Scientific, Technical Assessment and Reporting (STAR)
Quarterly Coordination Meeting
Theme: Priorities for 2023 and Reflections on STAR's role in the Beyond 2025 Effort

Thursday, July 20, 2023
10:00 AM – 12:00 PM
Link: Meeting Materials

This meeting was recorded for internal use only to assure the accuracy of meeting notes.

ACTION ITEMS

- ✓ Integrated Trends Analysis Team (ITAT) and Climate Resiliency Workgroup (CRWG): have a conversation about utilizing trend analyses and integrating it into climate indicator development.
- ✓ Bay Oxygen Research Group (BORG): Consider integration of climate science information, specifically marine heat waves, into the 4-Dimensional Interpolator development for application on the impact of heat waves on DO throughout the water column.
- ✓ BORG: Present at future CRWG meeting on 4-D Interpolator.
- ✓ STAR: Review Reaching 2025 report, with a focus on how to carry science and monitoring recommendations into beyond 2025.

MEETING MINUTES

10:00 AM **Welcome & Meeting Overview** – **Breck Sullivan**, STAR Coordinator (USGS), **Ken Hyer,** STAR Co-Chair (USGS), **Bill Dennison,** STAR Co-Chair (UMCES), **Kim Van Meter**, STAR Vice-Chair (Penn State)
Focus of Meeting: Connecting our new chairs with STAR workgroups and their priorities, plus reflecting on how STAR should be involved in the Reaching 2025 and Beyond 2025 conversations.

10:05 AM **Introducing Ken Hyer and Kim Van Meter** – **Breck Sullivan**
Breck will introduce Ken Hyer, new STAR co-chair, and Kim Van Meter, new STAR vice-chair, to the STAR coordination team.

Ken Hyer works for the Northeast region of the USGS and is Associate Coordinator of USGS Chesapeake Bay studies. This position aligns well with STAR's mission to develop top-notch science and connect science providers with science users. At the USGS, Ken works with scientists to develop science strategy, annual workplans, and projects. Ken's training is in hydrology, watershed hydrology, water quality, and toxic contaminant transport work.

Kim Van Meter is an Assistant Professor of Water System Science at Penn State University, using data-driven approaches to explore intersections between water, food, energy, and climate. In her recent research, Dr. Van Meter has focused on the role of wetlands in improving water quality and on quantifying economic and climate tradeoffs associated with wetland restoration. She is also exploring the ways in which river damming changes river flows and the occurrence of harmful algal blooms. Dr. Van Meter uses a variety of tools in her work, from simple process-based models to more complex deep-learning approaches and leverages many types of data to better our understanding of long-term water quality dynamics. She is passionate about improving Chesapeake Bay water quality.

10:15 AM **Review of action items from last meeting** – **Alex Gunnerson** (CRC)
Alex will briefly provide a status update on the action items from the last STAR Coordination Quarterly meeting in February.

Julie Reichert-Nguyen (NOAA) suggested a conversation between ITAT and CRWG. There's interest in utilizing trend analyses and integrating it into indicator development. (Action)

In the chat:
Rebecca Murphy (UMCES): ITAT is about to have new tidal temperature trends, so we are definitely open to that conversation whenever Julie is ready.
Katheryn Barnhart (EPA): The impervious surface indicator should be published within the week.
Breck Sullivan (USGS): That is really exciting to hear! That can definitely be considered an influencing factor indicator for water quality attainment.

10:20 AM **Brief Overview of the Scope and Purpose of each STAR Workgroup** – Staffers, Coordinators, and Chairs
To orient our new STAR chairs, each STAR workgroup will present a quick overview of their scope and purpose. As part of this lightning round, each workgroup will also identify their top three priorities for the rest of 2023.

GIS Team
John Wolf (USGS) said the tree canopy fact sheets have been integrated into the online component. Breck asked for the State of Chesapeake Forests, is that where we'll see new info on riparian buffers? John said that will be the first place it will show up. Sarah McDonald (USGS) is working on a data update now. Then it will show up on other places. Kaylyn Gootman (EPA) highlighted how essential the GIS team has been to the Chesapeake Data Dashboard.

