Technical Mapping Advisory Council (TMAC)

In-person/Virtual Hybrid Public Meeting Notes

February 27, 2024, 8AM - 5PM ET

TMAC Members

Stephen S. Aichele, *USGS, Geological Survey Representative*
Stacey Archfield, *USGS, Department of the Interior Designee*
Doug Bellomo, *AECOM, Engineering Member, Chair*
Vince DiCamillo, *Stantec Consulting, Mapping Member, Vice 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*
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, U.S. Dept. of Agriculture Designee*
Jeff Sparrow, *Moffatt & Nichol, Floodplain Management Member*

Subject Matter Experts

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

Government Attendees

John Ebersole, *FEMA, Legal Counsel, ADFO*
Brian Koper, *FEMA, DFO*
David Rosa, *FEMA, ADFO*

Support Staff

Henry Cauley, *PM Support*
Sonia Clemens, *Compass PTS*
Kevin Enoch, *ARC PTS*
Kathryn Friedman, *ARC PTS*
Naeemah Islam, *PM Support*
Brian Koch, *ARC PTS*
Necolle Maccherone, *STARR II PTS*
Grace Morris, *STARR II PTS*
Ronda Nowak, ARC PTS
Sloan Oliver, *PM Support*
Shobha Pathmanathan, *ARC PTS*
Susan Patton, *The Nature Conservancy*
Dora Szalai, *ARC PTS*
Molly Tuttle, *Compass PTS*

Other Attendees
Shabnum Amjad, *FEMA DHS*
Tahir Benabdi, *FEMA DHS*
Jacob Bench, *Ohio Department of Natural Resources*
Amy Brittain, *The Washington Post*
David Conrad, *ASFPM*
Dr. Stephen F. Eisenman, *Anthropocene Alliance*
Geoffrey Golick, *NYS Department of Environmental Conservation*
Betsy Hicks, *ASFPM*
Tracy Luttrell, *National Flood Association*
Ruthie Maniscalchi, *West Virginia Emergency Management Division*
Whitney Montague, *Arkansas Natural Resources Division*
Shilpa Mulik, *FEMA DHS*
Jon Paoli, *Iowa Homeland Security & Emergency Management*
Rick Sacbibit, *FEMA DHS*
Joe Trimboli, *U.S. Army Corps of Engineers*
Austin Watkins, *FEMA DHS*
Patricia Wood, *Los Angeles County Public Works*

Purpose

The purpose of this meeting was for the Technical Mapping Advisory Committee (TMAC) to continue reviewing drafts of an interim report. The TMAC discussed chapter reviews and overarching themes and ideas.

Subcommittee Meeting

TMAC members optionally participated in subcommittee meetings for one hour 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. Doug Bellomo to review the agenda for the day. After no further comment or questions, the meeting transitioned to the next agenda item.

Lighting Page Turn of Document

During the lightning page turn of the document, the TMAC members discussed the content of the executive summary, highlighting its coverage of FEMA topics, objectives, and processes. They mentioned a new matrix to delve deeper into objectives, recommendations, and topic areas, noting the absence of a cover letter. The discussion progressed through chapters one to five, with some additions and revisions noted, such as the inclusion of transition and implementation chapters. They also discussed graphics needing adjustments for compliance and highlighted key sections, such as conclusions and recommendations, as well as appendices covering listening sessions and FEMA's requested information updates.

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

Review of Chapter 1 and Executive Summary

During the review of Chapter 1, there were discussions about various sections and references to figures and appendices. Participants discussed the need for clarity and consistency in referencing appendices throughout the document. In the executive summary discussion, there was acknowledgment of the restructuring efforts to enhance readability.

The key elements of the executive summary were highlighted, including the objectives, process overview, and recommendations matrix. There were also discussions about the alignment of

recommendations with overarching objectives and the need for clarity in the language used. Additionally, there were considerations regarding metrics used in objectives, with suggestions for refining language to capture both the number and overall magnitude of uninsured losses. Overall, the discussions aimed to ensure coherence, clarity, and completeness in both the executive summary and Chapter 1.

