

**National Atmospheric Deposition Program (IR-7)**

**Technical Committee Meeting**

San Antonio, Texas

October 30-November 1, 1990

Minutes

Tuesday, October 30, 1990

Opening

Chairman, Doug Sisterson, convened the opening session of the 1990 NADP (IR-7) Technical Committee meeting in San Antonio, Texas, and welcomed participants. He provided a brief overview of what the meeting (general session) is about. Participants were asked to introduce themselves. (An attendance list is attached.) Thanks were expressed to Paul Kapinos for hosting the meeting in San Antonio. Thanks were also expressed to Walt Heck for his work on the symposium, which was held prior to the Technical Committee Meeting, and to Bill McFee for organizing the technical sessions.

Doug commented that the success of any organization is that everybody does their part; the team functions as a whole, win or lose. Of major importance to the network is the "forward line," or the site operators, those who actually collect the buckets every Tuesday. He read the names of site operators being awarded the ten-year plaque and those who are receiving five-year certificates for service to the network. The following are recipients of Site Operator Awards for 1990.

TEN-YEAR PLAQUES

Site Code	Site Name	Site Operator	Site Supervisor
FL03	Bradford Forest	Larry Korhnak	Hans Riekerk
HI 00	Mauna Loa	Alan Yoshinaga	Richard Artz
IN34	Indiana Dunes National Lakeshore	Lou Brenan	Lou Brenan
ME 02	Bridgton	Peter Lowell	Leighton Carver
ME 09	Greenville Station	Llew Wortman	Ivan Fernandez
OH 17	Delaware	Carolyn McQuattie	Leon S. Dochinger
OR 10	H.J. Andrews Experimental Forest	John Moreau	Arthur McKee

<b>FIVE-YEAR CERTIFICATES</b>			
<b>Site Code</b>	<b>Site Name</b>	<b>Site Operator</b>	<b>Site Supervisor</b>
AL 99	Sand Mtn. Experiment Station	James Burns	William J. Parkhurst
AR 16	Buffalo National River	Michael Holmes	Pam Griffin
AS 01	Samoa	Emily Wilson-Godinet	Richard Artz
CO 22	Pawnee	Don Hazlett	Cindy Olsson
LA 33	McNay Research Center	Jim Secor	Rebecca Lambert
ID 11	Reynolds Creek	Jim Mowbray	J. Ross Wight
ID 15	Smiths Ferry	Mary Samuelson	Gretchen Hoy
IN 22	Southwest Purdue Ag Center	Melborn Lang	William McFee
LA 12 LA 30	Iberia Research Station Southeast Research Station	Lois West	Sam Feagley
MD 03	White Rock	R. Linton Dalton	Steve Farkas
NM 08	Mayhill	Calvin Morris	Dave Schafersman
OH 49 OH 71	Caldwell Wooster	Cheryl Capek	Craig Weidensaul
OK 29	Goodwell Research Station	Eugene Reeves	Richard Artz
TX 56	L.B.J. National Grasslands	Clyde Schoultz	Ralph Ollman
WI 25	Suring	James Trochta	Bruce Rodger
WY 98	Gypsum Creek	Terry Pollard	Ralph Knebel

#### Administrative Advisors' Reports -

##### IR-7 -

Jim Davidson, Chairman of the Administrative Advisors, defined "IR." Twenty-five percent of Hatch funds go into regional research which receives money "off-the-top." IR-7 has truly been interdisciplinary in that it has provided an essential base of information which has been used by many. Jim reminded the group that IR-7 expires September 30, 1992, and will have to be renewed through a proposal development and renewal process. The Technical Committee must look at the promises and changes which must be made for anticipated renewal. Bill McFee will be chairman for the renewal effort.

##### CSRS -

Jack Barnes commented that CSRS involvement goes back to the mid-70s when, in collaboration with other agencies, NADP began as NC-141. The project has since grown by leaps and bounds and is exemplary of an outstanding project. NADP has become involved in a "futures" orientation with the development of the "white paper." CSRS is in a pivotal role as pass-through agency for almost one million dollars from six federal agencies. Now CSRS is becoming more

involved in grants under the global change activities, and Jack encourages expanding the role of NADP/NTN in this scenario and reaching a balance between atmospheric and global change research.

