Climate Resiliency Workgroup

April 18, 2022
1:30-3:30 PM EST

Event webpage:
www.chesapeakebay.net/what/event/climate_resiliency_workgroup_meeting_april_2022

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

Agenda

1:30 PM **Welcome and Meeting Overview – Chair Mark Bennett (USGS) and Coordinator Julie Reichert-Nguyen (NOAA)**

Focus of meeting:

- Share research on CRWG-supported projects that focus on social science and DEIJ
- Provide feedback to John Wolf regarding the Diversity Dashboard and Climate Resiliency Tools

Key Opportunities:

- **May 2, 2022:** Mid-Atlantic Coastal Acidification Webinar titled *From Pteropods to Oysters: Linking Biological Indicators with Chemical Observations to Understand the Impacts of Ocean Acidification*. Registration now open. Free and Virtual.
- **May 24-25, 2022**: Resilient Coastal Wetlands Coastal Communities Multi-Regional Workshop. Registration now open. Free and Virtual.

Summary

Julie began the meeting by giving a brief overview of the goal of the meeting, which centered around sharing current workgroup supported projects that have a social science or DEIJ focus as well as soliciting feedback for the Diversity Dashboard and Climate Resiliency Tools developed by John Wolf.

Mark Bennett added that the workgroup is open to thoughts and ideas for future meeting topics. Kevin du Bois commented that it would be beneficial to have a future meeting discussing the development of standardized methodology for transforming the best management practices (BMP) outcomes we report into carbon sequestration metrics. Scott Phillips

commented that the USGS Woods Hole team has several products in development that focus on coastal change from sea-level rise, and would be great to have them present at future meetings.

Julie closed out the welcome and meeting overview by announcing some key opportunities. The first is a webinar on May 2, 2022 from Mid-Atlantic Coastal Acidification titled *From Pteropods to Oysters: Linking Biological Indicators with Chemical Observations to Understand the Impacts of Ocean Acidification*. Julie highlighted that this might be of interest to workgroup members. The second opportunity is the Resilient Coastal Wetlands Coastal Communities Multi-Regional Workshop on May 24-25, 2022. She mentioned how a few CBP representatives (herself, Pam Mason, Christine Conn) and will be participating in the mid-Atlantic panel and discussing the mid-Atlantic coastal and wetland related efforts. Additionally, representatives from the NE will be talking about their coastal and marsh resilience projects that are being conducted. She highlighted the fact that this will be a good opportunity for information sharing. The last opportunity she highlighted was the Chesapeake Youth Initiative; they are hoping to have mentors to help with climate interns. The program is new and are hoping to recruit mentors for their second year. Debbie Herr Cornwell offered her experience as a mentor; she mentioned that last year was the pilot year, but it was a great opportunity to connect with the students.

1:40 PM **Presentation on "A Local Government Guide to the Chesapeake Bay" Educational Modules—Laura Cattell Noll (Alliance for the Bay)**

This guide is a series of seven educational modules intended to inform and empower decisions at local levels. The modules are each under 30 slides and are designed to be customizable and shared alongside a one-page handout. The topics covered in the modules include information about nature-based strategies to achieving climate resiliency such as utilizing tree canopy cover and wetlands conservation.

Summary

Laura introduced herself and her position with the Alliance for the Chesapeake Bay and the Local Leadership Workgroup. She clarified the difference between the Local Leadership Workgroup and the Local Government Advisory Committee. The Local Leadership Workgroup focuses on local leadership outcome, which aims to increase the knowledge and capacity of local governments. This workgroup helps provide baseline knowledge about the Bay to decision-makers.

She introduced the Local Government Guide to the Chesapeake Bay, which is a series of 7 PowerPoints that are easily downloadable and editable. They are communication tools that can be tailored for the priorities. She started with a quick anecdote about a conversation she had with a councilmember who joined council as a means of advocating for the revitalization of their downtown, but quickly realized that much of their agenda dealt with stormwater. He wished that there was a guide or handout that he could have had that provided him with baseline knowledge about stormwater issues. This guide that is designed to fill needs like this. She discussed how

there are 1800 governments within the Chesapeake Bay watershed and that this guide is geared towards these decision makers to provide them with the knowledge. The guide is revisable and non-branded to tailor to regions and states to target local priorities. The guide focuses on four specific priorities and topics that are of importance to local governments throughout the watershed: economic development, public health and safety, infrastructure maintenance and finance, and education.

