TMAC

Technical Mapping Advisory Council Meeting
June 6 – 7, 2016

TMAC Members

Juliana Blackwell
Nancy Blyler
Richard Butgereit
Mark DeMulder
John Dorman
Leslie Durham**
Scott Edelman
Steve Ferryman
Carrie Grassi
Chris Jones
Howard Kunreuther
Wendy Lathrop
Robert Mason*
Sally McConkey
Luis Rodriguez
Javier Ruiz
Christine Shirley

Subject Matter Experts

Bill DeGroot, P.E., F. ASCE, Urban Drainage and Flood Control District (UDFCD), retired
Maria Honeycutt, National Oceanic and Atmospheric Administration (NOAA)
Jon Janowicz, P.E., US Geological Survey Water Science
Suzanne Jiwani, P.E., CFM, Minnesota Department of Natural Resources

Government Attendees

Kathleen Boyer, FEMA, TMAC DFO
David Bascom, FEMA*
Mark Crowell, FEMA, TMAC ADFO
Sarah Ice, FEMA*
Andy Neal, FEMA**
Lynda Pilgrim, FEMA
Rick Sacbibit, FEMA**

Registered Public Attendees

Angela Bidnick, Booz Allen Hamilton**
Don Hughes, Orange County (California) Public Works, Infrastructure Programs Service Area, Regulatory & Policy Division*
Michelle McQueeney, J M Global*
Pernille Buch-Pedersen, Baker International*
Scott Schelling, Baker International
John Sun, Stream Methods

Support Staff

Heidi Carlin, AECOM
Kirsten Folkedal, Booz Allen Hamilton
Laura Karnas, Booz Allen Hamilton
Jen Marcy, Atkins Global
Krista Bethune Melnar, AECOM
Meredith Tull, Booz Allen Hamilton
Adam Warfield, Booz Allen Hamilton

**Attended Day 1 Only*
***Attended Day 2 Only*

Purpose

The purpose of the meeting is to allow the Technical Mapping Advisory Council (TMAC) members to deliberate and vote on the final content of the *TMAC 2016 National Flood Mapping Program Review* and continue to discuss draft recommendations for the required *TMAC 2016 Annual Report*.

June 6, 2016

Welcome/ Call to Order/ Roll Call

Ms. Kathleen Boyer, TMAC Designated Federal Officer (DFO), welcomed members and participants to the meeting. She then introduced Mr. Mark Crowell, Federal Emergency Management Agency (FEMA), who serves as the TMAC Alternate DFO (ADFO). Ms. Boyer proceeded with a roll call of TMAC members and provided an overview of the Adobe Connect virtual meeting functions. She reminded everyone of the *Federal Advisory Committee Act* (FACA) compliance provisions. Ms. Boyer thanked the Council for their participation and turned the meeting over to Mr. John Dorman, TMAC Chair.

Meeting Objectives/ Logistics

Mr. Dorman provided an overview of the agenda and said the objective of the day's meeting was to allow TMAC members to (1) discuss, deliberate, and vote on the *TMAC 2016 National Flood Mapping Program Review* (draft v4 – June 2, 2016) and Executive Summary (June 5, 2016) recommendations and content. Agreed upon changes will be documented and/or incorporated into draft for final approval by the Council on June 7, 2016.

Mr. Dorman reviewed the voting procedures. He explained that on June 6, 2016, members would review, discuss, hold a public comment period, deliberate, and vote on recommendations 1-13 of the *TMAC 2016 National Flood Mapping Program Review*. On June 7, 2016, the Council will review, discuss, hold a public comment period, deliberate, and vote on the *TMAC 2016 National Flood Mapping Program Review* Executive Summary. TMAC members will also vote to submit the *TMAC 2016 National Flood Mapping Program Review* content and recommendations to the FEMA Administrator, following the same voting procedures as the recommendations and Executive Summary.

TMAC 2016 National Flood Mapping Program Review Discussion

Mr. Scott Edelman, TMAC member and *TMAC 2016 National Flood Mapping Program Review* subcommittee Chair, led the Council in a discussion of the report. He reviewed the section topics and authors, as well as the report's steps and order of discussion. Mr. Edelman explained that comments submitted from members have been compiled in the document and the Council will review the added comments today. He requested that participants provide actionable comments so the Council can make progress in finalizing the document.

Discussing the overall report, Ms. Wendy Lathrop, TMAC member, informed participants that the term 'homeowner' in the *Homeowner Flood Insurance Affordability Act of 2014* (HFIAA) is singular and suggested performing a global check of the document to ensure the term is accurate throughout.

