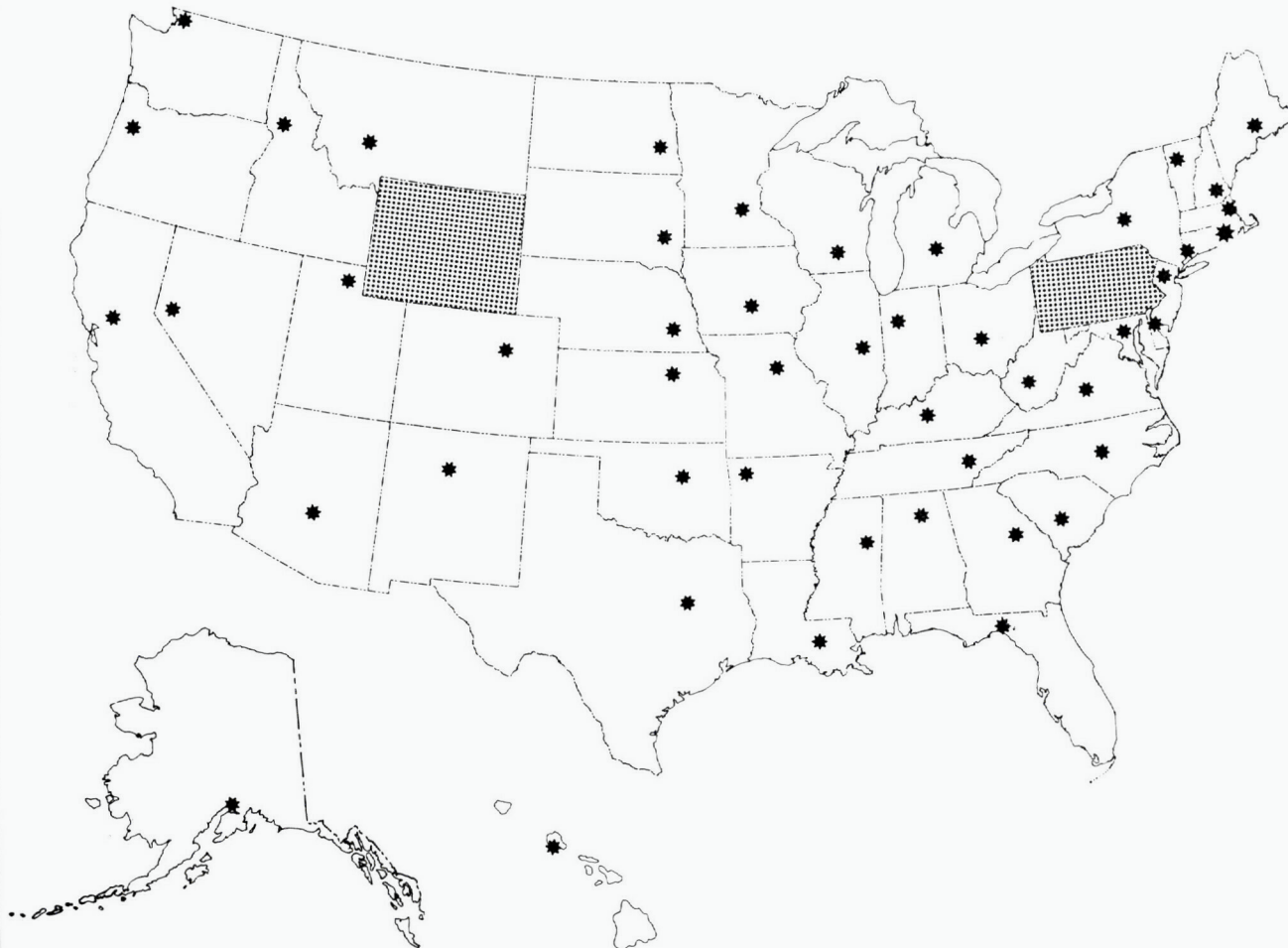


U.S. DEPARTMENT OF COMMERCE  
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION  
NATIONAL ENVIRONMENTAL SATELLITE, DATA, AND INFORMATION SERVICE  
NATIONAL CLIMATIC DATA CENTER

# THE STATE CLIMATOLOGIST

IN COOPERATION WITH THE  
AMERICAN ASSOCIATION OF STATE CLIMATOLOGISTS



\* SC LOCATIONS  
[Grid Pattern] NO SC PROGRAM

VOLUME 7 NUMBER 4 OCTOBER 1983  
PUBLISHED QUARTERLY AT THE NATIONAL CLIMATIC DATA CENTER, ASHEVILLE, N.C.

