



ILLINOIS

Illinois State Water Survey

PRAIRIE RESEARCH INSTITUTE

Hamilton, White, and Gallatin Counties, IL Flood Risk Project

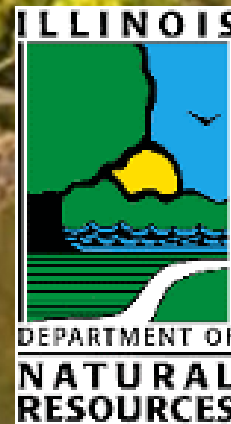
Flood Risk Review Meeting
Thursday, July 30, 2026



ILLINOIS

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FEMA

Pre-Meeting Survey

Meeting Agenda

- Rollcall
- Introduction
- Project Goals and Objectives
- Hydrologic and Hydraulic Study Methods
- Draft Floodplain Results
- WebMap
- Communication and Next Steps
- Hazard Mitigation and NFIP
- Community Participation
- Discussion

Roll Call

Hamilton County Communities

- Village of Broughton
- City of McLeansboro
- Village of Belle Prairie
- Village of Dahlgren
- Village of Macedonia
- Unincorporated Hamilton County

White County Communities

- Village of Mill Shoals
- Village of Springerton
- Village of Norris City
- Village of Enfield
- Unincorporated White County

Gallatin County Communities

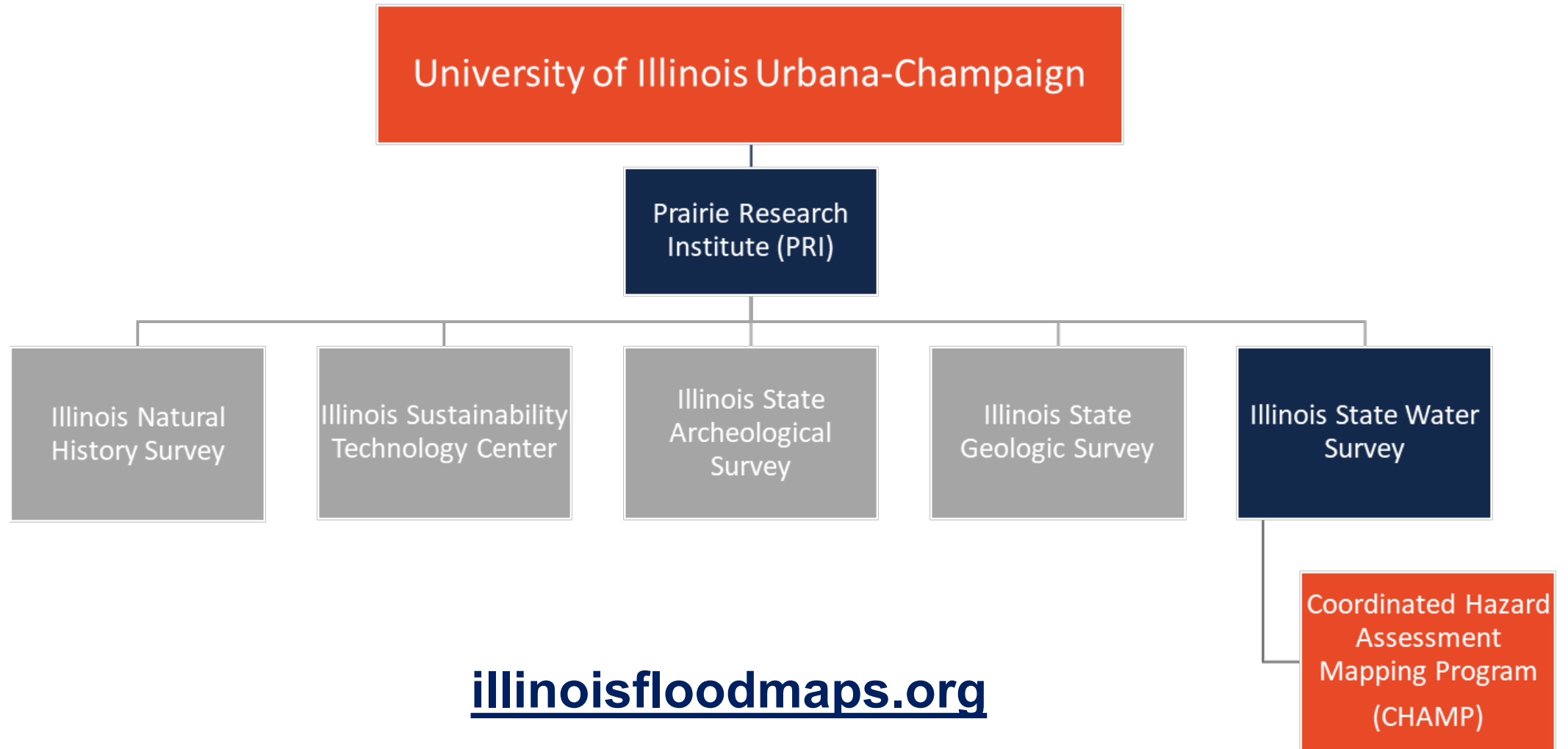
- Unincorporated Gallatin County

Other Agencies:

- FEMA
- IDNR
- USACE

Introduction

Who We Are



Our Partners

Federal Emergency Management Agency (FEMA)

ISWS is a Cooperating Technical Partner (CTP) with the FEMA



Illinois Department of Natural Resources, Office of Water Resources (IDNR-OWR)

ISWS partners with IDNR-OWR. Together we prioritize Illinois floodplain studies and mapping projects.

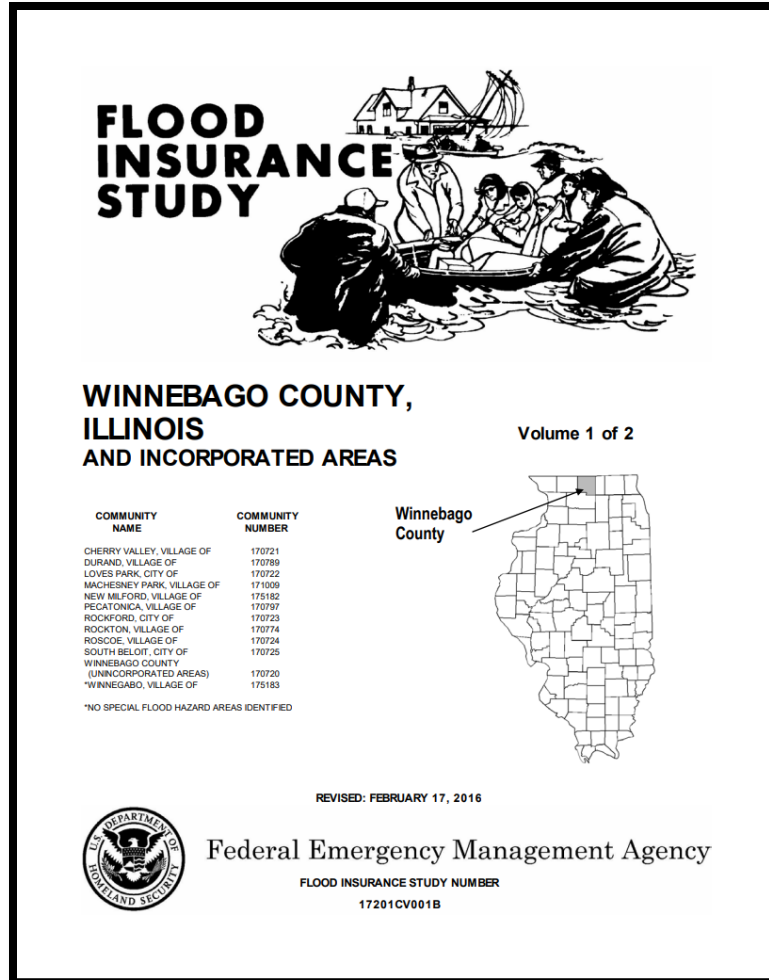


Your Community

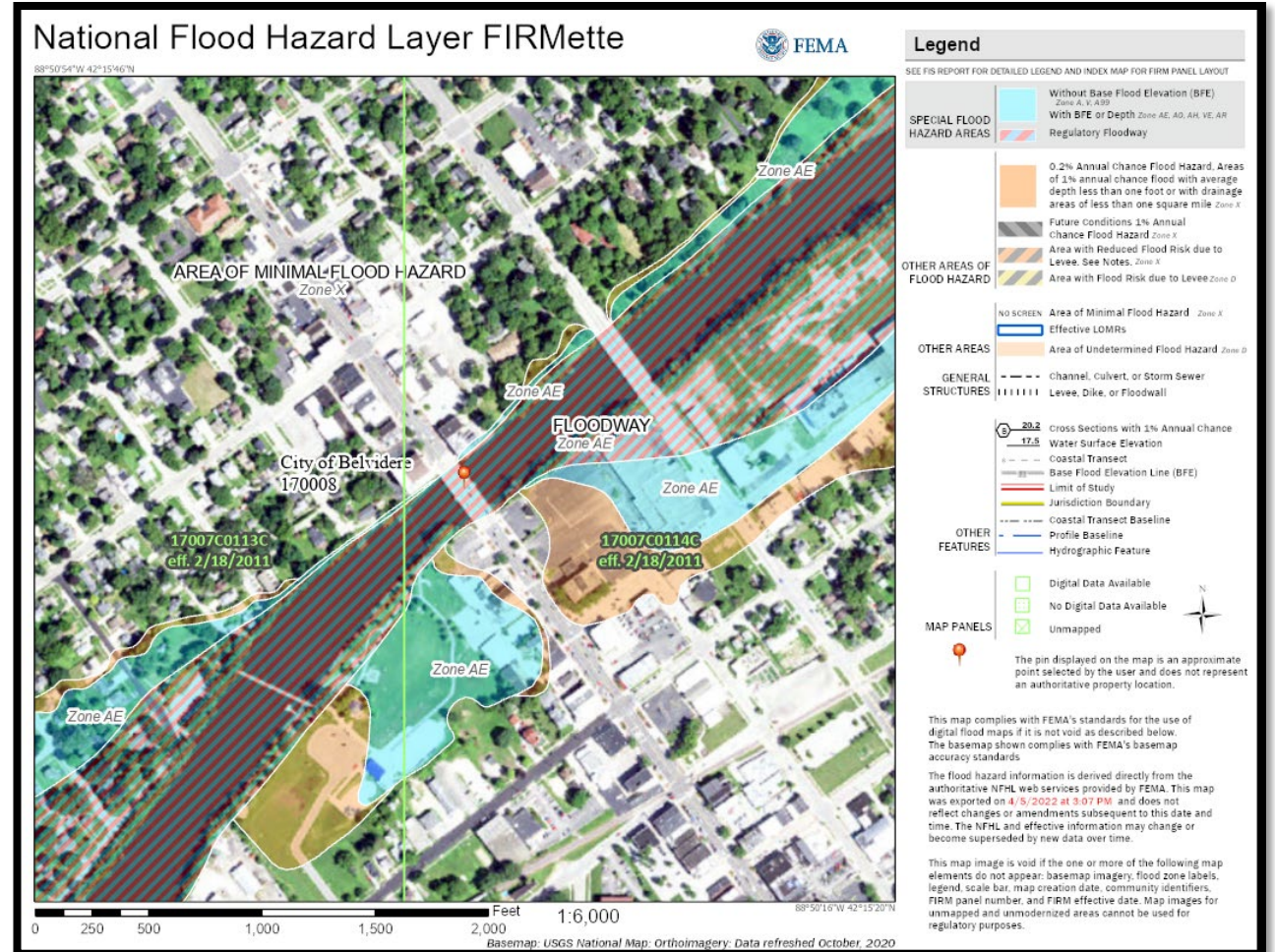
ISWS provides ongoing engagement with state and local officials and watershed stakeholders to reduce flood risk.

