

TMAC

Technical Mapping Advisory Council Meeting

Virtual Public Meeting

October 19-20, 2021

TMAC Members

Doug Bellomo, *AECOM, Chair*

Nancy Blyler, *USACE, USACE*

Representative

Ed Clark, *NOAA, NOAA Representative*

Vince DiCamillo, *Stantec Consulting,*

Mapping Member

Scott Giberson, *CoreLogic Flood Services,*

Flood Hazards Determination Member

David Guignet, *Maryland Department of the*

Environment, State CTP Representative

Carey Johnson, *Kentucky Division of Water,*

State CTP Representative

David Love, *Mecklenburg County Storm*

Water Services, Local CTP Representative

Robert Mason, *USGS, DOI Designee*

Jon Paoli, *Iowa Homeland Security &*

Emergency Management, GIS

Representative

Luis Rodriguez, *FEMA, FEMA Designee*

Jonathan Smith, *Natural Resources*

Conservation Service, USDA Designee

Jeff Sparrow, *Moffatt & Nichol, Chair*

Joshua Stuckey, *Texas Public Infrastructure,*

Regional Flood and Stormwater

Management Member

Michael Tischler, *USGS, USGS*

Representative

Liang Xu (Day 1), *Santa Clara Valley Water*

District, State CTP Representative

Subject Matter Experts

Stephen Aichele (Day 1), *USGS, Future*
Conditions Subcommittee

Will Lehman, *USACE, Enterprise Risk*
Management Subcommittee

Leonard Shabman, *Resources for the*
Future, Enterprise Risk Management

Subcommittee

William Veatch (Day 1), *USACE, Future*
Conditions Subcommittee

Charles Yoe, *Notre Dame of Maryland*
University, Enterprise Risk Management

Government Attendees

Sarah Abdelrahim, *FEMA, ADFO*

John Ebersole, *FEMA, Legal Advisor*

Brian Koper, *FEMA DFO*

Support Staff

Henry Cauley, *Team Deloitte*

Milani Chatterjilen, *AECOM*

Jen Marcy, *Atkins Global*

Phetmano Phannavong, *Atkins Global*

Ann Terranova, *AECOM*

Molly Tuttle, *AECOM*

Sarah Vining, *Team Deloitte*

Purpose

The purpose of the virtual Technical Mapping Advisory Council Public Meeting was to: (1) receive an update on the stakeholder engagement data analysis, (2) receive updates from each subcommittee regarding their progress towards completing their chapters for the 2021 TMAC Annual Report, and (3) develop a timeline for the subcommittees to complete drafts of their chapters for the report.

Welcome, Roll Call, and Administrative Items

Ms. Sarah Abdelrahim, TMAC ADFO, welcomed everyone to the first day of the virtual October 19-20th TMAC Public Meeting. Ms. Abdelrahim informed the TMAC that the purpose of this meeting was for the TMAC to review the ongoing stakeholder engagement data analysis, receive updates from each of the subcommittees, and develop a timeline for completing the 2021 TMAC Annual Report. Ms. Abdelrahim introduced the PM and PTS support staff, as well as the other FEMA attendees. Ms. Abdelrahim shared the agenda for the meeting with the TMAC and noted that a public comment period would be included each day per FACA requirements. Ms. Abdelrahim provided an overview on the use of Zoom for this meeting, including a reminder to use the raise hand function for any TMAC members that wish to speak. TMAC members should also use the Zoom chat box to inform the TMAC and ADFO if they need to step away from the meeting momentarily.

Opening Remarks

Mr. Doug Bellomo, TMAC Chair, requested a motion to open the meeting. Mr. Jeff Sparrow put forth the motion, Mr. Robert Mason provided a second, and Mr. Bellomo formally opened the meeting. Mr. Bellomo welcomed everyone to the meeting and thanked Ms. Abdelrahim for the overview of the meeting agenda. Mr. Bellomo expressed a desire that the TMAC would be able to return to in-person meetings in the future. Mr. Bellomo explained the goal for the TMAC would be to have a new iteration of the draft 2021 TMAC Annual Report each month for the rest of the year until the final report can be finalized in December or early January.

