NADP 1997 Interim Spring Meeting

Minutes of the NADP NOS, DMAS and Effects Subcommittees

Asilomar Conference Center
Pacific Grove, CA
April 7- 9, 1997

NOTE: A compilation of all motions made and voted upon during the meeting may be found at end of this document (as presented by the meeting secretaries at the close of the final Joint NOS/DMAS Session, Wed, April 9, 1997).

NOTE: Attachments are listed for some presentations. Please request these directly from the secretary.

Attendees:

Mary Ann Allan mallan@epri.com
Richard Artz richard.artz@noaa.gov
Van Bowersox sox@sparc.sws.uiuc.edu
Cathy Copeland cathyc@nrel.colostate.edu
Scott Dossett sdossett@uiuc.edu
Joel Frisch jfrisch@usgs.gov
Bob Gilpin bobg@nrel.colostate.edu
John Gordon jgordon@usgs.gov
Kenni James kenni@sparc.sws.uiuc.edu
Gary Lear garyl@nrel.colostate.edu
Jeff Litteral litteral@usgs.gov
Andrea Morden-Moore andrea@sparc.sws.uiuc.edu
Ellen Porter ellen_porter@nps.gov
Susan Randall susan.randall@pca.state.mn.us
Bruce Rodger rodgeb@dnr.state.wi.us
John Sherwell JSHERWELL@dnr.state.md.us
Susan Smith susans@nrel.colostate.edu
Luther Smith lsmith@man-env.com
Gary Stensland garysten@uiuc.edu
Joe Tokos tokos@faraday.apl.washington.edu
Kathy Tonneson kat@aqd.nps.gov
Molly Welker molly@nrel.colostate.edu

NOTE: Joint Session of Network Operations Subcommittee (NOS) and Data Management and Analysis Subcommittee (DMAS)

First Joint Session of the NOS and DMAS Subcommittees was convened by Co-chairs John Gordon and Luther Smith at 12:50, Monday, April 7, 1997. Secretary, Joseph Tokos.

Agenda

1. Meeting Overview, Introductions J. Gordon/L. Smith

2. Standing Report-Coordination Office Gary Lear

NSRP-3 Renewal-Criticism was received on the NRSP-3 proposal. It could have been shorter and more specific. How is this proposal unique? The proposal may or may not need to be rewritten. It has been suggested that the project needs an thorough review or audit. Artz commented that there were positive benefits of such a review. Asked what are the guidelines and ground rules for the review? Perhaps this is something the Executive Committee should consider. Comment Frisch: Jack Barnes has been contacted regarding what should be in the review.

External Site Audit Program-Gary and an ad-hoc committee have been working with the EPA to provide input for the Information Collection Request (ICR) concerning this contract. The objective is the optimize the content and reporting from the site audits. All contracts for EPA-ORD will be moved to OAR. EPA (AA-ORD) moved 1.5 M of extramural grants from ORD. ORD does not have objective to do in-house monitoring.

Committee has been formed to investigate and go through the information requested in the existing Site Survey questionnaires. The committee would provide information to Gary so that a summary response to the ICR could be made by EPA's deadline (the end of April) from the CO. Chair Scott Dossett, members Susan Smith and John Gordon.

Web page access is the principle means by which people access the NADP data. There were 4751 files downloaded, at 1-10 files per request, from October 31, 1996 to March 31, 1997

Bob Gilpin has plans to redesign the computer system at the CO with the idea of moving to a PC Windows NT system.

3. Changes at NOAA: Implications for NADP/NTN Rick Artz

Discussion of the 8% CSREES fee. Rick is afraid that this will result in the loss of NADP sites. Cost to NOAA will be $16,000.

4. Standing Report-USGS External QA John Gordon/Jeff Litteral

Blind Audit Program- Jeff Litteral will be running it. Shipping and containers issues, the overall impression is that the shipping process is not adding significant amounts of analytes. Nilles commented that shipping samples in bottles improved the quality of the data. Protocol change was a good thing. NO3 and SO4 still show higher variability at lower pH.

Collocated Site Program- On the collocation program, Literal reported that there were 4 sites with collocated stations in 1995-1996 and that the program had been down-sized to 2 sites for 1996-1997 and for the future. Largest difference in collocated investigation is in Deposition Absolute Difference, caused by uncertainty in gage depth measurements. Nilles noted that the chemistry data from the ACM's is equivalent, but Belfort's are not. Artz comments that Belforts are neither sensitive nor precise. He noted Canadian sites have calculated 10-15% differences in deposition depending on the uncertainty in the Belfort readings. Frisch notes for reference that the results from CAPMON (is this acronym correct?) Intercomparison should be out soon.

Interlaboratory Comparison Program-Bowersox commented on the interlab comparison program. Labs that analyzed samples were regional or national labs. Comment by Artz that Mexican labs may be available through contacts from Bruce Hicks at NOAA-ARL. CAL performance was acceptable for most ions.

Intersite Comparison Program- John reviewed the performance of the last round. On corrective actions, M. A. Allan asked if there was any response to retests after Level 4.

5. Standing Report-CAL Kenni James

NWRI natural waters intercomparison results were not too good. Eight out of ten samples received were greater than the 95th percentile concentration at CAL. Samples were re-prepared and sent out again. Artz asked for the number of participating labs (50-70). How did they all do after NWRI changed their samples? Answer unknown. Nilles notes that Keith Long at USGS in Denver runs an intercomparison program of 70-90 labs looking at major ions and metals in groundwater and precipitation. CAL should probably take part.

6. Break

7. AIRMoN Update Van Bowersox

EFOF- Van discussed current status of Electronic Field Observer Form project. Here AIRMoN sites enter data directly into an AIRMoN server at the Water Survey. M. Allan asked if data were entered real-time, or transcribed (re transcription errors). Will form itself go to CO? This has not been determined/discussed (Lear).Bruce Rodger asked how EFOFS are entered. Are there plans to provide/offer EFOFS for other sites in NADP? Not at this time (Lear). There were some comments received from site operators re CAL giving this work back to Site Operators to do (some discussion).

