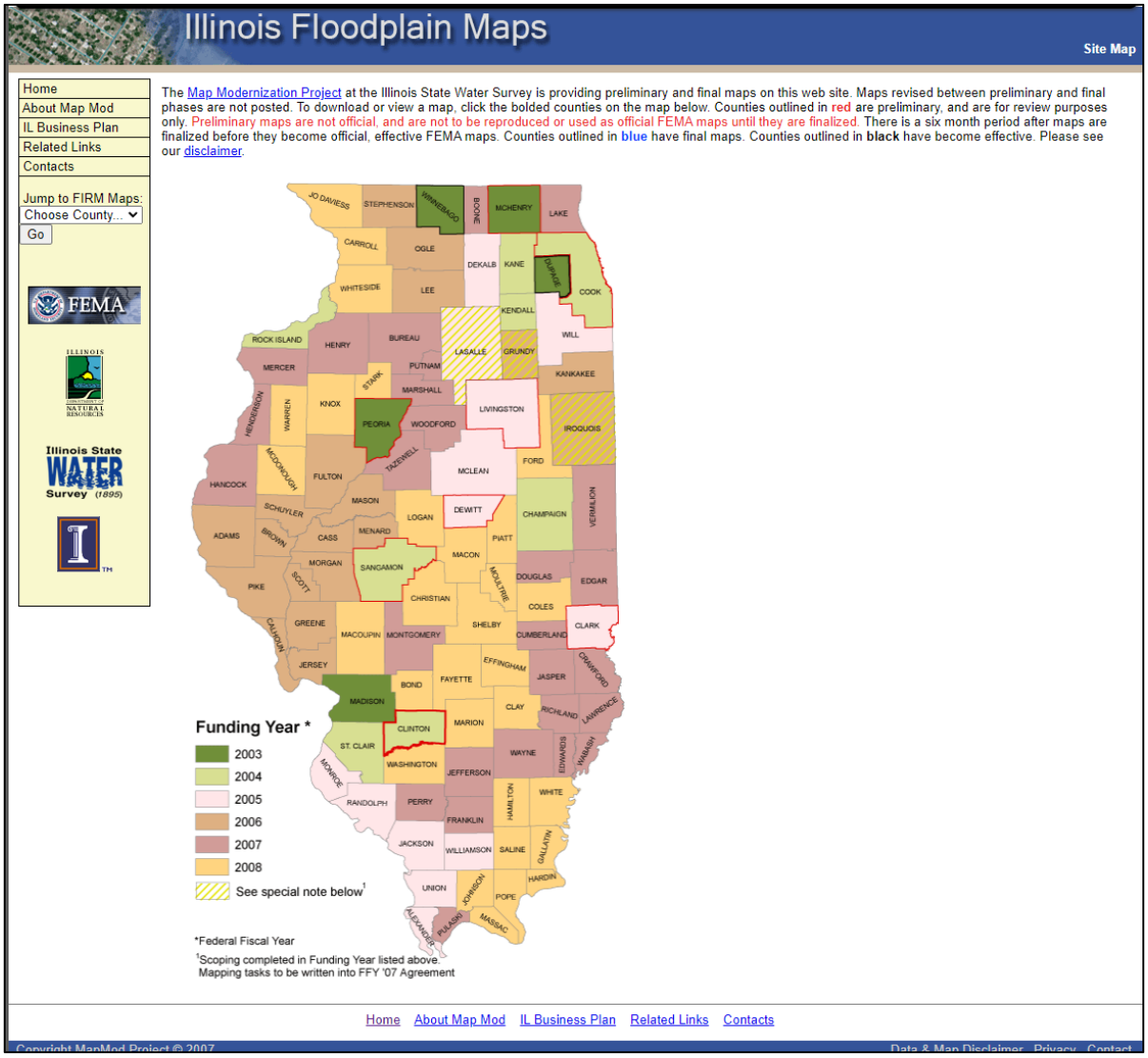
IllinoisFloodMaps.org - New and Improved!

Sarah Milton, GISP, CFM
Zoe Zaloudek, GISP, CFM

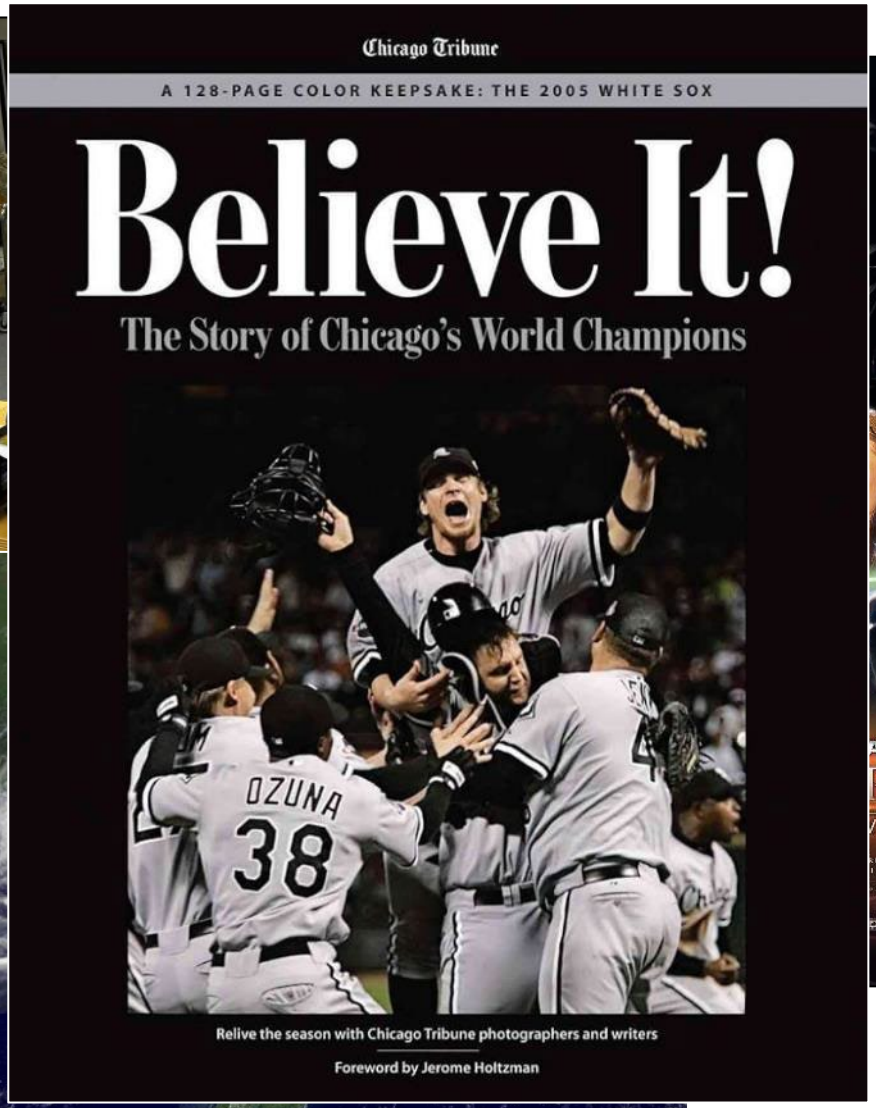
IAFSM 2024 Annual Conference
3/12/2024

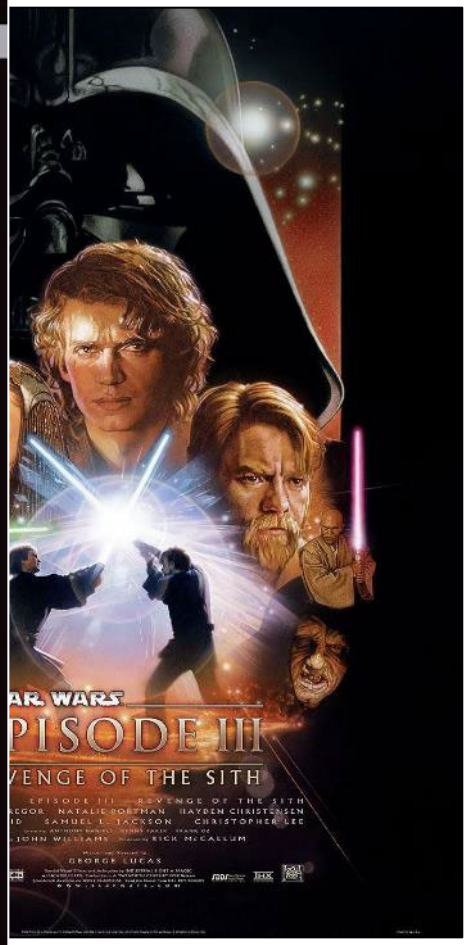
ILLINOIS
Illinois State Water Survey
PRAIRIE RESEARCH INSTITUTE

IllinoisFloodMaps.org - 2005

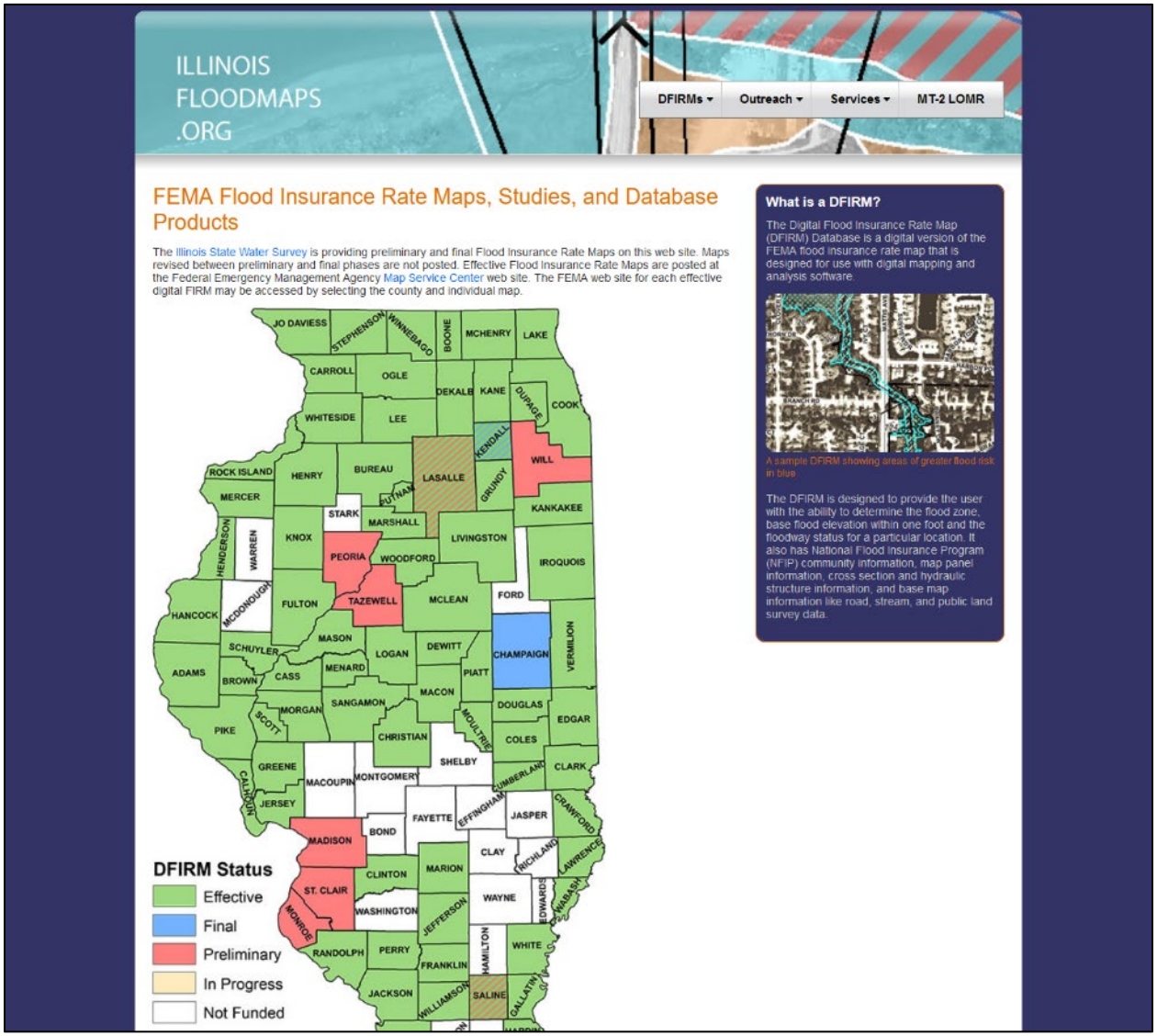


Other events of 2005

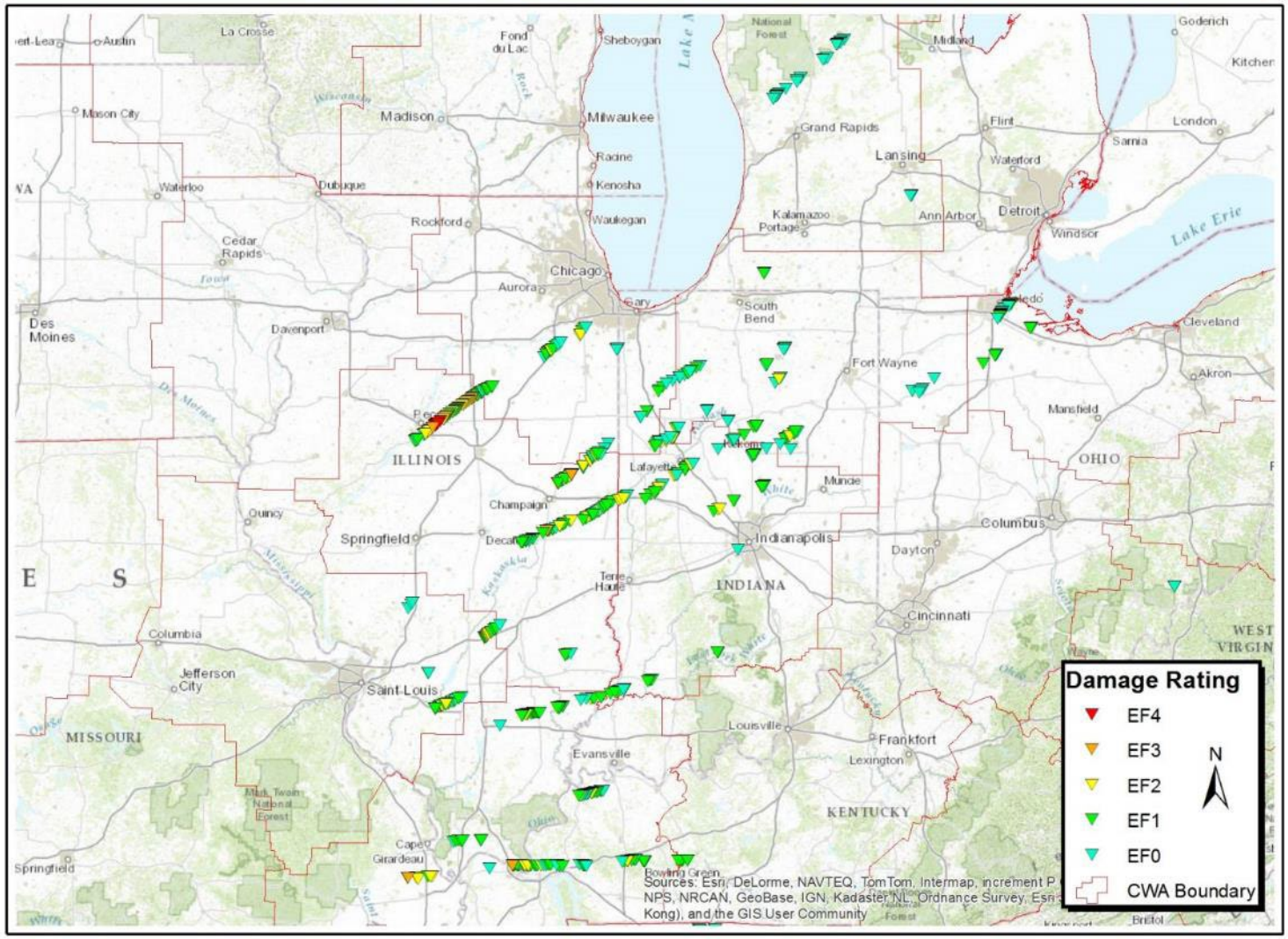




IllinoisFloodMaps.org - 2013



Other events of 2013



Work Timeline

- 2022 Jun: Committee first meets
- 2022 Jul: Developer selected
- 2022 Nov: Initial mock-up created
- 2023 Jan: Specialty groups begin meeting
- 2023 May: Beta testing
- 2023 Jun: Launch of new website

