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Technical Mapping Advisory Council (TMAC)

In-person/Virtual Hybrid Public Meeting Notes

July 29, 2024, 8:00AM – 5:00PM ET

TMAC Members

Stephen S. Aichele, *USGS, Geological Survey Representative*
Stacey Archfield, *USGS, Department of Interior Designee*
Vince DiCamillo, *Stantec Consulting, Mapping Member, Chair*
Ataul Hannan, *Harris County Flood Control District, Local CTP Representative*
Maria Cox Lamm, *South Carolina Department of Natural Resources, NFIP Coordination Offices*
William Lehman, *USACE, USACE Designee*
Jamie Reinke, *Nebraska Department of Natural Resources, State CTP Representative, Vice Chair*
Luis Rodriguez, *FEMA, FEMA Designee*
Brooke Seymour, *Mile High Flood District, Regional Flood and Storm Water Member*
Jonathan Smith, *Resource Inventory Division of Natural Resources Conservation Service, USDA Designee*
Jeff Sparrow, *Moffatt & Nichol, Floodplain Management Member*

Subject Matter Experts

Doug Bellomo, *AECOM*
Kim Dunn, *T&M Associates*
Salomon Miranda, *California Department of Water Resources*

Government Attendees

John Ebersole, *FEMA, ADFO*
Brian Koper, *FEMA, DFO*
David Rosa, *FEMA, ADFO*
Cadijah Walcott, *FEMA, ADFO*

Support Staff

Christine Brittle, *ARC PTS*
Sonia Clemens, *Compass PTS*
Cindy Corvalan, *ARC PTS*
Kayla Dottery, *ARC PTS*
Naeemah Islam, *PM Support*
Brian Koch, *ARC PTS*
Necolle Maccherone, *STARR II PTS*
Grace Morris, *STARR II PTS*
Mary Jo Mullen, *STARR II PTS*
Sloan Oliver, *PM Support*
Tameka Simpson, *PM Support*
Dora Szalai, *ARC PTS*
Molly Tuttle, *Compass PTS*
Ryan Slattery, *ARC PTS*

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Other Attendees

Cameron Adams, *TNC*
Andy Bonner, *AECOM*
Michael DePue, *Atkins Realis*
Sarah Edwards, *Southern Environmental Law Center*
Scott Giberson, *CoreLogic Flood Services*
Matthew Mampara, *Dewberry*
Ann Terranova, *Atkins Realis*

Purpose

The purpose of this Technical Mapping Advisory Committee (TMAC) meeting was to comprehensively review and discuss the 2024 Tasking Memo and ensure that all members are aligned on the strategic priorities and responsibilities for the upcoming year.

Subcommittee Working Session

TMAC members participated in subcommittee meetings to refresh and debrief on materials related to the topics being discussed during the meeting.

The TMAC then proceeded to the next agenda item.

Welcome, Roll Call, Administrative Items, and Opening Remarks

Mr. Brian Koper, TMAC DFO, introduced himself and welcomed everyone to the virtual and in-person public meeting. After the roll call, Mr. Koper explained the requirements and protocols associated with this public meeting compared to previous administrative meetings; he emphasized the procedures for public comments. He then handed it over to Mr. Vince DiCamillo, TMAC Chair, to review the agenda for the day.

After no further comment or questions, the meeting transitioned to the next agenda item.

TMAC Sprint Process Reminder and Where We Are

Ms. Mary Jo Mullen provided the TMAC members with a refresher on the overall Design Sprint Process. During the TMAC June Administrative Meeting, the group started to define the specific challenges that the TMAC will address related to FEMA's taskings for Topic One and Two. Topic One is to develop an approach for reviewing and validating FEMA's technical methodology for developing comprehensive flood hazard and flood risk data. Topic Two is to develop an approach, including milestones, to ensure effective use of comprehensive flood hazard and flood risk data in a way that communities can use to effectively manage risks.

Ms. Mullen gave an overview of what the sprint consisted of during this meeting, The group will continue to define the message and conceptualize potential solutions for challenges. During today's meeting, the group will get into brainstorming and coming up with ideas for how the TMAC can best create approaches for Topics One and Two. Then, the group will transition into collaboratively choosing the strongest solutions to move forward with. The subcommittees will further refine these solutions. This will lead into the assemble phase followed by the feedback phase, which is centered around the listening sessions. The feedback phase will involve talking through the topics with stakeholders and asking them questions based on the TMAC members' draft initial thinking about the topics.

With no further comments or questions, the meeting transitioned to the next agenda item.

Review of June Meeting Outputs

The group will focus on Topic One, which involved the TMAC recommending an approach for reviewing and validating FEMA's technical methodology for developing comprehensive flood hazard and flood risk data. Ms. Mullen summarized the work from the June Administrative Meeting into a condensed document, clustering user information and outlining the desired outcomes for the TMAC.