What We Do

PRODUCE FLOOD STUDIES



GENERATE FLOODPLAIN MAPS



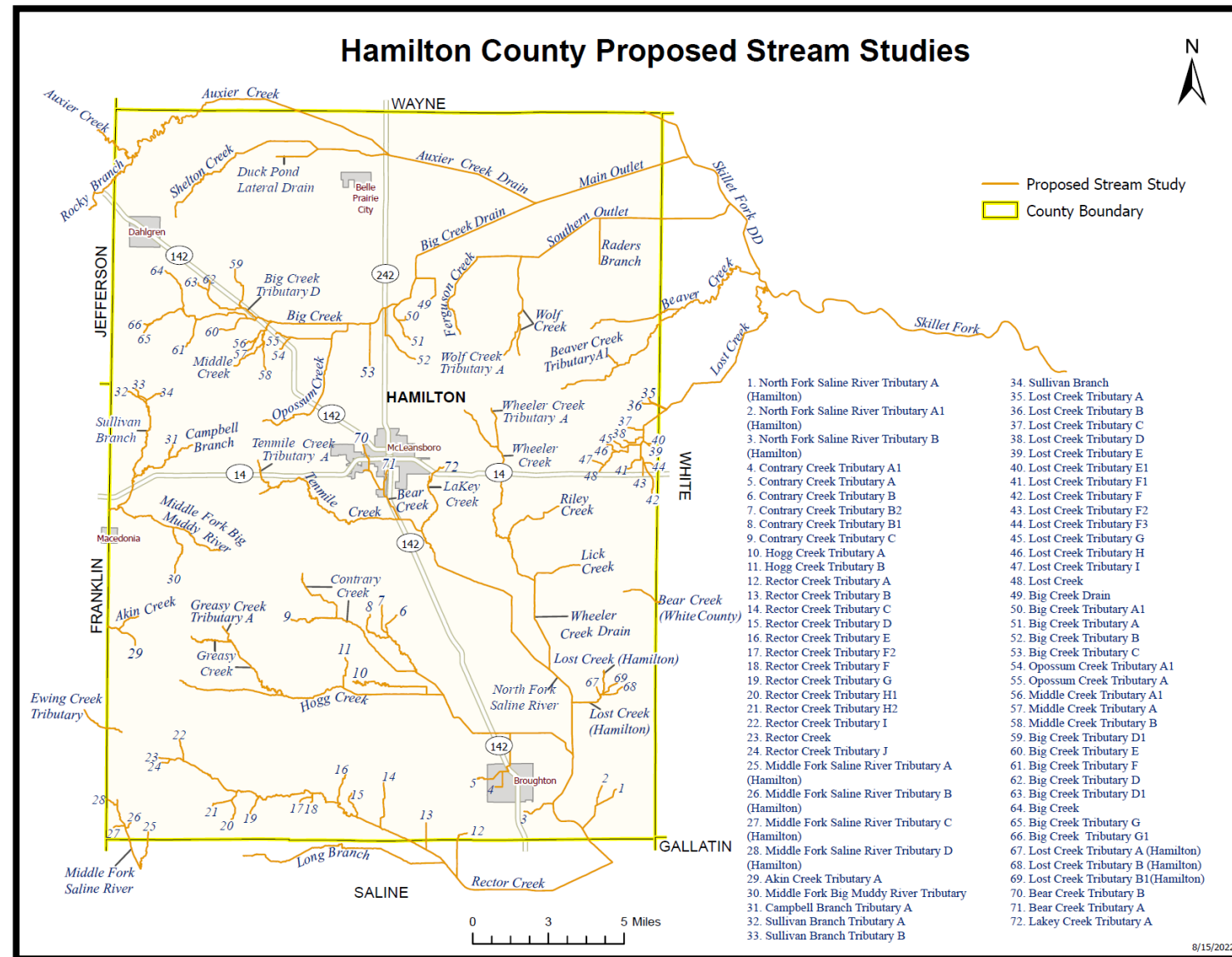
Project Goals and Objectives

Project Objectives

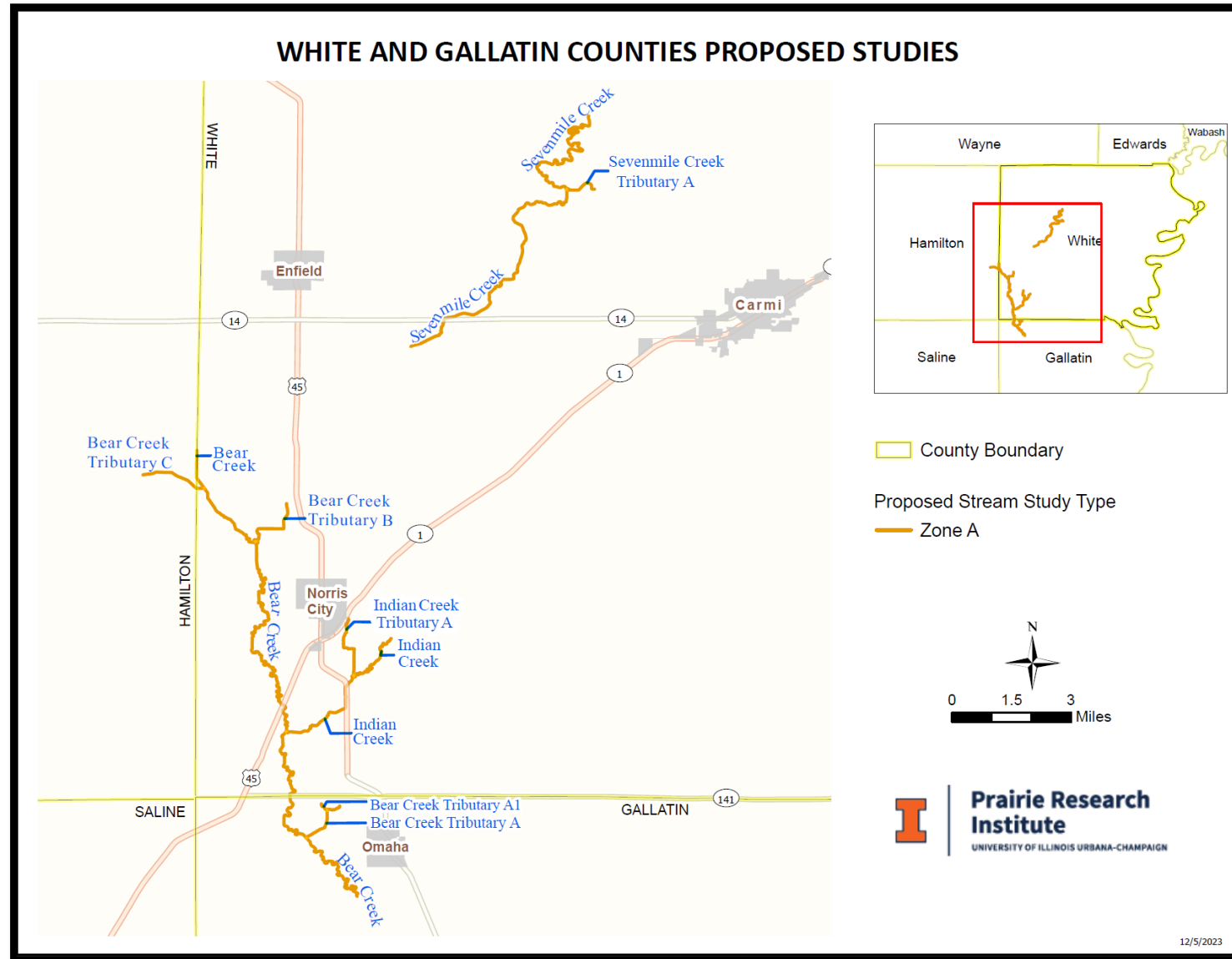
Several project phases comprise the overall project objectives.



Scope: Hamilton and White Counties

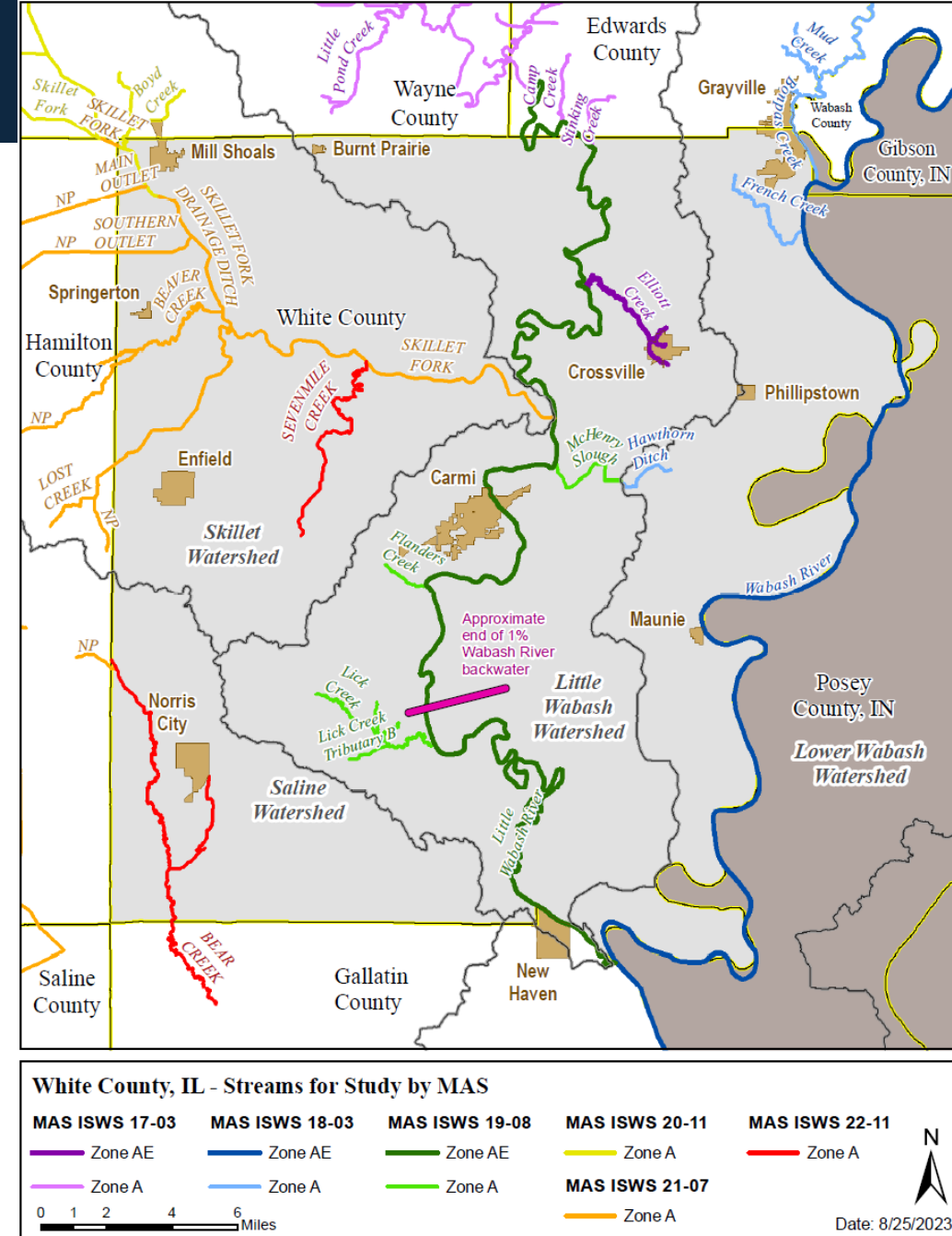


Scope: White and Gallatin Counties



Related Projects

White County contains parts of four HUC-8 watersheds and is included in **six** separate Data Development projects.



