



FEMA

Levees: Roles & Responsibilities

IAFSM 2011 Annual Conference

March 9, 2011

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Outline

- FEMA's role/responsibilities for the NFIP
- FEMA's Map Modernization Program in Illinois
- USACE and FEMA: partnerships & authorities
- Provisionally Accredited Levees (PALs) – accreditation process & outreach
- FEMA's levee guidance and accreditation requirements (44 CFR 65.10)
- Risk MAP program & future outreach/coordination

National Flood Insurance Program

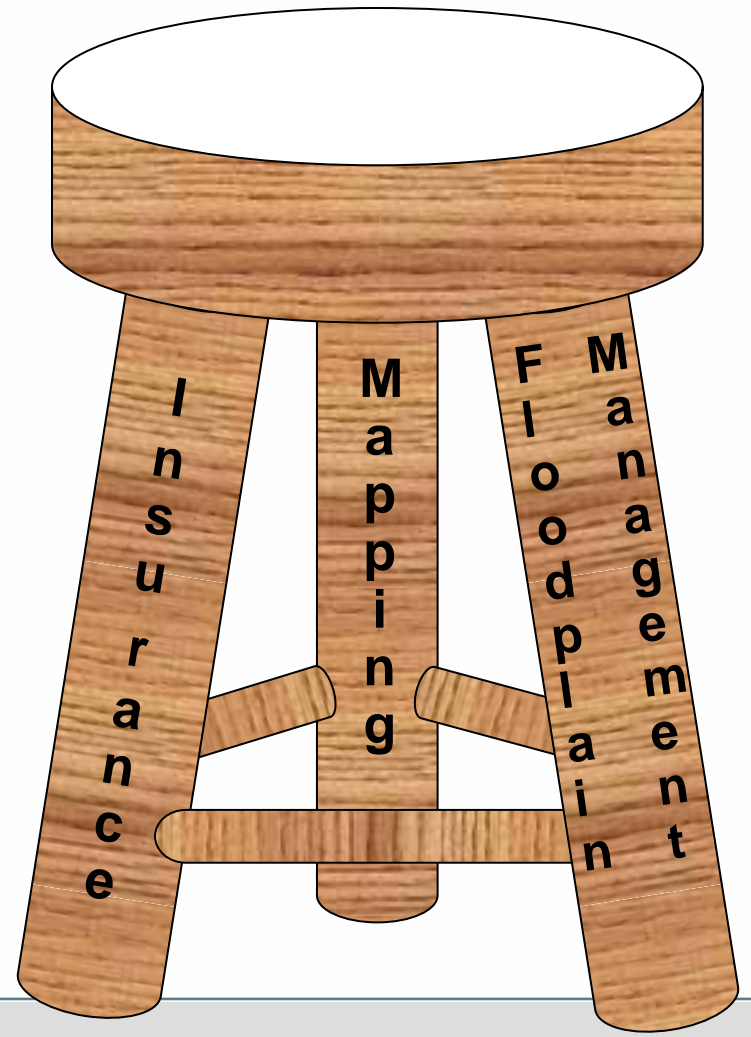


- A voluntary program
- A community adopts and enforces a floodplain ordinance; Federally-backed flood insurance is made available to property owners in the community
- A State, Local and Federal partnership

National Flood Insurance Program

How do we Manage Risk?

- Flood Insurance
- Risk Reduction via Floodplain Management (Floodplain Regulations)
- Risk Identification (Mapping)



National Flood Insurance Program

NFIP Goals

- Reduce the loss of life and property caused by flooding
- Reduce rising disaster relief costs caused by flooding
- Maintain the natural and beneficial functions of floodplains



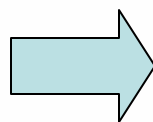
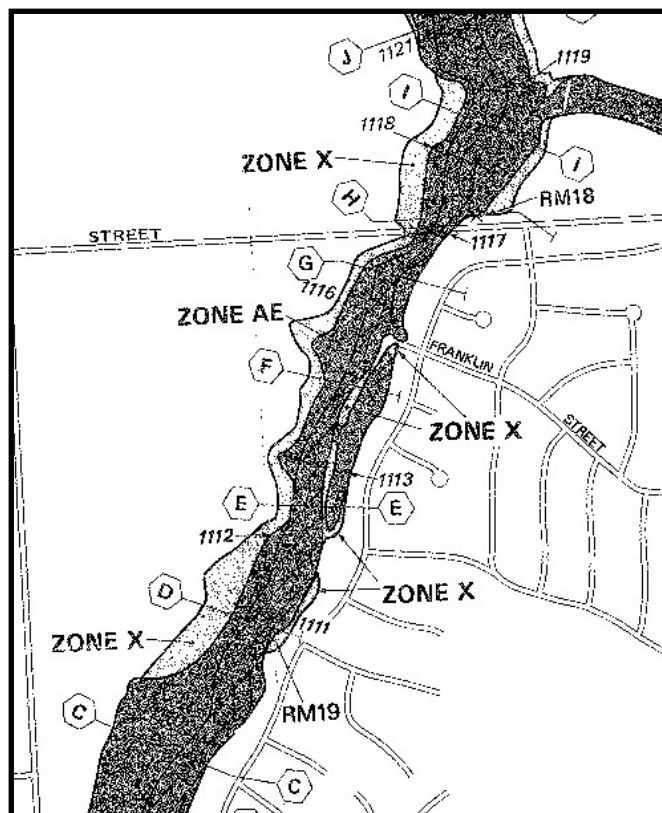
FEMA's Risk Analysis Branch – Mitigation Div

