

National Atmospheric Deposition Program Joint Subcommittees Meeting

La Fonda on the Plaza, Santa Fe, New Mexico

November 1, 2016

08:30 Welcome and introductions, Richard Tanabe, ECCC: Approximately 55 in attendance

08:35 Approval of Spring 2016 Joint Minutes (Madison, WI) – Richard Tanabe

Motion: Pam Padgett, Second: Mark Olson, Approved unanimously

08:40 State of NADP – David Gay

NTN has 267 sites, and maximum in the past was 269. NTN lost 1 site in IL, and gained 3: SK30, SK31 and MA22 site. NTN is healthy. AIRMON: Sailing along nicely with same number of sites. MDN is turbulent with 112 sites and one new site in Canada. MDN Saved 1 of 2 sites in MO, but lost 1 in NE. There is a large spatial gap in MDN in the west. Now, the annual map for Hg deposition does not include the western US, primarily due to the Loss of the 2 NV sites. This is a huge problem. Also, there are no AK MDN sites now. AK02 is being moved and should start on Jan. 1. The ARA/Southern Co. sites will be lost in MDN due to their budget realigning.

AMoN has 103 sites total with 5 sites newly added. There are 4 sites in NY which are for a multiyear study by T. Holtzman. AMoN samplers (shelters) will be “dressed up” with stickers to identify the equipment as a sampling shelter.

AMNet added 1 site, bringing the current total to 22 sites. The PO received several new, donated Tekran Systems. One will go to Bondville. Others are available for loaning out to participate in AMNet. Mark Olson can put together 7 speciation systems with these instruments.

Litterfall Initiative completed its 4th year, currently collecting 5th year of data with 26 sites. The future of the litterfall network is to be evaluated.

Equipment: The OTT P2 – RMM is now separate and not available from OTT. The OTT P-2L is a replacement gage advertised as an equivalent, but with no RMM. The NED can assist with assembling RMMs.

There are 23 Belfort 5-780s still in the network, and the PO is purchasing e-gages to replace those in the next year. Then the network will be completely digital with exception of 3 sites.

MDN was featured in Forbes Magazine regarding Southeast Hg in rain.

The PO is hiring an Assistant Site Liaison. The PO is starting interviews next week. The Assistant Coordinator position description was approved by ISWS. Applicants should be lining up soon.

New PO Organization: Roger Claybrooke is heading up Site Operations with a new Assistant Site Liaison and the NED Technician (Tim Leon) reporting to him.

Acid Rain 2015 Wrap Up: Special Edition of 31 papers in Atmos. Env. (vol 146). All of the articles will be Open Access.

New publications: Nitrogen from the Atmosphere, published by EROS! Pam Padgett and others put it together. TDEP Map Summary produced by Gary Lear, Donna Schwede, and others.

Meetings and Travel: David Gay attended 8 meetings, classes, and conferences for: Mercury 2017 planning, National Water Quality Monitoring Conference (Tampa), Assoc. for the Sciences of Limnology and Oceanography, Tribal Air Monitoring Support Ecosystems Class, Asia Pacific Hg Meeting, Nat. Ambient Air Monitoring Conference, Atmos. Sciences Current Scene (Mexico), USDA Big Data Meeting (Chicago).

09:10 CAL Report – Chris Lehmann

A detailed CAL Report is available online at <http://go.illinois.edu/NADPCALReport..> Layoffs at U-of-I did not affect CAL. Gained Kristi Bruhn and Wyatt Sherlock and Christine Atkinson (hourly consultant for ISO accreditation).

421,759 NTN samples analyzed. 31,455 samples analyzed for AIRMoN. AMoN: 11,948 samples analyzed.

Lab Operations: New prep lab for supplies completed, and two under-counter washers serve as backup for main CAL wash area.

New Total N instrument: FIA Hach Lachat QuickChem 8500 Series 2. Allows uniformity in FIA lab wide for all networks. CAL is now doing total phosphorous manual digestion in an autoclave to convert all P to orthophosphate (EPA 365.1/ Lachat 10-115-01-1B).

The revised NTN sample processing has been beneficial with many more data for chemical analyses as a result.

Bottle Leaks: 98% not leaking due to discarding aged bottles and more frequently replacing them.

