

**National Atmospheric Deposition Program (IR-7)**  
**Technical Committee Meeting**  
Minneapolis, Minnesota  
November 3 - 5, 1987  
Minutes

Tuesday, November 3, 1987

**Opening -**

Chairman John Robertson convened the opening session of the 1987 NADP (IR-7) Technical Committee Meeting in Minneapolis, Minnesota. Jim Perry expressed a welcome to Minnesota.

John Robertson discussed the history of the Technical Committee prior to formalization as NADP. He expressed thanks to Dudley Raynal, Dave Shriner and Keith Huston for their efforts in renewal of IR-7.

Participants introduced themselves. An attendance list is attached.

**Coordinator's Report -**

Jim Gibson recorded:

1. The official number of active sites is 203.
2. The "single lab" issue has been resolved.
3. Hard copy reports are now up to date, with the 1986 Annual Summary currently being bound.
4. The Coordinator's Office has data which is no more than six months old available to participants.
5. The Coordinator's Office is participating in an EPA-funded raingage study utilizing nipher-shielded Belforts at 10 sites.
6. The supply of replacement parts for the COED has been increased, but more will be needed.
7. Improving data quality will be the major effort for the Coordinator's Office over the next year.

**Nominating Committee and Meeting Agendas -**

John Robertson described the system of rotation of Technical Committee officers and announced that a nominating committee consisting of Jim Davidson as Chairman, Dudley Raynal, and Paul Kapinos had been appointed to select a nominee for the position of Secretary.

Wayne Banwart, Vice Chairman, discussed the meeting agenda and poster presentation format, as well as the field trip scheduled for Tuesday evening to The Science Museum of Minnesota. Subcommittee Chairmen were asked to present agendas for their meetings.

**Subcommittee No. 1 - Network Site Criteria and Standards:**

Dick Semonin announced that Subcommittee 1 will meet independently on Tuesday, and meet jointly with Subcommittee 2 on Wednesday. The following topics will be discussed.

1. Joining of Subcommittees 1 and 2 into a single subcommittee.
2. Training film.
3. Draft field operations manual.

4. Major issues are now quality control and quality assurance.
5. Raingage charts.
6. National Dry Deposition Network (NDDN) and how that may impact protocol of NADP/NTN.

**Subcommittee No. 2 - Methods Development and Quality Assurance:**

Doug Sisterson indicated that two meetings are scheduled. Tuesday, the Subcommittee will consider:

1. The six months of NPS data accumulated by EMSI, including a discussion of the EMSI audit, and an evaluation of the data, as it becomes available, to determine if NADP/NTN QA protocols have been met.
2. CAL recommendations.
3. USGS external audit program, including blind audits and the systemwide analytical biases in the data.

Wednesday's agenda will cover:

1. Elimination of field measurements - report of *ad hoc* committee and formulation of a recommendation.
2. Merging of Subcommittees 1 and 2.

**Subcommittee No. 3 - Data Management and Analysis:**

Jim Lynch commented that the committee will consider:

1. Content of NADP/NTN reports, including temporal trends plots, use of median versus mean values, dashed versus solid lines on isopleth maps, definition of seasons.
2. Isoplething programs (what is available).
3. Review of validation completeness criteria to determine if it should be revised.
4. Reporting of conductance values in the Annual Summary reports.
5. Election of Vice Chairman.

**Subcommittee No.4 - Effects Research -**

Gary Lovett commented that this committee serves as a forum for interaction amongst the effects researchers, and is subdivided into four working groups - Aquatics, Field and Horticultural Crops, Forestry, and materials. Primary topics will be:

1. Discussion of status of the committee within framework of NADP, and what the committee should be doing in the coming years.
2. Discussion of role of gaseous pollutant monitoring and research within the network.
3. Invitation to participants of NE-121 to join NADP/NTN.

**Site Operator Awards -**

John Robertson read the names, site affiliation, and supervisor for those operators who were awarded the five-year certificate for consecutive excellence in field observations and successful completion of the CAL field operations course. They are:

Operator	Site	Supervisor
French Wynne	AR02 - Warren 2WSW	William Pope
Del Molitor	AZ99 - Oliver Knoll	Del Molitor
Charles C. Colver	CA42 - Tanbark Flat	Paul Miller