She highlighted the fact that climate and DEIJ did not have their own modules. This was intentional as they did not want these topics to be siloed into their own modules. Rather, the topics were built into all seven modules. The first two module topics cover base knowledge: how your watershed works (e.g. knowledge about the water cycle and Chesapeake Bay) and foundations of clean water (e.g. overview of laws and agreements protecting and restoring the Chesapeake Bay). The next five modules are more topic specific: clean water for the economy, which is about the economic values that the watershed brings to the communities; capitalizing on the benefits of trees, which covers the benefits and how to increase tree canopy; preserving local character and landscapes, which covers information about land use conservation and protection; protecting community infrastructure through stormwater resiliency, which covers how to manage stormwater and links stormwater resiliency to climate resiliency; and building the workforce of today and tomorrow, which highlights how communities can capitalize in the investment of the green collar workforce.

The modules contain learning objectives, actionable items, and additional resources to learn more. The actionable items can be tailored to fit the communities' specific needs. The modules also have reference sources so that individuals may reference the statistics and data from which these modules were developed. In addition to the modules, there is a one pager handout that covers the information in a succinct fashion.

Laura ran through a few example slides from the how your watershed works, clean water for the economy, and capitalizing on the benefits of trees modules to show the workgroup how the information is displayed for different topics of interest. She highlighted "climate connection" box that appears throughout the modules and connects the basic science presented to the climate implications, how natural resource statistics and data can be linked to economic impacts, and how tree canopy impacts many facets of the community and extends beyond just planting trees.

These modules are developed by the local leadership workgroup to help translate the technical information from subject matter experts so that local, elected officials may use the information in their decision making process. These modules have been used as conference panel handouts, presentation slides, handbook for local governments, a resource from a magazine article, and local government professional development course. To date, over 300 people have accessed the editable versions of these modules, they have been utilized in Delaware, Maryland, New York, Pennsylvania, and Virginia, and they have reached an estimated 1500 local, government officials and staff.

Discussion

Julie thanked Laura for presenting on these learning modules and requested the link to the editable modules so that workgroup members can access and utilize them. Julie then opened the floor to questions from the workgroup and interested parties.

Scott Phillips asked if there were any specific statistics about who is accessing and downloading the materials. Laura answered that the materials are available as PDFs widely on the workgroup page; they can see the number of people who have clicked on the materials but cannot see how many people download the materials. She mentioned that as of this past Fall, over 300 people have accessed the editable versions. Scott then follow-up, asking if there has been consideration to include other mixed media (e.g. podcasts or videos) alongside the modules. Laura responded by saying that some modules already have videos that complement the module materials. Laura also added that in an effort to make these modules editable and accessible for specific cases, they focused on providing materials in editable file formats.

Julie discussed how she appreciated how the climate themes were integrated into each of the modules. She mentioned how climate issues can become siloed, but through efforts like these modules, climate considerations can become second nature when examining a wide variety of topics.

Kristin Saunders asked if there had been consideration about what additional modules will be added in the next round funding. Laura mentioned that they have not decided yet, but has a short list that is running. She mentioned that there has been requests for a climate specific module but believes that the integrated approach is a good way of covering that material. The additional module topics will likely be after the local leadership workgroup meeting in May and LGAC meeting in June. Environmental health and agriculture have also been proposed as additional topics. Scott Phillips followed this discussion up with a question about considering a module covering how local governments can access state and federal funding (e.g. infrastructure law in particular). Laura did say it has been a topic that's been requested; she added that they did try to build in potential funding sources into each of the modules.

Julie asked if the workgroup members and interested parties, who work in the education field, had any other thoughts on how climate change has been integrated into the modules. Bart Merrick brought up that these modules would be helpful in the education field as they are making more of an effort to connect climate and the environment to policy. He also mentioned that there is already a lot of climate information out there to tap into, that it might be redundant to create an individual climate module.