Primary Responsibilities Include:

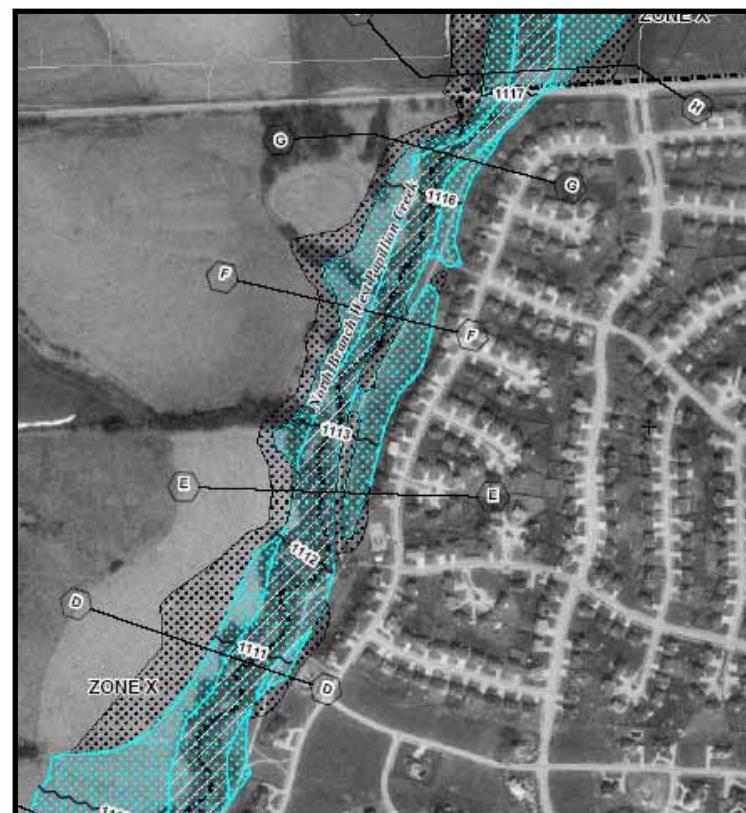
- Flood Insurance Rate Map (FIRM) and Flood Insurance Study (FIS) development and oversight
- Engineering and technical support to States/Locals
- Manage recent and past directives; moving in new directions!
 - Floodplain Mapping
 - Levees

FEMA's Map Modernization Program

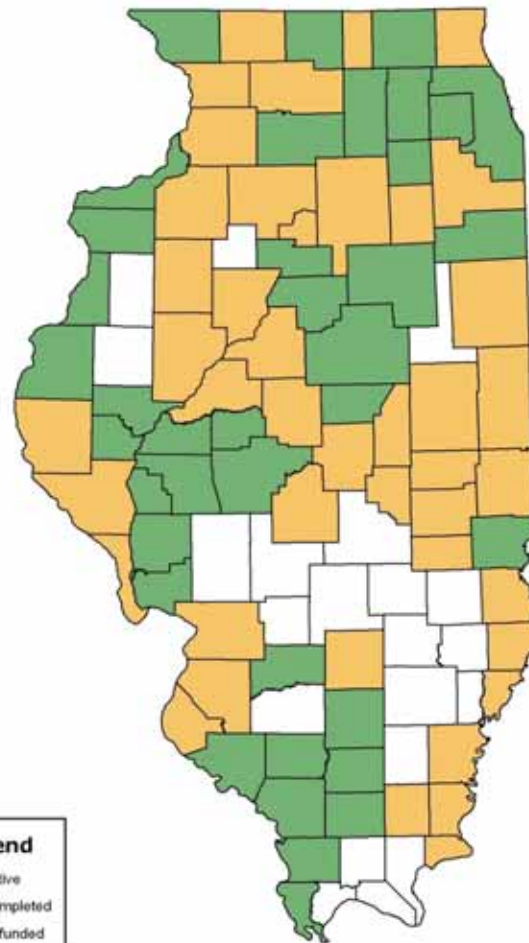
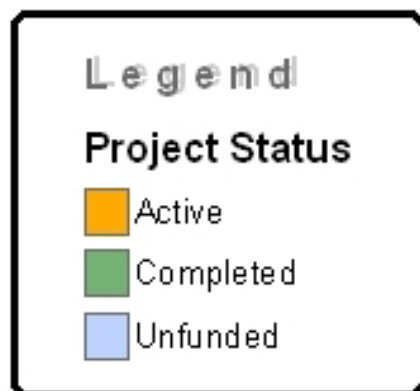
FIRM