Topic Two is an approach including milestones to ensure the effective use of comprehensive flood hazard and flood risk data, enabling communities to manage risks effectively. The group identified relevant users and stakeholders and discussed expected and ideal outcomes for Topic Two. Ms. Mullen grouped these items to support this week's TMAC meeting.

Ms. Mullen then introduced the "2024 Topics: Success Criteria" document. During a discussion of Topic One: Approach for Validating FEMA Methodology with the group, she asked the group if the current language in the Success Criteria document captured the approach to validate FEMA's methodology. The group briefly discussed who the users and stakeholders were for Topic One. They would talk about this topic again later in the discussion. The TMAC went into a discussion about the Success Criteria. For instance, the group agreed that to instill trust in the methodology, it should receive an independent validation that is external to FEMA.

The group again reviewed the list of stakeholders who were identified by the TMAC members in the TMAC June Administrative Meeting. This list included local, state, federal agencies, community officials, Cooperating Technical Partners (CTPs), lawyers and others. Ms. Mullen asked if anyone in the group had comments or questions about the stakeholder groups.

The TMAC Members' recommended approach included items such as, provide clarity about what data, processes, and procedures will be reviewed, ensure the data from the methodology is accurate to the reality of past flood events and realistic to the variety of flood events that occur, and gain scientific consensus that the methodology is predictable, reliable, and repeatable across the entire nation. The TMAC members then discussed the recommended approach language. Ms. Mullen updated the language in the 2024 Success Criteria document based on the group's feedback.

In preparation for the upcoming "Ask The Expert" session, Ms. Mullen asked the group to take notes during this session. These notes will be captured in the "How Might We?" section of the TMAC meeting's Miro board. The individual members will form questions from their "How Might We?" notes. The individual members will then share their questions with the group.

With no further comments or questions, the meeting transitioned to the next agenda item.

Topic 1: Ask the Experts

Mr. Jeff Sparrow introduced the experts to the group. The experts were Mr. Andy Bonner Technical Director (Water Resources) from AECOM, Mr. Michael DePue, President from Atkins Global, Mr. Geoff Uhlemann, Water Resources Program Manager and Innovations Lead, from Michael Baker International, and Mr. Matthew Mampara, Vice President, from Dewberry.

To the question, "What approach would you suggest FEMA use to review and validate its technical methodology?" Mr. Matthew Mampara suggested that FEMA should use an analytical approach to validate any technical methodology. On the hazard mitigation side, Mr. Mampara suggested that there needs to be a lot of focus on reproducible and predictability of results. Mr. Michael DePue, recommended that the group engage with the National Academies of Science to support their validation. Both Mr. Mampara and Mr. DePue suggested that all the information used to validate the methodology be accessible to the experts reviewing and validating similar methodologies around solving the nation's flooding problems.

For the question, "What approach would you suggest FEMA use to review and validate its technical methodology?" Mr. DePue suggested that FEMA consider research that international peer agencies have done in reviewing and validating technical methodologies for developing comprehensive flood hazard and flood risk data. Mr. DePue suggested that the TMAC do a comparison of the technical methodology to true historic past flood events in the United States and outside of the U.S.

Mr. Geoff Uhlemann, suggested sharing the methodology with the open-source community. Mr. Uhlemann believes this would allow FEMA to get a pretty good validation and review from experts in the field. FEMA officials may also want to consider giving the TMAC report to community technical partner (CTP) experts to validate under a special project. Mr. Uhlemann acknowledged that there is uncertainty in the model. For this reason, he stated it is important to establish ranges and tolerances in it.

Mr. Andy Bonner, said that going through the process of looking at Advanced Life Support (ALS) (i.e., claims data) allows scientists to validate the models and their performance across a range of scenarios, which is where the experts in this field are trying to move to. Mr. Bonner stated it will be important to establish ranges and tolerances to have confidence in the model's results.

Mr. Bonner said that AECOM's model has checkpoints, but these checkpoints are not available in every area. He suggested that FEMA validate its methodology against actual known storm events. Mr. Bonner and Mr. Uhlemann suggested that FEMA use ALS and homeowner's insurance information for modeling comparisons.

Mr. Sparrow then asked the experts the next question, "What challenges do you see implementing the suggested approach?" Mr. DePue commented that developing an approach for reviewing and validating FEMA's technical methodology for developing comprehensive flood hazard and flood

risk data is quite complex. Mr. DePue recommended that FEMA be very clear about where it makes assumptions in this methodology.