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

Review of Chapter 2

During the discussion on Chapter 2 with the TMAC, various points were raised and addressed. Mr. Ron Jacobson inquired about referencing figures related to specific chapters, which was agreed upon for clarity. Ms. Mary Jo Mullen emphasized the importance of ensuring consistency in language across graphics and the rest of the report. There were also discussions about refining language and graphics for clarity and consistency. Mr. Scott Giberson suggested splitting the graphs to correspond with different subsections, and Mr. Bellomo clarified the organization of the sections. Ms. Christine Brittle noted the addition of new graphics and highlighted the high-level themes from the listening sessions. Ms. Stacey Archfield and Mr. Jeff Sparrow raised concerns about the shading and order of graphics, advocating for consistency. Mr. Giberson further suggested labeling participant categories more clearly. The discussion also touched upon embedding graphics into specific sections for better understanding. Suggestions were made to improve the labeling of participant categories and to provide additional context for findings from listening sessions.

Overall, the discussion aimed to ensure clarity, consistency, and effectiveness in communicating key points in Chapter 2. Towards the end of the discussion, audio issues were addressed intermittently, with attempts made to improve sound quality for better communication. Finally, plans were made to address the remaining issues and continue with the next chapters after a scheduled break.

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

Break

The TMAC took a 15-minute break. During the 15-minute break, Mr. Nick Schufro presented Mr. Bellomo with a signed FEMA letter of appreciation for all his work for the TMAC, since Mr. Bellomo's membership and service as TMAC Chair expires in March.

Review of Chapter 3

During the review of Chapter 3 the TMAC delved into the challenges of defining flood risk with confidence, particularly in areas with significant uncertainties. Participants grappled with the complexities of accurately communicating flood risk to policymakers and property owners. The

discussion revolved around the difficulty of balancing scientific uncertainties with policy decisions and the implications for FEMA's floodplain mapping.

Key points of discussion included the need to provide a product that is reasonable yet does not underestimate flood risk. There was consensus on using the estimates provided by regression analysis while acknowledging the large uncertainties involved. The conversation also touched on the challenge of conveying the concept of flood risk and uncertainty to property owners, especially in areas where the median has been historically used, leading to misconceptions about flood risk.

Participants explored potential solutions, including using confidence intervals to represent a higher degree of certainty and discussing the practical implications of implementing these recommendations. They debated the use of terminology such as "upper bound" versus "confidence limit" and emphasized the importance of clear communication in conveying the increased confidence level in flood risk assessments.

Additionally, the discussion highlighted uncertainties in hydrology and hydraulics, emphasizing the need for consistency and confidence in mapping efforts. There were considerations regarding future conditions and the need to account for potential increases in flood risk due to climate change and other factors.

The chapter review covered various aspects, including the representation of flood stages, allowable surcharges, and recommendations for handling uncertainties associated with the 0.2% or 500-year flood event. Despite some deviations and extended discussions, the meeting aimed to ensure progress through the outlined chapters while acknowledging potential time constraints. Overall, the discussion underscored the complexity of flood risk assessment and the importance of addressing uncertainties to improve mapping accuracy and support informed decision-making.

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

Lunch

The TMAC took a thirty-minute lunch break.

Review of Chapter 4

The discussion in Chapter 4 with the TMAC centered around refining recommendations to address the challenges associated with fill placement in flood-prone areas and improving the clarity and effectiveness of regulations and guidelines governing such practices. Initial concepts were proposed, including addressing fill placement issues and maintaining mandatory purchase requirements, with feedback from listening sessions leading to adjustments in the proposed concepts.

Various challenges were discussed, including the feasibility of not allowing fill-in 1% annual chance flood areas and maintaining mandatory purchase requirements due to logistical challenges. Suggestions were made to expand requirements in 44 CFR 60.3 to provide clearer guidelines for states and municipalities regarding fill placement.

Further discussions focused on specific recommendations, such as updating LOMR-F requirements and distinguishing between projects that require MT-1 and MT-2 forms. Concerns were raised about vague language in certain recommendations and the potential misuse of the MT-1 form.

Overall, the discussion highlighted the complexities of enforcing floodplain management regulations and the need for clearer guidelines and training for local floodplain administrators. Recommendations were discussed regarding notification of adjacent landowners and evaluating environmental consequences associated with fill activities, recognizing the challenges in tracking such activities, and ensuring proper notification to all affected parties.

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

Break

The TMAC took a 15-minute break.