DFIRM



FEMA's Map Modernization Program

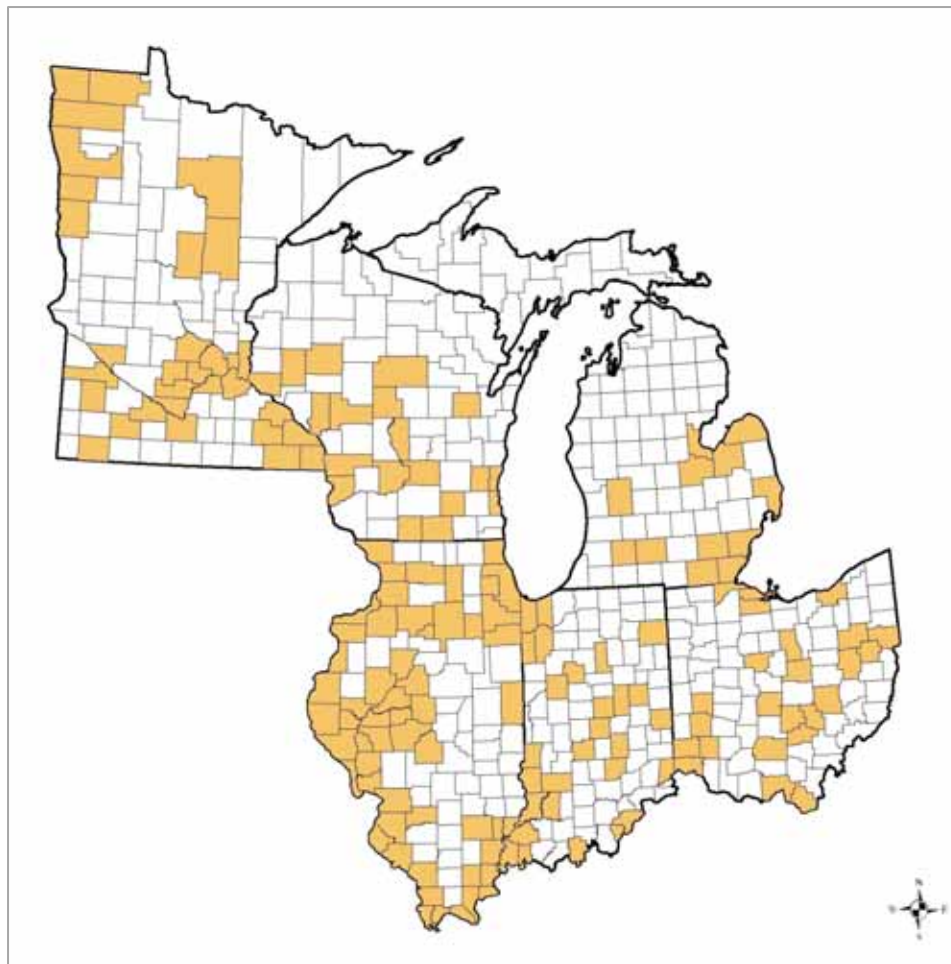


USACE and FEMA: Different Roles; Similar Goals

- Federal Partnerships
 - New flood studies
 - Levees and dams
- FEMA's Authority for Levees
 - Accreditation vs. Certification
- USACE's Authority for Levees
 - Evaluation vs. Inspection



Levees in FEMA Region V



Provisionally Accredited Levees in Illinois



The PAL Process

- **Provisionally Accredited Levee** (PAL) designation will be given to those levees that FEMA believes can provide the level of protection but for which data verifying this is not readily available
- Community must sign an agreement to provide FEMA with levee certification data by the end of a two year period
- The documentation must show that the levee meets standards set forth in FEMA's Code of Federal Regulations (Part 65.10)
- Preliminary maps will be issued with area behind levees shown as a Zone X (shaded) and PAL annotation will be added
- At the end of the two year period, if the levee can be accredited, FEMA will show it on the map as providing protection

Guidance Issued To Date

- **Procedure Memorandum 34 (PM 34) – *Interim Guidance for Studies Including Levees***
- **PM 43 and Guidelines Document - *Guidelines for Identifying Provisionally Accredited Levees***
- **PM 45 – Revisions to Accredited Levee and Provisionally Accredited Levee Notation**
- **Appendix H of *Guidelines & Specifications***
- **PM 52 – Guidance for Mapping Processes associated with Levee Systems**
 - **Guidelines for Mapping Landward of Levee Systems**
 - **Guidelines for the Notification Process for De-accredited Levees**
- **PM 53 – Guidance for Notification and Mapping of Expiring Provisionally Accredited Levee Designations**
- **PM 63 – Guidance for Reviewing Levee Accreditation Submittals**

Guidance materials are accessible through
http://www.fema.gov/plan/prevent/fhm/lv_fpm.shtm.



PAL Deadlines

- PAL agreement due in 90 days
- PAL progress report due in 12 months
- 65.10 data due 24 months after 90-day period following notification

If any of the above deadlines are not met:

- Levee no longer eligible for PAL designation
- Levee de-accredited

PAL Outreach Goals

- Provide levee owner/sponsors information on the remaining PAL process
- Outline submittal requirements for levee accreditation package (44 CFR 65.10)
- Convey what occurs after 2-year PAL process
- Answer any questions regarding this process

Levee Accreditation Requirements



Levee Accreditation Requirements

Listed in CFR 65.10

- 65.10(a) – General Requirements
- 65.10(b) – Design Requirements
- 65.10(c) – Operations Plans
- 65.10(d) – Maintenance Plans
- 65.10(e) – Certification Requirements

65.10(b) – Design Requirements

- 65.10(b)(1) – Freeboard
- 65.10(b)(2) – Closures
- 65.10(b)(3) – Embankment Protection
- 65.10(b)(4) – Embankment and Foundation Stability
- 65.10(b)(5) – Settlement Analysis
- 65.10(b)(6) – Interior Drainage
- 65.10(b)(7) – Other Design Criteria

65.10(b)(1) - Freeboard



65.10(b)(4) – Embankment and Foundation Stability

EM 1110-2-1913
30 Apr 2000

Table 6-1b
Minimum Factors of Safety - Levee Slope Stability

Type of Slope	Applicable Stability Conditions and Required Factors of Safety			
	End-of-Construction	Long-Term (Steady Seepage)	Rapid Drawdown ^a	Earthquake ^b
New Levees	1.3	1.4	1.0 to 1.2	(see below)
Existing Levees	--	1.4 ^c	1.0 to 1.2	(see below)
Other Embankments and dikes ^d	1.3 ^{e,f}	1.4 ^{e,f}	1.0 to 1.2 ^f	(see below)

^a Sudden drawdown analyses. F. S. = 1.0 applies to pool levels prior to drawdown for conditions where these water levels are unlikely to persist for long periods preceding drawdown. F. S. = 1.2 applies to pool level, likely to persist for long periods prior to drawdown.

