

**POLICY COMMITTEE WORKPLAN  
MAPPING & ENGINEERING STANDARDS  
2014-2015  
August 31, 2015**

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## ***1.0 Overview***

The primary mission of the Mapping and Engineering Standards Committee is to provide policy guidance and support for floodplain mapping and engineering issues to foster reduction of future losses, costs, and human suffering caused by flooding. Historically, this committee has had major impacts on FEMA's Flood Mapping Program, requirements for map modernization, Risk MAP and the National Flood Mapping Program and addressing technical issues related to flood hazards such as levees and dams.

Co-chairs for the committee are:

Dave Knipe, P.E., Indiana Department of Natural Resources

Leslie Durham, P.E., Alabama Office of Water Resources

This committee will utilize the entire listing of members that have expressed an interest in the committee as maintained by the Executive Office. A sub-committee list for various tasks will be maintained by committee chairs. In developing and completing the activities outlined in this work plan, the committee leadership will attempt to solicit assistance from a core group of members who will serve as Capability Leads or Topic Leads. These members should have expertise or strong interest in a particular area or topic. The committee chairs can delegate action items to the appropriate Capability Lead(s), who in turn can coordinate with other committee members to complete the action and/or provide the deliverable. Some specialty areas may include:

- Hydraulics & Hydrology
- Coastal Mapping
- Levees & Dams
- Technology/Digital Data Management
- CTP Issues

Section 2 of this work plan lists the 2015-2016 committee tasks and describes the work required to complete these items. Many items directly support the FY-16 Goals and Objectives for ASFPM that are mapping and/or engineering related.

## **2.0 Task Outline**

### **2.1 ASFPM Goals and Objectives for 2015-2016**

Following is a list of the Goals and Objectives adopted by the ASFPM board that directly influence the work of the Mapping and Engineering Standards Committee. These are provided as reference for the work tasks identified in this plan. Many other adopted goals and objectives are indirectly supported by M & ES tasks, those are not listed below.

- 1.2.1 Facilitate outreach to Congress about basic concepts of floodplain and flood risk management, including use of “Flood Mapping for the Nation” (with Technical Mapping Advisory Council, TMAC, updates) to promote funding for the National Flood Mapping Program and improved understanding of the role that Flood Insurance Rate Maps (FIRMs), including future conditions mapping, can play in communicating flood risk and integration with flood insurance.
- 1.2.2 Promote the acceptance of flood mapping products and updates by developing tools and processes for improved communication about flood risks, mapping and insurance (especially in coastal areas, areas behind levees, and other residual risk areas). Emphasize local involvement in map development and outreach to owners of property with flood risk and integration with flood insurance.
- 1.2.3 Participate in the Technical Mapping Advisory Council (TMAC) and provide input to FEMA regarding National Flood Mapping Program metrics, implementation, policies and products, including the needs of small communities, rural areas, and catastrophically or repetitively flooded areas.
- 1.2.5 Build and support state and local capacity through Cooperating Technical Partners (CTP) program and expand CTP funding to effectively manage programs, in partnership with FEMA, and support flood mapping and risk reduction goals, including locally led production and maintenance of adequately funded National Flood Mapping Program, to support “Risk Reduction and Flood Insurance Rate Map (FIRM) products.
- 1.2.6 Support increased funding for stream gage maintenance and new stream/rain gage placement for modeling and flood study calibration.
- 1.2.7 Support mapping of erosion and other flood related hazards
- 1.3.4 Promote policy and funding for mapping implementation that incorporates future conditions and climate change in order to accurately reflect current and future flood risk.
- 2.1.8 Update the “Flood Mapping for the Nation” report.
- 2.2.3 Continue to participate in and/or coordinate with intergovernmental policy groups (i.e. FIFM-TF and MitFLG) and partner organizations, supporting key policies and programs.
- 2.3.1 In partnership with the ASFPM Foundation, complete the series of NAI “How to Guides” and develop web resources and training on NAI approaches for administration and implementation by local officials.

## 2.2 Ongoing tasks and initiatives

The following are the main tasks the committee strives to complete each year. Included are both ongoing tasks and initiatives identified during the past year for completion.

**Conference Calls & Committee Retreat:** A co-chair will attend all conference calls and one of co-chairs will attend the conference retreat. (David / Leslie)

**Annual Conference:** Prepare for the co-chairs meeting and the annual committee meeting. Prepare notes of annual policy meeting for distribution to the committee members and/or posting on the website. (David / Leslie)

**Committee Calls:** Organize and facilitate regular calls and outreach with CTP sub-committee and general committee membership. (David / Leslie / Steve / Amanda)

**Operating Partners Meetings:** Use quarterly Operating Partners meetings to further committee goals and resolve technical and policy issues raised within the ASFPM membership. (David / Leslie / Other committee members)

**Technical Mapping Advisory Council:** Review information and recommendations that arise from the TMAC committee. Provide support to Sally McConkey (ASFPM rep) and Leslie (a CTP rep).