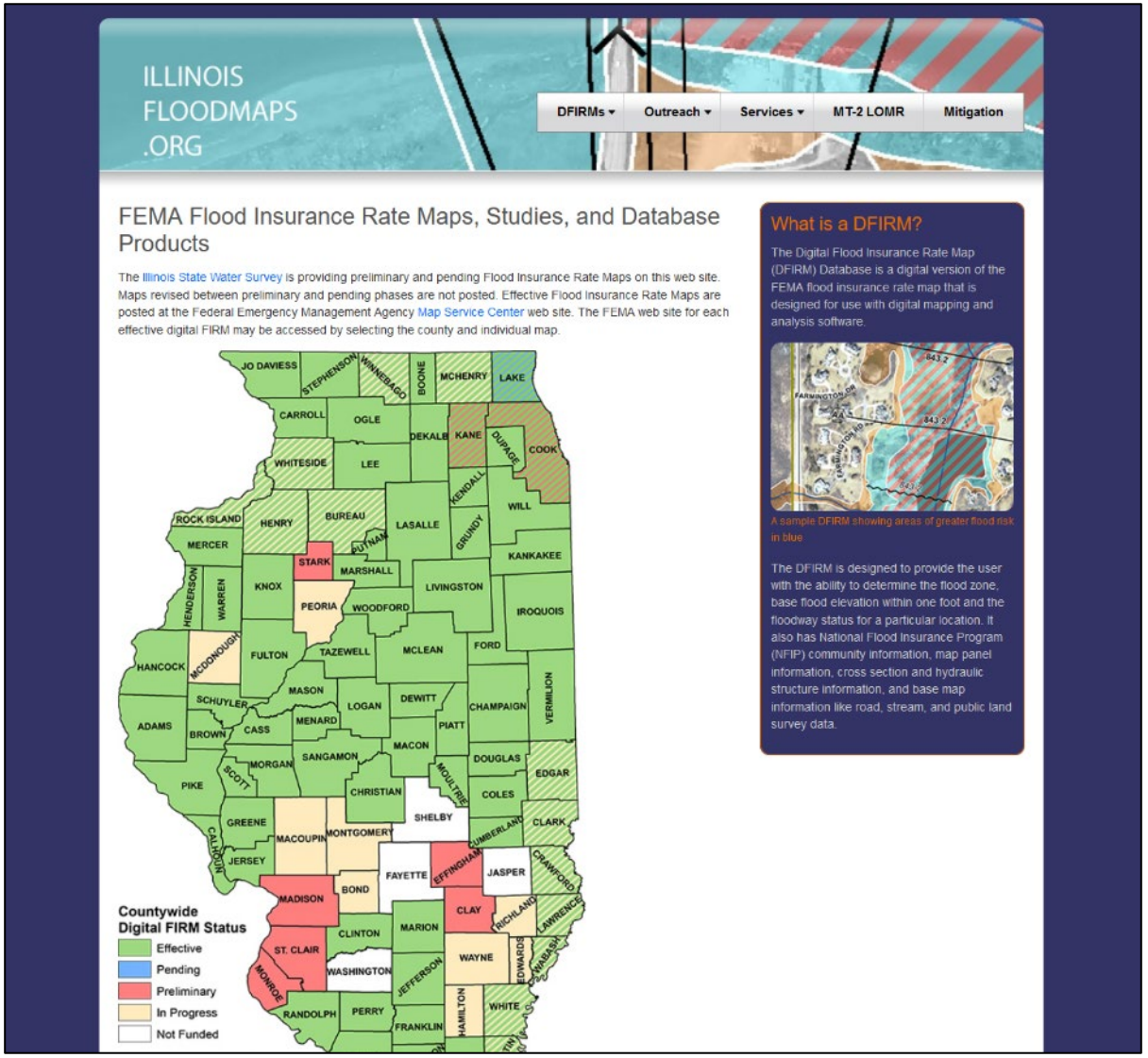
Thank You Eileen!

Thank You Beta Testers!

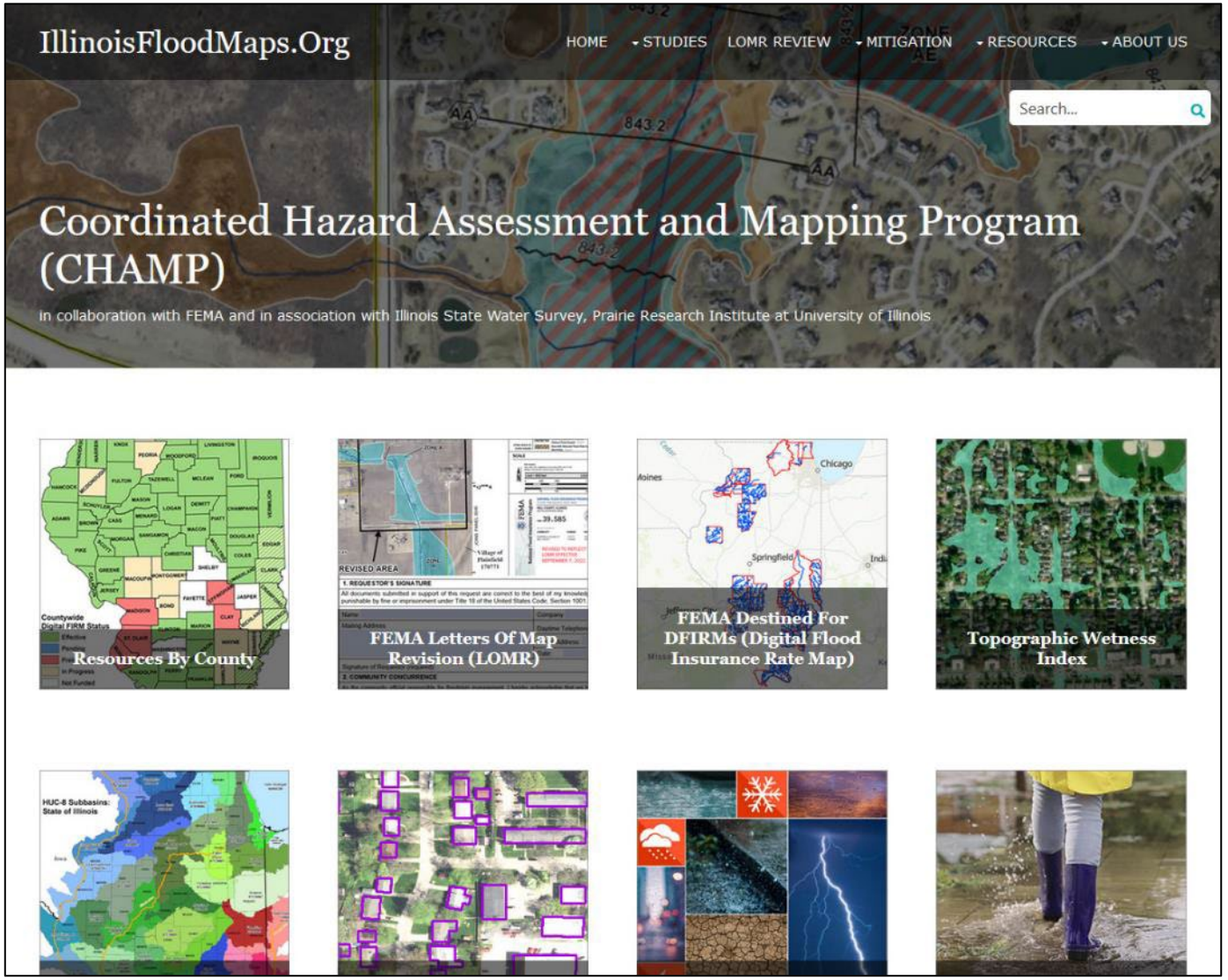
- Nazmul Huda
- Addison Jobe
- Diana Davisson
- Chris Hanstad
- Mary Richardson
- Greta Buckley
- Curt Abert
- Dawn Cosentino
- Shelly Fuller
- Erin Conley
- Lauren Pruitt
- Joseph Tebrugge
- Rachel Buvala
- Laura Keefer

…and everyone else who provided feedback!

IllinoisFloodMaps.org - Old



IllinoisFloodMaps.org – New!



Resources by County

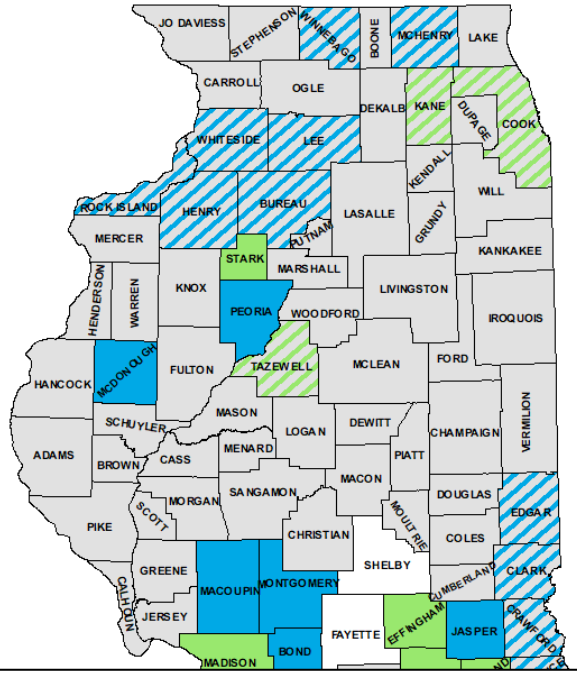
Resources by County

Resources By County

FEMA Flood Insurance Rate Maps, Studies, And Database Products

The Illinois State Water Survey provides **preliminary** and **pending** Flood Insurance Rate Maps (FIRMs), Studies, and Database Products on this web site. **Effective** Flood Insurance Rate Maps are posted at the Federal Emergency Management Agency (FEMA) Map Service Center web site.

For communities with effective digital FIRMs, the data can also be viewed using FEMA's National Flood Hazard Layer (NFHL) viewer. The NFHL dataset represents the current effective flood data for the county. It is a compilation of effective FIRM databases and Letters of Map Revision (LOMRs). The NFHL is updated as studies go effective. More information is available at National Flood Hazard Layer | FEMA.gov.

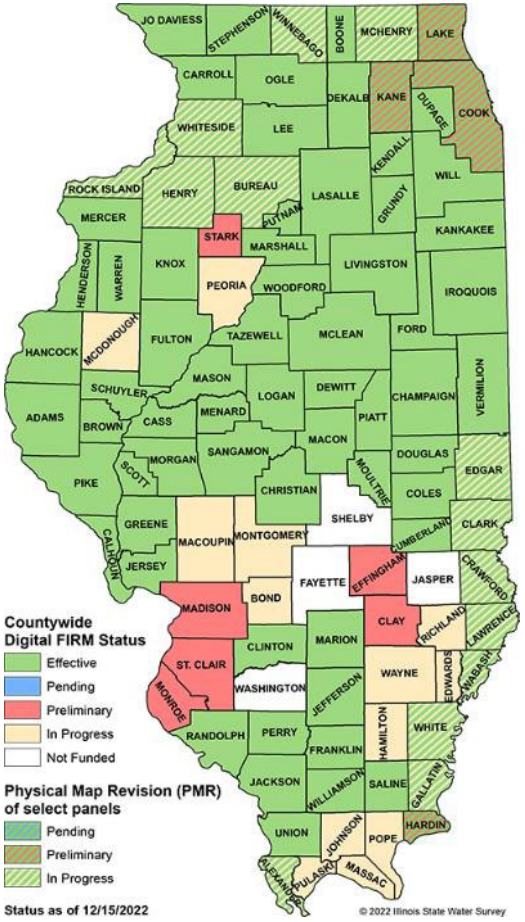


Illinois Counties

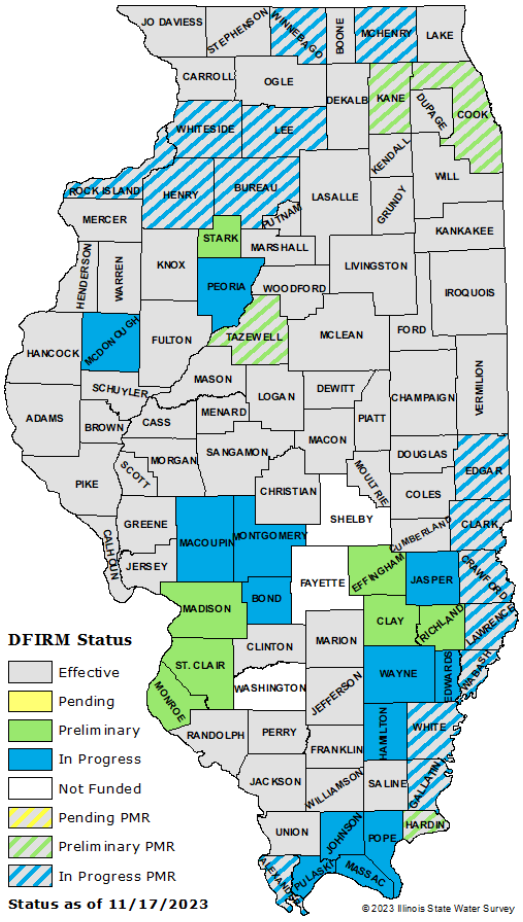
Adams	Alexander
Bond	Boone
Brown	Bureau
Calhoun	Carroll
Cass	Champaign
Christian	Clark
Clay	Clinton
Coles	Cook
Crawford	Cumberland
DeKalb	DeWitt
Douglas	DuPage
Edgar	Edwards
Effingham	Fayette
Ford	Franklin
Fulton	Gallatin
Greene	Grundy
Hamilton	Hancock
Hardin	Henderson
Henry	Iroquois
Jackson	Jasper
Jefferson	Jersey
Jo Daviess	Johnson
Kane	Kankakee
Kendall	Knox