AMoN body labels are allowing better tracking of sampler bodies.

A presentation on pH/Conductivity automation will be given in NOS.

Archive sample requests: 1,882 precipitation samples and 170 filters were sent out to 14 different research groups. Contact Sybil for archived samples.

Data validation is moving faster and allowing for better data turnaround.

2015 QA report is available. 2014 QA Plan is latest and also available.

AMoN uncertainty for each quartile is now quantified and available in the 2015 QA report.

AMoN detection limit went down, which is good news! There have been no AMoN Travel Blank exceedances in 6 months. Nearly all travel blank concentrations are below detection, which is a huge improvement.

AIRMoN bag sampling problems indicate 0-5 percent bag failures. IL11 has 5% bag failure. Overall failure rate is 2% across the network.

AMoN samplers are attracting paper wasps, which build nests around sampler bodies. They might be attracted to citric acid in the paper.

Bondville Field Station schematic was shown along with photos of construction, which is under way.

Pollen monitoring using NTN filters has been proposed, with analysis at Univ. of Maine, Orono Climate Change Institute. The CDC is establishing an Aeroallergen Monitoring network.

09:30 HAL Report – Bob Brunette, R. Nelson, D. Disney, and P. Garcia-Strickland share in the report.

MATS was upheld by the Supreme Court, which mandates 90% Hg emission reductions by 2018. HAL is working with USEPA Regions 6 and 8 to document pre- and post-MATS changes. Meanwhile, the Minamata Convention program is moving aggressively.

MDN is 20 years old this year. As David Gay pointed out, there is a huge (spatial) hole in the network in western states with few MDN sites. Lots of work is needed to do outreach to states to fill gaps in the west as well as LA and other southern states. Over MDN 95,000 samples have been analyzed to date. MDN has lost 18 sites with several additional possible. There is a need for high-altitude MDN data to verify maps that indicate high deposition in the Cascades and Rockies.

Site Liaison Activities: Belforts are nearly gone with 11 left in MDN. The HAL had 24 phone/email requests for support. Hurricane Matthew did not affect MDN site equipment, but some long-duration samples were collected.

HAL 2015 Review – 63% of 19 findings closed out with 7 open.

HAL has a new server with Promium-Element (LIMS) system and new SQL database. HAL is moving the database over in Jan. 2017.

Data delivery schedule will be shortened because internal review is not finding many transcription errors (0.1%). Chris Lehmann indicated that CAL does not see many changes from site operator reviews either. HAL is looking to shorten data delivery to 60 days.

HAL 2015 QA Report shows that matrix duplicates are typically within 5% RPD.

No changes in HAL staff.

Metals deposition initiative: WA18, OH02, IL11, PA Site, AL/MS site(s) and one in Canada are possible candidates for metal pilot network.

HAL is reaching out to industry groups for site support.

National Rivers and Streams Assessment is showing Hg in fish due to Hg deposition in watersheds. Bob continues to emphasize the connection. HAL also supported Coastal Conditions program for USEPA.

HAL is working with CAL to verify phosphorous measurements at colocated NTN/MDN sites. MDN bottle / sample train study with PTGE bottles was discussed. Comparison of glass and PTGE bottles in dual chimney N-CON is completed. PTGE bottles might negate the need for bottle blank correction in total Hg analysis. Bob needs to get Mark a final (revised) dataset for WA18. The bottles don't break or leak and require no cleaning. Bob likes results and thinks this is the right direction. Subsampling and shipping smaller volumes being investigated.

International Joint Commission Report recommends US supporting 21 MDN and AMNet Sites in Great Lakes and fund at \$250K/yr. Need to find out who to contact at various agencies about this recommendation. Finally, a NEMC paper was given this year.

09:50 Overview of subcommittee agendas: CLAD, EROS, NOS

Meeting reconvened at 13:47

Science and Subcommittee Reports

CLAD – Claire O’Dea

Changes in leadership. Good meeting! CLAD Report is available online.