2:10 PM **Presentation on the Targeting Outreach for Green Infrastructure (TOGI) in Vulnerable Areas Project—Briana Yancy (CRC)**

The goal of the TOGI project is to identify underserved communities in the VA, DC, and MD areas that are at risk from climate change impacts and have habitat conservation or restoration potential. The project utilizes targeting tools to select

potential locations that would benefit from green infrastructure. This presentation covered the lessons learned on communicating the benefits of green infrastructure to local communities.

Summary

Briana Yancy presented on the Targeting Outreach for Green Infrastructure (TOGI) in Vulnerable Areas project; this project was GIT-funded in 2019. This project was developed by the Habitat GIT. The goal of TOGI is identify three underserved communities that are at risk from climate change and that the habitat in those communities have conservation or restoration value. Once the communities were identified by the steering committee, the contractor hosted a green infrastructure workshop with community members as well as listening sessions. The listening sessions aimed to get community input on what their needs were, where the areas of concern were, and how this project could benefit them. The contractor then developed a concept design based on the identified needs; this was presented at the green infrastructure workshop for community input before the design was finalized. After the workshop they helped communities apply for funding opportunities to help get the concept designs off the ground.

Briana provided an overview of why they were aiming to increase green infrastructure in these communities. Green infrastructure provides benefits for both the environment and people including cost effectiveness, positive impacts on human health, beautification of the community, provides opportunities for education, and habitat and water quality improvement. She summarized this overview with a quote from Wendy Webber, a regional director for USFWS, "Traditional infrastructure projects perform best on its first day and begin to deteriorate over time. Green infrastructure's worst performance is on its first day but it continues to improve over time."

This project chose a targeted approach as a way of intentionally choosing locations that could benefit from habitat restoration and provide co-benefits to underserved and underrepresented communities. The project took a "people focused" approach, aiming to engage with community members and meet their needs, generating greater buy-in for the project and its maintained success after the initial implementation.

For community selection, the steering committee took a two tiered approach, with tier one focusing on sea level rise, flood hazard, 2019 percent low income, 2019 percent minority, aquatic core habitat networks, terrestrial and wetland core-connector network, and USFWS national wetlands inventory. Tier two focused on marsh migration zones, wastewater discharge, SAV abundance, brook trout probability of occurrence, and 2018 protected lands.

The first community selected was Cambridge, MD; there were already connections established in this community through other projects like Envision the Choptank. Additionally, sea level rise is a pressing issue in this community. And lastly, the percent of community members who are low income was a significant factor in choose Cambridge. The second community selected was Williamsport, PA for similar reasons as Cambridge; connections existed from previous work done in the community, there was a need for improved stormwater practices, and flooding is a

major concern in the community. The last community selected was Middle Peninsula, VA. Originally, they started working in just West Point, VA, as they were already working with the federally recognized tribes in that community, and it stood to benefit from green infrastructure.

TOGI was originally set to wrap up after the workshops and after the communities had the concept designs that they were happy with. However, a major obstacle in reaching that point was community engagement. This was apparent in Cambridge, MD during the first listening session, where the people in attendance were not representative of the community; a large portion of the attendants were from the Chesapeake Bay Program, so they did not get the community input that they hoped to gather. After regrouping and increasing community engagement and outreach, their second listening session was more representative of the community. Lessons from this project include ensuring that the right community partners are engaged early and often. Additionally, once the concept design was developed, the input and feedback from the community highlighted needs that were not originally addressed in the design; the community needs included recreational centers like a skate park and basketball court, so the design needed to include a mechanism to make these green.

The Williamsport, PA project initially started with one of the smallest steering committees, but has grown to have one of the largest ones; the community members, upon learning about the project, became engaged and took the lead. The steering committee members were setting up meetings with community leaders, like the mayor to keep him briefed about the project. Key lessons learned from this community were that community champions were key, consistent and direct outreach is important to generate support for a project, and its important to recognize the community/city as a stakeholder, especially throughout the infrastructure permitting process and while applying for grants.

