NADP Spring Meeting Notes

Joint session

May 3, 2011

Pensacola, FL

Minutes from previous meeting approved.

State of Networks - Gay

NT N – cost increase from $91 to $93/sample, first increase since 2002. Total increase to $104/site/year ($2/week). Numbers of sites, down 3, up 1, net -2. North Carolina and Florida sites are in jeopardy. Still hope for Argentina site.

MDN – numbers down 11, up 7, net -4, 107 sites total, 22 also collect Methyl Hg. Maybe 2 sites in Mexico are joining.

AIRMoN – Steady

Wet Networks – NED costs up from $2 to $3.50/site/week, increase of $1.50 per week equals $78/year.

AMoN – Up to 44 sites, probably 8 more soon for a total of 52. Cost $100/2 weeks/site, $3100 year. Moved AMoN website into network websites. New brochure has been produced.

AMNet – SOP's are done. 59 years of data in database. QA comparison with EC. Added sites in AL, GA, FL, HI and WI. Speaking with officials in Taiwan about joining network.

DATA

NTN, MDN, and AIRMoN data completed through 2010, next need to work on maps.

AMoN data complete through Feb 15, 2011. No password protection on data.

AMNet data review nearly complete for 2009 and 2010, some through March 2011. Still password protected.

Goals for NTN, MDN, AIRMoN is still 3 months from lab to PO and 1.5 months to web. Labs are generally getting data to the PO in 3 months.

The methyl Mercury dataset is under review.

Publications – 146 referenced NADP in 2010

New equipment spare parts are available at NED

Ott Pluvio 2's - $8100. 80 purchased and have been or ready to be installed. Approximately 65 e-gages yet to be purchased.

Site Operator Training – NTN, AIRMoN, MDN. Denver June 7-9, 2011

Travel and Presentations – 2010 National Tribal Science Forum, North American Lake Management Society, Taiwan (AMNet), Italy, GMOS (AMNet), Brussels, GMOS (AMNet)

Upcoming – 10th International Conference on Mercury as a Global Pollutant, Halifax, July 2011 and the 8th International Conference on Acid Deposition: ACID RAIN 2011, Beijing, China, June 2011.

CAL report - Lehmann

NTN sites down 5, up 4, net -1 (inconsistent with D. Gay's report)

AMoN – number of sites increased substantially

CAL took over Bondville support functions this year.

Laboratory operations, bar codes on samples, Lachatt method improved, need new IC (min sampler $18K, like new machine $48K)

New FIA was purchased for ammonium analysis. A comparison to old instrument was performed.

AMoN data is available on web.

All CAL SOPs on the web.

HAL report - Brunette

15 years of service to NADP. 76,000 Hg samples analyzed, 8,400 MeHg.

2010 sites down 21, up 16, net -5 (inconsistent with D. Gay's report)

Equipment – ACM 78, N-Con 34, Belfort 39, Digital e-gages 73

Site Liaison 397 calls, 278 emails, ACM 13 motors & 11 sensors, N-CON 1 motor, 3 heaters

2009 HAL review – in June 2011, SQL database will be incorporated. Official report November 2010, HAL response April 2011

Data Quality coded sample ratios (A, B, C codes) remains about the same from previous years.

Data delivery – slow in January and February, back on track for March

Dual chimney - #1 Hg, #2 Trace metals

Puerto Rico – Still high Hg in wet deposition

Passive RGM monitoring continues

QA report - Rhodes

2009 reports have been posted, 2010 in progress

QA plans need to be updated every 5 years, currently CAL and EEMS updates are dated 2009, the HAL is dated 2006 and needs to be updated this year.

Program Office reviewed in 2010. To be discussed during the Executive Committee meeting.

CAL will be reviewed in July, 2011.

QA Documents – Quality Management Plan, Network Quality Assurance Plan, Site Selection and Installation Manual and the Site information Worksheet were presented for approval.

Motion – Revisions to the documents listed above are accepted. The revised documents are approved for network use, and supersede previous versions of the documents. Moved by Greg Wetherbee, second by Andy Johnson. Motion carried.

Pending documents – AMNet Site Performance and Systems Survey, AIRMoN Operations Manual, Training Videos and the Program Office SOPs

QAAG – conference call 4/14/11, more discussion to follow

Scanning FORFs and charts for archives – need a student, last one didn't work out. Progress has been slow

2011 Training questionnaire – Only 10 responses

AIRMon Motion – An NADP approved rain gage may be used as the backup rain gage at AIRMoN sites, and in such cases, the Belfort rain gages may be removed from service. Moved by Chris Rogers, Second by Andy Johnson. Motion carried.

USGS Measurment of Fission Product Activity – Gay & Wetherbee

Collected filters – Gamma scan on single filters, nothing found, then scanned all filters at once – nothing found.

Some radioactivity found in West and Midwest water samples, quantities to be reported this summer/fall

Fission produces are either not partitioned to the solid phase washout particles and remain dissolved, or the radionuclide-containing particles are smaller than 0.45 microns, or filtering a 250 mL aliquot is too small as composite samples showed no activity.

NTN wet-deposition samples can be used to detect low-level fallout of fission products released from at least as far away as Japan.

AMNet Met – Rhodes & Olson

4 QA options were presented for met data at AMNet sites. The options were from no support of meteorological equipment of data to full support, including QA and storage of data

Motion – To suspend discussions on the met data until advocates propose a recommendation. Moved by Gary Lear, second by Chris Rogers?? Motion carried.

Using PRISM to Estimate Wet Deposition – Lear

CASTNET uses point estimates to estimate wet deposition withon-site precipitation measurements.

CASTNET precipitation is equivalent to NADP.

