

AGU Town Hall Meeting Summary

The town hall meeting entitled “Community-based Coupled Coastal Modeling in Support of Total Water Prediction” was held this past December 9 at 12:30 – 1:30 pm Pacific Time at the 2019 American Geophysical Union Fall Meeting. There were 42 attendees at this town hall session including the facilitator, Dr. Cayla Dean (NOAA/Center for Operational Oceanographic Products and Services), four panelists including Dr. Derrick Snowden (NOAA/US Integrated Ocean Observing System), Dr. Trey Flowers (NOAA/Office of Water Prediction), Dr. Ehab Meselhe (Tulane University), and Dr. Cary Talbot (US Army Corps of Engineers, Coastal and Hydraulics Laboratory), and 37 additional attendees representing different federal and state governments and academia.

The town hall session featured presentations and discussions on the development of a community-based modeling approach specifically focused around the coupling of models in the coastal transition zone. To facilitate community modeling approaches, the Coastal Coupling Community of Practice (CC CoP) has been formed to foster greater dialogue among leaders, practitioners, and end-users of coastal coupling model information. The CC CoP allows water professionals to form partnerships and collaboratively work toward the shared objective of protecting communities, economies, and ecosystems from critical water challenges. These partnerships support modeling activities focused on water quantity and quality, which inform effective management of riverine, estuarine, and marine processes and ecological functions in support of a variety of human uses and community needs.

Cayla Dean provided an overview of the Coastal Coupling Community of Practice, including the reason for its creation, its vision and mission, and future engagement opportunities. Derrick Snowden provided an overview of the NOS operational models (OFS) and how the community is collaborating in their development. Trey Flowers provided an overview of the National Water Centers’ regional-scale coastal coupling efforts and forthcoming advances for the National Water Model that will allow greater community contribution. Ehab Meselhe discussed some of the key issues around the coastal coupling and provided some insight into how the transition zone should be thought of when doing this work. Cary Talbot gave an overview of the coupling work from the Army Corps’ perspective. The Corps uses the results of these models for engineering purposes, resulting in different requirements of the models than the other panelists.

These presentations were followed by time for the audience to ask questions of the panel and to participate in a discussion focused on the way forward for the coastal coupling of models in the transition zone and specific desired ways to make the CC CoP work for them. We asked the questions, “what is needed to advance community modeling around the coastal coupling” and “what are the most effective methods for community model collaboration”.

Several themes were present in the responses from the town hall participants. In regards to how science can advance, the main takeaways included the following. The community needs easily accessible, open-source, quality-controlled data at high resolution that is updated with a regular frequency for model initialization, verification, and validation. They desire a shared environment

to work in that allows flexibility for testing different ideas, with a transparent pathway to transition the models that work well into operational use. In other words, they want the flexibility to test ideas but with some guidelines and best practices on what is desired to get their work into operations.

In order to address the challenges of coastal coupling, there must be collaboration across teams, organizations, and disciplines. Some of the feedback on how the community can best collaborate, participants indicated the following. They desire a well-defined grand challenge and the ability for individuals with expertise in individual aspects of this challenge to work on their own part in a collaborative fashion. They desire well-organized documentation of use or test cases, definitions of ambiguous terms, code repositories, and data for model initialization, verification, and validation. A wide variety of communication methods are desired so that all community members have a way of getting updates. The methods that were mentioned included in-person meetings, webinars, interactive online platforms like slack, hack-a-thons, and online tutorials. The information gathered at this town hall session will help to inform future efforts of the CC CoP.