Climate Resiliency Workgroup
Breck brought up how Jamileh Soueidan's (CRC) position, the CRWG climate staffer position, will end in December 2024. The loss of this position will result in sharing the CRWG staffer responsibilities with the STAR staffers. With this reduction it won't be possible to achieve what has to be done within the CRWG and the two climate outcomes, as well as the new Climate Directive. Melissa Fagan of Chesapeake Research Consortium (CRC) understands how important the position is, it is a funding issue. It may require thinking outside the box to get additional support for the position. Ken asked if the funding for CRC staffers is coming from a specific EPA branch? Kaylyn said it's a cooperative agreement through EPA and it's administered through CRC, through Chesapeake Bay Program Office (CBPO) rather than a branch of EPA.

In the chat:
Kaylyn: CRC administers STAC through a 6-yr CRC-EPA Cooperative Agreement, the latest agreement initiated on June 1, 2016.
Meg Cole (CRC): We are now in our new grant cycle, from FY22-26. If you have any questions on the EPA Cooperative Agreement, I would recommend reaching out to Melissa Fagan (CRC) at faganm@chesapeake.org -- or me and I can relay the inquiry!

Julie said that Katie Brownson (USFS) and Rebecca Hammer are presenting on the nontidal recommendations from the Scientific and Technical Advisory Committee (STAC) Rising Water Temperatures Workshop. Neil Ganju is on marsh adaptation steering committee.

Criteria Assessment Protocol Workgroup

Ken asked if the Criteria Assessment Protocol (CAP) Workgroup was connecting to the Comprehensive Evaluation of Systems Response (CESR) report at all. Peter Tango (USGS) said the group is considering hypoxia offshore monitoring and design considerations to connect near shore monitoring with off-shore monitoring. Those studies would be designed to be linked to the 4-Dimensional interpolator and how it will be used. There are some publications that speak to the nearshore offshore linkage. CAP is involved in how to assess the data as it comes out of the interpolator. However, they may need a workshop such as a STAC workshop to get monitoring designs at a segment level.

Julie asked if there is potential to integrate climate science information with the 4-D interpolator, especially marine heat waves. Nathan Shunk at VIMS is a graduate student who characterized marine heat waves and what happens to Dissolved Oxygen (DO) during heat waves. Julie asked if we can integrate that information to understand the impact of heat waves on DO throughout the water column. Rebecca said that's a good thing to keep in mind. She said they have to interpolate temperature and salinity as well to get the pycnocline location. The components are there, so looking at the results in a different way to target heat waves isn't far of a stretch. She will definitely keep it in mind. Peter agreed. He said the fisheries folks are interested; the criteria are built on living resource needs and hopefully the outputs have multiple applications to multiple analysis needs. Rebecca added the current interpolator has been used different ways, so it's not unprecedented and sounds like a great idea. (Action)

In the chat:
Julie: It would be great to have them (BORG) present at a CRWG meeting. (Action)
Alex: The student Julie mentioned, Nathan Shunk, presented to ITAT last summer on marine heatwaves. You can find his presentation linked here.
Julie: We are going to have a temperature change and marine heat wave focus meeting during the CRWG August 17th meeting where we'll have discussion on how to connect these temperature impacts to fisheries. We have invited Nathan Shunk and he will be presenting on his research if folks missed the ITAT meeting.

Integrated Trends Analysis Team

Ken said for ITAT tributary summaries, the challenging part was interpretive work. He asked, what is the plan for interpretive work at this time. Kaylyn responded that the current plan is they are working on automating updates, which will allow them more time to work on the interpretive part and connect more with "boots on the ground" people for the insights on change section. Breck agreed and added that ITAT's intern Anoosh Tauqir has been able to meet with many local watershed organizations to ask for feedback on the tributary summaries and StoryMap. Many of these groups have their own annual report and fact sheet that makes that local connection to understand why things are happening. ITAT leadership is thinking about highlighting their resources and work they've done. Breck said she has talked to Meredith Nevers at Bureau of Approving Officials (BAO) about simpler ways of getting these products through USGS review.