Ole Olsen	CO15 - Sand Spring	Doug Fox
Marilyn Colyer	CO99 - Mesa Verde Nat'l Park	Bob Heyder
Alan Yoshinaga	HI00 - Mauna Loa	Rick Artz
William E. Nelson	IL47 - Salem	Rick Artz
David Adams	MAO8 - Quabbin Reservoir	Donald Mader
Irving Perkins	MAI3 - East	William Feder
Norm Fletcher	ME98 - Acadia	Leighton Carver
Hal Witt	M003 - Ashland Wildlife	Gray Henderson
Jim Joiner	M005 - University Forest	Gray Henderson
Judy Elson	NC41 - Finley Farm	Allen Heagler
David Bodine	NMO9 - Cuba	Verlyn Saladen
Danny Rambo	OR02 - Alsea Guard Ranger Station	Robert Lackey
Don Faulkner	TX53 - Victoria WSO	Rick Artz
Art Chappelka	VA13 - Horton's Station	Boris Chevone
Richard Aschenbrenner	WI28 - Lake Dubay	Dan Herman
Ron Becker	W136 - Trout Lake	Bruce Rodger
Steve Laster	WYO6 - Pinedale	Al Riebau

**Invited Paper -**

“Results of atmospheric deposition measurement in Europe, with special reference to Sweden” - presented by Dr. Lennart Granat, Department of Meteorology, University of Stockholm, Sweden.

**Discussion Session -**

“True ambient pH levels” - led by Dr. Patricia Irving from the NAPAP office.

**Poster Introductions and Presentations -**

(Abstracts are available by writing Linda Bandhauer in the NADP/NTN Coordinator's Office)

“Site liaison activities at the Central Analytical Laboratory (CAL) for NADP/NTN” - Scotty R. Dossett.

“U.S./Canada wet-deposition sampling intercomparison program” - Marc Morneau.

“Patterns and trends of sodium in precipitation” - Gary Stensland.

“USFS Pawnee dry deposition eddy correlation measurements” - Karl Zeller.

“Quality-assurance activities of the U. S. Geological Survey in support of the National Atmospheric Deposition Program and National Trends Network” - Tim Willoughby.

“Evaluation of a modified Aerochem Metrics precipitation sampler for trace metal studies” - Mark E. Peden.

“The monitoring of atmospheric toxic species in Ontario” - Neville Reid.

“Evaluation of sampler performance data - violation of siting criteria” -Richard C. Graham.

“Evaluation of precipitation chemistry siting criteria using paired stations from northern Maine and southeastern Texas” - Richard S. Artz.

“Variations in rain acidity with rainfall intensity during selected summer storms in the Adirondack Mountains, New York” - Michael Reddy.

**Field Trip -**

A visit to The Science Museum of Minnesota for a special viewing of the Omnitheater film, "Seasons".

Wednesday, November 4, 1987

**Invited Paper -**

"Calcium carbonate treatments of acidic Adirondack lakes" - Dr. Charles Driscoll, Civil Engineering Department, Syracuse University, Syracuse, NY.

**Contributed Papers -**

"Wet and dry deposition of total sulfur and total nitrate in northeastern Illinois" - D. L. Sisterson.

"The pH stability of precipitation samples" - L. E. Topol.

"Chemical concentrations of cloud water from eight sites in North America" - Kathleen Weathers.

"Predicting yield response of soybean cultivars to acid precipitation from measured yield responses of their ancestral lines exposed to simulated acid rain" - Fred L. Allen.

"Overview of the USEPA National Dry Deposition Network (NDDN)" - Eric S. Edgerton.

"Comparative historical growth patterns of Adirondack conifers" - Dudley J. Raynal.

**Poster Introductions and Presentations -**

(Abstracts are available by writing Linda Bandhauer in the NADP/NTN Coordinator's Office)

"The NADP/NTN Site Visitation Program - 1987" - W. Cary Eaton.

"Screening criteria for NADP dry bucket sample data" - Donald F. Gatz.

"Do weekly collections maintain basic ionic relationships?" - E. S. Verry.

"Wet and dry deposition estimates for SW Indiana" - William W. McFee.

"Effect of simulated acid rain on the nutrient concentration of Loblolly pine seedlings" - Lois West.

"Response of clear and colored lakes to acid deposition" - Dale S. Nichols.

"An intensive short-term study of atmospheric lead deposition to a high-elevation spruce forest" - Steven E. Lindberg.

"Application of atmospheric deposition data on western rangelands" - Karl Gebhardt (author not present, but poster displayed).

Thursday, November 5, 1987

**Invited Paper -**

"RADM simulations of dry and wet acid deposition in the Eastern United States" - Dr. Julius Chang, Atmospheric Science Research Center, SUNY, Albany, NY.