For the question, "Would the approach be different for fluvial, pluvial, and coastal areas?" Mr. DePue commented that it is challenging to validate in pluvial areas because there are less established rivers and streams in these areas. All flood hazard experts want to understand these areas because this is where most of the public lives. All the experts at today's meeting agreed that pluvial areas will continue to warrant increased focus from the flood hazard community. Clear patterns of damage and high-water marks emerge in coastal areas. For coastal areas, FEMA should look at the very rapid intensification of a storm, like a hurricane and how that might impact the simulations that FEMA uses for this process. Mr. DePue said that the scientific world understands problems with extracting fluvial data pretty well. The validation data for fluvial areas will get better over time. For coastal areas, Mr. Mampara said that scientists rely on the North Atlantic and South Atlantic Comprehensive Coastal Study to do data analysis on these areas.

Mr. DePue commented that for pluvial areas, FEMA should look at more frequent events and frequent storms. These regular events tend to have the most influence on risk results. If storms happen frequently in a particular area, the public will stop living in that area.

Mr. Uhlemann commented that YouTube and Instagram have helped the Michael Baker International organization understand past flood events and what areas have a propensity for flooding. Social media users share their photos of these events on the internet. Mr. Uhlemann believes it would be helpful if FEMA made a concerted effort to scrub its flood and hazard data and provide the public with access to this data.

For the last question, "Are you aware of anyone looking at this already?" Mr. Mampara commented that the Program Tracking System has been operating as a reviewer for the standard operating procedure (SOP). Mr. Mampara knows of several individuals in academia that are looking at this methodology. Mr. Mampara said he, Mr. Bonner, Mr. DePue, and Mr. Uhlemann can identify these individuals in academia for the TMAC. Mr. Mampara also suggested that the graphic processing units (GPUs) may be good resources. Mr. Bonner said he will check in with his colleagues in Australia to see from an engineering methodology validation standpoint if they have started to look at probabilistic pathways or whether they use a deterministic approach.

Mr. Sparrow asked the experts if there is something that TMAC should keep in mind as it moves forward with developing an approach for reviewing and validating FEMA's technical methodology for developing comprehensive flood hazard and flood risk data. Mr. Bonner emphasized the importance of clearly defining the level of expertise and skillset that FEMA wants and needs to apply this methodology. At a later date, Mr. Sparrow will reach out to the experts to see if they are available and willing to support the TMAC subcommittees.

Following the "Ask The Expert" session, the TMAC members were asked to add their questions to the "How Might We Board?" in Miro. Some of the group's ideas on the board include the questions, "How might we validate in the absence of historical data and ensure replicability of the

results," "How might we validate pluvial areas?," "How might we look at international approaches?," "How might we validate risk hazards?," and "How might we validate the process for different types of flood risk (i.e., fluvial, pluvial, and coastal)?

With no further comments or questions, the meeting transitioned to the next agenda item.

Topic 1: Define Map

Ms. Mullen asked the group if there is a specific process users will be following to achieve the desired outcomes. The group decided that instead of creating a process map, they would define the pieces of the methodology. The members came up with the following pieces of the methodology: Flood Risk Type – Pluvial, Fluvial and Coastal, Hazard vs. Risk, Good data to validate/calibrate vs. lacking calibration data, Program vs. Project, Geographic Scope, various levels of details (approximate, detailed, etc.).

With no further comments or questions, the meeting transitioned to the next agenda item.

Topic 1: Define Challenges

The group then identified the challenges that might be associated with the pieces of the methodology. For example, the flood hazard types pluvial, fluvial, and coastal are not mutually exclusive. There is a scarcity of data for pluvial areas. For Hazard vs. Risk, the challenges include the accessibility of some data sources, such as claims data, there are different technical methodologies for hazard and risk, hazard data has a long history of calibration, risk information does not have such clarity, and communication is a challenge, as it is difficult to explain the difference between a hazard and a risk.

With no further comments or questions, the meeting transitioned to the next agenda item.

Lunch

The TMAC took a one-hour lunch break.

Topic 1: Brainstorm

Ms. Mullen explained to the group that there will be four phases of notetaking. They are note taking, idea generation, crazy eights, and solutioning. The group will be coming up with ideas and concepts to address the challenges they discussed earlier in the meeting. The members will also begin to start outlining and framing out an approach.

Ms. Mullen sent out the "How Might We Cards", for the group to look through the materials they received and take notes on what they want to focus on. The group then took a moment to look over their notes and write down all the ideas they have to address any of the challenges. The group looked over these same ideas and picked out the eight ideas that were most important to them.

With no further comments or questions, the meeting transitioned to the next agenda item.

Topic 1: Present Ideas

TMAC members added their top eight ideas to the Miro board. Some of the ideas included: require that independent review and validation of technical methodology consider all flood hazard types (fluvial, pluvial, coastal, and compound), require the use of a third party such as the National Academies of Science or American Geophysical Union (AGU) – The process followed must be more transparent and repeatable. Validate by recreating historical events (large and small) and covering different geographies and flooding types (fluvial, pluvial, coastal, and compound). No one methodology or approach addresses all flood hazards and risks in all geographies. The TMAC members' ideas will be shared in the planned listening sessions.

With no further comments or questions, the meeting transitioned to the next agenda item.