Resources by County

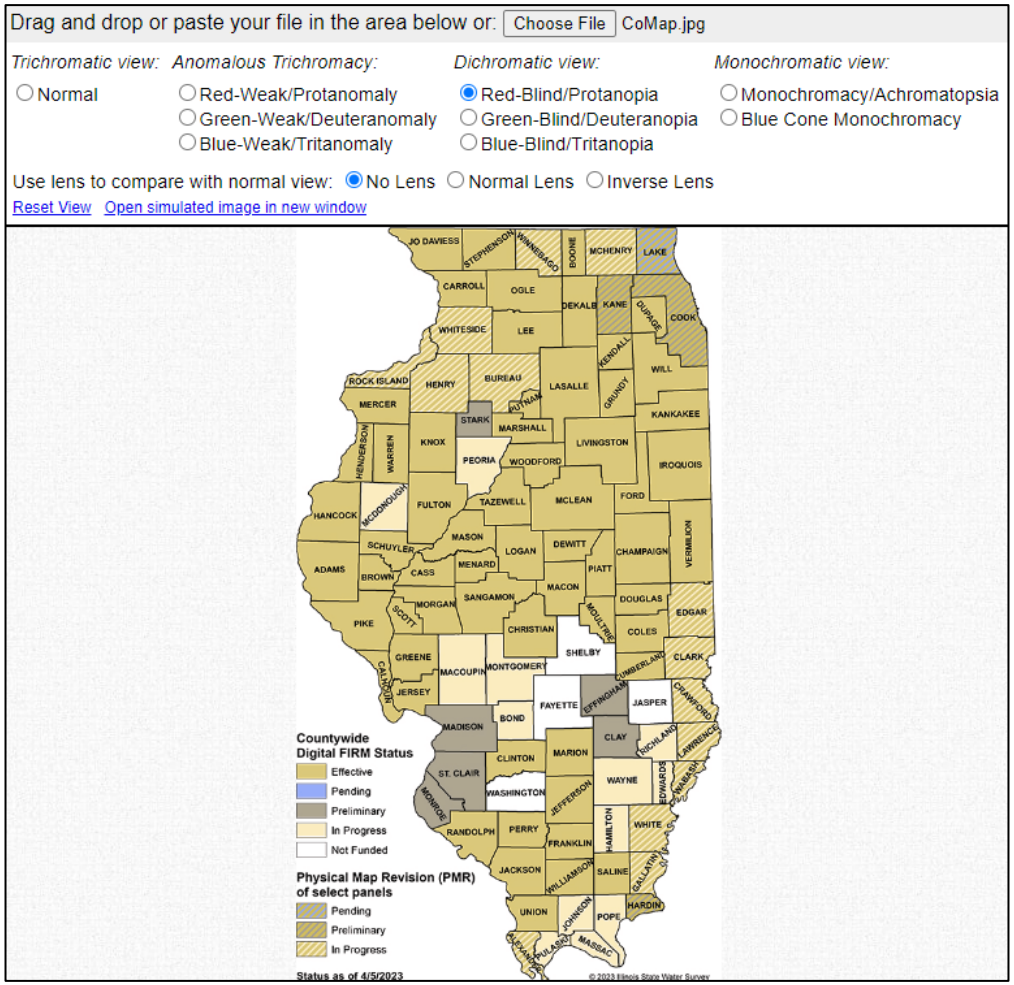
Old Site



New Site

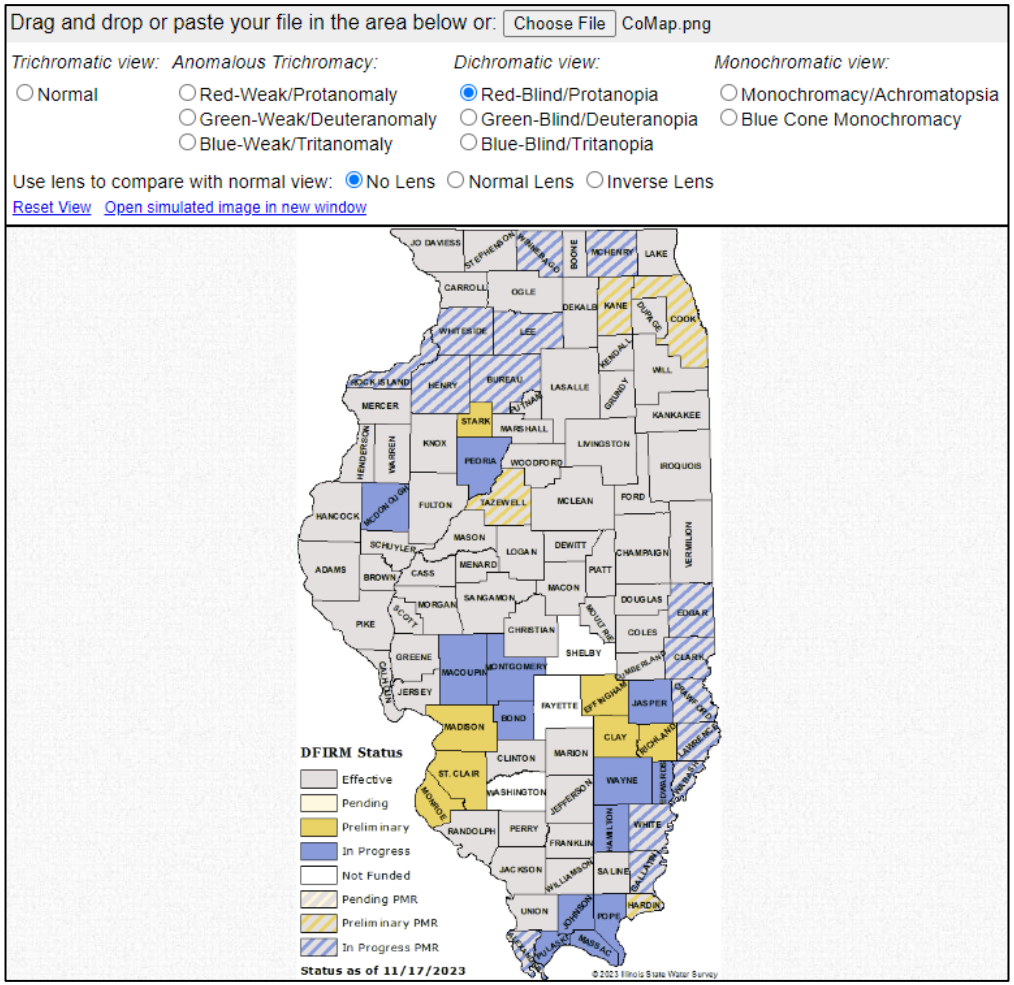


Coblis - Color Blindness Simulator



https://www.color-blindness.com/coblis-color-blindness-simulator

Coblis - Color Blindness Simulator



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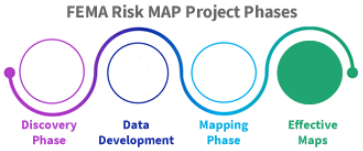
Resources by County

Fulton County Flood Hazard Information

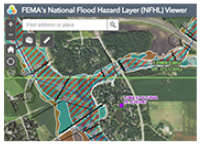


Effective Map Products

Effective Regulatory Products

Effective products are the official regulatory products as adopted by FEMA and a given local community for the National Flood Insurance Program (NFIP). The products are intended to be used as the basis for official actions required by the NFIP. The products may include Flood Insurance Rate Maps (FIRM), Flood Insurance Study (FIS) reports, FIRM Databases, and effective Letters of Map Revision (LOMR).

Effective Flood Insurance Rate Maps for Fulton County may be viewed and/or downloaded at the FEMA Flood Map Service Center (MSC)



Additionally, effective flood hazard data can be viewed in FEMA's National Flood Hazard Layer viewer (NFHL). Counties with a status of Effective or any of the PMR statuses (symbolized with diagonal lines) on the Resources by County map are included in the NFHL viewer. Zoom to an area or use the search bar to find a specific location. Full FIRM panels or a "FIRMette" of a smaller area can be exported using the NFHL Print Tool.

Non-Regulatory Products

Non-regulatory products, referred to as Flood Risk Products (FRP), go beyond the basic flood hazard information found in the official regulatory products. The Flood Risk Database, which parallels the FIRM database, provides a wealth of data that may be used to analyze, communicate, and visualize flood risk. Communities are encouraged to use this database to support mitigation efforts and raise awareness. Non-Regulatory products such as Flood Risk Databases are also available at the MSC.

Additional Resources

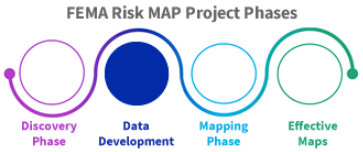
- Floodplain Mapping 101
- Destined for DFIRMs
- Building Footprints
- Topographic Wetness Index
- Links to National Flood Insurance Program (NFIP) Information

[**Return to County Listing**]

Frequently Asked Questions

Resources by County

Peoria County Flood Hazard Information



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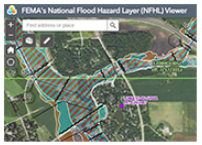
Effective Flood Insurance Rate Maps for Peoria County may be viewed and/or downloaded at the FEMA Flood Map Service Center (MSC)



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Preliminary Flood Insurance Rate Maps are not available at this time.

Data Development Phase

Flood Risk Review Meeting
1/6/2023

- Meeting Recording (MP4)
- Meeting Presentation (PDF)

Frequently Asked Questions

Resources by County

Richland County Flood Hazard Information

Effective Map Products

Effective Regulatory Products

Effective products are the official regulatory products as adopted by FEMA and a given local community for the National Flood Insurance Program (NFIP). The products are intended to be used as the basis for official actions required by the NFIP. The products may include Flood Insurance Rate Maps (FIRM), Flood Insurance Study (FIS) reports, FIRM Databases, and effective Letters of Map Revision (LOMR).

Effective Flood Insurance Rate Maps for Richland County may be viewed and/or downloaded at the FEMA Flood Map Service Center (MSC)

Additionally, effective flood hazard data can be viewed in FEMA's National Flood Hazard Layer viewer (NFHL). Counties with a status of Effective or any of the PMR statuses (symbolized with diagonal lines) on the Resources by County map are included in the NFHL viewer. Zoom to an area or use the search bar to find a specific location. Full FIRM panels or a "FIRMette" of a smaller area can be exported using the NFHL Print Tool.

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Mapping Phase

Preliminary Map Products

2023 Preliminary products are available below, or at higher resolution from the FEMA MSC:

17159C0025E	17159C0100E	17159C0160E	17159C0210E	Preliminary FIS
17159C0050E	17159C0110E	17159C0165E	17159C0230E	Preliminary FIRM
17159C0055E	17159C0120E	17159C0170E	17159C0235E	Database
17159C0060E	17159C0150E	17159C0176E	17159C0255E	Download All (Panels,
17159C0065E	17159C0151E	17159C0177E	17159C0256E	FIS, Database)
17159C0070E	17159C0152E	17159C0178E	17159C0260E	
17159C0080E	17159C0153E	17159C0179E	17159C0300E	
	17159C0154E	17159C0200E	Index	

Frequently Asked Questions

Resources by County

Mapping Phase

Preliminary Map Products

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17159C0050E	17159C0110E	17159C0165E	17159C0230E	Preliminary FIRM
17159C0055E	17159C0120E	17159C0170E	17159C0235E	Database
17159C0060E	17159C0150E	17159C0176E	17159C0255E	Download All (Panels,
17159C0065E	17159C0151E	17159C0177E	17159C0256E	FIS, Database)
17159C0070E	17159C0152E	17159C0178E	17159C0260E	
17159C0080E	17159C0153E	17159C0179E	17159C0300E	
	17159C0154E	17159C0200E	Index	

Changes Since Last FIRM

Preliminary Changes Since Last FIRM (CLSF) Viewer (ISWS)

Consultation Coordination Officer (CCO) Meeting
12/11/2023

Meeting Recording:
- Watch Video (hosted on Illinois Media Space)
- Download MP4 (157 MB)

Meeting Presentation (PDF)

Public Open House Meeting
3/20/2024

An Open House to review the preliminary FIRMs will be held on **Wednesday, March 20, 2024 from 4-6 PM** at the Olney Public Library in Olney, IL. All are welcome to attend and learn more about flood risk within their community. Residents can meet with staff one-on-one to view their addresses on the new maps and learn about their specific risk. There is no formal presentation during the Open House.

Data Development Phase

Flood Risk Review Meeting - Embarras Watershed And Bonpas Creek & Tributaries
8/31/2022

Meeting Recording:
- Watch Video (hosted on Illinois Media Space)
- Download MP4 (227 MB)

Meeting Presentation (PDF)

Resources by County

Discovery Phase

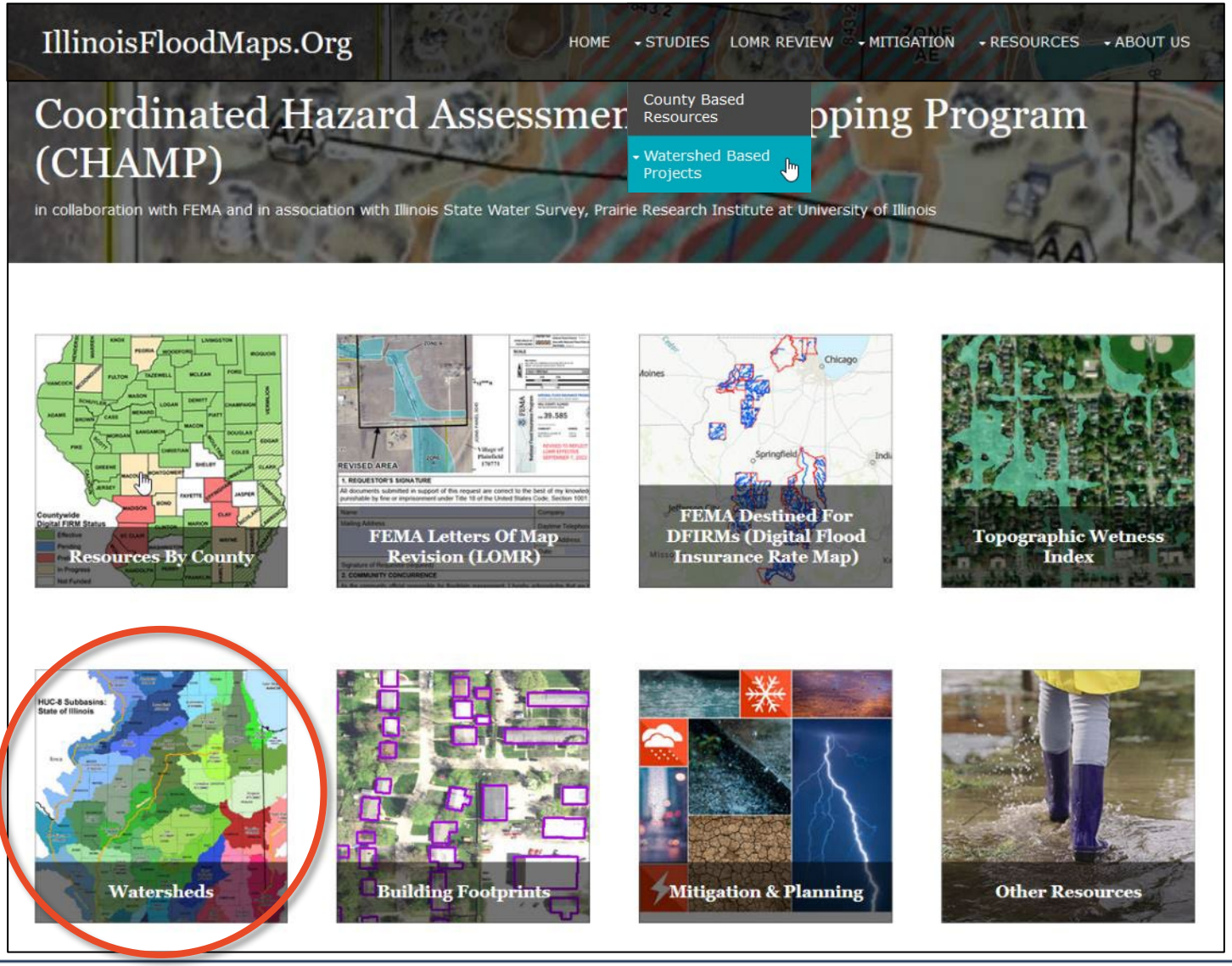
- Lower and Middle Wabash Watershed Discovery
- Little Wabash Watershed Discovery

Additional Resources

- Richland County Hazard Mitigation Plan
- Floodplain Mapping 101
- Destined for DFIRMs
- Building Footprints
- Topographic Wetness Index
- Links to National Flood Insurance Program (NFIP) Information

[Return to County Listing]

Watershed Based Projects

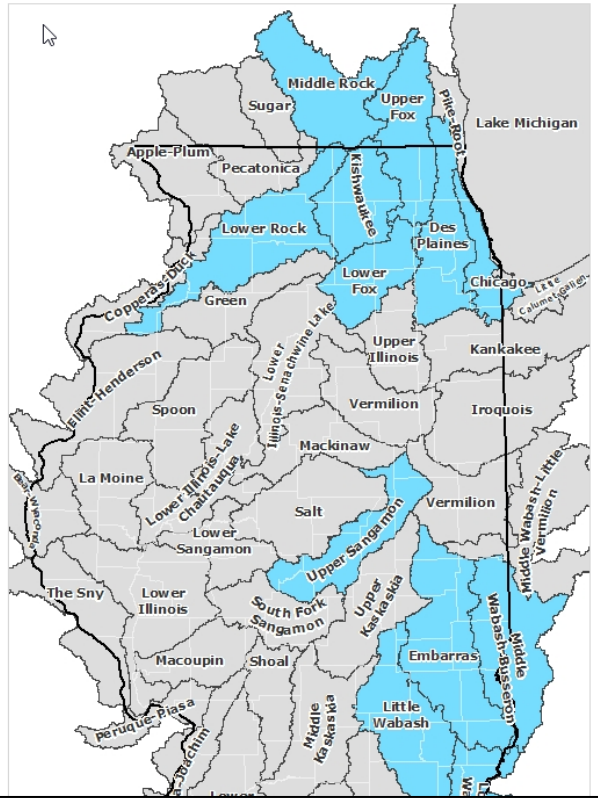


Watershed Based Projects

Watersheds

Illinois HUC-8 Watersheds

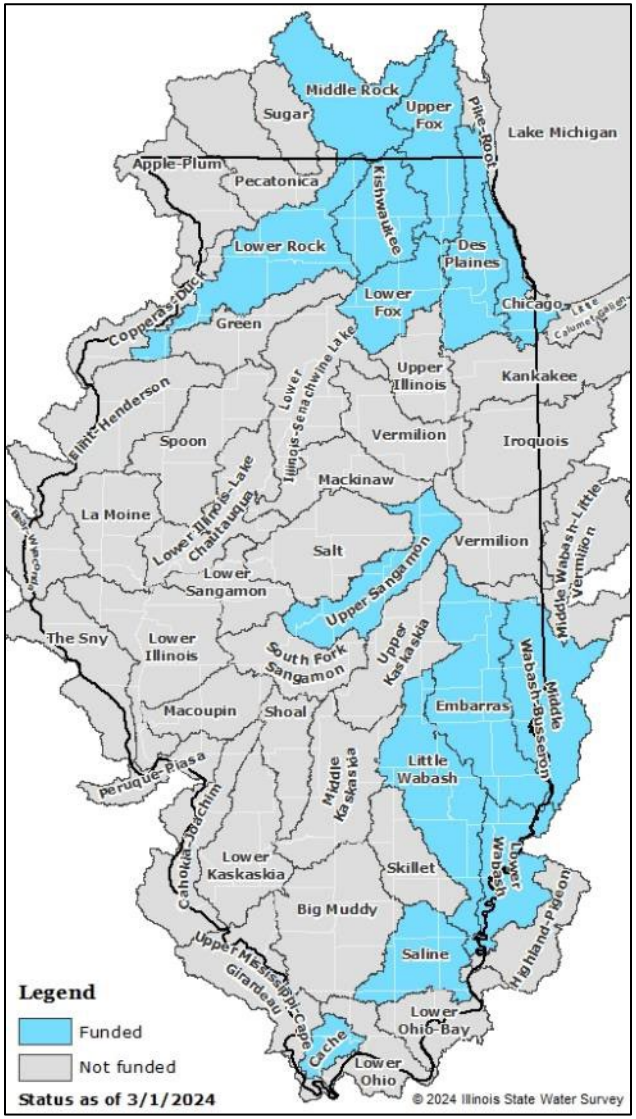
Click a blue area on map, or choose a watershed from the sidebar:



FEMA Risk MAP Watersheds

- Cache River
- Chicago River
- Des Plaines River
- Embarras River
- Kishwaukee River
- Little Wabash River
- Lower Fox River
- Lower Rock River
- Lower & Middle Wabash River
- Middle Rock River
- Saline River
- Upper Fox River
- Upper Sangamon River

Watershed Based Projects



Watershed Based Projects

Watersheds

LOWER WABASH (Huc05120113) AND MIDDLE WABASH-BUSSERON (HUC 05120111) WATERSHEDS

The Wabash River originates near Fort Recovery, Ohio. It flows southwest for 500 miles through Indiana and forms the boundary between Indiana and Illinois until it meets the Ohio River above Old Shawneetown, Illinois.

