Urban Stormwater Workgroup Meeting
Meeting Minutes
Tuesday, June 16, 2020
10:00 AM to 12:15 PM
Meeting page link

Summary of Actions and Decisions

Action: the USWG delayed approval of the May meeting minutes till July.

Action: Hilary Swartwood will send out the questions from RAND to the USWG with a request for feedback.

Meeting Minutes

10:00 Welcome and Review of May Meeting Minutes.
Norm Goulet, Chair. Attach A.

Action: the USWG delayed approval of the May meeting minutes till July.

10:05 Announcements and Updates

- ICR Update
- Stream Restoration Master Doc
- Comments on G4 Stream Memo Due June 19th
- Forestry Workgroup GIT Funding Proposal

10:20 Projected IDF Curves for Chesapeake Bay Watershed
(TBA) RAND

RAND will introduce the scope of work for their project to develop downscaled IDF curves for the Chesapeake Bay Watershed. This kickoff discussion will provide workgroup members the opportunity to ask questions and provide feedback on specific information needs and tools to help disseminate results.

If interested in learning more about the MARISA program/ have any questions:

- *MARISA Webpage: https://www.midatlanticrisa.org*
- *Krista Romita Grocholski's Email: kristarg@rand.org*

Papers that may be of interest to the group:

- *Lopez-Cantu, T., & Samaras, C. (2018). Temporal and spatial evaluation of stormwater engineering standards reveals risks and priorities across the United States. Environmental Research Letters, 13(7), 074006.*
- *Cook, L.M., McGinnis, S., Samaras, C. (2020). The effect of modeling choices on updating intensity duration frequency curves and stormwater infrastructure designs for climate change. Climatic Change. 159, 289–308.*
- *Lopez-Cantu, T., Prein. A., Samaras, C. (2020). Uncertainties in Future U.S. Extreme Precipitation from Downscaled Climate Projections. Geophysical Research Letters. 47, e2019GL086797*
- *Open Links to above papers here: https://www.costasamaras.com/climate-change-adaptation*

Discussion:

Lew Linker: I think we need more information for the project outcomes. The proposed outcome is station specific IDF Curves, I think what would be better would be county IDF curves so they can draw information from different stations. We should also consider that the observed data has standing.
Art DeGaetano: I think what you will hear from us is something similar to this.
Chris Swanson: Art, in your presentation, you talked about the different ways they have adopted this work, could you summarize those different ways and how they embedded that work for future efforts?
Art DeGaetano: NY has been slow to come out with any guidance statewide. As far as I understand their intent, they are probably going to suggest for x and y use this data. NYC has adopted this work in a similar way for their city guidance for stormwater projects. The have taken a different approach in their design steps by saying how might you avoid runoff getting into the landscape. They are looking more holistically and figuring out multiple ways to achieve their goal for decreasing runoff from excessive rainfall.
Neil Weinstein: Is it practical for people to compare systems? Are you going to look at much shorter intensities?
Art DeGaetano: I will say yes and no, except for CODEX all the data available is on a daily scale. There is evidence in the daily record that storms are getting bigger, this is from the observed data. When we observe the hourly data, we see less of a change compared to the daily data. The meteorological cause is very different at least in the observed record. We plan to look at that in this project and we will look at this newest CORDAC data and see what we can do now compared to the past (i.e. how is the hourly different from the daily record?) The other thing we have also seen through time is that even when TP40 was published there was always a conversion to go between different scales and in my opinion that conversion has been remarkably stable. There has been pretty much the same adjustment between hourly to daily.
Jason Papacosma: can you speak to any work on the choice of rainfall distributions to use for design storms (e.g., NRCS type II)?
Art DeGaetano: We have seen that there has been a move away from that type of distribution but we can look at it from a point by point basis. If we look at the data based on a point basis instead of the Type II curve, there isn't much of a difference.
C. Maran: Art, how do you see the new CMIP6 data being incorporated into these studies in the future? Do you have any anticipated analysis on how the new global climate results can influence?
Art DeGaetano: We are at the wrong time to be doing this type of work, but I am hoping that when this data comes online, it won't be much work to access that data to look at it.
Costas Samara : We are going to see new science and excited to get to incorporate it into our work.
Art DeGaetano: There were subtle difference between CMIPs so it will be interesting to see if those models have less bias in their historical data.
Lew Linker: One of the themes of the presentation is that we are all learning together. The county level allows us to apply this information at the place of implementation and gives us the proper stance in the program to be able to use this tool in each state and district.
Michelle Miro: By county level are you suggesting a county level view on the website or county level average for precipitation?
Lew Linker: Good question- I think there are different approaches that could be considered and I don't have a strict answer.
Katalina Merin: They had 14 stations to compare climate data sets and, in the end, when they compare data sets, we noticed there was not a difference between the stations and adopted an average changing factor for the county.
Neely Law: To what extent may data collection efforts source local climate data if these data met quality criteria?
Michelle Miro: we can get a local record of local climate data. There is a procedure that NCC uses to ensure quality.
Art DeGaetano: I'm intrigued if there is data out there or a tool out there that has maintained this data over time. It would be interesting to grab this data to fill in the gaps in the NOAA data. Definitely follow up with us and we can see if we can incorporate it into our research.
Jon Butcher: The proposal is to generate 2-yr through 100-yr events. This is fine for conveyance but depending on jurisdiction, the design of water quality BMPs is often based on 1-yr or 90th percentile events. These are important for CB water quality planning but requires somewhat different statistical techniques.

