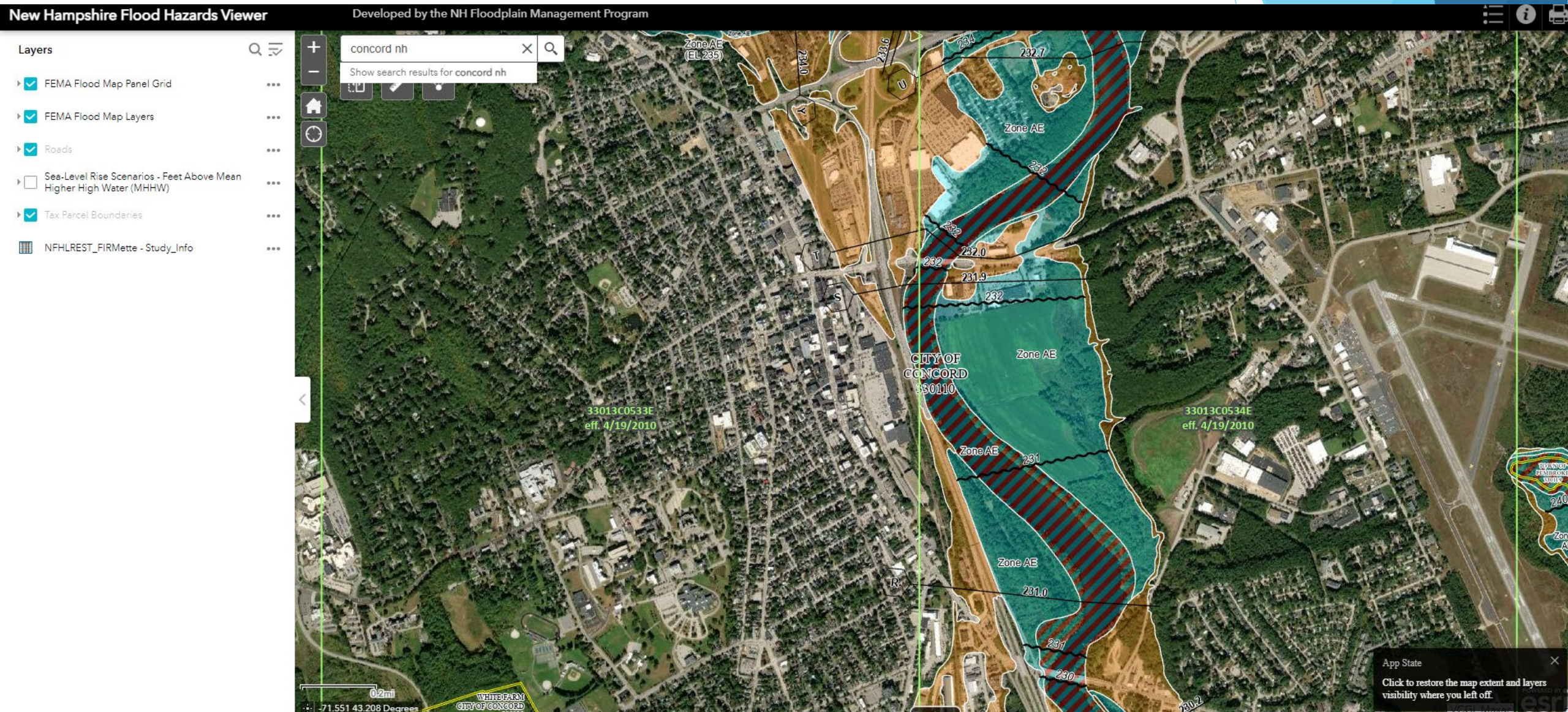
- Paper copies
- Copies of map panels and FIS reports are available for viewing/download on FEMA Map Service Center (msc.fema.gov) website for **all NFIP communities.**
- FEMA Flood Map Changes Viewer
- NH Flood Hazards Viewer*
- NH GranitView*
- GIS data available for download from FEMA Map Service Center*.
- Your community may have its own map viewer with the FEMA floodplains shown.

**For communities with digitally produced FIRMs (all NH communities except for Town of Lincoln and communities in Belknap County).*