Briefing: Stakeholder Engagement Findings & Power BI Demonstration

Ms. Molly Tuttle provided an update on the finding of the TMAC's stakeholder engagement efforts. Ms. Tuttle provided an overview of two key terms, Risk Rating 2.0 and Graduated Approach, and explained that two separate surveys were used to gather key stakeholder feedback on these terms. Ms. Tuttle noted that for both terms, stakeholders were familiar but lacked deeper understanding and context. Ms. Tuttle then provided additional context on the respondents for the two surveys, including FEMA region and job type. Ms. Tuttle shared respondents' attitudes regarding potential barriers to understanding these two key terms, as well as the perceived benefits to taking a graduated approach to flood risk.

Ms. Tuttle also shared the subcommittee-specific questions, including whether stakeholders currently employ enterprise risk management (ERM) in their communities, and whether they were interested in increasing the use of ERM in their communities. Lastly, Ms. Tuttle provided

an overview of the Power BI tool that has been developed to help visualize and analyze the stakeholder engagement response data. Power BI is a Microsoft product that allows users to conduct trend analysis create dynamic visualizations, easily make data updates as more information is collected, and produce analytical insights that can be easily shared and reviewed with the TMAC and other stakeholders. Ms. Tuttle then paused for any questions from the TMAC.

Mr. Bellomo thanked Ms. Tuttle for the presentation. Mr. Luis Rodriguez questioned whether there were any major data changes in the survey results from last year to this year. Ms. Tuttle replied that there has been an increase in the diversity of the responses, especially outside of the ASFPM community. Mr. Bellomo asked how the Power BI tool would be shared, and Ms. Tuttle replied that it would be packaged into a large file and sent to the TMAC. Ms. Tuttle added that TMAC members would need to download Power BI onto their computers in order to best interact with the file.

Mr. Rodriguez stated that stakeholders seem to be reaffirming the challenges identified last year, is there anything the TMAC is looking to state in regard to those challenges? Mr. Bellomo noted this was a good question. Mr. Scott Giberson replied that the 2020 TMAC Annual Report provided a suggestion for a framework for graduated approach but maybe did not go far enough, and that part of the ERM chapter for the new report is on how to use ERM to move towards a graduated approach. Mr. Lehman cautioned that the report will be suggesting on how FIMA can implement ERM, but FIMA will also need to choose to implement those steps. The discussion then transitioned to the overview of the stakeholder engagement chapter.

Overview: Stakeholder Engagement Chapter

Mr. Giberson began the overview of this chapter by thanking Ms. Tuttle and Ms. Milani Chatterjilen for all of their support with the stakeholder engagement work and requested that members of the TMAC reach out to himself and Mr. James Nadeau in the coming weeks if they have questions. Mr. Giberson then provided an overview of the stakeholder engagement chapter, beginning by noting that the approach to the chapter will be similar to the approach taken with the stakeholder engagement chapter in the 2020 TMAC Annual Report.

Mr. Giberson continued by stating that the chapter will provide the basis and justification for the stakeholder outreach. The report will note that while there was an attempt to bring in more diverse thoughts by also conducting a survey at the national flood conference, the data still fell short in capturing the widest stakeholder feedback possible. Power BI visuals will also be included in this and other sections of the chapter to ensure the chapter is telling the correct story. There were also several good quotes that were captured as part of the data collection process and would be highlighted in the report, such as that changes in behavior can be driven by the use of graduated products versus binary products. Finally, the chapter will provide a suggestion of what the 2022 stakeholder outreach efforts of the TMAC could look like, with the assumption that the TMAC will be tasked to continue those efforts. Mr. Giberson then paused for questions.

Mr. Sparrow questioned whether the TMAC needs to make a recommendation to FEMA that the TMAC continue to be tasked to conduct stakeholder engagement outreach. Mr. Sparrow added that this would be a “little r” recommendation and not a “big r” formal recommendation. Mr. Bellomo stated that this is a great start in terms of structure and that by looking at trends from last year to this year, the TMAC is setting up additional efforts in future years quite nicely. Mr. Bellomo then asked whether the costs being referred to in section 2.2. are mitigation costs. Mr. Giberson was unsure and noted that this was Mr. Nadeau’s section, who was not present at the meeting. Ms. Tuttle agreed to look into this further. Mr. Bellomo asked whether there were any further comments or questions, which there were not. Mr. Bellomo stressed that all of the TMAC should pay attention to this chapter, as the other chapters will link back to it as the report is developed.