Flood Risk Review Meeting Material, March 2023

- Meeting Presentation (pdf)
- Meeting Recording (mp4)

Action Discovery Material, May 2015

- Lower Wabash Action Discovery Map (PDF)
- Middle Wabash Action Discovery Map (PDF)

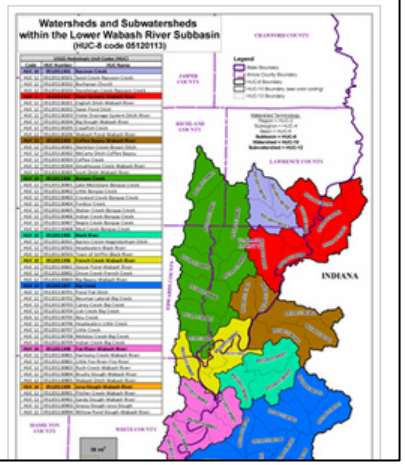
Discovery Material, July 2011

- Discovery Report for Lower Wabash Watershed (PDF)
- Discovery Report for Middle Wabash Watershed (PDF)
- Discovery Map for Lower Wabash Watershed (PDF)
- Discovery Map for Middle Wabash Watershed (PDF)
- Lower and Middle Wabash Discovery Database (ZIP)
- Discovery Map Data Layers (PDF)
- Discovery Brochure (PDF)

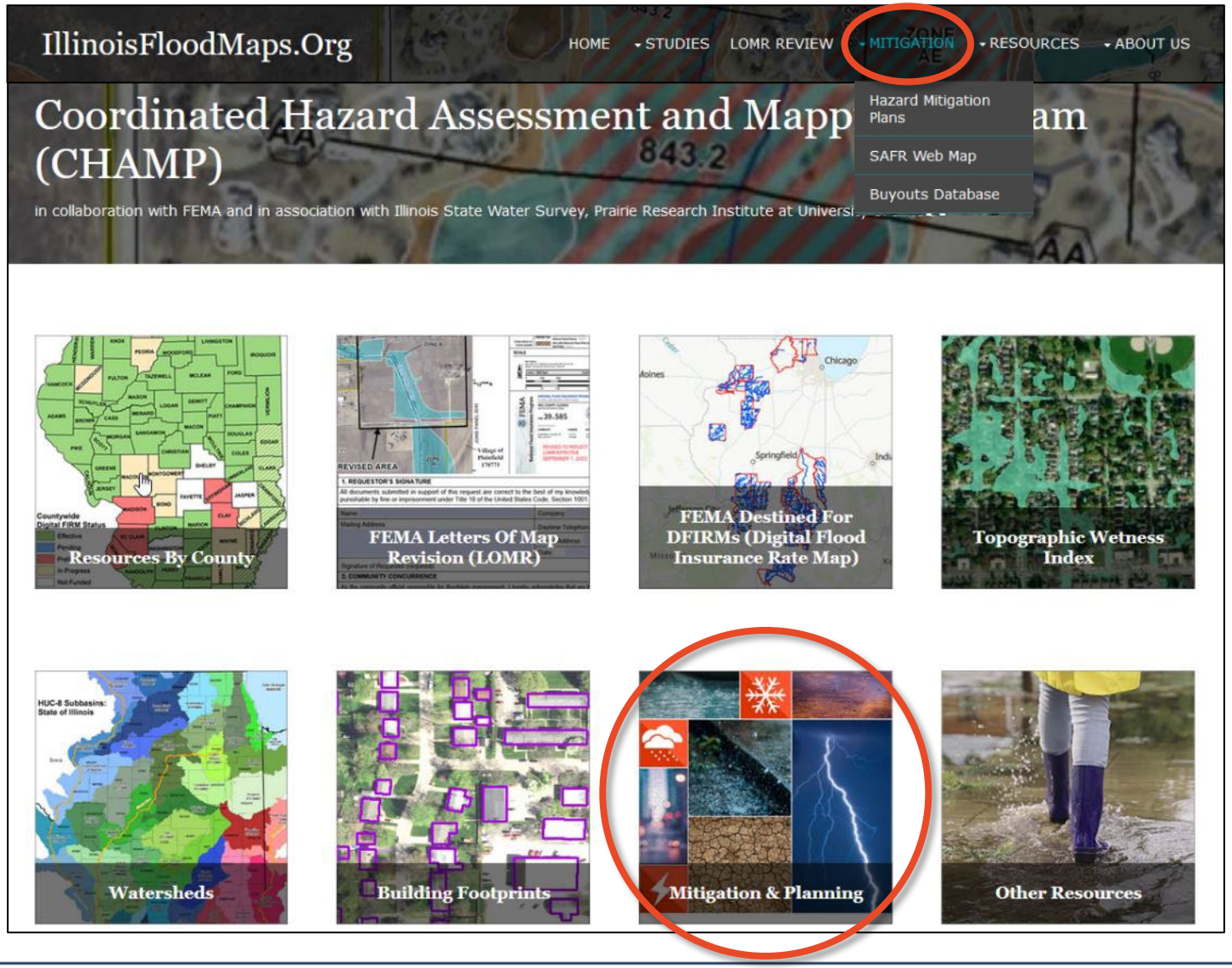
[**Return to Watersheds Listing**]

About The Wabash River

Approximately one-fourth of its drainage comes from Illinois. The Wabash is one of the largest free flowing rivers east of the Mississippi River. It flows unimpeded for over 400 miles from the Huntington Dam in Indiana to its confluence with the Ohio. The Wabash does not have commercial navigation.



Mitigation and Planning



Mitigation and Planning

Mitigation & Planning

Hazard Mitigation Plans

The essential steps of hazard mitigation – hazard identification, vulnerability analysis, and creating a hazard mitigation strategy – are addressed in the creation of the local hazard mitigation plan. The Illinois State Water Survey (ISWS) collaborates with Illinois counties, regional planning commissions, and the University of Illinois Extension to create and update local hazard mitigation plans.

Structures At Flood Risk (SAFR)

SAFR is the product of collaboration between the Illinois Department of Natural Resources (IDNR) and the Illinois State Water Survey (ISWS). It contains data about structures in Illinois and their flood risk. SAFR is password-protected. The intended audiences are state and local officials and agency staff; in particular, floodplain managers, mitigation officers, and city planners.

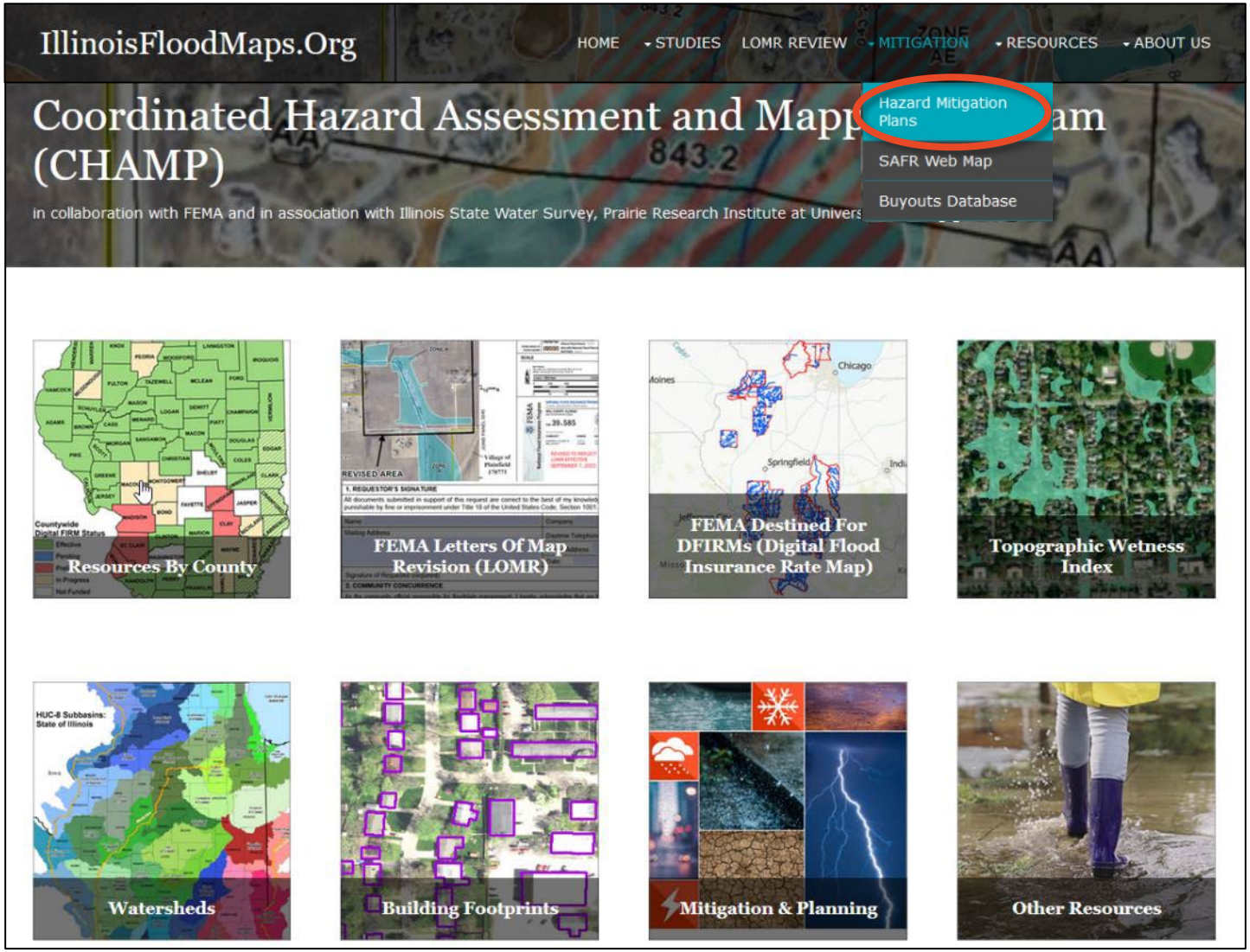
Buyouts Database

The Illinois Buyouts Database is the product of collaboration between the Illinois Department of Natural Resources (IDNR) and the Illinois State Water Survey (ISWS). It contains data about structures in Illinois that have been mitigated through acquisition. The Buyouts Database web map is password-protected. The intended audiences are state and local officials and agency staff; in particular, floodplain managers,

What Is Mitigation?

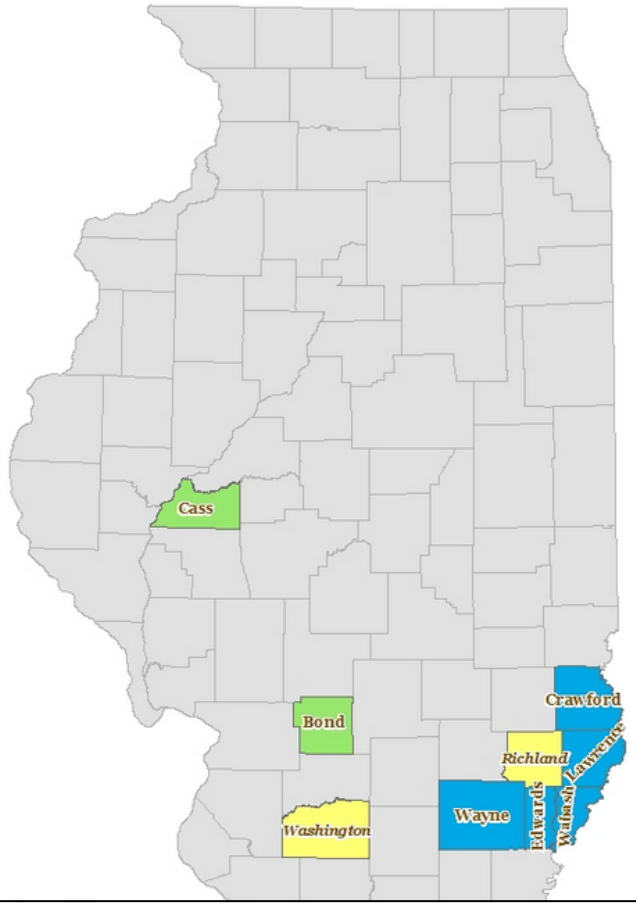
Hazard Mitigation is defined as any sustained action taken to reduce or eliminate the long-term risk to life and property from hazard events. It is an on-going process that occurs before, during, and after disasters and serves to break the cycle of damage and repair in hazardous areas.

M&P: Hazard Mitigation Plans



M&P: Hazard Mitigation Plans

Hazard Mitigation Plans



The Illinois State Water Survey (ISWS) collaborates with Illinois Counties, Regional Planning Commissions, and the University of Illinois Extension to create and update local Hazard Mitigation Plans. Hazard Mitigation is defined as any sustained action taken to reduce or eliminate the long-term risk to life and property from hazard events. It is an on-going process that occurs before, during, and after disasters and serves to break the cycle of damage and repair in hazardous areas. The essential steps of hazard mitigation are Hazard Identification, Vulnerability Analysis, and Creating a Hazard Mitigation Strategy. All three steps are addressed in the creation of the local Hazard Mitigation Plan.

Preparing a plan requires the engagement of local governments, stakeholders, and residents in the planning process. Developing the hazard mitigation plan will enable a county to:

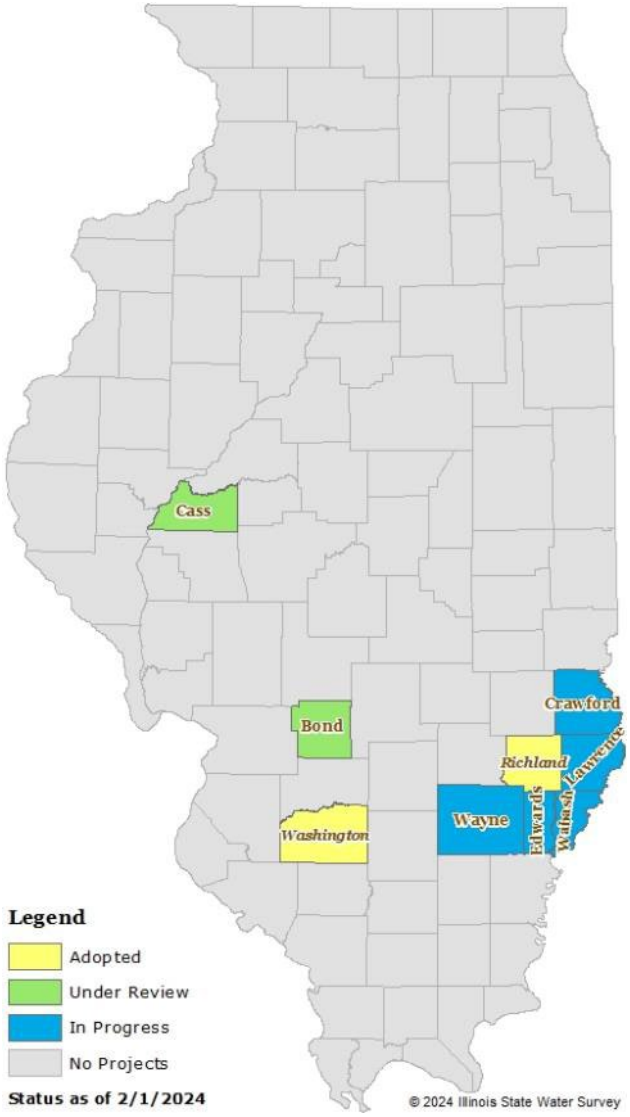
- Identify actions for risk reduction that are agreed upon by stakeholders and the public.
- Focus resources on the greatest risks and vulnerabilities.
- Build partnerships by involving citizens, organizations, and businesses.

Ongoing Projects

- Cass County
- Bond County
- Crawford County
- Lawrence County
- Wayne County
- Edwards County
- Wabash County

A Mitigation Committee Meeting at a local library.

M&P: Hazard Mitigation Plans



M&P: Hazard Mitigation Plans

Hazard Mitigation Plan: Wayne County

The Illinois State Water Survey (ISWS) is collaborating with the Greater Wabash Regional Planning Commission (GWRPC) to update the Wayne County Hazard Mitigation Plan. Please continue to visit this page for updates throughout the planning process.

Meeting #1 - 1/23/2024 & 1/25/2024

Wayne County Hazard Mitigation Committee Meeting #1 - Kickoff

This meeting occurred from 9:00AM - 10:00AM CT on January 23, 2024. This was an in-person meeting held at the Farm Bureau Building in Albion, IL. An additional virtual meeting was held on January 25, 2024 from 5:30PM - 6:30PM CT. If you were unable to attend this meeting and want to make a comment, please email the Illinois State Water Survey at mitigation@isws.illinois.edu.