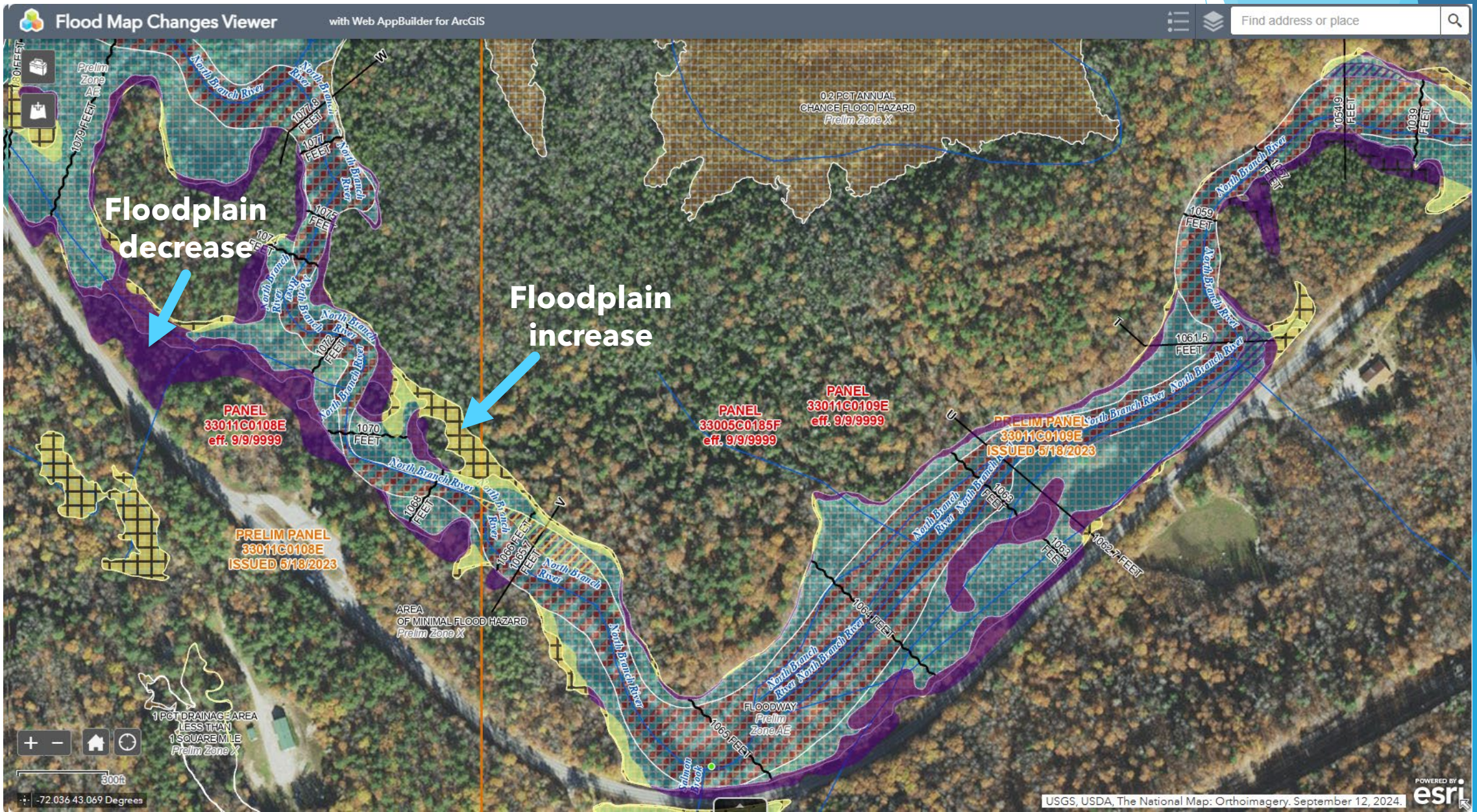
Flood-Smart Resources: msc.fema.gov



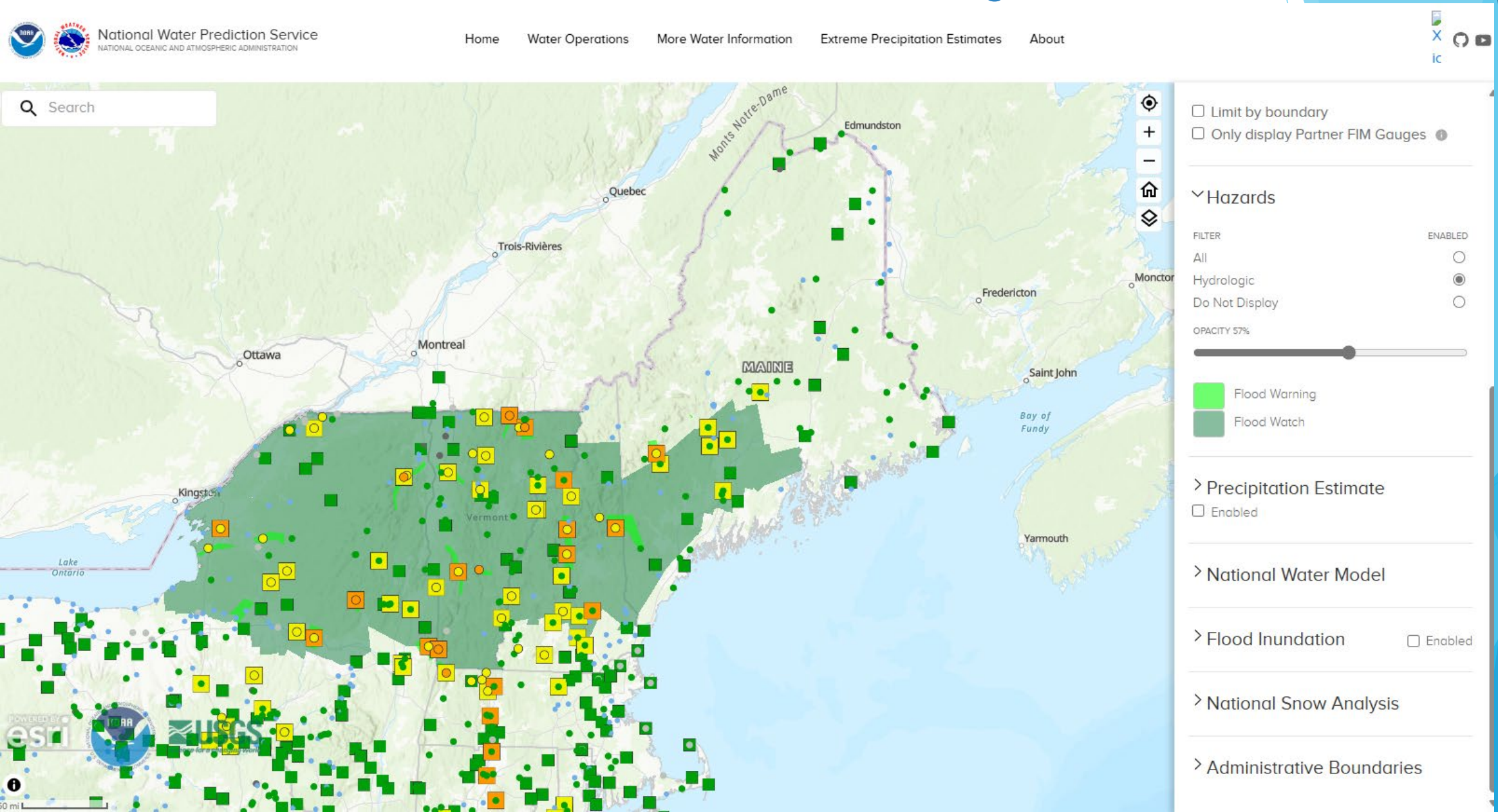
Flood-Smart Resources: NH Flood Hazards Viewer