Public Comment Period

Mr. Koper began the public comment period at 3:30 p.m. ET. He opened the forum for those who would like to make a public comment. No public comments were made during this time.

With no public comment, Mr. Koper adjourned the public comment period.

Break

The group took a 15-minute break.

Topic 1: Combine Ideas

This portion of the meeting was meant to combine and refine their ideas. The group agreed to the idea of not just a straightforward validation, but also that broader steps will be involved in the methodology (i.e., public review). The group emphasized the importance of transparency and thorough documentation within the methodology or approach used for reviewing and validating the methodology. Additionally, they highlighted the need for broad, accessible datasets to be utilized during the validation process and suggested the inclusion of pilot studies and literature reviews. Ms. Mullen committed to refining these ideas before presenting them to the Topic One subcommittee.

With no further comments or questions, the meeting transitioned to the next agenda item.

Next Steps and Adjourn

Mr. DiCamillo summarized the day's achievements for the TMAC members. The group discussed the pieces that will help them review and validate FEMA's technical methodology for developing

comprehensive flood hazard and flood risk data. They discussed the challenges associated with the methodology, brainstormed ideas to overcome these challenges, and combined ideas where appropriate. The meeting adjourned at 5:08 p.m. ET.

Technical Mapping Advisory Council (TMAC)

In-person/Virtual Hybrid Public Meeting Notes

July 30, 2024, 10:00AM – 5:00PM ET

TMAC Members

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Mary Jo Mullen, *STARR II PTS*
Sloan Oliver, *PM Support*
Tameka Simpson, *PM Support*
Dora Szalai, *ARC PTS*
Molly Tuttle, *Compass PTS*
Ryan Slattery, *ARC PTS*

Other Attendees

James Scanlon, *Mecklenburg County, North Carolina*
Ceil Strauss, *State of Minnesota*
Patrick Varga, *Carroll County, Maryland*

Purpose

The purpose of this Technical Mapping Advisory Committee (TMAC) meeting was to comprehensively review and discuss the 2024 Tasking Memo, ensuring that all members are aligned on the strategic priorities and responsibilities for the upcoming year.

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After no further comment or questions, the meeting transitioned to the next agenda item.

Topic 1 Down Select Ideas

Ms. Mary Jo Mullen started the session by recapping the group's activities from the previous day. She explained that the members initially brainstormed ideas individually, and then presented them to the group. The TMAC collectively refined and combined these ideas.

Ms. Mullen walked the group through the finalized ideas. These ideas included: the approach will include an independent third-party review of FEMA's methodology for both hazard and risk, which considers the wide variety of hazard types, geographic variation, residual risk areas, and hazard and risk variations. The approach will include additional reviews of methods, standards, and guidance by a wider user and stakeholder group to build trust and gain buy-in.

The approach will rely on a variety of data sources including but not limited to historical data to validate FEMA's methodology. All data sources must also have their limitations in use for validating comprehension and documentation. The approach will consider future and ever-changing conditions and allow for a validation process to occur in the future as methods and data evolve. Additionally, a literature review, incorporating both U.S. and international sources, would inform or be part of the validation. The approach would also include pilot projects to test the methodology across different types and levels of risk and hazard data. Finally, the approach will emphasize the need for clear documentation of validation processes, data sources, and

assumptions to ensure full transparency and enable communication about the uncertainties in the methodologies and their implications.

The group then refined these ideas by discussing key concepts and making necessary updates. They agreed to clarify the term "validation" by updating it to "validation approach" and to specify "FEMA's methodology" instead of just "methodology." One idea was revised to state that the validation approach needs to evaluate FEMA's modeling approach for both existing and future conditions. The group also recommended that TMAC's language include: "As FEMA evolves its modeling and methodologies, validations should continue to occur." Additionally, they agreed that the validation approach should be flexible to accommodate these changes. The group introduced the concept of different levels or tiers of validation and emphasized the importance of FEMA effectively communicating what the validation was, what the results meant, and how to address challenges or "black box" data sources.

With no further comments or questions, the meeting transitioned to the next agenda item.

Break

The TMAC took a 15-minute break.

Topic 1: Refine Ideas

Ms. Mullen asked Mr. Jeff Sparrow, Mr. DiCamillo, and Ms. Jamie Reinke for clarification on what the subcommittees must achieve before the next TMAC meeting. By the end of the three-day TMAC meeting, Mr. DiCamillo said that he would discuss with the group what he would like them to achieve by the next TMAC meeting. The members of Subcommittee One, including Subject Matter Experts (SMEs), are Mr. Jeff Sparrow, Ms. Brooke Seymour, Mr. Ataul Hannan, Mr. Luis Rodriguez, Ms. Stacy Archfield, Mr. Doug Bellomo, Mr. Salomon Miranda, and Ms. Kim Dunn.