Current Effective Map Dates

White County

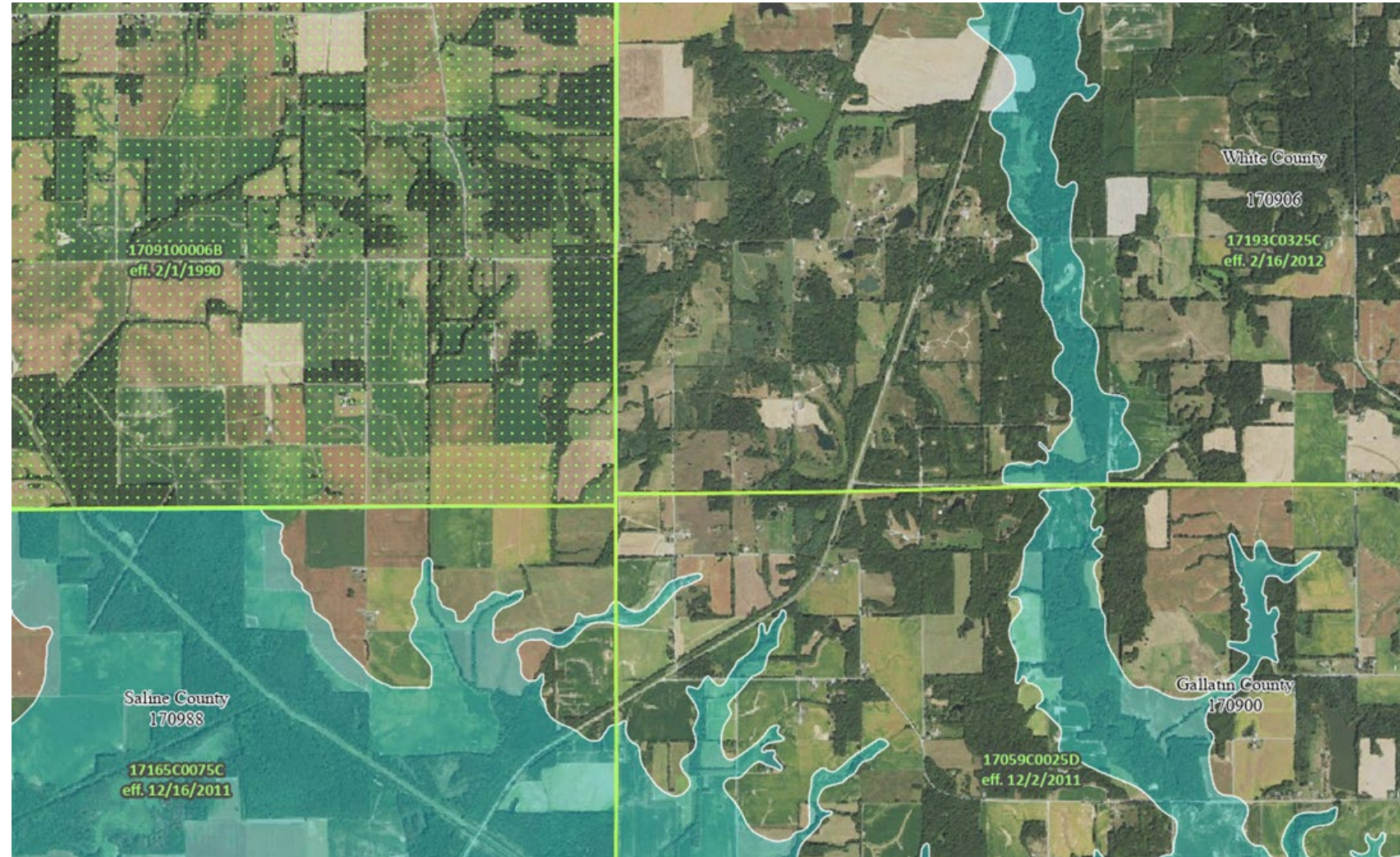
- Digital FIRM published 2/16/2012
- Studies performed in 1984

Hamilton County

- Paper FIRM published 2/1/1990
- Studies performed from 1980s to 1990

Gallatin County

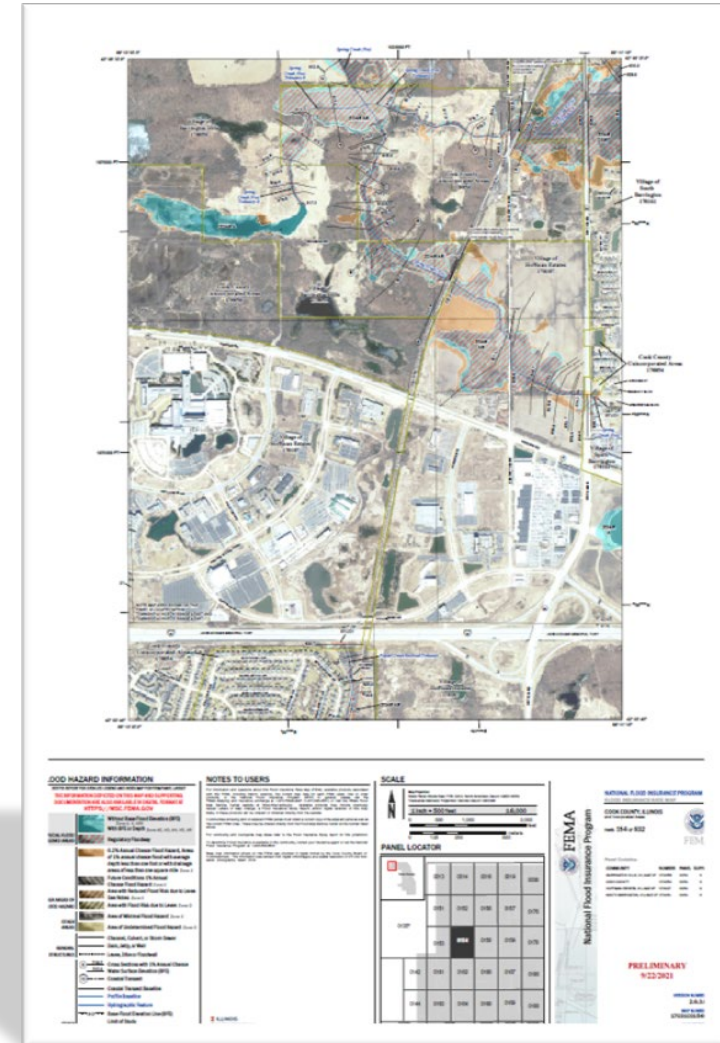
- Digital FIRM published 12/2/2011
- Studies performed between 1980 and 1985



Draft Mapping vs Preliminary Mapping

Example Preliminary FIRM Panel

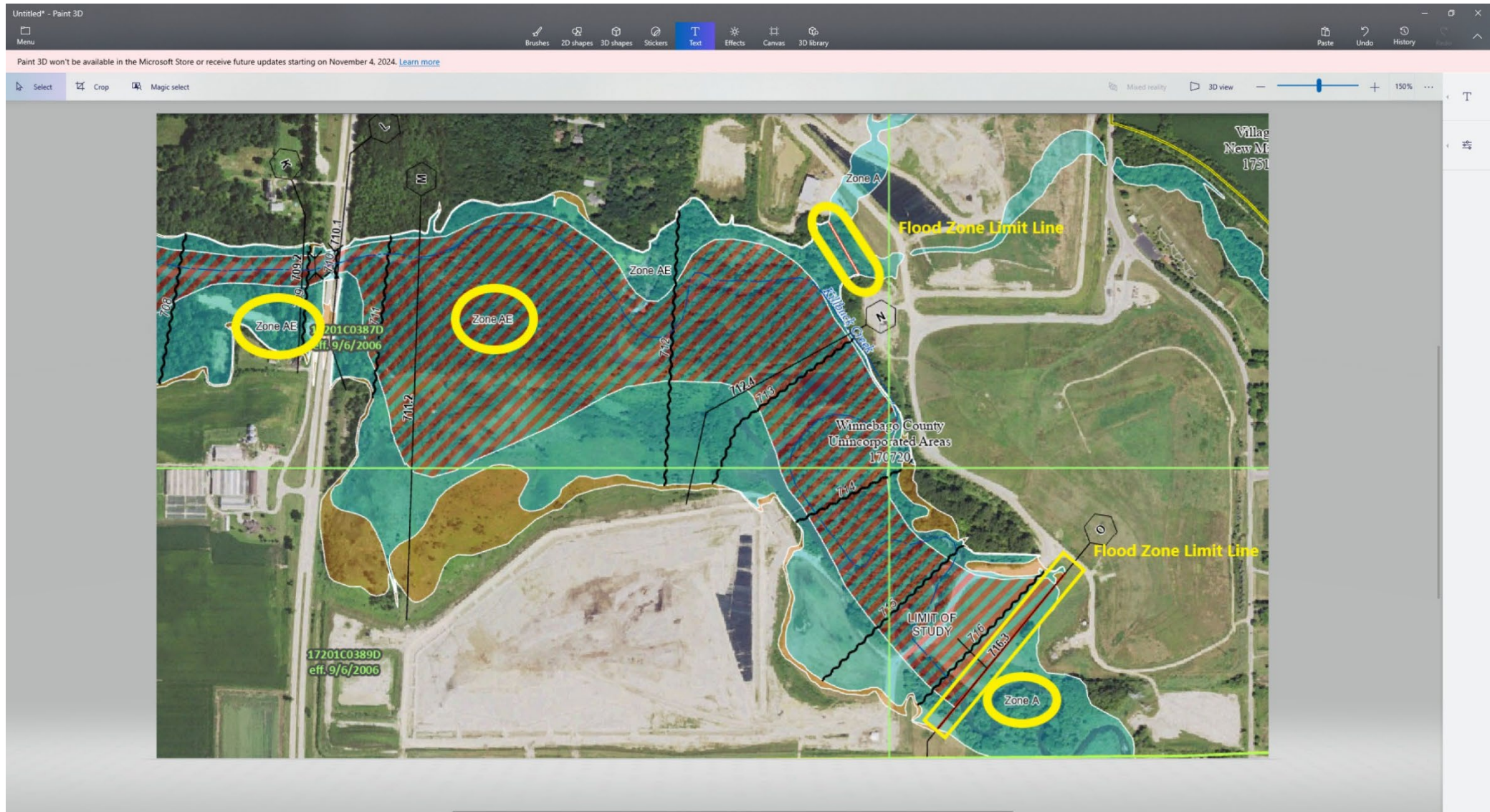
Draft Mapping



Important Definitions

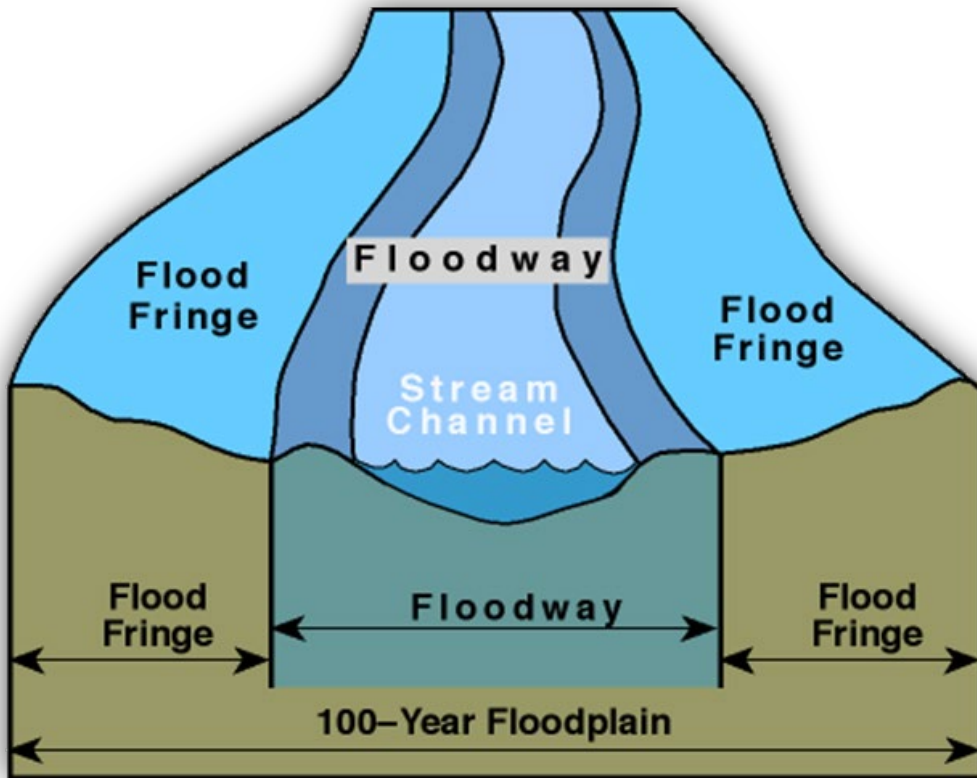
- **Special Flood Hazard Area (SFHA)** – is the area that will be inundated by the flood event having a 1-percent chance of being equaled or exceeded in any given year.
- **Base Flood Elevation (BFE)** – elevation of surface water resulting from a flood that has a 1% chance of equaling or exceeding that level in any given year.
- **Zone A** - Areas subject to inundation by the 1-percent-annual-chance flood event. **Zone A is SFHA with no BFEs shown.**
- **Zone AE** - Areas subject to inundation by the 1-percent-annual-chance flood event. **Zone AE is SFHA with BFEs shown.**

Special Flood Hazard Areas (SFHAs)



