

National Atmospheric Deposition Program (NRSP-3)
Technical Committee Meeting
October 19 - 22, 1992
Cocoa Beach, Florida

Minutes

Tuesday, October 20, 1992

Opening -

The opening session for the 1992 NADP/NTN Technical Committee Meeting was called to order by Chairman, Sandy Verry. Those present introduced themselves (see attached list).

It was announced that the scheduled field trip to Kennedy Space Center had been canceled due to a planned launch of the Challenger Space Shuttle on Thursday. The NADP group will be allowed to view the launch from a special on-site VIP section, but must travel to the space center in private automobiles. The launch window is expected to fall between 11:22 a.m. and 2:16 p.m.; therefore, rescheduling of the final business session to Wednesday evening will be necessary.

Administrative Advisors' Reports -

Lannie Boyd commented that a terrific job has been done by the NADP. Lannie will be retiring in December but will still be available to "sell" the program. He was presented with a plaque in appreciation of his work on behalf of the program.

Dagmar Cronn, new Administrative Advisor from the Northeast Region, was introduced and welcomed.

Roald Lund will assume the role as lead Administrative Advisor. He commented on the compromise aspect of one of the most diverse committees in the nation, but which still maintains a research commitment, controlled through a flagship committee. He feels the NRSP-3 has a great future.

Coordination Office Report -

Jim Gibson announced that he has resigned as NADP/NTN Coordinator to become responsible for establishing a UV-B monitoring network for USDA CSRS. Carol Simmons has assumed the role of NADP/NTN Coordinator. Jim talked about his long association with the (NADP) Program and the people. He is moving into another program which is also supported by CSRS and believes the success of NADP is responsible for the ag interest in UV-B. Jim enumerated events of the past year.

1. Changed Coordinators
2. Received new NR Charter
3. Found continued funding for sites
4. Revised 1990-91 report
5. Pesticides
6. AES NATCHEM
7. Bucket/Bottle network
8. Metals test network
9. AIRMoN daily protocol

Several awards and expressions of gratitude were presented to Jim.

Carol Simmons remarked on the status of the network from the perspective of the Coordination Office.

1. A renewal proposal for the continuation of NADP as NRSP-3 was submitted and approved, providing for continuation of the project under the agricultural experiment stations. This may pave the way for added funding.

2. A renewal proposal was submitted to CSRS for the continued coordination of the program with CAL as the laboratory. A letter of intent has been received from CSRS.
3. Commented on the possible loss of funding and the efforts on the part of many to have it restored.
4. Currently 200 sites in the network, with one new site pending in Alaska.
5. At the same time that funding is becoming increasingly restricted, there are increasing requests for data.
6. Additions have been made to the Annual Data Summary report.
7. NADP has been asked by NOAA to provide coordination and analytical services for their AIRMoN network, with inclusion in NADP as a sub-network. An *ad hoc* committee has been working with NOAA toward this end. There are currently six sites in their network, and it may grow to 20 sites.
8. Comparison of samples shipped in buckets versus nalgene bottles. Significant differences were found between ions in samples shipped in buckets versus bottles. The o-rings in the lids neutralize sample acidity and add other constituents. It appears that transferring to bottles would be the best approach. Protocols will be voted on at the Wednesday evening meeting.
9. Challenges.
 - A. Continue what we do and do it well.
 - B. A problem at CAL with incorrectly applied codes resulted in 1991 data being redone.
 - C. Must work to establish more solid funding for the program.
 - D. Need to work with BLM to assist them in deciding that their sites should be continued.
 - E. Need to do more in the way of data analysis. Should be taking advantage of the data base available. Should seek funding to undertake a data analysis effort, possibly in conjunction with federal agencies.
 - F. Opportunity to develop a research arm which can look at issues such as sample preservation. The pesticide study demonstrates our ability to do this kind of measurement on a network-wide basis, and we may be able to incorporate other organic measurements into NADP. There is a great deal of interest in pesticide measurements and in metals.
 - G. High elevation sites still have difficulty making good measurements. Agencies should be supporting development of better high elevation instruments.

Subcommittee Reports -

Environmental Effects -

Rich Grant announced that the Effects subcommittee is entertaining the possibility of sub-networks for mercury, organics, and pesticides, and will be discussing the status of those efforts.

Network Operations -

Lois West commented that Data Management and Network Operations will meet briefly together, then will separate and Network Operations will focus on the bucket/bottle study.

Data Management and Analysis -

Jim Lynch noted that the subcommittee will consider data completeness criteria and additions which might be proposed for the Annual Data Summary reports. They will also discuss comparison of daily precipitation with weekly data.

