



FEMA

TMAC

Technical Mapping Advisory Council Meeting May 9 – 10, 2016

TMAC Members

Juliana Blackwell
Richard Butgereit
Mark DeMulder
John Dorman
Leslie Durham
Scott Edelman
Steve Ferryman
Carrie Grassi

Chris Jones
Howard Kunreuther
Wendy Lathrop
David Mallory
Robert Mason
Luis Rodriguez
Christine Shirley
Cheryl Small

Subject Matter Experts

Chad Berginnis, CFM, Association of State
Floodplain Managers (ASFPM)
Bill DeGroot, P.E., F. ASCE, Urban Drainage and
Flood Control District (UDFCD), Colorado, retired
Tim Murphy, P.E., CFM, Flood Control District of
Maricopa County, Arizona

Suzanne Jiwani, P.E., CFM, Minnesota Department of
Natural Resources
Steve Story, P.E., CFM, Montana Department of Natural
Resources and Conservation

Government Attendees

Mark Crowell, FEMA, TMAC ADFO
Jana Green, FEMA*

Lynda Pilgrim, FEMA

Registered Public Attendees

Angela Bidnick, Booz Allen Hamilton
Gilbert Jones, Dewberry
Meredith Inderfurth, Washington Liaison,
ASFPM/NFDA
Tim McCormick, ATCS*

Michelle McQueeney, J-M Global
Scott Schelling, Baker International
Jeff Sparrow, Baker International*
John Sun, Stream Methods
Tim Trautman, Mecklenburg County, NC

Support Staff

Heidi Carlin, AECOM
Mary Curry-Ledbetter, J-M Global
Kirsten Folkedal, Booz Allen Hamilton
Jen Marcy, Atkins Global

Krista Bethune Melnar, AECOM
Meredith Tull, Booz Allen Hamilton
Adam Warfield, Booz Allen Hamilton

*Only attended Day 2**

Purpose

The purpose of the meeting is to allow the Technical Mapping Advisory Council (TMAC) members to deliberate on the draft topics and potential recommendations to be incorporated in the *TMAC 2016 National Flood Mapping Program Review* and the *TMAC 2016 Annual Report*.

May 9, 2016

Welcome/ Call to Order/ Roll Call

Mr. Mark Crowell, TMAC Alternate Designated Federal Officer (ADFO), welcomed members to the meeting. Mr. Crowell announced that he would be acting as the Designated Federal Officer (DFO). He then provided an overview of the conference facility and proceeded with a roll call of TMAC members. Mr. Crowell reminded participants of the *Federal Advisory Committee Act* (FACA) compliance provisions. He thanked the Council for their participation and turned the meeting over to Mr. John Dorman, TMAC Chair.

Process Schedule/Meeting Objective

Mr. Dorman provided an overview of the agenda and said the objective of the day's meeting was to allow TMAC members to (1) hear from *TMAC 2016 National Flood Mapping Program Review* authors and discuss the draft, and (2) coordinate regarding the *TMAC 2016 Annual Report*. Mr. Dorman encouraged members to inform the Council if they have ideas on other stakeholders that should be included in Council discussions.

Ms. Wendy Lathrop, TMAC member, expressed concern regarding the *TMA 2016 National Flood Mapping Program Review*, saying that there is too much detail and a lot of the material should be moved to the *TMAC 2016 Annual Report*. She reminded the Council that the TMAC should address a specific set of topics related to technical credibility, and the remaining topics should be placed in the *TMAC 2016 Annual Report*. Ms. Christine Shirley, TMAC member, agreed and noted that the *TMAC 2016 National Flood Mapping Program Review* is not actionable in helping the FEMA Administrator determine whether the national flood mapping program is technically credible and said that the report should not contain any recommendations. Mr. Dorman then introduced Mr. Scott Edelman, TMAC member, to lead discussion of the *TMAC 2016 National Flood Mapping Program Review*.

TMAC 2016 Flood Mapping Program Review Discussion

Mr. Edelman introduced the subject matter experts (SME), reviewed the report schedule, and noted that this meeting will focus on the recommendations in the review. He explained that the review text will be revised to support the recommendations. Mr. Chris Jones, TMAC member, said the Council should discuss findings before recommendations and the technical credibility of the program. Mr. Howard Kunreuther, TMAC member, noted that the recommendations are the same as the recommendations made in 2015. Mr. Edelman responded that the Council can reference the 2015 recommendations as they appear in the TMAC 2015 Annual Report and TMAC 2015 Future Conditions Risk Assessment and Modeling Report, instead of duplicating them. Ms. Lathrop commented that duplication should be eliminated, the report should be streamlined, and the message of a technical review should not be diluted by including talk of the future.