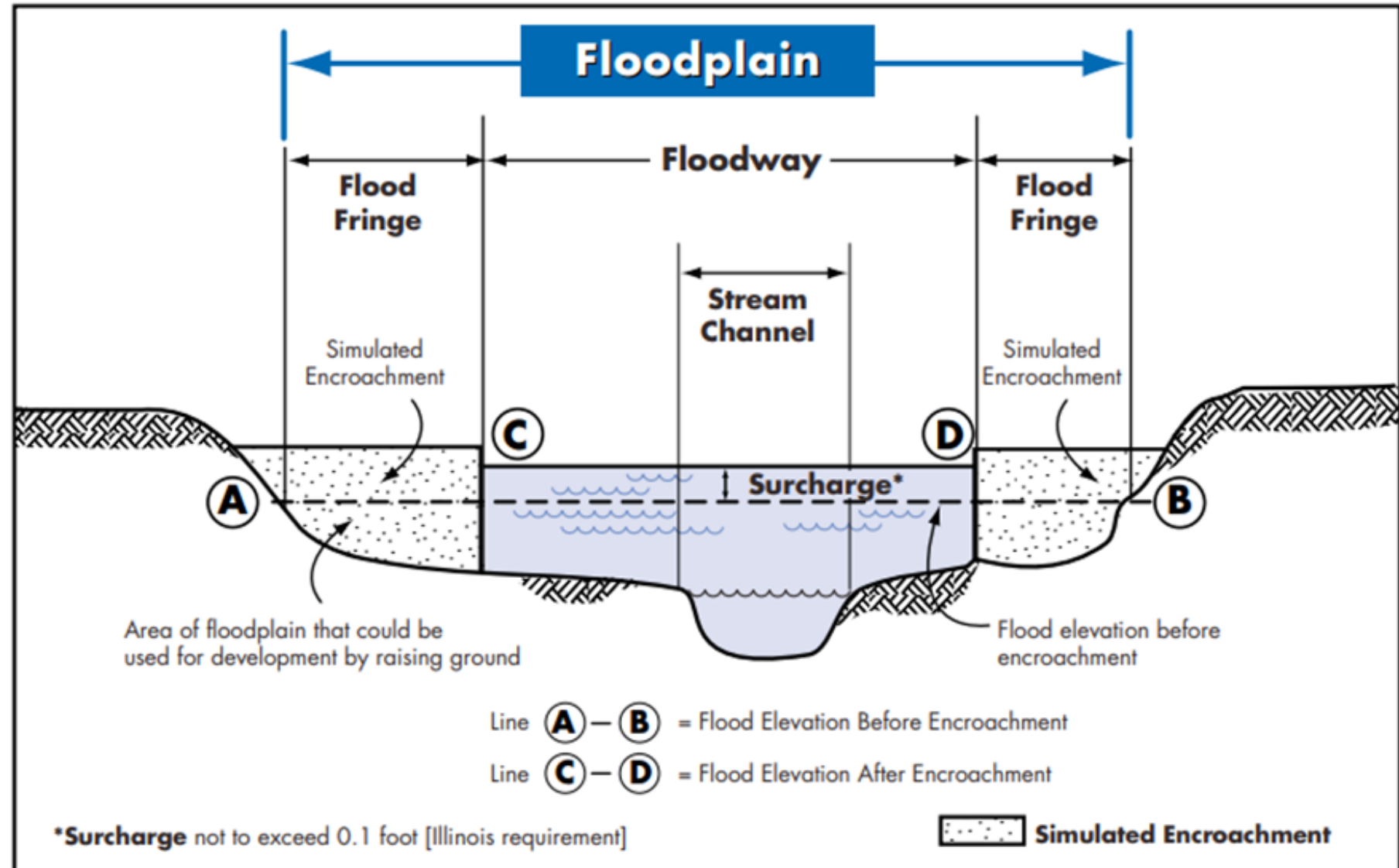
Floodway

The **floodway** is the channel of a stream plus any adjacent floodplain areas that must be kept free of encroachment so that the 1% annual chance flood can be carried without substantial increases in flood heights.



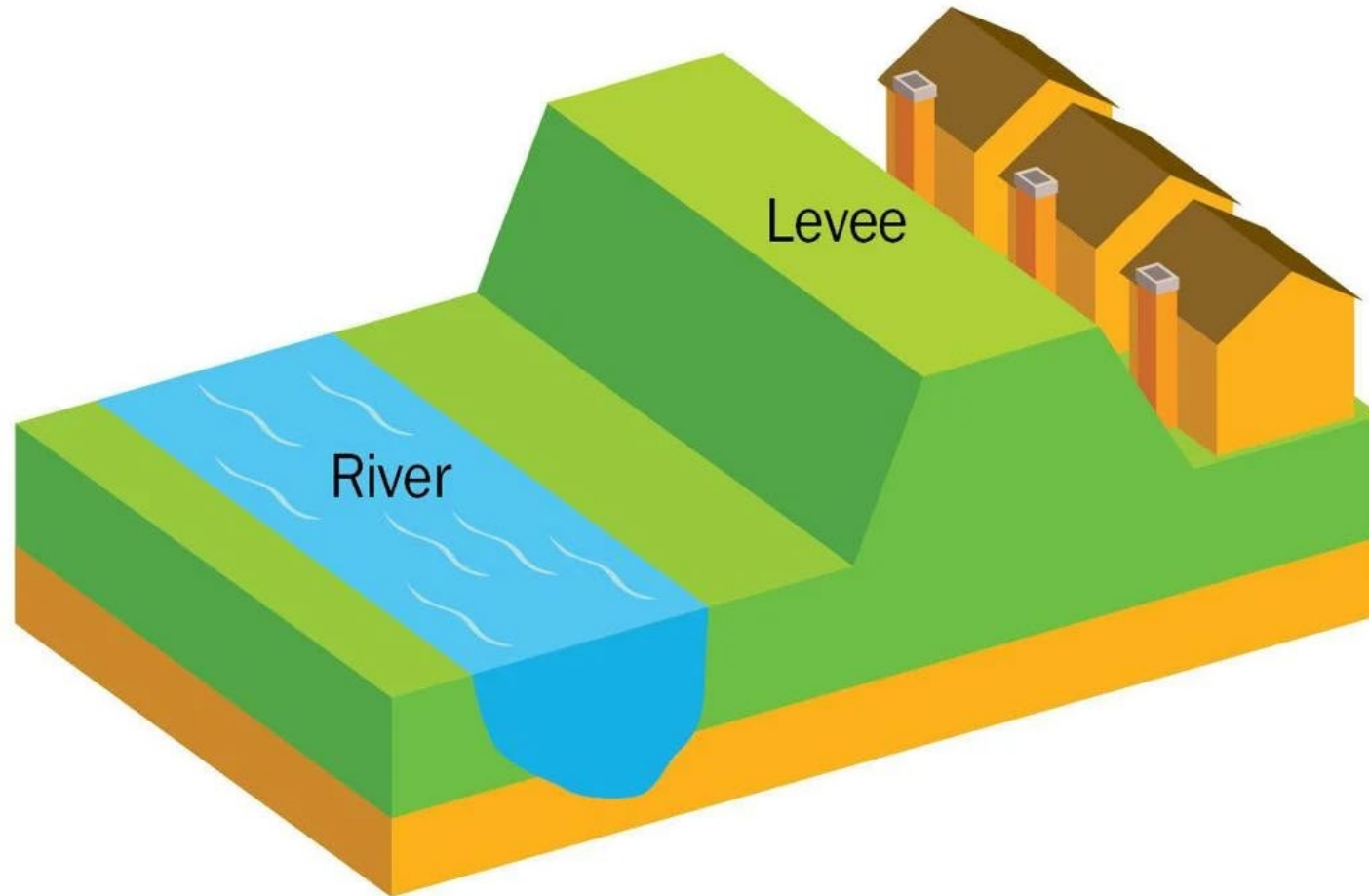
Illinois Floodway Criteria

- 0.1-foot maximum surcharge
- Max 10% reduction is storage volume
- Max 10% increase in flow velocity



Levee-Definition

Per 44 CFR 59.1, a **levee** is a manmade structure, usually an earthen embankment, designed and constructed in accordance with sound engineering practices to contain, control, or divert the flow of water to reduce flood hazards posed by temporary flooding.



Accreditation

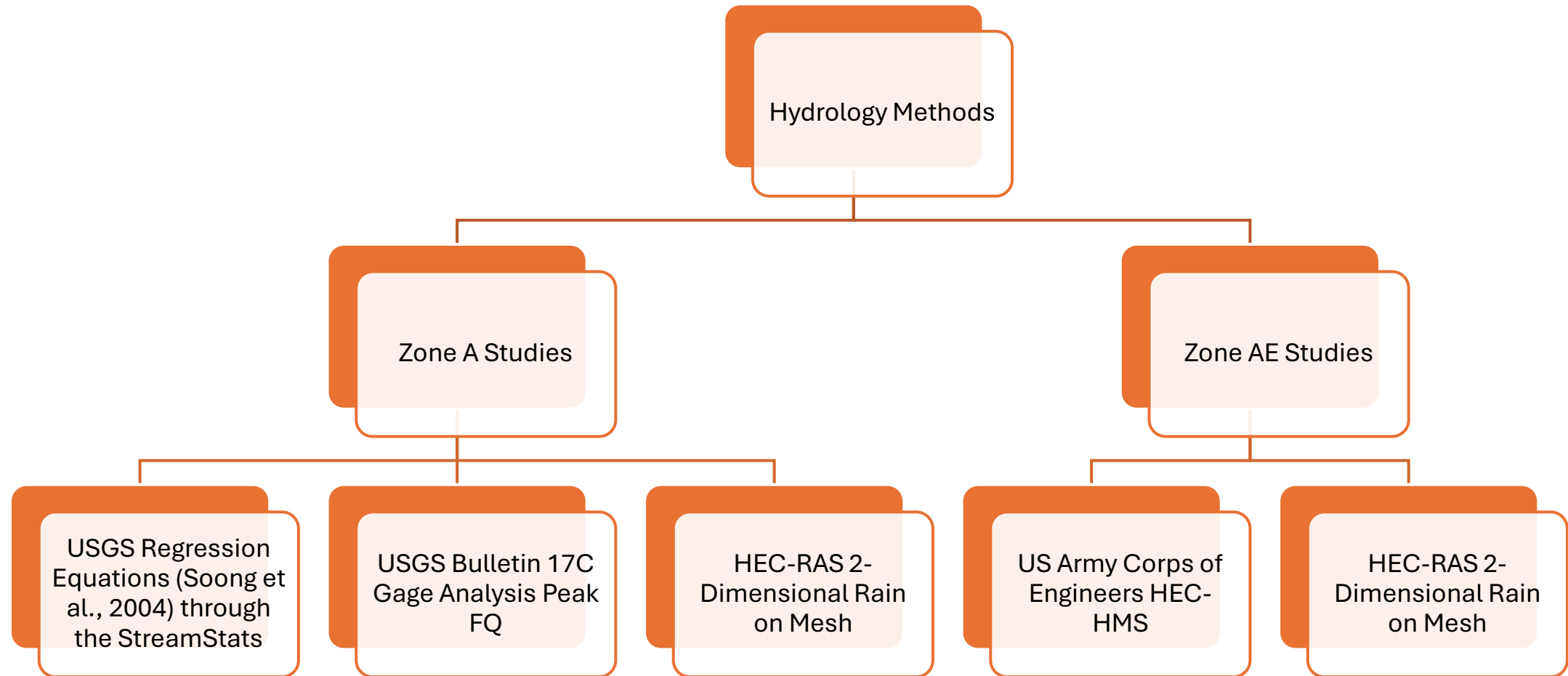
An **Accredited Levee System** is a system that FEMA has determined meets requirements of the NFIP regulations as cited in the Code of Federal Regulations (CFR) at Title 44, Chapter 1, Section 65.10 (44 CFR 65.10) and that FEMA has recognized on a FIRM as reducing the flood hazards posed by a base (1-percent-annual-chance) flood.

This determination is based on the submittal of data and documentation as required by 44 CFR 65.10. The area landward of an accredited levee system is shown as Zone X (shaded) on the FIRM except for areas of residual flooding, such as ponding areas, which are shown as SFHA.