USGS -

Jack Pickering was pleased to announce that USGS will continue their acid rain research program post-NAPAP, both in effects on aquatic environments and effects on materials, and in monitoring of atmospheric chemistry. The pH of precipitation is now being reported in *National Water Conditions*, starting in August, using results for a large fraction of the network. These reports will be published on a monthly basis and will be distributed to four-to-five thousand subscribers.

Coordination Office Report -

Jim Gibson reported.

- Official number of active sites in the network is 201.
- Data base has quality assured data through June 1990, and preliminary data through August 1990, which is doing considerably better than the six-month standard.
- Completed major revision of the annual report, which was mailed recently.
- Now have a new, five-year contract from EPA for the Quality Assurance Manager's role.
- Also have funding from EPA for a nipher shield study.
- Jim has received half-time funding from CSRS to help coordinate a UV-B monitoring program.
- There has been a noticeable improvement in the number of sites meeting completeness criteria 167 or this year versus 150 in the previous year.
- Have improved turn-around time for replacing parts at the sites, but there is still a problem with slow parts repair by the manufacturer. Additional equipment will be available for COED through the transfer of used EPRI equipment. They have donated 15 sets of equipment.
- Carol Simmons sent a letter requesting information regarding use of NADP/NTN data to update our files. Jim asked that replies be returned as soon as possible.

CAL Report -

Van Bowersox commented that CAL wasn't the only lab for a brief period of time, and reported on several items.

- The most recent training course was held in July.
- Some program statistics of interest:
  - 90,000+ samples collected
  - CAL has assisted in a data base of 16 million bytes of computer memory; 20 million bytes of computer memory used at CAL. NADP/NTN has generated massive amounts of data with many users and many options to use data.
- A fiber optic network was installed in the last six months at CAL which allows data to be transferred in less than 5 minutes. They are now beginning to utilize PCs instead of a VAX.

- CAL is participating in a number of laboratory intercomparison programs – USGS, LRTAP, EMEP (European), and WMO (EPA/RTP). They have been very successful in these programs.
- CAL was audited in the past year, and received generally favorable comments. A number of recommendations were made to improve documentation and operating procedures to assure continued production of data that are high quality.
- CAL staff have been involved in drafting, editing and updating standard procedures documents. They are committed to finishing that process and will complete 14 documents over the next year.
- Cooperative projects include:
  - Herbicide project.
  - Intercomparison at Penn State.
  - Questions regarding input into aquatic ecosystems.
  - Kid's network through *National Geographic*, for grades 5, 6 and 7. Kids everywhere were measuring pH of five or above. CAL was asked to check the paper being used and found problems with the readings from unbuffered samples. They have made suggestions for improvement for more accurate measurements.
- Research activities include:
  - ASTM presentation by Mark Peden.
  - SOS Chapter 6 authorship.
  - One journal article peer-reviewed.
  - Four posters at this meeting.
  - Participation in meeting in Glasgow.

#### Quality Assurance Steering Committee Report

Gerald Aubertin reported that the steering committee was charged with review and update of the Quality Assurance Plan, oversight of the network QA manager, and implementation of the quality assurance remedial action plan. Dave Bigelow has been appointed recording secretary for the committee.

1. Remedial Action Plan. The committee met in New Orleans in April. First draft of the qa plan reflected some serious problems so a committee consisting of Dave Bigelow, Bernie Malo and Jerry Aubertin rewrote it. The plan is now available and has been recommended to the Executive Committee for their recommendation for approval by the Technical Committee. He asked that participants examine the display copy and be prepared to vote on acceptance. The process of putting together the Quality Assurance Plan has been a long process which was begun under Warren Knapp. It is a monumental event to finally have an acceptable document for approval.
2. Remedial Action Plan Oversight. The Coordination Office will handle remedial action when possible - if the variation is "minor;" if there is a precedent for granting a variance or if there is a significant hardship; or if a variance is not granted.
3. The QA Steering Committee directed the Network Operations Subcommittee to conduct an audit of CAL.