**Contributed Papers -**

"Gradient in precipitation pH across the midwestern United States" - Van C. Bowersox.

"Regional patterns and local variability of dry and occult deposition strongly influence sulfate concentrations in surface waters in Maine" - David Brakke.

“Statistical analysis of NADP/NTN network sample collection performance related to preparation of ADS annual summaries” - Don Daly.

**Special Presentation -**

Sandy Verry of the USDA North Central Forest Experiment Station described the commemorative poster which was commissioned in honor of the tenth-year anniversary of NADP, and commented there are two people who have been particularly involved with the establishment and nurturing of NADP. He introduced Ron Lindmark, Director of the North Central Experiment Station, who presented poster No. 1 to Ellis Cowling.

Jim Perry of the University of Minnesota introduced Richard Sauer, Director of the Minnesota Agricultural Experiment Station and Vice President of the University of Minnesota. Dr. Sauer presented poster No. 2 to Keith Huston.

Jim Perry recognized the contributions to NADP made by the North Central Forest Experiment Station and the Minnesota Agricultural Experiment Station and presented numbered copies of the poster to Ron Lindmark and Richard Sauer.

Meeting participants and former Technical Committee Officers also received numbered editions of the poster. Additional posters will be distributed by the Coordinator’s Office.

**Panel Discussion -**

A panel consisting of Ellis Cowling, Jack Barnes, Jim Gibson, Keith Huston, Paul Kapinos and Dick Semonin discussed their ideas and suggestions concerning the “Future of NADP.”

**General Session - Committee Reports -**

**Quality Assurance Steering Committee (Remedial Action Plan):**

Warren Knapp provided a brief history of the development of the Remedial Action Plan and outlined its major points.

**Motion** - That the Remedial Action Plan be adopted as written. Seconded and carried.

It was announced that Don Bogen had been appointed Chairman of the Quality Assurance Steering Committee, following Warren Knapp’s resignation.

**Subcommittee No. 1:**

Election of Officers .

Chairman -Scott Dossett

Election of other officers was deferred pending decision on combining of Subcommittees 1 and 2.

Dick Semonin reported that the committee discussed:

1. Field Operator Turnover report - a comprehensive report, prepared by Carol Simmons of the Coordinator’s Office, indicates that, despite training efforts, more new, full-time or substitute operators are added each year than can be trained in two sessions. The following *recommendation* was made:

*On the issue of site operator tenure and stability, the Subcommittee suggests agencies increase their efforts to reduce the turnover frequency at their sites. This could be done in several ways, including securing a policy statement re-stating their agency’s commitment to the program, and personal telephone*

*contact (providing program descriptive information), with their regional/district directors, managers and site supervisors.*

2. Field operator training film.
3. Field operations manual review - New version of manual nearly complete.  
*Recommended including a tearout sheet, with a check list, which could be posted for ready reference by site operators.*
4. Merger with Subcommittee No. 2 - Following a joint meeting, Subcommittee 1 *recommended dissolving the old subcommittees and creating a new one, tentatively titled "Network Operations."* (See minutes under Subcommittee No. 2 for further details)

#### **Subcommittee No. 2:**

Doug Sisterson reported that the subcommittee discussed:

1. Field and laboratory pH values bias - will be discussed further at interim subcommittee meeting.
2. EMSI audit - Since data is not yet available, performance evaluation has not been completed. A recommendation will be formulated at the interim meeting for presentation at the next Technical Committee meeting.

#### **Subcommittees No. 1 and No. 2:**

Issues discussed at a joint meeting included:

1. Merging of two subcommittees. *Recommended to Technical Committee that Subcommittees 1 and 2 be merged into a single subcommittee with a tentative title "Network Operations."*
2. Officers for new subcommittee - (in anticipation of approval)  
Chairman - Gerald Aubertin  
Vice Chairman - Scott Dossett  
Secretary - Cary Eaton  
Secretary rotates up to position of Chairman.
3. Training film to supplement CAL training program. *Recommended that one or more training films be developed and that the budget leadership of NADP/NTN be directed to establish high priority for funding of this film.*
4. Difference between field and laboratory pH. *Recommended to Technical Committee, after extensive review of the field data, continuation of existing field pH (and conductivity) measurements protocol.* (This is in regard to the tabled motion to make field pH and conductivity measurements optional after 36 months.)
5. Interim meeting - will be held in St. Louis, MO, April 4 and 5. (NOTE: Subsequently changed to April 11 and 12.)

