Joint Subcommittee Meeting
Rochester, New York
October 19, 2015

Meeting called to order at 8:05
Introductions around the room

Approval of minutes from Spring Meeting, Asilomar, CA
Motion to approve: Greg Wetherbee, Second: Mark Rhodes; Motion approved.

State of the NADP : David Gay, NADP Program Office

NADP PO Report

- 9th Annual Acid Rain Conference
- 325 participants registered, breakdown is 60% US/Canada/Mexico and 40% International
- Global Atmosphere Watch (GAW) and Deposition of Biogeochemically Important Trace Species (DEBITS) also meeting Sunday and Monday.

Site status

- NTN - Sites: 1 lost, 2 added, and 264 current sites
- AIRMoN - Sites: no changes
- MDN - Sites: 5 lost, 3 added and 114 current
- AMoN - Sites: 0 lost, 26 added and 94 current
- AMNet - Sites: 0 lost, 2 added and 25 current

Financial

- new 5 year SAES (2015-2019)
- Sites that will lose funding
  - NTN: 6 sites (NC sites)
  - MDN: 4 sites (midwest)
  - AMNet: VT99 and WI07
- Recently closed
  - MDN: 2 in NV and 2 in AL
- Possible new sites
  - NTN: 2 in GA
  - AMNet: NJ, AL, EC Halifax

Equipment

- Very quiet summer, few repairs
- It has been a good year for equipment

Talks and Travel

- AGU Meeting attended by David Gay and Greg Wetherbee in Montreal, Canada
- Mercury 2015 attended by David Gay in South Korea

- Japan Society of Environmental Chemists - Sapporo, Japan
- National Environmental Monitoring Conference in Chicago, IL
- LADCO Network Meeting in Indianapolis, IN

Mark Olson will cover questions relating to AMNet procedures in Joint/NOS

CAL Report: Chris Lehmann, Central Analytical Laboratory

CAL Report is posted on-line:
http://go.illinois.edu/NADPCALReport

Site Operations & Site Support

- 400,000th NTN sample collected this year
- 30,000th AIRMoN sample by Tom Butler in April 2015
- AMoN is approaching the 10,000th sample

- NTN 44 sites with issues
  - Power equipment - 18; e-gage - 17; winter - 4; Other - 5
- AIRMoN bag sampling since October 2014
  - 11 failed bag samples @ IL11
  - 950 samples - 2% failure rate
- AMoN - 2 new sites with sampling protocol issues
  - Travel blank – see poster by Gartman et al. and further discussion in Joint this afternoon
    - Bench paper – very good
    - Kimwipes - not good
    - ULine - very bad
- new ceiling in FIA, IC and ICP labs
- new laboratory washer, primary use to be for AMoN

Training Webinars

- link http://go.illinois.edu/NADPTraining

Laboratory Operations

- NTN sampling contamination - refer to spring minutes. No sites missed 2014 completeness criteria due to the invalid samples
- Revised NTN sample processing such that pH and conductivity are lowest priority
- NTN bottle leaks
- Instrument replacements
  - New ICP Agilent 5100; old instrument is backup
  - IC Argon gas distribution system
  - automated pH/Conductivity instrument (SCP Science)
- Archive sample distribution
  - AIRMoN - 669 to 1 research group
  - NTN - 7332 to 10 research groups

QA Documents update

- 2014 QA Report in review

Data Management

- Dropped to below 50 days for data turnaround
  - NTN - 47 days
  - AIRMoN - 39 days
  - AMoN - 41 days

HAL Report: Bob Brunette - Eurofins Frontier Global Sciences

- Hg regulations update - MATS
- 2016 will be 20 years as a network for MDN
- MDN site closures/New Sites
  - lost NV02 and NV09 in June 2015
  - lost AK04, AK98, and AK10 in September 2015
- MDN Potential Sites
  - LADEQ
  - Alaska Kodiak
  - AK00 possible move to Denali NP
  - SK27
- Sites in jeopardy
  - 4 LADCO
  - WA03 loses funding Dec 31, 2015; possible move to NPS Site?

