

## Coastal Elevations and Sea Level Rise Advisory Committee

Meeting Minutes: Friday July 27, 2007  
Conference Call

### Committee Members:

*Present:* Margaret Davidson (Chair), Mark Crowell, Julie Hunkins, Mark Mauriello, Mark Monmonier, Sam Pearsall, Tony Pratt, Greg Rudolph, Harvey Ryland, Rebecca Beavers, Gwynne Schultz

*Absent:* Alan Belenz, Andrew Garcia, Carl Hershner, William Nechamen,

*Quorum present?* Yes

*Others Present:*

Designated Federal Officer (DFO): Jack Fitzgerald

Others: Jim Titus, S. Jeffress Williams, Don Cahoon, Stephen Gill, Eric Anderson, Ben Gutierrez, Rona Birnbaum, Karen Scott, Khanna Johnston, Beth Scherer

### Proceedings:

The meeting was called to order at 12:30 pm by Margaret Davidson, Chair.

The roll was called and meeting participants in addition to committee members were noted for the record.

*Introductory remarks, Jack Fitzgerald.* Fitzgerald reminded participants that notes were being taken and the conference call was being recorded. He stated that the purpose of the meeting was to review draft material provided to the committee for comment, and to hear reports from workgroups established as a result of the second meeting, if time allowed.

Harvey Ryland noted that assuming that recommendations made in the last meeting were followed, that he was pleased with the follow-up activities conducted since the last meeting.

Margaret Davidson suggested that the agenda of the meeting follow the outline of the report. She began by asking for comments on the background and introduction, sections 1.1 through 1.4.

Sam Pearsall indicated that he is interested in seeing section 1.1.2 as soon as it becomes available. Jim Titus responded that USGS is currently working on that section. Don Cahoon

stated that little progress has been made on question 8. Titus also stated that the background section in the current document contains information on ocean processes but not estuarine processes. Information on estuaries will be added for the August 10<sup>th</sup> draft of the report.

Gwynne Schultz noted that the constant references to question numbers throughout the report are hard to follow. She suggested either restating questions in a box on the pages where they are referenced, or restating questions in addition to providing question numbers. Margaret Davidson added that it might be helpful to add a box at the beginning of each chapter that lists the questions and highlights the ones that are relevant to that particular chapter. Jim Titus said that the question numbers will be clarified eventually, but will remain in the draft documents because they are a useful reference for the authors.

Margaret Davidson said that she thought in many cases readers would not be reading the entire document, and thus any tools that could be provided to help the reader self-orient would be valuable.

Davidson asked committee members to provide comments on Chapter 2 of the draft document.

Rebecca Beavers observed that the agencies the chapter focuses on are unclear. She suggested that the authors consider changing the title to reflect that these are EPA, NOAA, and USGS activities.

Sam Pearsall noted the study on North Carolina presented in section 2.7 only provides information from the original study plan. He inquired as to whether there have since been preliminary results of the study that could potentially be included here. Steve Gill responded that it is a three-year research product that has not yet generated preliminary results. Margaret Davidson asked when the study might be updated. Gill responded that the report will most likely present the study in question as a work in progress, as an example of ongoing activities.

Davidson asked committee members to provide comments on Chapter 3 of the draft document.

Sam Pearsall stated that Table 3.1.2 is confusing and asked that the authors clarify the table.

Pearsall also noted that since the document is a compilation of the work of many authors, it might be helpful to provide footnotes that indicate who the primary author was for specific studies cited in the report. He offered the example of the Albemarle case study (3.7.1.2). Jim Titus assured him that credits will be transparent in the final document.

Pearsall cited a 2-3 mm rise predicted for an area of North Carolina and questioned whether data obtained from other gauges might be more accurate. He cited the Duck Gauge, which is operated by the Army Corps of Engineers and is correlated with the Hampton Roads Gauge. The authors noted the difficulties associated with obtaining good and consistent data for North Carolina,

citing the Duck Gauge which has a fairly short record, the Wilmington Gauge which is too far from the ocean coast, and the Hampton Roads Gauge which is influenced by local subsidence as examples.

Pearsall noted that section 3.3 appears twice in the draft document. This has been resolved.

Margaret Davidson cited a numbering issue with question 1.