## Subcommittee Reports

Doug Sisterson commented that the subcommittees are the backbone of the organization, and discussed requirements for participation. Subcommittee chairmen were asked to give a short version of subcommittee reports, as well as items for discussion as a “rush” for new members.

### Network Operations Subcommittee -

Cary Eaton, Chairman, reported. The upcoming subcommittee meeting will hear reports from the Coordination Office, the USGS quality assurance programs, CAL, and the site visitation program. The subcommittee meets twice a year, in April and in October, to discuss siting criteria, instrumentation, procedures, operations manuals, CAL procedures, etc. The subcommittee reports to the Technical Committee and the Executive Committee. They have a chairman, vice-chairman and secretary structure, with rotation of officers through the chairs.

### Data Management and Analysis Subcommittee -

Jim Lynch reported that the data subcommittee has been very busy since the interim meetings in early April. At that time they put together the idea for revision of the annual report to provide more data and additional summary results to the data user. They have also tried to make sure that all data from the network is included in the report. Because this increased the report size significantly, they deleted the time trends plots from that report, but the subcommittee will be discussing the possibility of producing a temporal trends report. They want to make sure that those types of analyses will be available to users. Jim Lynch feels the subcommittee should move more toward analyses, such as new types of reports, and how analyses could be done.

The subcommittee dealt with about 15 items at the interim meeting, including approval for publication of preliminary pH data by USGS. Another request has been received and will be dealt with at this meeting. They also discussed “small volume” issues. The Data Management Subcommittee will meet jointly with the Network Operations Subcommittee Wednesday morning before convening their own meeting.

### Effects Research Subcommittee

Walt Heck commented that the effects people first called for monitoring of acid rain; the early subcommittee was very strong and generally plotted the course. They then realized that acid rain wasn't having the effect on crops that was originally thought, and they became less active. Now that global change has become more of an issue, the effects people are again becoming active. NADP is recognized as a strong monitoring program all over the country. It has been suggested that interaction with EMAP be considered, and the subcommittee will look at alternatives for how this interaction might be accomplished. Since EMAP is an effects monitoring program, is there some fashion in which EMAP can be brought into NADP/NTN? The subcommittee has spent time over the last two years considering what might be done. The idea of developing a position paper regarding what can be done about global climate change and how to do it was formulated. They feel very strongly that the agencies should come to the science level. The “white paper” evolved from this idea. It reflects well the interactions between scientists and other organizations. and states what we think should be monitored. Thanks were expressed to Carol Simmons as senior author.

### Nominating Committee

A nominating committee was appointed to select a candidate for the position of Technical Committee Secretary, to advance to the role of Chairman. Jim Davidson, Jack Barnes, Steve Lindberg, Jim Gibson, and Doug Sisterson agreed to serve.

Technical Session 1 - Toxics in Deposition -

(Abstracts are available by contacting Linda Bandhauer in the NADP/NTN Coordination Office.)

**Herbicides in Atmospheric Wet Deposition - Preliminary Results** - Donald Goolsby, U.S. Geological Survey.

**'Toxics' Deposition Monitoring in Ontario, Canada** - D. B. Orr, Ontario, Ministry of the Environment.

**Atmospheric Chemistry and Deposition of Mercury at Walker Branch Watershed** - S. E. Lindberg, Oak Ridge National Laboratory.

**Wednesday, October 31, 1990**

**Poster Introductions and Presentations** .

(Abstracts are available by contacting Linda Bandhauer in the NADP/NTN Coordination Office.)

**Background Precipitation Chemistry Monitoring in the Soviet Union** - Richard Artz, National Oceanic and Atmospheric Administration, and R.F. Lavrinenko Voeikov Main Geophysical Observatory, Leningrad.

**Comparison of Daily and Weekly Samples at an Eastern U.S. NADP Site** - Elizabeth T. Prindiville and Van Bowersox, Illinois State Water Survey.

