Necessity – the Mother of Invention

Success Stories about the Integration and Centralization of FEMA Levee Data

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ASFPM Conference | June 11, 2013
Outline

- FEMA levee summary
- FEMA Levee Accreditation Tracking Tool, a model example of using emerging technologies
- Levee data, with some ongoing and related efforts:
  - MLI-NLD integration
  - FEMA-USACE Task Force
  - New FEMA procedures for non-accredited levees
FEMA’s Mission & Role In Levee Mapping

- **FEMA’s Mission**
  - To support our citizens and first responders to ensure that as a Nation we work together to build, sustain, and improve our capability to prepare for, protect against, respond to, recover from, and mitigate all hazards

- **Roles within Risk Analysis**
  - FEMA maps the flood hazards on NFIP maps, based on a levee system meeting the requirements of the NFIP regulations (44 CFR 65.10)
  - Help community officials and citizens understand their flood risk so that they can take the necessary steps to reduce those risks
FEMA’s Risk MAP Program

- **Background of 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.

- Communicating flood risk to communities with levees
Based on the submitted data, FEMA analyzes and maps levees that are:

- **ACCREDITED** (levee system meets 44 CFR 65.10, and can therefore be shown as accredited on NFIP maps)
- **NON-ACCREDITED** or **DE-ACCREDITED** (does not meet 44 CFR 65.10, and new levee analysis and mapping approach may be applied)
- **ACCREDITATION PROJECT ONGOING** (mapped as Zone AR/A99)
- **PROVISIONALLY ACCREDITED** (PAL process, 24 months to meet 44 CFR 65.10)

**ACCREDITED** levee system, shows the base flood contained

**NON-ACCREDITED** levee system showing the base flood landward of the levee
How Do an Owner and a Community Request Levee System Accreditation?

- FEMA Procedure Memo (PM) 63, issued 09/02/2010, to demonstrate compliance with 44 CFR 65.10
How Do an Owner and a Community Request Levee System Accreditation?

- PM 63 includes a checklist to determine if all of the required elements of 44 CFR 65.10 are included in accreditation submittal:

  - Design Criteria
  - Flood Warning System, Plan of Operation, Periodic Operation of Closures, Interior Drainage Plan
  - Documented in an officially adopted plan including inspection frequency and responsibilities

  - Freeboard, Closure, Embankment Protection and Foundation Stability, Settlement, Interior Drainage, Other Criteria (as needed)
Inventory of Levee Status

FEMA Levee Accreditation Status

NATIONAL SUMMARY

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<tr>
<th>Category</th>
<th>Mileage</th>
<th>Percent</th>
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<td>7%</td>
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<td>2%</td>
</tr>
<tr>
<td>5</td>
<td>1,550</td>
<td>4%</td>
</tr>
</tbody>
</table>

OUTSIDE RING
Percentage of total regional levee mileage by category. All figures portrayed in doughnut charts represent levee mileage.

1. Accredited
2. Not Accredited
3. Currently In Pal
4. Soon to be Accredited
5. Soon to be Not Accredited
Process for the FEMA Levee Accreditation Tracking Tool

- An example of using emerging technologies to improve processes, thus ensuring sustainability into the future

**Current FEMA Region/RSC PAL table**
- Update status
- Populate PAL_ID or Segment ID (for all)
- Clean records (non-levee, dams, never accredited)

**FEMA MLI Database**
- Update/Establish Link to Levee status/PAL records
- Add linework/populate attribute for any new levees
- Extract accredited and de-accredited non-PAL levees

**Compile data in MS Excel/SharePoint template**
- Add non-PAL accredited and de-accredited records
- Verify “clean” records and 1-to-1 relationship to MLI
- Verify seamless link to MLI Database

➤ Submit table and MLI for national compilation
FEMA Levee Accreditation Tracking Tool

- Supports multi-user edit through SharePoint, linked to the MLI, and includes PAL tracking information

In the future, how to ensure continued compliance for a levee to stay accredited if FEMA is not in the business of inspecting levees or monitoring O&M performance?