Participants made editorial revisions to Section 1: Review of FEMA's National Flood Mapping Program, subsection on Program Structure. Discussing the technical credibility statement in the section, Mr. Luis Rodriguez, TMAC member, asked the TMAC to consider how the FEMA Administrator would respond. Several TMAC members commented that the TMAC cannot examine all aspects of the National Flood Mapping Program and its implementation. Participants agreed to remove the word "all" and revise the statement to read "TMAC finds the Program Structure, when followed, results in technically credible flood hazard data in areas where Flood Insurance Rate Maps (FIRM) are prepared or updated."

Participants also discussed recommendation 4 and 5. Ms. Christine Shirley, TMAC member, suggested that the Council revise recommendation 4 to be more actionable. Participants revised the recommendation to read "FEMA should continue to enhance communication and transparency with program stakeholders by, for example, including organizational and contact information on the Internet."

Next, participants made editorial revisions to Section 1: Review of FEMA's National Flood Mapping Program, subsection on Program Process. Mr. Bill DeGroot, SME, noted for clarification that the mapping

program was originally started with the U.S. Department of Housing and Urban Development and later transferred to FEMA. In addition, the TMAC added language regarding current hydrology and hydraulics models available for use in flood studies.

Participants also discussed recommendation 6, noting that it is not just about topographic data. The TMAC agreed to revise the recommendation to read "FEMA should facilitate, partner, and leverage the efficient acquisition of nationwide, high-resolution ground and built environment data (LiDAR data or new emerging technologies), appropriately timed to support planned studies." Participants discussed recommendation 7, noting that it may be redundant from a previous recommendation in the *TMAC 2015 Annual Report.* The Council agreed to remove the recommendation and reference recommendations 7a and 7b from the *TMAC 2015 Annual Report.* Participants developed two new recommendations for this section:

- FEMA should work with Congress and other partners to examine ways to shorten the study process, including the time added to the mapping process by quality reviews (QR), key decision points (KDP), and legislated due process, as identified in *TMAC 2015 Annual Report* recommendation 11.
- FEMA should move to a database-derived display, as outlined in *TMAC 2015 Annual Report* recommendation 16.

Mr. Edelman made a motion to adopt Section 1: Review of FEMA's National Flood Mapping Program, subsections on Structure and Process, which Ms. McConkey seconded. Ms. Boyer announced that members of the public were invited to provide comments on the issues considered by the TMAC. There were no comments from the public. Following the public comment period, Mr. Dorman called for a vote on the *TMAC 2016 National Flood Mapping Program Review's* structure and process subsections, as amended, which the TMAC members unanimously adopted.

Participants began discussing Section 1: Review of FEMA's National Flood Mapping Program, subsections on Program Outputs. Ms. Carrie Grassi, TMAC member, said that the 0.2-percent-annual-chance flood boundary use is only mandatory when requesting Federal money for flood disaster. Mr. Edelman said that while this is true, it may not be a regulatory requirement. Ms. Grassi added that this may have existed prior to the Federal Flood Risk Management Standard (FFRMS). Mr. Chris Jones, TMAC member, said that this is part of Executive Order 11988, *Floodplain Management*, and is a requirement for certain structures. He added that it is enforced by whomever issues the building permit. Mr. Dorman suggested that the TMAC add this point to the report. The Council agreed to revise recommendation 8 to read "FEMA should work to identify residual risk areas behind levees and other flood control structures and downstream of dams. For non-accredited levees, FEMA should replace the Zone D designation in levee-protected areas with risk zones that are more appropriate for the level of risk."

Next Steps

Mr. Dorman told the Council that he would work with Ms. Krista Bethune, AECOM, to revise the *TMAC 2016 Annual Report* production schedule and send out a doodle poll for future meeting dates beyond June 2016. Mr. Edelman will identify what *TMAC 2016 Annual Report* authors can assist with the *TMAC 2016 National Flood Mapping Program Review*.

Adjournment

Ms. Boyer thanked meeting participants and announced that the meeting will resume the following day at 10:00 a.m. The meeting was adjourned.

Day 2: June 7, 2016

Call to Order / Roll Call

Ms. Boyer opened the second day of the meeting. She took roll call, reminded participants of FACA compliance stipulations, and reviewed tips for using Adobe Connect. She then turned the meeting over to Mr. Dorman.

Meeting Objectives/ Logistics

Mr. Dorman discussed a recent Senate Appropriations Committee report that encouraged FEMA to implement the 2015 TMAC recommendations. He commended members on their hard work and commented that their hard work is being reviewed and written into legislation by Congress; the Council is making a difference with their work.