Review of Chapter 5 (Part 1)

Chapter 5 of the discussion with the TMAC focused on topics 3 and 4 from the FEMA memo, which dealt with administrative use of 2D modeling data for floodplain management and product acceptance. The discussion began with logistical adjustments to the agenda and concluded Chapter 4's discussion. Chapter 5 aimed to improve technical credibility, usability, and communication of hazard and risk data. It was proposed to establish new standards, tools, and guidance collaboratively, focusing on ease of use and supporting individual user needs. Recommendations included setting standards for 2D modeling data sets and ensuring adequate testing of new products. Concerns were raised about terminology, collaboration processes, and the need for action-oriented language.

After no further comment 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. Mr. Koper opened the forum for those who would like to make a public comment, and he explained the procedure for making a public comment.

Ms. Patricia Wood a senior civil engineer at Los Angeles County Public Works, which

administers the NFIP for unincorporated Los Angeles County gave a public comment.

Dr. Stephen F. Eisenman from the Anthropocene Alliance gave a public comment.

Mr. David Conrad from the Association of State Floodplain Managers (ASFPM) gave a public comment.

Written versions of the comments are provided at the end of this document.

Without any further public comments, Mr. Koper adjourned the public comment period.

Review of Chapter 5 (Part 2) & Second Lighting Review

During the Chapter 5 discussion, Mr. Luis Rodriguez raised a point about a specific bullet in the recommendations, leading to further conversation. After confirming no more comments on section 5.1, the focus shifted to 5.2, addressing regulatory map change triggers. Initially, there was confusion about its placement, but it was clarified to remain in Chapter 5. Ms. Jamie Reinke outlined the goals, emphasizing defining thresholds for significant changes triggering updates in flood maps. The conversation explored the impact of 2D modeling on map changes and challenges in determining update necessity. Legacy challenges related to certification and FEMA's Community Rating System (CRS) were mentioned by Mr. Bellomo, suggesting discussion in Chapter 6 but importance in the transition plan. Practical implications of flood elevation change due to modeling uncertainties were discussed, with Mr. Sparrow proposing a nuanced approach considering state and community endorsements.

The group emphasized the need for clear standards and triggers for map updates, considering various modeling techniques' sensitivities. They agreed to revise recommendations, including considerations for 2D modeling sensitivity and clarity on when changes to the new special flood hazard areas (SFHA) and flood-prone areas (FPA) are warranted, regardless of methodology. The TMAC also addressed topics like statistical testing significance and concerns about the agency's reluctance to update maps despite significant flood risk changes due to infrastructure projects and land use changes.

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

Summary of Day & Wrap-Up

Mr. Bellomo summarized the day's achievements in the draft report. For the next day, Mr. Bellomo reviewed the agenda for tomorrow and discussed the final vote that would take place tomorrow. Mr. DiCamillo noted the need for more dialogue than expected but commended everyone's contributions. Mr. Bellomo and Mr. DiCamillo acknowledged the importance of finalizing recommendations and editing the document. Mr. Bellomo thanked the TMAC for their contributions and effort and concluded the meeting at 4:52 p.m. ET.

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Patricia Wood, *Los Angeles County Public Works*

Purpose

The purpose of this meeting was for the Technical Mapping Advisory Committee (TMAC) to continue reviewing drafts of an interim report. The TMAC discussed chapter reviews and overarching themes and ideas with a final vote at the end.

Subcommittee Meeting

TMAC members optionally participated in subcommittee meetings for one hour to refresh and debrief on materials related to the topics being discussed during today's 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. Doug Bellomo to review the agenda for the day. After no further comment or questions, the meeting transitioned to the next agenda item.

Review of Chapter 5 (Part 2)

The discussion with Chapter 5 during the TMAC meeting concluded with a review of Section 5.2, which was deemed to be in good shape after Ms. Jamie Reinke added a paragraph addressing the sensitivity of modeling methods. The meeting then transitioned to discussing Section 5.3, which focused on IT infrastructure needs, especially regarding the handling of complex data sets and ensuring uniform data display across different jurisdictions. Participants emphasized the importance of creating a digital portal for accessing data without relying solely on the USA process, which can be lengthy. There were also discussions about the need for consistent data displays and addressing speed issues in data viewing. Mr. Atual Hannan highlighted the importance of uniform data display to avoid discrepancies and confusion among users. Mr. William Lehman emphasized the need for reliable WMS layers and API to ensure consistent data access and display. Overall, the group aimed to ensure that the recommendations addressed the challenges associated with IT infrastructure and data management effectively. Later discussions would focus on aligning the tasking memo with the recommendations made in Chapter 5.