Poster Presentations -

Poster authors provided brief introductions to the information being presented. The following posters were displayed.

A Closer Look at the Ammonium Analyses at Selected NADP/NTN Sites – Sue Bachman

Wet Deposition of Organochlorine Pesticides in the Great Lakes - C. H. Chan, G. Bruce, B. Harrison

Adapting the Swedish (IVL) Sampler for Mercury Monitoring in the Upper Great Lakes Region - Julian P. Chazin

NADP/NTN: The Big Picture - Kathryn Douglas

The Standard Error of a Weighted-mean: Comparing Methods - Donald F. Gatz

Results of the NADP/NTN Trends Network Blind Audit Program, 1979-1992 - John Gordon

Range in Buffering of Atmospheric Deposition for New England Forests - Jane E. Hislop, J.W. Hornbeck, D.S. Buso, S.W. Bailey, R.B. Smith, and J.B. Shanley

Comparison of Heavy Metals in Precipitation: Acidified Versus Non-acidified - Ed Klappenbach

Precipitation Chemistry Trends in Florida - B. C. Madsen, T. Kheoh, T. Dreschel, L. Maull, C. R. Hinkle, and W. M. Knott

Dry Deposition to Long Island Sound — David R. Miller

New Perspectives on “Old” NADP, Integration of Precipitation and Aerosol Chemistry Data — R. L. Poirot, K B. Husar

The Canadian National Atmospheric Chemistry Data Base and Its Products - C. Ro, R. Vet, and W. Sukloff

Simulated Acidic Effects on Soybeans and Frogeye Leaf Spot - J. T. Waller, D. V. Phillips, J. Melin, and D. Spradlin

Wednesday, October 21, 1993

Contributed Papers -

The following papers were presented.

Long Term Trends in Atmospheric Deposition in the United States — James A. Lynch, Jeff Grimm, E. Corbett

Spatial and Temporal Distribution of Herbicides in Wet Deposition: Midwestern and Northeastern United States — Donald A. Goolsby

Design and Field Trial of a Splash Proof Wet Only Precipitation Collector — Scott R. Dossett

How Do U.S. NADP/NTN and Canadian CAPMoN Network Data Compare — Robert Vet, A. Sirois, and D. Lamb

The Precision of NADP/NTN Wet Deposition Measurements Determined with Collocated Samplers — Mark A. Nilles

History of Precipitation Chemistry in East-central Florida: 1977 to Present — B. C. Madsen, T. Kheoh, T. Dreschel, C. K. Hinkle, W. M. Knott, L. A. Maull

Invited Papers —

Following break, the group reconvened for invited papers on the topic of “Exploring New Directions for NADP/NTN.” The following were presented.

NAPAP Assessments — Derek Winstanley

Atmospheric Deposition in Urban Environments — Don Gatz

UV-B — Fitzgerald Booker

What We Haven’t Learned — Ellis Cowling

The final invited paper was followed by a group discussion, led by Ellis Cowling. The meeting was then adjourned to reconvene later in the afternoon for a final business meeting.

Final Business Session - Opening -

The final session of the 1992 NADP (NRSP-3) Technical Meeting convened at 4 p.m. Sandy Verry commented that one of the major parts of the network is the site operators. Each year recognition and appreciation are paid to operators who have served the network for either five or ten consecutive years and who have participated in the Site Operator Training Program at CAL. The operators, supervisors and sites recognized for dedicated service to the program for 1992 are shown below.

FIVE-YEAR CERTIFICATES

| CAL Code | Site Name | Site Operator | Site Supervisor |
|-----------------|-----------------------------------|----------------------|------------------------|
| FL41 | Verna Well Field | April Ammeson | Terrie M. Lee |
| FL99 | Kennedy Space Center | Lee Maull | Tom Dreschel |
| IL19 | Argonne | David Cook | Douglas L. Sisterson |
| KSO7 | Farlington Fish Hatchery | Dan Mosier | Eric Wakeman |
| MS30 | Coffeeville | Hilliard Griffin | Darrell Wilson |
| NC25 | Coweeta | Robert McCollum | Wayne T. Swank |
| NM12 | Capulin Volcano National Monument | Marcella Abeyta | Larry Gay |
| NY20 | Huntington Wildlife | Charlotte Demers | Dudley J. Raynal |
| OR98 | Bull Run | Richard Thies | Julija Laenen |
| PA72 | Milford | Diane Boucher-Appel | Edward S. Corbett |
| SCO6 | Santee National Wildlife Refuge | Ron McGonigle | Ted Cooney |
| TN98/TN99 | Wilburn Chapel | O. E. Morris | William J. Parkhurst |
| WA21 | LaGrande | Toni Carrington | Stan Humann |
| WI09 | Popple River | Sandra McClain | Bruce Rodger, |