Hydrologic Study Methods

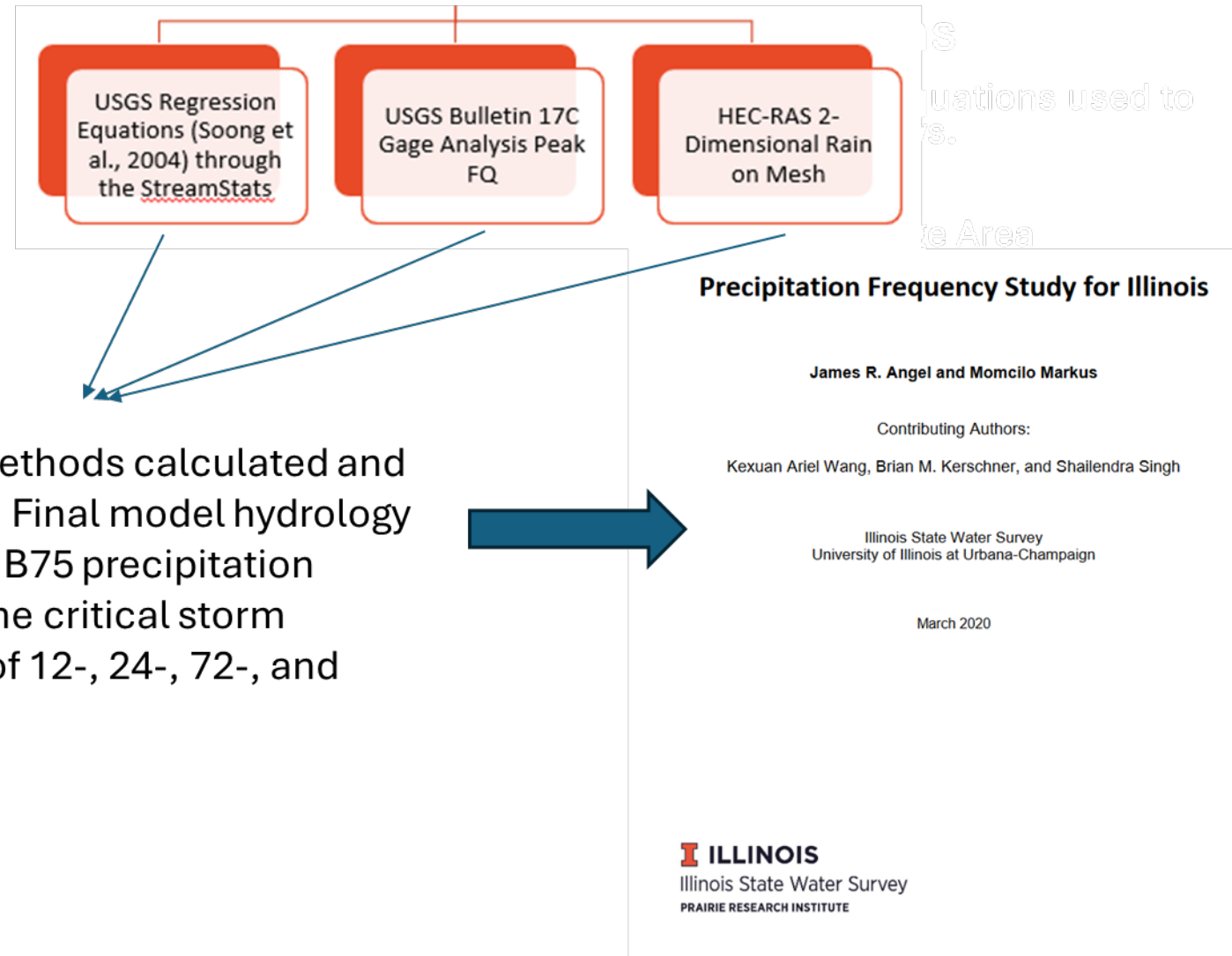
Hydrology Study Methods



Flood Events Studied

10%, 4%, 2%, 1% (base flood), 0.2%, and 1%+ flow frequencies.

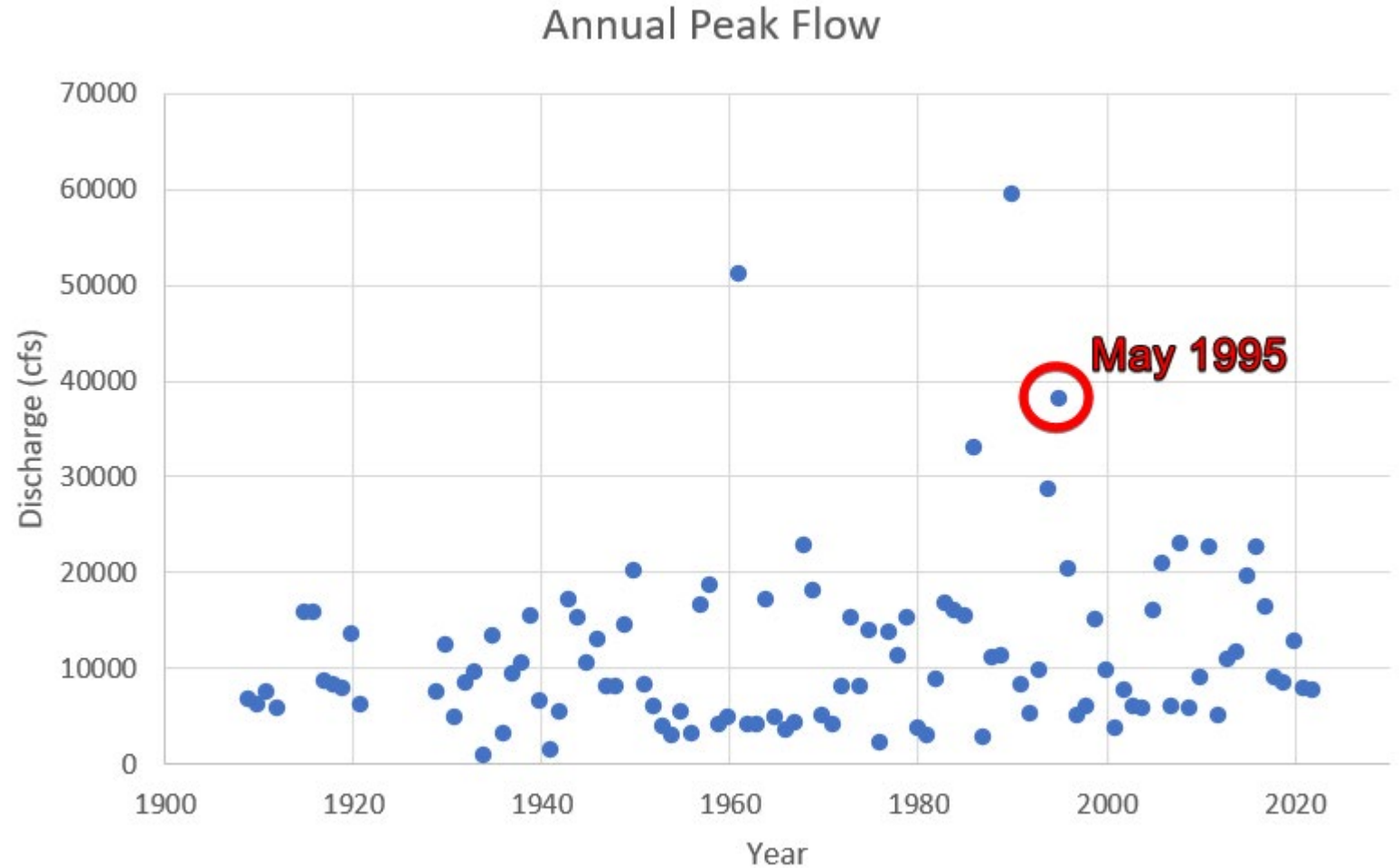
Hydrology Study Methods



All three methods calculated and compared. Final model hydrology uses ISWS B75 precipitation values at the critical storm durations of 12-, 24-, 72-, and 240-hours.

Hydrology Study Methods

HEC-RAS 2D Rain-on-Mesh is the program selected to calculate hydrology values. Using NEXRAD radar data, the model is calibrated to the May 16-19, 1995 storm that saw the third largest USGS gage event on record (1909-2022) for the Skillet Fork at Wayne City, IL.

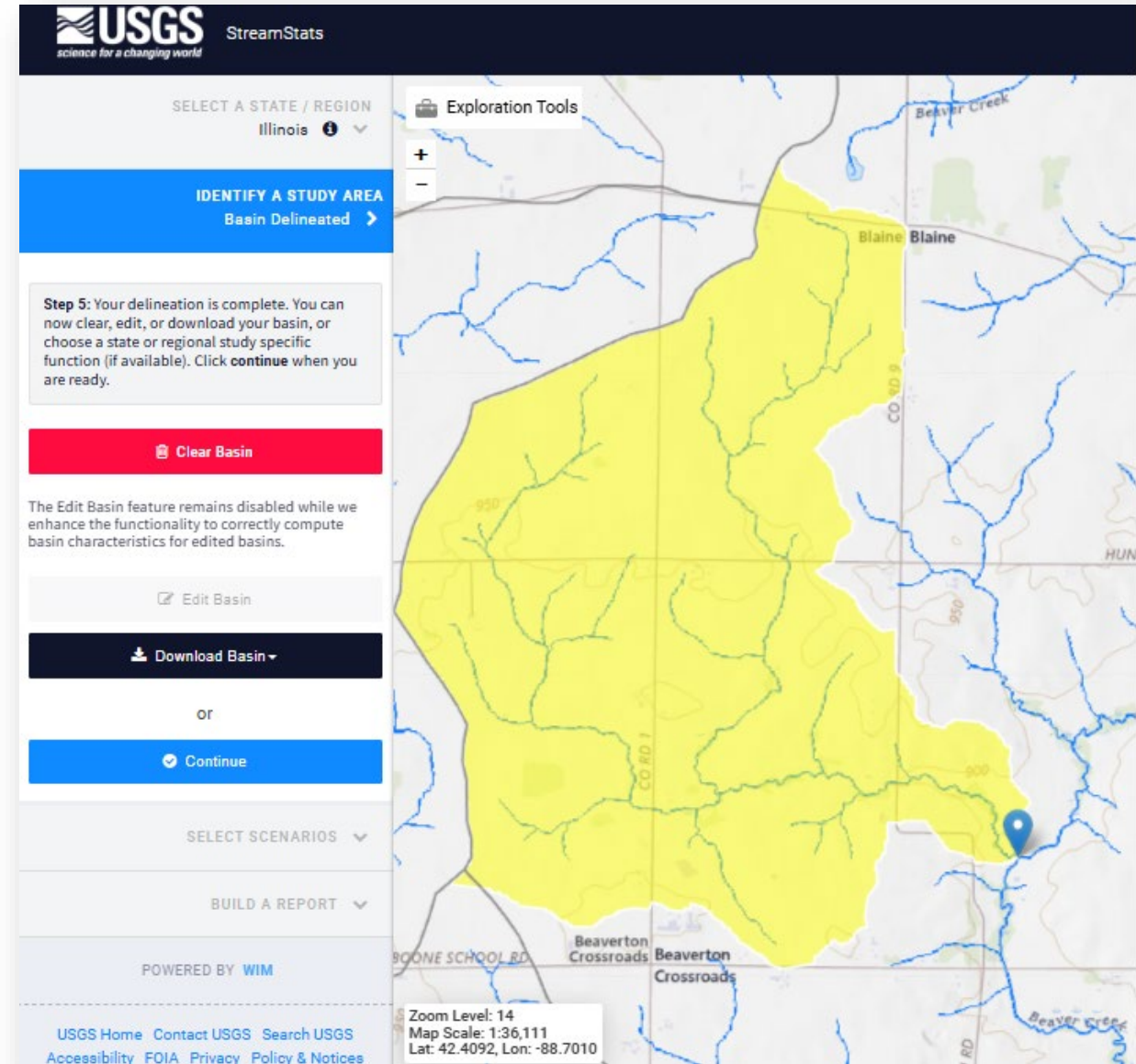


Hydrology Study Methods

- Regional Regression (ICT-23-014) equations developed by USGS estimate peak flow rates for specific frequencies based on watershed basin characteristics
- Characteristics include:
 - Drainage area
 - Developed land fraction
 - Poorly drained soil fraction
 - Relative relief
- Used for Zone A studies only

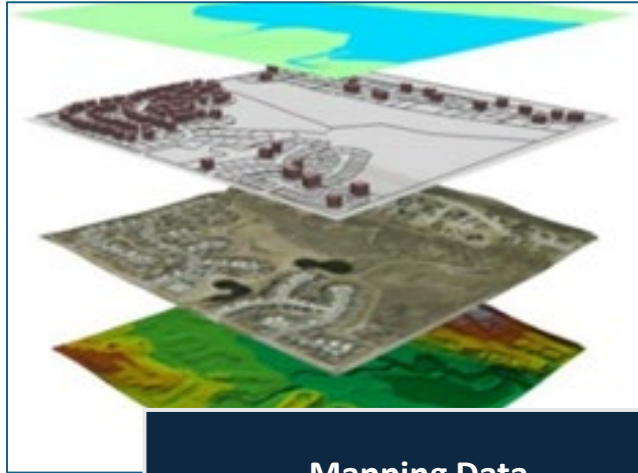
Flood Events Studied

10%, 4%, 2%, 1% (base flood), 0.2%, and 1%+ flow frequencies.