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

Review of Chapters 6 and 7

During the TMAC meeting, Chapter 6 was the focus of discussion, initiated by Mr. DiCamillo,

who suggested reviewing it. The conversation expanded to encompass all recommendations within the transition plan, not just those from the previous week. Various topics were covered, including IT infrastructure needs and transition planning elements. There was deliberation on how the transition plan should align with FEMA's strategic plan and whether it should be a standalone document or integrated into existing plans. Suggestions were made to streamline implementation suggestions and ensure consistency in language and content. Scott emphasized considering stakeholders' perspectives, while Jamie highlighted the importance of clarity for developers working with interim solutions. Ataul stressed the need to understand the differences between 1D and 2D modeling. Overall, the discussion emphasized the complexity of the transition process and the importance of thoughtful planning and communication.

The conversation then shifted to the importance of flexibility in transitioning to new FEMA regulations, particularly regarding 2D analysis. Challenges related to floodway concepts and regulations were discussed, with a focus on the implications of transitioning to two-dimensional data analysis. The need to align NFIP regulations with technological advancements and data analysis methods was emphasized, along with exploring policy options to address regulatory challenges. The discussion also touched on the implications of future conditions on floodplain management, emphasizing the role of 2D analysis in providing accurate flood risk information.

In Chapter 6.4, the importance of outreach and engagement in floodplain management processes was highlighted. Recommendations included developing comprehensive outreach plans, utilizing various communication channels, and collaborating with local partners and community organizations to enhance engagement efforts. The goal is to ensure stakeholders are actively engaged and informed about floodplain management policies and procedures to promote resilience and reduce flood risk effectively. Finally, the discussion concluded with an emphasis on the importance of training as part of a broader strategy for implementing floodplain management regulations, with recognition of the need for tailored training to meet the specific needs of each community.

During the discussion on Chapter 7, the TMAC members reviewed the main elements of the report, which included redefining SFHA consideration of fill, implementing 2D, and transition and implementation. It was noted that the content was largely pulled from existing chapters of the report, with Vince playing a significant role in its development. The group agreed to conduct a crosswalk to ensure consistency with the rest of the document. Recommendations associated with each topic were listed for reference. Additionally, the group discussed the possibility of expanding section 7.5 to include a broader conclusion paragraph beyond just cost implications. It was suggested that this paragraph should summarize the key points of the report and provide a comprehensive overview of the proposed changes to the program. The TMAC also planned to revise the entire chapter after completing the crosswalk to ensure coherence and consistency throughout.

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

Public Comment Period

Mr. Koper began the public comment period at 12:00 p.m. ET. Mr. Koper opened the forum for those who would like to make a public comment, and he explained the procedure for making a public comment.

Ms. Patricia Wood is a senior civil engineer at Los Angeles County Public Works, which administers the NFIP for unincorporated Los Angeles County.

Mr. Joe Trimboli at the U.S. Army Corps of Engineers left a public comment through email.

Written versions of the comments are provided at the end of this document.

Without any further public comments, Mr. Koper adjourned the public comment period.

Lunch

The TMAC took a one-hour lunch break.

Wrap-Up Chapter Review

During the wrap-up of the chapter review session, adjustments were discussed for various sections of the report. In the executive summary, it was agreed to include mentions of non-technical or policy-related impacts resulting from the proposed changes. Modifications were also planned for the chart to enhance readability and ensure 508 compliances. Clarifications were made regarding the terminology used for chapters and sections for consistency. Adjustments were noted for the timeline to incorporate pre-July activities and to revise graphics for clarity. In Chapter 2, plans were made to ensure 508 compliances for certain graphics, and the categorization of "other professionals" was deliberated upon, with a suggestion to define it within the report. In Chapter 3, discussions centered around providing explicit definitions for recommended changes to the Special Flood Hazard Area (SFHA) calculation. Overall, attention to detail and consistency were emphasized throughout the review process.

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

Review of Recommendations

During the review of recommendations with the TMAC, discussions centered around the proposed changes to the definition and its implications. Concerns were raised about the potential ramifications of broadening the scope beyond the original tasking. Participants emphasized the importance of adhering to the task's parameters and focusing on describing the "how" rather than proposing new definitions. It was noted that the definition provided by FEMA serves a specific

purpose and altering it may introduce unintended complexities. Additionally, the distinction between regulations and guidance was highlighted, with clarification provided on the enforceability and implications of FEMA's guidance documents. Suggestions were made to ensure consistency and clarity in terminology throughout the report, with attention given to addressing uncertainties and incorporating feedback on graphics. Overall, the discussions aimed to ensure that recommendations remained within the specified scope while providing valuable insights for FEMA's consideration.