**Sub-Grid Variability in Precipitation/Chemistry - Cases from the Frontal Boundary Study** - Terry Dana and Stan Tomich, Pacific Northwest Laboratory.

**Nipher Recording Raingage Shield Use on NADP/NTN Network: Evaluation of Rainfall Data** - S. R. Dossett, Illinois State Water Survey.

**Wet-Side Data Flow at the Central Analytical Laboratory (CAL) for NADP/NTN** - Kathryn E. Douglas, Illinois State Water Survey.

**The Impact of Industrial Air-Pollution on a Semi-Arid Ecosystem** - I G. Gabriel and D. T. Patten, Arizona State University.

**Use of Three-Dimensional Graphing Techniques in the External Quality-Assurance Programs of the National Atmospheric Deposition Program/National Trends Network** - John D. Gordon, Timothy C. Willoughby, and LeRoy J. Schroder, U.S. Geological Survey.

**Tropical Storm Influences on the Precipitation Chemistry in the Central United States** - R. H. Grant, Purdue University.

**Precipitation Chemistry in Connecticut, 1983-1988** - Kenneth P. KuIp, U.S. Geological Survey.

**Wet Deposition Characteristics in the Central Valley of California** - Michael Mata and J.W. Hopmans, University of California.

**Evaluation of a Matrix Used in the Blind Audit Sample Program for the NADP/NTN** - A. L. Morden-Moore and V. C. Bowersox, Illinois State Water Survey.

**Pesticides in Iowa Precipitation** - Brenda K. Nations, Iowa Department of Natural Resources.

**"Brown Snow" in the Rockies: Sources, Particulate Transport and Effects on Chemistry at NADP Sites** - Cindy Olsson and Peter Q. Olsson, Colorado State University, and M. Alisa Mast, U.S. Geological Survey.

**The BLM Wildland Resources Information Data System (WRIDS) Aerometric Module: The NADP Data Base on a PC for Wilderness Management** - A.R. Riebau, Bureau of Land Management; D. G. Fox, USDA Forest Service; W.E. Marlatt, Colorado State University; and C. Harrelson, USDA Forest Service.

**Combined Effects of Acid Rain and Heavy Metals on Corn Pollen Germination and Tube Growth *in vitro*** - Yuan-Hai Zhang and Lyle E. Craker, University of Massachusetts.

**Thursday, November 1, 1990**

**Technical Session 2 - Monitoring and Effects Research Reports -**

(Abstracts are available by contacting Linda Bandhauer in the NADP/NTN Coordination Office.)

**Effect of Acid Rain on Crown Rust of Oats** - W. Pedersen, S. Bissonnette, and W. Banwart, University of Illinois.

**Free Air CO<sub>2</sub> Enrichment** - G. Hendrey, K. Lewin, F. Libfert, and J. Nagy, Brookhaven National Laboratory.

**A Case for Including Individual Rain Data in NADP/NTN Reports** - George W. Crawford, Southern Methodist University.

**A Review of Urban Precipitation Chemistry** - Donald F. Gatz, Illinois State Water Survey.

**NPS Automated System of Processing, Validating and Reporting Pollutant Monitoring Data** - William Brick and Miguel Flores, National Park Service.

**Influence of Meteorology and Weather Patterns on Acid Deposition in the Sequoia Mountains** - J. M. Meissner and J. D. Kuhlberg, California Air Resources Board.

**Evaluation of Sample Shipping Procedures: Bucket vs. Bottle** - James Lynch, The Pennsylvania State University, and Van Bowersox, Illinois State Water Survey.

**Business Meeting**

The final business meeting was called to order by Chairman, Doug Sisterson. A number of "special" awards were presented.

**Subcommittee Reports -**

**Network Operations Subcommittee -**

Cary Eaton reported that the subcommittee discussed the following items.