The Council agreed to discuss how to phrase recommendations by the end of the two day meeting. Mr. Edelman reviewed the format of each main section, the primary section authors and their support, and said the aim for the day is to review the sections on structure, metrics and future conditions. The Council reviewed the displayed document that truncated all of the report recommendations into a single document. An initial assessment by Ms. Leslie Durham, TMAC member, concluded that recommendations 5-2 through 5-10 are not duplicated from last year's TMAC 2015 Annual Report.

Mr. Edelman asked the section authors to give a brief review on the background and findings in the section. Mr. Steve Story, SME, was the lead author for section 5, *Review of FEMA's Flood Hazard Mapping Program: Structure*, and Mr. Chad Berginnis, SME, and Mr. Jon Janowicz, SME, acted as his support authors. Mr. Story said that his section includes an overview of legislative reforms, statutes and regulations for the National Flood Mapping Program (NFIP). The authors concluded that statutes are in place to provide a credible program. The Council reviewed recommendation 5-2, "In order for FEMA to

continue to create a credible product, FEMA should complete the implementation of the statutory requirements of the National Flood Mapping Program as summarized in section 10”, and agreed this recommendation is a finding and should be placed in section 10, *Review of Legislative Objectives for Technically Credible Products*.

Mr. Story reviewed section 5.3, regarding the organization of FEMA headquarters and Regions. Members held a lengthy discussion on whether recommendations should be included in the *TMAC 2016 National Flood Mapping Program Review* and if including recommendations would detract from the Council determining the flood mapping program to be technically credible. Mr. Kunreuther reminded the Council that their input is useful for the 2017 reauthorization of the NFIP and recommendations in this report could be useful in the reauthorization process. Mr. Luis Rodriguez, TMAC member, commented that a more streamlined report would be easier for FEMA to work with and the recommendations could go in the annual report. Mr. Edelman noted that the TMAC could change the review to a letter to the Administrator certifying credibility. Mr. Berginnis offered that other agency reports have findings and recommendations and explained that this report has the potential for significant impact because it will be sent to Congress.

The Council reviewed recommendations 5-3, 5-4, and 5-5, regarding FEMA’s organizational structure and Mr. Rodriguez clarified that FEMA’s recent reorganization of Federal Insurance and Mitigation Administration (FIMA) was only for FEMA Headquarters, and did not affect the regional offices. The Council determined that all of the recommendations are related to transparency and consistency in communication and agreed to combine the three recommendations.

The Council discussed recommendation 5-6, “In order for FEMA to continue to create a credible product, FEMA should continue to use private contractors to allow program flexibility as program requirements change.” Members discussed whether it was necessary to have as a recommendation. Mr. Rodriguez commented that this section discusses how the program delivers work and suggested consolidating this sub-section with the Cooperating Technical Partners (CTP) sub-section that immediately follows, noting all the different delivery mechanisms FEMA has at its disposal. The Council agreed this statement will be included as a finding in the report, instead of a recommendation.

The Council discussed recommendation 5-7, “In order for FEMA to continue to create a credible product, FEMA should investigate offering multi-year program management grant periods (versus annual) to CTPs”. Mr. Berginnis discussed the fragility of CTP projects with the changes from year to year, and noted that the concept of multi-year funding is important for Government entities that cannot hire as quickly as a contractor. He noted that the wide variation in funding can impact the technical credibility of CTP developed products. Mr. Steve Ferryman, TMAC member, added that this section and recommendation are aimed at program management grants, which are typically done on an annual basis. Mr. Dorman questioned why CTPs do not have metrics to meet in their projects like contractors have. Mr. Rodriguez commented that FEMA would have to investigate the legality of multi-year grants and that the CTP Community of Practice (CoP) was created to address these types of issues. The Council agreed to keep the recommendation.

The Council discussed recommendations 5-8, 5-9, and 5-10 and came to the conclusion that all of the recommendations need to be removed from the *TMAC 2016 National Flood Mapping Program Review* as the recommendations were either duplicated from *2015 Annual Report* topics, or were not relevant to technical credibility. The Council reviewed the section on Standards and Guidance, which provides an overview of the system and does not contain a recommendations. Ms. Durham suggested this section might belong with section 6, *Process*, as opposed to section 5, *Structure*. The Council then had a lengthy discussion regarding FIMA’s placement in FEMA and whether the TMAC should recommend to Congress that FIMA be moved outside of the Department of Homeland Security (DHS). The bulk of the discussion centered on the fact that it takes a year for funds to get through to FEMA from DHS.