8. Rain gage remote access Van Bowersox

Cost of ETI gage is 3K without needed data logger. Other than that, ETI gage looks like the best one. However, this was not a large enough test to get a definitive statistical answer.

9. MDN Update Molly Welker

There are now 21 active sites in the Network, 13 are proposed. Six are presently inactive. The three next sites to come on will be NM, and EPA/NESCAUM funded sites in EPA Region 1 (ME and NH). After release of the Interim Network data (late 94 to end of 1995), requests have skyrocketed for 1996 data. The 1996 data will be transmitted to CSU in the near future, and should be released on the Web in summer 1997. Comments were made regarding the need for a Network QA site, and efforts to address the need for data on mercury in dry deposition. Artz commented on a dry deposition study in Florida.

10.'Uses of NADP data' report Mark Nilles

Copies are available of a report on the uses of NADP data (site visitors affiliation, what they intend to use the data for, etc). Not currently sorted for visitors looking specifically for Hg or AIRMoN info. Comments were received that perhaps report could be

more explicit on affiliations, but Nilles responded that the contact information is confidential and not released to the public by design. There should be clarification of how the contact info will be released or published. There are real semantics issues of how the contact info may be used and published. Publishing a contact list, even using just the affiliation info, is different than just saying that the information may be used to justify the program to Congress and others. Stensland comments that this report is very useful, and encourages simpler forms of the report (affiliation, state, numb er of times accessed, but not necessarily intended use). Every-other year for a publication of this sort of report seems sufficient.

Motion: USGS will prepare a follow-up report for Fall 1998 on 'Uses of NADP Data' (Nilles et al.) Motion approved without dissent.

11. Graphical Displays of NADP/NTN Data Bob Gilpin

Different displays were shown, including a 4-year moving average of only the years filling all completing criteria, with different symbols for 'meeting' and 'not meeting' criteria. Comment Bowersox on how the first year is represented if it is a four-year moving average. Reply is that the first year would not show up until the end of the fourth year. Bowersox suggested just plotting first year by itself, next year as average of the first two years, etc., until the first 4-year average can be generated. Other displays: season plots on same sheet, trend-charts. Suggested scholarly text is appended to views to explain to lay-user what the data represent. Total number of charts would be about 2000, taking up about 20Mb on disk. Not too large. Would like to make annual updates and automatic process in the generation of such plots. Comments were received that box-and-whisker plots were very useful, and should be considered as a display (Artz/ Stensland). Luther Smith feels perhaps they may be too detailed.

12. Isopleth Maps of NADP/NTN data, Other map displays of data Gary Lear

Map choices on the web: specific years, varying color scheme choices, type of output (landscape or portrait, etc.) Consecutively running graphical displays provide unique perspective on data and trends. Examples are putting single frames into MPEG animations. Sherwell asked if data could be cropped to show regional-scale distributions. This is not yet available. Bowersox commented that the NADP logo should appear on any downloaded image; very useful for PR purposes. Comments on animations: Movies are probably not immediately useful; perhaps in the future.

13. NADP Marketing Issues Gary Lear

Press Releases could be made which advertise the availability of new maps and chart products. What needs to be done? Marketing needs to be a concerted effort to send new items to potential sponsors. Availability of existing data products needs to be better advertised. Comment by Dossett that data request post-cards could include box to check if user wants to receive updates. There presently is no method for tracking the reader service cards for types of info requester, data needed. A need is seen for a committee to develop and keep up with marketing issues, e.g., post availability to news groups, press releases, update data product availability, generate hit-lists of potential sponsors, etc.

Motion: Ad hoc committee should be formed to address NADP marketing issues and make a general outline for presentation to Exec and Budget Committees at the next meeting. Committee Chair G. Lear; members J. Sherwell, M. A. Allan, M. Nilles, and S. Dossett. Motion made, seconded, and approved without opposition.

14. WMO update Rick Artz

Artz made a presentation, and asked for votes for one site from each EPA region to be used by WMO. Results of poll:

Region 1: VT99
2: NY08
3: PA15
4: TN00, FL03
5: IL11
6: TX56
7: KS31
8: CO22, SD08
9: AZ03
10: OR10

Session adjourned 5:37 PM.

NOTE: Joint session of NOS and DMAS

April 8, 1997 Afternoon Session

Agenda

1. Rain Gage winterization - data and recommendations Andrea Morden-Moore

Andrea presented data from her site-by-site analysis of critical time periods for winterizing the recording raingages.

Motion: Update winterization-notification letters to reflect data presented by Andrea on % frozen samples received even in summer. Amendment was made that Andrea Morden-Moore, Scott Dossett, and Van Bowersox determine the method of notification (e.g. separate letters per site, CALendar, etc.) in the near future (before mid-summer). Motion carried.

2. Synoptic snow survey data Kathy Tonnessen

Kathy described the snow sampling efforts conducted throughout the Rocky Mountains by the NPS and the USGS-WRD, and compared the chemical loading estimates for the winter season with the NADP deposition sites located nearby to some of the snow synoptic snow monitoring sites. Winter loading estimates were consistently lower using NADP methods because some dry deposition was incorporated into the seasonal snowpacks. She concluded that "snowpits sampled at maximum accumulation are good winter loading estimates and this type of sampling can supplement NADP estimates of loading at high elevations".

3. Site Issues Susan Smith/Scott Dossett

Susan and Scott brought the following issues to the committee for advisement and consultation.

Motion: Grant 6-months extension to TX10 for their inability to do lab. measurements, Motion passed without dissent.

Motion: Name of NY99 will remain as West Point. All that is possible will be done to credit site operators for their involvement. Passed without dissent.

Motion: MT13 in NE Montana was inaccessible for most of winter (has not started sampling yet). Dossett would like to see something done. Postpone MT13 site relocation for 1 year until more information on site performance can be evaluated. Discussion ensued and the motion was withdrawn. A relocation action-process was decided to be premature. Susan Smith will keep in touch with the Site operators.

Motion: Recent contacts between CAL Site Liaison and field operators made it known that they were reporting ppt. from a non-standard (Nipher shielded) raingage. CO will work with CO98 so they can provide alter data. It is desired that CO98 switch and supply Alter data from now on. Motion carried.