Mr. Dorman then reviewed the meeting objectives: (1) to review and discuss the content and recommendations, allow for public comment, deliberate and vote to finalize and submit the content of the *TMAC 2016 National Flood Mapping Program Review* to the FEMA Administrator; and (2) upon vote to submit, the TMAC will discuss next steps for production of the *TMAC 2016 Annual Report*. He then turned the meeting over to Mr. Edelman to continue leading discussion on the *TMAC 2016 National Flood Mapping Program Review*.

TMAC 2016 National Flood Mapping Program Review Discussion

Mr. Edelman noted that Ms. Jen Marcy, Atkins Global, provided TMAC members with an updated report, inclusive of the June 6, 2016 revisions. Members briefly reviewed the comments in Section 1: Review of FEMA's National Flood Mapping Program, subsection on Quality Management Planning. Ms. McConkey questioned the usefulness of certain non-regulatory products, such as the Flood Risk Report and HAZUS data. Mr. Rodriguez clarified that terminology was intentionally written to be broad and not discuss specific flood risk products. He also said that the Council did not find a problem with how non-regulatory products are produced, but that it encourages FEMA to increase their attention to the quality management process for non-regulatory products in order to prevent any future problems.

Members then reviewed Section 1: Review of FEMA's National Flood Mapping Program, subsection on Metrics. Ms. Lathrop said the Council should clarify how the deployment metrics relate to mapping, explaining that this section leads to the recommendation that FEMA should get rid of the deployment metrics because it is difficult to understand. The Council then discussed, Section 2: Recommendations for Maintaining Technical Credibility into the Future, subsection on Metrics. Mr. Jones commented that the mitigation action metric needs to be more fully discussed in the *TMAC 2016 Annual Report*. He added that the current metric is not sufficient and more research needs to be done in order to determine how to count vulnerable items and if that information is gathered through other channels. Mr. Rodriguez said that there are discrepancies among Council members in understanding the mitigation action metric. He explained that it is not a population measure, it is the number of communities taking mitigation action. Mr. Rodriguez noted that the current metric needs to evolve to something new, but that should be part of a broader conversation around what exists currently that can be leveraged.

Members reviewed the "Annual Return on Investment" paragraph of the Metrics sub-section and discussed whether or not the Council should recommend a specific number versus a benefit cost analysis. The Council agreed to change the paragraph header to "Value of the Mapping Program" and suggested that "FEMA consider the costs and benefits to the Nation as a result of different levels of funding to the National Flood Mapping Program. This would be applied at a nationwide level, not at the individual study level." In regards to the paragraph regarding the "Digital Goal", Mr. Dorman suggested revising the text to read: "Advances in dynamic database querying and digital display generation enable more timely and cost efficient maintenance and display of hazard data, models, and services. In addressing the goals of Risk Mapping, Analysis and Planning (MAP) and Map Modernization, flood

hazard data, models and reports need to be incorporated into a digital display database that supports dynamic maintenance and digital display of FIRMs." Members agreed to the revision.

Members discussed and reviewed the proposed recommendations for Section 2: Recommendations for Maintaining Technical Credibility into the Future, subsection on Metrics. The Council discussed the recommendations for discontinuing particular metrics. Mr. Rodriguez commented that the metrics FEMA uses were identified early on when Risk MAP was first being implemented and are connected to the vision of the program. He reminded the Council that Risk MAP is a program that is broader than mapping and the metrics help FEMA communicate the products and services of Risk MAP to Congress and stakeholders. The Council recommended revising previous recommendation 10, now current recommendation 11 to read: "FEMA should evaluate the current metrics to better measure the efficient production, valid inventory, and stakeholder acceptance of the National Flood Mapping Program. TMAC recommends that FEMA should: (a) discontinue the current Deployment and Mitigation Action metrics and replace them with more effective measures; and (b) focus revised metrics on measuring the quality and quantity of flood hazard and risk products delivered to communities."

Members also reviewed the three recommendations for "new or revised metrics to provide technically credible products in the future". Regarding recommendation 12, the Council agreed to remove specific quantitative measures and replace the recommendation with the following:

- FEMA should have an inventory metric that reports quantity, quality, and time aspects on national, regional, tribal, State, and watershed levels:
    - Quantity: Quantity should be tracked through the life of a floodplain from no study through to detailed study. Statistics should be provided annually.
    - Quality: Quality should be measured by retaining the existing NVUE metric of the current inventory and adding an NVUE metric for coastal flood hazard miles.
    - Time: Timing should be measured from Discovery to the issuance of Preliminary maps and from the issuance of Preliminary maps to Effective maps for active projects.