The Council then moved to the *TMAC 2016 National Flood Mapping Program Review* section 9, *Metrics*, and its recommendations. Mr. Tim Murphy, SME, led the discussion. He noted that most of the metrics focused on program metrics rather than project metrics. The Council discussed recommendation 9-2 regarding the discontinuation of FEMA’s deployment metric. Mr. Rodriguez commented that the program

uses deployment to communicate objectives to appropriators and to communicate the vision of the Risk Mapping, Analysis, and Planning (Risk MAP) program, in terms of increasing awareness, risk communication, and quality data. He explained that deployment measures how FEMA has evolved from the Map Modernization (MOD) program and what FEMA has learned to do differently. It is also one of the early touch points and engagements where FEMA discusses communicating risk. The deployment measure helps FEMA baseline and understand the knowledge of risk, and focus where resources are needed. Mr. Berginnis and Ms. McConkey offered several objections as to how the metric is being used and said that it is neither easy to understand, nor a realistic metric. Mr. Dorman concluded that the TMAC can come back to this after they explore to what detail the Council already discussed this in the previous year's report.

The Council reviewed recommendations 9-3, 9-4, and 9-8 and determined that all three recommendations relate to New, Validated, or Updated Engineering data (NVUE) and need to be reviewed and combined into a single recommendation. With regards to the NVUE metric, members expressed concerns regarding (1) the way the metric is communicated; (2) the necessity of a coastal component; (3) unmapped miles not included in NVUE; (4) the denominator in the NVUE equation; (5) the overall program quality and footprint; and (5) the level of study. The Council will review and combine the recommendations and consider moving the new recommendation to the *TMAC 2016 Annual Report*.

Recommendations 9-5 and 9-5 both deal with FEMA's awareness metric. Mr. Murphy discussed how FEMA's use of the community engagement and risk communication (CERC) contract has resulted in several ongoing changes in communication, therefore, it is difficult to make specific recommendations. Members discussed why the metric is needed and Mr. Rodriguez noted that the metric is aimed at understanding awareness from community officials. Risk MAP aims to deliver quality data that raises awareness and leads to action. Mr. Edelman suggested that this topic needs to be further developed and could be moved into the *TMAC 2016 Annual Report*. Mr. Murphy and his supporting authors agreed to revisit recommendations 9-5 and 9-5 and determine the appropriate report for the recommendations.

The Council discussed recommendation 9-7, "In order for FEMA to continue to create a credible product, TMAC recommends that the mitigation tracker metric be discontinued as a metric of the mapping program and be transitioned to a broader program such as the NFIP itself, HMA programs, or as an overall metric of FIMA. The current definition of mitigation tracking is not credible. The metric treats the impact of a single project in a large community at the same weight as a single project in a small community. The cost and effort to accurately obtain the impacts would be too costly." Mr. Murphy explained that the mitigation action tracker is potentially useful, but should not be a part of the mapping program. The authors had concerns related to how mitigation actions are tracked in different communities. Mr. Berginnis commented that the mitigation action tracker might be outside of the sphere of influence of the Risk MAP program and could have a reverse effect on the mapping program since they are measuring something they do not have a lot of control over. The TMAC agreed to revise the recommendation to reflect the suggestion that FEMA should move the tracker to broader FIMA programs.

The Council agreed to remove recommendations 9-9 and 9-10, as they were already discussed in the *TMAC 2015 Annual Report*. Members discussed recommendation 9-11, regarding the timeframe for map studies and why it takes five years to fully complete. Mr. Edelman suggested moving this recommendation to the *TMAC 2016 Annual Report* with the Council to look at the expanded timeframe, the money that goes into scoping and discovery and whether the extra time results in a better product. The Council agreed to move the recommendation.

The TMAC discussed recommendation 9-12, "In order for FEMA to continue to create a credible product FEMA should develop a measure that shows the progress for conducting risk assessments on the built environment". Mr. Rodriguez commented that FEMA already has a national risk assessment in place and that it might be worth clarifying the level or degree to which the recommended risk assessment should be. Authors will revisit this recommendation and clarify what is meant by risk assessment, with the understanding that the Council has already recommended moving toward a structure-based risk assessment.

