



Integrated Monitoring Network Meeting

Wednesday, June 19, 2019
1:00 PM –3:00 PM Full Workgroup

Conference Line: 929-205-6099 Meeting ID: 250-543-220

Webinar*: <https://zoom.us/j/250543220>

Meeting Materials:

https://www.chesapeakebay.net/what/event/integrated_monitoring_network_workgroup_june_2019_meeting

CBPO Location: Conference Room 305

*If you are joining by webinar, please open the webinar first, then dial in.

AGENDA

Action Items:

- ✓ Draft business plan and circulate it throughout the workgroup. Review the draft at the next IMN meeting.
- ✓ At a later IMN meeting, present on the analysis and results from the MD DNR CORE/TREND and Non-tidal Network Programs.
- ✓ At a later IMN meeting, present on the Climate Resiliency Workgroup's project for a Data and Mapping Repository.

1:00 **Welcome, Introductions & Announcements – Peter Tango** (Chair, USGS@CBPO)

Upcoming Conferences, Meetings, Workshops, & Webinars-

- [Coastal and Estuarine Research Federation Conference](#) (CERF), November 3 – 7, 2019. Mobile, Alabama.
- [Association for Environmental Studies and Sciences](#) (AESS), June 26 – 29, 2019. University of Central Florida.
- [Esri User Conference](#), July 8 – 12, 2019. San Diego, CA.
- [Environmental Leadership Conference for Independent School Leaders](#), July 17, 2019. Smith Island, Maryland
- [AGU Understanding Carbon Climate Feedbacks](#), August 26 – 29, 2019. San Diego, CA.
- [Annual Water Resources Conference](#) (AWRA), November 3 – 7, 2019. Salt Lake, Utah.
- [Ocean Sciences Meeting](#), February 16 – 21, 2020. San Diego, CA.
- [A Community on Ecosystem Services \(ACES\)](#), December 14-17, 2020. Bonita Springs, FL.

1:10

Update on CMC – Liz Chudoba (CMC) & Dia Brown (C-StREAM Intern)

Liz will provide an overview and update on the Chesapeake Monitoring Cooperative with a focus on the benthic invertebrate monitoring done by citizen groups and the new Data Explorer.

Liz provided a brief overview for the Data Explorer. They continually add data to the database every day. They currently have 76,000 water quality datapoints from every state except West Virginia and 30,000 datapoints for benthic records.

Dia is a summer C-StREAM through the CRC. She is looking into the data uploaded to the Data Explorer to understand what is available. She provided an overview of the data contribution by jurisdiction, data over time by jurisdiction and data by parameter within jurisdictions. Overall 75% of the data is from Virginia or Pennsylvania. When looking closer, Virginia is collecting data points from a wide variety of counties, but data from Pennsylvania is mainly from Cumberland County. The oldest data in the Data Explorer is from 1992 and all the data came from PA until 2011. In 2012 – 2016, VA, NY, and MD began inputting data. DE and the DC started inputting data in 2017. While PA dominated the proportion of data inputted for most years, VA from 2017 to present is now inputting more than half of the data. The following is the contributions by parameter for the jurisdictions (with number of data points):

- Air Temperature: VA (1848), DC (205), MD (59)
- Conductivity: PA (1290), VA (145), DC (147), MD (173)
- DO Sat %: MD (1468), DE (725)
- DO: PA, VA, MD, DE, DC, NY
- pH: PA, VA, DC, NY, MD
- Total Nitrogen: MD, DE, VA
- Water Clarity: PA, VA, MD, DE, DC, NY
- Water Temperature: PA, MD, VA, DE, DC, NY

Other parameters that are collected, but have less than 1,000 data points include Alkalinity, Ammonia-Nitrogen, Enterococcus, Nitrate-Nitrite and TKN.

Next steps for Dia include interpreting current Nontidal Benthic Macroinvertebrate data, assisting in updates to the Data Explorer and mapping extremes of water temperature data as an example to show how the data can be used.

Margot asked if users can download the data. Liz answered users can download all of it or can query it and get only a portion of it.

Emily liked how Dia showed what years the data is available for in the Database. She noted that new data is not always what is inputted. Sometimes it is historical data.

With this data, Liz is interested in finding out the reasoning behind why groups collected certain data. For example, why is there a lot of dissolved oxygen data from Delaware and Maryland.

1:40

Nontidal Monitoring Networks – Peter Tango (USGS@CBPO)

In the last IMN meeting, it was decided to reboot the NTN WG meetings on a quarterly basis. The first meeting/conference call will be in the next month. The deadline to answer the doodle poll for dates has been extended to *Thursday, June 20th*. Peter will discuss agenda topics.