Flood-Smart Resources: Flood Map Changes Viewer



Flood-Smart Resources: water.noaa.gov



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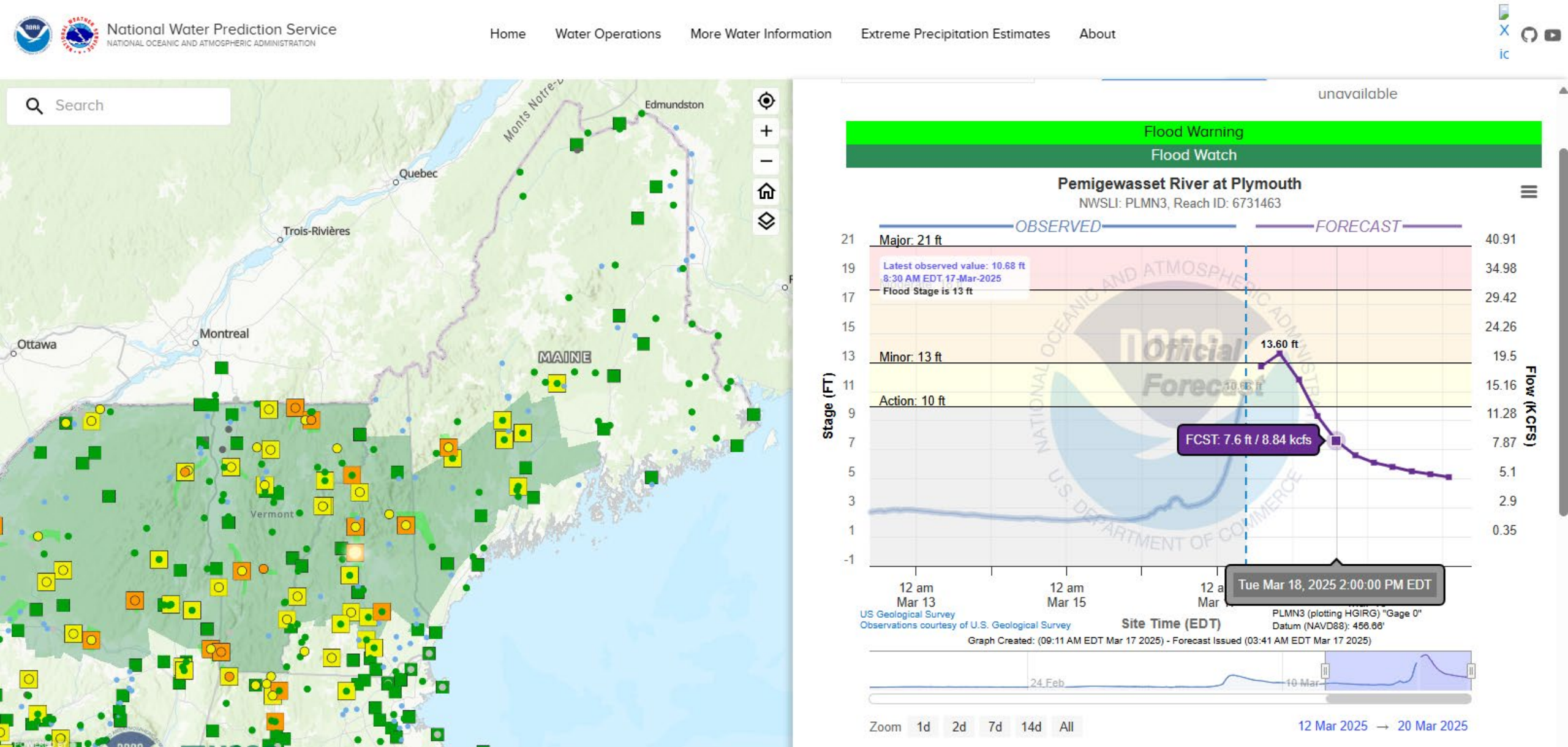

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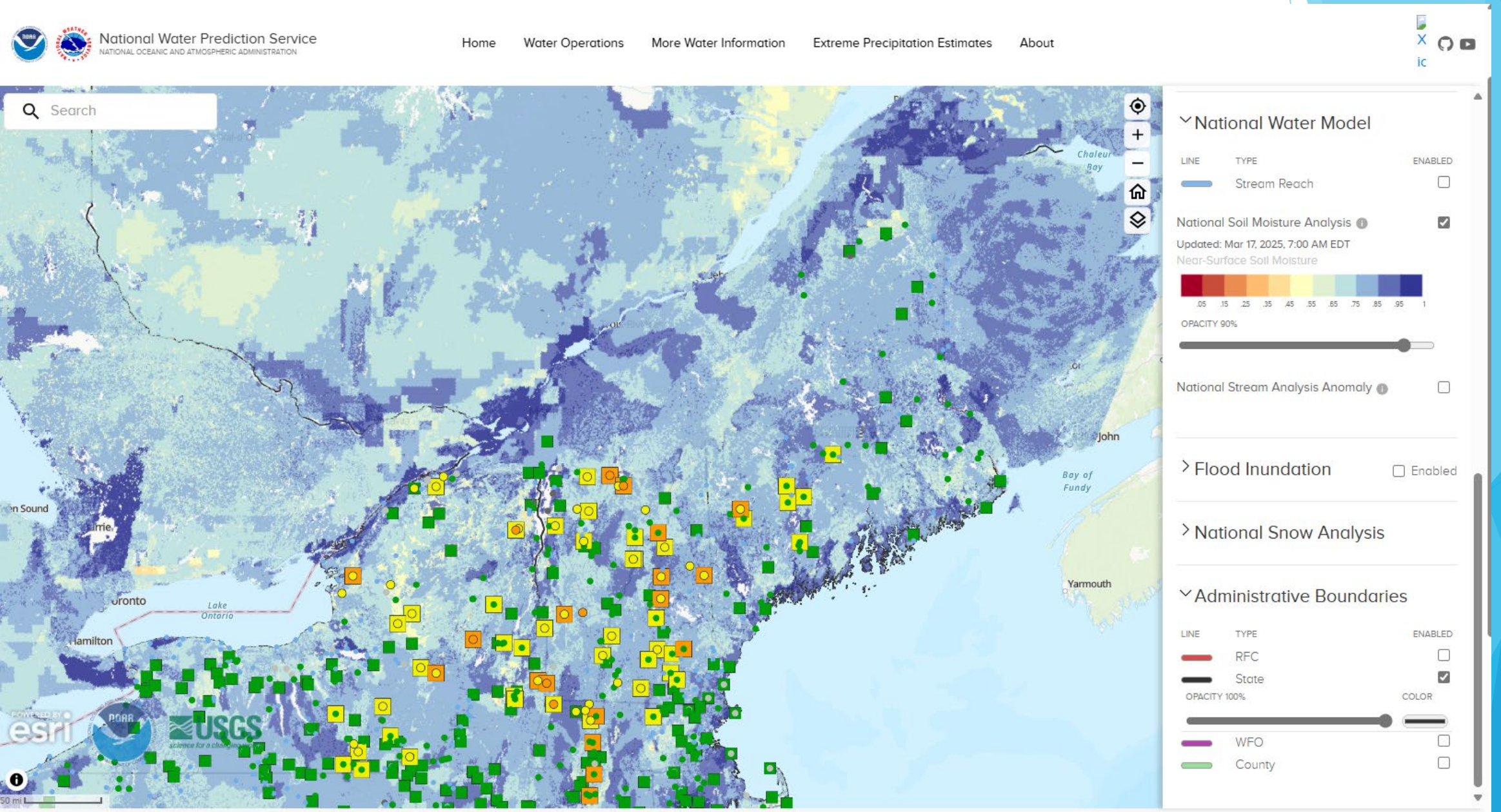