4. Break

5. QA Plan Update Molly Welker/Gary Lear

Motion: Discussion of the recent history of QA Plan revision. Separate QA plans will be written for NADP and MDN by Molly Welker, and AIRMoN by the CAL. Motion passed unanimously.

6. Mercury and event sampling in Wisconsin Bruce Rodger-Wisconsin/DNR

The mercury monitoring programs being conducted in Wisconsin include the following:

1. Four (4) MDN stations located at Brule River (WI08), Popple River (WI09), Trout Lake (WI36) and Lake Geneva (WI99).

2. Seven (7) Swedish (IVL) passive bulk samplers. Three are with MDN samplers at Brule River, Trout Lake and at Lake Geneva. Three of the four remaining IVL samplers are collocated with NADP stations at Suring (WI25), Wildcat Mountain (WI98) and at Lake DuBay (WI28). The remaining IVL sampler is located at Devil's Lake State Park in south central Wisconsin.

3. Two (2) event samplers using MIC type B1C samplers equipped with an insert developed by Dr. Gerald Keeler of the University of Michigan. These samplers will collect wet-only samples on an event basis at Wisconsin's Trout Lake (WI36) and Lake Geneva (WI99) NADP/MDN/IVL stations. Event sampling at Trout Lake will begin by September 1997. The Lake Geneva site should be on-line by late fall 1997.

The mercury data sets from the Trout Lake and Lake Geneva sites will allow for comparison data between the three different sampling methods employed at those 2 stations and a comparison of event versus weekly integrated sampling.

Terror-Eyes; Bruce brought and displayed some "anti-bird" hardware he has been using at several of his sites. This large "owl" balloon and holographic tape are proving effective in reducing the incidence of contamination from bird residue. Bruce shows several pictures of the installation, without a motion or vote the committee signaled it's approval for the product and the

installation.

7. Blank Correction MDN Joe Tokos

Joe was prepared to answer a question about how much the deposition numbers could be off if the sponsors did not correct the raw ng/sample data delivered to them in the Interim network quarterly reports. (Interim Network data published on the Web has been corrected for Field Blanks(FB), only). The present procedure for dealing with blanks in the MDN (subtracting a quarterly mean sample bottle blank of 0.04-0.08 ng/sample, which is equivalent FB samples) corrects for about 50% of the total blank value. The other 50%, an additional 0.05 ng/sample, determined by System Blanks(SB), comes from the upper glassware (thistle-tubes and big funnels) and has not been subtracted from any data reported to date. Deposition numbers sent to sponsors in each quarterly report beginning with the third quarter report of 1996, and in continuing reports, have been corrected for FB only. A histogram of ng/sample for all MDN samples, from day one of the Interim Network to the end of the first quarter of 1997, shows about 15% of the total 900+ samples falling into the most frequent, 1-2 ng/sample bin Because current deposition data is not corrected for SBs, deposition may still be overestimated by around 5%. Because the total number of SB determinations is small, data will not be corrected for this offset at this time.

8. MDN Metals and/or Organics Framework Joe Tokos

Overheads were presented. Discussed incorporating new chemical species into the NADP framework. Do we need a survey of NADP sponsors, state PCA's, EPA- what metals are of interest? Gave some ideas on how we bring new measurement programs on-line. Made a cost-per-suite of 8-15 metals (ICP-MS) from Frontier Geosciences (HAL) to site sponsors.

9. Field Blank Update John Gordon

John reviewed the progress on the new Field Blank (FB) program. FB's are being received and processed at the CAL. Concerns were voiced about how much we are pushing sites to do for the external programs. Dossett raised concerns about either increasing the frequency of the submissions or limiting the permutations of the study so that meaningful analysis could be performed. Gordon will consider this.

10. Low volume sample analysis-recommendations Gary Lear/Van Bowersox

Gary and Van reported on the options available for processing low volume samples. Discussion of cost savings followed.

Motion: Propose to Exec and Budget Committees that DA samples may be eliminated. Motion carried.

Motion: Propose to Exec and Budget Committees that hard-copy of the NADP annual data report could be eliminated. Motion carried without dissent.

Joint Session of NOS/DMAS adjourned at 5:20 PM.

NOTE: Joint session of NOS and DMAS

Final Joint Session of the NOS and DMAS Subcommittees was convened 0820, Wednesday, April 9, 1997, by Co-chairs John Gordon and Luther Smith, Secretary Susan Smith.

Agenda

1. Report on NAPAP advisory meetings/Status of USGS support for NADP/NTN Mark Nilles

It was a busy spring in the USGS offices. Mark will stay with the acid rain program, which will be transferring to NAWQA. He does not foresee any major changes in 1998 or 1999. Current proposed administrative budget has eliminated line item that says acid rain, but final decision has not been made. He is still assuming the same amount of funding will be available (1.72 million?). NAPA report will be coming out and copies will be available late summer, 1997.

2. Siting Criteria Deviations Luther Smith

He showed overheads of Siting Criteria deviations, and went over siting criteria from RTI sheet. Some questions were voiced about derivations. Should this data be made available? He showed a strawman proposal with suggestions of his own. Discussion items included whether CO has RTI violations in electronic form. The CO is planning on having a proposal by fall on this topic.

3. NADP Archive Sample Utilization Mark Nilles

Mark showed overheads of subsampling and other sample liquid utilization criteria. Discussed current policy about archive samples in long term storage at the CALs. Proposed solutions such as implementing a well-defined sub-sampling policy for NADP/NTN and AIRMoN archive samples. Submitted policy for archive sub-sampling and a protocol for developing same.

Point 1. NADP archive sample sub-sampling or other utilization. Currently there is no protocol or policy for approving the sub-sampling or other utilization for NADP/NTN and NADP/AIRMoN archive samples within the retention period.

Point 2. Requests are forthcoming asking to subsample or utilize samples within the retention period. Proposed solution: Implement a sub-sampling policy for NADP/NTN and AIRMoN archive samples. Further enhance scientific value of the network. Leverage network investments. Ensure the network retains some sample through the retention period. (No total usage). Ensure NADP will be the repository and disseminator of sub-samples. No third-party coordination or re-dissemination.