While the TMAC agreed that recommendation 9-13, “In order for FEMA to continue to create a credible product, FEMA should move the entire inventory of paper maps to digital maps. FEMA should have a metric on the percent area of the nation that is covered by digital maps until 100% coverage is obtained”, is a duplication of recommendation three in the annual report, but the Council agreed to keep it as it adds a tracking mechanism. Recommendation 9-14 suggested that FEMA tracks and reports the number of applications for appeals and the number of successful appeals. After much discussion on the complexity of the appeals process and the problem of expressing information regarding appeals in a meaningful way, the Council agreed to remove this recommendation from the report.

Recommendation 9-16 suggested that FEMA develop a system to track and report on the progress of community re-mapping requests. Mr. Rodriguez pointed out that there is already a tool that does this. Members agreed to move this recommendation to the *TMAC 2016 Annual Report* and consider evaluating whether the Coordinated Needs Management Strategy (CNMS) tool for tracking is sufficient or requires improvement. Recommendation 9-17 suggested that FEMA develop a metric to show progress towards meeting a digital platform goal. The Council expressed concern that this recommendation might be a duplication from the *TMAC 2015 Annual Report*. Mr. Murphy agreed to revise the recommendation and present a new version to TMAC.

Discussing recommendation 9-18 that FEMA create a residual risk metric, Ms. Durham noted that the topic of residual risk is covered in detail in section 7, *Outputs*. She also said that the Council should not recommend a metric for residual risk before FEMA has a zone, besides Zone D, to delineate residual risk. The Council discussed separating out dams and levees and further separating out the levees where the residual risk is known. Mr. David Bascom, FEMA, added that FEMA is working to create a zone for residual risk and is currently focusing on non-regulatory products for levees and dams. FEMA is working with the National Dam Safety Review Board on mapping residual risk behind dams, and where decision-making by communities should play a part. Ms. McConkey noted that none of the recommendations for new metrics are weighted by importance. Mr. Edelman suggested that the TMAC consider weighting metrics in the *TMAC 2016 Annual Report*. The Council agreed to move recommendation 9-18 to the *TMAC 2016 Annual Report*, as it is not related to the technical credibility of the current program, and the Council needs more time to discuss this topic in detail. Recommendation 9-19 was also removed as it was a duplicate from a recommendation in the *TMAC 2015 Annual Report*.

Public Comment Period

Mr. Crowell 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. He requested that speakers limit their public comments to no more than three minutes and said that the public comment period will not exceed 30 minutes. Mr. Berginnis offered a comment as a member of the public:

“There are a couple of things discussed this morning that I have done research on that I want to highlight as the TMAC debates and discusses. Here are examples of other councils and their reports: (1) National Academy of Sciences report on “Levees and the NFIP Improving Policies and Practices”; eleven recommendations, ten conclusions and 334 pages; (2) CBO report from 2009 from the ranking member of the Senate Banking Committee regarding how FEMA sets full risk rates; 52 pages with findings and recommendations; (3) GAO reports average 50 to 70 pages and include findings and recommendations; and (4) the NAPA study of DHS Science and Technology was 191 pages, had 29 recommendations and conclusions. These reports do vary quite a bit. The Council should consider having a more robust report. The Council should consider that recommendations can be in both the review report and the annual report. The Annual Report goes to the Administrator by law but the Review Report will go to the Administrator and then Congress under the law. This is an opportunity to impress upon Congress the priorities of the TMAC. In the House they will probably have a draft bill by the end of the Calendar Year and that means one half of Congress has already made up its mind.”

No other public comments were received.

TMAC 2016 National Flood Mapping Program Review Discussion

The Council discussed recommendation 9-20, “In order for FEMA to continue to create a credible product, FEMA should prepare a report that determines the cost versus benefit to the U.S. Treasury of various different funding levels of the program to right size the investment,” and if it should be moved to the *TMAC 2016 Annual Report*. Mr. Edelman commented that FEMA and Congress might need to know this information for reauthorization purposes. This recommendation could help justify to Congress the amount of money needed for the program. Mr. Rodriguez agreed this recommendation would be helpful in determining what the program needs in terms of resources. The Council agreed to leave the recommendation in the report, but revise the wording. The TMAC discussed recommendation 9-21 regarding reporting progress on statutory requirements of the flood mapping program and agreed to remove it as FEMA already reports the progress.

Of the 21 recommendations in the section 9, *Metrics*, the TMAC decided to remove eight, include two, and revise the remaining recommendations to present them to the Council for approval.