For the Middle Peninsula, both the Mattaponi and Upper Mattaponi Tribes took interest in the project. Originally across all three regions, the project was just targeting one specific community, but the project was split into two separate communities as the each of the tribes are sovereign and have their own unique needs. The discussions focused around issues such as stormwater runoff and how green infrastructure can assist with building resilience to increased precipitation. The Mattaponi also focused on issues around shoreline erosion and stabilization. Building trust in this region was key; this was achieved through thorough outreach and presentations. It took a while for community members to support this project, especially since TOGI does not actually provide the funding for implementation. It was important to ground truth and conduct site visits with the communities to garner buy-in for the project. And lastly, they recognized that they needed to treat each community as individual with its own unique needs.

A main goal of TOGI was to increase equity and lead to environmental justice impacts. Throughout the project, it was realized that there was a need for increased funding and investment capacity to conduct this work. Each community needed different people and resources to achieve the same end goals. The expectation for the project was that this project

would generate excitement within the communities, but it was quickly realized that there had to be a lot of trust building to engage the community members.

This work took a significant amount of capacity as well, and the steering committee is a volunteer position. It took four steering committees (roughly 50 individual), an additional $20,000, especially since the Middle Peninsula communities were split between the two tribes, necessitating an additional listening session and workshop. Additionally, there was a Chesapeake Bay Program partner commitment that was above and beyond the scope of work and what was anticipated.

Briana provided an overview of the key takeaways from the project. Throughout the process, they realized that it takes more time, resources, and technical assistance to build meaningful relationships that lead to impactful projects. Additionally, the original project and vision was too short sighted; the needs of the communities required a greater capacity through additional funding to support grant writing, implementation, and stipends. It's important to understand that each community is different and that its and continuous individual and organizational commitment to do this work. Lastly, intent does not matter as much as impact. From the beginning, TOGI was a well-intended project, but if they did not seek out additional support to expand capacity, the impact would have not been as great.

Briana highlighted the fact that climate change is an important factor to keep in mind, as it will alter the way these projects are implemented, from the science that is being produced to the policies that are enacted. As we incorporate climate change considerations into these projects, it is important to think about how we can support and include communities that are often underserved and underrepresented and frequently bear the brunt of climate change impacts. Briana highlighted the book, "Revolutionary Power" written by Shalanda H. Baker, which focuses on how we can embed justice-oriented actions as we transition to cleaner energy; this book provides thoughtful insights to how we can address climate change through justice-oriented actions as well.

Discussion

Julie thanked Briana and opened the floor for questions. Kevin Du Bios asked if, in the Middle Peninsula, while meeting with the tribes, was there any discussion about the other CBP projects and programs (Wetlands Workgroup GIT Funded Marsh Migration Project and NOAA Fish Habitat Area) that could have a bearing on their property and for their members. Briana responded by mentioning that the steering committee for the Middle Peninsula had representatives from NOAA who were working on these other projects. Julie mentioned that the Middle Peninsula is aiming to be a habitat focus area for NOAA, which can bring in some potential opportunities to the region; NOAA has been engaging with the tribes on this project to gain a better understanding about their lands and their needs. Briana mentioned that the Mattaponi have a hatchery on their land. Kevin also mentioned that from the presentations he's heard from tribal members looking to engage with the green economy, he believes that the tribes would be a great place to look into building a native wetland plant nursery; one of the limiting factors for living shorelines is that there is not enough growers for the native plants

that are needed. It would be a great focus area and aligns with the tribe's philosophy about nature. Elizabeth Andrews followed up in response to Kevin, saying that there is interest from the tribes to do this work. VA Sea Grant and VCPC submitted a grant to do this work but did not receive it. She requested if anyone knew of funding sources for this work, it would be appreciated. Kevin mentioned that there might be funding through the infrastructure law. Julie agreed that it would be helpful to look into the infrastructure law as well.

Darlene Finch asked if stipends were provided to tribal members for participating in the planning effort. Briana responded that stipends were not provided to the tribal or community members that participated as it was not written into the grant, and they were unable to get extended funding for it. She would say that no participants asked for stipends, but that is not to say that they will not be available for future projects. She did mention that there was value for the community members in having these concept designs developed. The overall benefit from the project accounted for not being able to provide stipends.