Norm Goulet: It will be exciting to see what Jon and Michelle come up with and be able to compare and contrast.
Art DeGaetano: When they do that Jon, are you just looking at the empirical record or is there is statistical distribution? We are using JEB.
Jon Butcher: It would be worth looking at this type of distribution.
Michelle Miro: We have your technical paper that we are going to reference.
Norm Goulet: I'd like to hear from our technical folks- what would you like to see from this project?
Jen Cobb: If we have several different numbers out there then it may be more subject to discretion. I would prefer one set of numbers for the entire county unless there is a huge disparity from one side to another.
Randy Greer: The one value per county is what DE is looking for.
Jason Papacosma: do you pick a line within the spread and just go with that or how do you deal with that? I have more questions than answers at this point.
Kate Bennett: I think I would need a check to make sure there aren't any variations across the county. One number would be best, but I think there should be a check for differences within large jurisdictions.
Art DeGaetano: When you say one number for the county, I want to be clear on what that number is. What I am hopeful is that it is an adjustment factor. It would be ATLAS 4 plus x amount inflation for the county. The more I think about it, and if we could do that math, it could be the value. If that was the case, it would be nice to replicate the approach from DE.
Ann Phillips: Yes. Our ATLAS data is quite out of date in the Atlantic, in addition to that there is a great need to understand predictive IDF rainfall conditions. It is very important for our transportation and environmental departments. My only challenge is that this is only for the CB watershed and that leaves out a big section of VA. Definitely a great need for this work, probably one of our most critical needs.

Questions:

Is the USWG okay with our shift in time periods of interest for producing IDF curves? Any challenges or concerns?

Lew Linker: I think 10 years from now the information will change again. Increments of time should be the focus and not out to the end of the century.
Michelle Miro: To clarify, we are still using those increments.
Art DeGaetano: I would advocate for this approach because it allows us to look at data for a bigger chunk of time. I think looking at longer time periods allows you to 1) get decadal difference and if you only look at 30-year period you miss that variation; and 2) this would allow us to acknowledge the cyclical nature of this information.
Lew Linker: Yes, a focus on the 50 year period of say, 2020 to 2070 would be much better.

Action: Hilary Swartwood will send out the questions from RAND to the USWG with a request for feedback.

11:15 STAC Synthesis Project: A Review of Chesapeake Bay Climate Change Impacts and Uncertainties. Zach Easton and Emily Bock, Virginia Tech

Zach and Emily will introduce their STAC Synthesis project that is seeking to address the following questions:

1. How do climate change and variability affect nutrient/sediment cycling in the watershed?
2. How do climate change and variability affect BMP performance?
3. Which BMPs will likely result in the best water quality outcomes under climate uncertainty?

Discussion: no comments at this time.