In addition, Mr. DiCamillo and Mr. Sparrow received consensus from the TMAC members that Topic One is ready to hand off to Subcommittee One to further refine it.

With no further comments or questions, the meeting transitioned to the next agenda item.

Topic 1: Select Draft Initial Thinking

Mr. DiCamillo led a discussion about the overarching objectives for Topic One. The group reviewed a slide entitled "Six Overarching Objectives." This same slide was used to develop the objectives for the 2023 TMAC Report.

The group selected the following objectives from the "Six Overarching Objectives" slide: improve usability and communication of hazard and risk data, improve technical creditability of hazard and risk data, and improve transparency around potential impacts.

With no further comments or questions, the meeting transitioned to the next agenda item.

Topic 2: Down Select Ideas

Ms. Mullen walked the group through a discussion of the TMAC 2024 Success Criteria for Topic Two. Topic Two is for TMAC to recommend an approach, including milestones, to ensure the effective use of comprehensive flood hazard and flood risk data in a way that communities can use to effectively manage flood risk.

The group discussed how the users and stakeholders were grouped and how the outcomes were translated into the 2024 TMAC Success Criteria document. The users for Topic Two include state, local, and tribal agencies, individuals seeking to reduce the risk of flooding their home or business, state and federal agencies, CTPs, consultants, the development community, flood determination companies, and the scientific and academic community. The stakeholders for Topic 2 include realtors, lenders, property owners/renters/leasers, insurance agents, business owners, regional development councils, land developers, property assessors, other federal agencies, and elected officials whose constituencies are impacted by flood risk.

The group agreed to add additional statements to the Success Criteria document. The first update is that the approach should use change management strategies to achieve a pivot which would hopefully be a milestone in what is a proposed update to the new national flood risk data as a go-to for all users and stakeholders with a focus on communication rather than just data. The second update is that the approach established a communication campaign targeting state coordinators and CTPs, and a variety of levels and tiers that will cover all the user groups identified. In the upcoming listening sessions, the group agreed that it is important to provide the participants with a background on the Future Flood Risk Data (FFRD) initiative.

With no further comments or questions, the meeting transitioned to the next agenda item.

Lunch

The TMAC took a 60-minute lunch break.

Topic 2: Ask The Expert

Ms. Maria Cox Lamm kicked off the "Ask The Experts" session and welcomed the experts to the meeting. The experts then introduced themselves to the group. Ms. Ceil Strauss is the Minnesota State Floodplain Manager and NFIP Coordinator, Mr. James Scanlon is a GIS Systems Analyst

for the Mecklenburg County Stormwater Services, and Mr. Patrick Varga is a Floodplain Administrator for the Caroll County government in Maryland.

The first question for the experts that was asked was, “Do your communities know the difference between hazard data and risk data?” Ms. Ceil Strauss noted that there is a small percentage of Minnesota communities that come to trainings where her agency talks about mapping issues. She said mapping information is going to vary from community to community in Minnesota. Some counties still have maps from the 1970s or 1980s.

Mr. James Scalon said that the county’s stormwater services agency presides over floodplain regulation for a major system. A major system is a one-square-mile drainage area or greater. The county is responsible for regulating floodplain activities in those areas. A county’s hazard data is regulated. In addition, the insurance agents will assign the insurance requirements to properties in the county.

Mr. Scalon said that risk data is the backbone of their regulatory program. His agency’s program responsibilities include future conditions mapping. Mecklenburg County uses non-regulatory data to determine the correct elevations for regulation. They also perform risk assessments and mitigation evaluations on all their buildings. The risk data is heavily considered in the mitigation implementation strategy.

Mr. Scalon said seven out of the eight municipalities within his county have chosen by resolution to have the county floodplain management agency enforce floodplain regulations in those counties. They enforce FEMA regulations, and they review non-FEMA regulated streams and define them as streams based on their ground water flow. His county has assumed that any stream where the floodplain is ten vertical feet from the top of the streambank is under floodplain regulations. The county prohibits structures in both the FEMA floodplain and non-FEMA floodplain. The Mecklenburg County Stormwater Services agency has tried to mitigate flood risk as much as possible.

The next question was, “Have you seen any of FEMA’s initial thinking using comprehensive, probabilistic data to show risk? Do you have any examples of issues or successes with that type of data?” Ms. Strauss said that communities in her area have done a good job using this kind of information. The Department of Transportation in her state is looking at depth grids to prioritize improvement projects, where there are vulnerabilities and potential risks during floods. She has seen the probabilistic data used from a regulatory standpoint by local governments.

Minnesota has had a shoreline management program for the last fifty years. This is not a FEMA program. The shoreline management program has minimum elevation regulations for lakes bigger than 1000 feet and 300 feet for any stream that drains more than two square miles. These regulations apply in places that FEMA has not mapped.