- Set of procedures for mail balloting.
- Report from committee to replace field site raingages and collectors.
- To accept, with thanks, the gifts of equipment from EPRI and raingage clocks from USDA. This equipment will be repaired and used as spares.
- 1990-91 officers are:

Chairman —Ed Klappenbach  
 Vice Chairman —Lois West  
 Secretary —Paul Kapinos

- The subcommittee made one recommendation to the technical committee — that the lid liner pad in the Aerochem collector be replaced every twelve months. Replacement will begin in June 1991 instead of December 1991.

#### Technical Committee Action

**Motion:** That the recommendation be accepted was made, seconded and carried.

#### Data Management and Analysis Subcommittee -

Jim Lynch reported that the subcommittee meeting had a large attendance. Items of discussion were:

1. Institution of small volume substitution rule which allows substitution when certain conditions are met. The subcommittee decided to table this issue for the present, pending additional analysis, with a decision to be made at the interim meeting.
2. Temporal trends plots. No longer being published in annual summary report, but there is a desire to have some type of temporal trends plots. An *ad hoc* committee of Jim Lynch, Bill Parkhurst, Van Bowersox and Carol Simmons will look into this.
3. Release of preliminary data. One issue the subcommittee discussed at length was how should release of preliminary data be dealt with by the Coordination Office. An earlier decision was made to release preliminary data to USGS for their *National Water Conditions* report. The Mississippi WRRRI wants quarterly data for their newsletter. This topic generated much discussion. A motion was passed to allow the Coordination Office to prepare this particular request. A quarterly map will be prepared and submitted.

There was a second motion to allow the Coordination Office, in consultation with CAL and the Data Management Subcommittee Chairman to release preliminary data in January. This motion was defeated by the subcommittee. Another motion, restricting the data release to pH data only, was passed for recommendation to the Technical Committee. This motion allows the Coordination Office, after consultation with CAL and the Chairman of the Data Management subcommittee to release preliminary pH data only, on request.

4. ADS data base citation. Developed a recommendation which deals with use of data by persons obtaining it from the ADS data base. The subcommittee would like to have a citation developed for inclusion in the ADS data base that includes "NADP/NTN data . . ." and have a letter sent requesting that the citation be included in any data transmitted by ADS. This citation would be "NADP/NTN: Weekly Data (or appropriate time period)" and reference. This issue is considered important due to transfer of ADS to EPA RTP.

#### Technical Committee Action

The Technical Committee was asked to consider the subcommittee recommendation that the Coordination Office, in consultation with the CAL and the Chairman of the Data Management Subcommittee, be authorized to release preliminary pH data only, upon request.

**Motion:** That the subcommittee recommendation be accepted was made and seconded. Clarification of the recommendation was made that this is lab pH data only and that the response to a request for this data could be no, if deemed appropriate. Motion carried.

The Technical Committee then considered the subcommittee recommendation for recognition of the NADP/NTN data base when that data is obtained from the ADS data base. This recommendation asks the technical committee to approve development of a citation and a letter to be sent to the ADS data base manager that when NAPAP data is released or transferred, the citation which specifically recognizes NADP/NTN would be included.

**Motion:** For acceptance of this recommendation was made, seconded and, following brief discussion, carried.

### Subcommittee report continued

5. The subcommittee decided to institute the role of secretary and adopt a rotation of officers through the chairs. The subcommittee elected the following officers for 1990-91.

Chairman —Jim Lynch  
 Vice Chairman —Warren Knapp  
 Secretary —Bill Parkhurst

### Effects Subcommittee Report -

Jerry Walker reported for Chairman Walt Heck that the subcommittee was pleased to have a large participation, and he encouraged further participation. The subcommittee considered the following topics.