Point 3. Proposed policy for archive sub-sampling. Requests for sub-sampling of archive samples will be forwarded to the NADP coordinator. Requests for sub-sampling of archive samples will be forwarded by the NADP coordinator to the Chair of the effects committee and to the Director of the CAL. These three individuals will comprise an ad-hoc subcommittee of the executive committee to prepare a sub-sampling plan.

Point 4. Protocol for developing the plan. Annually (or semiannually as needed), a conference call will be initiated between the ad-hoc committee and the investigators requesting archive samples. During this call, develop a sub-sampling arrangement for the following year. If the requesters cannot agree on a plan, the ad-hoc committee will develop a plan following the call. The plan will be approved at the Fall or Spring executive committee meeting. Implementation of the plan will be carried out by the Director of the CAL.

Point 5. Other requirements. An individual requester or the EXEC committee may terminate the arrangement at any time. Present progress at the NADP Technical committee. Credit the network in all publications and presentations based on data.

Motion: Accept the plan described above.

Ammendment1: Issues to be resolved by ad hoc committee before Exec. Committee meeting. Committee to be composed of Effects Subcommittee Chair, Director of CAL, and coordinator of CO.

Amend. 2: Chair of this committee will be CO Coordinator (Lear). J. Sherwell and Van Bowersox are committee members.

Amend. 3: There will be a charge for utilizing the sample archive.

Amend. 4: There will be a six-month delay period before release of archive samples.

Amend. 5: Other details to be worked out by the committee.

Motion passed as amended.

4. Ion balances since the protocol change Andrea Morden-Moore

Andrea spoke about ion-balance changes to samples after the change in bottle protocol. She presented equations for calculating ions and ion balances. She showed several graphs and tables showing: ion % differences, pre- and post-protocol changes in field and lab pH.

Histograms and scatter plots that were presented by Andrea have been sent to Susan Smith as attachments/enclosures.

5. Break

6. Web Page Distribution of minutes - Is it working? Scott Dossett

Dossett asked how the system of web publication of the minutes was going, how easy it was for the CO to process the information and what changes might be necessary. Considerable discussion.

Motion : All presenters provide info for inclusion in the minutes in html or WP7 format for text, and gif format for figures.

Amendment: Items should be submitted no matter what the format, rather than presenters not submitting anything. CO will assist. Amendment was made to allow 10 days after the meeting to send materials to the secretaries. Motion passed as amended.

7. CAL Site Communications (Memo Updates) Scott Dossett

Scott showed overheads of: a memo that goes out to sites about sample problems, omissions or errors, a new update memo about the new Broadley-James pH electrodes, a new CAL electrode performance report, and an example of the new CALendar. Finally, an overhead showed recent pH check-sample measurements.

8. Effects Committee Report on Nitrogen Brochure

PROPOSAL: Prepare brochure on nitrogen deposition and its effects on ecosystems and NADP's contribution to understanding the problem.

Effects committee members explained the details of the proposal for this brochure.

PURPOSE OF BROCHURE:
Brochure Would Answer:
-What is nitrogen deposition?
-Where does it come from?
-How is it measured (NADP=s role)?
-What effects does nitrogen deposition have on the environment?
-What is NADP=s contribution to understanding seasonal and spatial trends in nitrogen deposition?

Note: Brochure would also include general information on NADP. The brochure would include relevant references in literature and on the Web.

BROCHURE AUDIENCE:
Brochure Length and Scope
Topics and Leads
Areas of Concern

Brochure Production (Lead: Molly Welker, with help from Coordination Office) - Brochure will be produced in the Coordination Office in a format compatible with the Web.

The above proposal was presented, the following suggestions were made:

-Finalize the brochure by the October 1997 Meeting in order to utilize available funding.
-Develop and apply distinctive "signature NADP" format that would be useful in future publications and would give publications an easily identifiable look.
-Use 2-color scheme.

Motion: to produce the brochure was passed.

8. Revisit previous items, locations for spring Gordon/All

'98 meeting, report from Effects Committee, and wrap-up.

Albuquerque, NM was selected by vote as the site of the Spring Meeting.

ADJOURN MEETING

NOTE: Network Operations Subcommittee Only Meeting

Asilomar, California
April 8,1997

Officers: Chair: John Gordon, Vice Chair: Scott Dossett, Secretary: Susan Smith

The meeting was called to order by John Gordon at 8:20 AM.

The following people were present:

Rick Artz
Scott Dossett
Joel Frisch
John Gordon
Kenni James
Gary Lear

Jeff Litteral
Susan Randall
Bruce Rodger
Susan Smith

Agenda

1. Minutes of the last meeting

Motion: To approve the fall minutes from the Williamsburg meeting. Passed unanimously.

2. Field Operations Manual Revision - Progress report and update on distribution (attachment A) Susan Smith/Scott Dossett

Scott reported that the two revised sections are being distributed to site operators in the black boxes when they are sent to sites with the buckets. There was discussion about how to distribute the rest of the manual. Susan Smith proposed to wait until the rest of the manual is finished and then distribute the entire revised manual to everyone who needs one. The manual is to be done by October 97 (at least a draft). The committee agreed that the manual should be sent out as one unit when it is finished. There was discussion about future revisions and how they should be distributed.

Motion: After this Site Operation Manual revision, updates will be annual and submitted on a section by section basis at the Spring meetings. Passed unanimously.

A committee was formed to review and give editorial comments for the current manual revision, consisting of:

Joel Frisch, USGS
Susan Randall, MPCA
Jim Trochta, WI25 operator
Cathy Copeland, CO
Jane Rothert, CAL

A schedule for the revision is being set up at the Coordination Office.