^b See ER 1110-2-1806 for guidance. An EM for seismic stability analysis is under preparation.

^c For existing slopes where either sliding or large deformation have occurred previously and back analyses have been performed to establish design shear strengths lower factors of safety may be used. In such cases probabilistic analyses may be useful in supporting the use of lower factors of safety for design.

^d Includes slopes which are part of cofferdams, retention dikes, stockpiles, navigation channels, breakwater, river banks, and excavation slopes.

^e Temporary excavated slopes are sometimes designed for only short-term stability with the knowledge that long-term stability is not adequate. In such cases higher factors of safety may be required for end-of-construction to ensure stability during the time the excavation is to remain open. Special care is required in design of temporary slopes, which do not have adequate stability for the long-term (steady seepage) condition.

^f Lower factors of safety may be appropriate when the consequences of failure in terms of safety, environmental damage and economic losses are small.

65.10(b)(6) – Interior Flooding



Additional Requirements

■ 65.10 (e) Certification

- Data submitted to support that a given levee system complies with the structural requirements set forth in 65.10(b)(1-7) must be certified by a Registered Professional Engineer.
- Certified as-built plans must be submitted

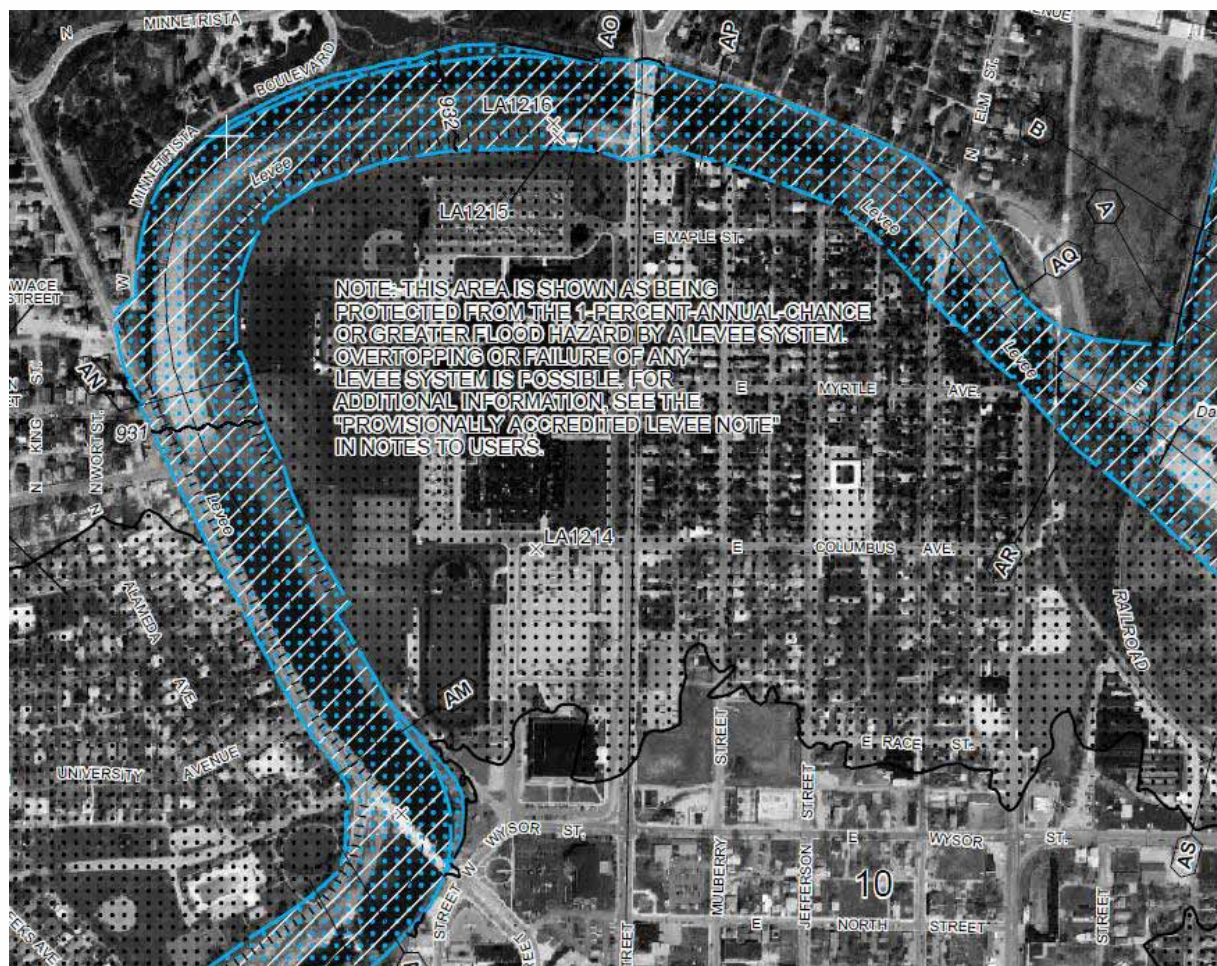
PAL Package Submittal

- What to expect after PAL package submittal?
 - Acknowledgement letter
 - Denial Letter with package deficiencies
 - Acceptance letter
- Contents only review