FEMA’s Response to the ASFPM & the NRDC Petition Regarding Land-use in Floodplains

Mr. Bellomo stated that before conducting the public comment period, the TMAC should discuss the NRDC petition. Mr. Bellomo asked whether the members of the TMAC had reviewed the 57 page petition, with some members confirming they had reviewed the petition and some stating they had not. Mr. Bellomo added that he has brought this up as there is a lot of alignment between what is in the petition and the TMAC’s current tasking by FEMA. Mr. Bellomo shared his screen to show the petition, noting that it is quite lengthy and detailed. Mr. Bellomo added that FEMA’s nine page response to the petition was actually a good synopsis of the petition itself.

Mr. Bellomo elaborated on FEMA’s response, noting that it discusses engaging with the public more broadly and generally agreeing with much of the ideas expressed in the petition. Mr. Bellomo stated that there will be more time to think and discuss these topics later, but that FEMA has also issued a request for information as part of their response to the petition, with responses due by December 13th, which happens to be the next TMAC Public Meeting. Mr. Bellomo encouraged all of the TMAC to read the petition, FEMA’s response, and the request for information.

Mr. David Love questioned whether the TMAC should reply to the request for information. Mr. Bellomo agreed this was a good question but was unsure. Mr. John Ebersole, TMAC Legal Counsel, stated that individual members of the TMAC could reply in their capacity as individual citizens, but that the TMAC is operating under and responding to the 2021 Tasking Memo, not FEMA’s request for information. However, concepts discussed in the request for information could be incorporated into the 2021 or 2022 TMAC Annual Report. Mr. Bellomo stated that the TMAC already has its hands full and so it would be difficult to prepare a separate statement. He continued that it would be better to just digest all of the information and incorporate the information into the report as appropriate.

Ms. Abdelrahim agreed with all of the points related to timing and level of effort already underway for the TMAC. Mr. Bellomo encouraged everyone to participate as individuals if they are interested. Mr. Dave Guignet stated the TMAC should at least vet some of the comments when making decisions and recommendations since the TMAC would not want to recommend something that actually lowers something FEMA is already saying they're doing or going to do. Mr. Ebersole added that the TMAC enjoys a different relationship than the general public with FEMA. Mr. Joshua Stuckey noted that this is an opportunity to reiterate some of the TMAC points as individuals. Mr. Bellomo thanked everyone for the discussion and moved the meeting to the public comment period.

Public Comment Period

Ms. Abdelrahim opened the Public Comment Period. Per the FACA, the TMAC holds a public comment period, written or spoken, about any of the topics the TMAC discusses. If commenters have not registered, Ms. Abdelrahim asked commenters to write in the Zoom chat. The public comment period should not exceed 30 minutes. No prewritten public comments were received, and no public comments were put forward during the public comment period. Ms. Abdelrahim then closed the public comment period.

Overview: 2021 TMAC Annual Report Content Outline and Cover Review

Mr. Bellomo noted that he wanted to review the outline of the report before the TMAC paused for lunch. Mr. Bellomo stated that the report could be oriented in either a horizontal or vertical orientation, and that there is no intent to print the 2021 TMAC Annual Report as printed reports are no longer required. Mr. Brian Koper and Ms. Abdelrahim clarified that members of the TMAC could still receive a printed copy of the report, if desired. Mr. Bellomo then shared potential cover photos and layouts for the report.

Mr. Jonathan Smith noted that while the horizontal layout looks good online, it can make it difficult to print the report at home. Mr. Stuckey recommended that the report be published in both online and printable formats. Mr. Bellomo replied that editing the report will be a challenge if there are two different layouts. Ms. Tuttle stated that she would work with the graphics and report development teams to determine what would be possible. The TMAC then took a 30 minute break for lunch.

Returning from lunch, Mr. Bellomo asked whether the TMAC had thoughts on any of the potential cover photos. Mr. Vince DiCamillo noted he would like to see what the content looks like in the landscape format, and that the cover photos were fine but should be a mix of riverine and coastal images. Mr. Bellomo asked whether a landscape mockup page could be developed. Mr. Sparrow noted that the digital form of the report will be a PDF and people are used to vertical layouts for PDFs. Mr. Ed Clark agreed that horizontal formatting is a pain.