Ken asked about connections between ITAT and the SIMPLE team. Kaylyn said that she has conversations with Jimmy Webber from the SIMPLE team on working together and agrees it's important to keep that connection up. Ken said that these kinds of things are good to highlight for the Beyond 2025 committee as examples of partnership that is successful. Breck added that in October there will be

an in-person meeting with ITAT and the Factors Team to discuss changes they're seeing in the watershed to the estuary. Hopefully this will be an annual meeting.

Ken commented he appreciated that the workgroups shared their successes and achievements because a lot of time we focus on the challenges and negative aspects. He also appreciated everyone's passion for their work.

11:10 AM **Brief Overview of STAC's Role and Collaboration with STAR** – **Meg Cole** (CRC)
To orient our new STAR chairs, Meg will present a quick overview of STAC's role and collaboration with STAR.

This discussion was postponed.

11:25 AM **Reflections from Reaching and Beyond 2025 Effort** – **All**
Time for the group to reflect on how STAR should be involved in the Reaching 2025 and Beyond 2025 conversations. This will take the form of a round robin on what attendees are hearing and thinking about regarding the Reaching 2025 and Beyond 2025 efforts and the related EC charge. Opportunities to record ideas on a jamboard are made available here. Discussion questions include:

- What should the STAR role be in both the Reaching 2025 and Beyond efforts?
  - Reaching 2025: i.e., reviewing report, updating indicators as applicable, continuing effort to find monitoring resources
  - Beyond 2025: i.e., should be a key player in the assessments related to science considerations
- What do you want the STAR representatives to report back on during the Beyond 2025 SC meetings?
  - Are there resources or knowledge that should be shared to inform recommendations for the EC charge?

Ken said STAR's role is probably more in Beyond 2025 work rather than Reaching 2025 work.

Katheryn said that she's been involved with helping write the Reaching 2025 report. It will go out for public comment but most of the heavy lifting for informing the report has been done by working with Subject Matter Experts. STAR can help by reviewing the report, and seeing what the recommendations are and how to carry those into beyond 2025 particularly on the science and monitoring side. For Status and Trends, it's looking at how to improve the approach to Outcomes and seeing how to structure them in a way that we can actually measure progress so we can say whether we have or have not achieved our Outcomes.

Julie said that from the CRWG perspective, their interest is to get climate change more front and center across the partnership. The EC Climate Directive says to integrate climate change in all aspects of the partnership but we're not equipped to do that. Supporting how to integrate climate data across the partnership and leveraging cross-GIT partnerships will be important. The STAC Rising Water Temperatures report was a huge success, bringing everyone together and resulting in tangible management recommendations, key science needs, and cross-Outcome objectives. It would help if STAR can help make sure we are featuring this great work. The CBP needs to think beyond 2025 how we will achieve the big goals in the Executive Council (EC) Climate Directive; with our current structure it's not possible, we don't have the capacity.

Breck said a good question to add to ERG's evaluation questions is how are we going to address climate change across the partnership and meet the EC Climate Directive?

Doug shared a logic model for refining scope for the Beyond 2025 process and walked through it. The logic model aims to separate what we know already that can be picked up and brought to 2025 and what can be driven by ERG as an independent evaluation party. He shared the structure of how the steering committee will operate to address the EC charge.

Breck said that future STAR and STAR Quarterly Coordination meetings will continue to address the Beyond 2025 and Reaching 2025 work.

12:00 PM Adjourn

Participants
Alexander Gunnerson (CRC), Alexandra Fries (UMCES), August Goldfischer (CRC), Bailey Robertory (CRC), Breck Sullivan (USGS), Doug Bell (EPA), Durga Ghosh (USGS), Jamileh Soueidan (CRC), John Wolf (USGS), Katheryn Barnhart (EPA), Kaylyn Gootman (EPA), Ken Hyer (USGS), Liz Chudoba (Alliance for the Chesapeake Bay), Meg Cole (CRC), Peter Tango (USGS), Rebecca Murphy (UMCES), Bruce Vogt (NOAA), Doug Austin (EPA), Julie Reichert-Nguyen (NOAA)