3. Replacement Parts Update/ACM Visit (attachment B) Joel Frisch

Joel Frisch talked about his recent visit with Wally Weber. He handed out a letter he had written concerning the visit. Joel is trying to get a hold of the vice president of a company that may be interested in buying out ACM. Joel reported that as Wally renovates each box, he puts in changes and keeps a log of it. Wally has made several changes and the boxes are all different. Joel doesn't think that we can go outside of ACM for repair because of all of these different changes. There followed a discussion on going outside for motor box repair and the pros and cons. Joel told the committee that when Wally gets a new motor he immediately strips out the gears and puts in his own. This discussion ran into the issue of having another person repair the equipment. Susan Smith told the committee about Brian Jesse, an independent person in Fort Collins attempting to repair motor boxes and sensors. She had a resume from him that she passed around, and said that he seemed pretty competent. Susan recommended going ahead with Brian to see if he could fix the boxes successfully, and then test out his results.

Motion: The Coordination Office proceeds with developing a relationship with an outside person to repair the COED equipment. The expense is at the discretion of the Coordination Office. Immediately start motor box, sensor and event recorder work and report results at the next meeting. Passed unanimously. *Scott Dossett wants it noted here that he remembers the motion differently, including in it a specification to find 2 separate vendors.* There was some discussion about searching out two different vendors so we wouldn't have the same problems we had before with relying on a sole source vendor. The committee suggested that Brian Jesse come up with a repair rate per box, excluding costs. Scott Dossett asked Gary Lear if we had enough cash reserve to buy Wally's equipment if he does retire. Gary said that although it was a good idea, it was unlikely. If that happened and there was no one to take over, we would probably look for another vendor.

4. COED Inventory Report (attachment C) Susan Smith

Susan Smith presented an overhead of the current inventory. Wally Weber has returned the majority of the parts that he had. She showed a significant decrease in the number of parts at Wally's and an increase in the numbers at COED. Several sites that still haven't returned loaned and broken equipment were discussed. Susan and her student hourly workers have aggressively used phone calls, emails and finally letters to the sites with the overdue equipment. They continue to make progress in getting delinquent parts returned, and plan on keeping it as a priority until the inventory is cleaned up. Shipping of rain gages was then discussed, and Scott and Susan said that rain gages shipped in the future would be shipped in two separate containers, with the guts and the housing separate. They think that they will ship better with less disruption to the parts. A discussion followed about

the refurbished rain gage program.

Motion: Replace 20 rain gages as a goal for the remainder of 1997. Passed.

Motion: Implement rain gage replacement at an interval of every 5 years for each site, which is approximately 40 gages a year. Amendment - Generate a rain gage replacement requirement statement, which will be presented to executive committee and the budget committee. Passed unanimously.

The committee to write the justification consists of Susan Smith (chair), Joel Frisch and Scott Dossett.

5. Site Equipment Committee Report (attachment D) Susan Smith/Scott Dossett/Joel Frisch/John Gordon

Susan Smith showed an updated parts list. She said that the only parts needing to be addressed were the motor boxes, event recorders and sensors (the parts that Wally fixes). Susan recommended that we find an alternative repair agency.

Motion: Accept the recommendations of the repair committee and locate alternate repair agencies for the motor box, sensor and event recorder. Passed unanimously.

6. ARS Motor box Repair (attachment E) Susan Smith

Susan Smith presented a chart of the parts that ARS has repaired, those that never worked at sites, and how long they have had broken parts at their office. She said that it is a real problem getting parts back from them, and that even when they did, the success rate of the parts was not very good. She has not heard from them since December 1996. She wants to get all of the parts back from ARS and sever the relationship. Proposed Action: Retrieve all of the equipment from ARS and only pay for what was repaired. The committee agreed with this action.

7. Motor box Redesign (attachment F) Scott Dossett/Susan Smith/John Gordon

Susan and Scott presented information on the equivalency of the USGS collocated site collection efficiencies and the upgraded motor box efficiencies using data provided from the Collocated Project by John. The new design proved equivalent to the old design. As shown on the graphs, the new design performed within the expected range of the old motor boxes. Both Scott and Susan want the redesigned motor boxes to be able to be put into the COED stream, and to be able to use the schematic to pursue upgrades to the 4 basic circuit changes.

Motion: The redesigned motor box is equivalent to the regular ACM boxes in the network.

Amendment: Use the four ARS redesigned boxes in the network interchangeably with the ACM boxes, and shop around the redesigned ARS schematic when the appropriate time comes. Passed unanimously.

8. 11-7 Grid Sensor Study at CAL (attachment G) Scott Dossett

Scott Dossett presented data on the difference between the two ACM sensor designs, the 11 grid and the 7 grid. The 7 grid is the old style, and the 11 grid the newer. Wally will change the grids out for free if they are sent to him. Molly Welker's use of the 11 grid in MDN prompted Scott's study. He is not ready to recommend it for use in NADP/NTN sites; he wants more time to study it. Susan Randall said that she has used 11 grids on her MPCA sensors for 15 years. Her 11 grid sensors have windshields on them and she is willing to share her data. She can run a test side by side. Scott will continue to run his study and report on it again.

9. CAL Aerochem Bottom Enclosure Design (attachment H) Scott Dossett

Scott Dossett showed his schematics for the bottom enclosure. Several sites have asked Scott about enclosures and 3 have implemented them. For NC45 this has been a major improvement. OR10 is enclosed, and WA24 may be. Scott said that the feedback wasn't what he had hoped for when he sent out the notice. He got maybe a half dozen responses.

The meeting adjourned at 11:50.

NOTE: Data Management and Analysis Subcommittee Only Meeting

DMAS Subcommittee was convened Tuesday 8:20, April 8, 1997 by Chair Luther Smith, Vice-Chair Bob Gilpin, Secretary Joseph Tokos.

Agenda

1. Approval of fall DMAS minutes Luther Smith

Motion: DMAS minutes from the fall meeting in Williamsburg, WA should be approved. Motion approved unanimously.