The discussion of the review of recommendations with the TMAC was extensive and covered various engineering and administrative aspects related to floodplain management. Factors such as safety, investment protection, and engineering requirements were considered. There was a focus on developing clear engineering requirements for structural support and ensuring that changes in elevation were properly accounted for. The discussion also touched upon the need for improved procedures for modifying flood hazard areas and map updates, especially in cases where land is filled or graded.

Regarding administrative challenges, there was a suggestion to align engineering processes with regulatory requirements and ensure that communities maintain accurate records of floodplain modifications. The group emphasized the importance of hydraulic analysis associated with fill projects and the need for communities to quantify and document the impacts of such development.

There was also a discussion about the effectiveness of different forms and processes, such as MT-1 and MT-2, in addressing floodplain management issues. Concerns were raised about the lack of clarity and consistency in procedures, especially for smaller local communities with limited resources.

In terms of recommendations, there was agreement on the need to establish clearer guidelines for floodplain management and to streamline administrative processes. The group discussed ways to incentivize early adoption of recommended practices and promote a smoother transition to new standards and technologies. Additionally, there was a call to address affordability challenges associated with implementing floodplain management measures.

Overall, the discussion emphasized the importance of proactive planning, effective communication, and collaboration among stakeholders to address the complex challenges of floodplain management.

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

Break

The TMAC took a 30-minute break.

Final Vote

Mr. DiCamillo initiated the motion to proceed with a final vote, which was seconded by Mr. Bellomo. The process involved members using the “raise hand” function on Microsoft Teams raising their hands for yay or nay votes on each recommendation.

Mr. Bellomo guided the members through each recommendation, noting the number of raised hands. AR-45, AR-46, AR-47, AR-48, AR-49, AR-50, AR-51, AR-52, AR-53, AR-54, AR-55, and AR-56 all garnered unanimous support with twelve yay votes each to pass the report as amended. Mr. Bellomo expressed gratitude for the collaborative effort and mentioned that a formal vote would take place in the next meeting.

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

Close Out

Mr. Bellomo led discussions on scheduling, recommendation refinement, and report finalization. During the discussion with the TMAC, members celebrated the progress made so far before swiftly transitioning to upcoming topics.

Mr. Koper mentioned a memo in progress for March, inviting input from all members. Suggestions included addressing implementation challenges, refining data display tools, and clarifying guidance documents. The discussion also touched upon uncertainties in floodplain management and the importance of hydrology basics. Various practical aspects were considered, such as property values and communication with property owners in flood-prone areas.

Mr. Hannan emphasized the significance of understanding hydrology, while Mr. Giberson raised questions about the transition plan's details. The group discussed potential challenges and opportunities, including prioritization and practical applications of recommendations.

Mr. Koper announced plans for a virtual administrative meeting in April. The meeting concluded with an appreciation for everyone's efforts and a reminder of the next steps in finalizing the report. Overall, members expressed gratitude for the collaborative effort and acknowledged the challenging yet productive discussions.

Mr. Bellomo concluded the meeting at 4:30 p.m. ET with expressions of gratitude and an optimistic outlook for the future stages of the project.

Public Comments

Public Comments of Patricia Wood, Los Angeles County Public Works to the Technical Mapping Advisory Council on February 27, 2024.

I am Patricia Wood, a senior civil engineer at Los Angeles County Public Works, which administers the NFIP for unincorporated Los Angeles County. Our community, with about 1,000,000 residents, has thousands of structures located in 100 and 500-year flood areas. We staunchly support the NFIP but have concerns about the TMAC proposals, particularly regarding potential adverse impacts on our middle and low-income residents and affordable housing.

Our concerns, outlined in our February 13th letter to FEMA, focus on several key points. Firstly, the proposed 95% confidence value for doubling the base flood in the 500-year floodplain is problematic. Many streams lack flow gauges or sufficiently long gauge records to support using this metric. We believe the median confidence value is still the most appropriate and fair metric for areas with limited stream gauge data.