**OPTION:** Establish a cross walk between USACE Levee Safety Program activities and FEMA accreditation
Welcome to the National Levee Database

The National Levee Database (NLD), developed by the U.S. Army Corps of Engineers (USACE), is the focal point for comprehensive information about our nation’s levees. Authorized by Congress in 2007, the database contains information to facilitate and link activities, such as flood risk communication, levee system evaluation for the National Flood Insurance Program (NFIP), levee system inspections, flood plain management, and risk assessments. The NLD continues to be a dynamic database with ongoing efforts to add levee data from federal agencies, states, and tribes.

Here is what is available in the NLD:
- Majority of levees located within the USACE Levee Program
- Reports on levees in the NLD located within your state, zip code, or address
- Various federal database resources integrated into NLD such as the National Weather Service
- Feedback link for you to provide comments on the NLD
- Contact Us tab if you need assistance or have questions

⚠️ Please Note: The NLD currently contains the majority of levees within the USACE program. The NLD does not contain all levees located in the United States.
MLI-NLD Integration, Tools for Levee Information Management

- **Mid-Term Levee Inventory (MLI) Data Model**
  - Structure is based on the USACE National Levee Database (NLD) model; only the data related to FEMA business processes are collected.
  - Key Attributes: Levee Centerline Locations, Accreditation Status, Ownership Status, and Leveed Area.
FEMA utilizes the MLI as a tool for:

- Extracting information to feed DFIRM database
- Monitoring PAL acceptance, submittal, and review progress
- Tracking accreditation status and continued compliance
- Map revisions having to do with levee work (LOMRs and PMRs)
- Levee-related risk communication during Discovery
- Future information management for the new levee analysis mapping procedures for non-accredited levee

MLI-NLD integration makes FEMA-USACE continued coordination a must

Levee line-work expected to be complete by the end of calendar year 2013
New FEMA Levee Analysis & Mapping Procedures for Non-Accredited Levees

- Congressional and community concern: FEMA’s “without levee” analysis for all non-accredited levee systems was too broad
- In early March 2011, FEMA placed ongoing studies with non-accredited levee systems on hold, and committed to propose more precise approaches that are:
  - Collaborative
  - Flexible
  - Feasible
USACE and FEMA are collaborating on a methodology that will result in modifications to existing NLD/MLI data schema to support reach-based analyses.

- Suite of analyses and mapping procedures
- Ability to split a levee system into distinct reaches
- Stronger engagement with community officials and decision-makers in a collaborative decision-making process
Through Section 100226, FEMA and the USACE are directed to convene a joint task force to “better align information and data collected” under the USACE ICW Program.

For more information, please attend Session B5 at 1:45 PM this afternoon, which will discuss the FEMA-USACE Task Force, among other related topics.
Levee System Accreditation, Compliance with 44 CFR 65.10

Community & Levee Sponsor

- Provides 44 CFR 65.10 data to FEMA for levee system accreditation.
  - Design Criteria
  - Operation Plans and Criteria
  - Maintenance Plans and Criteria
  - Certification Requirements

FEMA

- Accredit levee systems based on compliance with 44 CFR 65.10.
  - National Levee Database
  - (BW-12 TF) Policies & Procedures MOU

USACE

- Assess and inspect levee systems in the Levee Safety Program.
  - Design Criteria
  - Operation Plans and Criteria
Conclusions

- Through ongoing efforts, FEMA and USACE will continue to improve communication and coordination with communities, along with the synchronizing efforts of the FEMA Regional Offices and the USACE Division and District Offices.

- For FEMA to evaluate the submitted data and accreditation status for levees, tracking tools and procedures will continue to be redesigned into centralized tools and inter-agency approaches.

- The FEMA Levee Accreditation Tracking Tool enables users ready access to the most up-to-date data. Additionally, it had the effect of significantly reducing the required personnel resources, and greatly reduced the response time, while increasing accuracy and efficiency.
Resources for More Information

- FEMA Levee Information for all stakeholders, public, etc.  
  www.fema.gov/living-levees-its-shared-responsibility

- FEMA Guidance Documents & Regulations  
  www.fema.gov/guidance-documents-and-other-published-resources

- FEMA Consumer Flood Insurance  
  www.FloodSmart.gov

- USACE National Flood Risk Management Project  
  www.nfrmp.us

- USACE Levee Safety Program  
  www.usace.army.mil/LeveeSafety/Pages/main.aspx

- National Committee on Levee Safety:  
  www.nfrmp.us/ncls/