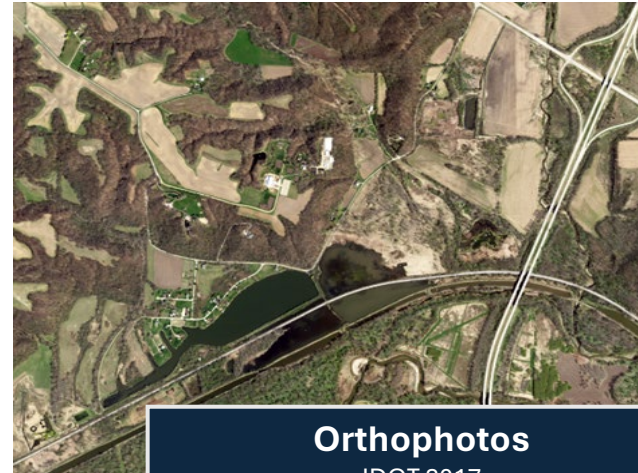


Hydraulic Study Methods

Mapping Data

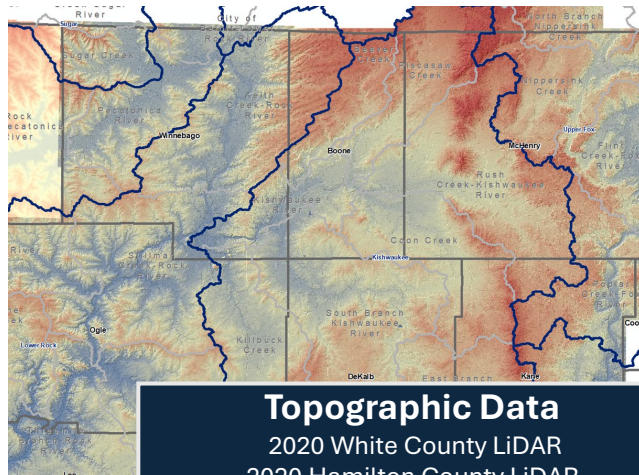


Mapping Data



Orthophotos

IDOT 2017
USGS National Map



Topographic Data

2020 White County LiDAR
2020 Hamilton County LiDAR
2020 Wayne County LiDAR



NRCS Land Cover

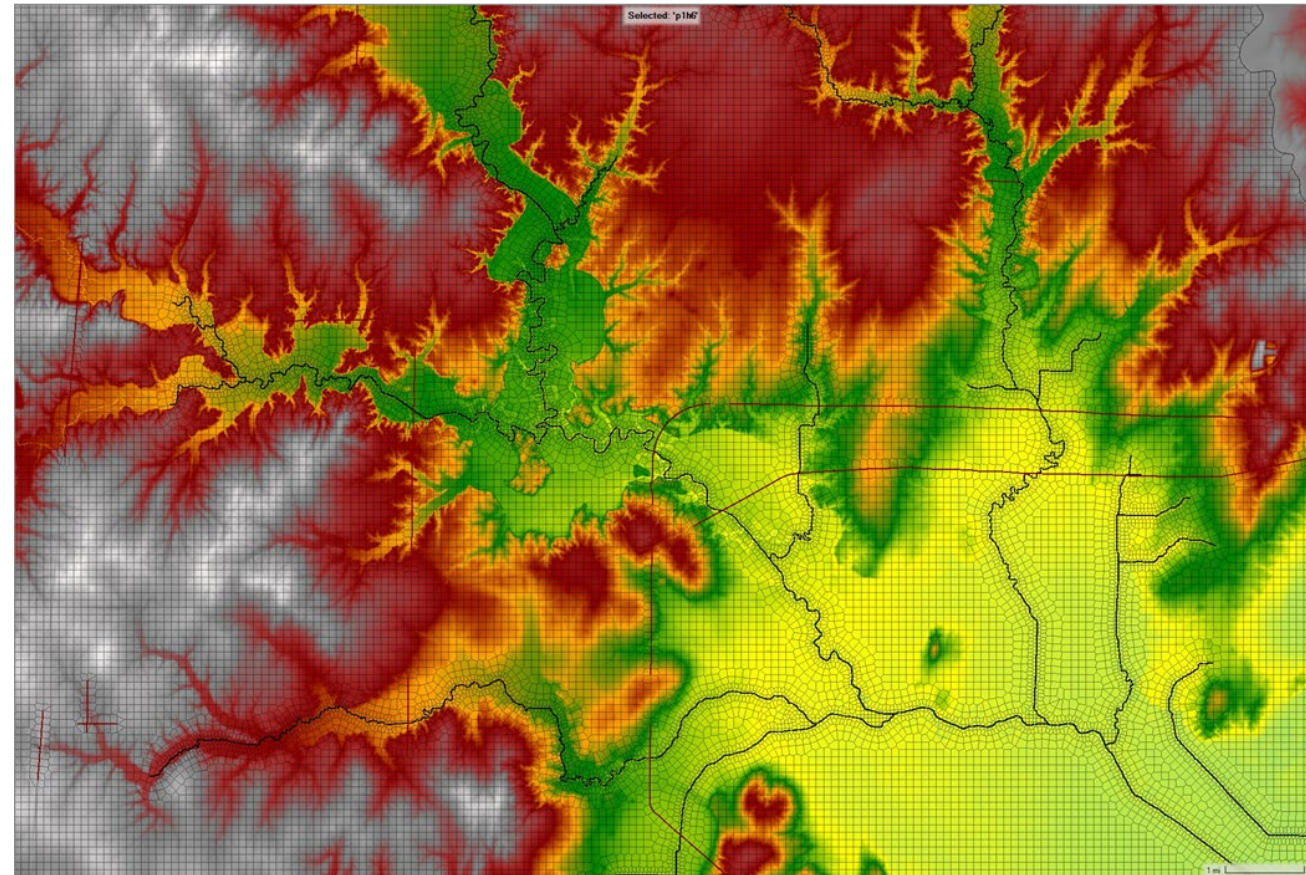
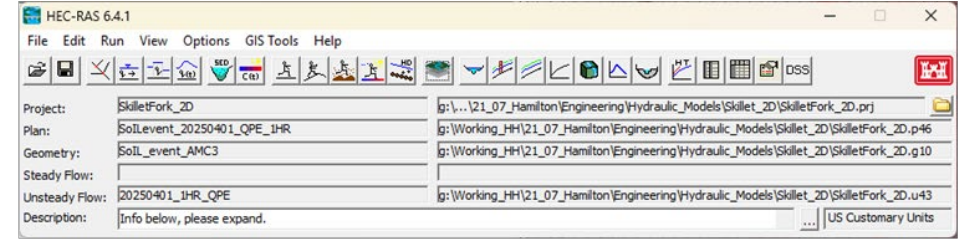
Soils and Land Cover

HEC-RAS 2D Modeling

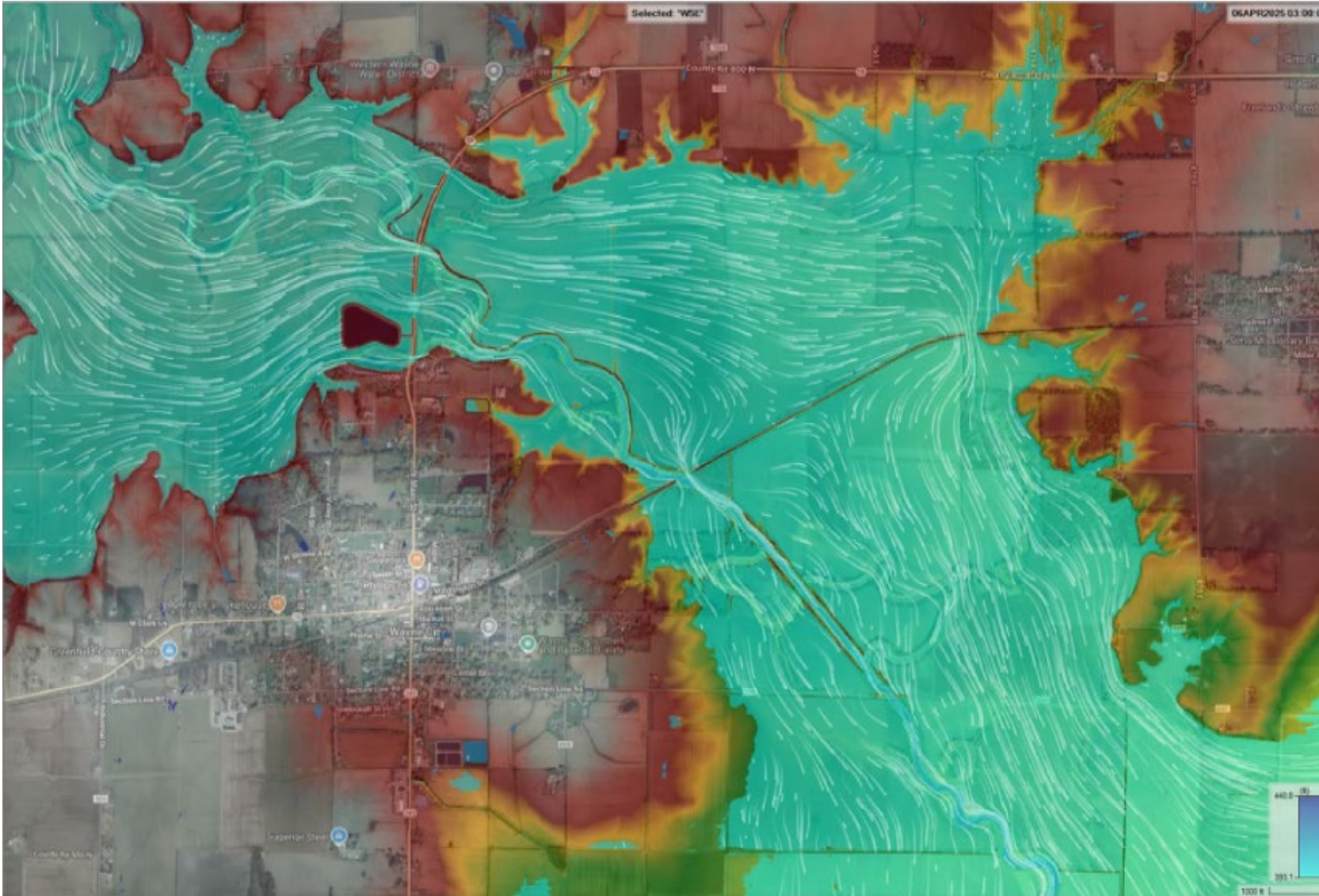
HEC-RAS v6.4.1 2D rain-on-mesh

Details include:

- Breaklines along major road elevations
- Terrain cuts for hydro connectivity
- Refinement areas of smaller mesh cells
- Manning's n calibration