TEN-YEAR PLAQUES

| CAL Code | Site Name | Site Operator | Site Supervisor |
|-----------------|--------------------------|----------------------|------------------------|
| CA42 | Tan bark Flat | Charles Colver | Paul It Miller |
| C099 | Mesa Verde National Park | Marilyn Colyer | Robert C. Heyder |
| M005 | University Forest | Jim Joiner | Gray S. Henderson |
| NMO9 | Cuba | David Bodine | Kirk Koch |

Lee Maull of FL99 and Robert McCollum of NC25 were present to personally receive their awards and recognition from the audience.

Special greetings were expressed to Ellis Cowling and John Robertson who were in attendance again after several years absence.

Subcommittee Reports -

Network Operations

Lois West reported that the subcommittee met jointly with Data Management for part of the meeting , but she would be reporting only on the actions of Network Operations.

1. A CAL audit will be conducted summer of 1993. Paul Kapinos will head a team which will report at the fall meeting. Team members will include Bill Parkhurst, representing the Data Management subcommittee; Dave Bigelow, Quality Assurance Manager; John Robertson; and one yet-to-be-named representative each from EPA and USGS.
2. Refurbishing and replacement of field site equipment. Raingage refurbishing continues on a regular basis. The subcommittee approved replacement of Belfort dashpot fluid with either original silicon dash pot fluid or Mobil Synthetic Lubricant. CAL will provide the Mobil fluid on request, but the two fluids must not be mixed. The dashpot is to be emptied and cleaned prior to filling with a different fluid.
3. Proposal to use pH and conductance control charts. A pilot study was conducted by John Gordon; and after seeing results from that study, the subcommittee approved use of the charts on a voluntary basis. The information is to stay at the sites. _____
4. Continuing a study for use of a higher pH check solution.
5. Discussed the bucket/bottle alternative. Protocols were presented by Carol Simmons.
 - A. CAL will, mail out the clean bucket, with a snap-on lid, in a bag and a one liter nalgene-type bottle in a ziplock bag.
 - B. At the field site, it will be important for the operator to look in the bucket for contaminants and report that on the field form. Will then place the snap-on lid on the bucket but won't snap it. Will remove the bucket from the collector and then snap the lid and transport the bucket to the field lab.
 - C. Weigh the bucket, lid and sample; estimate any spillage; weigh whatever is spilled in the bag.
 - D. If no precipitation, complete field form and mail as usual. If precip, go on to the next step.
 - E. Remove snap-on lid, using bag as a glove so there is no hand contact.
 - F. Gently pour from the bucket into the bottle (do not let bucket touch bottle); don't swirl or agitate. Fill bottle completely and cap it tightly.

- G. Discard any excess sample (not during study).
- H. Replace snap-on lid and snap it on. Twist top of bag closed.
- I. Weigh. If ≥ 70 g, do the field measurements. When measuring pH, fill vials from bottle (no syringe); keep bottle capped when not pouring. If some sample spills when pouring, don't pour more if less than 50 ml remains.
- J. Cap tightly. Bucket goes back to CAL, filled bottle in the corner of the box; lid also goes back. Note on the field form if the bottle was used. Return bottle whether used or not. CAL will wash and return to the sites.
- K. When the operator is at the site, they should make notes on the lid rather than on the notepad, as they do now.

Network Operations recommends that the new procedure start January 1994. In the meantime, a joint study will be conducted at 11 test sites. The committee will be looking for indicators that they should not go ahead rather than that they should.

MOTION - that NADP begin use of the bottle protocol, beginning January 1994, unless the study indicates reasons why it would be a mistake to do so. Motion seconded and carried.

- 6. Discussed changes pending in the field forms. An *ad hoc* committee of Gwen Scott, Kenni James and John Gordon will look at required changes in the field forms and manuals. Joel Frisch will coordinate changes the training film. -
- 7. CAL asked for approval of a request from the South Florida Water Management District to pay for analysis of an excess sample aliquot from Florida sites for total phosphorous. The subcommittee approved the following resolution.

*WHEREAS Florida is interested in total phosphorous analysis of NADP/NTN samples; and
WHEREAS Florida will pay for 'excess aliquot' analysis at CAL;
BE IT RESOLVED that the Technical Committee of NADP approve total phosphorous 'excess aliquot' sampling for Florida with results also provided to the NADP database at the Coordinator's Office.*

- 8. The spring meetings will be held in April, with location yet to be determined.
- 9. Election of officers for 1992-93.