11:35 Climate Resiliency Workgroup Updates and Ongoing Work
Julie Reichert-Nguyen, NOAA

Julie will describe the Climate Resiliency Workgroup's ongoing initiatives including development of indicators for tracking climate resilience efforts across the Bay Program partnership and a GIT-funding project to develop a Bay-wide scorecard to track climate resilience in watershed communities.

A publication that may be of interest on climate change impacts on stream health:
https://onlinelibrary.wiley.com/doi/epdf/10.1111/gcb.14961

Discussion:
How did you decide if it is short or long term? Julie Reichert- Nguyen replied that a lot of it had to do with what data was available for that particular indicator.

11:55 CSN Climate Resilience in Urban Stormwater Management Project Update
David Wood, CSN

David will provide an update on CSN's ongoing work to synthesize current research and management to address the climate resilience of stormwater infrastructure and restoration practices.

Reminders:
- Provide feedback for G4 Stream Memo by *June 19th*
- There will be no meeting in *August*

12:15 Adjourn

Call Participants

Hilary Swartwood, CRC
Norm Goulet, NOVA
Tom Schueler, CSN
David Wood, CSN
Allie Wagner, NOVA
Meredith Upchurch, DOEE
Nathan Forand, Baltimore County DEPS
Cassie Davis, NYSDEC
Lisa Beatty, PA DEP
Alana Hartman, WV DEP
Sebastian Donner, WV DEP
Dave Montali, Tetra Tech, Co-chair Modeling WG
Christine Lyerly, MDE
John Dennis, MDOT
Heather Gewandter, City Rockville
Kate Bennett, Montgomery County
George Onyullo, DOEE
Karl Berger, MWCOG
Elaine Webb, DNREC
Randy Greer, DNREC
Ruth Minich-Hobson, VA DEQ
Arianna Johns, VA DEP
Chris Swanson, VDOT

Scott Crafton, VDOT
Ann Phillips, Office of the Governor of VA
Katherine Fillippino, HRDPC
Jon Butcher, Tetra Tech
Jeff Sweeney, EPA
Julie Reichert Nyguen, CRWG
Cuiyin WU, CRC
Breck Sullivan, CRC
Jeremy Hanson, VT
Kristin Saunders UMCES
Kevin Du Bois, DoD
Ginny Snead, AMT
Adriene Kotula, CBC
Lew Linker, EPA CBPO
Emily Bock, Tetra Tech
Teresa McBride, Arlington County
Jason Papacosma, Arlington County
Ginger Ellis, MDNR
Shannon Mckenrick MDE
Katheryn Barnhart, EPA
Mary Gattis, Bay Journal
Sara Lane, UMCES MDNR
Selaam Dollisso, CRC
Shalom Fadullon, CRC
Steve Bieber, COG
Vanessa Van Note, CBPO
Zack Easton, VT
Allen Brockenbrough, VA DEQ
Amy Winedter, CBT
Katalina Merin, CWD
Jen Cobb, Henry County
Heidi Bonnaffon, MWCOG
Art DeGaetano, Cornell University
Jim George, MDE
Nicole Carlozo, MDNR
Elaine Webb, DNREC
Alex Foraste, VDOT
Neil Weinstein, LID Center
Amanda Katherine Rockler, UMD
Ashley Gordon, HRPDC
Caroline Harper, MDNR
Catie Torgersen, Fairfax SWPD
Charles Hegberg, PA DEP
Jennifer Smith, MDE
Jackie Richards, Kent County

Jay Ruffa, Crater PDC/ VA DEQ
John Denniston, MDOT
Lisa Ochenshirt, AquaLaw
Lisa Wainger, UMCES
Matt Meyers, CWP
Michelle Miro, RAND
Krista Romita Grocholski, RAND
Costas Samara, Carnegie Mellon University
Natalia Sanchez, UMD
Richard Tian, UMCES
Sadie Drescher, CBT
Sophia Grossweiler, MDE
Stewart Comstock, MDE
Whitney Katchmark, HRPDC
Jessica Rodriguez, DoD

Affiliation?
Diron Baker,
Paul Bernhard,
C. Maran,