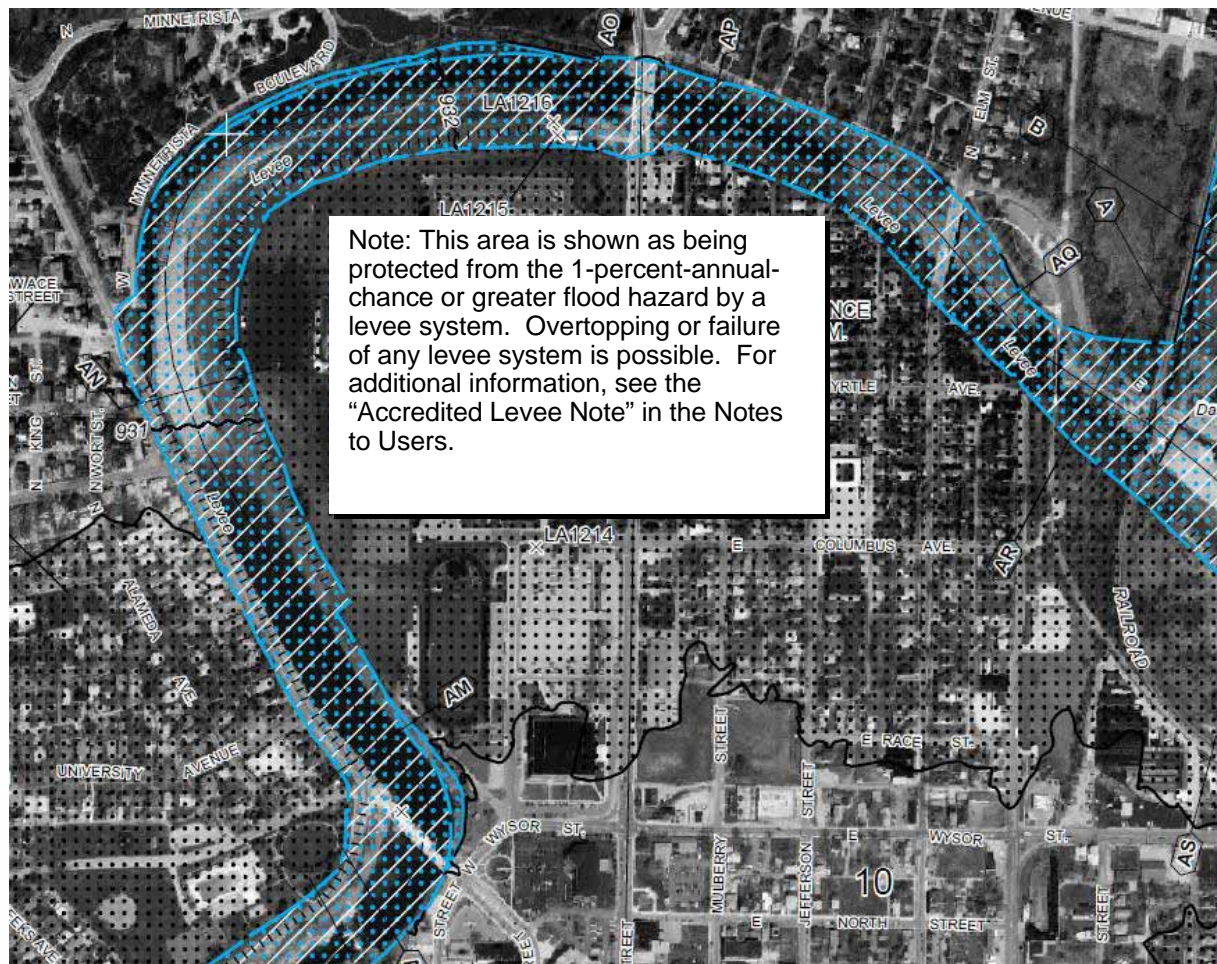
PAL Package Accepted

- FEMA will initiate a LOMR (if single panel) or Physical Map Revision (PMR; if multiple panels):
 - Remove PAL note
 - Place Accredited Levee note
 - May have to incorporate new H&H
- Process can take up to 12-months for prelim release
- Funding

FIRM Panel (PAL)



FIRM Panel (Accredited)



Note to Users (PAL)

NOTE TO USERS

Provisionally Accredited Levee Notes to Users: Check with your local community to obtain more information, such as the estimated level of protection provided (which may exceed the 1-percent-annual-chance level) and Emergency Action Plan, on the levee system(s) shown as providing protection for areas on this panel. To maintain accreditation, the levee owner or community is required to submit the data and documentation necessary to comply with Section 65.10 of the NFIP regulations by (_____, _____). If the community or owner does not provide the necessary data and documentation or if the data and documentation provided indicate the levee system does not comply with Section 65.10 requirements, FEMA will revise the flood hazard and risk information for this area to reflect de-accreditation of the levee system. To mitigate flood risk in residual risk areas, property owners and residents are encouraged to consider flood insurance and floodproofing or other protective measures. For more information on flood insurance, interested parties should visit the FEMA Website at <http://www.fema.gov/business/nfip/index.shtm>.