Chairman - Paul Kapinos
Vice Chairman - Rick Artz
Secretary - Mark Nilles

MOTION - that the Subcommittee report be accepted. Seconded and carried.

Environmental Effects Subcommittee

Rich Grant reported that there will be no change in officers for 1992-93. Officers are:

Chairman - Rich Grant
Vice Chairman - Julian Chazin
Secretary - Patricia Brewer

The subcommittee discussed interest in metals, mercury, and organics, and agreed to concentrate first national-scale network with good procedures, good coordination and QA, and good data management. There is some expertise in mercury, but not a lot. Need to bring in others with a new direction for overall NADP/NTN. Interagency relationships are possible with USDA, EPRI, and TVA interested in development and Wisconsin, Minnesota, TVA, and USFS (NC) to support a pilot network. There will be a combined effort on the parts of Steve Lindberg, Steve Vermette, Julian Chazin, Carol Simmons, Rich Grant, and Patricia Brewer.. The timetable is as follows:

1. Statement of intent - 10/92
2. Solicitation of interest - 12/92
3. Workshop to bring together people involved in mercury research - 4/93
(Time is linked to a mercury meeting in the spring which EPRI is hosting)
4. Explore possible funding at some level, and if workshop decides this isn't going to work, solicit an RFP of other measurements which will be used - 6/93
5. Methods research - 10/93-10/94
6. Funding in place - 10/94
7. Initiate demonstration network - 10/95

Rich asked for a general endorsement from the Technical Committee for the mercury committee to go forward with this topic. It is important that the entire group endorse the subcommittee's proceeding in the name of NADP/NTN.

MOTION that the Technical Committee endorse pursual of an Air Toxics Initiative for NADP/NTN. Seconded and carried.

MOTION - that the Environmental Effects Subcommittee report be accepted. Seconded. and carried.

Data Management Subcommittee

Gary Stensland reported for the subcommittee.

1. The subcommittee passed the following resolution.

WHEREAS the transfer of computer programs from VAX to pc resulted in — a 10% error in sample Coding; and

WHEREAS the 1991 annual report had to be stopped during printing; and

WHEREAS we need to re-analyze site completeness and isopleth mapping functions to issue a consistent high quality annual report;

BE IT RESOLVED that the Executive Committee of NADP/NTN request funds to complete the reissue of the 1991 annual report from the Committee of Nine.

MOTION - that the Technical Committee approve the resolution. Seconded and carried

2. An *Ad hoc* committee has been doing work over the past year related to field pH. The subcommittee decided to keep that group active for the coming year in an effort to answer the question.
3. Passed a motion to begin field conductance screening with the 1991 data summary report, since it must be reissued
4. Officers for 1992-93 were elected.

Chairman - Bill Parkhurst
Vice Chairman - Gary Stensland

No secretary was elected

MOTION - that the Data Management Subcommittee report be accepted. Seconded and carried.

AIRMoN -

Rick Artz reported that there have been conversations between NOAA, CAL, and the Coordination Office to take the MAP3S sites and turn them into a network which NOAA can use for source receptor models. They also hope to have them available for other types of research to be conducted and they currently have enough money for seven sites. Only major ion chemistry will be done this year, with sample preservation upgrade, etc., in the future; now focusing on just stabilizing the network. Rick asked for a motion to create an AIRMoN subcommittee to function within the overall (NADP) structure to coordinate the AIRMoN network for the benefit of NADP/NTN. Members will be largely network operators and representatives from CAL and the Coordination Office. They want to keep the membership level and rather small. Hope to be able to re-institute weekend sampling.

Officers for 1992-93 would be:

Chairman - Jane Rothert
Secretary - Dennis Lamb

MOTION - to create an AIRMoN Subcommittee to function as part of the NADP/NTN structure was made, seconded and carried.

Election of Technical Committee Officers -

Following established protocol, a secretary will be elected to begin rotation to Chair. Carol Simmons presented the report of the nominating committee. They selected Jim Lynch as candidate for NADP Technical Committee Secretary for 1992-93. There were no nominations from the floor.

MOTION - that the nominations cease and that Jim Lynch be elected by acclamation was made, seconded and carried.

FY 1992-93 Technical Committee officers are:

Chairman - J. M. "Mike" Kelly
Vice Chairman - Van Bowersox
Secretary - James Lynch

1994 Technical Meeting -

Suggestions for location of the 1994 meeting were requested. Charleston, South Carolina, and somewhere in New England, possibly New Hampshire, were proposed. The Executive Committee will consider alternatives and make a final decision.

Closing -

Thanks were expressed to Mike Kelly for his work in planning the meeting and symposium, and the gavel was passed to Mike Kelly as incoming Chair. He commented that he is looking forward to the coming year and the opportunity to serve the group.