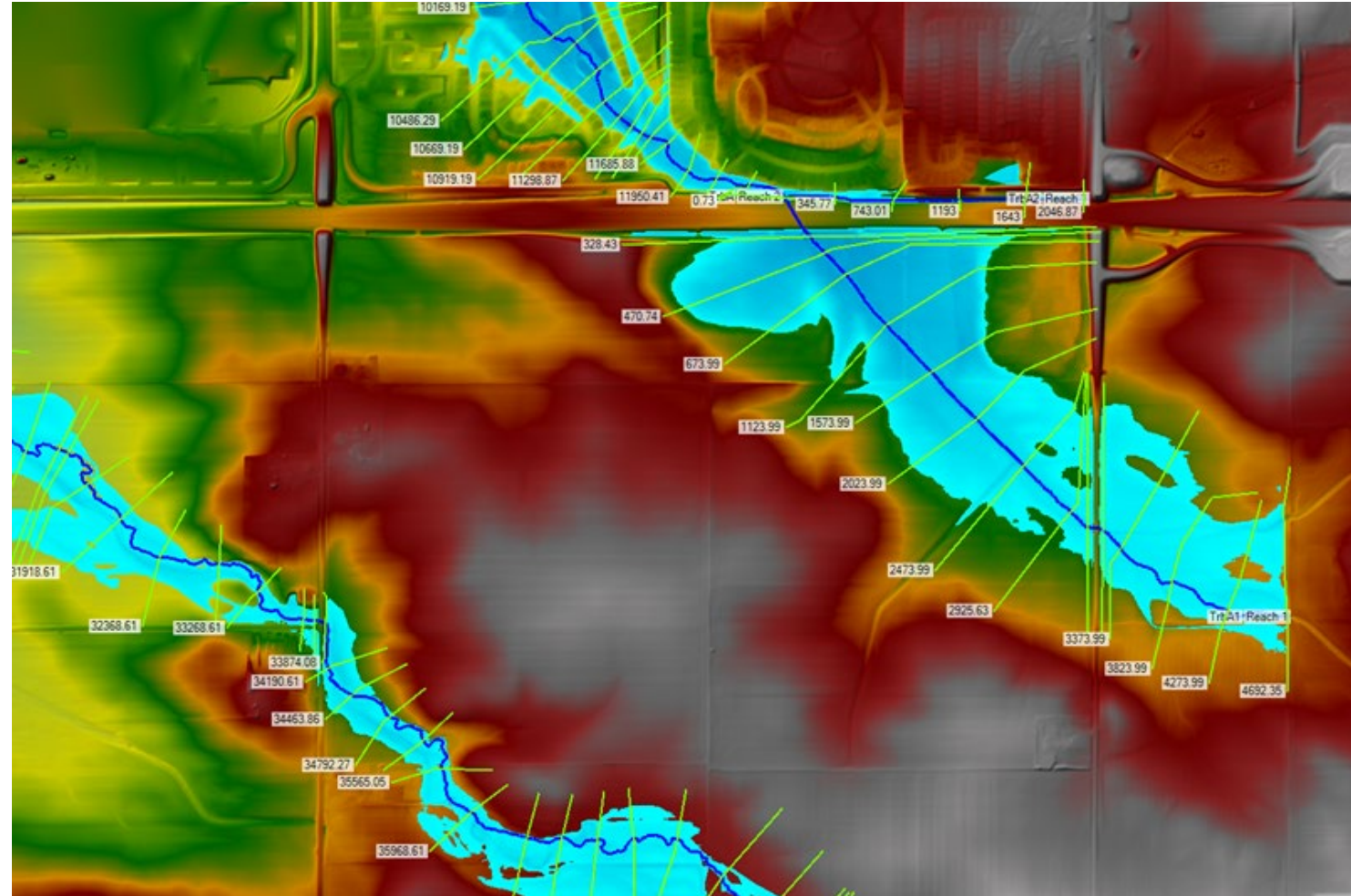


Hydraulics



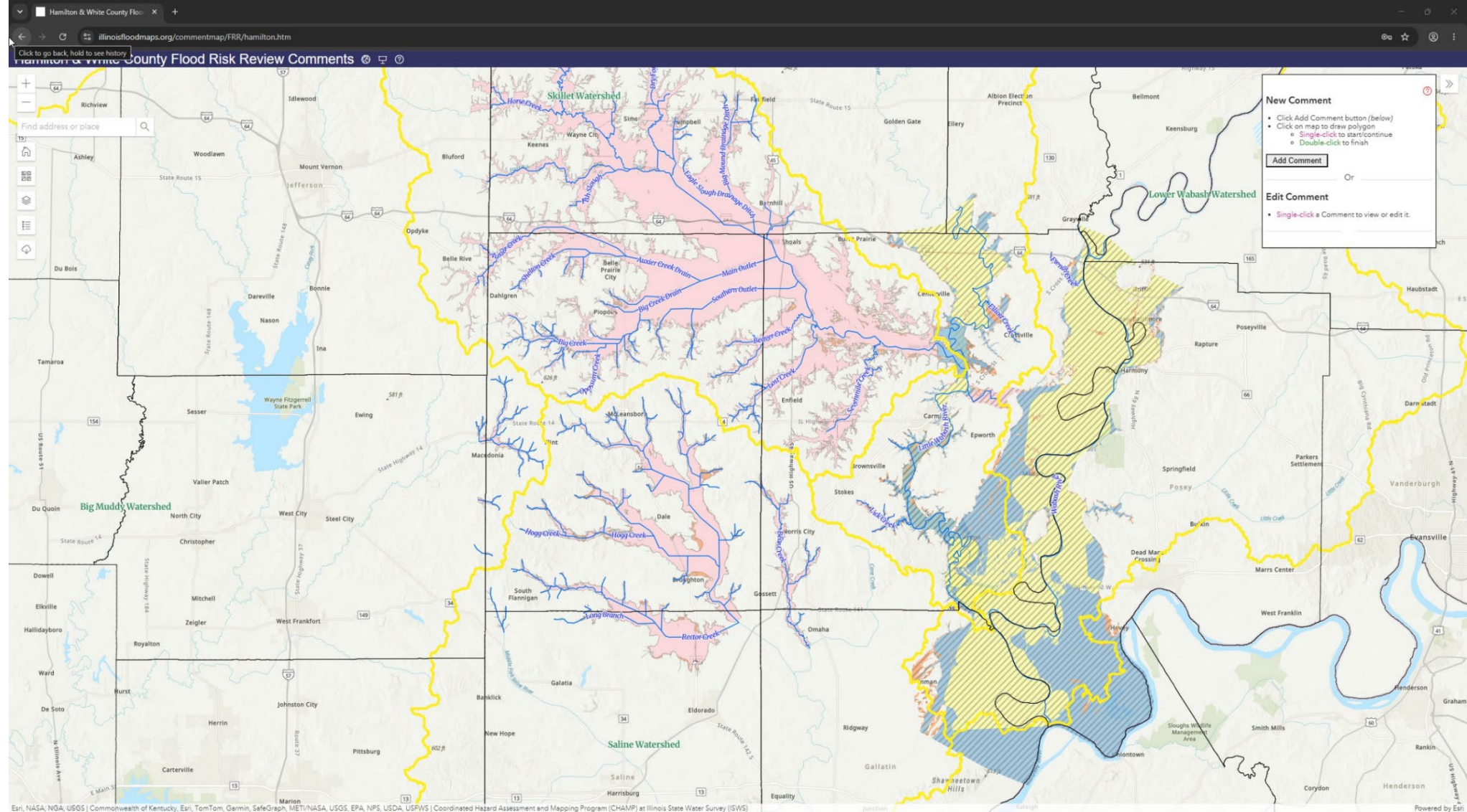
HEC-RAS 1D Modeling

- Modeling performed using U.S. Army Corps of Engineers software HEC-RAS v6.3.1
- Models use peak flow rates from hydrology analysis to compute water surface elevations
- Water surface elevations used to generate floodplain delineations

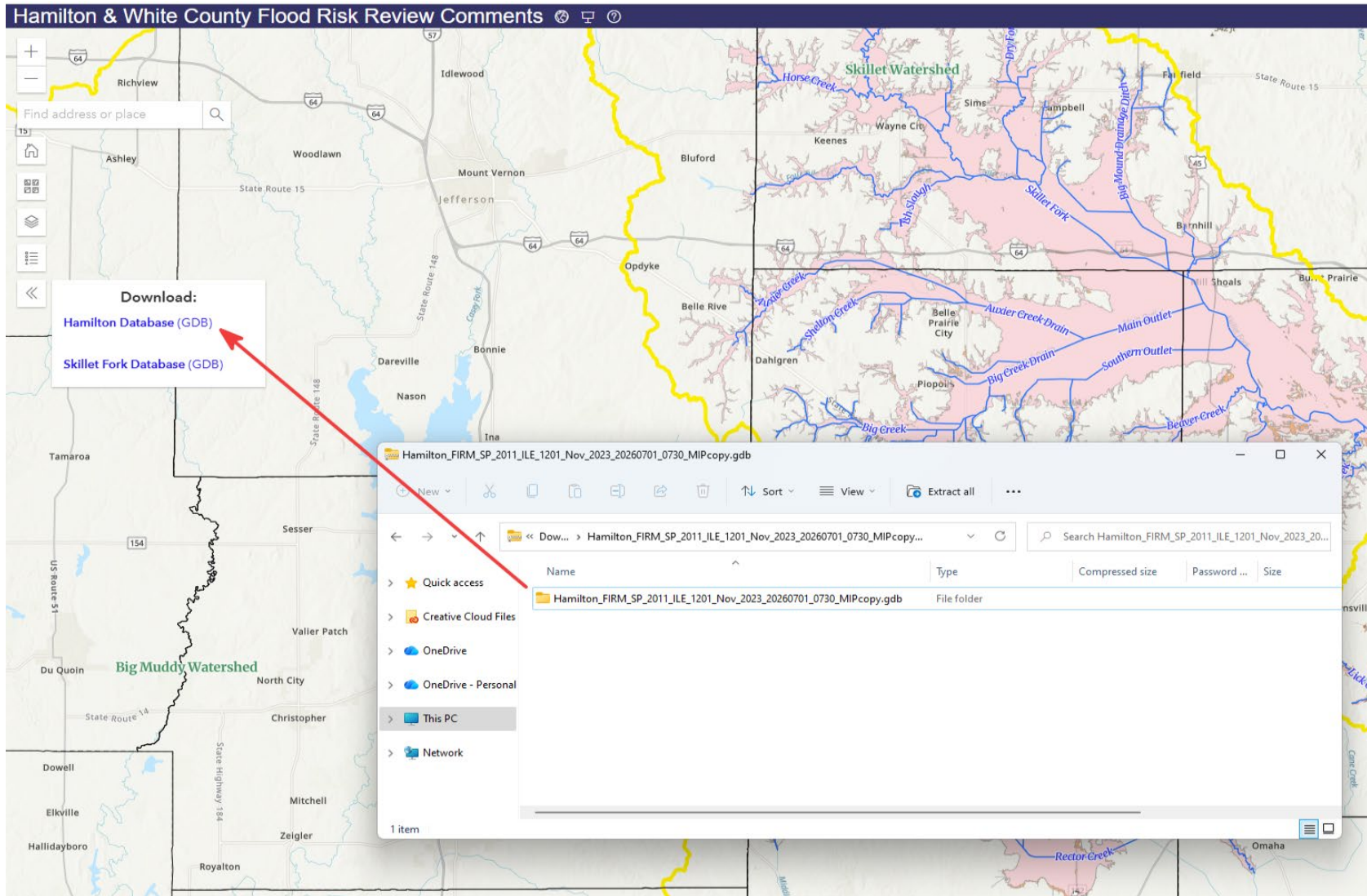


Draft Floodplain Results

Digital Draft Floodplains



Draft FIRM Database

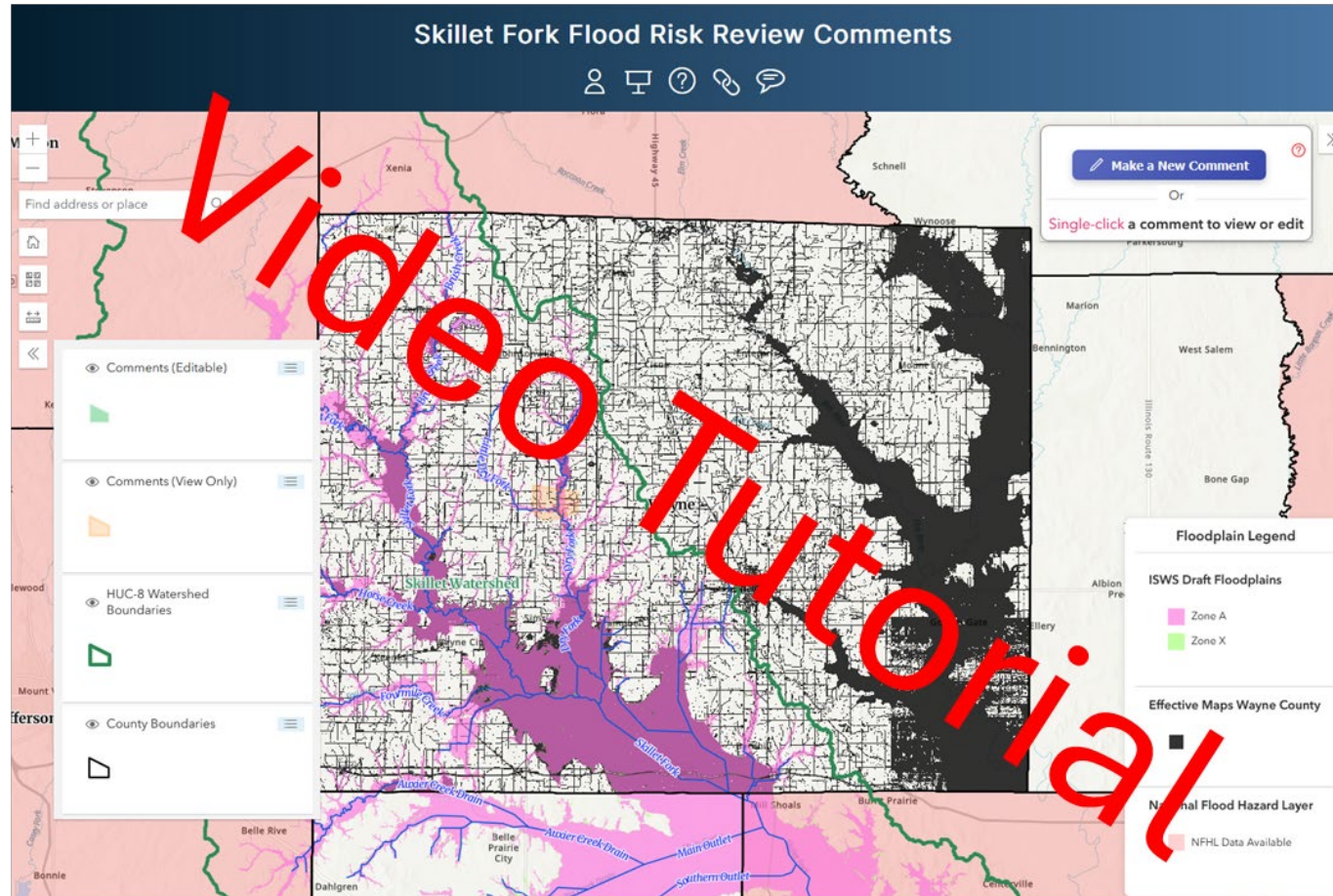


30-Day Review



WebMap

WebMap Comment Feature



<https://go.isws.illinois.edu/hamilton>

username: watershed

password: illinoisfloods!123

Communication and Next Steps

Communication Plan

- Project Initiation Community Coordination (PICC) -7/26/2022 and/or 12/5/2023
- Proposed Engineering Methods Notification (SID 620) letters – 8/31/2022 and/or 12/7/2023
- **Flood Risk Review Meeting (Today)**
- 30- Day Comment Period, starts today and ends 8/30/2026
- **Data Submission Notification (FEMA SID621) Letter (Today)**
- 30- Day Comment Period, starts today and ends 8/30/2026