2. QA Questionnaire Report Mary Ann Allan

NADP interest was to find out what QA information was available. A survey of 12 questions, two pages, was sent out. Nothing has been sent from CO, due to QA manager not being hired yet. Mary Ann will proceed with getting info from Program participants. References on existing QA parameters were received (blind audits, precision analysis, replicates, reanalysis, bucket/bottle comparisons, etc.). Gilpin: Had trouble fitting their data into the survey. Questions did not all apply. Was meant to apply to many different things. E.g. many data are already reported/owned by CAL. Many different names and terms for same data item exist (e.g. bucket/bottle comparisons have a few different labels). Questions were asked about whom is responsible for each parameter. Two-week samples belong where? Sample reps belong at CAL, etc. CO says EPA has transferred money, but none has been received, even after a few weeks time. This was meant to be an internal product to document the QA data associated with the network and to help assess which QA data ,if any, should be made more readily available to the data user. The exercise was designed to allow interested people to determine how well developed the resource is. Stensland asked if it would be possible to give short summary on web regarding the types of QA data available, including a list of all names used to describe this product. Can a short-list be published, with contact person? What can be given out, how many, and at what schedule? Comment was that the product should be designed to inform the user of the error associated with the parameter. Warning was voiced regarding publishing the whole list of information, without regard to how sensitive the information might be (on a Network PR level). Gilpin notes that CSU expects to have a QA person employed in 4-6 weeks, working, and able to give a report at the fall meeting.

Resolution made that CSU (Gilpin/Copeland) receive results of QA questionnaire prepared by M. A. Allan by late summer, reference sources of the extant QA parameters available. The information will be worked up by the new CSU QA person, and give an update at the DMAS at the fall meeting, 1997. A list will eventually be distributed.

3. Storage of Rain gage charts at CAL Van Bowersox

Last year CO had the idea about distributing the Rain gage charts. Staff and charges were not set up to do a transfer to users. CAL said they could take them, but charts have not been received at CAL from CO. Van would like to change way they handle paper records.

Two separate batches are sent to CO (white and yellow). White gets annotated. At end of data screening, whites are photocopied and originals sent to CO, for answering questions. Copies of whites are saved at CAL for reference purposes (Expense is incurred). The yellow get stapled to gage charts at login, and sent to Scott for review. These are separated into hot and save as is. Used for consulting purposes, troubleshooting purposes. Yellows/gage are kept for several months after data is released. Gary proposes that system be changed before anything is sent to CO. Send all whites to CO, and CO faxes back ones that have a problem. Yellows will never go to CSU, but will be filed at CAL. If CO needs to see it, CAL will fax it to CO for use. Will get data into database a few weeks faster and it will save money. (This will make student sorters very happy)! Discussion followed concerning how the sites are sorted and filed, whether gage charts are attached, how far back, etc.

Motion: All annotated white FORF originals will be sent to CSU. Yellow copies and gage charts will be stored at CAL. Approved unanimously. To be announced by V. Bowersox at the Fall Technical Committee Meeting, 1997.

4. Revision of the bias advisory Van Bowersox

Gary, Mary Ann and Van were on a subcommittee to revise the Notification of Changes in Important Procedure. Can now download a text and table showing median differences. Charged with modifying and changing descriptive text to show how differences in bucket/bottle depend on volume and sometimes volume weights concentrations. and update, and did a few iterations of an advisory to inform all users of correction updates. Newest paragraphs are the last two. Question; if one were a user, when would user change the data? Is difference shown in 92-93, can that same bias be assumed to be present in 83-84, etc? Smith expressed concern with how the correction should/would be made. Don't want to give impression that the formula shown is what should definitely done.

Should not be done on a sample-to-sample basis. Bowersox says only time that has been done was to look at data-set comparison. Some disagreement on whether one should adjust individual samples and generate average (this was done on a limited scale at CAL for analysis purposes), or simply adjust the average (L. Smith) for your own use. Stensland: some questions from modelers relate to when will NADP tell us what the correction will be, and when the corrected data be released. Smith suggests presenting distributions of differences (percentiles). Median values would remain the same, but may lose information on volume dependence of some ions. Include in advisory to an internal NADP report (e.g. Lynch et al., on adjusted-non-adjusted

data differences). Discussion included statement that sampling variability is greater than the bucket/bottle differences. Also, suggestion is that a formula NOT be presented, simply reference the work by Lynch et al. Smith very strongly objects to NADP correcting and re-issuing data. Database should remain as it is, and just supply the advisory (properly worded and referenced).

Motion: Accept Revision 1 of Bias Advisory (Bowersox).

Amendment to the motion was made to replace existing table with a table of percentiles and amend the text as required (L. Smith/V. Bowersox). Amendment carried 5 in favor to 3 opposed. Motion to accept Revision 1 as amended carried 5 for to 4 against. The revised advisory will be delivered to the Executive Committee by Luther Smith.

Inclusion by Bowersox, sent 4/12/97:

Based on my notes from the Data Management and Analysis Subcommittee meeting, these are the numbers that Luther suggested be assembled in a table, along with text to explain how they elucidate the differences in the pre-1994 and new protocols. I believe Luther was going to take the lead in writing a new advisory for the Executive Committee, which next meets in May. I've listed the following percentile values, which can be added to the medians already listed in the table on the Web page. The number of samples in each set also appear in the advisory on the Webpage. These are concentration differences in (mg/L) units, except conductance (in micro siemens/cm) and pH.

5th 10th 25th 75th 90th 95th

calcium -.048 -.022 -.006 .009 .026 .043

magnesium -.003 -.001 0 .004 .007 .012

sodium -.025 -.016 -.002 .017 .049 .077

potassium -.014 -.005 -.001 .005 .014 .029

sulfate -.10 -.03 0 .05 .10 .14

nitrate -.16 -.06 -.01 .03 .10 .15

chloride -.04 -.02 -.01 .01 .03 .05

ammonium -.07 -.03 -.01 .03 .08 .12

conductance -1.4 -.5 .2 1.9 3.9 5.8

pH<<4.6 -.02 -.01 .01 .06 .10 .17

pH>5.6 .08 .14 .24 .88 1.18 1.42

all other pH -.01 .02 .05 .24 .45 .56

5. Break

6. Field Validity Codes for AIRMoN Gary Lear

Gary presented the codes now used in AIRMoN to validate data, analogous to NADP. Two codes are used for pH and conductivity, NADP/NTN criteria have been used to screen data, etc.