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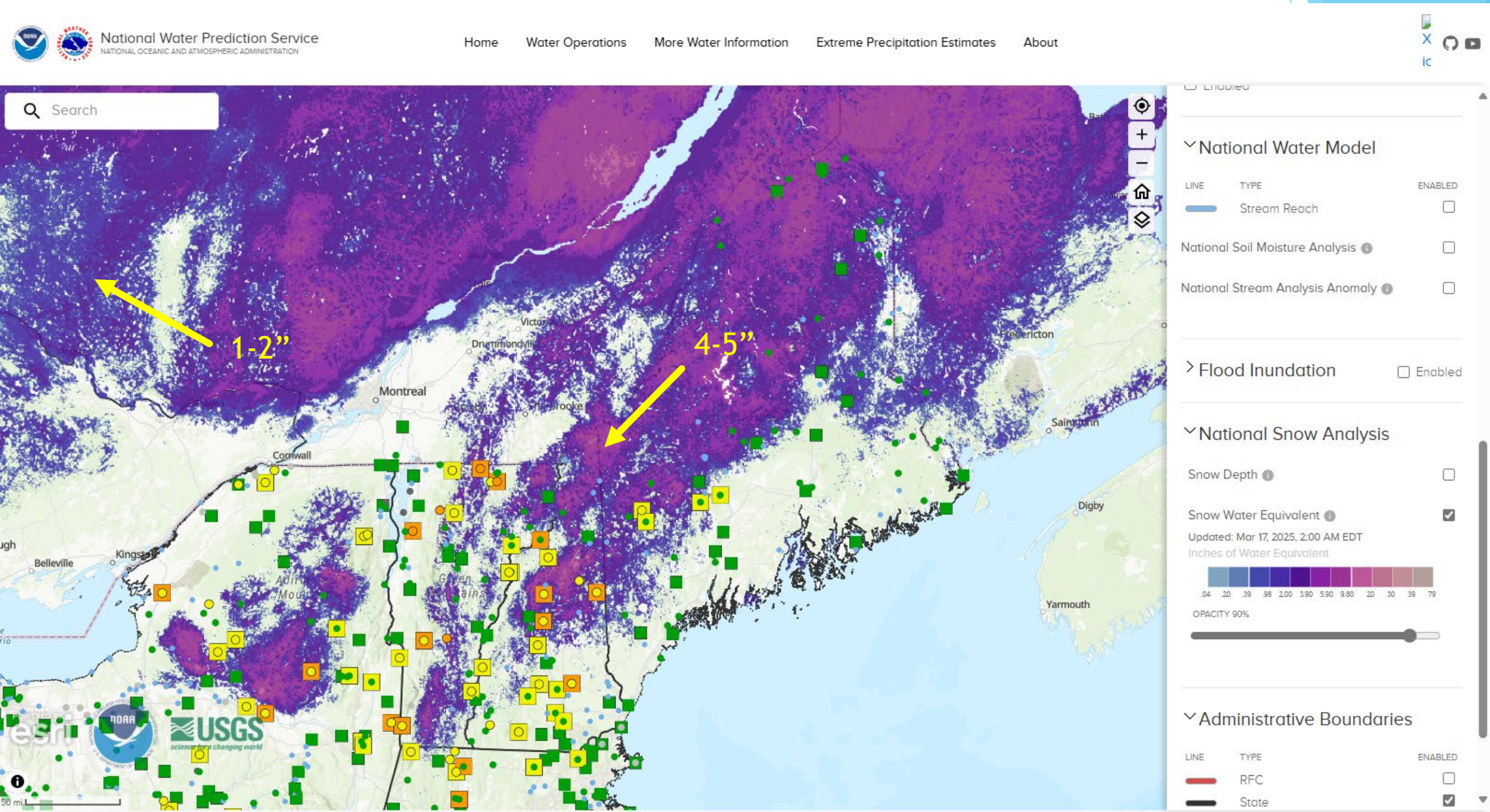
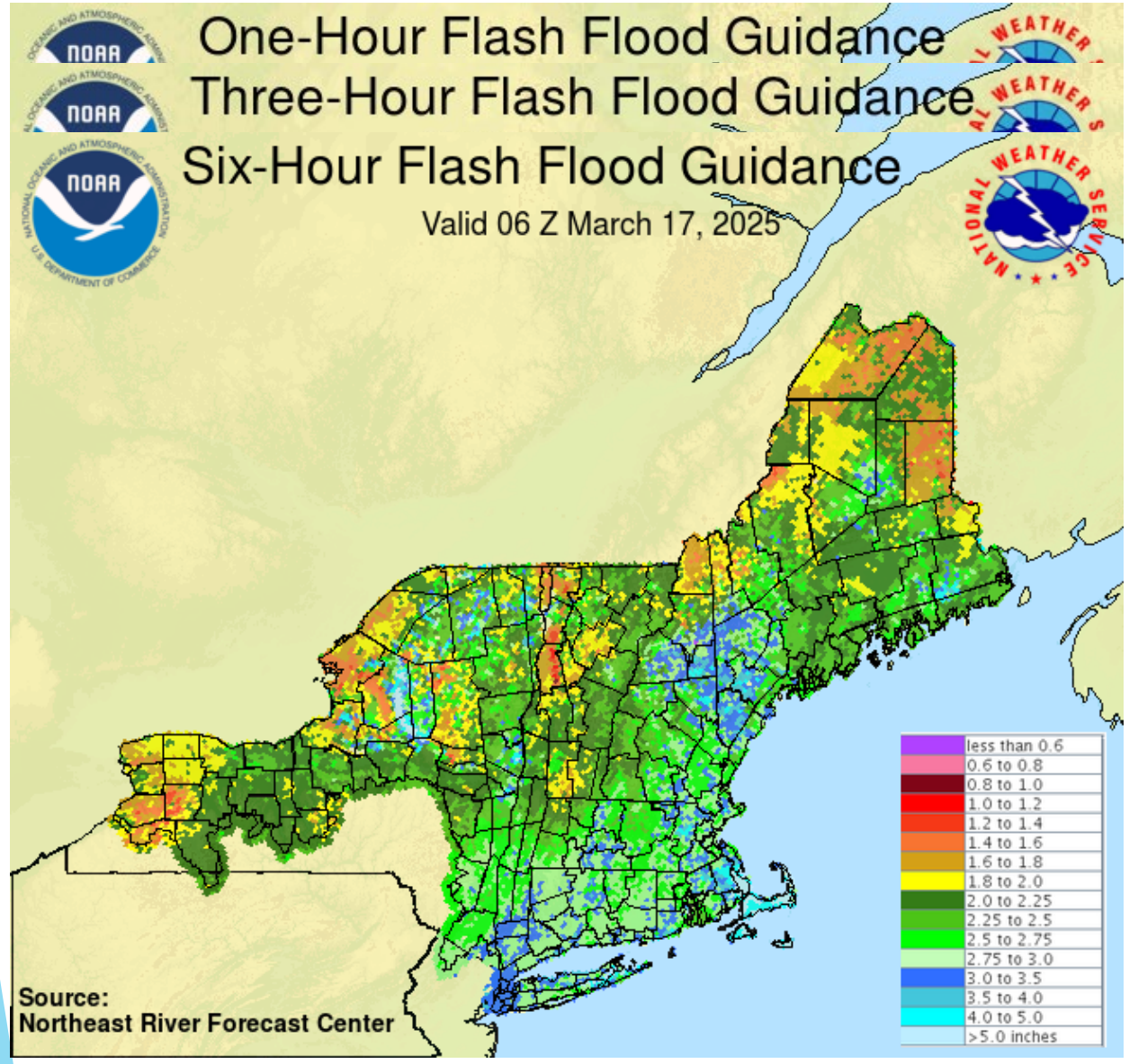


Flood-Smart Resources: weather.gov/nerfc/ffg



Weather observations for the past three days for

Concord Municipal Airport

Imperial (Metric)