TDEP – Chris Rodgers

Big news is that steering committee got first TDEP map summary published. TDEP was renewed as a science committee through 2019. The cover of the Annual Summary is TDEP maps. Gary Lear updated on 2015 maps and talked about issues and concerns. Donna Schwede talked about new CMAQ model updates. John Walker and Greg Beachley are organizing a white paper on fundamental questions that still need to be answered to inform TDEP. Brett Schichtel talked about recent research in N dep and sources. Jason Lynch gave a CLAD update. Eric Prestbo gave a briefing on Hg total deposition. Lynch entertained a lengthy discussion on uncertainty with no real resolution of what should be done to quantify uncertainty in CLAD, TDEP, or combination of the two.

EROS – Pam Padgett

Wiki page discussion continued from last spring. Wiki page will be the focus of EROS in the next several months. Bob will work on formatting the page. Doug will write up a history of NPAP. David will describe what NADP does. Pam will provide organization and government section.

EROS discussed themes for next 2 newsletters: 1) TDEP, Annual Report, and Nitrogen brochure, and 2) More detail on annual meeting presentations, etc., and Annual Climate Change paper. Talked about student and youth focused newsletter using topics that students have studied. Highlighting the new, potential pollen monitoring project was also discussed.

The Nitrogen in Rain brochure was discussed. The report is prepared in modules that are extractable / sharable. Marty Risch took the lead on a future Hg brochure.

NOS – Richard Tanabe

Motions: OTT P2-L accepted for network use. OTT P2-S with smaller profile and lower capacity was accepted for testing by PO. Dr. Janice Brahney (Utah State Univ.) was approved for a pilot dust deposition study using the dry side ACM buckets. Approved use of TitrEC automated pH measurements starting January 2017. Richard Tanabe was re-elected as NOS Secretary for 2017.

14:00 Program Office QA Report – Mark Rhodes

QAAG had its fall conference call.

PO/AMNet review occurred Aug. 2-4, 2016. Review report received and responses to recommendations will be in Executive Committee.

Field Surveys are posted. CAL QA Report is posted. HAL and AMNet external reviews are coming up.

Site surveys are on schedule. Sites surveyed include: 1 AIRMoN, 35 MDN, 77 NTN, 20 AMNet, 15 AMoN, 23 colocated.

QA Document: AMNet data management manual modification approved.

PTGE bottles are being evaluated for MDN. Total P at colocated NTN/MDN sites is being evaluated.

Sensor study with new Thies sensor is ongoing. Thies sensor is now configured to open ACM collectors, and G. Wetherbee has first 3 as part of NUANC study.

Debris in MDN samples is being evaluated. Current thinking is that debris is aggregated humic materials.

14:05 Web-based GIS tool: CLs, deposition, CL exceedances – Chris Clark

Purpose is to provide an interactive front end for National Critical Loads Database. 2 year project ready for public deployment. Enables decision makers, researchers, and public to easily access information on critical loads. Public will require no advanced training, and it be accessed via Global Change Explorer.

Includes: TDEP maps, CMAQ ver. 5.0.2, NADP 1985-2013, IPCC AR5 historical and future. Critical loads for surface water acidification, forest soil acidification, and empirical (6 types, see Pardo et al., 2010).

CL Mapper tool: Splash Page has zoom, mouse, and pan features, legend overlays, time slider, and map(s). Data options: select deposition critical load, or exceedance data, data sources, years, deposition types. Display options with 1-4 panels, Synced data and database layers. Also has share, print, download, and help functions.

Chris provided demo of the system online.

14:15 New Nitrogen Brochure – Pam Padgett

Pam described the process, content, and format of the newly updated Nitrogen Brochure that is now published and being distributed to the public.

14:20 Nomination and Appointment: Secretary of Executive Committee – Marty Risch

Marty nominated Doug Burns (USGS) as NADP Chair. Doug was a driving force on the Acid Rain 2015 meeting. Doug accepted the nomination. Marty asked for nominations from the floor, and there were none. Executive Committee will be asked to ratify the nomination.

14:25 Spring 2017 Meeting – Greg Wetherbee

April 24-28, Louisville, KY, The Brown Hotel.

14:30 Fall 2017 NADP Meeting and Scientific Symposium – Tamara Blett

Fall Meeting is at the Bahai Hotel, San Diego, California, October 30-November 3, 2017.

14:42 Motion to adjourn by Marty Risch. Second by Amy Ludtke. Meeting was adjourned at 14:42.