The Joys, Trials & Tribulations of Being First

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Agenda

- Intro and State summary
- What has changed for FIRM
- Guidelines and standards for Flood Insurance Rate Maps (FIRMs) and Flood Insurance Study
- Future updates of Guidance
- What has changed DFIRM
- What has changed FIS
- Benefits and Conclusions
State Projects Using New Guidance

- Countywide PMR
  - Meigs County

- First Time Countywide DFIRMs
  - Logan County
  - Shelby County

- Large PMR
  - Butler County
What does this mean?

- FIS has changed (and the index map)
- GIS data has changed
- Flood Insurance Rate Maps have changed
How have things changed? (FIRMs)

- **FIRM Panel – Summary**
  - Standard page size (ARCH D -- 24x36)
  - Streamlined notes and legend information elements – less important notes moved to FIS Report
  - Updated graphic specifications
  - Simplification of FIRM features
  - BFE format has changed, cross sections contain regulatory labels
G & S for FIRMs and FIS

Older Guidance (April 2003)
- Appendix J – FIS
- Appendix K – FIRM
- Appendix L – DFIRM data

Old Guidance (2011)
- PM 66 – FIS
- Appendix K – FIRM
- Appendix L – DFIRM data

Current
- FEMA Knowledge Sharing Site (KSS)
- Technical References
FEMA KSS and Tech Reference

- More Flexible and Interactive
- “One stop shop”
- Defines three levels of Guidance
  - Standard – “Thou Shalt”
  - Guidance – “Thou Shalt (Most of the Time)”
  - Best Practice “Thou Should”
- Best Practices and Lessons Learned
How have things changed? (FIS Report)

- **FIS Report – Summary**
  - Updated Appearance
  - More tables, less paragraphs
    - All data referenced from FIRM DB
    - Tables include Base Map Sources, Summary of H and H with relevant modeling information
  - Notes to Users (from maps to FIS)
  - Index is contained with FIS Report
Table 2: Flooding Sources Included in this FIS Report

<table>
<thead>
<tr>
<th>Flooding Source</th>
<th>Community</th>
<th>Downstream Limit</th>
<th>Upstream Limit</th>
<th>HUC-8 Sub-Basin(s)</th>
<th>Length (mi) (streams or coastlines)</th>
<th>Area (ac) (estuaries or ponding)</th>
<th>Floodway (Y/N)</th>
<th>Zone Shown on FIRM</th>
<th>Date of Analysis</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bancroft Niles Drain</td>
<td>Village of South</td>
<td>Confluence with the</td>
<td>Village of South Rockwood /</td>
<td>04090005</td>
<td>1.6</td>
<td>Y</td>
<td>AE</td>
<td>Y</td>
<td>August 1981</td>
</tr>
<tr>
<td></td>
<td>Rockwood</td>
<td>Huron River</td>
<td>Charter Township of Berlin corporate limits</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bay Creek</td>
<td>Township of Erie</td>
<td>Mouth at Lake Erie</td>
<td>Cemetery Road</td>
<td>04100001</td>
<td>3.6</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Braggen Ditch</td>
<td>Township of Bedford</td>
<td>Confluence with</td>
<td>A point approximately 1,425 feet upstream of</td>
<td>04100001</td>
<td>2.6</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Indian Creek</td>
<td>Bernard Street</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

| Charter Township      |                    |                        |                                                |                    |                                     |                                  |                |                    |                  |

Table 3: Flood Zone Designations by Community

<table>
<thead>
<tr>
<th>Community</th>
<th>Flood Zone(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Township of Ash</td>
<td>A, AE, X</td>
</tr>
<tr>
<td>Township of Bedford</td>
<td>A, AE, X</td>
</tr>
<tr>
<td>Charter Township of Berlin</td>
<td>A, AE, X</td>
</tr>
<tr>
<td>Village of Carleton</td>
<td>X</td>
</tr>
</tbody>
</table>

Table 13: Summary of Hydrologic and Hydraulic Analyses

<table>
<thead>
<tr>
<th>Flooding Source</th>
<th>Study Limits</th>
<th>Hydrologic Model or Method Used</th>
<th>Hydraulic Model or Method Used</th>
<th>Date Analyses Completed</th>
<th>Flood Zone on FIRM</th>
<th>Special Considerations</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lake Erie</td>
<td>Monroe County Shoreline</td>
<td>Log Pearson Type III Frequency Analysis</td>
<td>Log Pearson Type III Frequency Analysis</td>
<td>April 1986</td>
<td>AE</td>
<td></td>
</tr>
</tbody>
</table>

The USACE performed frequency analyses to estimate the flood levels by fitting the log-Pearson Type III distribution to water-surface elevations recorded by water level gages. The influence of seiche, wind tides, and storm surges were accounted for, while wave run-up was not.