## NCDC BRIEFS

We are pleased to announce that upon his retirement, Mr. William Bartlett received the Department of Commerce Silver Medal for his work in reestablishing the State Climatologist Program. As most of you know Bill had surgery in August, but he is now doing fine and enjoying his retirement in Asheville.

New capability - NCDC now has the capability of providing any product from the "fax" circuit within one week of real time. This service includes both alphanumeric (forecasts, surface aviation observations, etc.) as well as graphics (analyzed or forecast maps and charts). The system is called the Service Records Retention System (SRRS) and receives data from AFOS.

NCDC is still looking for a home for the original co-op records. Several state climatologists have accepted the records for their state while in several other states, historical societies, libraries, or state archives have agreed to accept the records. The NCDC will be making other types of original records available to those SC's who are interested. The original "Weather Radar Observations" forms for 1982 have been microfilmed and are now available. These forms contain information about the coverage, intensity, movement, and height of the tops of precipitation elements. If you are interested in these radar observations, please let us know by January 30, 1984. We will keep you notified as other original records are filmed and become available.

Mailing list update - We request those of you who are sending mail to NCDC in care of William Bartlett please update your address file to the following: Mr. Grant W. Goodge E/CCx3 (Stop 30) National Climatic Data Center Federal Building Asheville, NC 28801.

NCDC has an interactive retrieval system with expanded capabilities for data acquisition on the VAX 11/780. During December 1983 this system will be operational in a test phase for the State Climatologists. The original acquisition system will also remain in an operational mode during December 1983. If no problems arise during the test phase, the old system will be replaced by the new one on January 3, 1984. Those State Climatologists who want to test the new system should contact Larry Griffin or Bryce Winn at 704-259-0437 (FTS 672-0437) or Grant Goodge at 704-259-0473 (FTS 672-0473).

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## NEW TELEPHONE SYSTEM

The NCDC, along with other federal agencies in Asheville, implemented a new telephone system on September 26, 1983. Unfortunately, we are experiencing some difficulties with the new system. Following is a list of key personnel and their new telephone numbers.

	Commercial	FTS
User Services Branch	704-259-0682	672-0682
L. Ray Hoxit (Acting Director)	704-259-0476	672-0476
Kenneth Davidson (Acting Deputy Director)	704-259-0238	672-0238
Grant Goodge (Liaison to SC Program)	704-259-0473	672-0473
Richard Davis (Data Administrator)	704-259-0384	672-0384
Robert Quayle (Chief, Data Operations Division)	704-259-0733	672-0733
Alan McNab (Chief, Cooperative Data Branch)	704-259-0281	672-0281
Frank Quinlan (Chief, Climatological Analysis Division)	704-259-0245	672-0245
Jack Suits (Chief, Information Services Division)	704-259-0680	672-0680
Grady McKay (Chief, ADP Services Division)	704-259-0205	672-0205
George Cooper (Chief, Admin. & Tech. Services Division)	704-259-0200	672-0200
Larry Griffin/Bryce Winn (Help with VAX interactive)	704-259-0437	672-0437

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## PUBLICATIONS

An article entitled "Some Spatial Characteristics of Drought Duration in the United States," by Thomas R. Karl, NCDC, has been published in the August 1983 issue of the Journal of Climate and Applied Meteorology. This article contains a detailed (but tractable) explanation of the Palmer Drought Severity Index (PDSI), and its sensitivity to some of the assumptions upon which the index is built. Customers requiring PDSI data should be aware of the information contained in this article. (T. Karl, FTS 672-0450) (Commercial 704-259-0450)

NCDC has revised two data summaries in the Historical Climatology Series: 4-1, "State, Regional, and National Monthly and Annual Temperatures-Weighted by Area (January 1931-December 1982);" and 4-2, "State, Regional, and National Monthly and Annual Total Precipitation-Weighted by Area (January 1931-December 1982)." Meaningful climatological averages of temperature and total precipitation were obtained for these summaries by weight-averaging state climatic division data, where the weights were the percentage areas of the total area represented by the climatologically homogeneous state-divisions-areas. Each publication gives the monthly and annual averages by year (beginning with 1931), long-term means and standard deviations for the individual months and annual total, and a rank value which gives the relative standing of the annual value in the 52-year period of record (1931-82). (W. J. Koss, FTS 672-0319) (Commercial 704-259-0319)