Nicole Carlozo inquired about how the tribal members were engaged, and if there were existing relationships with project partners or did the team have to start from scratch. Julie did mention that this was a challenge for the steering committee; there was some difficulty in trying to engage with the right partners and find a community that would be interested in participating in this project. The steering committee did some with the York River Roundtable and Elizabeth Andrews was able to connect with the tribes through emails, as she has worked with the tribes in the past. Briana mentioned that getting the community participation for the Middle Peninsula took the longest. The project originally included the Pamunkey Tribe as well, but because of the lack of implementation, they withdrew from the project. They have been interested in seeing the results for the other communities and are staying connected for future opportunities. Briana mentioned that with these projects it's important to understand the burden that communities take on as well. Julie added that for the GIT funded project that recently was funded for building partnerships for marsh adaptation, there is a request to dedicate some of the award for stipends for participating. Briana added that stipends might not be the most beneficial way of compensating time and effort, so it is important to understand what would be of value for participants.

Joe Galarraga inquired as to whether anyone has looked into the Justice40 initiative as a means of funding. Joe expanded on what Justice40 is, which a part of the Biden Executive Order on climate change and environmental justice. The project is looking to take 40% of all benefits from green infrastructure and economy projects and put them into underrepresented and underserved communities. He mentioned that it could be a viable funding mechanism for projects like these. Briana mentioned that they have not looked into Justice40 for funding this work, since they are waiting to see how the infrastructure law funding is allocated, however Justice40 is something on her radar. Julie thanked Joe for bringing that up and mentioned that the next step for this project is to find funding for the implementation of the concept designs that were developed.

2:40 PM **Presentation on the Diversity Dashboard and Climate Resiliency Tools—John Wolf (USGS)**

John Wolf presented the Chesapeake Bay Environmental Justice and Equity Dashboard and related Climate Resiliency Tools, including how to access and use them to determine areas that could result in co-benefits from climate resiliency actions. Request: CRWG feedback on these tools.

Summary

Julie introduced John Wolf and briefly mentioned his work developing the Environmental, Justice, and Equity Dashboard. John explained that his presentation today would follow-up on what he presented to STAR earlier in April as well as highlighting some targeting capabilities that he has created through this dashboard. The dashboard was originally conceptualized in 2015/2016 with the Diversity Workgroup and their interest in an EPA tool called EJScreen: Environmental Justice Screening and Mapping Tool. The Diversity workgroup was interested in building a similar tool for the Chesapeake Bay region and utilizing the information produced from the Chesapeake Watershed Agreement. The effort to initially develop this dashboard aimed to create a tool that combined the graphic data from EJScreen with Chesapeake Bay specific information specifically public access, climate resiliency, and toxic contaminants.

Over the past few years, the scope of the project has expanded in large part to the Diversity Workgroup and their initiatives. The Dashboard now aims to incorporate environmental justice considerations into many of the other outcomes in the Watershed Agreement. It seeks to answer the question, "How can we develop environmental justice indicators for the other outcomes?"

John then explained the four tabs at the top of the dashboard (i.e. demographic, socioeconomic, environmental, and programmatic) is where the bulk of the information is discussed. All the topics are organized the same way; he showed the demographic module, which includes data from EJScreen. He explained that the applications gallery link is an easy way to get to the content on each of the topics. For the environmental justice metrics (within the demographics topic), they are census based and they are aggregated to census block groups. He mentioned that these aggregations are typical to what is seen in the other modules when combining environmental justice metrics with other outcome information. He showed an example for the demographic data, which showed percent people of color per census block; areas that were in the yellow, orange, and red indicate those in the top 20% (80^{th} percentile) for that metric. The socioeconomic topic has additional information beyond the demographics that highlight whether a population in vulnerable or if there are particular opportunities for implementation. The environmental topic is where there is a lot of activity as it displays the application of environmental justice metrics to inform the outcomes. There are about ~10-12 outcomes included in this topic, with input from the Diversity Workgroup on what to include. They also included other key datasets that are relevant to the specific outcomes.