Date	Time (edt)	Wind (mph)	Vis. (mi.)	Weather	Sky Cond.	Temperature (°F)				Relative Humidity	Wind Chill (°F)	Heat Index (°F)	Pressure		Precipitation (in)		
						Air	Dwpt	6 hour Max.	6 hour Min.				altimeter (in)	sea level (mb)	1 hr	3 hr	6 hr
17	13:51	W 6	2.50	Light Rain Fog/Mist	FEW005 OVC011	54	53.1	55	52	97%			29.77	1008.0	0.02		0.17
17	12:51	W 3	1.25	Fog/Mist	OVC004	54	54			100%			29.78	1008.5			
17	11:51	W 6	10.00	Overcast	OVC006	55	54			96%			29.8	1009.1			
17	10:51	SW 3	10.00	Overcast	OVC007	55	54			96%			29.79	1008.7	0.01	0.15	
17	09:51	SE 3	9.00	Light Rain	OVC007	54	53.1			97%			29.76	1007.9	0.05		
17	08:51	Calm	2.00	Rain Fog/Mist	BKN007 OVC010	53.1	53.1			100%			29.79	1008.8	0.09		
17	07:51	W 6	6.00	Light Rain Fog/Mist	BKN006 OVC075	53.1	52	55	52	96%			29.8	1009.0	0.08		0.69
17	06:51	SE 3	6.00	Light Rain Fog/Mist	OVC065	53.1	53.1			100%			29.78	1008.3	0.15		
17	05:51	Calm	4.00	Rain Fog/Mist	FEW045 OVC050	52	52			100%			29.79	1008.8	0.1		
17	04:51	SE 3	6.00	Light Rain Fog/Mist	OVC055	53.1	53.1			100%			29.81	1009.3	0.13	0.36	
17	03:51	S 6	2.00	Rain Fog/Mist	OVC045	53.1	53.1			100%			29.81	1009.6	0.08		
17	02:51	SE 3	5.00	Light Rain Fog/Mist	OVC041	54	53.1			97%			29.81	1009.6	0.15		
17	01:51	Vrbl 5	1.50	Heavy Rain Fog/Mist	SCT005 BKN012 OVC023	55	54	64.9	55	96%			29.83	1010.0	0.26		0.27

forecast.weather.gov/data/obhistory/KCON.html

Flood-Smart Resources: forecast.weather.gov/data/obhistory/KCON.html

NATIONAL WEATHER SERVICE
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION

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Go
View Location Examples

Your local forecast office is
Gray/Portland, ME

News Headlines
- Winter and Spring Flood Outlook
- Click here for event Rain, Snow, Wind or Temperature Observation Summary Report

Hazardous Weather Conditions
- Hazardous Weather Outlook
- Flood Watch in effect from March 17, 04:00 AM EDT until March 18, 12:00 AM EDT

Current conditions at
Concord Municipal Airport (KCON)
Lat: 43.2°N Lon: 71.5°W Elev: 338ft.

Light Rain Fog/Mist
54°F
12°C

Humidity	97%
Wind Speed	W 6 mph
Barometer	29.77 in (1008.0 mb)
Dewpoint	53°F (12°C)
Visibility	2.50 mi
Wind Chill	52°F (11°C)
Last update	17 Mar 1:51 pm EDT

More Information:
Local Forecast Office
More Local Wx
3 Day History
Hourly Weather Forecast

Extended Forecast for
2 Miles W Concord Municipal Airport NH

Click here for hazard details and duration

NOW until 12:00am Tue	This Afternoon	Tonight	Tuesday	Tuesday Night	Wednesday	Wednesday Night	Thursday	Thursday Night
Flood Watch	Flood Watch	Flood Watch						
	70%	40%						70%
Flood Watch	High: 57 °F	Low: 34 °F	High: 58 °F	Low: 30 °F	High: 58 °F	Low: 37 °F	High: 55 °F	Low: 33 °F
	Showers Likely	Chance Showers	Decreasing Clouds	Mostly Clear	Sunny	Mostly Cloudy	Mostly Cloudy	Rain Likely

– Berlin
– Concord
– Jaffrey
– Keene
Laconia
Lebanon
– Manchester
N – Mount Washington
– Nashua
– Portsmouth
' – Rochester
Whitefield

Flood-Smart Resources: Forecasts

water.noaa.gov

Excessive Rainfall Outlook (ERO) Interactive Display

weather.gov/nerfc

weather.gov.nerfc/ffg

weather.gov/gyx

Flood-Smart Resources: Mitigation

HMGP

Hazard Mitigation Grant Program

Disaster

BRIC

Building Resilient Infrastructure and Communities

FMA

Flood Mitigation Assistance

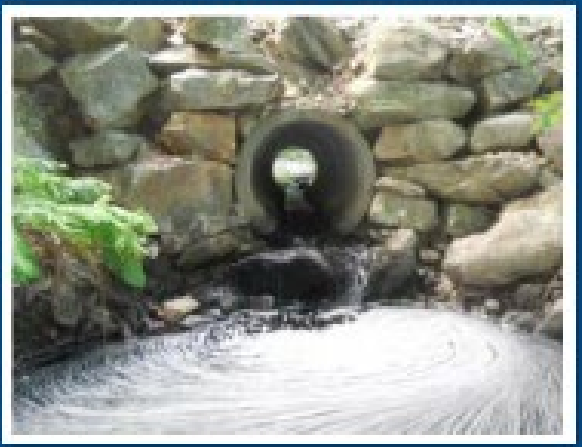
Non-Disaster

Eligible Activities

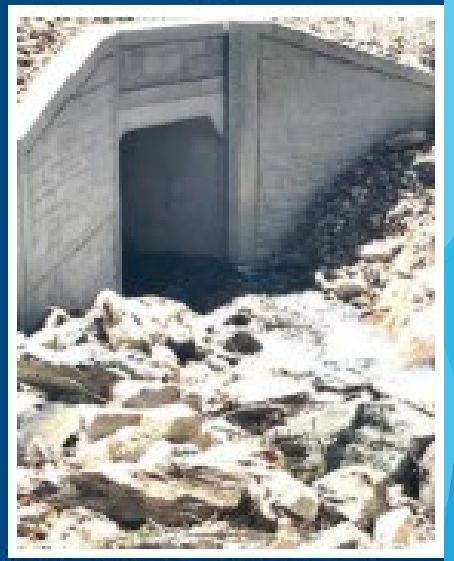
Eligible Activities	HMGP	BRIC	FMA
Project Scoping	☑	☑	☑
Property Acquisition and Structure Demolition	☑	☑	☑
Property Acquisition and Structure Relocation	☑	☑	☑
Structure Elevation	☑	☑	☑
Mitigation Reconstruction	☑	☑	☑
Dry Floodproofing	☑	☑	☑
Generators	☑	☑	
Localized Flood Risk Reduction Projects	☑	☑	☑
Non-localized Flood Risk Reduction Projects	☑	☑	
Structural Retrofitting of Existing Buildings and Facilities	☑	☑	☑
Safe Room Construction	☑	☑	
Wind Retrofit for One- and Two-Family Residences	☑	☑	
Infrastructure Retrofit	☑	☑	☑
Soil Stabilization	☑	☑	☑
Wildfire Mitigation	☑	☑	
Post-Disaster Code Enforcement	☑		
5% Initiative Projects	☑		