The Council moved to section 7, *Outputs*, authored by Ms. Cheryl Small, TMAC member. Recommendation 7-2 suggests that FEMA consolidate all information into one integrated platform for easier navigation, use and completeness. Ms. Lathrop questioned how this recommendation is different from the 2015 recommendation regarding going digital. Members agreed to remove the recommendation from the *TMAC 2016 National Flood Mapping Program Review* and to consider including it in the *TMAC 2016 Annual Report*.

The Council discussed recommendation 7-5, “In order for FEMA to continue to create a credible product, FEMA should identify residual risk areas on the maps for features such as areas behind levees and other flood control structures and failure/downstream inundation areas with several new zone designations that could be used as a way to show different levels of protection other than the 100 year flood. The use of Zone D should be retired in levee-protected areas due to the poor perception of stakeholders concerning Zone D.” Members discussed the current problems with Zone D and the insurance rates. Mr. Berginnis suggested there might be a need for a new risk zone that communicates level of protection. Mr. Dorman suggested the Council break this recommendation into two; one recommending retiring Zone D and the other recommending a new zone. Mr. Rodriguez reminded the Council that the implication of new zones on FIRMs means there have to be rule changes. Mr. Berginnis and Ms. Small agreed to revise this recommendation.

The Council discussed recommendation 7-6, “FEMA should work with other partners to assess the state of the art of mapping residual risk and inundation flood hazard areas. FEMA should develop guidelines and standards that reflect this information and should develop procedures to incorporate residual risk studies by others into FEMA products.” The Council discussed the insurance realities and floodplain management implications that accompany new zones, as well as whether future risk and the fitness of the structure should be taken into consideration. Members agreed that this recommendation should be reworded and moved into a different section of the report.

Next Steps

Mr. Dorman thanked the Council for their time and reviewed the May 10, 2016, meeting agenda.

Adjournment

Mr. Crowell thanked members for participating in the first day of the TMAC meeting and announced that meeting will resume on May 10, 2016.

Day 2: May 10, 2016

Call to Order / Roll Call

Mr. Crowell opened the second day of the meeting. He took roll call, reminded participants of FACA compliance stipulations, and reviewed facility logistics. He then turned the meeting over to the Chair. Mr. Dorman reviewed the meeting procedures and the agenda for the day, noting the meeting objectives for the day are the same as day one.

Ms. Lathrop commented that it is difficult for the Council to deem the flood mapping program as technically credible while giving FEMA a number of recommendations. She suggested demonstrating technical credibility through findings in the report, and then having recommendations that help FEMA evolve its mapping program in the future. Mr. Dorman thanked her for her comment and turned the meeting over to Mr. Edelman.

TMAC 2016 National Flood Mapping Program Review Discussion

Mr. Edelman provided a brief overview of the Council's discussion from the previous day. He then asked Mr. Mallory to speak on section 6, *Process*. Mr. Mallory gave an overview of his section and noted which recommendations have been found to be duplications of *2015 TMAC Annual Report* recommendations. He said that he focused on recommendations that would enhance the credibility of the mapping program. Credibility is a "moving target" as technology advances; it is not a static point. Recommendation 6-2 speaks to the part of the process regarding data gathering. There are several ways to gather elevation information, and FEMA should have high resolution data, whether that is LiDAR or other technology. The Council discussed whether the recommendation should be generalized and at what rate LiDAR and other high resolution data needs to be refreshed in order to be credible. Mr. DeMulder noted that it can be difficult to talk about "current" elevation data and suggested saying that the data should reflect the conditions on the ground. Mr. Mallory agreed to revise the recommendation.

Mr. Mallory reviewed recommendations 6-3, 6-4, and 6-5, which included updating the Flood Insurance Study Report, making data and models available online, and the inclusion of a technical memorandum on modeling with the preliminary Flood Insurance Study. The Council agreed that these recommendations belong in the *TMAC 2016 Annual Report*.

The Council discussed recommendation 6-6, "In order for FEMA to continue to create a credible product, FEMA should expand upon the existing outreach program to build a more robust community / public outreach and partnership program. The program begins with the Discovery meeting and continues through data development, preliminary map production and the post preliminary phase." Mr. Ferryman expressed concern regarding the addition of the time more outreach points would add to the mapping process. The Council agreed that this recommendation should stay in as a finding regarding the importance of community engagement, but will be discussed in more detail as a recommendation in the *TMAC 2016 Annual Report*.