Mr. Bellomo then provided an overview of the different chapters of the report and asked if the TMAC had any questions. Ms. Tuttle noted that a list of the subcommittee members and their meetings will be included in the first chapter. Mr. Bellomo added that in the 2020 TMAC Annual Report, chapter 5 was the summary, recommendation, and conclusion chapter, and that the 2021 report would follow a similar format. Mr. Sparrow agreed on the need for the summary chapter at the end. Mr. Bellomo asked whether the subcommittee chapters are structured the same, but Mr. Sparrow replied that because of the differences between the two chapters, there was likely not a need to orchestrate the chapters to be exactly the same. Mr. Bellomo asked for any final comments on the layout of the report, and none were received.

Overview: Enterprise Risk Management Chapter

Mr. David Love began the discussion of the Enterprise Risk Management chapter by asking Mr. Phetmano Phannavong to provide an overview of the chapter. Mr. Phannavong provided a summary layout of the chapter and the different sections. Mr. Bellomo asked if the subcommittee would like to receive questions during the different sections or wait until the end, and they agreed it would be fine for questions to be posed during the different sections. Mr. Bellomo asked if there were any initial reactions to the introduction section, noting that some of the information included could get moved to the introductory chapter or an appendix to the report.

Mr. Love continued by reviewing section 3.2, which describes the supplementation questionnaire that went out to the 57 survey respondents who indicated they did have some use for ERM. Mr. Love asked Ms. Tuttle if her team could help with graphics for this section and Ms. Tuttle replied yes. Mr. Love asked if there were any other questions or comments for this section and there were not. Mr. Will Lehman then provided an overview of section 3.3, which describes the experience the subcommittee trying to meet the requirements of the tasking memo. Mr. Lehman provided an overview of the FIMA strategic plan at a high level and how the subcommittee examined this strategy in the context of ERM. Mr. Lehman added that the subcommittee determined that some of the outcomes associated with the strategic plan were too tactical and not strategic enough to support an ERM approach.

Mr. Lehman continued by describing the recommended approach to overcome this issue, and then the process to implement ERM with a new strategy. Mr. Lehman added that the intent of this section was to describe how the TMAC and its SMEs think ERM can be leveraged for FIMA. Mr. Lehman noted that FIMA will need to go through this process on their own, but the hope of the subcommittee was that they illustrate a roadmap for how this might look. Mr. Lehman stated that the subcommittee has learned that FIMA is participating in ERM, but the subcommittee has not yet received any documentation which shows how or what FIMA is doing. Mr. Lehman finished by noting that the intent is to add much more written content to this section as the report evolves towards completion.

Mr. Bellomo thanked Mr. Lehman and noted that he liked the approach of stepping through an example as a means for developing a roadmap. Mr. Bellomo asked if this example was oriented around the use of graduated risk. Mr. Lehman replied that the example created four new strategic objectives to use to manage an ERM process and that graduated products would fall under one of those objectives. Mr. Bellomo then asked if there were any other comments on section 3.3 and no other comments were received.

Mr. Love presented on section 3.4, which uses Charlotte-Mecklenburg as an example of ERM and the tool that they use for risk management. Mr. Bellomo thanked Mr. Love and stated that the chart which shows the impact of ERM in a local setting is excellent. Mr. Guignet then provided an overview of the next example regarding horizontal freeboard in Maryland. Mr. Guignet explained that this example demonstrates some, but not all, principles of ERM. Mr. Rodriguez asked whether Maryland started with ERM principles in mind when it began this specific work. Mr. Guignet replied that the example is not trying to imply ERM, but rather just to demonstrate a way to reduce risk outside of the flood zone. Mr. Lehman added that the subcommittee is finding that there are no communities currently using ERM, which creates a risk that if the TMAC recommends communities use ERM, there needs to be a training component to ensure they are using ERM correctly.