Doubling the base flood could jeopardize FEMA accreditation for many levees in Los Angeles County, negating years of accreditation efforts and remapping numerous neighborhoods into areas requiring costly flood insurance. Additionally, climate change models expose us to expensive environmental document processes and litigation.

We urge FEMA to provide a default model option, as imposing flood-prone areas and NFIP minimum requirements could negate our CRS credits from adopting freeboard requirements into our building code. While FEMA's regulatory floodways already account for floodplain encroachments, mandating a one foot rise from the base flood elevation would increase costs and processes for many redevelopment projects.

Regarding 2D models, we believe they should only be used for floodplains without foothill or mountain drainages. The complexity of calibration and potential uncertainty in 2D models make the 1D approach more suitable for mountain foothill drainages. FEMA should consider a coupled 1D/2D approach for mixed floodplain areas and undefined channel overflow paths.

Implementing a blatant 2D requirement would be burdensome and costly for homeowners and developers, especially in foothill and mountain drainages where 1D modeling is more accurate. During any transition period to a 2D requirement, FEMA must provide clear standards and guidance on combining 1D and 2D results.

Thank you for considering our concerns.

Public Comments of Dr. Stephen F. Eisenman, Anthropocene Alliance to the Technical Mapping Advisory Council on February 27, 2024.

As you may know, Anthropocene Alliance represents approximately 280 communities affected by environmental hazards and climate change, many of which are low-income. These communities have experienced increased flooding frequency and severity due to the fill and build procedure, which involves adjacent developments being built above periodic flood levels. This has resulted in decreased property values for existing homeowners while expensive new properties are occupied by wealthier individuals.

While we appreciate the interim report from the team, we believe it falls short in adequately addressing the threat posed by fill and build practices. While the report mentions the possibility of prohibiting such practices, the recommendation itself only suggests quantifying and documenting impacts, which we view as a capitulation to wealthy private interests at the expense of public good.

We reject any exemptions for noncommercial infrastructure projects, particularly road and bridge projects, which are often significant contributors to fill and build practices. We can provide examples of communities, such as the one led by Catherine Egland in Gulfport, Mississippi, that are fighting against destructive road and harbor projects that will exacerbate flooding in historic black neighborhoods.

Anthropocene Alliance supports a blanket prohibition of fill and build for all uses, commercial and noncommercial, except when necessary for protecting or enhancing natural infrastructure like barrier islands, marshes, wetlands, streams, forests, and prairies, or for emergency protection purposes. We believe that fighting flooding cannot involve destroying the environmental systems that protect against it, and permitting fill and build practices only exacerbates the issue.

While fill and build practices have been used for centuries, their consequences are now more dire than ever. We must make a clear statement that fill, and build is not a protective measure for communities or the environment.

Thank you.

Public Comments of David R. Conrad, Association of State Floodplain Managers to the Technical Mapping Advisory Council on February 27, 2024.

I am David Conrad, a water resources policy specialist analyst for the Association of State Floodplain Managers. I have been listening attentively throughout the day and may have more comments tomorrow, but I wanted to express our appreciation for the hard work that the TMAC is clearly putting into these recommendations. There are many angles to consider, and while the recommendations may not hit the bullseye perfectly, the changes and proposals being developed are forward-looking and far-sighted. Overall, I find the direction of this draft set of recommendations quite impressive. The Association of State Floodplain Managers stands ready to assist in any refinement efforts moving forward, both at this stage and beyond the final filing of the report. Thank you for your time.

Public Comments of Patricia Wood, Los Angeles County Public Works to the Technical Mapping Advisory Council on February 28, 2024

I am Patricia Wood, a senior civil engineer at Los Angeles County Public Works, which administers the NFIP for unincorporated Los Angeles County. We are a CRS six community with about 1,000,000 residents and thousands of structures located in 100-year and 500-year flood areas, including areas protected by levies accredited by FEMA.

While TMAC's focus is on the scientific aspects of floodplain management, it is crucial for TMAC to include reminders in its report urging FEMA to address the non-technical consequences that may arise from TMAC's recommendations. We are concerned that FEMA may overlook these issues, which could have significant implications for insurance affordability and its impacts on housing affordability, affecting both middle-income individuals and disadvantaged communities.