Equipment modernization

- ACM 59 (-1)
- NCON 59 (+6)
- Belfort 11 (+1)
- E-Gage 107 (+3)

MDN Site Operations – Site Liaison summary

- 317 Toll free calls, down from 408 in 2014
- 304 e-mails, up from 271 in 2014

HAL 2012 Review – 3 year update

- All 9 findings have been addressed

HAL 2015 Review

- Performed July 28-30, 2015
- Review Team report received Oct 5, 2015
- Review Response in progress due by Nov 30, 2015

HAL Database Conversion – Access to SQL update

- Alterations to reporting files done, new data submitted March 2015

- Program Office comments received March 2015
- New data submitted April 2015
- PO Reviewed data in June 2015
- Adjustments for assigning QR codes and Note codes
- Need to verify connection of HAL database to PO rain gage database
- T.Bergerhouse updated the MDN HAL database Oct 16, 2015
- Planning meeting this week, hope to use HAL existing LIMS (Promium – Element) to import all data into new HAL SQL database

- Distribution of Quality Rating Codes for 2006-2015 presented. Distribution has been consistent in recent years.

Data Delivery Schedule

- Most recent submission to PO is June 2015
- July 2015 to PO by 2015-11-05
- Methyl Hg reported Quarterly; Q1-2015 submitted to PO
- Q2-2015 pending submission to PO by Nov 5, 2015
- Trace Metals reported Monthly: All reported (to sponsors) through July 2015; Aug 2015 will be reported Oct 2015
- HAL MDN 2014 Annual QA Report submitted Oct 15, 2015 (draft)

HAL Staffing update

- Jason Karlstrom left the HAL in June 2015
- Doug Disney assumes the role of MDN Site Liaison – 15 years with the HAL
- Gerard Van der Jagt will leave the HAL in November 2015
- Ryan Nelson – Taking over as MDN Hg Lab Manager - 15 years
- Patrick Garcia-Strickland - Assuming more active role. He has been in MDN HAL - 11 years
- Robert Brunette - MDN HAL Director - 19 years

MDN Trace Metals Initiative Update

- historically it goes back to 1977
- HAL has 15+ years of experience
- Field SOPs, Analysis SOPs and new TM Field Sampling equipment have been developed.
- Draft 12 point plan was submitted in Fall 2013
- Feedback on plan received in Spring 2014
- Identified working advocates at Spring 2015 Meeting
- incorporate Advocate comments by Nov 15
- Discussion with PO and Advocates on Revisions by Dec 15
- Submit final draft to PO/Advocates by Jan 15
- HAL participating in Wet Deposition International Trace Metal Comparison

MDN Outreach 2015

- LADCO Meeting/Presentations
- Tribal Nation Grant Funding Template

- Potential MDN International Sites
- Quarterly HAL MDN Newsletter (Jan 2016)
- Outreach to Active Monitoring Programs

Upcoming MDN HAL Activities

- Hg Isotopic Ratios In Wet Deposition – Special Study Site
- Pacific Northwest – High Hg Deposition Monitoring
- Possible "Enhanced" Reports For MDN Site Sponsors
- Low-Elevation Radiation Fog – Hg Wet Dep Study Site
- EPA Region 6: 2015-2017 "Post MATS Total Hg Deposition"

MDN International Shipping Protocol

- Consideration Of HAL supporting international Hg sites
- Some labs challenged to measure ppt Hg consistently
- Concept Of International Central Hg Lab:
  - HAL Researching International Shipping Protocol
  - Follow Principles Of EPA 1631
  - 40mL Trace Metal Clean Vial Easy/Cost Affective To Ship
  - Perform Stability Tests Over Extended Period Of Time & Volumes

QA Report - Mark Rhodes - Program Office

- QAAG conference call in October
- New person on the EEMS field survey team: Martin Valvur
- Sites surveyed by EEMS in 2015

AIRMoN	1	Collocated	19
MDN	26	AMNet	6
NTN	52	AMoN	7

Equipment Issues

- corrosion of ETI optical connectors
- upgrade insulation and active heaters in N-CON MDN collectors
- NED is working with HAL to upgrade remaining collectors