Appreciation was extended to Linda Bandhauer, Pat Brewer, and Julian Chazin for their assistance with meeting preparations; to the local hosts, Tom Dreschel and Lee Maull, for the field trip and subsequent launch; to Ellis Cowling for ending his absence and returning to offer words of inspiration; and to Sandy Verry for his contributions to the program. NADP is looking forward to new initiatives and future directions.

Sandy Verry also expressed appreciation to Bill McFee who completed his tenure as Past Chairman. Rich Grant was asked to take a plaque to Bill.

The 1993 NADP (NRSP-3) Technical Meeting was adjourned.

Participant List

| Name | Affiliation |
|-------------------|---|
| Mary Ann Allan | Electric Power Research Institute |
| Richard Artz | NOAA/Air Resources Laboratory |
| Gerry Aubertin | Southern Illinois University |
| Sue Bachman | Illinois State Water Survey |
| Linda Bandhauer | NADP/NTN Coordination Office |
| John Barnes | CSRS, US Department of Agriculture |
| David Bigelow | NADP/NTN Coordination Office |
| Donald Bock | Minnesota Pollution Control Agency |
| Fitzgerald Booker | USDA/NCSU Air Quality Research Program |
| Van Bowersox | Illinois State Water Survey |
| Lannie Boyd | Western Association Agricultural Experiment Station Directors |
| Patricia Brewer | Tennessee Valley Authority |
| C.H. Chan | Canada Centre for Inland Waters |
| Julian Chazin | Wisconsin Department of Natural Resources |
| Terry Clark | US Environmental Protection Agency |
| Richard Cline | USDA Forest Service |
| Edward Corbett | USDA Forest Service |
| Ellis Cowling | North Carolina State University |
| Dagmar Cronn | University of Maine |
| Scott Dossett | Illinois State Water Survey |
| Kathryn Douglas | Illinois State Water Survey |
| Cary Eaton | Research Triangle Institute |
| Miguel Flores | National Park Service (AIR) |
| Joel Frisch | US Geological Survey |
| Donald Gatz | Illinois State Water Survey |
| Larry Gay | New Mexico Environmental Department |
| James Gibson | NADP/NTN Coordination Office |
| Donald Goolsby | US Geological Survey |
| John Gordon | US Geological Survey |
| Richard Grant | Purdue University |
| Jane Hislop | USDA Forest Service (NEFES) |
| Rudolf Husar | CAPITA, Washington University |
| Syed Iqbal | Atmospheric Environmental Service |

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| Kenni James | Illinois State Water Survey |
| Paul Kapinos | US Geological Survey |
| Johnson Karue | Illinois State Water Survey |
| Michael Kelly | Tennessee Valley Authority |
| Edward Klappenbach | US Environmental Protection Agency |
| Warren Knapp | Cornell University |
| Dennis Lamb | Penn State University |
| Leonard Levin | Electric Power Research Institute |
| Steven Lindberg | Oak Ridge National Laboratory |
| Roald Lund | North Dakota State University |
| James Lynch | Penn State University |
| Brooks Madsen | University of Central Florida |
| Mike Majewski | US Geological Survey |
| Bernard Malo | US Geological Survey |
| Barry Martin | US Environmental Protection Agency |
| Lee Maull | The Bionetics Corporation |
| Robert McCollum | USDA Forest Service |
| Mark Mesarch | University of Nebraska - Lincoln |
| Mark Nilles | US Geological Survey |
| Evelyn Orr | Minnesota Pollution Control Agency |
| William Parkhurst | Tennessee Valley Authority |
| Mark Peden | Illinois State Water Survey |
| Ranard Pickering | US Geological Survey |
| Sandy Pletschet | NADP/NTN Coordination Office |
| Chul-Un Ro | Atmospheric Environment Service |
| John Robertson | US Military Academy |
| Bruce Rodger | Wisconsin Department of Natural Resources |
| Jane Rothert | Illinois State Water Survey |
| LeRoy Schroder | US Geological Survey |
| Gwen Scott | NADP/NTN Coordination Office |
| Carol Simmons | NADP/NTN Coordination Office |
| Luther Smith | ManTech Environmental Technology, Inc. |
| Gary Stensland | Illinois State Water Survey |
| Clyde Sweet | Illinois State Water Survey |
| M. A. Tabatabai | Iowa State University |

Stephen Vermette

Elon (Sandy) Verry

Jerry Walker

Lois West

Derek Winstanley

Illinois State Water Survey

USDA Forest Service

University of Georgia

Louisiana State University

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