Additionally, it is worth noting that FEMA's Risk Rating 2.0 engine, used for calculating insurance premiums, incorporates information from the Army Corps' National Levee Database, which is beginning to include FEMA levy accreditation information. TMAC should emphasize the importance of FEMA addressing TMAC's recommendations regarding levy accreditations.

In conclusion, TMAC's recommendations will not be effective if FEMA does not address the non-technical human issues that may arise. It is essential for TMAC to remind FEMA of this responsibility in its report.

Thank you.

Public Comments of Joe Trimboli, U.S. Army Corps of Engineers to the Technical Mapping Advisory Council on February 28, 2024

These comments are for the ch5 portion of the presented document. I'm a geographer, community planner, and GIS-SME (subject matter expert USACE) and through this discussion will present ideas and words in the general context of GIS tools and FEMA floodplain management.

GIS web portals are becoming common place in federal agencies. USGS focuses on the science and seems to support EPA efforts on many NEPA efforts. The EPA has created a GIS portal effort that is state based like a Corps program where we sign state cooperation charters. This EPA effort is called the Water Resource Registry and includes GIS layers that are state driven but provide an opportunity for integrating scientific model results.

FEMA hasn't used this method specifically but does support state efforts centered around GIS web portals. One example effort is called Base Level Engineering (BLE) and includes tools and resources. However, it could be more of a state charter effort like the EPA example or the Corps of Engineers Silver Jackets with a goal of all states.

The major BLE example used by FEMA is in Texas and basically published HEC-RAS model data supporting public map updates based on the LOMA process. This concept lends itself to more streamlined map updates, using existing regulations and supporting individual private map updates. In this example mapping begins to approach a modular concept based on past engineering practices and newer GIS capabilities.

I am personally interested in open-source data and tools used in support of flood risk management and specifically FEMA's programs. Our Corps district created a BFE program for Zones A's at the request of the states NFIP Program Manager. It was established in 2006 and is still used on a regular basis and uses an internal web-based database developed to manage requests. Of interest there was another state request to streamline Zone AE changes as well as no rise certifications. We were funded for this effort, but the mapping regulations are so stringent that they blocked any process being developed. These requests came from a state who had developed a web-based GIS tool that supports their floodplain managers in implementing the NFIP.

Our BFE program is based on FEMA 265 "...Managing Zone A's" that was used to develop an accepted GIS method that converted the described analog process into a GIS supported process. However, the H&H tool Quick2, was not converted or integrated, but is still used with a DOS emulator. Quick2 was originally designed to be used by floodplain managers, surveyors, and engineers and computes many aspects of a historical analog mapping effort.

One of the newest concepts GIS provides is pre-staged data that supports traditional concepts.

My best example comes from a past 25 county FEMA HAZUS-MH project in Ohio. We have sported Ohio in the past but keeping the program running on current hardware and software has been a challenge. I validated the process for a team of people who ran the program and compiled the results. We found issues that were elevated up through the HAZUS help desk and eventually higher. Our discussions were with a contractor who is currently developing the replacement that will run on ArcMap Pro. Of interest was that the new version would not generate H&H layers like HAZUS does but a national flood depth layers will be developed to measure structure flood risk exposure. My hope is that they will cover a range of frequencies like HAZUS currently generates.

In addition, there are a couple national raster grids that would facilitate FEMAs concept of Base Level Engineering. A raster layer that publishes discharge information like what USGS StreamStats already does for ungagged streams but includes the gaged flows also. And a method of burning channels into Q2 LiDAR DEMs. FEMA would need to define the use and acceptance of these resources within the NFIP.

However, my last comment is even more futuristic and could possibly change the entire map publishing concept. The private engineer industry is creating tools that measure risk down to the structure level. In many examples it’s a multi-hazard approach that generally comes together using GIS analysis and modeling techniques. This risk modeling concept can be applied to all the structures in a state. This would shift map production to a living data management process that could be updated in a more streamlined method and applied to every structure in the state accessed by a click. There are a few good examples, but they haven't reached a matured level of implementation.

Overall, there are large scale data efforts occurring, but FEMA looks closely at data accuracy within its mapping process, and this would be expected to continue within any pre-staged GIS layers used for the NFIP. There are three essential factors mentioned in FEMA 265 that constitute detailed methods for Base Flood Elevation calculations: 1) floodplain geometry; 2) flood discharge and/or volume (hydrology); and 3) flood height (hydraulics).

Thank you for your efforts and I hope this discussion spurs the new ideas needed for our professional fields.