For AIRMoN, a very simple coding is used:

A = unquestionable quality
B= questionable quality
C= contaminated or known to be compromised.

Ratings and tabulations were explained, and examples were given. No pH 4.9 check solution exists for AIRMoN, pH 4.3 is used instead.

Motion: Accept the use of AIRMoN Field Validity Codes as described by Gary. Motion carried unopposed.

7. Inside rain brochure Gary Lear

Described minor corrections to the color brochure (two panels were switched in Grand Canyon photos, page 15. Panels out of order and caption incorrect). In last sentence of page 21, a line of text is missing at the bottom of the page. Happened when revision was made in text and when text was moved down, it was pushed off the bottom of the page. It was agreed that cost would be split in later printings, since Lear had not asked for a final blue-line copy. Errors should be accepted in these printings. Total recall should not be done, but corrections will be incorporated into second printing. 2000 prints were made; 600 to sponsors, 50 copies went to Adirondack Council, Site Supervisors were sent, others. Suggestions were made on who should receive copies as well: Site Operators should be sent as morale booster. State Ag Directors and Deans should receive as well. Major environmental groups should also receive copies. Nature Conservancy, Congressional delegations via environmental groups, Smithsonian, major newspaper science editors, Council for Environmental Cooperation (Montreal), every state air agency. Cover letter to Delegations should be prepared, explaining that NADP funding is up to you, without your support the program goes away. Simple sentence should be included in next printing identifying HAL and CAL by name and location. Frontier Geosciences Inc. (HAL) should also appear on inside back cover on list of NADP Cooperators. Lifetime of document is probably two years, then it should be reviewed and then possibly redone from scratch. It is about $1 cost per each, at 1000 per printing, plus $0.70 to mail it. There was a discussion regarding expense of production and shipping. A postcard asking if they would like a copy is an idea (Lear). These need to be collated by hand, but it is not necessarily expensive. Site sponsors, operators, and Canadian colleagues should be on the mailing list for such cards. Professional societies journals should be used to announce the presence of the publication. A few were mentioned. This would get a good venue, since these journals are always looking for news items. A notice should eventually be made on the Web page announcing that the Inside Rain publication exists.

8. Status of early MDN data availability Molly Welker

Transition data is already on the web on the NADP/MDN page. The 1996 data will be available in the summer of 1997. There was a discussion regarding, availability of data, formats, etc. Comment was made that the MDN is probably the only network in existence where mercury data is available/published on the net.

NOTE: Effects Subcommittee Only Meeting

April 8-9, 1997
Asilomar Conference Center

Participants:

Ellen Porter, Co-Chair
John Sherwell, Co-Chair
Kathy Tonnessen
Molly Welker
Mary Ann Allan

Background: At the October 1996 NADP Technical Meeting, the Effects Subcommittee met and expressed interest in nitrogen deposition effects on ecosystems and NADP's role in understanding nitrogen deposition. Rich Grant agreed to take the lead in producing a brochure that would address nitrogen deposition and ecosystem effects, and NADP's contribution to understanding them. It was agreed that the Effects Subcommittee would assist in this effort. In subsequent communications between Effects Subcommittee members, it was decided that the Effects Subcommittee would meet at Asilomar to prepare a proposal for a nitrogen brochure. The Subcommittee prepared the following proposal and presented it to the Data Management and Analysis Subcommittee on April 9.

PROPOSAL: Prepare brochure on nitrogen deposition and its effects on ecosystems and NADP's contribution to understanding the problem.

PURPOSE OF BROCHURE:

Informational Tool
Marketing Tool

BROCHURE WOULD ANSWER:

What is nitrogen deposition?
Where does it come from?
How is it measured (NADP=s role)?
What effects does nitrogen deposition have on the environment?
What is NADP=s contribution to understanding seasonal and spatial trends in nitrogen deposition?

Note: Brochure would also include general information on NADP. The brochure would include relevant references in literature and on the Web.

BROCHURE AUDIENCE:

Site sponsors and operators, SAES and others identified as audience for "Inside Rain."

BROCHURE LENGTH AND SCOPE:

Maximum length 4 pages. The brochure would include general, broad descriptions of problem, with references to other information sources for more specific information (e.g., webpages of NADP, EPA, EMAP, Chesapeake Bay, and NAWQA). An example of a similar brochure that could be used as a model is the USGS brochure on mercury and its effects.

TOPICS AND LEADS:

Introduction (Lead: Ellen Porter)
What is nitrogen deposition?
Where does it come from?
How/when/where is it collected and measured?
The nitrogen cycle
NADP isopleth maps of nitrogen deposition

AREAS OF CONCERN:

Agriculture (Lead: Rich Grant)
Estuaries (Lead: John Sherwell)
Terrestrial (Lead: Kathy Tonnessen)

Brochure Production (Lead: Molly Welker, with help from Coordination Office) - Brochure will be produced in the Coordination Office in a format compatible with the Web.

Completion Date: Committee proposes to have a draft to the DMAS by the Fall 1997 Technical Meeting (see below). Committee members will provide draft sections to Molly Welker by July 1.

Summary of Motions and Proposed Actions from the Spring 1997 Interim Meeting

Joint Sessions

1) Committee was formed to explore ways to improve the usefulness of the data collected during site audits by responding to the EPA's Initial Comments Request (ICR) . The committee will report their suggestions to the executive committee for approval and then present them to the EPA. Chair Scott Dossett, members Susan Smith and John Gordon.

2) Motion: USGS will prepare subsequent editions of the report "Uses of NADP Data' (Nilles et al.). It was agreed that the goal would be to have the next edition available for the fall 1998 meeting and then on approximately a 2 year cycle thereafter. Passed unanimously.

3) Motion: Ad hoc committee should be formed to address NADP marketing issues and make a general outline for presentation to Executive and Budget Committees at the next meeting. Passed unanimously. Committee Chair Gary Lear; members John Sherwell, Mary Ann Allan, Mark Nilles, and Scott Dossett.

4) Motion: Update winterization-notification letters to reflect data presented by Andrea on the percentage of frozen samples received at a given site when the rain gage is not winterized.