**NFPPR Review:** Review the final NFPPR recommendations and identify the recommendations relevant to the committee. Prepare a short, one page summary of M&ES issues within NFPPR for use in future educational efforts. (David / Leslie)

**“Flood Mapping for the Nation” review:** Assist the Executive Office in the update of the “Flood Mapping for the Nation” report (as specified in 2.1.8 of the G & O). (David / Leslie)

**NAI Mapping Guide review:** Assist the NAI writing team and the NAI committee in the completion of the NAI mapping guide now in development. (David / Leslie / Siavash)

**Policy and Rule Making Review:** Review ongoing Federal policy and rule-making activities and respond on issues that are relevant to the committee mission. (David / Leslie)

**Annual Report and Work Plan:** Prepare annual report and develop work plan (David / Leslie)

**Information Sharing:** Provide input to the committee webpage overhaul planned for 2016 and explore social media options for communicating with committee members. Work to identify a committee member as a webmaster.

**Abstract Reviews:** Review Annual National Conference abstracts and assist with session assignments. Coordinate with program chair and host abstract team with reviewing abstracts for the 2016 ASFPM conference in Grand Rapids. (David / Leslie / Del Schwalls)

### 2.3 2015-6 Major Work Items:

The Committee will strive to develop Discussion/White Papers on critical policy issues that can't be adequately addressed through ongoing coordination with FEMA or its operating partners. Any Discussion/White Papers produced will be consistent with the ASFPM Goals and Objectives and follow the association's development policies and procedures.

<b>Task Title: CTP Issues</b>		<b>Task Leader: Steve Story and Amanda Flegel</b>	
<b>ASFPM Goal # Cross Reference/Other Reason for Including Task (EO Request, Committee Priority, etc):</b> ASFPM – 1.2.5, Build and support state and local capacity through Cooperating Technical Partners (CTP) program			
<b>Approximate Start/End Date:</b> 06/02/2015 – 06/01/2016		<b>Approximate # Hrs to Complete: 200</b>	
<b>Detailed Task Description:</b> Foster communication among state and local mapping partners and provide a vehicle for mentoring and building CTP capability in support of the National Flood Mapping Program goals. Encourage participation in the FEMA CTP Collaboration website and provide support for ASFPM participation in the FEMA CTP Community of Practice.			
<b>Prerequisites Needed: (Activities That Need To Be Performed Before This Task Can Begin)</b>			
<b>Other Policy Committees/entities to Engage for this Task:</b> Coordination with NAFSMA and FEMA for CTP training opportunities.			
<b>Completion Schedule:</b> Three CTP Virtual Meeting to promote discussion and training – July 2015-May 2016 CTP ASFPM Conference Meet and Greet- June 2016			
<b>Deliverables:</b>			
<b>Other Necessary Support or Resources:</b>			
<b>Approximate Direct Cost to Complete: (Labor and Non-Labor)</b> Volunteer labor			
<b>Approval Process:</b>			
<b>Assumptions:</b>			
<b>Prepared by/ Date:</b> Flegel / September 6, 2015		<b>Approved By/ Date:</b>	

<b>Task Title:</b> Develop next technical paper in association with NASFMA on the application of unsteady and 2D Models.	<b>Task Leader:</b> Suzanne Jiwani
<b>ASFPM Goal # Cross Reference/Other Reason for Including Task (EO Request, Committee Priority, etc):</b> 2.2.5 Develop White Papers/Discussion Papers on critical policy issues.	
<b>Approximate Start/End Date:</b> September 2015- May 2016	<b>Approximate # Hrs to Complete:</b> 200
<b>Detailed Task Description:</b> Working with NAFSMA, the committee will develop a white paper on the use of unsteady/2D models in FEMA floodplain reaches. The paper will identify situations where unsteady/2D modeling is needed to analyze flood risk and identify FEMA processes/requirements that don't align with unsteady/2D model output. A stretch goal would be to identify potential revisions to FEMA processes/requirements to facilitate the acceptance of unsteady/2D modeling data into FEMA studies. The draft paper will be presented at the early bird session at the 2016 ASFPM conference.	
<b>Prerequisites Needed: (Activities That Need To Be Performed Before This Task Can Begin)</b> Identification of members interested in participating on committee.	
<b>Other Policy Committees/entities to Engage for this Task:</b> NAFSMA	
<b>Completion Schedule:</b> Working with NAFSMA on this.	
<b>Deliverables:</b> Issue paper outlining pros and cons of using unsteady and two-dimensional models and current FEMA obstacles to using these models. An article for a professional magazine with similar information, potentially more technical discussion.	
<b>Other Necessary Support or Resources:</b> A few hours of professional editing for the final papers. Posting on the ASFPM web site.	
<b>Approximate Direct Cost to Complete: (Labor and Non-Labor)</b>	
<b>Approval Process:</b> The papers need to be reviewed by members of the ASFPM Mapping and Engineering Standards Committee as well as comparable review by NAFSMA.	
<b>Assumptions:</b>	
<b>Prepared by/ Date:</b>	<b>Approved By/ Date:</b>

### **2.3.1 2015-6 Major Work Items:**

The following items have been identified as potential paper topics, and have been noted as priorities for the coming year. However, task leaders have yet to be identified for these issues.

