RiskMAP
Map Mod Indiana
Status

Next counties up

Fountain
Parke
Randolph
Martin
Ripley
The Paradigm Shift: Map Mod to Risk MAP

- Map Modernization used increasingly-available technology to increase the quality, reliability, and availability of flood hazard maps and data
- It focused on digitizing maps to provide timely, accurate information to community planners

Risk MAP further enhances the maps, involves communities during the assessment and planning stages, and guides and encourages them to communicate risk to their constituents.
What is Risk MAP?

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 is Science Based

Risk MAP is here because new science is available that enables FEMA to:

• Develop reliable and accurate maps to identify communities’ risks

• More fully assess the level of flood risk that communities face

• Provide guidance to help communities develop better plans for mitigating risk

• Arm communities with the tools and information needed to communicate about risk and mitigation more clearly and confidently to their constituents
Prioritize Projects

Provides a more scientific, transparent approach to identify communities to study and map.

Prioritization includes:
- 2010: Based on risk, need, data availability
- 2011: Based on algorithm of risk, need, community contribution

Enables FEMA to:
- Acquire data for future projects
- Develop products for high risk, need areas
- Leverage previous efforts
- Consider stakeholder input
- Provide technical assistance
What is the Watershed Approach?

- Uses the watershed as a study framework
- Evaluation of need to include unstudied stream reaches connecting multiple studied stream reaches within a watershed
- Areas for data processing may be identified on a watershed basis

Aligns FEMA with agencies and the scientific community who already use a watershed approach.
Elevation data includes:

- Inventory of existing elevation data
- Acquisition of elevation data on a watershed basis based on risk, need, and contribution
- Partnering to cost-share data acquisition and processing

Increases the reliability of FEMA’s science to provide a more accurate picture of risk.
Mitigation Planning Activities Include:
- Local mitigation planning support
- Revised guidance
- Community incentives
- Participation by nontraditional stakeholders in project lifecycle

Products:
- National repository for Mitigation Plans
- Method to monitor risk reduction activities
- National Community Toolkit for Hazard Mitigation Planning
Risk Communications

The science behind Risk MAP provides the foundation for communicating about risk reduction.

Risk communications includes:
• Tools to strengthen community capability to communicate about risk
• A foundation for local risk communications

Improves communications:
• Between FEMA and communities
• Between communities in a watershed
• Within communities

Risk MAP Products:
• Project communication assessment tool
• Project communication planning tool
• Customizable fact sheets
Risk MAP Process

Step 1
Broad data mining

Step 2
Identify hot spots

Step 3
Create watershed map

Step 4
Discovery meeting

Step 5
In-depth data mining

Step 6
Flood risk analyses, e.g. depth grids

Step 7
Create draft flood risk products

Step 8
Finalize and deliver flood risk products

Step 9
Use products to apply for project funding
Risk MAP Datasets

- Changes since last FIRM
- Depth grids (10-, 25-, 50-, 100-, and 500-year)
- Percent Annual Chance
- Percent Chance over 30-years
- Depth grids (2-, 5-, and 200-year) (enhanced product)
- Depth grids (1%+) (enhanced product)
- Velocity grids (enhanced product)
- Annualized Depth (enhanced product)
Changes Since Last FIRM

- Identify areas and types of SFHA change between current effective/previous SFHAs and proposed/new SFHAs
- A visual comparison of old and new SFHAs
- Offers stakeholders transparency
Changes Since Last FIRM

- Structures added
- 100-year floodplain added
- 100-year floodplain removed
- Remains in 100-year floodplain
- 500-year floodplain added
Flood Depth Grid

• Increase flood risk awareness by communicating that risk varies within the mapped floodplain
• Final product can include 2-, 5-, 10-, 25-, 50-, 100-, 200-, and 500-year events
• Provides the necessary input for damage analysis
Percent Chance Over 30 Years

76-99% chance (3 in 4 to almost 1 in 1 odds)

100% chance (1 in 1 odds)

11-25% chance (1 in 10 to 1 in 4 odds)

More than 1 in 4 odds

Big Cicero Creek
Chance of Flooding Over 30 years
## Relationship:
### Return Interval -to- % Chance During 30 Years

<table>
<thead>
<tr>
<th>Risk of Flood at Least Once During 30 Year Time Period</th>
<th>Equivalent Average Risk of Flood in Any Given Year</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tolerable % Chance</td>
<td>Approximate Odds</td>
</tr>
<tr>
<td>---------------------</td>
<td>------------------</td>
</tr>
<tr>
<td>3 %</td>
<td>1 in 30</td>
</tr>
<tr>
<td>5.8 %</td>
<td>1 in 20</td>
</tr>
<tr>
<td>14 %</td>
<td>1 in 7</td>
</tr>
<tr>
<td>26 %</td>
<td>1 in 4</td>
</tr>
</tbody>
</table>

≠ indicates the return interval is not equal to the specified value.
Risk MAP Wabash River
Discovery Meetings

- Joint venture between Indiana DNR & Illinois State Water Survey
- Includes Lower Wabash and Middle Wabash / Busseron Watersheds (HUC8)
- Two “high level meetings” with federal / state stakeholders (Silver Jackets in Indiana Fall 2010)
- Six local meetings with local stakeholders
Risk MAP Discovery:
Lower White River Watershed
Discovery meeting highlights

- 6 separate meetings with local stakeholders (2 sets of 3, Washington, Bloomfield & Spencer)
- 2 meetings with Indiana Silver Jacket team
- 4 meetings were videotaped
- Discovery report and Flood Risk Map
Worthington flooding is a result of Eel River flooding.
What is CNMS?

• Goal:
  – Produce a National inventory database of flooding sources corresponding to our mapping inventory that:
    • Tracks program status on NVUE.
    • Informs map planning production decisions - References mapped flooding sources as valid or as having an unmet need.
    • Serve as FEMA’s mapping needs management system - MNUSS will be sunset.
    • Document accomplishments - Resolution date of existing mapping needs will be captured.
Coordinated Needs Management Strategy

- Geospatial database of mapping needs
- Includes all streams draining greater than 1 sq mi
- DOW now working on final QA of initial data
- Validation of selected counties to be complete by March 2011
- Used for planning for future mapping efforts
CNMS in FY11 and Beyond

• FEMA Regional Funding Allocations will be influenced by CNMS data in FY11
  – Completion of stream-level validation is critical
• Continuous Lifecycle Validation
  – Annual maintenance cycle of validation information to monitor inventory decay rate based on 5-year assessment cycle
    • For example, starting in FY11 effective studies from FY06 should undergo validation process
• Web-Based Application
  – Front-end application that allows easier interaction with CNMS data for non-GIS savvy users
  – Still being proposed at program level
Indiana Floodplain Information Portal
infip.dnr.in.gov

- New interface and base map complete
- 6 counties of flood elevation points complete
- eFARA and floodplain ordinance support now operational
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