The Climate Resiliency Outcome has not been updated recently but still include many of the core datasets that are relevant to that outcome. Under this GIS web application, datasets from EJScreen, as well as ones pertaining to the Climate Resiliency Outcome like flood hazard areas can be displayed simultaneously. Other datasets in the climate resiliency tool include Maryland storm surge, sea-level rise, and urban heat severity. Following this explanation, John explained that one of the reason's he was presenting was to receive input on other relevant datasets that may be included in the climate resiliency tool.

The last part of the Dashboard he reviewed is the Programmatic Module. This deals with implementation and where projects are occurring. He showed the Target Outcome for Green Infrastructure project as an example; the web application displays where these projects are ongoing.

The next portion of the presentation reviewed the Accelerated Conservation and Restoration effort, which is fairly recent. This effort aims to demonstrate how targeting projects is important at this time. The reasons include the fact that some of the outcomes are behind on progress, and targeting can help in outcome attainability. Another reason to utilize targeting is to judiciously use the new funding increases from sources like the infrastructure law. Targeting is a scientifically-based and geographically focused way on choosing locations for implementation. This page aims to provide access to information and tools that helps with targeting these efforts. These tools are arranged around four main themes (i.e. water quality improvements, coordinate habitat restoration, expand land conservation, and increase benefits to people), with climate resiliency being a cross-cutting factor throughout all other themes. The site is organized around these themes, with climate integrated across them. The structure of the four tabs is similar with a decision tree that helps identify a particular tool that would be relevant based on what is needed. It is intended to be a portal to different tools, based on different topics. He reviewed the tools within the water quality, habitat restoration, land conservation, and increased benefits to people tabs; he explained that these tools are typically tied to a specific outcome, but they are working on linking cross-cutting issues like climate resiliency into the various tools. Within the increased benefits to people tab, there is a specific climate resiliency tool, which has links to the dashboard mapping application as well as the Nature Conservancy (TNC) Mapping tool. TNC's tool examines the resiliency of landscapes under different climate change scenarios. The other tool in this tab is the dashboard mapping application; in this application, they include the national flood hazard layer, SLR inundation, urban heat, Maryland storm surge, and EJScreen demographic indicators. It is also linked to the TNC tool. This portal is customizable to key datasets that are relevant to the Climate Resiliency Workgroup. John has mentioned that he welcomes comments and feedback from the workgroup on how this tool can be enhanced.

John created a story map of four use-cases for this meeting to show how the climate resiliency tool can be utilized for management purposes and targeting. He mentioned that he was interested in feedback about whether these use-cases were relevant to the climate resiliency workgroup and their supported projects. The first use-case displayed percent tree canopy, from land-use/land cover (LULC) data, aggregated into census block groups in Baltimore. While

interesting on its own, he then overlaid the urban heat islands data from NOAA, to look at temperature anomalies relative to the city as a whole. This gives an understanding about areas that are particularly hot and may have a lack of tree canopy. He then pulled in demographic data, which displayed percent people of color, from EJScreen, per census block, to see which areas might be dealing with urban heat islands and also have a lack of tree canopy. And lastly, for this use-case, he also showed tree canopy change from 2007-2015, to show where tree canopy has been gained or lost. This is useful for the climate resiliency workgroup, as it may help in targeting where project implementation can occur.

The second use-case focused on wetlands. The first layer displayed shows the tidal and non-tidal wetlands distribution for Dorchester County, MD, using data from the National Wetland Inventory. The he then displayed the wetland preservation scores for the wetland areas of Dorchester County, which is data pulled from the Maryland Water Resources Registry. This layer shows the prioritization of the wetlands in the county for protection. Then, he displayed marsh migration zones using data from NOAA, to show not only the wetlands identified for protection, but undeveloped, upland areas that can be protected for future marsh migration. To focus on environmental justice, he showed age data gathered from the census, to display vulnerable populations, like the elderly. Finally, taking it one step further, he showed what properties within areas of elderly populations are most likely to be vulnerable to climate change. This helps identify properties that could benefit from wetlands protection. He also showed the Wetland Restoration Score, gathered from the Maryland Water Resources Registry, which indicates which areas would benefit the greatest from restoring wetlands. He also showed how this restoration score could identify areas of prioritization that also align with communities of color or communities, areas that have a higher percentage of individuals with less than a high school education, or areas that have a higher percentage of low-income households.