### C-24. Environmental Information Summaries

In response to requests by climatological data users, the National Climatic Data Center (NCDC) has published various data summaries which are of particular interest and importance in the area of historical climatology. Examples of the types of records and summaries are: atlases of anomalies from long-term averages, indexes of records of climatologically-related observations, long-term summaries of degree day data, and comprehensive climatic summaries for specific geographical locations in the United States. These publications are issued in the NCDC's Historical Climatology Series (HCS) under one of six major categories according to their principal content:

1. Long Record of Weather Observations
2. Historical Index
3. Atlases
4. Areally-Weighted Data
5. Population-Weighted Data
6. Climatology

The Selective Guide to Climatic Data Sources has been revised and updated as of July 1983. It contains over 340 pages of examples and descriptions of NCDC's holdings. A copy of this publication will be mailed to each of the state climatologists free of charge. The publication is also available on microfiche.

The Illinois State Water Survey has published a 52 page report entitled THE SEVERE WINTER OF 1981-1982 in Illinois. This report has some excellent graphical analysis of individual storms as well as a verbal description of the storms and their impact upon human life and commerce in the state.

The National Climatic Data Center and the American Association of State Climatologists welcomes two new State Climatologists to the organization. They are from the states of West Virginia and Rhode Island. Following is a short biography of the gentlemen who have filled these positions.

In West Virginia, Dr. Stanislaw J. Tajchman has been appointed as the State Climatologist. Dr. Tajchman is a Professor of Forest Meteorology in the Division of Forestry at West Virginia University. He is a native of Poland who graduated with a degree in physics and then went on to further study and obtained an M.Sc. in geophysics from Warsaw University. Dr. Tajchman also received a Ph.D. in meteorology from Ludwig-Maximilian University in Munich, Germany. Presently Dr. Tajchman is involved both in teaching and research in Forestry and Meteorology. Some of his current research is in topoclimatology and potential bioproductivity of forest sites in the central Appalachians. In addition to being a member of the American Geophysical Union and the Scientific Research Society of America, Dr. Tajchman is also a frequent participant or chairman of various symposiums and workshops on forest meteorology.



DR. STANISLAW J. TAJCHMAN

Dr. Robert C. Wakefield is our most recent addition to the State Climatologist Program. Dr. Wakefield is a professor in the Plant Science Department of the University of Rhode Island. He received his B.S. degree from the University of Rhode Island, and then proceeded on to graduate work at Rutgers University, receiving both his M.S. and Ph.D. degrees. Upon receiving his Ph.D. degree in 1954, Dr. Wakefield returned to the University of Rhode Island where he has spent his life teaching courses in plant science as well as conducting research in agronomy at the Rhode Island Agriculture Experiment Station. He also is in charge of the university weather station from which he is able to maintain his own climatic records. Dr. Wakefield is a member of the Northeast Regional Technical Committee (NE-135) which is studying the "Impact of Climatic Variability on Agriculture". Despite his full schedule of academic activities he still finds time to devote to other interests such as being President of the Rhode Island Association of Conservation Districts. His hobbies are gardening, photography, and oil painting.



DR. ROBERT C. WAKEFIELD

The National Climatic Data Center and the American Association of State Climatologists would also like to welcome Mr. William A. Mork who will be replacing Mr. James Goodridge as the State Climatologist in California. Mr. Mork is presently a staff meteorologist with the California Department of Water Resource's Division of Flood Management in Sacramento. He has occupied that position since September 1982. Prior to his work with the state, Bill had been a meteorologist in the U.S. Air Force. He retired with the rank of Major after twenty-one years of service, several years of which were spent in Vietnam. His last four years were spent at Travis AFB as part of the 17th Squadron. Bill's educational background includes a B.S. in meteorology from Florida State in 1959 and a M.S. degree in Public Administration from Golden Gate University in 1975.