To-Do

- Capability Assessment
- Community Survey

Resources

- Meeting Notes (PDF)
- Meeting Summary Recording (hosted on Media Space)
- Meeting Slides (PDF)

The CHAMP team at ISWS is happy to help! Feel free to contact us at: mitigation@isws.illinois.edu

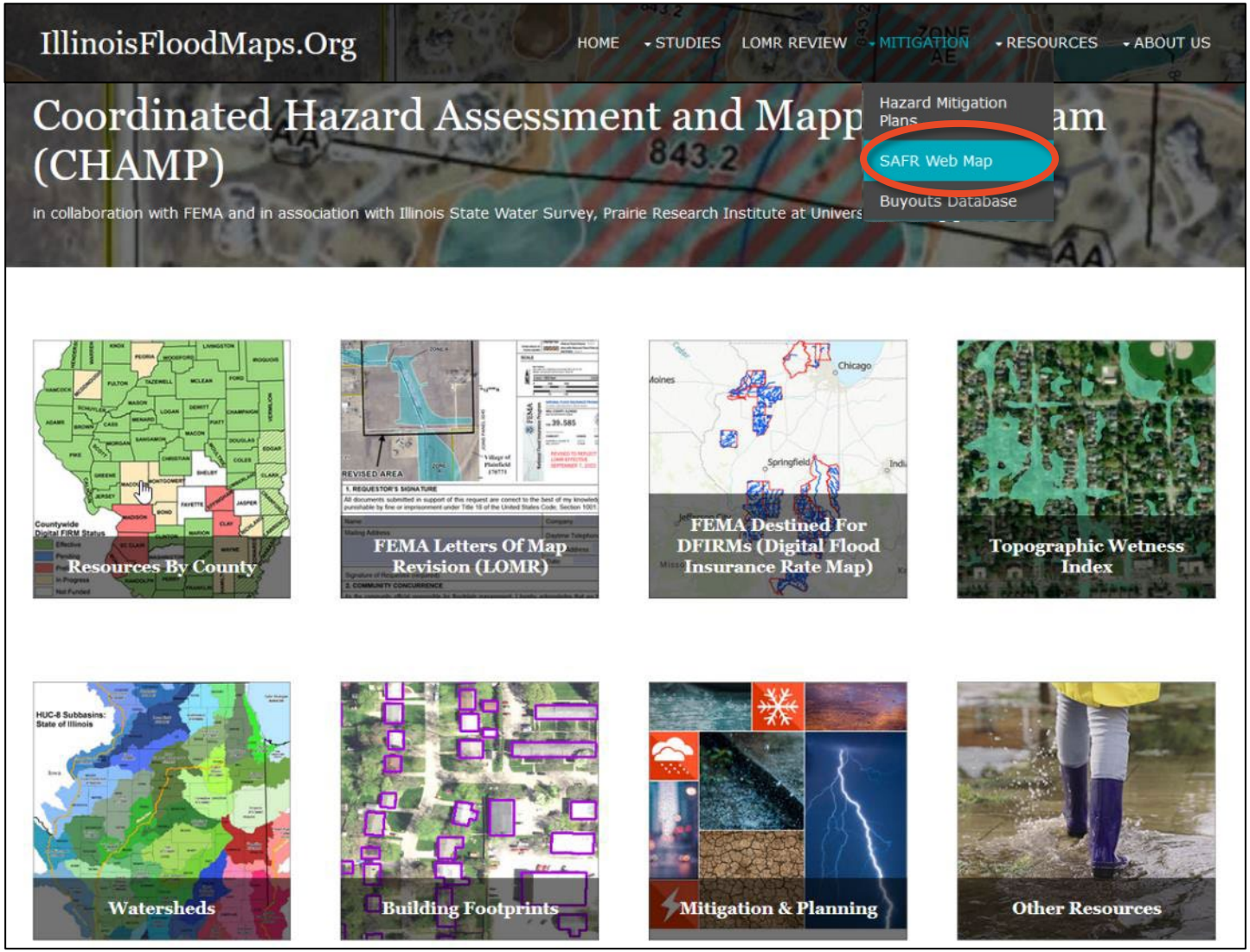
[**Return to Hazard Mitigation page**]

Hazard Mitigation Plans

Preparing a plan requires the engagement of local governments, stakeholders, and residents in the planning process.

The Illinois State Water Survey (ISWS) collaborates with Illinois Counties, Regional Planning Commissions, and the University of Illinois Extension to create and update local Hazard Mitigation Plans.

M&P: SAFR (Structures At Flood Risk)



M&P: SAFR (Structures At Flood Risk)

Structures At Flood Risk (SAFR)

SAFR is the product of collaboration between the Illinois Department of Natural Resources (IDNR) and the Illinois State Water Survey (ISWS). It provides access to digital data about structures in Illinois and their flood risk. SAFR is password-protected. The intended audiences are state and local officials and agency staff; in particular, floodplain managers, mitigation officers, and city planners. It is not intended for use by the general public.

In 2021, IDNR and ISWS were awarded the fifth annual CTP Recognition Award by FEMA. See the Story Map that was created by FEMA as part of the award.

Link To The SAFR Web Map:

SAFR is password-protected. If you work in one of the sectors listed above and would like to request access, please email the Mitigation & Planning group: mitigation@isws.illinois.edu

See the SAFR web map at: https://go.illinois.edu/SAFR

SAFR User Guide:

The **SAFR User Guide** explains the basics of the web map and includes a step-by-step walkthrough of how to use it.

Download SAFR User Guide (PDF)

The accompanying **SAFR Tutorial Video** includes an explanation of SAFR data and demonstrations of how to use the web map.

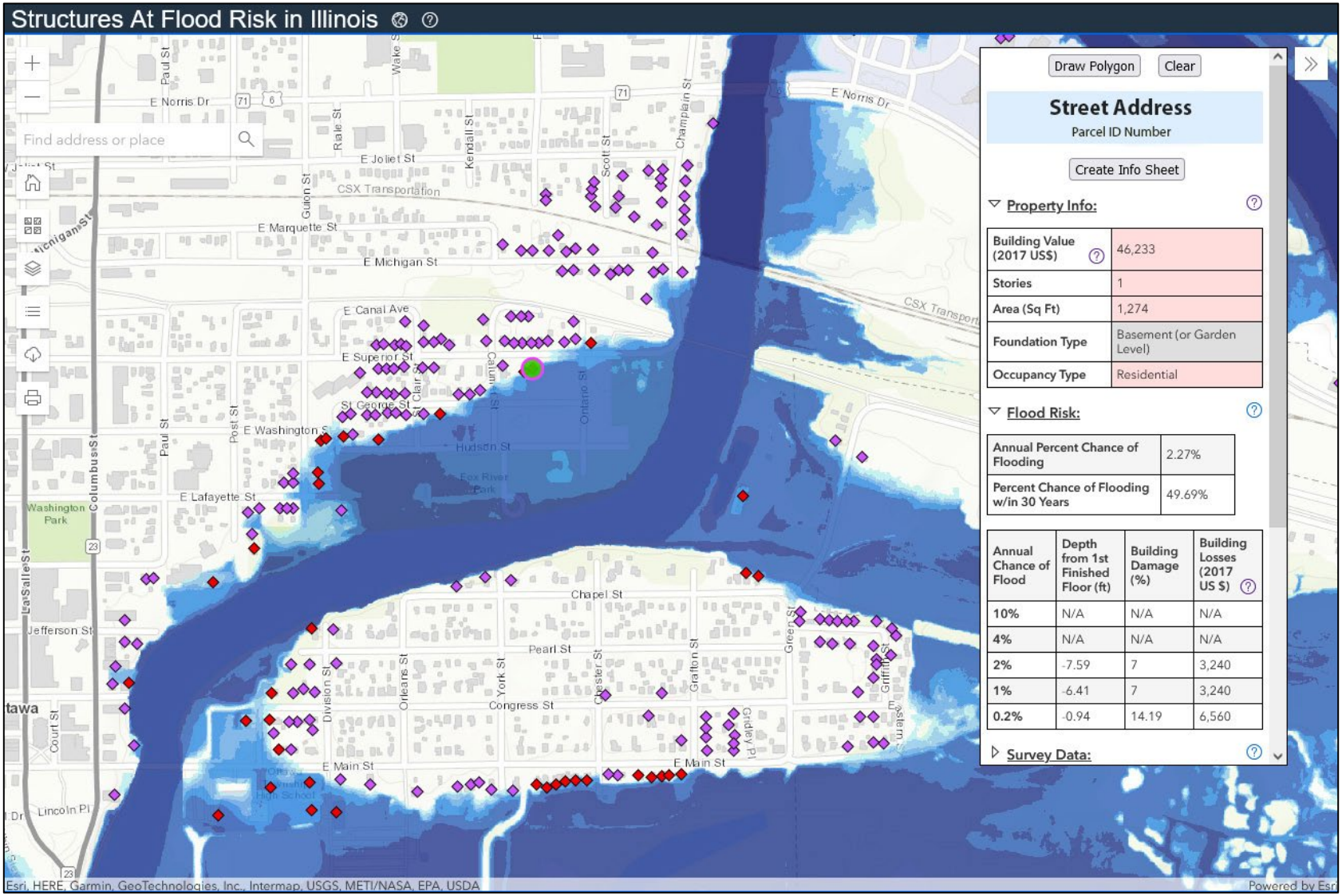
SAFR Tutorial Video (hosted on Media Space)

Features:

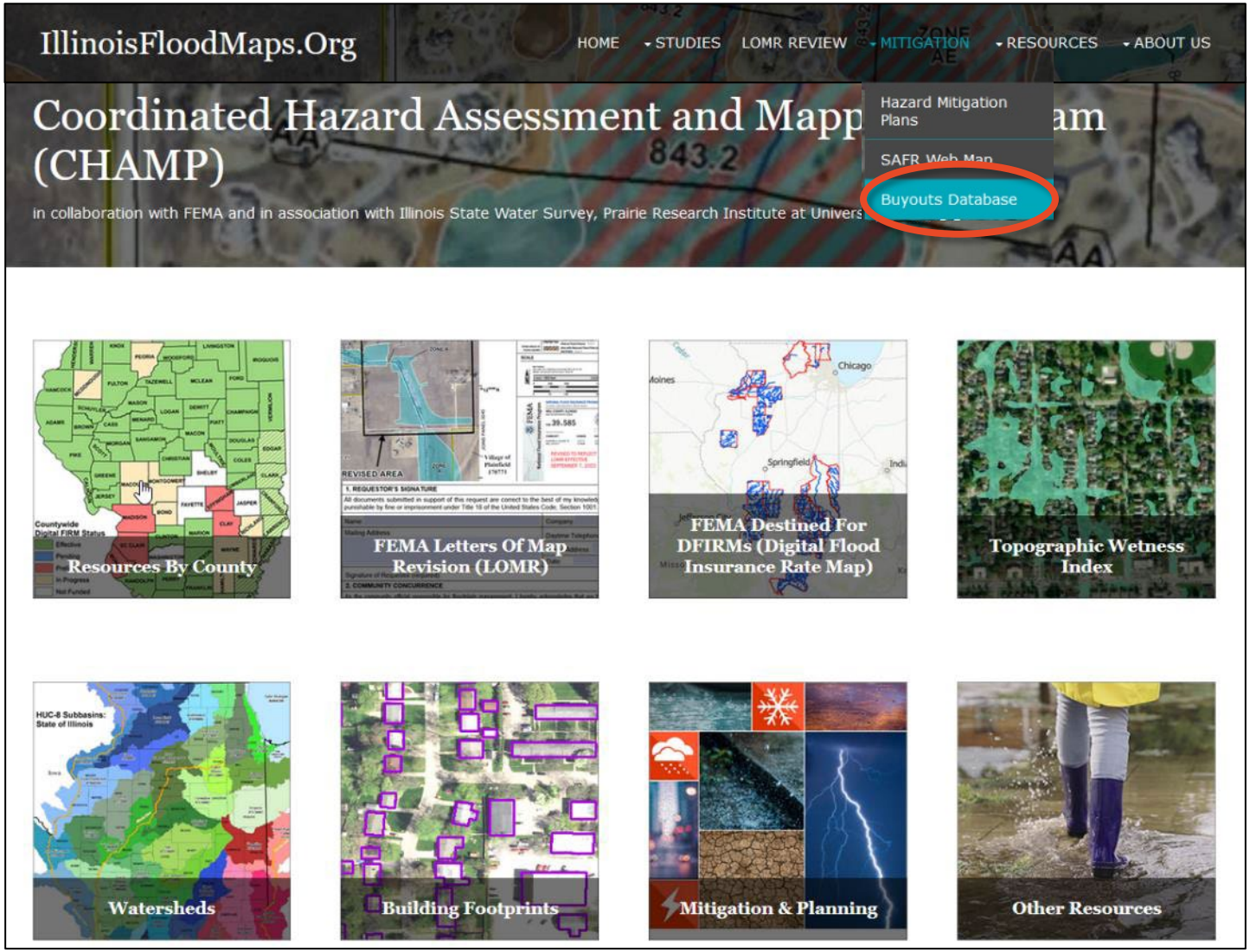
Layer List
Layers available include structure points, depth grids, analysis grids, and FEMA's National Flood Hazard Layer. Layers can be turned on and off.

Structure Info Table
View data for an individual structure by clicking on its point. Data may include basic property info, flood risk, and survey data.

M&P: SAFR (Structures At Flood Risk)



M&P: Buyouts Database



M&P: Buyouts Database

Buyouts Database

The Illinois Buyouts Database is the product of collaboration between the Illinois Department of Natural Resources (IDNR) and the Illinois State Water Survey (ISWS). It provides access to digital data about structures in Illinois that have been mitigated through acquisition. The Buyouts Database web map is password-protected. The intended audiences are state and local officials and agency staff; in particular, floodplain managers, mitigation officers, and city planners. It is not intended for use by the general public.

The extent of data varies by area - not all acquisition projects have complete datasets or data coverage. If a community has conducted an acquisition program with their own funds, it may not be represented in this database.

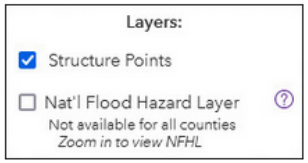
Link To The Buyouts Database Web Map:

The Illinois Buyouts Database is password-protected. If you work in one of the sectors listed above and would like to request access, please email the Mitigation & Planning group: mitigation@isws.illinois.edu.

See the Illinois Buyouts Database web map at: https://go.illinois.edu/BuyoutsDatabase.

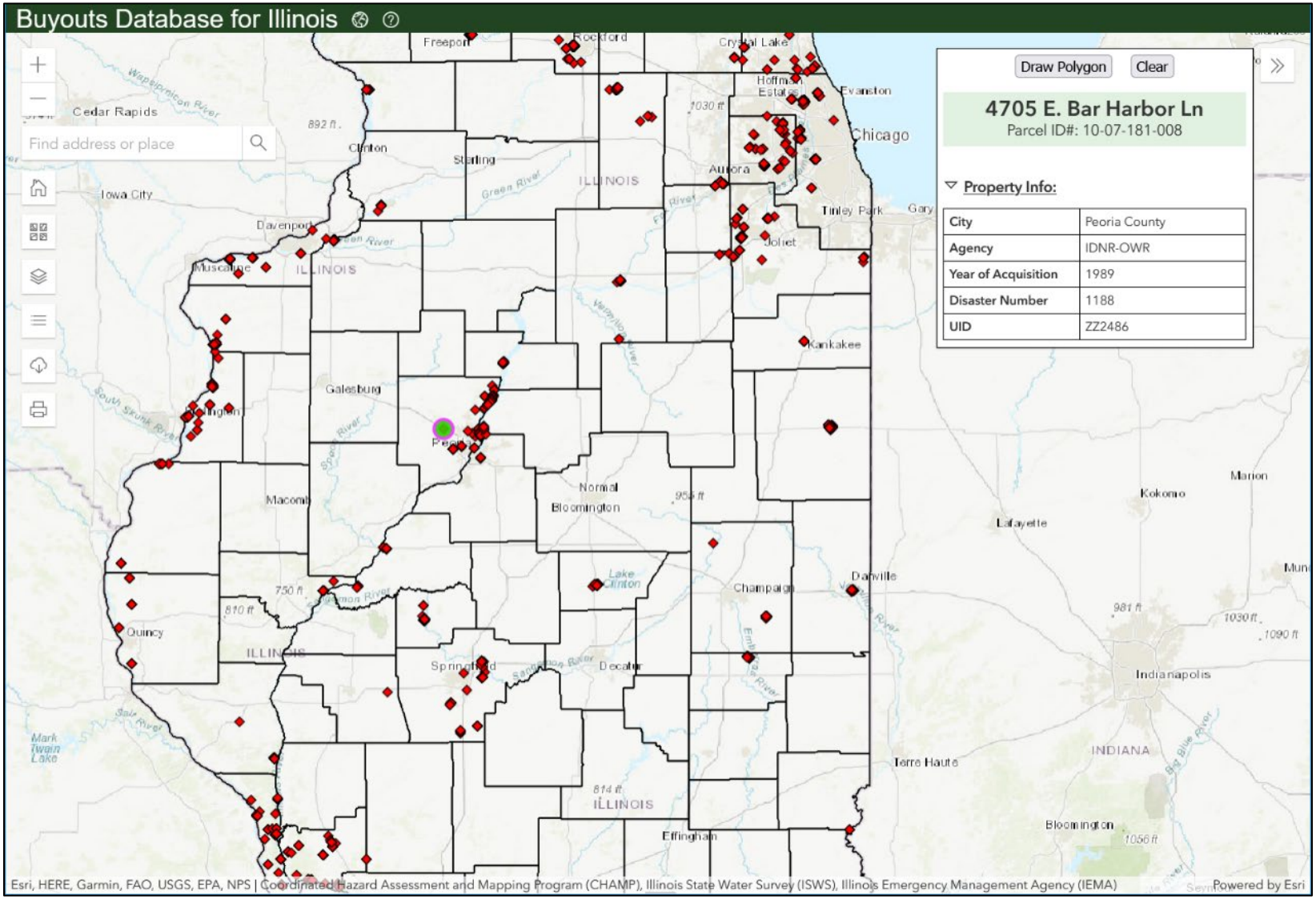
Features:

Layer List
Layers available include the structure points and FEMA's National Flood Hazard Layer. Layers can be turned on andoff.