Mr. Mallory discussed recommendation 6-7 regarding the appeals process. He acknowledged the current abuse of the appeals process and said the Council is looking for guidance from FEMA on how to treat appeals and when is it appropriate to say no to an appeal and when appeals should really be a Letter of Map Revision (LOMR). Mr. Rodriguez expressed concern with the lack of action in the recommendation and noted that FEMA has standards in place that say what qualifies as an appeal, which can be leveraged by the TMAC in this recommendation. He also noted that the implications of the recommendation would mean a change in legislation, which would be very difficult to achieve. Mr. Bascom added that legislation mandated Scientific Resolution Panels (SRP) to be instituted as a way for an independent body to analyze an appeal and make a decision. He also noted that FEMA is revamping their appeals process later in the month and that guidance will include more information on how to initiate an SRP. The Council agreed to revisit this topic when the guidance is released from FEMA and to move this topic to the *TMAC 2016 Annual Report*.

The Council discussed recommendation 6-8, “In order for FEMA to continue to create a credible product, FEMA should allow Regions and their partners to determine the scale of the watershed footprint to best address local issues. This will allow for the more in depth assessment of the project watershed, planning for study needs, data development costs that are not impractical, and greater transparency. This planning process is in keeping with the initial vision of Risk MAP but could not be fulfilled due to the FEMA requirement that Risk MAP projects have a Hydrologic Unit Code 8 (HUC8) footprint” and concluded that this recommendation was included in the *TMAC 2015 Annual Report*. Ms. McConkey asked to leave the recommendation in as a finding and stressed the point of continuing to allow flexibility for regional offices.

The Council discussed recommendation 6-10, “FEMA should develop procedures for evaluating applicability and potential use of new/updated models for flood hazard and flood risk studies (for example, use of and results from 2-D overland wave models should be evaluated and compared against the 1-D wave models now used in coastal studies).” The TMAC determined that this recommendation should be listed as a finding in the *TMAC 2016 National Flood Mapping Program Review*. Mr. Jones noted that there is little clarity on how FEMA decides which models are appropriate for a given situation and the Council needs more information. Mr. Rodriguez suggested the Council do more research on this topic and consider it as a possible recommendation for the *TMAC 2016 Annual Report*; the Council concurred.

The Council discussed recommendation 6-11, regarding the approval of Letter of Map Amendment (LOMA) and LOMR-F applications. Mr. Jones noted that the present criteria for LOMAs and LOMR-Fs is not appropriate and should be tied to the accuracy of the map. Mr. Edelman disagreed with the concept of the recommendation and said that the base flood elevation is a good measure. Mr. Rodriguez commented that he views this topic as important, but that it does not belong in the *TMAC 2016 National Flood Mapping Program Review* as a LOMA is not an update to a FIRM. Members agreed to research this topic much further and move it to the TMAC 2016 Annual Report.

Members discussed recommendation 6-12, “In order for FEMA to continue to create a credible product, FEMA should further ensure transparency in the process and the community application to convene an SRP should also be made available on the SRP website” and agreed to keep it as a finding in the *TMAC 2016 National Flood Mapping Program Review*. The Council then discussed 6-14 and agreed to change it to a finding in section 6, *Process*, demonstrating how the SRP is working and represents an important safety valve in the mapping process. Members discussed recommendation 6-15 and agreed it was included in the *TMAC 2015 Annual Report*; however, the Council also agreed that it should be considered as a finding regarding efficiency in linearity of the mapping process. The Council agreed to include recommendation 6-16 as a finding that FEMA should phase out the use of paper panels as soon as possible.

The Council discussed recommendation 6-17, “In order for FEMA to continue to create a credible product, FEMA should reprogram the Mapping Information Platform (MIP) to better align the process of tracking tasks to the actuality of how studies are completed by mapping partners”. Members disagreed as to whether the MIP should be included in the report or if it is an internal product that does not affect technical credibility. Mr. Dorman said there should be a finding on the MIP as it has a significant impact on the mapping process in terms of timing. Mr. Edelman recommended moving the recommendation to the *TMAC 2016 Annual Report* as a placeholder for the Council to discuss in more detail. Mr. Jones recommended the Council consider adding a recommendation related to FEMA’s Guidance and Standards updates that FEMA release specific information on the changes that are being implemented. The Council agreed to put this recommendation on hold until they had the opportunity to hear from Mr. Paul Rooney, FEMA, regarding the Guidance and Standards process.

Members discussed section 8, *Quality Control*. Ms. Grassi suggested that the TMAC conduct further research on the international standard ISO 9001 standards for quality control before recommending FEMA adopt the standard. The Council agreed to move the related recommendation to the *TMAC 2016 Annual Report*. Members discussed recommendation 8-2, regarding shifting the focus of quality review to earlier stages of the mapping process. Ms. Grassi noted that this recommendation might be separated into two recommendations and agreed it should be further researched in the *TMAC 2016 Annual Report*.