1. The authors of the “white paper” were commended. Asked that those interested consider a separate paper which includes effects or linkages on human health, aquatics, bioaccumulators or biotic systems. The paper should emphasize the importance of monitoring, and how this information can interface with environmental issues and applications. Walt Heck will discuss the development of a journal-type article with Carol Simmons, using the “white paper” as the basis, and prior committee documentation prepared by Alan VanArsdale.
2. EMAP interface. The development of a working relationship between NADP/NTN and its Effects Subcommittee with the Environmental Monitoring and Assessment Program (EMAP) of EPA is encouraged by: asking EMAP to locate monitoring sites near or with awareness of current NADP monitoring sites; planning joint meetings such as the symposium which preceded the Technical Committee meeting; interagency fertilization; obtaining statistical associations and reliable regional data interpretation; suggesting projects to EMAP (indicators); and active EMAP participation and annual attendance at NADP/NTN Technical Committee and Subcommittee meetings.
3. Discussed existing effects data sets and considered the possibility of establishing a library of effects monitoring data from a variety of agencies or groups. The subcommittee felt it would be desirable to have such a catalog (bibliography) available, but agreed it would probably be too costly to develop unless there was a grant or funding source to support such an activity.
4. Changes in the CSRS grants program were discussed. It was suggested that the subcommittee offer something to address critical areas for mission-linked research. Bud Hart, Wayne Banwart, Mike Kelly and Jerry Walker drafted a resolution for possible adoption by the Technical Committee. The text of the resolution follows.

#### *Resolution*

*“The Technical Committee of IR-7 (N.ADP/NTN,) realizes the importance of research on environmental issues at the regional, national and global levels and their potential impacts on human health, plants, animals and ecosystems. We hereby resolve that CSRS, through its Competitive Grants, Program, be encouraged to continue and further to expand support for research of these critical environmental problems, and further, we recognize that there still remains significantly unresolved questions or issues specific to acidic deposition. UV-B, oxides of nitrogen and sulfur, ozone and related interactions.”*

**Technical Committee Action -**

Consideration of acceptance of this resolution was requested from the Technical Committee.

**Motion:** That the resolution be accepted was made, seconded and carried.

**Subcommittee report continues -**

5. The Subcommittee considered various name combinations to achieve a more appropriate description of subcommittee activities and agreed to add the word "environmental" to the subcommittee name. The Technical Committee will be asked to approve a change from Effects Subcommittee to Environmental Effects Subcommittee.

**Technical Committee Action -**

Consideration of the Technical Committee to approve this name change was requested.

**Motion:** That the Technical Committee approve the change from Effects Subcommittee to Environmental Effects Subcommittee was made, seconded, and carried.

**Subcommittee report continues -**

6. Officers for 1990-91 were elected. They are:

Chairman —Jerry Walker  
Vice Chairman —Rich Grant  
Immediate Past Chairman — Walt Heck

**Quality Assurance Plan Adoption -**

The Executive Committee recommends to the Technical Committee acceptance of the Quality Assurance Plan dated October 22, 1990, as the official NADP/NTN Quality Assurance Plan.

**Motion:** That this plan be adopted was made, seconded and carried.

**1992 Technical Committee Meeting Location -**

Thanks were expressed to Paul Kapinos for hosting the meeting in San Antonio. The 1991 meeting will be held in Philadelphia with Jim Lynch as official host. Lee Maull offered to host the 1992 meeting in the Kennedy Space Center vicinity (Orlando area). It was suggested that the 1991 meeting be moved to mid October or mid November due to potential conflicts with the ASA meetings the week of October 27. (**NOTE: The fall 1991 Technical Meeting is scheduled for the week of October 7 in Philadelphia.**) Julian Chazin suggested that Madison, Wisconsin, might be considered for a future meeting.

**Election of 1991 Technical Committee Officers -**

The nominating committee reported that they were recommending J. M. 'Mike' Kelly as candidate for Secretary of the NADP/NTN Technical Committee.

**Motion:** That the nominations be closed was made and seconded. Mike Kelly was elected by unanimous vote. Technical Committee officers for 1990-91 are:

Chairman —William W. McFee  
Vice Chairman —E. S. 'Sandy' Verry  
Secretary —J. M. 'Mike' Kelly

**Closing**

Outgoing chairman, Doug Sisterson, presented incoming chairman, Bill McFee, with a new gavel, an "authentic antique," to replace the old non-gavel. Bill McFee assumed the chair and adjourned the 1990 Technical Committee Meeting.