Rebecca Beavers referenced section 3.2 pages 18-29, the Fire Island case study. She noted that while the report discusses differences in geomorphic characteristics of the area, it lacks a discussion of different levels of development. Jeff Williams responded that the report will distinguish between developed and undeveloped areas. Mark Mauriello suggested that a discussion of developed versus undeveloped land would be useful throughout the regional discussions. Williams responded that there will be caveats discussing the behavior of natural versus developed land.

Mark Crowell expressed concern about the quantity of discussion of the Bruun Rule. He thought that the text implied that researchers use the Bruun Rule to project future regional-scale shoreline changes. He is not aware of any United States coastal management programs that use the Bruun Rule to produce regional-scale shoreline change maps or data for this purpose. If there is a journal article that uses the Bruun model to project regional-scale shoreline changes in the U.S. as per figures 3 and 4 then it should be cited. Mark Crowell believes that the Bruun Rule has typically been used to show the relationship between sea level rise and erosion (usually site-specific), but not exclusively used for erosion mapping purposes at a regional scale. Jeff Williams indicated that the discussion of the rule in the document is meant to illustrate difficulties with predicting shoreline change, and will be modified to reflect that if need be. Jim Titus noted that the draft was attempting to view the Bruun Rule as a way to analyze the incremental impact of sea level rise on shoreline change. Crowell agreed that that is how it should be used while acknowledging that other physical factors besides the Bruun rule are involved in long-term shoreline change.

Crowell cited the last paragraph of part c on page 4 under current shoreline change trends that made reference to a Leatherman EOS. There were several documents that came after that, notably by Salinger and Pilke, and a Leatherman reply that should also be referenced in this sections.

Tony Pratt noted that there are a variety of things happening simultaneously along the coast, so as long as models are couched in terms of their limitations they should be used in the report. For instance, the Bruun Rule tries to deal with water independent of sediment.

Mark Mauriello referenced a Journal of Coastal Research article (Special Issue 28, 1999, Coastal Erosion Management) that was edited by Crowell, which covers the regions covered in the draft

document with the exception of Maryland. He suggested that it might be useful to focus readers' attention back to a report for state programs and which recognizes the differences in state programs and methodologies.

Mark Mauriello questioned whether in section 3.1 wetland terms used by the authors should be defined. Titus responded that the background chapter will provide further explanation and that a glossary will be provided in the final product.

Mauriello suggested that the authors explain the state regulatory authorities that authorize and mandate regulation and protection. It might be useful to have for reference in the section on wetland migration. Titus responded that this type of information might be best located in the region-by-region discussion. The authors might need help with the definitions in the future. They are considering including a table with a broader explanation in the background document.

Jack Fitzgerald noted that he will make committee members' hard copy comments (e.g., track change edits to draft documents) available to the public upon request.

Rebecca Beavers noted that it is unclear which specific actions laid out in section 3.4 are attributable to specific agencies (e.g., NPS versus state officials).

Mark Crowell discussed major comments for section 3.5. Hard copy edits were provided to the authors. There is a recommendation, in reference to NFIP, included in section 3.5 that is not noted as such (section 3.5.2, paragraph 1, sentence 1). This seems to use a FEMA a 1991 sea level rise report to justify the recommendation that the NFIP investigate the effects of sea level rise and incorporate findings into programming. However, one of the main conclusions of that report was that no immediate program changes are necessary. While the recommendation may be valid, it is not justified in this section (nor in any other part of the report). It was suggested that parts of section 3.5 could have inserts from a paper written by Crowell.

Crowell stated that there was a GAO report in March on the effect of climate change on the NFIP. FEMA is looking at several of the CCSP products. Titus asked if comments submitted by Crowell would mention the GAO report by name. The report is GAO-07-285, climate change financial risks to the NFIP.

Crowell stated that FEMA has committed to a study on climate change with relation to the NFIP. Titus asked if these would look at actuary reports. Crowell responded that the actuarial rate review could be found by searching on the FEMA Web site.

Tony Pratt mentioned a GAO report on whether or not the NFIP program encourages development in floodplains.

Titus said that some sections in Chapter 3 are still missing. Rough draft answers to the last two questions should be ready within a week. Steve Gill said he was hoping for two weeks on his question.

Margaret Davidson asked for comments on Chapter 4.

Sam Pearsall asked whether the committee could hear workgroup chair reports. Davidson replied that they would if time allowed. Pearsall asked that comments generated as a result of workgroup activities be forwarded to the authors through Jack Fitzgerald.