QA Reports

- 2014 Field Survey - posted
- HAL QA Report in progress
- CAL QA Report in external review
- AMNet QA Report is in final update before posting

SOPs

- No new SOPs
- Updated AMNet data management manual approved by QAAG

External Reviews

- 2015 HAL completed July 28-30, 2015
- 2016 Program Office
  Rich Grant * Team Leader
  Andy Johnson
  Dave Schmeltz
  Tim Sharac
- AMNet has had no formal review - Tim Sharac (USEPA) will review

DQO - Nothing to report on special studies

AMNet Update - Mark Olson, Program Office

- Site numbers are up to 23; MI09 is a new site
- Possible site AL03 (SEARCH Site), NJ05, NJ30, Halifax
- Sites closing funding - VT99, WI07

Site Visits

- 13 Calendar year visits; 3 site repair visits required

Data Availability

- All 2014 data is available except MD08; require field notes for Jul 2013 to present
- Password has not been removed; will be discussed in Exec. Committee
- Database improvements have been made and need to be tested.

Tekran Users Group Meeting held in September (24-25, 2015)

- Focus on GOM - capture/retention efficiency
- 20 users in the room and some on the phone
- Analyzer support - Tekran notified customers on August 18th that they will no longer support some components on the 2537A or 2537B
  - Following the meeting, Eric Prestbo clarified the status of the 2537A and 2537B by stating: Tekran is currently supporting the Tekran 2537A and 2537B and we will continue to support it. We are still filling part orders and owners may still return the 2537A/2537B units to Tekran for refurbishment, repairs and factory calibration. We provide technical and application support for the 2537A/2537B units on a daily basis. We will continue this policy for the foreseeable future. Our notification that is referenced in the statement above was to proactively let Tekran 2537A and 2537B owners know that there are a few electronic parts that Tekran can no longer acquire and thus are obsolete. These parts rarely fail or need replacing - but if they do they are critical to the operation of the equipment.
- All except 2 AMNet sites use A's or B's
- AMNet will attempt to procure older analyzers for parts to continue support

GEM Passive Sampler Deployment - UofT

- 12 inverted jars with passive samplers
- Remove/redeploy in 3 month intervals
- AL17, HI00, MD99, MS12, NY06, OH52, OK99, TW01, UT97 possible sites

- Does it need approval from NADP/AMNet? It was decided that it would be raised at Exec. Committee

Cation Exchange Membrane

- UNR CEM filters will be deployed at WI07 for one month
- Triplicate samples collected for 2 week intervals
- Compare Tekran GOM to CEM GOM

HAL Review and Response - Mark Rhodes, Program Office

- Review Dates: July 28-30, 2015
- Team
  - Dennis Jackson , SRNL
  - Chris Rogers, AMEC
  - Ted Struzeski, USGS
  - Richard Tanabe*, EC *Review Team Leader

Results as follows:

- Recognitions: 14
- Observations: 47
- Findings: 19

Of the 19 Findings,

- QA/QC: 8
- Data Management:7
- Health and Safety: 1
- Analytical Operations: 2
- Lab Facilities: 1

The report is available at: http://nadp.sws.uiuc.edu/dl/QAAG/HALReview2015/

Overview of Agendas for Subcommittee Meetings

Each of the subcommittee chairs gave an overview of what was on their agendas

- Amy Ludtke - NOS agenda
- Pam Padgett - EROS agenda
- Jason Lynch - CLAD agenda

Break at 9:41am for break and subcommittee meetings (10:00-12:00). Reconvene for Joint at 13:00

Joint Meeting continued. Resumed at 13:06

Subcommittee Reports were provided by each of the chairs, refer to individual subcommittee minutes for complete details.