Amendment: Andrea Morden-Moore, Scott Dossett, and Van Bowersox will determine the method of notification (e.g. separate letters per site, CALendar, etc.) in the near future (before mid-summer). Passed unanimously.

5) Motion: Grant 6-month extension for exemption for field chemistry at TX10. Passed unanimously.

6) Motion: Name of NY99 will remain as West Point. All that is possible will be done to credit Black Rock Forest Consortium for their involvement. Passed unanimously.

7) Motion: CO and CAL will work with CO98 so they will begin to use the alter shield for their rain gage data. CO98 should stop reporting data from the Nipher shielded rain gage and report alter shielded data instead. Passed unanimously.

8) Motion: Separate QA plans will be written for NADP and MDN by Molly Welker. The AIRMoN QA plan will be written by the CAL. Passed unanimously.

9) Motion: Propose to Executive and Budget Committees that "dry added" samples be eliminated as a cost saving measure, to be replaced by the Field Blank program. Passed unanimously.

10) Motion: Propose to Executive and Budget Committees that production of a hard copy NADP annual data report could be eliminated if necessary as a cost saving measure. Passed unanimously.

11) Motion: Proposed policy for archive sub-sampling. Requests for sub-sampling of archive samples will be forwarded to the NADP coordinator. Requests for sub-sampling of archive samples will be forwarded by the NADP coordinator to the Chair of the effects committee and to the Director of the CAL. These three individuals will comprise an ad-hoc subcommittee of the executive committee to prepare a sub-sampling plan. Annually (or semiannually as needed), a conference call will be initiated between the ad-hoc committee and the investigators requesting archive samples. During this call, develop a sub-sampling arrangement for the following year. If the requesters cannot agree on a plan, the ad-hoc committee will develop a plan following the call. The plan will be approved at the Fall or Spring executive committee meeting. Implementation of the plan will be carried out by the Director of the CAL. Other requirements. An individual requester or the EXEC committee may terminate the arrangement at any time. Present progress at the NADP Technical committee. Credit the network in all publications and presentations based on data. Accept the plan described above.

Ammendment1: Issues to be resolved by ad hoc committee before Exec. Committee meeting. Committee to be composed of Effects Subcommittee Chair, Director of CAL, and coordinator of CO.

Amend. 2: Chair of this committee will be CO Coordinator (Lear). J. Sherwell and Van Bowersox are committee members.

Amend. 3: There will be a charge for utilizing the sample archive.

Amend. 4: There will be a six-month delay period before release of archive samples.

Amend. 5: Other details to be worked out by the committee.

Motion passed as amended.

12) Motion: All presenters will provide information for inclusion in the minutes in html or WP7 format for text, and gif format for figures or their presentations will not be included in the minutes.

Amendment 1: Presenters should submit what they have no matter what the format, rather than not submitting anything. CO will assist. New material is not requested, the presenters need to send what they want to become part of the minutes.

Amendment 2: Allow 10 days after the meeting to send materials to the secretaries.

Motion passed unanimously as amended.

NOS Only Session

13) Motion: To approve the fall minutes from the Williamsburg meeting. Passed unanimously.

14) Motion: After this Site Operation Manual revision, updates will be annual and submitted on a section by section basis at the Spring meetings. Passed unanimously.

A committee was formed to review and give editorial comments for the current Site Operators Manual revision, consisting of::

Joel Frisch, USGS
Susan Randall, MPCA
Jim Trochta, WI25 operator
Cathy Copeland, CO

15) Motion: The Coordination Office proceed with developing a relationship with an outside person to repair the COED equipment. The expense is at the discretion of the Coordination Office. Immediately start motor box, sensor and event recorder work and report results at the next meeting. Passed unanimously.

16) Motion: Replace 20 rain gages as a goal for the remainder of 1997. Passed unanimously.

17) Motion: Implement rain gage replacement at an interval of every 5 years for each site, which is approximately 40 gages a year. Amendment - Generate a rain gage replacement requirement statement which will be presented to executive committee and the budget committee. Passed unanimously.

The committee to write the cost justification for the 40 gages per year:

Susan Smith (chair)
Joel Frisch
Scott Dossett

18) Proposed Action: Retrieve all of the equipment from ARS and only pay for what was repaired. Committee all agreed.

19) Motion: The redesigned ARS motor box is equivalent to the regular ACM boxes in the network. Amendment: Use the four ARS redesigned boxes in the network interchangeably with the ACM boxes, and shop around the redesigned ARS schematic when the appropriate time comes. Passed unanimously.

DMAS Only Session

20) Motion: DMAS minutes from the Fall meeting in Williamsburg, VA should be approved. Passed unanimously.

21) Motion: CSU (Gilpin/Copeland) receive results of QA questionnaire prepared by M. A. Allan by late summer, reference sources of the extant QA parameters available, and update the DMAS at the Fall meeting, 1997. A list will eventually be distributed. Passed unanimously.

22) Motion: All annotated white FORF originals will be sent to CSU. Yellow copies and rain gage charts will be stored at CAL. Passed unanimously.

To be announced by V. Bowersox at the Fall Technical Committee Meeting, 1997.

23) Motion: Accept Revision 1 of Bias Advisory (Bowersox).

Amendment: To replace existing table with a table of percentiles and amend the text as required.

Amendment carried 5 in favor to 3 opposed. Motion to accept Revision 1 as amended carried 5 for to 4 against.

The revised advisory will be delivered to the Executive Committee by Luther Smith.

24) Motion: Accept the use of AIRMoN Field Validity Codes as described by Gary. Passed unanimously.

Effects Committee Only

25) Motion: Prepare brochure on nitrogen deposition and its effects on ecosystems and NADP's contribution to understanding the problem. Passed. (NOTE: this motion was also passed in the joint NOS, DMAS and Effects committees.)

Respectfully submitted,

Scotty R. Dossett, Interim NOS and DMAS Secretary
29 August 1997

NOTE: significant responsibility for these minutes goes to Susan Smith and Joe Tokos who were the presiding secretaries during the meeting and to the individuals who reviewed their text sections.