**Scientific and Technical Working Group Meeting**

**March 25, 2024**

**1:00 - 2:00 pm**

**By ZOOM**

**Meeting Summary, Notes, and Resources**

Attendees:

STWG Members: Fernando Miralles-Wilhelm, David Nemazie, Adel Shirmohammadi, Russel R Dickerson, Jared Williams, Robyn Gilden, Bill Dennison, Belay Demoz, Donald Boesch, Eric D. Wachsman

Others: Jennifer Laszlo Mizrahi, Lynn Faulkner, Suzanne Dorsey, Timothy Canty Jeff Silva, Alisha Mulkey

UMCES Staff: Rahat Sharif

**Meeting Summary:**

The objective of this meeting was to hear a presentation from Dr. Tim Canty on the hydronet project, as well as discuss the STWG recommendations for September 2025. Dr. Canty discussed the hydronet project, which consists of water level monitoring sensors that have been deployed on the western shore of Maryland. This project provides information to local emergency managers as well assisting communities in longer term flood adaptation and mitigation strategies.

After the presentation Dr. Miralles – Wilhelm discussed how the STWG can better frame the 2025 recommendation. He discussed several reports, including the 2024 MCCC report and University of Maryland – College Park’s Center for Sustainability presentation on future greenhouse gas emissions and economic indicators. In making our recommendations, the STWG should consider making them concise and easy for legislators to consider.

**Welcome and Introductions:**

Dr. Fernando Miralles – Wilhelm introduced Tim Canty, and went over the agenda for the day, including discussing the workplan for 2025.

**Building Climate Resilient States; Addressing Adaptation Challenges Facing the Chesapeake Bay Through Low – Cost Monitoring:**

Dr. Tim Canty discussed his work on hydronet, a project to put out low – cost water level monitoring sensors in communities vulnerable to flooding. The goal of this project is to provide information to local emergency managers, track longer term water level changes across the region, and assist communities in planning flood adaptation/mitigation strategies. Their pilot project began in Annapolis and Charles County, where the Annapolis cluster supports the Annapolis city docks project. This pilot project has three phases, first on the western shore, which is ongoing, the eastern shore, which is starting, and the third phase, which will be on the coastal and Delaware bay.

The hydronet sensors themselves are made up of a sonic sensor, PVC, and a solar panel that runs on the 4G network. Locations are determined through feedback form the community, such as areas that flood frequently and block access to emergency vehicles.

This project has had several sources of support, including three years of support University of Maryland – College Park Grant Challenge Program, with one year remaining, and five years of funding from the Mid-Atlantic Regional Association Coastal Ocean Observing System, which began in 12/2024. There is currently an NSF proposal that has been submitted.

In the future Dr. Canty would like to partner with other data gatherers including mesonet, MD environet, and the PACE satellite team.

**Question & Answer:**

* How to make this sustainable over time given the funding situation? Are you okay with a subscription model?
  + Funding for maintenance is an issue. Dr. Canty is open to private public sponsorships, but if a company wants to use the data they should support the project in some way.
* Can we supplement with NOAA tide data?
  + Communities want more than what NOAA can provide, and they are very specific about where. Wind is also an important factor to consider.
* Can the NOAA sea level viewer be calibrated to have on time predictions with mesonet and hydronet?
  + The future goal is to feed this into a larger model, such as the mycoast app, the next goal is to figure out how to get data to people as soon as possible, including forecasters.
* Is there a community engagement piece involved with this work?
  + There has been a meeting on campus in January with ~150 people, including community members form the bay areas. Dr. Canty also took time to travel around the state and met with State and Federal delegations as well. There has also been teaching innovation specialists working with communities to integrate datasets into the day-to-day science curriculum across the state. They have also brought in science students to work on internships.
* Dr. Russell Dickerson mentioned being able to arrange a 10-minute presentation on mesonet.

**Update on Coordinating Work Groups: Input on Developing Scenarios for Net-Zero**

In providing the 2025 recommendations, how to we make sure we are also looking forward into the future? There are a lot of disparate pieces of information, and our job is to make that into a coherent recommendation. We should consider tools available to us, such as the Center for Global Sustainability, which can translate findings into economic indicators. As we view presentations, we should think of them in the context of our recommendations, whether we include them in the final recommendations.

In reviewing the 2024 MCCC report, we can get a good idea of how to shape our recommendations, they should be made with our audience in mind, officials who have little time. The Department of Commerce and the Governor came out with an assessment of where to invest, there was no recommendation for energy or climate. If we make a recommendation to focus on those areas, we should focus on economic development, and make the case easy. Dr. Eric Wachsman mentioned the importance of including Clean Technology. Jennifer Laszlo Mizrahi mentioned bills that have passed to study: the fiscal cost of climate, a holistic energy strategy, and data centers; it would be good for members of this working group to get involved. Additionally, Jennifer Laszlo Mizrahi mentioned that we should consider a legislative member or committee we could submit these recommendations to.

**Other Items:**

None

**Public comment:**

Dr. Adel Shirmohammadi asked how our recommendations to the MCCC connect to federal efforts. Dr. Donald Boesch discussed the issue of water supply, where over extraction is exacerbating the demand for irrigation. While we work exclusively on state policy, it’s difficult with the changing federal policy. The state of Maryland is looking to cut $15 million from the budget. We should have a series of presentations to talk about dealing with federal cuts. This topic will be discussed at the May 21st MWG meeting.

**Resources:**

* NOAA tide gauge sites: <https://tidesandcurrents.noaa.gov/waterlevels.html?id=8575512>
* Maryland mycoast app: https://mycoast.org/md
* Lighthouse document: <https://issuu.com/stateofmaryland/docs/maryland_s_roadmap_-_comprehensive_report?fr=xKAE9_zU1NQ>
* MARACOOS Oceans Map: <https://oceansmap.maracoos.org/>
* Resilience Maryland Stakeholder Survey: <https://docs.google.com/forms/d/e/1FAIpQLSfLObynp80ZFTWVi8LWA3b7cj857rI7ohvC1GCME6p6A7fbrQ/viewform>
* Resilient Maryland Toolkit: <https://resilientmaryland.com/>
* Existing Resilience Metrics: <https://toolkit.climate.gov/tool/resilience-metrics>
* Discovery Report: A Roadmap for Environmental and Climate Justice Committees Across the NAACP Maryland State Conference: <https://static1.squarespace.com/static/62a394e1446fa43b3b389783/t/641e12d6ec508f56cf01d05a/1679692503313/Discovery+Report+2022+.pdf>
* Gaps Analysis & Recommendations for Climate Resilient Policies in Maryland, Pennsylvania, and Virginia: <https://www.chesbay.us/library/public/documents/Meetings/November-2021/Presentations-Nov-2021/3-CBC-Gaps-Analysis-for-Climate-Change-Final.pdf>
* NIST Community Resilience Planning Guide for Buildings and Infrastructure Systems: <https://nvlpubs.nist.gov/nistpubs/SpecialPublications/NIST.SP.1190GB-16.pdf>