Eligible Activities	HMGP	BRIC	FMA
Hazard Mitigation Planning	☑	☑	☑
Planning Related Activities	☑		

Before Mitigation



After Mitigation



Eligible Subapplicants

Entity	HMGP	BRIC	FMA
State Agencies	☑	☑	☑
Federally-recognized tribes	☑	☑	☑
Local governments/communities	☑	☑	☑
Private nonprofit organizations (PNPs)*	☑		
Homeowners/Individuals*			

***Individuals and business are not eligible to apply for all HMA funds, while non-profit organizations are not eligible to apply for BRIC and FMA; however, an eligible Applicant or Subapplicants may apply for funding on their behalf.**

Funding & Cost Share

Programs	Mitigation Activity (% of Federal/Local Share)
HMGP	75/25
BRIC	75/25
BRIC – subgrantee is small impoverished community	90/10
FMA – insured properties and planning grants	75/25
FMA – repetitive loss of property	90/10
FMA – severe repetitive loss properties	100/0
HHPD	65/35

National Flood Insurance Program

NH NFIP Program

- NFIP Overview
- Community responsibility
- Insurance premium calculations
- Community Rating System (CRS)

NFIP- What is it?

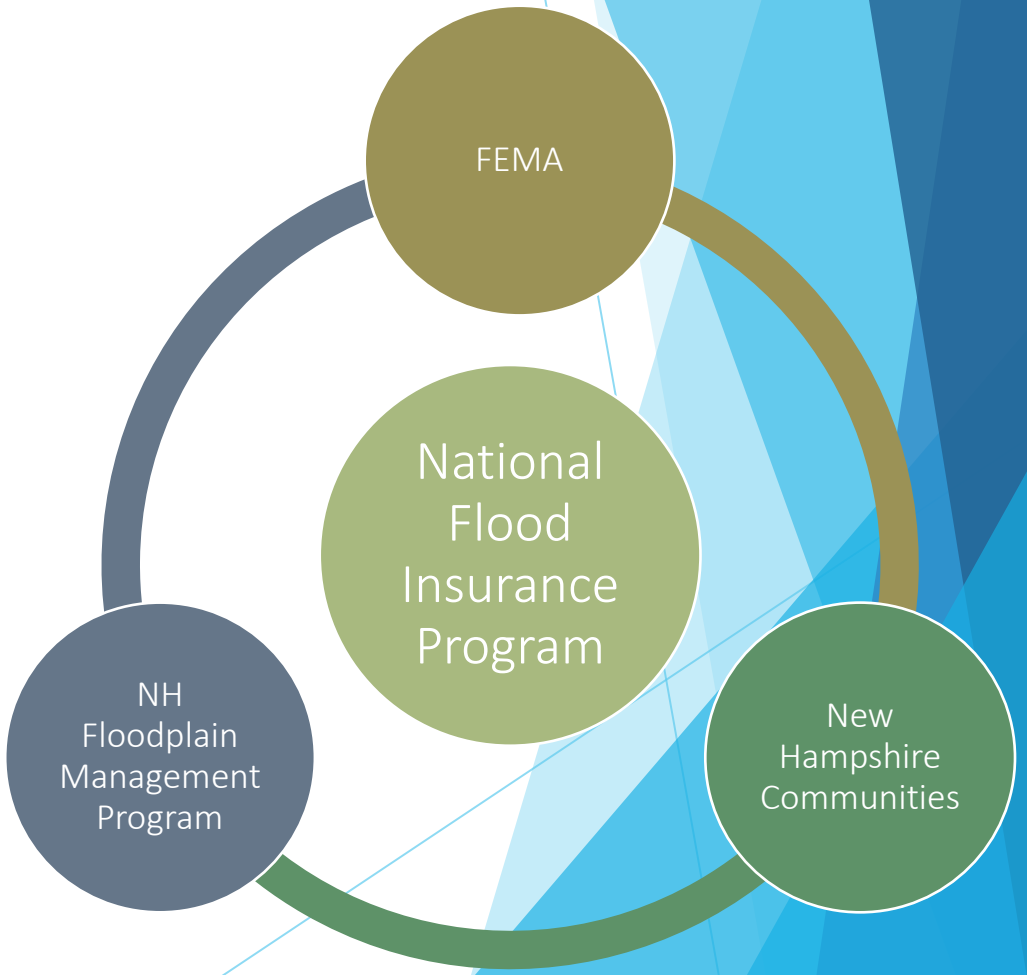
A voluntary partnership between FEMA and participating communities

- Reduce loss of life and property
- Reduce rising disaster relief costs
- Increase importance of hazard mitigation
- Restore and protect natural resources and functions of floodplains
- Make Federally backed insurance coverage available

Know your risk – floodplain mapping

Reduce your risk – floodplain regulations

Insure your risk – flood insurance



FIRMs and FIS Reports

Produced by FEMA and used by:

- Municipal officials to determine **a)** which areas of their community are subject to its floodplain development regulations and **b)** the building requirements that apply for development activity in floodplain areas.
- Lenders to determine which properties require flood insurance as a condition of a mortgage or other loan.
- The general public to understand flood risk in their area.