The state has areas where FEMA has mapped major rivers, but they also have eight large counties that have not been mapped by FEMA. The Minnesota shoreline regulations regulate these areas. Other examples where this data may be used in the state, the National Weather Service has depth grids that are foot-half-a-foot or one-foot increments for Minnesota. A couple of communities do a great job showing maps in half-foot increments that are consistent with the floodgates in the communities. This mapping shows what areas may flood what communities are going to do to prevent flooding and what they are going to do if flooding happens. This information is on a public website for the citizens of Minnesota to access.

Mr. Scanlon said that they use probabilistic data to run operations in Mecklenburg and all the communities in that area. It has been using probabilistic data for 15 years. For the county's flood risk assessments, the probability of a flood determines the score. For example, if a building has a score of 1000 points. The agency knows this building is going to flood. If the flood probability is 1% x 1000, the building gets a 10-point flood risk score. If there is a 50% annual risk that a building will flood, the risk score for this property will be 500 points.

Mecklenburg also uses probabilistic data to perform flood inundation mapping. In the county, time readings can be fed into a GIS system from the field. Based on those observations, the county's Stormwater Services can determine a recurrence interval and then apply that to flood models to develop coverage maps with elevations on them and perform additional risk assessments with this information.

Mr. Patrick Varga, said that his county has not been provided depth grid information from FEMA or any other agency. He supports the Carroll County government in Maryland. The state is collaborating with the University of Maryland to look at one-, two, and three-foot sea level rise bases of the Department of Emergency Management (DEM) and Maryland Department of Environment (MDE) information. About 20 years ago, Caroll County put all of its storm data on Noelis 14. The state of Maryland is pushing for legislation for updates to Noelis 14, as well as any jurisdiction that does not have Noelis 14 should be required to have it.

The last question for the experts is, "What should be included in the approach to ensure the use of hazard and risk data to manage flood risk?" Mr. Scanlon commented that the data must be easy to understand and as accessible as possible. FEMA should provide the public with examples of how communities are already using this data so that communities that are not presently using it can understand how it can be used. Mr. Varga commented that an interactive website is a powerful tool that can be used by individual property owners. FEMA should also promote knowledge tools about flood risk, flood insurance, and other flood-related safety tools. The Agency should inform citizens when their flood risks are changing. Flood hazard and data risk modeling developed by entities outside of FEMA should be reviewed. FEMA should be reviewing historical data and updating this information based on new methodologies. The expert feels this is the key to defining current flood hazards.

Mr. Varga again emphasized the importance of the flood hazard and risk data being accessible to the public. They said it should be available in the form of an interactive map. Probabilistic flood data is very useful, certainly more useful than binary flood zone maps. It has a lot of potential uses for all of mitigation, planning, and floodplain monitoring. Mr. Scanlon said anytime you can have a more comprehensive view of hazards and risks, it is a great thing. The public needs to be provided with a more comprehensive view of their flood risk.

Ms. Cox Lamm and Mr. DiCamillo thanked all the experts for participating in today's session.

With no further comments or questions, the meeting transitioned to the next agenda item.

Topic 2: Define Map

Ms. Mullen led the group through a discussion of the Users for Topic Two. She asked the group to think about the high-level steps a particular user group would have to perform to reach their desired outcomes. For state and local agencies, the first step for them would be to get a common understanding of what the data is. Second, break down the data to get what you need from your audience. Understand what the knowledge base is for the audience. Tailor the outreach to the audience. This leads to the outcome: interpret, relay, and explain flood risk to citizens, councils, and other local officials.

With no further comments or questions, the meeting transitioned to the next agenda item.

Break

The TMAC took a 15-minute break.

Topic 2: Define Challenges

The TMAC began a discussion about the Process Map and what steps users follow to achieve their desired outcomes. This discussion will continue after the public comment period.

With no further comments or questions, the meeting transitioned to the next agenda item.

Public Comment

Mr. Koper began the public comment period at 3:30 p.m. ET. He opened the forum for those who would like to make a public comment and explained the procedure for doing so. No public comments were made at this time.

With no comments, the meeting transitioned to the next agenda item.

Topic 2: Defined Challenges Continued

The group returned to the Miro board to continue the discussion about the process steps for users to achieve their desired outcomes. The process steps for an individual seeking to reduce the risk of flooding to their homes or businesses would include: What risks are in the area we are examining? What mitigation actions can be taken? Determine if no action is taken and what are the future risks. Conduct outreach activities. Determine costs and obtain funding. Determine the post-project risks. The desired outcome would be to make the right informed decisions on managing risk that are compensatory with the amount/type of risk.

In another example of the user process steps, the user is an organization that produces and updates flood map data to support flood risk reduction. The steps for this process include: data is provided for comment on interactive maps or model inventory, preliminary map data posted, effective layer map posted in some cases in model management, and the outcome is that the data is accessible.

