Climate Resiliency Workgroup Conference Call

Monday, November 18, 2019
1:30 PM –3:30 PM Full Workgroup
Meeting Materials:
https://www.chesapeakebay.net/what/event/climate_resiliency_workgroup_november_2019_conf_call

Actions

Action: Compile ideas from CRWG on land-use climate considerations to send to the Land Use Workgroup

Action: Kevin mentioned that social marketing consultation session for the GIT funding project will be held on the Jan 21. Julie will talk to Rachel about that date

Minutes

1:30 **Welcome, Introductions & Announcements** – (Co-Chair Mark Bennett, USGS and Co-Chair Erik Meyers, The Conservation Fund)

1:40 **Coordination Updates – (Julie Reichert-Nguyen, NCBO)**

- Fish GIT thanks CRWG for leads on climate/fish-related projects. For now, they have decided to focus on oyster-related climate discussions during a session at their Jan 7-8 meeting
- Planning cross-GIT/workgroup meeting in early new year to focus on the connections between climate indicators and other goal indicator needs (possibly a joint meeting with STAR)
- CRWG membership poll coming soon to understand members' interest on the Workgroup before mid-December
- Marsh Resilience Summit Proceedings—Interest in webinar
- Proposed date for Jan 2020 meeting: 1/21/20 (Tuesday)
- Rebecca reminded workgroup members the signup link is available on CRWG webpage.
- GIT Funding RFP was released and the deadline to apply is Thursday 4 pm December 12th.

2:00 **Discussion and Input on New Land Use Subclasses**

The Land Use Workgroup is looking for input on proposed subclasses that can help inform non-TMDL objectives. This discussion will focus on providing input on the proposed subclasses from a climate perspective and suggestions on ones that may be missing (e.g., subclass of rooftop area to assess potential solar panel installation). View this exercise as a wish list. The Land Use Workgroup will evaluate whether it is possible with current data/information. Peter Claggett is planning to attend to help with the discussion. Additional materials listing the

identified climate change indicators of interest and climate impacts of concern will be provided to help with the conversation. Input needed on the following:
  - Are the proposed subclasses "essential," "useful," "not useful," or "don't know" related to incorporating climate change considerations?
  - Any additional subclasses needed? Provide rationale.
  - Julie also presented feedback from Workgroup members who could not be able to participate at the in-person meeting.

- Kevin recommended under climate impacts tab, breaking out stormwater flooding into two categories: stormwater due to precipitation and tidal flooding.

- Discussion on **wetland category**:
  - Gopal recommended workgroup to add non-tidal wetlands as well, since wetlands are not a static land use and its extent and health (or function) change due to various factors/stressors including climate. Furthermore, often it is the case that its extent is not well resolved, for example, National Wetland Inventory (NWI) is known for underestimating wetland areas. So it would be good to know how we are improving the mapping of wetlands and quantification of its ecological functions as well as how they are expected to change with future climate.
  - Mark added that tracking wetland overtime for the planning perspective would be valuable at the bay program.
  - Peter responded that currently there are categories for nontidal wetland which are "floodplain wetland" and "other wetland". Also, they use both NWI and state data to estimate wetland areas. PA have done some probabilistic work to predict where the wetland is but not actual survey.
  - Kevin pointed out that Habitat Workgroup discussed under mixed open there is bare shore for marine and estuarine but this fits the definition of wetland. Mark recommended bringing this issue to wetland workgroup.
  - Bruce added that it would be helpful to consult with Taryn Sudol who is with the Chesapeake Sentinel Site, and Dan Murphy and Julianne Rosset with Fish and wild life landscape conservation cooperative, and Jennifer Greiner with Habitat GIT can help with connecting with them.
  - Peter commented that the dynamic tidal influence will not be captured by the imagery since he has no control on when the images have been gathered. He added mapping retreat zone next to different land types (agriculture, cliffs) is possible. He mentioned that CRWG can possibly review the wetland change information during the first three months and provide recommendation on how this information can be presented.
  - Katie asked where forested wetland show up currently in NWI. Peter responded that forested wetland will be under either floodplain wetland or other. This will be flagged by land use.
  - Ashley recommended separating out the type of wetland to assess the wave energy or extreme weather event impacts for resiliency purposes.

- Peter mentioned what they can possibly do is tree to herbaceous. For this time, the forest would be also be categorized into deciduous and evergreen. We can add category based on forest to wetland or tree to wetland.
- Kevin recommended adding shrub wetland and grass wetland from erosion control standpoint. Peter will need to double check if shrub wetland can be picked up with 2-meter resolution.
- Nicole asked if phragmites mapping is included in this project. Peter responded no because it is difficult to map subtle gradience.
- Julie summarized that it sounds like differentiating tree, shrub, and grass wetland type would be possible at the current stage and maybe identification of wetland plant species for future research consideration.

- Discussion on **shoreline layer**
  - Bruce mentioned that Fish GIT is interested in developing shoreline layer (harden or natural). He added that VIMS has done shoreline surveys in VA, and ESI's assessment is more related to oil spill.
  - Kevin added that the current shoreline condition often come up during permitting decision-making process so we may not need to redo the work.
  - Ashley added that Maryland shoreline mapping was done in 2008 and only western shore was updated recently which are located on Maryland iMap.

- Discussion on **mapping areas that are prone to flooding**
  - Erik mentioned his interest in mapping areas that are prone to flash flooding. Peter responded that it is mappable to overlay land use layer and tight convergence to pin point areas that are susceptible to flooding but the resolution won't be too detailed.
  - Terrain/elevation could be used to help identify high risk communities.
  - Citizen mapping of tidal nuisance flooding with LIDAR. Look into SLAM model output.

- Discussion on mapping **forest land with burnt marks**
  - Katie asked if imagery can be used to identify burnt areas.
  - Peter responded there is a national dataset available and will only show up if is 10 or 20 acres big, which is updated annually. He added this information will be helpful when predicting forest areas net loss and during natural session process how much of area that are not growing into forest. Katie added under climate change, some tree species will grow faster, and others will be impacted negatively.

- Additional discussion:
  - Peter was asked if he can identify oyster reef. Peter responded that they cannot produce reliable maps since the imagery is under the influence of sunlight.
  - Breck asked if Peter can identify where substations and transformers are located especially where sea level rise is likely because this could affect electrical

suppliers and disrupt distribution to consumers. Peter responded that he would need point data to do that (imagery resolution not fine enough to detect).

- Member asked whether parking lots with solar panels can be detected. Peter answered they can capture solar arrays above parking lots, but can't detect solar on roofs (can detect roofs for roof area). Also can't detect green roofs well.
- Cuiyin asked if mapping storage locations of high toxic materials are possible, which can be helpful when determining the potential impact of sea level rise. Peter would need point data for this, which may not be available due to security concerns.

Meeting Participants:

Jeremy Hanson
Cuiyin Wu
Breck Sullivan
Cassandra Davis
Katie Matta
Ashley Gordon
Katie Brownson
Mary Gattis
Nicole Carlozo
Rebecca Chillrud
Marj Bennet
Lindsey Byron
Kevin Du Bois
Krista Romita Grocholski
Peter Tango
Melissa Deas
Kate McClure
Julie Reichert-Nguyen
Peter Claggett