Note to Users (Accredited)

NOTE TO USERS

Accredited Levee Notes to Users: Check with your local community to obtain more information, such as the estimated level of protection provided (which may exceed the 1-percent-annual-chance level) and Emergency Action Plan, on the levee system(s) shown as providing protection for areas on this panel. To mitigate flood risk in residual risk areas, property owners and residents are encouraged to consider flood insurance and floodproofing or other protective measures. For more information on flood insurance, interested parties should visit the FEMA Website at <http://www.fema.gov/business/nfip/index.shtm>.

PAL Package Not Accepted/Submitted

- FEMA will communicate this per PM53
 - Mtg or conf call with impacted owners, communities, state
 - Followed by notification of de-accreditation in writing
- FEMA will initiate Physical Map Revision (PMR)
 - NO LOMRs (PM53)
 - Up to 12 months before Preliminary DFIRMs
 - Minimum of 18-months before PMR effective (PM53)
- Funding

Levee Protected Area



PMR - De-accredited Levee Mapping Decisions

- Mapping a de-accredited levee per PM52
 - Follow Appendix H Guidance
 - With and without levee analysis
 - Floodway calculated w/o levee (landward toe minimum)
 - FEMA does not map breaching scenarios
 - Decision to use detailed, limited detailed, or approximate procedure
 - Risk and landward use are the main factors

PMR – Post Preliminary Process (PPP) for a De-Accredited Levee

- Per PM52, the following PPP Procedures initiated
 - Final Community Coordination Meetings
 - Local Officials Mtg
 - Flood Risk Information Open House
 - BFE Changes – 90-day appeal period
 - No BFE Changes – 90-day comment period
 - Newspaper Publication in both cases

PM53 – NO PAL Extensions



NO PAL Extensions...However

■ Per PM53

- If FEMA is provided "...44 CFR Section 65.10 compliant data and documentation prior to community adopting the DFIRM or prior to the four month period that would precede the effective date of the mapping project..." FEMA will revise the DFIRM and follow the accreditation process
- If after community adoption, "...FEMA will accredit the levee and map it accordingly as soon as possible after DFIRM becomes effective."

■ Certification through MT-2 Process

- Form 3 – Riverine Structures

FEMA Responsibilities

- **FEMA DOES NOT implement or fund the:**
 - Design, construction, operation, maintenance or certification of levee systems;
 - Examination or evaluation of levees; OR
 - Determination of how a structure or system will perform in a flood event
- **FEMA relies on levee owners or other parties seeking recognition of a levee to provide information needed to clearly represent the flood risks in areas behind levees**

Community/Levee Sponsor/Owner Responsibilities

- Coordinates with FEMA regional offices, regional service centers and study contractors on NFIP mapping
- Communicate risks of levees to the community using outreach materials
- Provides FEMA regional offices with data and documentation demonstrating compliance with Section 65.10
- Ensure necessary operation and maintenance
- Completes any provisional accreditation responsibilities (PAL agreements, annual reports, etc.)

Moving Forward

- Risk MAP Program
- Future communication and outreach by FEMA
- Opportunities for improved coordination among state and federal agencies, and local stakeholders!

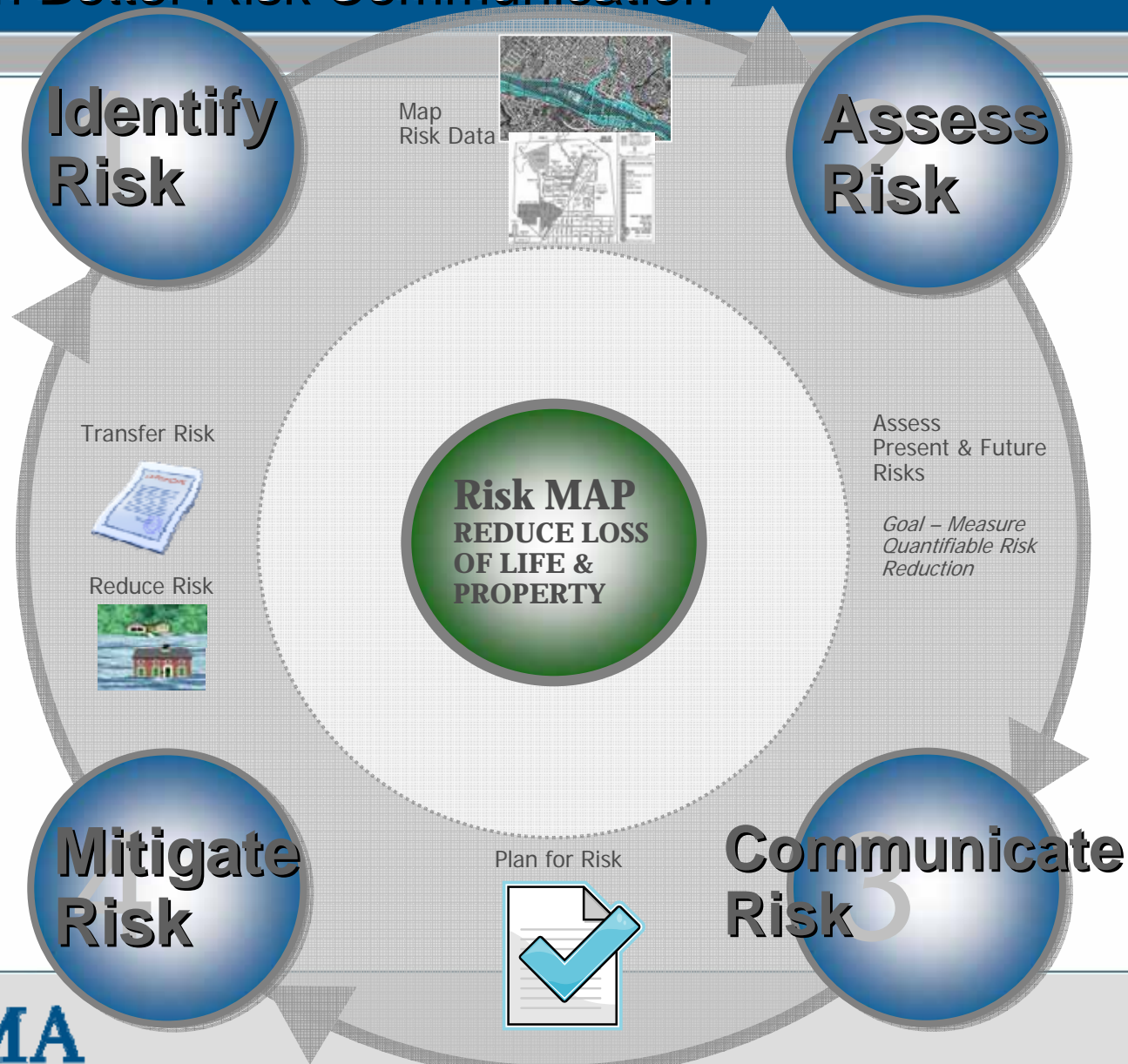
Risk MAP (Mapping, Assessment, Planning)