Flood Insurance Rate Map

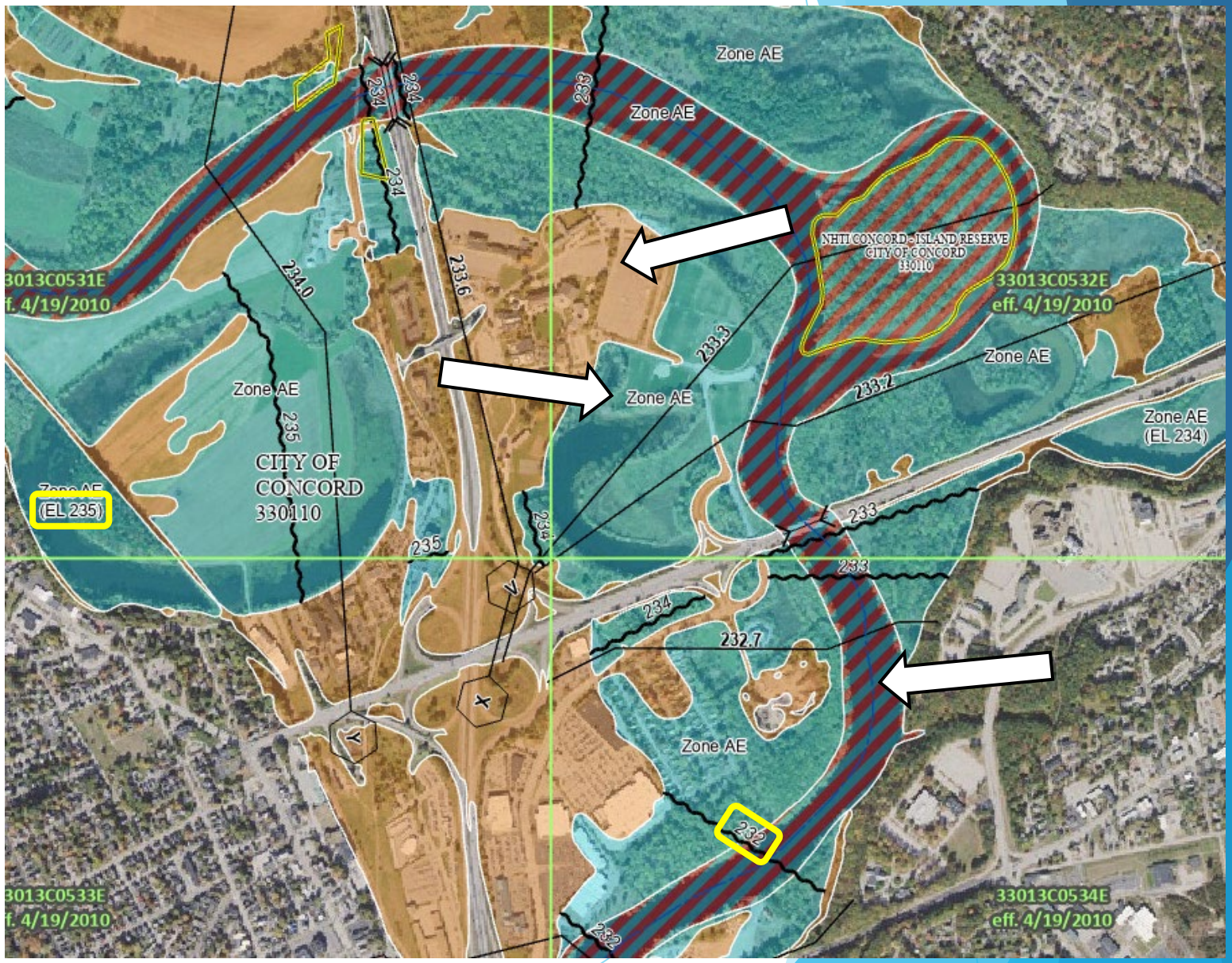
Special Flood Hazard Area (SFHA)

- Zone A, AE, AO, AH, A1-30 (inland)
- Zone V, VE (coastal)

Floodway

500-year floodplain

Base Flood Elevation (BFE)



Flood Insurance Rate Map

Over time development and changes in weather patterns alter how water flows through the floodplain.

Modeling techniques and data collection are always improving as well so FEMA routinely updates the FIRMs to reflect new hydrologic conditions.

FEMA is currently in the process of remapping the floodplains across NH through the Risk Map process.

Community Role

- Work with FEMA during data collection
  - Inform FEMA of known flooding issues in your community
- Update the community's floodplain ordinance to ensure compliance with latest NFIP requirements
  - OPD will contact your local floodplain or zoning administrator to review the community's ordinance and recommend changes before new maps are published
- Notify residents of the new map changes
- Adopt new FIRMs when published
- Enforce floodplain ordinance

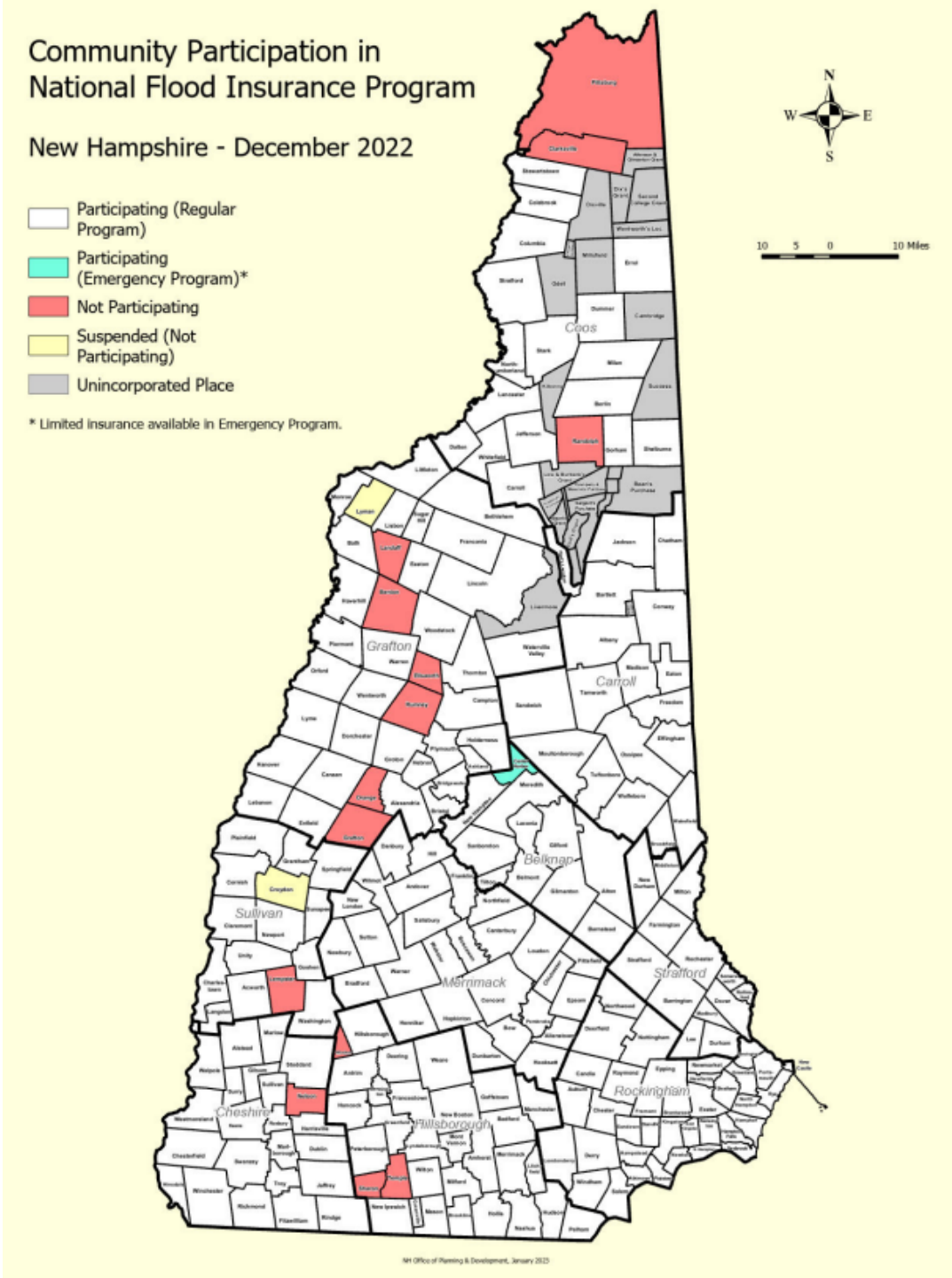
NFIP Participation

Community agrees to adopt local floodplain regulations and enforce them through a local permitting process.