The third use-case examines public access; by 2025, there is a goal to add 300 new public access sites with a strong emphasis on providing opportunities for recreation. In this example, he first displayed the existing public access sites along the Rappahannock River. He then displayed where those access sites align with low-income populations. He then showed the potential sites for new public access as identified by the parks service in 2013. And finally, he brought in climate variables like coastal flood vulnerability. This helps users target areas that would benefit from a public access site, within low-income communities, and are not vulnerable to coastal flooding.

The final example examined the Watershed Implementation Plans (WIPs) for stormwater. John first displayed the most effective basins (identified by the Chesapeake Bay Program), which are watersheds that have the greatest impact on the dissolved oxygen of the Chesapeake Bay. He mentioned that funding is going towards supporting these basins. He then looked at areas that would have a local water quality benefit, focusing around Harrisburg, PA. He highlighted 303d impaired streams in this area. He added a layer than indicates areas where MS4 permits apply in the region. This example shows how stormwater projects can be targeting areas that will have both local impact and also support the most effective basins. He overlapped regions with

higher people of color within the MS4 layer, so that these projects can also target populations that are historically underserved and underrepresented. And finally, he showed the areas that have a higher flood potential, so that these projects can also have a climate resiliency benefit.

Through this presentation, he showed how this tool can be used to identify multiple co-benefits across various outcomes. He is also hoping that the CRWG can provide feedback on what other variables might be helpful to integrate into this tool as well as identify if there are other existing datasets that are not already included.

Discussion

John opened the meeting for discussion by first asking if Scott Phillips would like to add anything about the work that has been done. Scott stated that he thinks that John covered the tools well; he reiterated that since climate is cross cutting, it is beneficial to have climate in each of the modules. He stated that this is a good first step in building climate into all of the goals at the Chesapeake Bay Program.

Julie thanked John for presenting; she underscored how great it was to see the use-cases that John presented as a means of visualizing how these tools can be utilized. Julie stated that the use-cases story map can be sent out after the meeting for members who could not attend the meeting. This would allow for anyone in the CRWG to provide feedback on these tools (i.e. do they make sense, are they covering the right information for targeting climate resiliency or adaptation projects, and is there any other data sets or information that can be integrated). She proceeded to then ask the members and interested parties in attendance if they had any feedback.

Kevin du Bios brought up how the Total Maximum Daily Load (TMDL) work focuses around agricultural land and was wondering if there was an overlay that looked at underserved and underrepresented communities and agricultural land, which could be utilized when targeting projects that sequester carbon. John responded by saying that there is not currently a specific tool where agricultural land and underserved and underrepresented communities are on the same viewer, but he could add those data into the climate resiliency tool. He mentioned that there are agricultural pieces in more of an aggregate form in the tool, but stated that he could add agricultural land-use into it. Kevin followed up by stating that it would help focus the money that is allotted to those communities for enhancing conservation practices.

Scott Phillips brought up the work produced by the USGS Woods Hole Team. The team has created a climate change and coastal hazards portal for the Northeast US and are interested in working with the CRWG. They might have some supporting data sets that could be integrated into the Climate Resiliency tools, specifically data on coastal habitat. Julie followed up by saying that it would be great to meet with them and potentially have them present at the June CRWG meeting.

Julie was curious about the public access use-case, specifically when displaying the SLR data. This use-case may also show areas that have public access already but are at risk of SLR

inhibiting that access. John mentioned that while looking at the use-case, it appears that some of the access sites are already cut-off from a greater transportation network.

Julie added that AdaptVA, developed by VIMs, has some interesting data that could be integrated. There are some interesting jurisdictional tools, including an application that examines the vulnerability of structures to coastal flooding, and how nature-based features could be implemented to protect those structures. John agreed that these would be interesting to include; the initial approach was to integrate tools that were watershed-wide, but are moving towards providing some access and direction to the regional tools that have been developed.