Through collaboration with State, Local, and Tribal entities, Risk MAP will deliver quality data that increases public awareness and leads to action that reduces risk to life and property

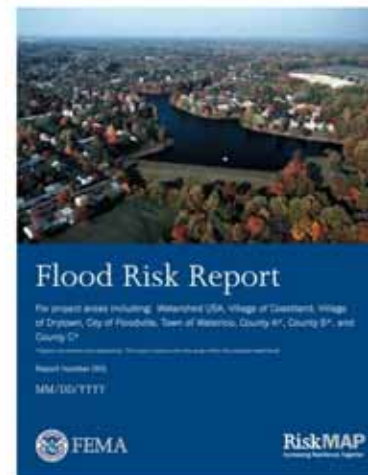
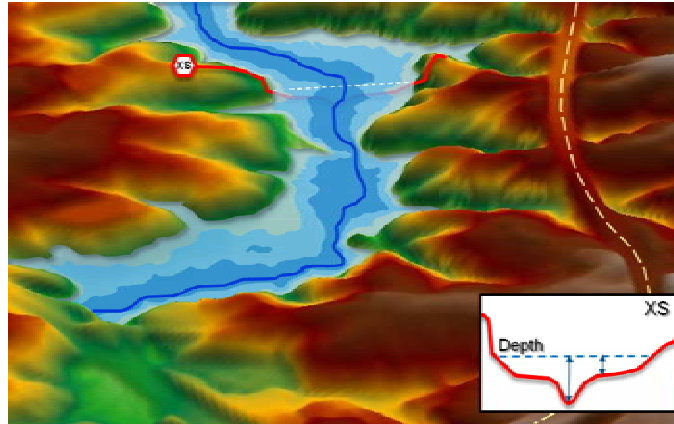