The group updated the process map by adding challenges to the paths in the processes. Some examples of the challenges include: having the right partners available to provide support and technical assistance to FEMA customers' work, users should have the proper expertise, this support can take away from the experts' other tasks, who should be providing technical assistance to the user, CTPs or the NFIP funded experts? and a substantial portion of the country is still unmapped and current producers may not have the capacity to make this happen.

Next Steps and Adjourn

Mr. DiCamillo summarized the day's achievements for the TMAC members. The group selected and consolidated ideas for Topic Two. The input for Topic Two provided by the TMAC members will be passed to the Topic Two Subcommittee. The group participated in an "Ask the Experts" session. Then, they mapped out the process and defined the challenges for Topic Two. The TMAC conducted a public comment period. There were no comments given. Mr. DiCamillo thanked the group for their input and attention. The meeting adjourned at 5:07 p.m. ET.

Technical Mapping Advisory Council (TMAC)

In-person/Virtual Hybrid Public Meeting Notes

July 31, 2024, 8:00AM – 5:00PM ET

TMAC Members

Stephen S. Aichele, *USGS, Geological Survey Representative*
Stacey Archfield, *USGS, Department of Interior Designee*
Vince DiCamillo, *Stantec Consulting, Mapping Member, Chair*
Scott Giberson, *CoreLogic Flood Services, Flood Hazards Determination Member*
Ataul Hannan, *Harris County Flood Control District, Local CTP Representative*
Maria Cox Lamm, *South Carolina Department of Natural Resources, NFIP Coordination Offices*
William Lehman, *USACE, USACE Designee*
Jamie Reinke, *Nebraska Department of Natural Resources, State CTP Representative, Vice Chair*
Luis Rodriguez, *FEMA, FEMA Designee*
Brooke Seymour, *Mile High Flood District, Regional Flood and Storm Water Member*
Jonathan Smith, *Resource Inventory Division of Natural Resources Conservation Service, USDA Designee*
Jeff Sparrow, *Moffatt & Nichol, Floodplain Management Member*

Subject Matter Experts

Doug Bellomo, *AECOM*
Kim Dunn, *T&M Associates*
Scott Giberson, *CoreLogic Flood Services*
Salomon Miranda, *California Department of Water Resources*

Government Attendees

John Ebersole, *FEMA, ADFO*
Brian Koper, *FEMA, DFO*
David Rosa, *FEMA, ADFO*
Cadijah Walcott, *FEMA, ADFO*

Support Staff

Christine Brittle, *ARC PTS*
Sonia Clemens, *Compass PTS*
Cindy Corvalan, *ARC PTS*
Kayla Dottery, *ARC PTS*
Naeemah Islam, *PM Support*
Brian Koch, *ARC PTS*
Necolle Maccherone, *STARR II PTS*
Grace Morris, *STARR II PTS*
Mary Jo Mullen, *STARR II PTS*
Sloan Oliver, *PM Support*
Tameka Simpson, *PM Support*
Dora Szalai, *ARC PTS*
Molly Tuttle, *Compass PTS*
Ryan Slattery, *ARC PTS*
Geoff Uhlemann, *ARC PTS*

Purpose

The purpose of this Technical Mapping Advisory Committee (TMAC) meeting was to comprehensively review and discuss the 2024 Tasking Memo, ensuring that all members are aligned on the strategic priorities and responsibilities for the upcoming year.

Subcommittee Working Session

TMAC members participated in subcommittee meetings to refresh and debrief on materials related to the topics being discussed during the meeting.

The TMAC then proceeded to the next agenda item.

Welcome, Roll Call, Administrative Items, and Opening Remarks

Mr. Brian Koper, TMAC DFO, introduced himself and welcomed everyone to the virtual and in-person public meeting. After the roll call, Mr. Brian Koper explained the requirements and protocols associated with this public meeting compared to previous administrative meetings; he emphasized the procedures for public comments. He then handed it over to Mr. Vince DiCamillo, TMAC Chair, to review the agenda for the day.

After no further comment or questions, the meeting transitioned to the next agenda item.

Topic 2: Brainstorm

The TMAC members engaged in a brainstorming exercise that began with Phase One, where the group spent 20 minutes reviewing the Topic Two Miro board, including the "How Might We Cards," Topic Two Process Mapping, and the Topic 2 Challenges. Ms. Mary Jo Mullen also requested that the group review the 2024 TMAC Success Criteria document and take notes on these materials.

Then the group participated in what Ms. Mullen referred to as a “brain dump.” During this phase, members reviewed their notes and recorded all their ideas on their computers or on paper regarding how to address the challenges associated with Topic 2.

Following the brain dump, the group organized the ideas they had generated. In the final phase of brainstorming, the group refined and combined their ideas. The TMAC members then added their organized ideas to the Miro board for presentation.