Structure Info Table
View information for an individual structure by clicking on its point. Data availability varies based on the recordkeeping of the original mitigation project.

M&P: Buyouts Database



Letters Of Map Revision (LOMR)

Letters Of Map Revision (LOMR)

LOMR/CLOMR Application Processing

Since 2010, the Illinois State Water Survey has been reviewing and processing applications for Letters of Map Revision (LOMR) and Conditional Letters of Map Revision (CLOMR) as part of FEMA's LOMR Review Partners Program. Illinois is one of about 10 state or local Cooperating Technical Partners participating in the program. Through this program, the Illinois State Water Survey reviews and processes LOMR and CLOMR applications within the State of Illinois in partnership with FEMA.

Resources

ISWS reviewers have developed checklists as part of the MT-2 review process. These checklists are available for applicants to QA/QC their own models using the same criteria that the MT-2 reviewers use. The checklists are not fully comprehensive and do not guarantee acceptance of an MT-2 submittal.

- Initial Inventory - This checklist identifies the items required to initiate a LOMR/CLOMR review.
- Hydrology Review - This document covers several hydrologic methodologies and lists the common data elements needed to complete a hydrologic review.
- Hydraulic Review - This checklist is designed to identify common hydraulic modeling errors or issues. The checklist is most applicable to steady state HEC-RAS models, but can be used in some capacity for other hydraulic models.

Helpful Tips

- ISWS highly recommends making your LOMR or CLOMR application submittal online through FEMA's LOMC Portal. When the online application is made, your request is directed immediately to our review staff for processing. The Online LOMC submittal page can be accessed here: https://hazards.fema.gov/femaportal/onlinelomc/signin
- Make sure to use the current version of the MT-2 forms and fill them out completely. The MT-2 application forms and instructions are available here: https://www.fema.gov/flood-maps/change-your-flood-zone/paper-application-forms/mt-2
- Payment forms and checks should be included with the application submittal to ISWS, but checks should be payable to National Flood Insurance Program. Make sure the correct fee is submitted (see current fee schedule).
- For CLOMR requests, make sure to include proof of compliance with the Endangered Species Act. Please use the U.S. Fish and Wildlife Service's technical assistance website for step-by-step instructions.
- Make sure to include IDNR-OWR approval when applicable (see IDNR approval flowchart).

Questions:

Chris Hanstad, PE, CFM
Illinois State Water Survey
2204 Griffith Drive
Champaign, IL 61820

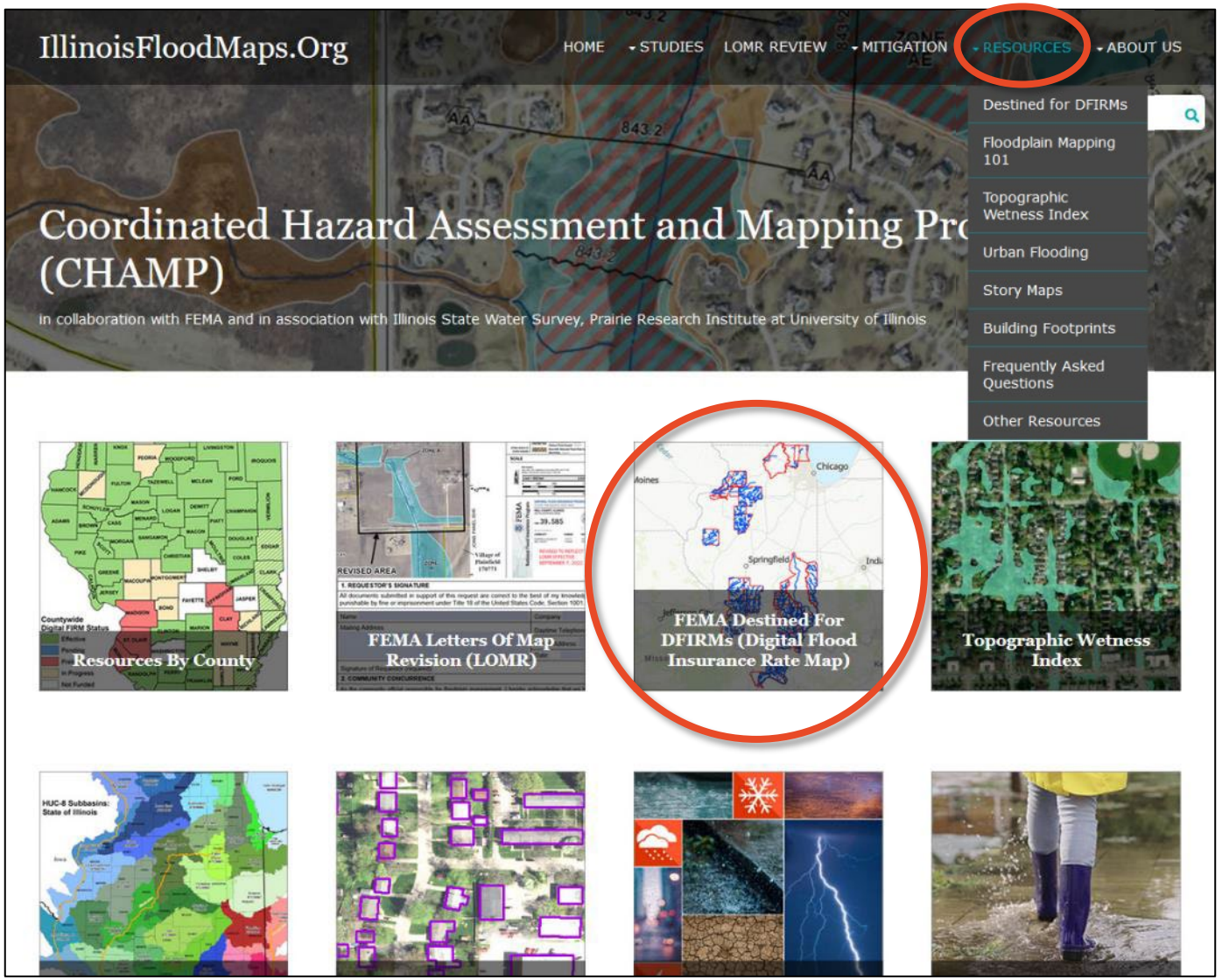
About LOMR

A LOMR is an official revision of a current Flood Insurance Rate Map (FIRM) accepted by FEMA, which reflects changes in mapped areas for flood zones, floodplain areas, floodways and flood elevations.

Sample map included in a Letter of Map Revision (LOMR).

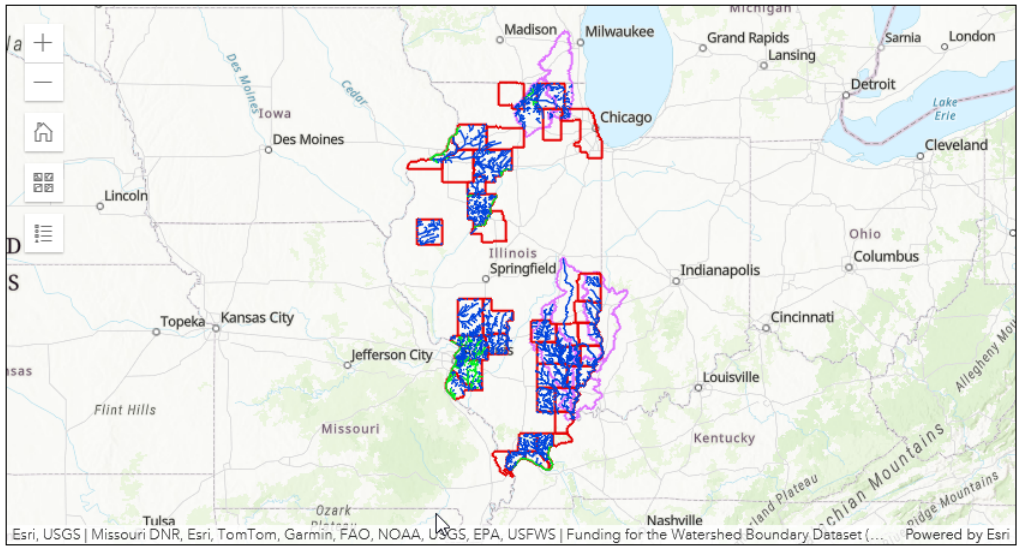
The LOMR issued to communities by FEMA revises the effective data shown on the community's Flood Insurance Rate Map (FIRM) and/or Flood Insurance Study (FIS). FEMA does not re-issue FIRM panel or FIS when a LOMR is issued.

Resources: Destined for DFIRMs



Resources: Destined for DFIRMs

Destined For DFIRMs



Click an item from list in sidebar to zoom to study area. Click on an area for more information.

About Destined For DFIRMs

This page shows those areas where the Illinois State Water Survey's CHAMP team is either performing engineering studies, collecting information, or incorporating new engineering data submitted by others as Physical Map Revisions (PMRs) to the Digital Flood Insurance Rate Maps (DFIRMS), as well as other publicly funded studies. The web map can be a tool to guide those seeking Letters of Map Revision (LOMRs) through MT-2 form submission. If there are LOMR studies or other flood hazard studies ongoing in or near the identified streams on our application, please contact our staff to verify precise locations to avoid redundancy.

At this time, we cannot display an individual study's progress, but inquires can be made to our staff regarding timelines. Once fully approved, these studies will be incorporated into the Federal Emergency Management Agency's effective Digital Flood Insurance Rate Maps, and removed from this map application.

Select To Zoom Map

- Bond County
- Bureau/Stark County
- Clay County
- Effingham County
- Hamilton County
- Kishwaukee Watershed
- Lake County
- Lower/Mid Little Wabash River
- Macoupin County
- McDonough County
- Meredosia Ditch
- Metro East Area
- Montgomery County
- Peoria County
- Richland County
- Rock River
- Southern Illinois
- Turtle Creek
- Upper Fox River Watershed

Resources: Topographic Wetness Index

IllinoisFloodMaps.Org

HOME | STUDIES | LOMR REVIEW | MITIGATION | RESOURCES | ABOUT US

- Destined for DFIRMs
- Floodplain Mapping 101
- Topographic Wetness Index
- Urban Flooding
- Story Maps
- Building Footprints
- Frequently Asked Questions
- Other Resources

Topographic Wetness Index

The Topographic Wetness Index (TWI) is an index or indicator of the effect of local topography on runoff flow direction and accumulation. The index is a function of both the slope and the upstream contributing area.The computation of TWI is performed using both geographic information systems (GIS) and Python, a programing software used to enhance computing capabilities. The indices help identify rainfall runoff patterns, areas of potential increased soil moisture, and ponding areas.

With support from FEMA and using high resolution DEMs derived from LiDAR, Illinois State Water Survey generated the index for the Illinois counties of DuPage and Will (see report), and with the support of National Resources Conservation Service (NRCS) subsequently generated the index for all remaining Illinois counties. The Illinois Department of Natural Resources (IDNR) funded the creation for Lake County as part of their Coastal Management Program. While TWI is usually viewed in raster format, ISWS is distributing a version in polygon format for easier access and use.

Navigate To An Area Of Interest Using This Interactive Map.

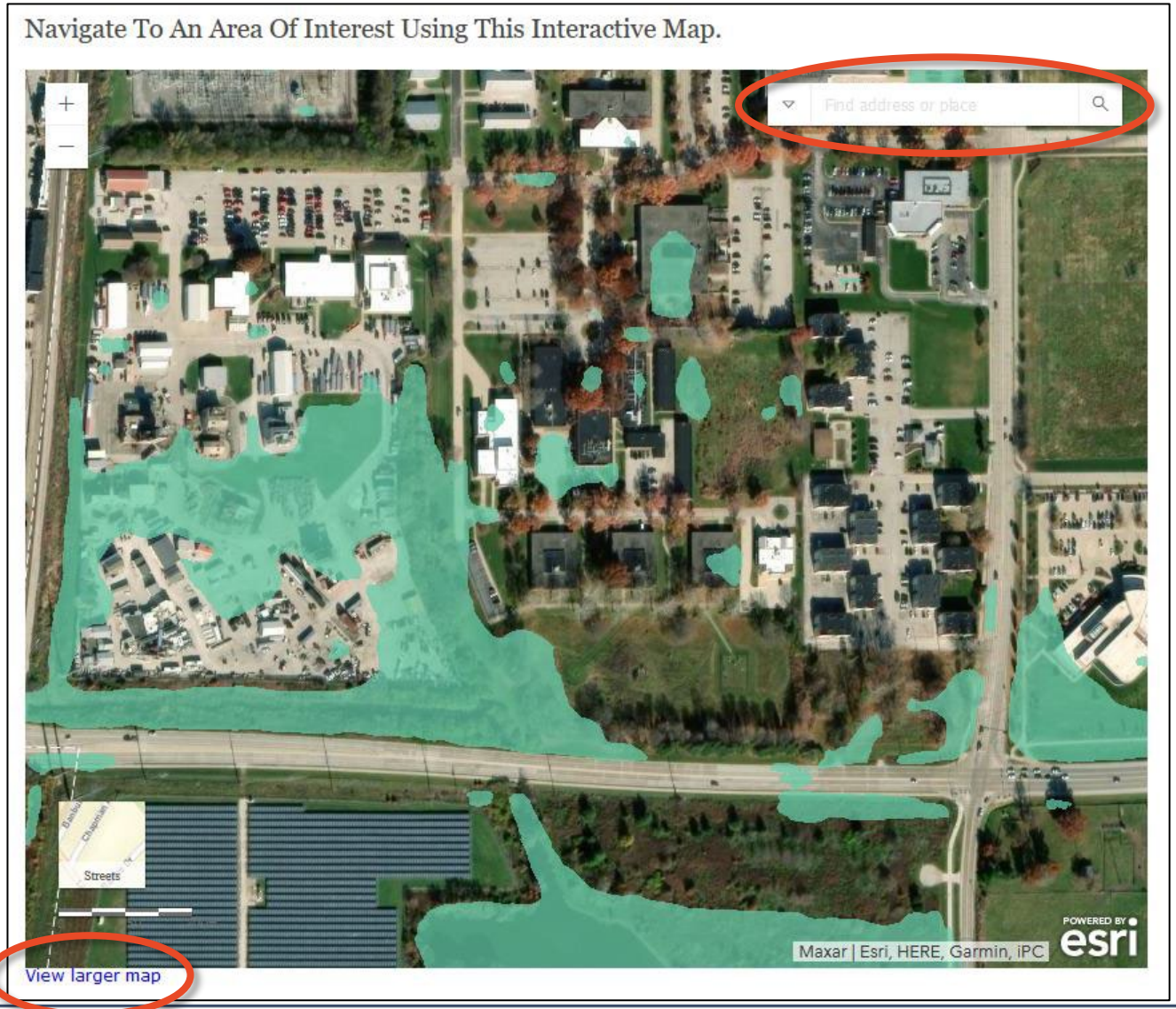
Abo ess Inde

TWI d accur and areas upslope contributing areas.

TWI areas shown in blue in a suburban area.

A high resolution digital elevation model from LiDAR was used to develop TWI.

Resources: Topographic Wetness Index



Resources: Topographic Wetness Index

For most counties, two versions of TWI in shapefile GIS format are contained in the downloadable zip file. TWI was computed using a bare earth Digital Elevation Model (DEM) so TWI polygons mistakenly overlap many building footprints. The first version (with the suffix **v0**) contains these overlapping polygons. In a second version (with the suffix **TWI**), overlapping areas were subsequently removed during post processing using building footprints.

This first release version is a direct product of computer processing without manual examination of areas across the state and may therefore inaccurately display areas such as lakes, rivers, and areas where road culverts were missing from the LiDAR.

Select a county of interest to download the shapefile. Please see our disclaimer.

