

**POLICY COMMITTEE WORKPLAN  
MAPPING & ENGINEERING STANDARDS  
2015-2016  
August 31, 2016**

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## **1.0 Overview**

The primary mission of the Mapping and Engineering Standards (M&ES) 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

A standing sub-committee of M&ES Committee focuses on the Cooperating Technical Partners (CTP) program. The goal of this sub-committee is to help identify mechanisms to measure successes and share best practices among mapping partners. This sub-committee is co-chaired by:

Amanda Flegel, Illinois State Water Survey

Thuy Patton, Colorado Water Conservation Board

Section 2 of this work plan lists the 2016-2017 committee tasks and describes the work required to complete these items. Many items directly support the FY-17 Goals and Objectives for ASFPM that are mapping and/or engineering related.

## 2.0 Task Outline

### 2.1 ASFPM Goals and Objectives for 2016-2017

Following is a list of the Goals and Objectives (G&O) 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 update and 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 quality of mapping products, including future conditions mapping and climate change and other flood related hazards.
- 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 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.
- 1.2.4 Support increased funding for stream gage maintenance and new stream/rain gage placement for modeling and flood study calibration.
- 1.3.1 Support implementation of Executive Order 13690 and the new Federal Flood Risk Management Standard (FFRMS). Promote higher standards and setbacks for all projects (federal and non-federal) to accommodate climate and future land development changes.

### 2.2 Ongoing M&ES Activities

The following are the ongoing tasks and activities the M&ES committee strives to complete each year:

**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 Suzanne Jiwani (ASFPM rep) and Leslie Durham (State CTP rep).

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

**Policy and Rule Making Review:** Review ongoing Federal policy and rule-making activities, including proposed rule/guidance for FFRMS implementation and FEMA Guidelines and Standards updates. Provide input and comments on issues that are relevant to the committee mission. (David / Leslie)

**Abstract Reviews:** Review ASFPM Annual Conference abstracts and assist with session assignments. Coordinate with program chair and host abstract team with reviewing abstracts for the 2017 ASFPM conference in Kansas City. (David / Leslie / Del Schwalls)

**Annual Conference:** Prepare for the National Policy meeting and lead discussions at the annual committee meeting. Prepare notes of annual committee meeting for distribution to the committee members and/or posting on the website. (David / Leslie). Lead discussions at the annual CTP sub-committee meeting and coordinate logistics on a CTP social event at the annual conference in Kansas City. (Amanda / Thuy)

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

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

**Information Sharing:** Explore social media options for communicating with committee members and work to identify a committee member as a webmaster.

### 2.3 2016-2017 Major Work Items:

In support of the mission to provide policy guidance and support for floodplain mapping and engineering issues, the M&ES committee and its CTP sub-committee will continue to develop strategies and promote support for the ongoing identification, updating and maintenance of flood hazard and flood risk data. In addition to the ongoing activities and functions of the M&ES committee, there are several additional efforts and initiatives that have been prioritized for the 2016 – 2017 work cycle. Some of these activities will result in Discussion/White Papers related to policy issues while others will be administered through ongoing coordination with ASFPM Science Services, FEMA, CTPs or other operating/mapping 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:</b> “Flood Mapping for the Nation” Review	<b>Task Leaders:</b> Dave Knipe and Leslie Durham
<b>ASFPM Goal # Cross Reference/Other Reason for Including Task (EO Request, Committee Priority, etc):</b> ASFPM FY17 G&O – 1.2.1, Facilitate outreach to Congress...including updating and use of “Flood Mapping for the Nation”	
<b>Approximate Start/End Date:</b> 06/20/2016 – 05/01/2017	<b>Approximate # Hrs to Complete:</b> 100
<b>Detailed Task Description:</b> Assist the Science Services in the update of the “Flood Mapping for the Nation” report through input on cost estimates and peer review.	
<b>Prerequisites Needed:</b> None	
<b>Other Policy Committees/entities to Engage for this Task:</b>	
<b>Completion Schedule:</b> Provide suggested unit cost estimates from TMAC and other sources and provide peer review of final draft	
<b>Deliverables:</b> Comments on report	
<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> Durham / August 23, 2016	<b>Approved By/ Date:</b>