After the ideas were added to the Miro board, Ms. Mullen presented them to the TMAC members. Among the ideas were: systematically assessing state, local, and tribal technical capability and capacity; improving training for those who must communicate with individuals who are upset or unwilling to understand technical details; and building a communication and outreach program to explain the products and their implementation through examples, guidance documents, and visual aids.

With no further comments or questions, the meeting transitioned to the next agenda item.

Public Comment

Mr. Koper began the public comment period at 11:30 a.m. ET. He opened the forum for those who would like to make a public comment. No public comments were made at this time.

With no comments, the meeting transitioned to the next agenda item.

Lunch

The TMAC took a 60-minute lunch break.

Topic 2: Present Ideas

Ms. Mullen shared the Miro board with the group once more, and the TMAC members continued their discussion on ideas for Topic 2. The group's ideas included recommendations that FEMA should develop more accessible training for local and state partners, and ensure that the outputs of FEMA's data, though complex, are not complicated. They also suggested that tools should be developed and provided to assist in creating outputs and displays that are intuitive. Additionally, the group proposed the development and implementation of a communication plan, as well as the creation of a user-friendly digital platform with interfaces tailored to the specific needs and capabilities of stakeholders.

With no comments, the meeting transitioned to the next agenda item.

Break

The TMAC adjourned for a 15-minute break.

Topic 2: Combine Ideas

Mr. DiCamillo said the TMAC's Topic 2 output will be solidified and consolidated to share with the subcommittees. The Topic Two summary report will be used in the coming weeks in the listening sessions. After this week's meeting, each subcommittee should meet at least one meeting before the next TMAC meeting.

During the August Administrative Meeting, the subcommittees will have extended periods to refine their ideas and develop their initial thoughts. These subcommittees will then share their progress with the TMAC. Additionally, at the next TMAC Administrative Meeting, the group plans to create a list of participants they wish to involve in the upcoming listening sessions. This preparation will lead up to the August Public Meeting, where the group will formulate questions for these sessions. Subcommittee time will also be allocated during the August meeting. The group agreed that bringing in a change management expert would be beneficial in ensuring the successful implementation of the changes resulting from the TMAC recommendations.

Ms. Mullen then facilitated a discussion to cluster the group's ideas on the Miro board. These clustered ideas included effectively understanding how state and local governments will use the data to meet their needs, incorporating change management, technical development, a continuous improvement cycle, capability, capacity, and training, developing communication materials, and updating and evaluating regulations and data delivery.

As the meeting progressed, the group agreed that the information they produced for Topic 2 was ready to be passed on to Subcommittee Two. Ms. Mullen will format this information to make it more usable for the subcommittee. The goal is for TMAC members to leave the August 21-22 meeting confident in their initial thinking for Topics One and Two. During the August TMAC Public Meeting, the group will further discuss the listening sessions. Mr. DiCamillo encouraged members to submit names of individuals who should participate in these sessions.

With no comments, the meeting transitioned to the next agenda item.

Topic 2: Down Select Ideas

TMAC members discussed the next steps in the TMAC report development process. These steps include finalizing subcommittee members, with the Subcommittee Chairs leading this effort. Ms. Mullen will compile the summary document for each Topic and submit it to the Subcommittee Chairs. The TMAC will hold an Administrative Meeting on August 21 and 22, during which the group will identify participants for the listening sessions. Mr. DiCamillo, Ms. Reinke, Ms. Cox Lamm, and Mr. Koper plan to meet next week to organize these during the TMAC Public Meeting.

The group also reviewed the current membership of Subcommittee One and Subcommittee Two, which includes subject matter experts. For Subcommittee One, Mr. Jeff Sparrow serves as Chair, with members including Mr. William Lehman, Ms. Brooke Seymore, Mr. Ataul Hannan, Mr. Luis Rodriguez, Ms. Stacey Archfield, Mr. Doug Bellomo, Mr. Salomon Miranda, Ms. Kim Dunn, and Mr. Steve Aichele. Ms. Maria Cox Lamm is the Chair of Subcommittee Two, which includes Mr. Ron Jacobson, Mr. Jonathan Smith, Ms. Jamie Reinke, Mr. Scott Giberson, and Mr. Doug Bellomo. Mr. Ed Clark is also available to support one of the subcommittees.

With no comments, the meeting transitioned to the next agenda item.

Topic 2: Refine Ideas

Mr. DiCamillo asked the Subcommittee Two to refine the topic's overall objectives and test them as a group.

Topic 2: Select Draft Initial Thinking

Subcommittee Two met to gather additional information for the Initial Thinking process. This information came from sources such as, the earlier subcommittee discussions and the "Ask the Experts" sessions.

Close Out and Adjourn

Mr. DiCamillo closed out the meeting. He noted that the group accomplished a substantial amount of work over the last three days. He credited the group for their dedication to TMAC. He summarized the group's activities today including that the group conducted two large brainstorming sessions. The meeting adjourned at 4:31 p.m. ET.