Gwynne Schultz commented on the section of Chapter 4 dealing with the Chesapeake Bay in Maryland. She asked whether the likelihood of shore protection obtained through conversations with county planners could be checked against the inventory done by Virginia and Maryland to put county planners' comments in perspective. Titus asked whether this was something that the Maryland DNR would be willing to do. He said that he would be unable to do such a comparison because of time constraints, but noted that a DNR employee is already a contributor. Schultz suggested that if a comparison is not done, that additional caveats might be necessary for this section. Titus noted that the issue of caveats with regard to statements made by county planners was raised at the last meeting. He said the authors have tried to caveat Chapter 3, and have started on Chapter 4, but they have begun to feel repetitive. He welcomed input from the committee on how to better include caveats. Schultz indicated that references or a one page summary would be helpful. She also noted that there are maps available on the VIMS Web site. Titus said they could ask VIMS for a map suitable to include in the report.

Schultz also noted that the relationship between table 2 on page 68 and table 3 on page 70 is confusing. Titus will look at this and will add appropriate descriptive language.

Schultz observed that the write-up about laws, on page 79 for example, has a policy comment that is out of context. Titus will look at it, there were some sections that were block copied and may not have been completely edited yet, but these things are good for the committee to point out.

Schultz thought that the applicability of laws and conclusions drawn about them should be confirmed by states before publication. Titus requested help from the committee for this.

Mark Mauriello suggested including caveats that indicate information that was available for the report versus the most current information. He suggested including references to direct interested parties to the agencies that would be able to provide the most current detailed information (i.e., state and local representatives). This would give the reader a general sense of what is going on and give them an indication of how to proceed. Titus asked whether providing a specific contact for each state would be possible. Mauriello thought that the state reps should be identified for the following positions: 1) Coastal Program Manager, 2) National Flood Insurance Program, State

Coordinator, and 3) State Hazard Mitigation Officer. Schultz discouraged adding specific names to the report as they are likely to change over time, and suggested adding the contact information for general offices as an alternative. Mauriello agreed.

Sam Pearsall noted that information on North Carolina provided in Chapter 4 is presented earlier in the report. Titus said this will be revised and information obtained from the North Carolina stakeholder meeting will be incorporated. Pearsall noted a marsh accretion meeting that will be held in North Carolina on September 5 and 6.

Mark Monmonier reported on the mapping workgroup. He said it will be roughly a month before his final report is ready. His strategy is to identify types of maps and their unique requirements, as well as similarities and differences among maps that might usefully be underscored. The key questions to be addressed by Product 4.1 require different types of maps. For instance, question 1 requires topographical maps that have colored bands and distinguish wetlands and dry land. Question 2 requires a simple map with coarse resolution. The difficulties that arise in question 3 include differences in the size or resolution of mapping units and the need for separate maps at different scales for individual states and sections of coast. Even so, he noted that a single map might be useful for addressing this question. He was also concerned with the likelihood of readers printing the question 4 maps in grayscale, and suggested having separate category maps to remedy this problem. He also cited several design issues including titles, captions for interpretation, and caveats. In addition, he reiterated his concern about readers printing the report in black and white. He cited color choice and similarities in the design schemes as other things needing to be addressed. He summed up by saying he had formulated a strategy, but that his analysis is not yet complete.

Margaret Davidson gave a report of the workgroup on regional/local planning applications. She cited the issue of how protected areas are defined. Comments from committee members will be forwarded to Jack Fitzgerald. The distinction between structural and soft protection needs to be further emphasized. There is interest in looking at the range of impacts for areas currently classified as unprotected. The goal is to prevent catastrophic submergence, so it was suggested that the authors look at the range of options, identify those available, and discuss streams of ecological benefits that would be associated with them.

Gwynne Schultz asked if the document is meant to set the stage for conservation. Davidson responded that the report would identify what states are doing, how they are anticipating mitigation strategies, and potential options being evaluated.

Jim Titus requested clarification as to what the committee was talking about with respect to recommendations. Jack Fitzgerald responded that the FAC will perform an analysis of the gaps in the report and will make recommendations to the administrator on the course of follow-up

research. The SAP is an assessment of where things are, but will not make any policy recommendations.