Mr. Bellomo recommend the subcommittee not sell itself short on the Maryland example, noting that there are tradeoffs but that is okay. If a system is made to be too complex, even if it is ERM, it won't be enforced or adopted in a way that allows the users to reach their eventual objectives. Mr. Bellomo reiterated his pleasure with all of these examples, noting they are all excellent. Mr. Love then continued with section 3.4, which attempts to respond to the tasking memo by recommending how FEMA can operate ERM in flood risk management. Mr. Love added that the language in these sections would still need to be flushed out. Mr. Leonard Shabman provided an update on the section discussing underserved communities, stating the question whether underserved communities should fall under one of the four objectives described earlier by Mr. Lehman, or whether underserved communities should be their own objective. Mr. Shabman added that the subcommittee was still working to determine how underserved communities fit into the context of ERM. Mr. Bellomo agreed this is a challenging topic and noted his excitement of seeing where this section goes.

Closing Remarks

Mr. Bellomo noted that the TMAC had come to the end of the allotted time period for the day and recommended the TMAC continue the conversation in the morning. Mr. Bellomo thanked everyone for their hard work today and the TMAC ended day 1 of the TMAC Public Meeting.

Day 2

Welcome, Roll Call, and Administrative Items

Ms. Abdelrahim welcomed everyone back to Day 2 of the virtual TMAC Public Meeting. Ms. Abdelrahim introduced the PM and PTS support staff and conducted the roll call for the TMAC members. Ms. Abdelrahim shared the agenda for the meeting with the TMAC and noted that a public comment period would be included today per FACA requirements. Ms. Abdelrahim provided an overview on the use of Zoom for this meeting, including a reminder to use the raise hand function for any TMAC members that wish to speak. TMAC members should also use the Zoom chat box to inform the TMAC and DFO if they need to step away from the meeting momentarily.

Opening Remarks

Mr. Bellomo noted the tight timeline today and reminded everyone the TMAC still needs to finish the conversation on the Enterprise Risk Management Chapter.

FACA Training

Mr. Ebersole, FEMA Legal Counsel, provided the annual ethics briefing for the current and new members of the TMAC. Mr. Ebersole began by stating that there was a lot of information that would be covered during the brief presentation today. Mr. Ebersole then explained the roles of Special Government Employees (SGEs) and Representatives on the TMAC, as well as the types of work that do and do not count as official TMAC business. Mr. Ebersole presented on the confidential financial disclosure form, OGE 450, stating that all SGEs on the TMAC need to submit this form ASAP. Mr. Ebersole then continued with the rules and regulations regarding lobbying, bribery, conflicting financial interests, foreign principles, and procurement. Mr. Ebersole finished by sharing additional resources and asked if there were any questions, which there were not.

Overview: Enterprise Risk Management (ERM) Chapter – Part 2

Mr. Lehman began the continued conversation by noting that Mr. Charlie Yoe had suggested beginning the writing of the chapter with the end in mind. Mr. Lehman took all of the meeting minutes and used them to write the conclusion, which helped him come away with six findings. First, there is very little evidence that ERM has been successfully implemented by state and local stakeholders. Two, the subcommittee found that the current FIMA strategy for FY21-23 has four strategic outcomes that do not fit easily into an ERM framework. Three, the subcommittee does think FIMA would benefit from implementing an ERM framework in the future. Four, it is difficult to create a national ERM strategy that can nest at the state and local levels so it would likely be better to create ERM products at the FIMA level that can be used by state and local stakeholders. Five, the examples from Charlotte-Mecklenburg and Maryland are both great examples of successful operational flood risk management. Six, FIMA is undergoing ERM efforts, but those documents were not shared with the subcommittee for review and analysis.

Mr. Bellomo thanked Mr. Lehman for this synopsis and questioned where recommendations would come into this chapter or if the findings would morph into recommendations. Mr. Lehman replied that the findings were written as a way to help structure the writing for the rest of the chapter. Mr. Lehman does believe there are likely both “little r” and “big r”

recommendations within these findings, but the subcommittee has not yet discussed them formally. Mr. Rodriguez questioned how the TMAC can address the incompatibility between ERM at different levels. Mr. DiCamillo replied that it sounds like ERM is unique to each community because the risks in each community are different. Mr. Bellomo asked if there were any other comments or questions, and none were received.