Adams	DuPage	JoDaviess	Mclean	Scott
Alexander	Edgar	Johnson	Menard	Shelby
Bond	Edwards	Kane	Mercer	Stark
Boone	Effingham	Kankakee	Monroe	St Clair
Brown	Fayette	Kendall	Montgomery	Stephenson
Bureau	Ford	Knox	Morgan	Tazewell
Calhoun	Franklin	Lake	Moultrie	Union
Carroll	Fulton	Lasalle	Ogle	Vermilion
Cass	Gallatin	Lawrence	Peoria	Wabash
Champaign	Greene	Lee	Perry	Warren
Christian	Grundy	Livingston	Piatt	Washington
Clark	Hamilton	Logan	Pike	Wayne
Clay	Hancock	Macon	Pope	White
Clinton	Hardin	Macoupin	Pulaski	Whiteside
Coles	Henderson	Madison	Putnam	Will
Cook	Henry	Marion	Randolph	Williamson
Crawford	Iroquois	Marshall	Richland	Winnebago
Cumberland	Jackson	Mason	Rock Island	Woodford
Dekalb	Jasper	Massac	Saline	
DeWitt	Jefferson	Mcdonough	Sangamon	
Douglas	Jersey	McHenry	Schuyler	

Resources: Building Footprints

IllinoisFloodMaps.Org

HOME | STUDIES | LOMR REVIEW | MITIGATION | RESOURCES | ABOUT US

- Destined for DFIRMs
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- Other Resources

Building Footprints

ISWS is providing for download building footprints for every county in Illinois in shapefile format. Building footprints represent the perimeter outline of each building, but the building outlines can only roughly represent the buildings. Sometimes one single polygon may include many buildings that are close to each other.

In 2018 Microsoft released approximately 125 million building footprint polygon geometries in all 50 US States in GeoJSON format. The building footprints were generated by training computer vision algorithms to recognize building geometries on aerial imagery of the USA. More information can be found on github. ISWS is making these available in shapefile format for all Illinois counties. A Vector Tile implementation of the data is hosted by Esri.

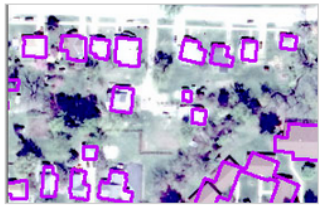
Additionally for a select number of counties in Illinois, ISWS extracted building footprints from LiDAR data in LAS format and converted these into polygons. As part of the extraction process, a squaring function was performed to produce an approximation of the roof outlines of buildings by squaring the traced building outlines. Thus, the extraction detected rectangular buildings very effectively, but the buildings with other shapes may not be extracted as their real shapes.

How does the data compare for counties where both building footprint types are available? In short, the ISWS derived footprints are more numerous. One reason for this is the LiDAR files for each county included areas close to, but outside the county boundary, and building footprints for these areas are included in the shapefile. An additional reason may be that the LiDAR used by ISWS was more recently acquired than the imagery used by Microsoft in creating footprints. A more detailed explanation of the comparison process is found in this report.

Select a county of interest to download the shapefile created from LiDAR (SWS) or Microsoft (MS). Please see our disclaimer.

Adams (MS)	Edgar (MS)	Kane (MS)	Mercer (MS)	St Clair (SWS / MS)
Alexander (MS)	Edwards (MS)	Kankakee (SWS / MS)	Monroe (SWS / MS)	Stark (MS)
Bond (SWS / MS)	Effingham (MS)	Kendall (MS)	Montgomery (SWS /	Stephenson (MS)

separate class for buildings.

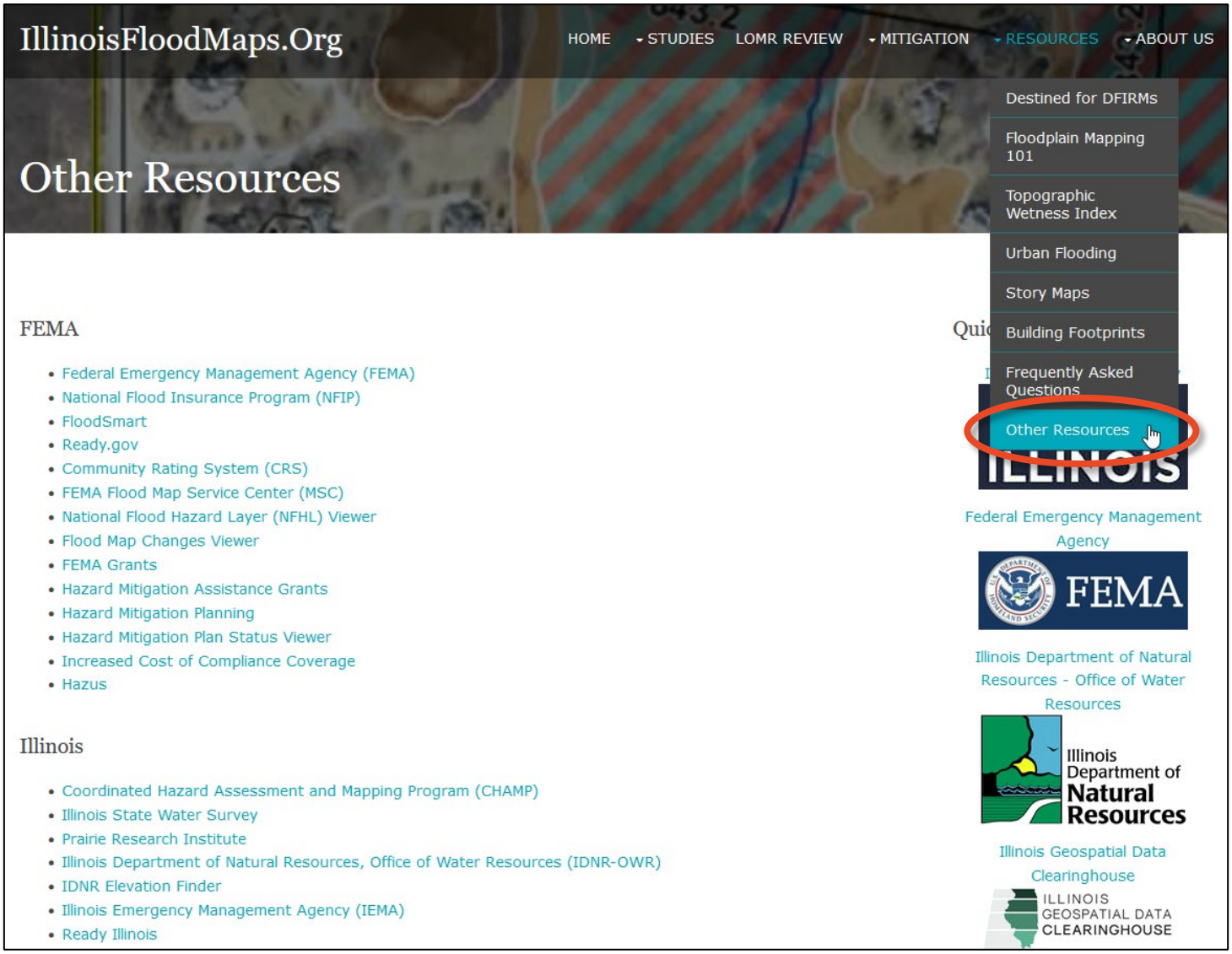


Building footprints shown in pink in an urban area.

Building footprints were extracted from high resolution digital elevation models from LiDAR.

Resources: FAQ

Resources: Other Resources



Resources: Other Resources

Illinois

- Coordinated Hazard Assessment and Mapping Program (CHAMP)
- Illinois State Water Survey
- Prairie Research Institute
- Illinois Department of Natural Resources, Office of Water Resources (IDNR-OWR)
- IDNR Elevation Finder
- Illinois Emergency Management Agency (IEMA)
- Ready Illinois
- IEMA - Approved Illinois State and County Mitigation Plans
- Illinois Geospatial Data Clearinghouse
- Illinois Height Modernization (ILHMP) LiDAR Data

Regional

- Great Lakes Coastal Resilience Planning Guide
- U.S. Army Corps of Engineers Chicago District
- U.S. Army Corps of Engineers Rock Island District
- U.S. Army Corps of Engineers St. Louis District
- Metropolitan Water Reclamation District of Greater Chicago (MWRDGC)
- Cook County, IL, Disaster Recovery and Resilience - CDBG-DR
- The Polis Center, Indiana University-Purdue University Indianapolis
- Northwestern Indiana Regional Planning Commission (NIRPC)
- Southeastern Wisconsin Regional Planning Commission (SEWRPC)

Other Agencies & Organizations

- American Planning Association (APA)
- Association of State Dam Safety Officials (ASDSO) - "Living with Dams: Know Your Risk"
- Association of State Floodplain Managers (ASFPM)
- Center for Neighborhood Technology (CNT)
- Illinois Association for Floodplain and Stormwater Management (IAFSM)
- Institute for Catastrophic Loss Reduction - "Protect Your Home from Basement Flooding"
- National Weather Service Flood Safety Tips and Resources
- U.S. Army Corps of Engineers National Levee Database
- U.S. Board on Geographic Names

Illinois Department of Natural Resources

Illinois Geospatial Data Clearinghouse

ILLINOIS GEOSPATIAL DATA CLEARINGHOUSE

Association of State Floodplain Management

AGENCY PARTNER with Association of State Floodplain Managers

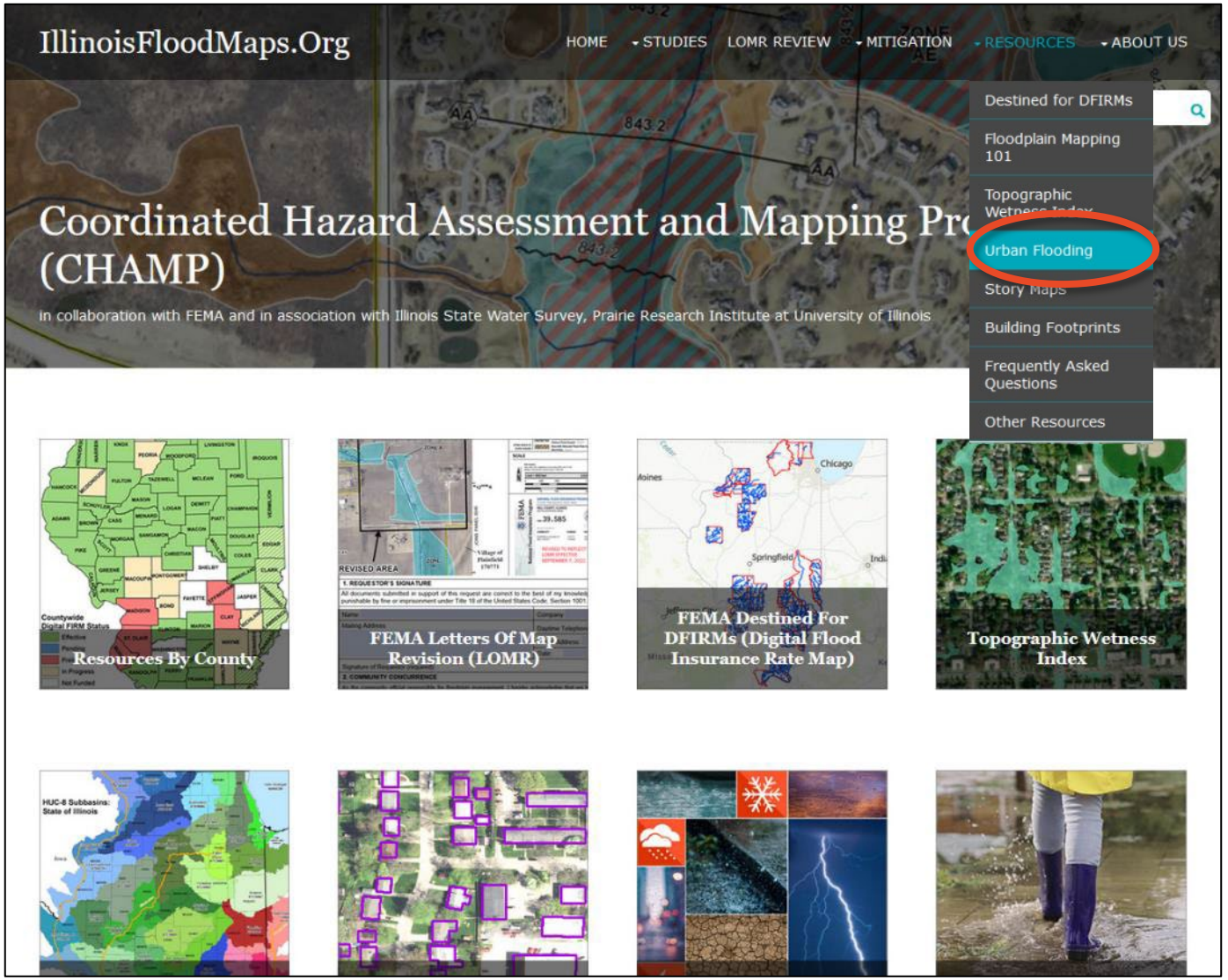
Illinois Association for Floodplain and Stormwater Management

IAFSM Illinois Association for Floodplain and Stormwater Management

U.S. Board on Geographic Names at U.S. Geological Survey

USGS science for a changing world

Resources: Urban Flooding



Resources: Urban Flooding

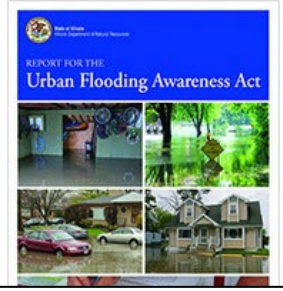
Urban Flooding

Urban flooding affects Illinoisians every year. As defined by the Urban Flooding Awareness Act (UFAA), it is "The inundation of property in a built environment, particularly in more densely populated areas, caused by rainfall overwhelming the capacity of drainage systems, such as storm sewers". As defined by the National Risk Index, Riverine flooding occurs when a water source like a river overflows its banks onto normally dry land. Unlike Riverine flooding, Urban flooding can happen regardless of an area's distance to a river or lake.

A residential street is flooded after nearly 5 inches of rain fell in 24 hours. Photo credit: Zoe Zaloudek

The floodplains shown on FEMA Flood Insurance Rate Maps represent only riverine flooding. According to UFAA, "Over 90% of urban flooding damage [insurance] claims from 2007 to 2014 were outside the mapped floodplain". CHAMP is involved with projects studying urban flooding, including contributing to the report for the Urban Flooding Awareness Act. It has also worked with the Metropolitan Water Reclamation District of Greater Chicago on multiple reports. CHAMP staff are actively pursuing the development of an Illinois Integrated Water Information Center. Additionally, team members have created models and Story Maps of recent urban flooding events.

Urban Flooding Awareness Act (UFAA)



In 2014, the Illinois General Assembly tasked the Illinois Department of Natural Resources (IDNR) to prepare a report on the extent, cost, prevalence, and policies related to urban flooding in Illinois and to identify resources and technology that may lead to mitigation of the impact of urban flooding. IDNR prepared this report in collaboration with other state agencies, including the Illinois State Water Survey. It was released in June 2015.

IDNR webpage on UFAA (includes download links for report & appendices):
https://dnr.illinois.gov/waterresources/urbanfloodingawareness.html

University of Illinois IDEALS link to report:
https://www.ideals.illinois.edu/items/79381

Resources: Urban Flooding

University of Illinois IDEALS link to report:
https://www.ideals.illinois.edu/items/79381

Metropolitan Water Reclamation District (MWRD)

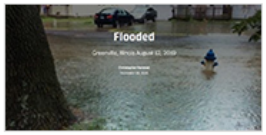
The CHAMP team has worked with the Metropolitan Water Reclamation District (MWRD) on a multi-phase project to examine the hydrologic and hydraulic impacts of stormwater retention and detention policies in the Greater Chicago region.

Illinois Integrated Water Information Center (IWIC)

As recommended in the 2022 Illinois State Water Plan, the Illinois State Water Survey and the other agencies that comprise the State Water Plan Task Force are working to establish and fund an Illinois Integrated Water Information Center (IWIC) in the Prairie Research Institute at the University of Illinois to foster interdisciplinary collaboration between Illinois state, federal and local agencies on water related issues including climate variability and related social and environmental justice considerations. IWIC would serve as a centralized location for water resource related information to inform and empower Illinois' decision makers, program managers, emergency managers, community officials, home and business owners, and the public.

Flood Event Story Maps

Gibson City Story Map
On August 12, 2021 a line of thunderstorms developed along southern Ford County, IL. Nearly 10 inches of rain fell in under 10 hours. This story map includes a model simulation produced by the Illinois State Water Survey, which shows the progression of the flood in Gibson City from the morning to the evening of August 12th. Photos taken during the flood are compared to the model results.



Greenville Story Map
On August 12, 2019, Greenville, Illinois received 9.34 inches of rain in 12 hours. Rainfall rates exceeded 2 inches per hour. Residents reported and documented street flooding, yard flooding, and basement flooding. This story map includes a model simulation produced by the Illinois State Water Survey, which shows the progression of the flood in Greenville. Photos taken during the flood are compared to the model results.