#### **Establishing a Floodplain Mapping Quality Level Classification System Discussion Paper:**

FEMA has long recognized that various floodplain mapping/study levels may be afforded and/or appropriate situation. Until recently, most of the floodplain maps published by FEMA have been based on two levels of “study”: Detailed and Approximate. However, with the advent of digital elevation models and the possibility of automated H&H analyses, several more classes of floodplain mapping products that are based on various combinations of hydrologic analysis level of detail, hydraulic analyses level of detail, and topographic information level of detail have started to be produced. ASFPM has determined that there is an immediate need for a classification system that would define standard quality/resolution levels for each category of floodplain mapping products. The proposed system can be formulated in a similar way the USGS has defined Quality Level (QL) for various digital elevation mapping data products: QL5, QL4, QL3, QL2, QL1, and QL0. For floodplain mapping, each Quality/Resolution Level or category can be defined to consist of various combination of hydrologic analyses level (such as gaged-base data, detailed model-based data, regression based data, etc), hydraulic analysis level (such as detailed 2d/unsteady state analysis with field measured cross sections and crossing data, steady state model with field-measured cross section and crossing data, automated “first order approximation” analysis without field-measured cross sections or crossing data, with Floodway/without floodway, etc), and topographic data quality level (such as QL5, QL4, QL3, QL2, etc.). Once a classification is defined, the appropriate use of each class can also be prescribed and standardized (such as what/where would be the appropriate use of a QL5 floodplain mapping accuracy level data, etc...). The proposed discussion paper is to explore the feasibility of such a system and come up with an initial classification (and appropriate use) system to start a high level discussion that can conclude with a national classification standard.

#### **Higher Standard/NAI Floodway Discussion Paper**

The current national minimum standard (1 foot rise) and even the higher standard used by some states (0.1 to 0.5 foot rise) for determining floodway limits has led to an increase in flood elevations and increase in vulnerability of the built environment. ASFPM recognizes that continuing with the current national minimum standard for determining floodway limits is reckless. Having a smaller rise as the standard (such as 0.1 foot or no rise) is better. Even a little better would be to adopt the “full conveyance Floodway” standard (as defined by a previous ASFPM report) with a range of ways to determine it (such as graphic, GIS-based, or hydraulic modeling-based methods). However, the best (NAI) way would be to determine the floodplain limits based on future hydrology and designate the entire floodplain as the regulatory floodway. A discussion paper is needed to discuss these better to best approaches and try to guide & encourage local governments to adopt such higher standards.

#### **Floodplain Data for Unmapped Areas Discussion Paper**

One of the highest priority topics brought to the committee leadership by members are the issues regarding floodplain management in area not covered by mapped floodplains, on the FEMA Flood Insurance Rate Maps, or otherwise. The consequences of not having floodplains delineated where there is known risk are great, since development could occur in these areas that would be at risk for flood damages and loss of life. Additionally, while many maps were converted to a digital platform during the FEMA Map Modernization program, others have been left behind, and much of what was

modernized was not updated, leaving inadequate and indefensible floodplains for community use. Potential directions for this topic include:

- The use of automatic hydrology and hydraulic modeling techniques for use in expediently developing floodplain mapping.
- The consequences of not having the FEMA map inventory fully digital, and the benefits of having a fully digital floodplain dataset nationwide.
- Developing a guide for community officials for the use of “non-FIRM” floodplain mapping for regulating floodplain development.

## **2.4 Items for future consideration**

The Committee has identified the following topics for potential Discussion/White Papers based on results of the Mapping & Engineering Committee Work Plan Survey. If any of these topics develop into Discussion/White Papers, the production of these papers will be consistent with the ASFPM Goals and Objectives and follow the association’s development policies and procedures. Additional topics will be added as the CTP subcommittee becomes established.

1. Coordinate and advocate for congressional appropriations to fund the newly authorized Floodplain mapping fund.
2. Research and promote the USGS 3DEP program to collect nationwide elevation data.
3. Research issues surround the adoption of digital maps such as, referencing in ordinances, state laws, and communities requiring paper maps.
4. Coordinate with FEMA to develop a vision for the future of the CTP program and the roles of the CTP 5 to 10 years from now. Work to define the differences between the community/stakeholder vision of Risk MAP and FEMA’s vision.