Similarly, the Council revised recommendations 13 and 14 to read more broadly, revising them to read:

- 13. FEMA should have a metric that shows progress towards meeting a digital platform goal by area of the nation to compliment FEMA's current population metrics. This metric could include the total area of the country, as well as progress towards Goal 3 and Recommendation 16 in the *TMAC 2015 Annual Report*.
- 14. FEMA should evaluate the benefits and costs and its value to the Nation as a result of different levels of funding to the National Flood Mapping Program.

Public Comment

Ms. Boyer announced that, per FACA, members of the public are provided the opportunity to provide oral and written comments on the issues to be considered by the TMAC. Ms. Boyer requested that speakers limit their public comments to no more than three minutes and said that the public comment period will not exceed 20 minutes. While the public was offered the opportunity to speak, no comments were received.

***TMAC 2016 National Flood Mapping Program Review* Discussion**

Mr. Edelman made a motion for the Council to adopt the Outputs, Quality Management Planning and Metrics sections as amended during the June 6-7, 2016 meeting. Ms. Lathrop seconded the motion and the public was invited to make comments. No comments were received and the Council unanimously passed the motion.

Members discussed the *TMAC 2016 National Flood Mapping Program Review* Appendices. Appendices include Appendix A: *TMAC 2015 Annual Report* Recommendations, Appendix B: TMAC 2015 Future Conditions and Risk Assessment Modeling Report Recommendations, and Appendix C: Review of Legislative Objectives Impacting Technical Credibility. A motion was made to adopt the first two

appendices, Ms. Lathrop seconded the motion and time was allowed for public comments. No comments were received and the Council unanimously passed the motion.

Mr. Edelman motioned to adopt Appendix C, but the motion failed as the Council wished to further discuss it. Members expressed concern regarding Appendix C: Review of Legislative Objectives Impacting Technical Credibility. This section contains the legislative sections that impact the credibility of the National Flood Mapping Program that originate from *Biggert-Waters Flood Insurance Reform Act of 2012* and *Homeowner Flood Insurance Affordability Act of* 2014. Several TMAC members disagreed with the status of implementation that FEMA provided for particular sections of the legislation. The Council agreed to remove that column and continue discussions with FEMA on implementation progress. Mr. Jones also suggested adding a recommendation that says, "FEMA should complete the implementation of the statutory requirements of the National Flood Mapping Program as summarized in Appendix C, Review of Legislative Objectives Impacting Technical Credibility." A motion was made by Mr. Edelman to adopt the appendix as revised; the motion was seconded by Mr. Jones and time was allowed for public comments. No comments were received and the Council unanimously passed the motion. The new recommendation is now recommendation number three, under the "Recommendations related to Other Recommendations and Requirements to continue to create technically credible products in the future". The Council then reviewed the beginning of the report that acts as a prequel to Sections 1 and 2, which review the flood mapping program and then provide recommendations for continued credibility. This content includes: "Authorization and Purpose", "Background" and "Definition of Key Terms and Phrases". A motion was made to adopt this content, which was seconded. No comments were received and the Council unanimously passed the motion.

Lastly, the Council reviewed the Executive Summary. A motion was made to adopt the *TMAC 2016 National Flood Mapping Program Review* and the Executive Summary with amendments, to allow for a technical edit to make the document 508-compliant and to submit the final document to the FEMA Administrator. The motion was seconded and the public was invited to make comments. No comments were received and the Council unanimously passed the motion.

Next Steps

Mr. Dorman thanked the Council for their effort in producing the *TMAC 2016 National Flood Mapping Program Review* and particularly thanked Mr. Edelman and Ms. Marcy for leading the effort. Mr. Dorman said that he would provide the *TMAC 2016 Annual Report* subcommittee with information regarding the authors, support staff, timing of document production, and meeting schedule. He added that the next TMAC meeting is scheduled for August 9-10, 2016. Mr. Edelman also thanked the Council for their work.

Adjournment

Ms. Boyer thanked members for their participation and adjourned the meeting.

Action Items

- Mr. Dorman will work with Ms. Bethune to revise the *TMAC 2016 Annual Report* production schedule and send out a doodle poll for future meeting dates beyond June 2016.
- Mr. Edelman will identify what *2016 TMAC Annual Report* authors can assist with the *TMAC 2016 National Flood Mapping Program Review.*
- Mr. Dorman will provide the *TMAC 2016 Annual Report* subcommittee with information regarding the authors, support staff, timing of document production, and meeting schedule.

Certification

I hereby certify that, to the best of my knowledge, the foregoing minutes are accurate and complete.

John Dorman
TMAC Chair