NFIP flood insurance is available for purchase, for all property owners and renters in the community.

NFIP Participation in New Hampshire

- 220 communities (94%) participate
- 16 communities (6%) do not participate



Federal, State, and Local Roles in the NFIP

FEMA

- Makes available flood insurance for purchase in participating communities
- Risk identification (mapping)
- National program oversight
- Establish development/building standards and guidance
- Monitor compliance

Federal, State, and Local Roles in the NFIP

State Role

- Technical assistance to all stakeholders
- Education and outreach
- Model floodplain regulations
- Assist communities in evaluating compliance of floodplain activities and post-disaster activities

Local (Community) Role and Responsibilities

- Understand your community's regulations and FEMA maps.
- Ensure that local permits are applied for, for all development in Special Flood Hazard Areas within the community.
- Review and process permit applications for floodplain development.
- Ensure floodplain development (including community's) is built according to approved permits and floodplain regulations.
- Take enforcement actions; correct violations.

NFIP: Insurance Premiums

Risk Rating 2.0: Determining Flood Risk

WHERE It Is Built (Property Address)

FEMA uses the building's property address to determine flood risk for the property. The property address is used to determine:

- **A building's distance to flooding sources,** *including the distance to the coast, ocean, rivers, and Great Lakes.*
- **The ground elevation** *where the building is located relative to the elevation of the surrounding area and the elevation of nearby flooding sources.*
- **Other characteristics** *such as the community where the building is located and how that relates to the Community Rating System discount or whether the building is on a barrier island.*

HOW It Is Built (Building Characteristics)

Knowing the physical characteristics of a building provides a deeper understanding of the building's individual flood risk and how it may impact premium. Relevant variables include:

Building Occupancy

The type (and use) of the building being insured sets available coverage limits and determines what is covered as indicated in the policy form.

Foundation Type

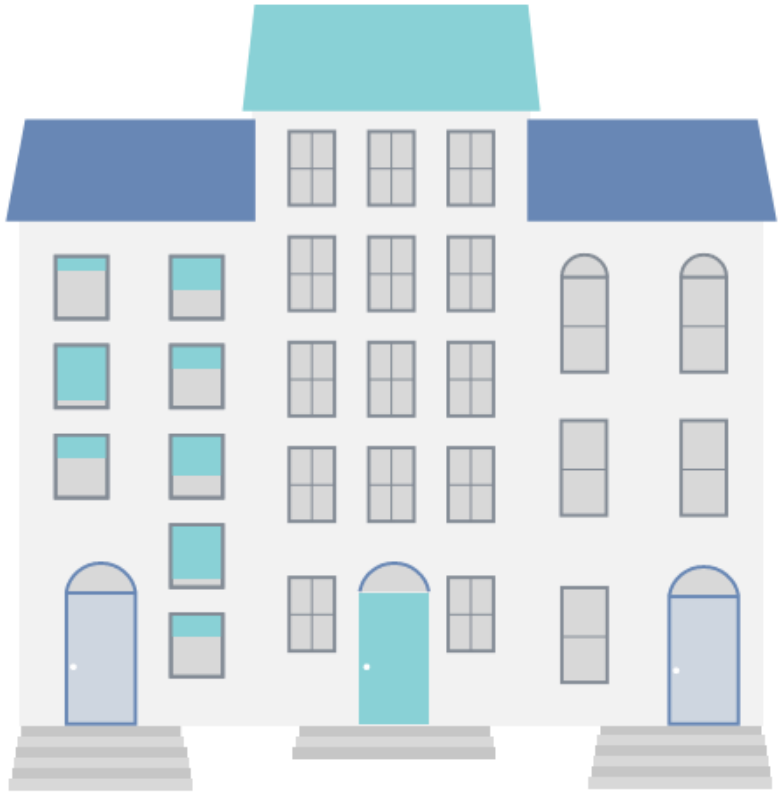
The foundation type provides important insight as to where the flood risk is likely to begin. For instance, risk varies based on whether a building's foundation is underground, at ground, or above ground.

First Floor Height

Buildings whose first floor is higher off the ground have lower flood risk.

Number of Floors

Buildings with more floors spread their risk over a higher area.



Unit Location

Individual units on higher floors have lower flood risk than units on lower floors.

Construction Type

Masonry walls perform better in different flooding events than wood frame walls.

Flood Openings

Flood openings can lower a building's flood risk as they allow floodwaters to flow through a building's enclosure or crawlspace.

Machinery & Equipment

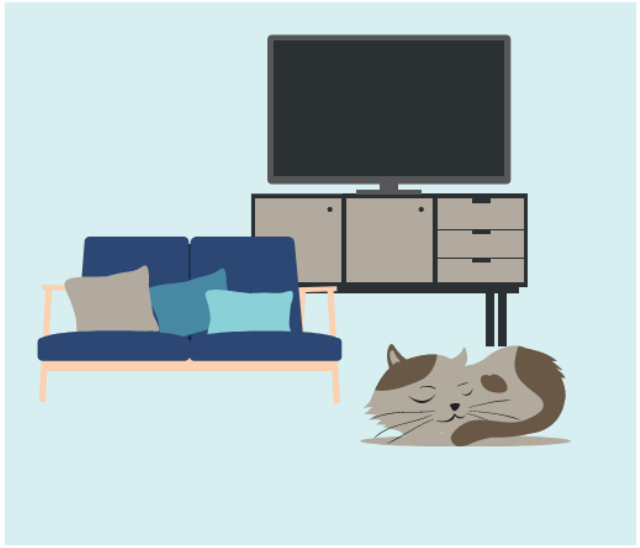
Elevating above the first floor lowers the risk of damage to machinery & equipment covered in the policy.

WHAT Is Built and Covered (Replacement Cost and Coverage)

The building's replacement cost value, the amount of coverage requested, and the deductible choices influence the insurance premium.

Building Replacement Cost Value*

Buildings with higher costs to repair generally result in higher losses, resulting in higher premiums.



Building and Contents Coverage

Policies with higher coverage limits have higher potential loss costs, which lead to higher premiums. Building coverage and contents coverage amounts are selected separately.

Building and Contents Deductible

Policyholders who choose higher deductibles are assuming more of the risk during a flood event, which can result in a lower overall premium. Choosing a higher deductible means policyholders will need to cover more of the cost to rebuild out of pocket.

NFIP: Community Rating System

Community Rating System

- Voluntary incentive program by FEMA
- Rewards communities to adopt higher standards
- Flood insurance premium reductions

Resources

- Floodplain Management Program - NH Economy
- Flood Map Changes Viewer (arcgis.com)
- FEMA's National Flood Hazard Layer (NFHL) Viewer (arcgis.com)
- Flood Insurance | FEMA.gov
- Hazard Mitigation Assistance Grant Resources and Information – Homeland Security Emergency Management

Q&A

THANK YOU

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