Cross sections were obtained by field survey and supplemented by topographic maps with a scale of 1:24,000 (USGS 1986).
How have things changed? (FIS Report)

Table 1: Listing of NFIP Jurisdictions
Table 2: Flooding Sources Included in this FIS Report
Table 3: Flood Zone Designations by Community
Table 4: Coastal Barrier Resources System Information
Table 5: Basin Characteristics
Table 6: Principal Flood Problems
Table 7: Historic Flooding Elevations
Table 8: Non-Levee Flood Protection Measures
Table 9: Levees
Table 10: Summary of Discharges
Table 11: Summary of Non-Coastal Stillwater Elevations
Table 12: Stream Gage Information used to Determine Discharges
Table 13: Summary of Hydrologic and Hydraulic Analyses
Table 14: Roughness Coefficients
Table 15: Summary of Coastal Analyses
Table 16: Tide Gage Analysis Specifics
Table 17: Coastal Transect Parameters
Table 18: Summary of Alluvial Fan Analyses
Table 19: Results of Alluvial Fan Analyses
Table 20: Countywide Vertical Datum Conversion
Table 21: Stream-by-Stream Vertical Datum Conversion
Table 22: Stream Water Quality
Table 23: Flood Hazard and Non-Encroachment Data for Selected Streams
Table 24: Summary of Coastal Transect Mapping Considerations
Table 25: Incorporated Letters of Map Change
Table 26: Community Map History
Table 27: Summary of Contracted Studies Included in this FIS Report
Table 28: Community Meetings
Table 29: Map Repositories
Table 30: Additional Information
Table 31: Bibliography and References
How have things changed? (FIS Report)

- All Sections are included
  - Maintains a consistent TOC
- Reference format changed
  - (author Year)

### Table 33: Bibliography and References

<table>
<thead>
<tr>
<th>Citation in this FIS</th>
<th>Publisher/Issuer</th>
<th>Publication Title, “Article,” Volume, Number, etc.</th>
<th>Author/Editor</th>
<th>Place of Publication</th>
<th>Publication Date/Date of Issuance</th>
<th>Link</th>
</tr>
</thead>
<tbody>
<tr>
<td>USACE 1977</td>
<td>USACE</td>
<td>Report on Great Lakes Open-Coast Levels</td>
<td>USACE</td>
<td>Detroit, MI</td>
<td>Feb-77</td>
<td></td>
</tr>
</tbody>
</table>

How have things changed? (FIS Report)

- Integrate FIRM Index into FIS
  - Simplified significantly
    - FIRM Panel Index, Political Areas, & Watershed Boundaries
    - Panel dates/Panel-Not-Printed notes kept on Index
    - 11x17 fold-out
    - Map repositories & community dates are moved into FIS tables
How have things changed? (FIRM Database)

- Hydrology, Hydraulics, and Base Map tasks were formatted to Appendix M (2011), in order to match schema for DFIRM database
- Recurrence intervals for Zone A’s

Diagram: DFIRM Database connected to Hydrology, Hydraulics, and Base Map.
How have things changed? (FIRM Database)

- **GIS Data – Summary**
  - Store all data needed to create Regulatory Products in FIRM Database
  - Tables in Database align with tables in FIS
  - Directly links data to maps to FIS
  - Remove elements no longer needed due to FIRM simplification
How have things changed? (FIRM Database)

- **Simplification of FIRM DB feature layers**
  - Removal of identical line features over polygons (S_Pol_Ln is gone, S_Pol_Ar stays)
  - Removal of features not directly related to NFIP business (e.g. S_Perim_Bmk)
  - Removal of “Limit of Detailed Study”, only “Limit of Study” remains
  - Reduced BFE placement. Only in backwaters and places with >1 foot change

- **Additions to Database to align with FIS / FIRM Map changes**
  - S_STN_START, S_DATUM_CONV_PT are a geographic features now
  - L_XS_ELEV table holds information from Floodway Data table (floodway width)

- **Refined deliverables**
  - Removal of E00, MIF/MID requirement
  - Data is delivered in GIS based Geodatabase and shapefile format
Changes to submittal process (Then)

- Internal QA/QC, Independent Technical Review (similar)
- Test submission of data through FEMA Mapping Information Platform, generate Error Report, address errors, submit and validate data through FEMA MIP (not the same)
- Automated checks and validation process do not yet exist on the MIP
- Develop new process, coordinate with FEMA Region
  - Use Flood Map Desktop to generate QA/QC report
    - (attributes - do all features have unique ID number)
  - Run topology checks, as specified by Appendix L
    - (spatial checks - overlaps, gaps in data)
  - Correct errors
  - Prepare and Submit QA Report, documenting checks
Changes to submittal process (Now)

- Upload
- Click
- Get Coffee

Submission status - last updated 05/2

DFIRM verification is initiated when the user clicks the Continue button until you have assembled and uploaded the entire submission package.

The DFIRM DB QA review process automatically begins when the Metadata validation has passed successfully.

<table>
<thead>
<tr>
<th>FIRM DB Schema</th>
<th>Select a DVT schema for validation</th>
<th>Update Status</th>
<th>Validate Contents</th>
</tr>
</thead>
<tbody>
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<td>Metadata Profile Validation</td>
<td>Please select a DVT schema for validation</td>
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<tr>
<td>DFIRM DB QA Validation</td>
<td>2003 FIRM Database Schema</td>
<td></td>
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<td></td>
<td>2011 FIRM Database Schema</td>
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<tr>
<td></td>
<td>2013 FIRM Database Schema</td>
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</tr>
<tr>
<td></td>
<td>2013 FIRM Database Schema</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Then and Now

- **Shelby County**
  - First time county-wide

- **Meigs County**
  - Map-Mod to RiskMAP
Benefits and Conclusions

- **More User Friendly**
  - Better Risk Communication
  - Simplify Graphic Specification's

- **FIRM database consistent between FIS and FIRM**
  - Avoid data gaps and inconsistency

- **Everything database driven**
  - Possibility of Automated Linkage of FIS and DFIRM
  - Tables in FIS make data easier to find

- **Easier to update**
  - Updates in DFIRM data linked to FIS

- **Dramatic Change in appearance of FIRM and FIS**
- Data easier to find in database and FIS
Questions?

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