Subject to interpolation errors, greatest in west where there is variable terrain

Combine precipitation amounts with concentration for deposition estimates then add wet and dry deposition for total.

Death Valley site showed 10 cm rain when actual 2.5 cm, Mean error of 40%

Prism error is “pretty darn good.”

Excellent comparability of measured NADP to PRISM

Adjust “warp” PRISM precipitation grid with NADP precipitation values for better definition

Modified precipitation grid changes impact estimates in the Rocky Mountains

Next step – CASTNET will start using a PRISM grid modified with NADP precipitation data for reduced error and better resolution.

Joint Session

May 4, 2011

AMoN Update – Rury

Started in October 2010, as of May 2011 51 sites, 8 of which are pending, lost 2 sites.

Trip blank issues – see NOS presentation.

Sites deploy one sampler, preliminary results are returned to operators in one month and the data is published 2 months after collection. Cost $3,100/site/year.

New SOP on web, new web site, new fact sheet.

QA – 3 sites deploy triplicate samplers (5% of network). 3 sites are collocated with CASTNET.

Data shows winter peaks of total N and summer peaks of NH3.

Reviews in progress – Comparison of samplers and methods, CASAC letter to EPA (monitoring and methods draft), CASTNET OAQPS & ORD Study,.

Combined CASTNET and AMoN map was presented

Performing ACCS study comparing denuders to samplers.

Still travel blank spikes causing samples to be invalidated. Will proceed with 1:1 travel blank to sampler ratio until question is resolved. Not ready to go to 1:4 ratio. Need another 6 months to continue studying travel blanks.

Next – AMoN and CASTNET web site. Looking to increase coverage.

NTN Bottle Leak Test – Rhodes

For this study, quality ratings based on leaked volume; A = < 10 ml, B = 10 to 100 ml, C = > 100 ml.

5 sites across the US participated in the study.

No monthly or seasonal trends to leaks.

Tried 250 mL AIRMoN bottles and they don't leak. Artificially aged the bottles in dishwasher and still no leaks. Examined how many sites could use 250 mL bottle based on volume, about half. If 250 mL was used, the cost of bottles and shipping would decrease. 500 mL bottle was suggested as an alternative but it was stated that is an odd size and more expensive.

Pros of going to 250 mL – Lower cost, lower shipping, no leaks, use multiple bottles if more sample is required.

Cons for 250 mL – Less archive, less rinse, uniformity of sample, harder to pour bucket into smaller bottle.

List Serve Data – Larson

Combining several of the list serve emails lists

Old policy – auto subscribe after meeting, unsubscribe after 3 years of non-attendance, no options for digest mode.

New Policy – Self manage, Can subscribe or unsubscribe on their own, welcome emails will be sent out to new customers, auto footer which links to web site, information will be provided to listservs.

Policy – Managed by Program Office, add footer explaining why they received the email.

Listserv replies – Currently replies to entire listserv, in the future the reply list will have list and sender options.

A suggestion was made to add header to identify the group posting the message.

CAL Research and Development - Green

Total Phosphorus

QuickChem method 10-115-01-3-F, QC samples of 25 – 85 ppb, MDL= 5 ppb.

AIRMoN samples are used, event based, refrigerated, best preserved

Results look good, and more data will be presented as a poster at the fall meeting and scientific symposium

Bromide

Little additional effort required to get bromide results from NTN samples.

Have been analyzing samples for bromide since June 2009. Data shows increases near coasts and through West. Trends show increases in South and West.

A 12 point plan will be presented in the fall to make bromide an official NTN and AIRMoN parameter

Methods used for Carbon Aerosols – Lehman

ACM samplers have been modified to house a refrigerator. Samples are split into particulate and dissolved, and are analyzed. DOC in rain is up to 3 mg/L.

Black carbon spectral analysis at 180 and 800 nm did not work. The single particle soot photometer is a good way to measure but expensive ($120k). EC-OC analyzer works well but you need to add NaCl to aid in capture. There was a decent correlation between black carbon and specific conductivity.

Future – Need a lot of money to fund Ph.D. student to continue.

NTN, MDN, AMNet Document Review – Rhodes

The AMNet Operations Manual, AMNet Data Management Manual, MDN Operations Manual, NTN Operations Manual, and the Guide for Evaluating and Approval of Equipment for the NADP Wet Deposition Networks were presented for approval.

Motion: The documents listed above are accepted and approved for network use. These documents supersede previous versions of the documents. Motion passed. Moved by Andy Johnson, second by Greg Wetherbee. Opposed were Chris Lehmann, Gerard Van der Jagt, Bob Brunette, Jason Karlstrom and Roger Claybrooke. Dave McTavish and Eric Hebert abstained. Motion carried.

Second Motion: To have the HAL, CAL and QA manager enter discussions to decide on the name and organization of the NTN and MDN Operations Manuals. Moved by Kristi Morris, Second by David Gay, opposed by Dave McTavish. Motion carried.

Third Motion: Proposed to exempt the MDN Operations Manual and the NTN Operations Manual from superseding previous versions until the end of discussions. Moved by Jason Karlstrom, second by Kevin Mishoe, abstaining were Greg Wetherbee, Andy Johnson, Mark Olson, David Gay, and Dave McTavish. Motion carried.

2011 fall meeting – Weathers

Rhode Island – Week of October 24. Renaissance Hotel

Topics for Technical sessions have been reviewed. Should we have a special session for Mercury and Critical Loads?

Field trip to EPA lab, maybe go out on water.

2012 Spring meeting - Karlstrom

Portland Oregon towards the end of April 2012.

Adjourn – Moved by Greg Wetherbee