External Resources

- Center for Neighborhood Technology (CNT)
- Chicago Metropolitan Agency for Planning (CMAP)
- Metropolitan Water Reclamation District of Greater Chicago (MWRDGC)

Resources: Urban Flooding/MWRD

Metropolitan Water Reclamation District (MWRD)

Urban development is typically accompanied by an increase in impervious area that can lead to increased runoff and more severe flooding. Stormwater retention and detention policies are commonly employed by regulatory agencies to mitigate these potential development impacts within their jurisdiction. This project examines the hydrologic and hydraulic impacts of such policies in the Greater Chicago region. In Phase I of this project, ISWS-CHAMP in consultation with the Metropolitan Water Reclamation District (MWRD) outlined steps to compute watershed specific release rates for two pilot study areas in Cook County. In Phase II, this methodology was then applied to other District watersheds. Phase III of the project examines the impacts of these regulations from the lens of social equitability, multi-jurisdictional watershed management, and stormwater quality.

A pedestrian crosses a flooded street.

Train tracks partially submerged by excess rainfall.

Watershed-Specific Release Rate Analyses:

Phase I and II Analysis Report (PDF)

- Methodology
- Criteria for Analysis of Release Rates

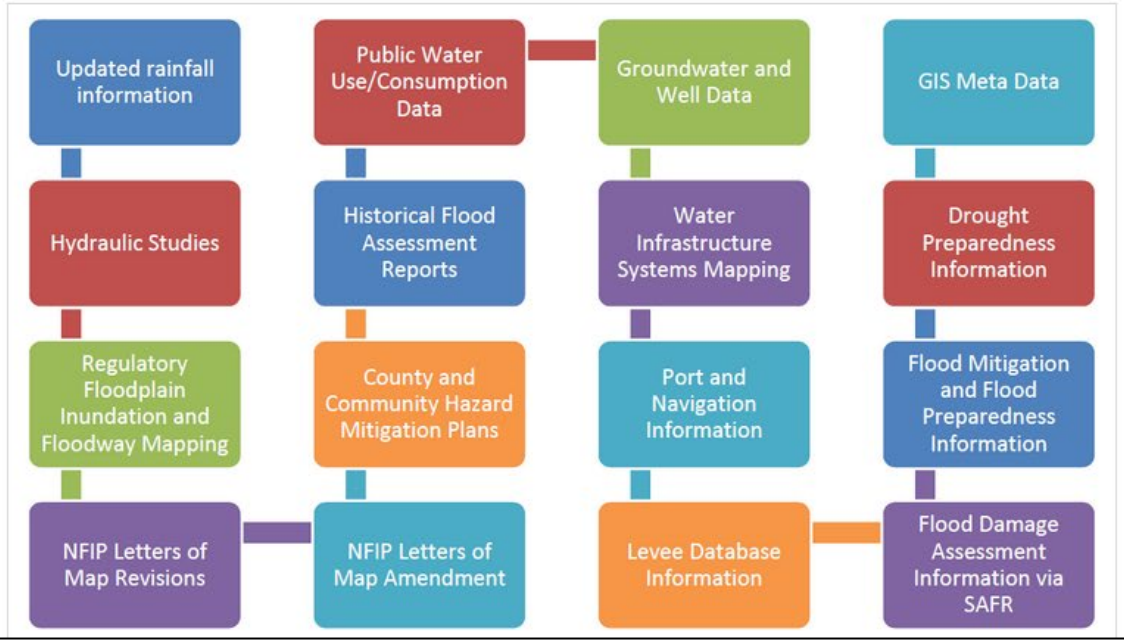
Phase III Analysis Report (PDF)

- Chapter 1: Impacts of Watershed-Specific Release Rates on Disproportionately Impacted

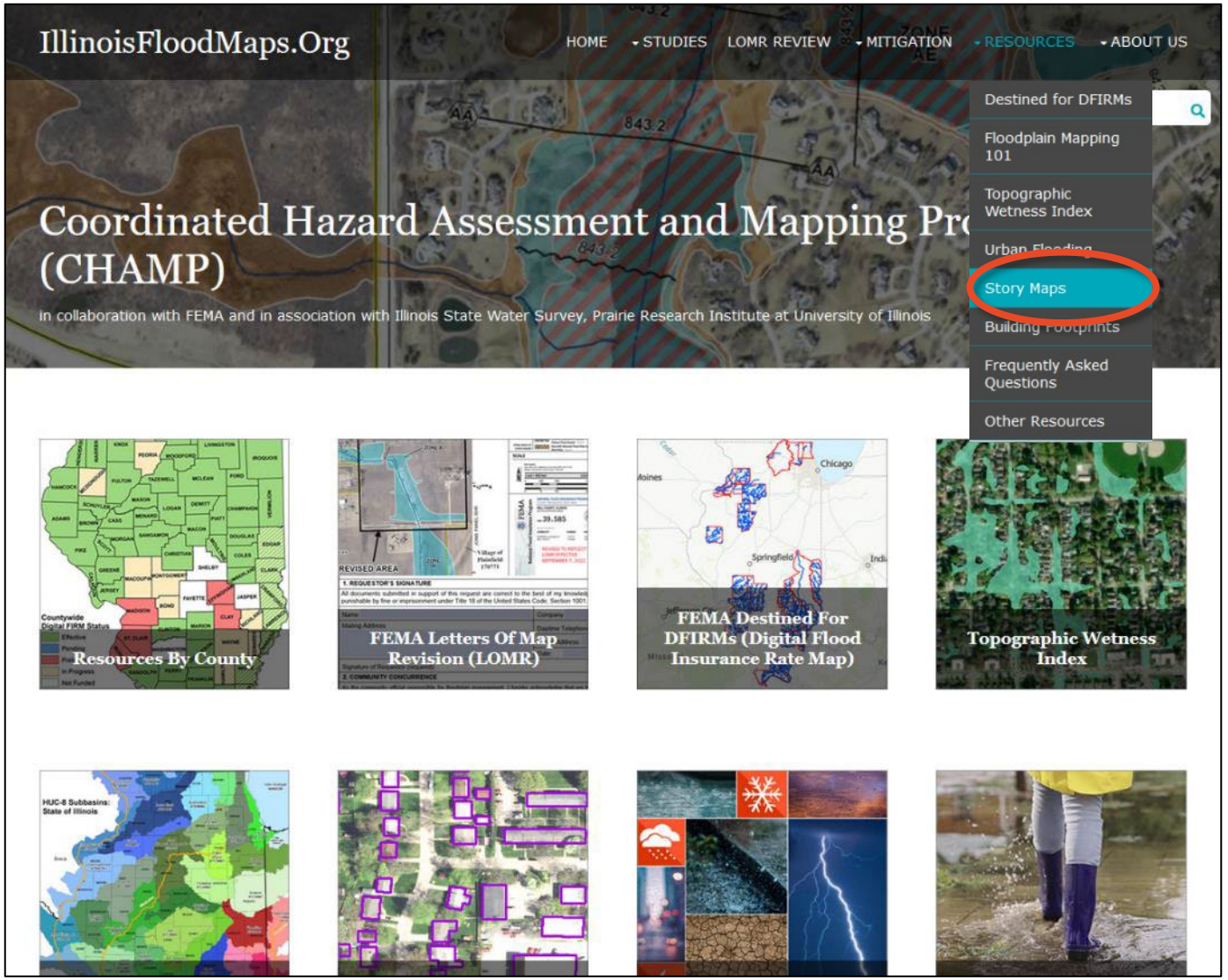
Resources: Urban Flooding/IIWIC

Illinois Integrated Water Information Center (IWIC)

The Illinois Integrated Water Information Center (IWIC) in the Prairie Research Institute at the University of Illinois will be an interdisciplinary collaboration between Illinois state, federal and local agencies on water related issues including climate variability and related social and environmental justice considerations. As outlined in the 2022 Illinois State Water Plan, the State Water Plan Task Force is working to establish and fund this center to be a library of water science-based information and technology accessible by Illinois' decision makers, program managers, emergency managers, community officials, home and business owners, and the public. IWIC would serve as a centralized location for water resource related information including, but not limited to, the following:



Resources: Story Maps



Resources: Story Maps

Story Maps

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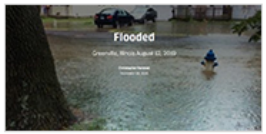

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Informational Story Maps

Kishwaukee River Watershed

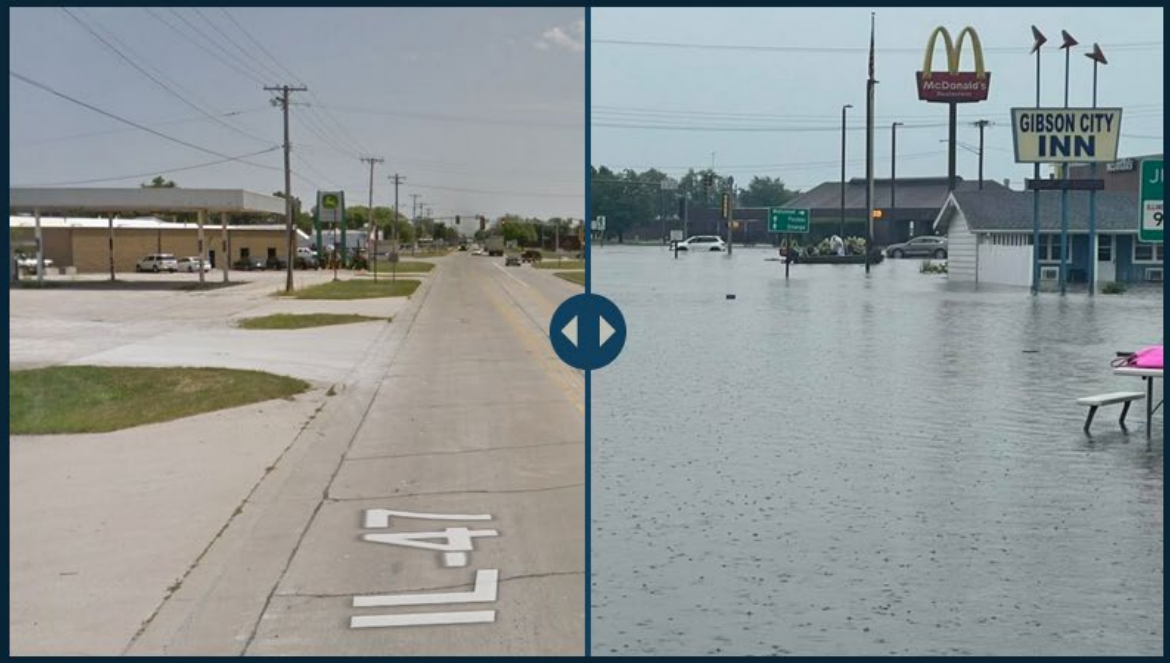
This story map, made in Fall 2018, describes flood events that occurred in the Kishwaukee River watershed from 2015-2018. Impacted communities include Belvidere, Cherry Valley, and Sycamore.

Story Map Topic Locations

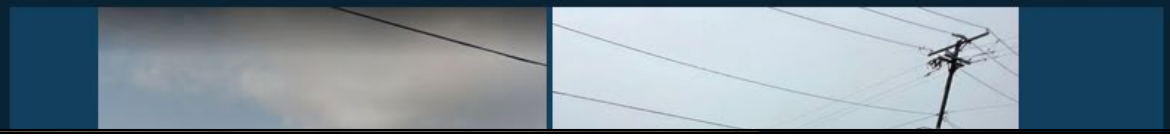
What Is A Story Map?

A story map is a web-based

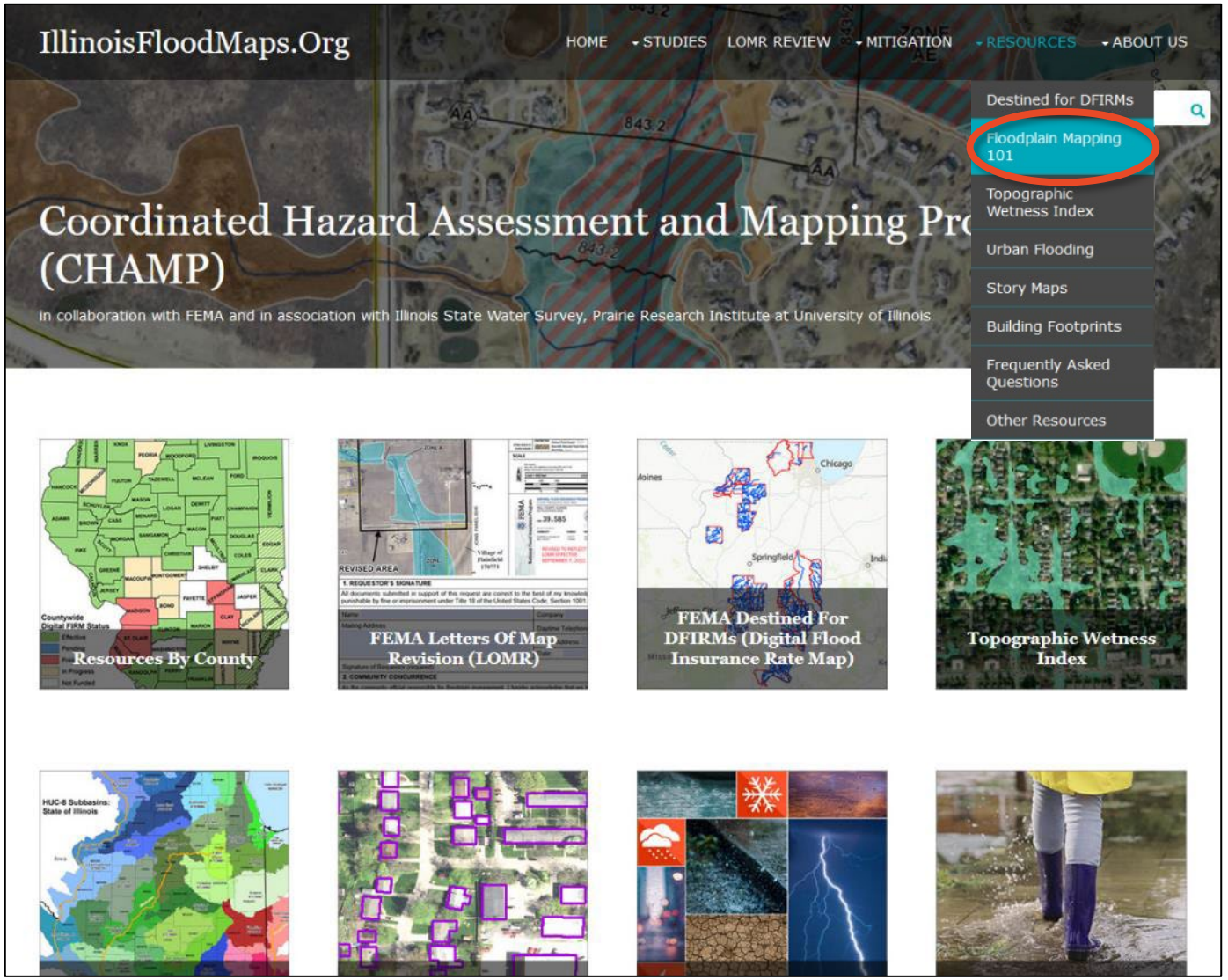
Resources: Story Maps



Dry conditions at the intersection of 1st Street and Sangamon Avenue vs. flood (Image courtesy of Jacob Dickey)



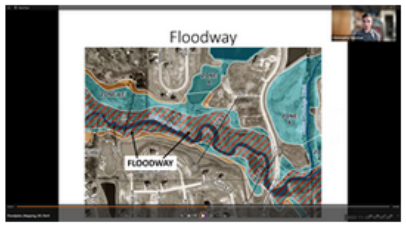
Resources: Floodplain Mapping 101



Resources: Floodplain Mapping 101

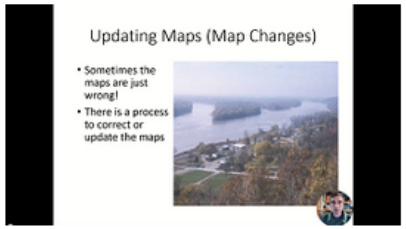
Floodplain Mapping 101

An introductory course in floodplain management and floodplain mapping, intended for community officials. This is a high level, informative session to help users better understand some of the more technical aspects of floodplain mapping.



Part 1 (36 min): Covers basic terms, types of FEMA maps, flood zones, Flood Insurance Studies (FIS), and locating Base Flood Elevations (BFEs) on maps and exhibits.

Watch Part 1 (hosted on Illinois Media Space)
Download Part 1 MP4 (402 MB)

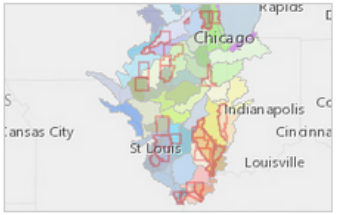


Part 2 (16 min): Updating maps through map changes, brief discussion of levees

Watch Part 2 (hosted on Illinois Media Space)
Download Part 2 MP4 (138 MB)

Working With Communities

A goal of RiskMAP is to work closely with communities to better understand local flood risk, mitigation efforts, and other topics and spark watershed-wide discussions about increasing resilience to flooding.



Current Risk Map Projects in Illinois are both watershed- and county-based.

Resources: Floodplain Mapping 101

media space Illinois

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Floodplain Mapping 101, Part 1

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From Zoe Zaloudek 7/28/2023

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