Ms. Grassi discussed recommendation 8-3 regarding quality management for the production of non-regulatory products. She said the intent of this recommendation is to support FEMA's current work but the TMAC may want to consider specifying which non-regulatory products it considers most important or most useful. Ms. Durham expressed discomfort with the idea of prioritization, noting that the Council encourages communities to develop more non-regulatory products in section 7, *Outputs* section. Members discussed whether there is an issue with non-regulatory products and decided more research is needed on the processes surrounding development of non-regulatory products. Mr. Rodriguez also reminded members that the focus on the Administrator's certification is about the FIRM and not non-regulatory products. Mr. Jones countered that the majority of the public does not see a difference between regulatory and non-regulatory products. The Council agreed to leave the recommendation as a finding and include it as a recommendation in the *TMAC 2016 Annual Report*. The Council agreed that the last recommendation in section 8 was a repeat of a previous recommendation and removed it from the report.

TMAC 2016 Annual Report

Mr. Dorman reviewed the draft production for the *TMAC 2016 Annual Report*. Currently, the TMAC is researching and developing five topics and five topics have been put on hold until the submission of the *TMAC 2016 National Flood Mapping Program Review*. He discussed the various stages of report production and said that the Council will vote on the final report in December 2016. Mr. Dorman and Ms. Boyer will determine the number of meetings that the FEMA budget can accommodate for the remainder of 2016, and Mr. Dorman will provide the Council with an update as soon as possible.

Mr. Kunreuther noted that the one topic that is unique to the report is regarding the data dependencies between hazard and risk information and flood insurance. He noted that section 10, *Flood Insurance Rating – Documented Dependencies with Flood Hazard and Risk Data, Models, Methodologies*, is linked with the topics in section 6 and 7, *Framework Core Data Management Plan*, and *Transition from One-Percent Annual Chance Flood Determination to Structure Specific Flood Frequency Determination*, and he will work with those authors to link together the topics and data. He said the section highlights the fact that the current methods for the NFIP are not dealing with risk in a fashion that is sufficient for risk insurance. He included recommendations based on a National Research Council (NRC) report on risk in the floodplain. Mr. Kunreuther also noted that the section could include how flood risk rated insurance could encourage mitigation and investment measures, with the idea that having risk rated insurance means there is a mechanism in place to give reductions in premiums. The section will focus on the impact of communicating the flood risk to interested parties and how they receive information. The final part of the section will include a proposed plan for developing premiums and relate how FEMA should communicate the risk, also considering the importance of addressing affordability and factoring in catastrophic modeling. Ms. McConkey expressed concern regarding Mr. Kunreuther's idea of risk assessment and said that the average annualized loss from HAZUS, [aka Hazards US, the nationally applicable geographic information system-based (GIS) natural hazard methodology freely distributed by FEMA that contains models for estimating potential losses from earthquakes, floods and hurricanes, estimating physical, economic and social impacts of disasters], is what an engineer would consider a risk assessment. She asked Mr. Kunreuther to explain the link from HAZUS to his flood risk classification upon which premiums would be based on. Mr. Dorman noted that the TMAC must gather additional research and suggested that the Council work with Mr. Andy Neal, FEMA, to receive more information on risk-based premiums.

Mr. Ferryman briefly reviewed section 2, *Effective Communication of Hazards and Risk*, which provides an introduction on risk communications and the appropriate people to communicate risk to. Ms. Lathrop suggested the Council consider integrating the importance of risk communications into every section, instead of having an isolated chapter. Ms. McConkey added that the Council needs to address the disconnect between how insurance rates are set and the risk information available. Mr. Ferryman said the section will not have recommendations on how insurance should be rated, but will discuss how to leverage information to do structure risk rating in the future. Mr. Kunreuther noted that there are differences in how premiums are set, but the Council should illustrate how and where risk information can be communicated. Ms. Small noted that communicating risk is only useful if you can get the attention of

the end user. Mr. Dorman reminded the Council that insurance premiums do not fall within the TMAC's legislative mandate.