FEMA SID 621 Letter

- Mailed to the community's CEO
- Informs the communities that data collection and analysis (Data Development) phase of the project is concluding, and the FIRM database is being validated by FEMA
- Gives Communities 30 days to comment on the data in the FIRM database 30-Day Comment Period starts today

Project Schedule

~~• Project Initiation and Community Coordination meetings (7/26/2022, and/or 12/5/2023)~~

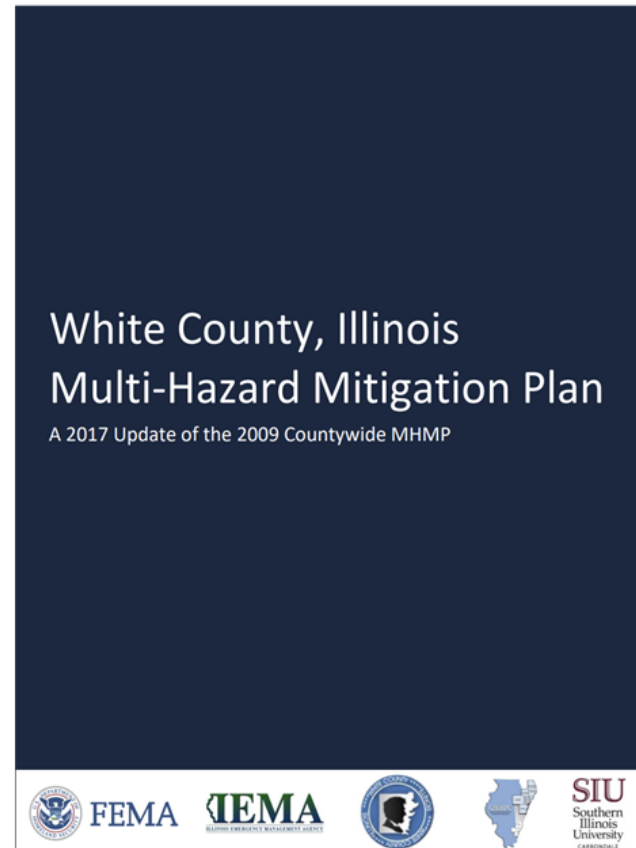
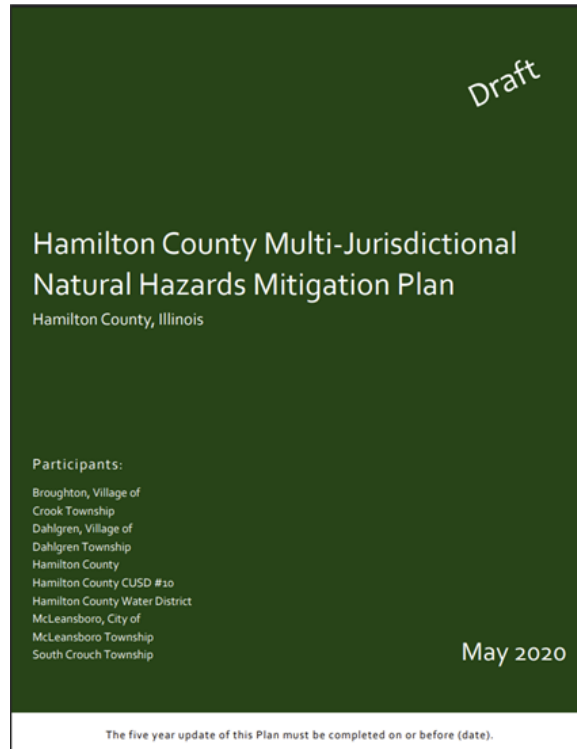
- **Flood Risk Review Meeting (today);**
- **Comment period ending 8/30/2026;**
- **Draft FIRM Database Available for Download;**
- **Comment period ending 8/30/2026;**

Complete draft FIRM database to conclude data development phase of the project phase of project

Digital Flood Insurance Rate Map Project to follow pending conclusion of data development

Hazard Mitigation and NFIP

Hazard Mitigation



Hazard Mitigation Plan Gallatin County, Illinois

Adoption Date: -- _____ --

Primary Point of Contact

Steve Galt
Gallatin County Emergency Services & Disaster Agency Director
Gallatin County Emergency Management
Gallatin County Courthouse
Shawneetown, IL 62984
Office Telephone: (618) 269-3137
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Secondary Point of Contact

Randy Drone
County Board Chairman
County of Gallatin
Gallatin County Courthouse
Office Telephone: (618) 269-3137

Prepared by: Southeastern Illinois Regional Planning & Development Commission
230 West Poplar Street
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(618) 252-7463

and

Department of Geology
Southern Illinois University
Carbondale, Illinois 62901

and

The Polis Center
1200 Waterway Boulevard, Suite 100
Indianapolis, IN 46202
317-274-2455

Hamilton County

2021-2026

White County

2024-2029

Gallatin County

2019-2024

National Flood Insurance Program (NFIP)



The NFIP is a voluntary program based on a mutual agreement between the Federal government and a community.

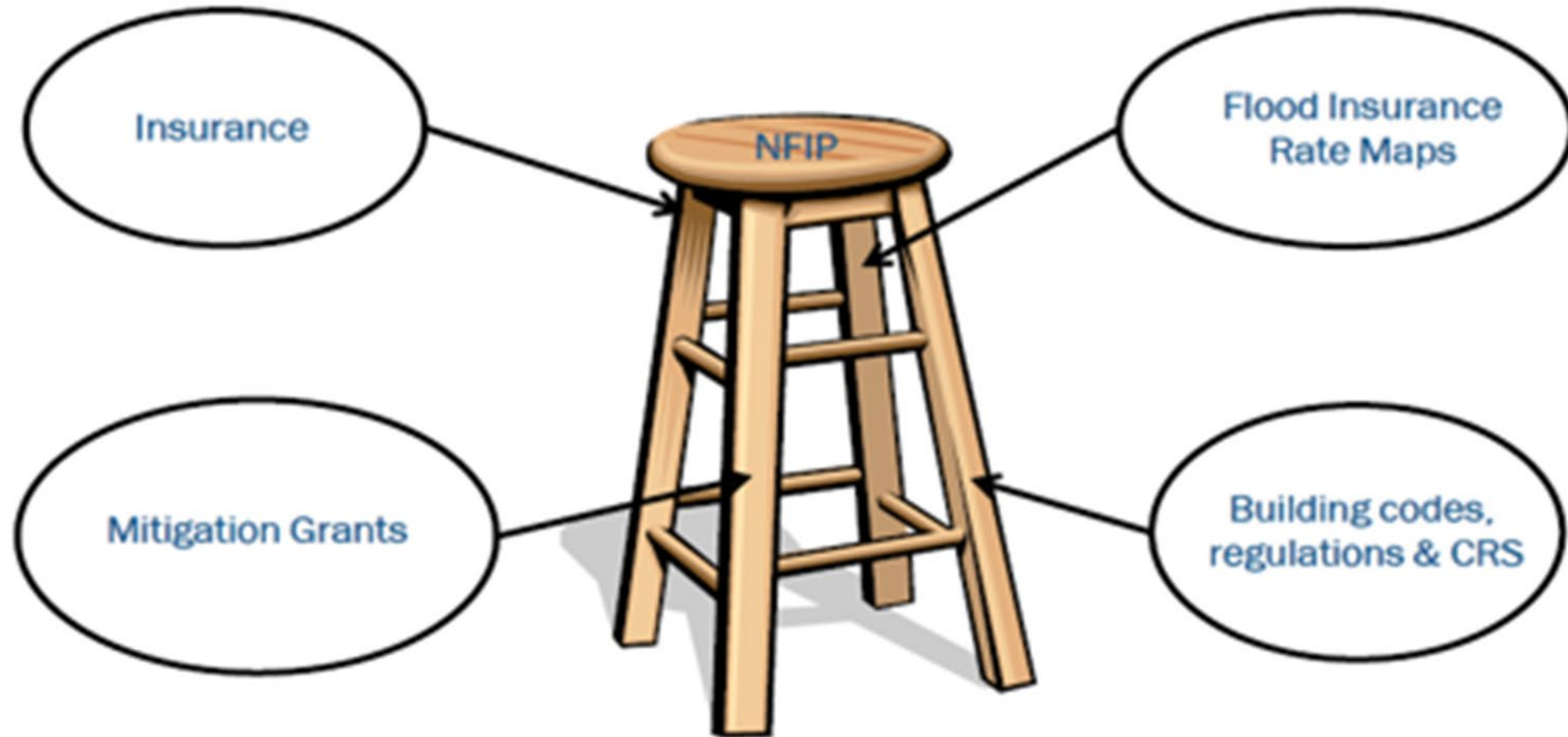


In exchange for adopting and enforcing a floodplain management ordinance, Federally-backed flood insurance is made available to property owners throughout the community.



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Steve Keenan, Downstate FP Coordinator steve.keenan@illinois.gov
Michelle Staff, NE FP Coordinator michelle.staff@illinois.gov

National Flood Insurance Program (NFIP)



National Flood Insurance Program (NFIP)

FLOODSMART.GOV

An official website of the United States government [Here's how you know](#) Languages

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Flooding Happens Everywhere

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Get started today.

Get a Quote

Start a Claim

Get a Quote

HOW to be prepared? +

WHAT is flood insurance? +

National Flood Insurance Program (NFIP)

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National Flood Insurance Program (NFIP)

IDNR-OWR Floodplain Management Program

- **State Coordination**: Acting as the liaison between FEMA and local communities.
- **Technical Support**: Providing expertise on flood hazard mapping, engineering, and building codes to local officials.
- **Regulatory Oversight**: Ensuring communities adopt and enforce necessary floodplain management regulations, such as elevating structures and restricting development in floodways.
- **Training & Education**: Educating local officials and the public on flood risks, insurance requirements, and proper construction techniques.
- **Policy Implementation**: Assisting in the adoption of higher, more resilient standards than the minimum NFIP requirements.

Community Participation

Community Impact

Why New Floodplain Maps Can Affect a Community

Can affect which residents are required to carry flood insurance.

Depicts areas of communities which are subject to floodplain management regulations.

Can affect community planning, and flood mitigation.

Community Participation

- Now is the time to review the draft floodplain mapping for your community
- Who is affected?
- Is the mapping reasonable and/or consistent with your community's experience with flooding?
- Make comments if something does not look right or make sense.
- Provide data or information if it could support a change in the draft mapping
- Ask questions.

Post-Meeting Survey

Flood Risk Review Community Review Checklist

1. Are there areas where significant changes in floodplains affects residents/businesses? If so, where?
2. Are there areas where significant changes in floodplains affects community development planning? If so, where?
3. Are there areas where the draft floodplain mapping appears incorrect or inconsistent? If so, where?
4. Are there areas where newer terrain or local flood studies data could affect the draft floodplain mapping? If so, where?



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Additional Contacts

FEMA R5 Project Engineer: John Wethington, P.E.
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FEMA R5 Flood Insurance Liaison: James Sink
james.sink@fema.dhs.gov

Illinois NFIP Coordinator: Erin C. Conley, CFM
erin.c.conley@Illinois.gov – (217) 782-4428

IEMA's Hazard Mitigation Section Manager: Zachary Krug
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Questions?