

Minutes of the NADP Fall Technical Meeting

Network Operations Subcommittee

October 19, 2015

Rochester, New York

Called to order by Amy S. Ludtke, NOS Chair at 10:05 a.m.

Approval of Spring 2015 meeting minutes

Motion: Rhodes

Second: Tanabe

Unanimously accepted.

USGS External QA Update – Greg Wetherbee

Posters on MeHg given at AGU Joint Assembly, Montreal and ICMGP 2015 in Jeju, S. Korea. Another poster on Mercury Interlaboratory Comparison given in Jeju.

2013-14 External QA Report nearly done and expected to be in review in November 2015.

Working on expanding NTN in Cuba with D. Gay and D. Schmeltz

2016 Co-located sites will be SD08 and OH71. Co-locating identical / replicate N-CON collectors, no co-located raingages.

Climate change study in final review at Climate Dynamics.

2016 new studies: 1) Bromide trends; 2) N-CON upgrade time-series modeling to identify and quantify shifts in chemistry due to new collectors.

Equipment Testing Update – Mark Rhodes

Amon Travel Blanks – changes in lab protocols have brought down travel blank concentrations. TBs are now much better than previous years.

Bottle preparation tests show that bench paper is much lower in NH₄⁺ than Kimwipe and Uline wipes.

Need 2 years of data for E-Belfort at IL11 and MD99. Also needed to investigate Geonor gage algorithm for use with E-Belfort. However, Geonor uses a wetness sensor to filter noise. IL11 has CRN and a Geonor. Mark manipulated IL11 E-Belfort using wetness flags from Geonor data. 3 IL11 gages compare well at IL11, but filtered E-Belfort data (using Geonor wetness data) departs from other 3 gages. Part of the problem is merging the 5-minute record of E-Belfort and 15-minute record from the Geonor is problematic. More work with E-Belfort data is required, and a report needs to be generated. Mark hopes to give that report at 2016 spring meeting.

Sensor study is in its third year. Problems with shorts in cables. Wetness sensor from OR09 (USGS) is being tested. Sensor triggers heater on Theis sensor to operate during precipitation. This is for using N-CON at a DC power site. The box presents a bounce surface. So, chemistry is also being compared between normal N-CON and wetness sensor N-CON. CAPMoN 3-grid sensor is also being tested, but it requires more power than expected. The sensor malfunctioned and is being refurbished.

Mark Nilles commented that keeping the sensor cold until precip is detected might attract fewer insects. He also indicated that the box for the wetness sensor electronics can be minimized or moved to create less bounce potential.

ETI Raingage Corrosion Issues – Eric Hebert

Connectors for optical sensors to the base of the gage are being corroded in the male end of the connector. Some other corrosion is visible on the wires where they run into the junction box. EEMS will clean the connectors and apply dielectric grease (Superlube) to the connectors.

Bluetooth dongles on e-gages now accessible with Droid and iOS Application. Campbell now making the application free: "Loggerlink." Dongles are about \$100. Need the LoggerNet software to read the .dat file downloaded with a phone. J. Korfmacher at WY00 is using his phone to download. Dongle needs a pin code (■■■■) to work. Have to update firmware on the datalogger before you can use the Android. Current firmware is 29? – Roger Claybrooke.

CAPMoN Network and Equipment Update – Richard Tanabe

6 MDN sites in CAPMoN. 1 NTN co-located comparison site at CAN5. SK27 MDN started May 19, 2015. SK28 operation is questionable/possible, and SK12 operation is uncertain. Forest fire did not damage SK27 equipment.

Next generation wet deposition collector using DC linear actuator – solar capable – writes to SD card. Testing in cold room extremes being done down to -40 C. Second testing is resolving software tweeks. Starting inter-comparison with existing collectors this spring.

ETI gages being modified by taking all electronics out of shell and putting them into a NEMA enclosure. It also has a flash drive adapter.

Other projects: 3-grid sensor, Solar collector sampling, Eigenbrodt collector being tested.

Go Blue Jays!

Mark Nilles commented that NADP still does not have 2 collector manufacturers, and CAPMoN collector could be evaluated.

AMNet Data Availability – Mark Olson

All 2014 data available except: MD08 (July 2013 – date).

Password protected data are not actually "available". Although NADP voted to remove the password protection, the proposed action created discontent among AMNet participants. Therefore, passwords remain in place, and Mark will propose an alternative compromise at the spring 2016 meeting.

Winston Luke – 3 AMNet sites run by EPA – making data publicly available. A lot of work and intelligence is required to generate the AMNet data. Seems unfair that site operators cannot retain the passwords to restrict data access for an appropriate period of time to allow PIs to publish. Dennis Jackson suggested release after publication in the Annual Summary. Mark suggested that he present to Executive Committee that a 3-year period for release and changing the password regularly (e.g. 6 months).

Tekran User Group Meeting: First meeting in 2006 in Chicago. Washington D.C. Sept 22-24, 2015 was last meeting. Focus was on GOM Capture/retention efficiency. Calculation of GOM is at issue. More to come at Spring Meeting.

Operators want to adopt a new temperature for inlet (100 C) to enhance GOM values, but this deviates from the NADP SOP. The deviation from AMNet SOP needs more discussion among operators. Uncoated denuders seem to have better retention efficiency. Testing of the uncoated denuders will be done. Lower argon carrier gas flow-rate adjustment has been found to be beneficial. 2 Tekrans will be run using 2 different configurations (inlet temp change and uncoated denuder versus standard setup), and the data will be compared.

There are data issues associated with sites changing the operating conditions. Data files with 10-second resolution used for troubleshooting could be used to document when conditions changed for identification of potential step function shift.

Analyzer Support – Tekran no longer supports some components for the 2537 A and B models. All sites except 2 use As and Bs.

GEM Passive samplers to be deployed by Univ. Toronto at 9 AMNet sites: AL19, HI00, MD99, MS12, NY06, OH52, OK99, TW01, UT97. Carbon trap samplers to be switched out every 3 months in inverted jars. The effort by Site Ops will be minimal. Greg Wetherbee suggested (supported by) that NADP should be able to review the publications of the data to ensure that NADP is not portrayed as endorsing the data.

Motion by Chris Rogers: NADP will allow Univ. Toronto to deploy passive samplers at AMNet sites at no cost to NADP for an independent study with the stipulation that NADP is allowed to review the publications for the data to ensure that NADP does not endorse the protocol or results.

Second: Dave Schmeltz

Unanimously approved.

NOS governance and Secretary selection process – Amy Ludtke

How do we select NOS officers? We will think about ways to change it and maybe discuss it at the spring meeting.

NOS Secretary nominations and election – Richard Tanabe

Nomination by Richard: David Schmeltz, USEPA. Second: Amy Ludtke

Unanimously approved.

Motion to Adjourn by Mark Rhodes at 11:37 a.m., Seconded by Chris Rogers