Overview: Future Conditions (FC) Chapter

Mr. Carey Johnson began the overview of the Future Conditions chapter by thanking everyone on the subcommittee for all of their hard work. Mr. Johnson stated that FEMA's response to the ASFMP petition is very clear on moving from a binary to graduated risk analysis. He added that it is also clear that FEMA is dedicated to transitioning to a future of flood risk data (FFRD) and that it's good hear that at the top levels of FEMA the recommendations of the TMAC are ringing true. Mr. Johnson stated that the work of the subcommittee to date has been to focus on "little r" recommendations, and that the subcommittee does not have any "big r" recommendations identified as of yet. Mr. Johnson then turned the discussion over to Mr. Jonathan Smith to provide a more detailed overview of the different sections of the chapter.

Mr. Smith began to describe the different sections of the chapter, noting they are built off of the outline shared in previous meetings. Mr. Smith noted that any help or feedback on the sections would be very helpful. Mr. Bellomo questioned whether the report should discuss hazard versus risk beginning in chapter one, while Mr. Robert Mason recommended leaving the reference where it currently is. Mr. Bellomo then noted that when people think of future conditions, they orient their mind around future hazard conditions. Mr. Stuckey replied by suggesting calling it future flood hazards and future flood risks in order to be very clear about what is being discussed. Ms. Tuttle suggested pulling out the information into a separate text box so it can be called out more easily. The TMAC then paused for the public comment period.

Public Comment

Ms. Abdelrahim opened the Public Comment Period. Per the FACA, the TMAC holds a public comment period, written or spoken, about any of the topics the TMAC discusses. If commenters have not registered, Ms. Abdelrahim asked commenters to write in the Zoom chat. The public comment period should not exceed 30 minutes. No prewritten public comments were received, and no public comments were put forward during the public comment period. Ms. Abdelrahim then closed the public comment period.

Overview: Future Conditions (FC) Chapter – Part 2

The TMAC then continued the discussion on the Future Conditions chapter. Mr. Bellomo asked whether there should be a recommendation that FEMA use scenario examples for future conditions. Mr. Mason agreed with the recommendation but noted there may already be an example listed in a future section. Mr. Mason added that it is unclear what the term "scenario" was referring to in the 2015 report, although he does think it meant climate change scenario. Mr. Tischler recommended paying attention to recommendation number two that the TMAC would be discussing soon.

Mr. Johnson continued the overview of the chapter by noting that the subcommittee broke the previous 2015 recommendations down into seven buckets, although many recommendations and sub recommendations are intertwined. The subcommittee then proceeded to provide an update to the seven recommendation buckets. Mr. Rodriguez began by describing recommendation one as a need to develop products, tools, and information, and that it also speaks to standardization. The subcommittee did not recommend making major language changes to the recommendation but did make some minor edits to allow for more room as the science evolves and changes. Mr. Mason expressed his agreement with the suggested change, noting that recommendation seven presented similar questions and issues with methodology.

Mr. Tischler then presented on recommendation two, noting there is much more data now and it is of much better quality. Mr. Bellomo agreed with Mr. Tischler and asked whether these were the seven recommendations the subcommittee found most important. Mr. Johnson replied that the subcommittee would include some text in the chapter which explains how the subcommittee reviewed all of the recommendations and decided that these seven were the most important. Mr. Mason clarified that these seven were the seven primary recommendations from 2015, not the seven the subcommittee found most important. Mr. Bellomo then paused the conversation to review the remaining agenda for the day and the TMAC took a 15 minute break.

The TMAC returned from the break and Mr. Doug Marcy provided an overview of recommendation three, which has 11 sub recommendations associated with it. Mr. Marcy noted that while the language of the recommendation itself is good, several of the sub recommendations need updates. Mr. Johnson provide an update on recommendation four, noting that Ms. Stacey Archfield and Mr. Stuckey were the primary authors but were not currently on the call. Mr. Johnson added that there were no major changes to this recommendation but that there were some minor tweaks, especially under the auspices of FFRD. Mr. Johnson also stated it is important to allude to flood hazard and flood risk in this section. Mr. Bellomo replied that he had some overall thoughts he wanted to discuss but they could wait until the updates for all seven recommendations were complete.