AMoN Status Report and Travel Blank Issue - Melissa Pulchalski

- Seasonal averages; lower in winter, higher in spring

Research Projects

- Trends in gaseous NH3 and NH4+ in precipitation; results do not agree with EPA5 NH_3 emissions inventory
- Spatial Variability; Centered around IL11 and CO13 – Interpolation radius – influence from sources, elevation, meteorology
- Southern Appalachian Nitrogen Deposition Study (SANDS) - John Walker
- Ammonia Flux Database; AMoN site characterization
- Future collaboration with Long-Term Agroecosystem Research (LTAR) sites 18 Research areas/sites
- Presentation at Inter-Tribal Environmental Council (July 2015)

AMoN Travel Blanks - Quantifying the limit of detection

- Laboratory Detection Limit - Proposal to calculate lab detection limit as median of new core blanks
  - calculate for each analytical year
  - median value for previous year to be used as reporting limit 'd' flag ambient samples in current year
  - 'd' flagged would get a B QR code
- Laboratory Detection Limit will represent the lower limit of what the laboratory can measure
- Travel Blanks
  - increasing concentration and variability from 2011-2014
  - what impact on ambient data?
  - Any concentration > reporting limit is evidence of contamination
- Minimum Limit of Detection (L_D) - Quarterly
  - **Motion: To accept the use of a quarterly limit of detection calculated as:**

    $$L_D = \bar{x} + \left(2t_{(1-\alpha,df)}\sigma\right)$$

    where σ is

    $$\sigma = \sqrt{\frac{\sum(x_i - \bar{x})^2}{(n-1)}}$$

    to flag AMoN concentrations that are below the limit of detection with a note code.
  - **Moved by: Mark Rhodes, Second: Greg Wetherbee; Motion passed.**

Reporting Uncertainty for Ambient Samples

- 2015 based on 2012-2014 triplicates
- Proposal: include an uncertainty column in the AMoN database calculated as the variability (2*sigma) for the previous 3 years for each percentile range.
- **Motion: To table the discussion of the quantification of uncertainty as it relates to AMoN data until the spring 2016 meeting.**
- **Moved by: Chris Lehmann, Second: Chuck Sams; 5 nays. Motion passed.**

NADP Litterfall Mercury Monitoring Initiative - Marty Risch

- Status of transition program

Network Operation

- 5 year transition 2012-2016 partially supported by USGS Hg Research Program
- Site sponsor pays $2,600/year
- PO has Agreement with USGS
- Operators deploy passive collectors and ship monthly samples to USGS
- Litterfall samples analyzed at USGS Wisconsin Mercury Lab, Middleton, WI

Methods

- 8 passive collectors/site; August to end of litterfall
- samples dried and weighed=litterfall catch
- analyzed for Hg and MeHg=concentration
- Annual litterfall Hg dry deposition is Hg concentration in samples (ng/g) x catch (g) = Hg mass/area (micrograms/m^2/year)
- 29 MDN sites in 16 eastern US states
- 10 sites with 5-6 years of data
- 4th year of transition program - 20 sites in autumn 2015 in eastern US and Puerto Rico

Future Activities

- looking for more participants
- archived samples freeze dried and available for additional research
- Journal article about litterfall Hg data, 2007-14
- NADP data archive planned

NADP Nominating Report: Secretary of Executive Committee - Chris Rogers

Nominating committee: Chris Rogers, Kristi Morris, Richard Tanabe

Secretary of Executive Committee
Nominating: Tamara Blett, NPS Air Resources Division, Denver

- Tamara has been participating in NADP consistently since 2006. She is co-founder of CLAD.

Floor open to other nominations.
Motion to accept the recommendation of the nominating committee: Amy Ludtke, second by Donna Schwede; Motion passed.

Spring 2016 Meeting Location - Richard Tanabe

http://nadp.sws.uiuc.edu/meetings/spring2016/nadpspr2016.pdf

Madison, WI
April 25-27th - Committee meetings
April 28th - Executive Meeting

Hotel: The Madison Concourse - Deadline for group rate: March 27, 2016

Fall 2016 NADP Conference - Donna Schwede

Deposition: What does the future hold? Exploring the impacts of future scenarios of climate change, land use and environmental policies on atmospheric deposition.
Santa Fe, NM
Nov 1-5, 2016

Field trip to Bandelier National Monument NTN site?
Hotel: La Fonda on the Plaza; Government rate honored all week and 3 days prior/after.

Adjourn - Motion to adjourn by Mark Nilles, second by Pam Padgett

Prepared by: Richard Tanabe, NOS Vice-chair; Environment Canada