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UNITED STATES DEPARTMENT OF COMMERCE  
National Oceanic and Atmospheric Administration  
NATIONAL ENVIRONMENTAL SATELLITE, DATA,  
AND INFORMATION SERVICE  
Washington, D.C. 20233

August 16, 1983

E/AIx3:RRF

TO: American Association of State Climatologists Members

FROM: Robert R. Freeman  
Chief, NEDRES Program Office

SUBJECT: Five Ways to Use the National Environmental Data Referral  
Service (NEDRES)

At the recent annual meeting of the AASC I had the pleasure of meeting many of you and describing NEDRES and our efforts to build a national inventory of climatic data. Based on several questions that came up in individual conversations, I thought it would be worthwhile to provide some additional information on alternative ways to use NEDRES. Any of the following are feasible; the method you choose depends on your own preferences.

° Direct use by state climatologists. I encourage you to learn how to use NEDRES directly from your own office via your terminal. It is convenient and easy. About a half day of self-instruction and practice is all that is needed. You would pay the modest charges for the use of NEDRES and you are free to pass any charges on to your clients.

° Direct use by your clients. If you prefer not to be involved in referral to sources of data, you may wish to have interested clients contact the NEDRES Program Office. We will be pleased to send information to anyone on how they may use NEDRES directly from their own office.

° Use by regional coordinating centers. If a regional climate coordinating center in your area is willing to provide access to NEDRES, you will have the option of referring users to that center.

° Access via NCDC. As you are already used to contacting NCDC for data, you may find it convenient to request referral searches from NEDRES via NCDC too. The NCDC user services office is prepared to provide NEDRES access. You will be subject to user charges set by NCDC.

° Access via the NEDRES Program Office. We also stand ready to assist you with access to NEDRES. Call us at 202-634-7722 if we can help. A copy of our standard user charge policy and price list is attached.

Attachment

AMERICAN ASSOCIATION OF STATE CLIMATOLOGISTS

ANNUAL BUSINESS MEETING  
August 11, 1983  
Asheville, North Carolina

President Fred Nurnberger (Michigan) called the business meeting to order at 8:30 a.m., August 11, 1983. Dr. Nurnberger gave a brief report on his activities as president of AASC. A survey of state climatologist programs and resources was brought to conclusion by the President during his tenure in office (1982-83). Dr. Nurnberger reported on this and other information that he presented at the NCPO sponsored workshop, "Regional, State and Local Climate Services", at Tallahassee, Florida on March 22-24, 1983. President Nurnberger then called for old business beginning with committee reports.

Secretary-Treasurer, Ken Hubbard, reported a balance of \$3,101.89 in the treasury with some expenditures still expected for the Asheville annual meeting in progress at that time. Minutes of the 1982 annual meeting were submitted and approved by the membership.

Chairman Waite (Iowa) of the Storm Data and Publications Committee reported on the committee's action during the year. Waite reported that the



recommendations for the coming year followed the report.

Chairman Molnau (Idaho) reported on the work of the Computer Committee. A written statement submitted by Molnau is attached to these minutes. The report summarized the new interactive systems at both the Climate Analysis Center and the National Climate Data Center. Discussion following the report suggested that State Climatologists are beginning to gradually rely on digital products in place of the traditional hard copy publications. It was suggested that the AASC continue to maintain a climate-software referral system and that steps be taken to develop a cross reference for locating those state climatologists who have had experience with a given mini- or micro-computer system. Members are reminded to send their one-paragraph, software abstracts to Myron Molnau.

Chairman Michaels (Virginia) of the Constitution and Bylaws Committee reported that there had been no activity during the past year.

President Nurnberger called for new business. Names of nominees for Associate Membership were presented to the AASC. The following climatologists were nominated: Ms. Ernie Atkins (LA), Dr. Bruce Berryman (VT), Mr. Richard Davis (NC), Mr. Arnold Finklin (MT), Mr. Grant Goodge (NC), Mr. William Haggard (NC), Mr. Wayne Hamberger (TN), Mr. Cleo Hogan (NC), Mr. Rolland Houser (CA), Dr. L. Ray Hoxit (NC), Dr. Merlin Lawson (NE), Dr. Dale Linvill (SC), Mr. Mike Mogil (TX), Mr. James Ownbey (MS), Mr. Donald Pompella (MA), Dr. Kelly Redmond (OR), Dr. Brad Schneller (Ontario), Mr. Robert Strauss (TX), Mr. Mathew Werner (NE), Mr. Donald Whitman (MO). After deliberations, the AASC voted to accept these nominees as Associate Members.