Mr. Smith provided the update for recommendation five, which Mr. Johnson adding that this recommendation is less about data generation and more about data communication. Mr. Guignet added that while data is important, federal agencies need to better coordinate what they are planning on doing with this data and used watershed modeling as an example. Mr. Bellomo agreed with Mr. Guignet that there are many challenges here and often various laws and regulations lead to the stove piping of data. Mr. Johnson then provided the update for recommendation six, which deals with FEMA conducting pilot projects. Mr. Johnson noted that adding pilot project examples would be a nice addition to the report. Mr. Mason stated that FEMA gave the impression that they funded these projects and they were complete, but it was the subcommittee's interpretation that the pilots would cascade from one to the next. Mr. Mason added it will be important to understand if there are more pilots that are underway or that are

needed. Mr. Bellomo stated that the more specific the TMAC can be about the recommendations, the easier it will be for FEMA to say whether they are complete or not.

Mr. Mason provided the update for recommendation seven, noting that he and the subcommittee struggled with this and chose to leave it alone but also recommend that some additional information might be needed. He added that the subcommittee also did not address how much coupling to expect between future conditions modeling and current conditions modeling. Mr. Guignet replied that there is a very big connection at the local level.

Mr. Bellomo thanked the subcommittee for the updates to these recommendations and noted they have done excellent work by going through these recommendations and pulling out all of the useful information. Mr. Johnson then provided an update on section 4.4. of the subcommittee chapter, stating that less focus has been paid to this section as the subcommittee has been primarily processing the recommendations. Mr. Johnson added that the final two sections, 4.5 and 4.6, is where the subcommittee will focus on identifying issues and discussing how tools may be developed to contend with those issues. The subcommittee does not plan to recreate the wheel in this section and will review the outcomes and discussion from the 2020 report, especially around SLTT partners. Mr. Johnson concluded by noting that there is still much work to do but the subcommittee is on track for the final push of the year.

Revisit: 2021 TMAC Annual Report Content Outline

Mr. Bellomo revisited the overall outline of the report with the TMAC. Mr. Bellomo noted that yesterday the TMAC discussed potentially adding a chapter 5, and it seems like there continues to be general agreement with this approach. Chapter five will contain all of the “big r” recommendations. Mr. Bellomo also stated that there are new members to the TMAC and new SMEs that will need to be assigned to their respective subcommittees, and that specific roles for reviewing the draft report will also need to be assigned. Mr. Bellomo recommended assigning these rolls offline, and Ms. Sarah Vining of the PM team will help coordinate the communication and placement of these individuals.

Mr. Bellomo asked whether the TMAC had any strong feelings regarding the overall structure of the report, and also reiterated that the NRDC petition and FEMA’s response are both big pieces of information that the TMAC needs to keep in mind. Mr. Bellomo noted that the TMAC is throwing out lots of information right now that can be a challenge to absorb, but are there any “big r” recommendations that can be identified yet? Mr. Bellomo stressed the importance of the TMAC to keep this in mind these next few months as time will pass very quickly.

Next Steps and Closing Statements

Mr. Bellomo thanked everyone for all of their work in preparation for the meeting today. Mr. Bellomo stated that everyone should have placeholders on their calendars for the next administrative meeting, which is scheduled for November 18th, and the next public meeting, which is scheduled for December 15th – 16th. The purpose of the administrative meeting will be to work through the second draft of the 2021 report and address as many comments as possible.

In preparation for that meeting, both subcommittees should have gone through their chapters one more time and made updates by the 11th of November. The editing team will then pull everything together from the 12th to the 15th, and the updated report will be sent out to everyone on the 16th so that they can review it prior to the 18th. The same process will play out after the administrative meeting in preparation for the December public meeting, with the next draft available for review around the 13th of December. The goal for the December meeting will be to finalize the report in preparation for a January meeting where the formal vote will be taken to submit the report to FEMA.

Mr. Bellomo reiterated that the timeline is very tight and will pass very quickly, especially with all of the holidays. Mr. Bellomo requested that the TMAC think about everything that was discussed these past two days and begin to develop “big r” recommendations that might go into the chapters. Mr. Bellomo asked if there were any questions on the timing and next steps, and none were received. Mr. Bellomo thanked everyone for all of their hard work thus far and the TMAC adjourned the public meeting.