#### **TECHNICAL COMMITTEE ACTION:**

1. Recommendation that Subcommittees 1 and 2 be merged into a single subcommittee -  
Approved.
2. Recommendation that one or more training films be developed and that the budget leadership of NADP/NTN be directed to establish high priority for funding of this film -  
Approved.
3. Recommendation for continuation of existing held pH (and conductivity) measurements protocol - Deferred to Old Business portion of meeting.

#### **Subcommittee No. .3:**

Van Bowersox, Vice Chairman, reported on discussions of:

1. Citation for NADP/NTN data other than published reports - *Recommended "NADP/NTN Data (tape, disk, etc.). NADP/NTN Data July 1978 to (appropriate date). NADP/NTN*

*Coordinator's Office, Natural Resource Ecology Laboratory, Colorado State University, Fort Collins, CO 80523.*"

2. Data from 18 NPS sites.
  - A. Subcommittee No. 2 should resolve limit of detection differences.
  - B. Subcommittee No. 2 should certify that EMSI is consistent in sample handling and analysis and consistent with NADP/NTN protocol.
  - C. QA Manager should assure that the data is being screened in a manner consistent with NADP/NTN protocols.

If requirements are not met, publication should not be delayed more than 90 days beyond the normal publication sequence.

3. *Recommended that field conductance measurements be published in the semiannual and annual reports, using the same criteria and format as used for field pH measurements.*
4. Verification and screening of daily precipitation data. This issue was tabled and the QA Manager was asked to draft a plan for what the criteria and the costs would be.
5. Alternatives to using temporal trends plots in the Annual Data Summary reports. *Recommended that temporal trends plots not be eliminated from the reports.* A working group consisting of Warren Knapp, Tony Olsen, Jim Lynch, Van Bowersox and Carol Simmons was asked to establish a single criteria.
6. Problems in data screening due to uncertainties in reporting small precipitation samples. *Recommended that CAL individually verify precipitation for sample periods with .05 or less.*
7. Recommended that the working group meet immediately after the business session to review the most recent draft of the observer's manual.
8. Current data completeness criteria is not being met by ~20-25% of the sites. A separate meeting was held to address the causes and possible remedies.
9. Election of Officers .

Chairman - Van Bowersox  
Vice Chairman - Tony Olsen

#### **TECHNICAL COMMITTEE ACTION:**

Recommendations of the subcommittee were approved, subject to the following changes.

1. For the tape, disc, etc. reference, "(IR-7)" is to be inserted in each of the NADP/NTN sequences.
2. An *ad hoc* committee, consisting of Wayne Banwart, Paul Kapinos, Jim Gibson and Keith Huston, was asked to determine the proper designation for the Coordinator's Office.

#### **Subcommittee No. 4:**

Gary Lovett reported that the Committee considered:

1. Structure of the subcommittee - The current working group structure will be maintained.
2. Since there were no meetings of the working groups this year, it was agreed the present officers should be retained. They are:

Aquatics:  
Chairman - Alan VanArsdale

Forestry:

Chairman - Ann Bartuska

Vice Chairman - Ivan Fernandes

Field and Horticultural Crops:

Chairman - Denis DuBay

Materials:

Chairman - Ray Herrmann

3. Election of Officers -

Chairman - Denis DuBay

Vice Chairman - Alan VanArsdale

- 4.. The Subcommittee is desirous of interacting with members of NE-121 and encourages their attendance at NADP meetings and their participation in the Effects Subcommittee.

**Old Business -**

In conjunction with the deferred recommendation from Subcommittee No. 2 that field pH and conductivity measurements be continued, action was taken on a PREVIOUSLY-TABLED MOTION: That any site which had over three years of data be allowed to discontinue taking pH and conductivity measurements. Motion was Defeated.

**New Business -**

Dudley Raynal reported that the nominating committee had selected Doug Sisterson as a candidate for the position of Secretary. There were no floor nominations.

**MOTION:** That the nominations close and Doug Sisterson be unanimously elected as Secretary of the NADP (IR-7) Technical Committee for 1987-88. Seconded and carried.

Technical Committee officer for the coming year are:

Chairman - Wayne Banwart

Vice Chairman - Steve Lindberg

Secretary - Doug Sisterson

Past- Chairman - John Robertson

(A complete list of 1987-88 Technical Committee officers is attached for reference.)

**Future Meetings and Close -**

The 1988 Technical Committee Meeting will be held the week of October 24th in Champaign IL. Boston will be the site of the 1989 meeting.

Wayne Banwart assumed the chair.

**MOTION:** That the 1987 Technical Committee Meeting be adjourned. Seconded and carried. The meeting was adjourned.