Risk MAP Lifecycle

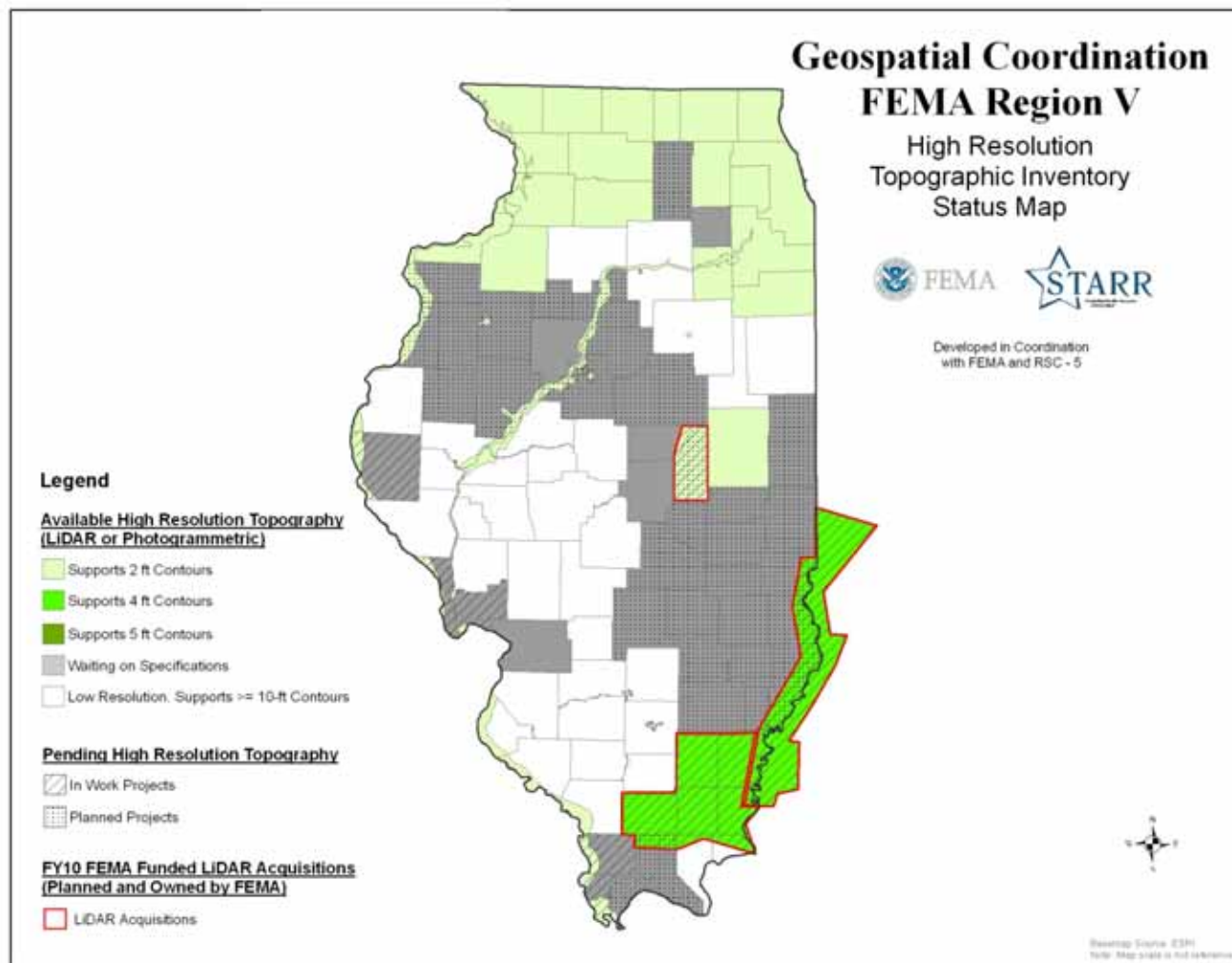
Focus on Better Risk Communication



Risk MAP (Mapping, Assessment, Planning)



Topographic Data Inventory



Data Management & Inventory



Product Search by...

Address **Map Panel ID**

1) Select a Product:
Flood Maps

2) Enter an Address:
Street:
City:
State: Zip:

Announcements

[Fee Changes For FEMA Contractors](#)

Starting May 4, 2009 all FEMA Contractors will now pay for paper products. Digital products will remain

New to the FEMA Map Service Center?

- Homeowners/Renters
- Real Estate/Flood Determination Agents
- Insurance Agents
- Engineers/Surveyors
- Federal/Exempt Customers

What are you looking for?

- Flood Maps
- FIRMettes
- DFIRM Databases
- MapViewer - Web
- Documents, Publications & Forms

More Information

- How do I find the flood map for my area?
- What is a FIRMette?
- How do I find a LOMC?
- Definitions of FEMA Flood Zone Designations
- Product Information
- Price List
- How to Order
- Need Assistance?

Log On

User ID (email address):

Password:

[» Forget your password?](#)

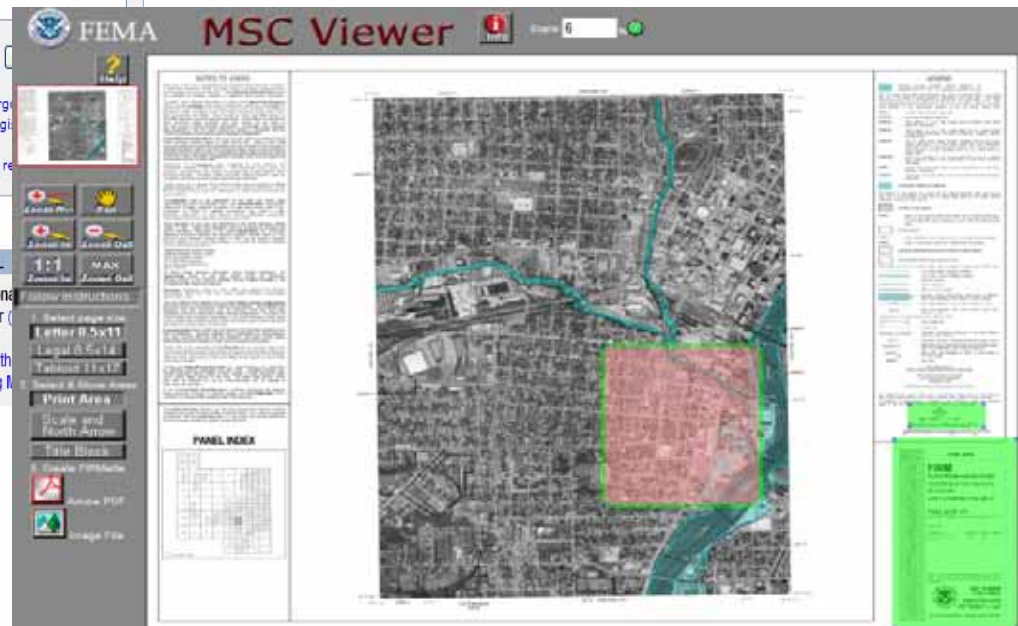
[» Register](#)

Why register?

NFHL

National Flood Hazard Layer

[View the NFHL using the Map Viewer](#)



Coordinated Needs Management Strategy

- Organizes, stores, and analyzes flood hazard mapping needs
- Establishes a geospatially enabled effective means for users to enter, monitor, and update their inventory of needs
- Document where flood studies meet FEMA's current standards
- Data-driven planning and flood map update investment process in a geospatial environment (geodatabase)
- Validation Checklist used as basis for CNMS entry

Questions?



FEMA

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