<b>Task Title:</b> CTP Issues	<b>Task Leaders:</b> Thuy Patton and Amanda
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		Flegel
<b>ASFPM Goal # Cross Reference/Other Reason for Including Task (EO Request, Committee Priority, etc):</b> ASFPM FY17 G&O – 1.2.3, Build and support state and local capacity through Cooperating Technical Partners (CTP) program		
<b>Approximate Start/End Date:</b> 06/02/2016 – 06/01/2017		<b>Approximate # Hrs to Complete: 200</b>
<b>Detailed Task Description:</b> <ul style="list-style-type: none"> <li>• 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.</li> <li>• Identifying topics for webinars and best management practices to support the FEMA CTP grant being completed by the Executive Office.</li> <li>• Encourage and coordinate feedback on CTP issues to FEMA specifically concerning recent revisions to the program and utilizing FEMA feedback conduits such as the CTP Collaboration website and participation in the Community of Practice. Identify gaps and deficiencies in communication channels to increase awareness and understanding of the program changes and challenges.</li> </ul>		
<b>Prerequisites Needed:</b>		
<b>Other Policy Committees/entities to Engage for this Task:</b> Coordination with EO and FEMA for CTP training opportunities.		
<b>Completion Schedule:</b> Bi-monthly meetings with FEMA and EO to discuss training and identify topics of interest CTP ASFPM Conference Meet and Greet- May 2017 CTP subcommittee meeting at ASFPM- May 2017		
<b>Deliverables:</b>		
<b>Other Necessary Support or Resources:</b>		
<b>Approximate Direct Cost to Complete:</b> Volunteer labor		
<b>Approval Process:</b>		
<b>Assumptions:</b>		
<b>Prepared by/ Date:</b> Flegel / August 30, 2016		<b>Approved By/ Date:</b>

<b>Task Title:</b> 2-D / Unsteady modeling topics	<b>Task Leader:</b> Suzanne Jiwani
<b>ASFPM Goal # Cross Reference/Other Reason for Including Task (EO Request, Committee Priority, etc):</b> ASFPM FY17 G&O 1.2.2 Promote acceptance of flood mapping products and updates by developing tools and processes....	
<b>Approximate Start/End Date:</b> September 2016- August 2017	<b>Approximate # Hrs to Complete:</b> 50
<b>Detailed Task Description:</b> <ul style="list-style-type: none"> <li>• Review work products / papers about 2-D &amp; Unsteady modeling that may be issued by NAFSMA subcommittee or as part of TMAC.</li> <li>• Provide a forum at the annual conference (either during M&amp;ES committee meeting, or an early bird session) for identification of issues for further discussion regarding advanced modeling techniques.</li> </ul>	
<b>Prerequisites Needed:</b> Identification of members interested in participating on ad hoc committee if necessary.	
<b>Other Policy Committees/entities to Engage for this Task:</b> NAFSMA	
<b>Completion Schedule:</b> Schedule dependent on others. Tasks for the annual conference will be completed at that time	
<b>Deliverables:</b> Comments / feedback on papers developed by others, notes from committee meetings for guidance on further committee tasks.	
<b>Other Necessary Support or Resources:</b> None	
<b>Approximate Direct Cost to Complete:</b> None	
<b>Approval Process:</b> Committee / EO approval if any substantial policy advances come from discussions	
<b>Assumptions:</b>	
<b>Prepared by/ Date:</b> Jiwani / August 30, 2016	<b>Approved By/ Date:</b>

<b>Task Title:</b> National Flood Mapping Program impacts from 2017 NFIP Reauthorization and 2015 TMAC Future Conditions Report	<b>Task Leader:</b> Dave Knipe and Leslie Durham
<b>ASFPM Goal # Cross Reference/Other Reason for Including Task (EO Request, Committee Priority, etc):</b> ASFPM FY17 G&O 1.2.1 .... Promote funding for the National Flood Mapping Program and improved quality of mapping products, including future conditions mapping and climate change and other flood related hazards.	
<b>Approximate Start/End Date:</b> June 2016- May 2017	<b>Approximate # Hrs to Complete:</b> 200
<b>Detailed Task Description:</b> Review the 2015 TMAC Future Conditions Report to ensure that it aligns with ASFPM's G&O and continue to support funding for the National Flood Mapping Program during the 2017 NFIP reauthorization process.	
<b>Prerequisites Needed:</b>	
<b>Other Policy Committees/entities to Engage for this Task:</b>	
<b>Completion Schedule:</b> Ongoing task	
<b>Deliverables:</b> Report to ASFPM regarding any known issues with the 2015 TMAC report alignment with the 2017 G&O and comments on any changes to National Flood Mapping Program that conflict with the 2017 G&O.	
<b>Other Necessary Support or Resources:</b> None	
<b>Approximate Direct Cost to Complete:</b> None	
<b>Approval Process:</b> Non needed	
<b>Assumptions:</b>	
<b>Prepared by/ Date:</b>	<b>Approved By/ Date:</b>



## **2.4 2016 – 2017 Topics for Future Development**

With the commitment needed to maintain the ongoing tasks and activities, the M&ES Committee is limited on the number of new activities and initiatives that can be prioritized for each year. However, the following activities have been identified as priorities for the committee and in some cases potential paper topics if a committee member desires to serve as task lead. These activities are listed below in no particular order.

### **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.