Rona Birnbaum asked for clarification about the type of recommendations that will be made by the FAC. Davidson responded that they will continue to comment on strengths and weaknesses in the report throughout the writing process. Jack Fitzgerald noted that the committee would contribute to the formation of a future research agenda.

Since there were no members of the public who wished to make a statement, the committee moved on to discussing the schedule for the next committee meeting. Rona Birnbaum discussed the revised schedule for the report. The original prospectus planned on a completed report in September, however that schedule has been revised. The report is now scheduled to be completed in December. In order to meet the new deadline, a draft will go through a technical expert review in late August. The report will be made available for a 45 day public comment period beginning in September and running through the beginning of November. The official FAC committee report should be released in early November, and final changes will be made in late November.

Jack Fitzgerald discussed the dates associated with the schedule. A revised draft will be available August 10 for expert review. A revised report incorporating comments from the expert review will be available for public comment in mid-September. The next meeting of the FAC will be a call-in meeting on or near October 1. This will be the committee's last chance for direct impact on the report. The final meeting will be on or near November 9, in which the committee will discuss their report to be developed for the EPA Administrator. He suggested a preparatory workgroup to develop a first draft of the report. The August 10 draft will be made available through the CESLAC Web site.

Titus noted that there are some sections missing from the current draft and that some sections need review (e.g., questions 9 and 10). If these sections are not completed by August 10 the authors will seriously consider dropping them from the final product.

Jack Fitzgerald will send a notice when the August 10 draft is available.

The last meeting, November 9, will be held in Washington, DC.

Fitzgerald asked if the committee had adequate time to review the report before the meeting. Committee members indicated that they had.

Eric Anderson asked if the committee had a chance to review Chapter 7. Committee members indicated that they had not.

Jack Fitzgerald will follow up with Carl Hershner to see whether or not progress has been made in the wetland accretion workgroup concerned with Virginia and North Carolina.

The meeting was adjourned at 2:39 pm.

## **Summary**

### *Themes and Gaps:*

- ▶ In many cases readers will not be reading the entire document, and thus any tools that can be provided to help the reader self-orient would be valuable additions.
  - For example, there are constant references to question numbers throughout the report, however an explanation of each question only appears once in the background section. Either restate questions in a box on the pages where they are referenced or restate questions in addition to providing question numbers. In addition, a box at the beginning of each chapter that lists the questions and highlights the ones that are relevant to that particular chapter would be useful.
- ▶ Be specific about agencies referenced in all sections of the report.
  - When appropriate, section titles should reflect the agencies discussed in the section.
  - Specific actions with regard to sea level rise policies and procedures should be attributed to specific agencies.
  - It would be useful to explain the state regulatory authorities that authorize and mandate regulation and protection in the regional sections of the report.
- ▶ Resources for additional information should be provided where appropriate.
  - Since the report is a compilation of the work of many authors, information presented in the report should be attributed to specific authors to aid readers seeking additional information on specific sections of the report.
  - Regional discussions should be followed by state and regional contact information to aid readers in obtaining the most up to date information available.
- ▶ A discussion of the characteristics of developed versus undeveloped land would be useful throughout the regional discussions, with a specific emphasis on the range of possible fates of land that is currently undeveloped.



- ▶ The discussion of the Bruun Rule should be caveated with the limitations of the model and should be careful not to imply that this rule is widely used by policy makers.
- ▶ Sections of the report that discuss specific state information should be reviewed and confirmed by the states.
  - Where possible, the information provided by county planners as to the likelihood of shoreline protection should be checked against information available from state and regional data collection efforts on actual shoreline protection efforts.
  - The applicability of laws and conclusions drawn from them should be confirmed with relevant regulatory authorities before publication.

*Process Issues and Action Items:*

- ▶ Hard copy edits of the report produced by individual committee members will be forwarded to Jack Fitzgerald who will distribute them to interested parties upon request.
- ▶ The draft for technical review will be available on August 10.
- ▶ The next meeting of the FAC will be a call in meeting on or near October 1. This will be the committee's last chance for direct impact on the report.
- ▶ The final meeting will be on or near November 9 in Washington, DC. The committee will discuss their report to be developed for the EPA Administrator.
- ▶ A draft of the committee report will be developed in preparation for the final CESLAC meeting on November 9.
- ▶ Jack Fitzgerald will follow up with Carl Hershner to see whether or not progress has been made in the wetland accretion workgroup concerned with Virginia and North Carolina.