TMAC 2016 National Flood Mapping Program Review Discussion

Mr. Rooney provided the Council with a briefing on the Guidance and Standards Cycle that FEMA intends to release in May 2016. He gave an overview of the Guidance and Standards process. Standards are required elements and guidance is not mandatory; guidance contains best practices and is flexible, unless also reflected in statutes and standards. The process was driven by FEMA's desire to formalize its approach to policy and treat anything deemed as policy with more rigor. The goal of the process is to make updates more predictable and transparent. Every revision of Guidance and Standards comes with a public maintenance announcement and allows a month for public comments. Mr. Rooney further explained that messaging regarding the updates for Guidance and Standards is distributed on a public listserv, as well as publicly posted on the FEMA website. FEMA also hosts various trainings on the updates for all staff and contractors. The majority of the update work is distributed across Risk Management Directorate staff and divided up into program focus areas. Mr. Rooney also provided a brief update on the specific Guidance and Standards updates for May 2016.

The Council discussed *Biggert-Waters Flood Insurance Reform Act of 2012* (BW-12) mapping legislation and questioned whether the communication and outreach activities required for educating property owners has been addressed. FEMA lists this requirement as being "Addressed", but TMAC notes that risk is not interchangeable with hazard. The impacts of the hazard are inherent in the definition of risk. This may be addressed for the hazard, but not for the risk. FEMA should define flood hazard and flood risk. Mr. Bascom informed the Council that FEMA has updated the Guidance for discovery, preliminary map release and added guidance documents for risk awareness that will be released shortly. Ms. Small responded that the information that FEMA provides to communities is not always consistent with the information that the communities provide to homeowners. Ms. Sarah Ice, FEMA, noted that FEMA lacks the capability to have one-on-one interactions with property owners; however, they have added radio and television advertisements to increase awareness. Mr. Rodriguez suggested that the Council examine how to effectively measure risk communication.

The Council then discussed another mandate from BW-12, "In carrying out the program established under subsection (a), the Administrator shall use, in identifying, reviewing, updating, maintaining, or publishing any National Flood Insurance Program rate map required under this section or under the National Flood Insurance Act of 1968 (42 U.S.C. 4011 et seq.), the most accurate topography and elevation data available." The Council noted that FEMA's status is "Addressed" but TMAC members noted that this is not happening everywhere, even in current studies. Members noted that there is legacy data that is included when new studies are published, meaning that not all of the data is up to date on the map. Mr. Edelman suggested that topographic data should be updated when panels are updated. Mr. Rooney responded that FEMA has an accuracy standard so that any project started after 2010 should be compliant.

Public Comment Period

Mr. Crowell 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. He requested that speakers limit their public comments to no more than three minutes and said that the public comment period will not exceed 30 minutes. While the public was offered the opportunity to speak, no comments were received.

TMAC 2016 National Flood Mapping Program Review Discussion

Members discussed how they envision the final *TMAC 2016 National Flood Mapping Program Review* and whether it should include recommendations or not. Mr. Butgereit commented that including recommendations with assessment and evaluation is not sufficient to meet the Council's legislative mandate. Mr. Jones cautioned the Council about including recommendations and expressed his discomfort with signing off on the recommendations until he sees all of the updated recommendations.

Ms. Lathrop recommended dividing the report into two parts, so the recommendations are all kept in one section. Mr. Dorman said the Council's duty is to say where FEMA needs to make changes in the future in order to remain technically credible. Mr. Mallory reminded the Council that credibility is not static and moves with time. He agreed with the idea of a short report with findings and recommendations on how to remain credible. Members agreed that the *TMAC 2016 National Flood Mapping Program Review* needs to clarify that their task was to review the data the program produces, not the program itself. Mr. Rodriguez noted that the majority of the topics being discussed for NFIP reauthorization are in regards to insurance and prioritization and not mapping. Mr. Jones reminded members that mapping is the key issue over which insurance disputes are debated. Mr. Edelman will work with Ms. Jen Marcy to organize *the TMAC 2016 National Flood Mapping Program Review*. He asked section authors to review comments from the TMAC meeting and identify any content changes needed, focusing on data or information gaps.

Next Steps

Mr. Dorman thanked Members for their discussion and reminded them of the next TMAC Public Meeting in June.

Adjournment

Mr. Crowell thanked members for their participation and adjourned the meeting.

Action Items

- Mr. Dorman and Ms. Boyer will determine the number of meetings that the FEMA budget can accommodate for the remainder of 2016, and Mr. Dorman will provide the Council with an update as soon as possible.
- *TMAC 2016 National Flood Mapping Program Review* authors will review TMAC comments from the meeting and revise content, focusing on any data or information gaps.
- Mr. Edelman will work with Ms. Jen Marcy to organize *the TMAC 2016 National Flood Mapping Program Review*.

Certification

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



John Dorman
TMAC Chair