Scott underscored Julie's point, saying that there are a lot of tools that local governments have. He mentioned that the local governments are the decision makers "on the ground" so this Dashboard can be a means of providing them with these bay-wide tools to supplement what they are already using. He stated that they are hoping that this will not be a top-down way to make decisions, as they need to be locally based decisions. He is hoping for suggestions on how to present these tools as a way of supplementing the regional and local tools that already exist to decision makers. Julie did mention that this would be helpful for regional decision-makers when targeting areas for new projects, citing the TOGI example and how it can be used to find communities that would benefit from green infrastructure.

Darlene Finch recommended looking at the project intensity-duration-frequency (IDF) curve data tool for the Chesapeake Bay watershed and Virginia. This tool was a GIT-funded project with the Rand Corporation through the Urban Stormwater Workgroup; a few CRWG members participated on the steering committee for that project. This could be an interesting set of data to look at and potentially integrate into the Climate Resiliency tools.

Joe Galarraga commented that recently the MD EJScreen Tool received funding from EPA region III to update their tool with rural indicators; the project is still in development. He mentioned that this comment was in response to the discussion about agricultural lands. This tool is localized and can be potentially used in conjunction with the watershed-wide tools presented for decision-making.

3:20 PM **Wrap-up and announcements**

Workshops, forums, and conferences:

- **April 29, 2022**: Committee on Earth Observation Satellites Coastal Observations Applications Services and Tools (CEOS COAST) Workshop. Registration now open. Product demonstrations and conversations with users include topics on flooding and hazards, coastal eutrophication and sediments, bathymetry, and coastline mapping. You can find out more about CEOS Coast here. Free and Virtual.

- **June 6-8, 2022**: Chesapeake Research Consortium's 2022 Chesapeake Community Research Symposium. Register here. Attendance either in person or virtual.
- **June 21-23, 2022**: Mid-Atlantic Fishery Management Council's East Coast Climate Change Scenario Planning workshop. Applications are due **April 18, 2022**. Apply here.
- **October 25-27, 2022**: EcoAdapt National Adaptation Forum in Baltimore.

Funding Opportunities:

- Sea Grant is accepting applications for their FY 2022 Sea Grant Coastal Adaptation and Resilience grant. This grant aims to support activities such as engagement, research, education, technical assistance, decision support, training, project implementation, and partnership coordination and collaboration to help address community adaptation and resilience needs. Proposals are due **June 8, 2022**. More information can be found here.
- The Bureau of Indian Affairs Branch of Tribal Climate Resilience is accepting proposals for their FY 2022 Awards Program. This award will support programs conducted by federally recognized Tribes and authorized Tribal organizations focusing on 1) Tribal climate resilience planning and strategy implementation and 2) ocean and coastal management planning. Proposals are due **July 6, 2022**. An informational webinar is being hosted April 25, 2022. More information can be found here.
- The National Oceanic and Atmospheric Administration is accepting applications for their Planet Stewards award program. This award supports educators in carrying out hands-on stewardship projects with elementary through college age students, as well as the general public. Applications are due **June 5, 2022**. More information can be found here.

3:30 PM Adjourn

Attendance: Adrian Dascalu, Ben McFarlane, Cassandra Davis, Darlene Finch, Debbie Herr Cornwell (MDP), Elizabeth Andrews, Gopal Bhatt, Heidi Bonnaffon, Jennifer Starr, Jessica Rodriguez, Jeremy Hanson, Jim George, Joe Galarraga, Joel Carr, Kate McClure, Kevin DuBois, Kristin Saunders, Mel Throckmorton, Nicole Carlozo, Nora Jackson, Paige Hobaugh, Scott Philips, Sean Corson, Sophie Waterman, Susan Minnemeyer, Taryn Sudol, Briana Yancy, Zoe Johnson, Julie Reichert-Nguyen, Jamileh Soueidan, John Wolf, Alex Gunnerson, Amy Goldfishcer, Breck Sullivan, Bart Merrick, John Denniston, Matt Konfirst, Mark Bennet