Recent IMN WG meetings have not provided sufficient dedicated time for addressing a diverse set of non-tidal monitoring issues. Peter has been visiting with the monitor partner agencies and institutions on program topics including themes for a reboot of NTN WG meetings. He would still like to get around to DE, DC, NY and the MD-DC-DE USGS office. A wide range of topics being recognized for future NTN meetings. Some examples include sampling protocols and maintaining network-wide consistency and accountability, data management, quality assurance, extreme event sampling and coordination, changes in sampling network, special studies such as pesticides, hormones, and microplastics and more potential topics.

The first NTN WG meeting will be held on Tuesday, July 16th from 1:00 – 3:00 p.m.

1:50

MD Integrated Monitoring Networks – MD DNR

Discussion on what is the Core Trend Network and how it is used differently from the Non-Tidal Network.

The MD's Core/Trend Non-tidal Tributary Water Quality Monitoring Program was initiated in 1974. Its objectives is to characterize ambient conditions and trends in water quality throughout Maryland. Sampling frequency is monthly from surface waters using bucket grab. They collect quite a few parameters from sites on the western shore areas and from only one site on the eastern shore for a total of 54 stations.

MD's Non-tidal Network Monitoring Program initiated in 2004 with an objective to better estimate nutrient and sediment loadings from the region's rivers and streams. Stations are located near USGS stream-flow gages to permit estimates of nutrient and sediment loadings and trends in loadings delivered downstream. Routine horizontal/vertical integrated samples are collected monthly, and eight additional storm-event samples are collected per year to obtain 20 samples per year, representing a range of discharge and loading conditions. A total of 24 stations are in the network for this program with a few more on the eastern

shore compared to the Core Trend Network. If there is co-location for a station in the Core Trend Network and Non-tidal Network, they collect some different information and collect the samples at different times.

The Non-tidal group is currently working with Elgin to use the GAM model to look at the Core Trend data, and he is finding that even though the data is collected in the different ways, it has similar results.

Tom offered to come back to the workgroup at a later date to present some results from both the CORE/Trend and NTN Networks comparisons in assessment results.

Doug announced USGS is expanding their water quality focus to the non-tidal network and explaining those loads and trends. They are trying to link it to the benthic and fish patterns. USGS wants to gather information on where stations are located that track this information and bring those networks together. He asked Tom if he could get the lat/long coordinates or GIS layers he used on this presentation.

2:20

Business Plan for the Monitoring Programs: WQGIT deliverable – All

Peter will describe the basics of what the workgroup should be aiming to provide.

Materials: [2019 CBP Monitoring Program Plan Template](#); [2019 Monitoring Program Business Plan \(IMN WG Draft Documentation\)](#)

A business plan is a short document stating what the program is, its mission, its vision, and how it meets challenges for maintaining its operation as well as pre-planning decisions on how to accommodate impacts to resources. This has importance to the new CBP director, assistant director, next science director, and the management board as well as reducing crisis management by following pathways for adjusting programming according to expecting directions of the program.

The workgroup will discuss business plan content and use future meetings to establish the content. Eventual presentation will be needed for the WQGIT for review and approval within the timeline of the 2-year SRS process (now less than 2 years for prep, presentation and approval).

Peter states a few members of the workgroups can write what is it the workgroup does, where the workgroup does the work, what products the workgroup produces, what is the vision to grow for this program, what are the finances, and more. Peter is hoping the product outcome will be a 1 – 2 page document for the Tidal and Non-tidal program.

Tom asked who is the audience. First we might recognize that it is a deliverable in the Water quality GIT 2-year work plan for supporting management actions on achieving water quality goals of monitoring and tracking water quality standards attainment.

Would the business plan be something to present to someone in a half an hour? Peter stated the EPA Director and management board is the audience. He mentioned he hopes the document is short, possibly in a bulleted form, that describes what the workgroup continuously does for maintaining and growing the monitoring networks, and then include an appendix of what has been done in the past few years in more detail for reference.

Members will work on it for the next three months and bring it back to the workgroup during the next meeting. Once a draft document is completed, the workgroup will present it to a WQGIT meeting.

Sean suggested giving this document to Kristen so she may put it on the agenda for the GIT Chairs meeting she organizes.

Next Meeting Dates: TBD

Participants: Danny Giddings, Peter Tango, Carol Cain, Becky Monahan, Dia Brown, Liz Chudoba, Doug Moyer, Matt Stover, Dough Chambers, Emily Bialowas, Kristen Heyer, Margot Cummings, Doug Moyer, Breck Sullivan, Carl Friedrichs, Sarah Giordano, Sean Carson, Tom Parham