New State Climatologists are appointed by the Governor or his represen-

tative in each state, and upon association with AASC and payment of dues they become members in AASC.

A motion was made to make membership dues payable between October 1 and September 30. The motion failed. The fiscal year for AASC business will begin, as in the past, with the adjournment of the annual meeting. The fiscal year will continue to the end of the next annual meeting. For example, the 1983-84 fiscal year will end at the conclusion of the annual meeting in Chicago.

A discussion about the format of the annual meeting followed. Comments included both a preference by some members for a workshop format and by others for the present format that highlights current topics. Meeting formats are currently decided by the Executive officers.

Chairman Waite (Iowa) of the Nominating Committee presented the officer nominations of Dr. John Griffiths (Texas) for President-elect and Dr. Kenneth G. Hubbard for Secretary-Treasurer. These individuals were elected by acclamation.

Some discussion ensued concerning the charging policy for various SC products, including those NCDC publications channelled through SC offices. The concensus was to continue with the current flexible system whereby each state sets their charging policy.

Several meeting sites were offered for the 1984 meeting, including: Illinois, Oklahoma, Louisiana, Texas and Idaho. A motion was made and approved to hold the 1984 annual meeting in Chicago, Illinois.

The AASC members discussed the inadequacy of the \$500 limit on NCDC data products made available to the states at no cost to SC programs. The proposed

NOAA fellowship for SC's for joint studies with NOAA staff was discussed, and a motion was made to show support for this NOAA fellowship.

The floor was opened to State Climatologists to name nominees for the three member Nominations Committee. Clark (WI), Goodridge (CA), Purvis (SC) and Bach (TN) volunteered to serve. Voting resulted in the election of Bach, Goodridge and Purvis to serve on the Nominations Committee during 1983-1984.

Submitted by Secretary-Treasurer, Kenneth G. Hubbard

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STORM DATA AND OTHER CLIMATIC DATA CENTER  
PUBLICATIONS REVIEW

Following the 1981 Storm Data report preparation, the order to discontinue Storm Data was cancelled. Beginning with the July 1981 Storm Data a greatly improved publication emerged because of NOAA commitment and the talents and efforts of Dr. Ted Fujita, University of Chicago. Outstanding storms of each month are artfully featured, thoroughly documented and illustrated by excellent

St  
im

efforts of Dr. Ted Fujita  
month are artfully featur

## OTHER NCDC PUBLICATIONS

Since the 1981 report, the Climatological Data National Summary was discontinued with the 1980 Annual publication. However most of the often used data were transferred to other publications. For example Storm Data received the CDNS storm summaries and the LCD's now provide maximum short duration precipitation since January 1982.

The Climatological Data, each State, now in its new format requires twice as much storage and are more difficult to read and transfer data therefrom, thereby reducing user efficiency. The lack of NCDC quality control since 1981 created a larger number of printed errors in CD's than we wish to see. Snowfall divisional averages are not very meaningful. The pre-1982 snow averages, is thought by some users to be better.

CD in lieu of missing data as for ground thereby creating an erroneous the 1981-82 season had to be completed an adequate and useful set of season

on of missing and incorrect maximum ng.

Quality control of published CD data is AASC continue to monitor NCDC printed r and also continue our dialogue with data for climatology as accurate, le.

The zero is sometimes printed in the C example for missing maximum snow on the gr impression. The July 1982 snow table for t at the SC (Iowa) office from E-15s to secur snow values.

On a positive note, the NCDC estimatio temperatures appears to be good and improvi

The Committee believes the NCDC qualit improving. However, we recommend that the data quality for the benefit of the consume the NCDC and NWS in order to keep our basic consistent and usable as practicably possib

Paul Waite (Iowa)  
John Purvis (South Carolina)  
Joe Moyer (Maryland)

# University of Idaho

Department of  
Agricultural Engineering  
Moscow, Idaho/83843  
(208) 885-6182

August 5, 1983

TO: AASC Members  
FROM: Myron Molnau, Computer Committee  
SUBJECT: 1982-83 Report

~~Two things of note happened in the computer area this year that should provide a big boost to the capabilities of the SC's. These were the links to the NCDC and CAC computer system. These should provide significant advantages to those SC's who can access them and use them successfully.~~

I asked for reactions to these systems so that we could help each other and also provide feedback to NCDC and CAC about the usefulness of their system to us and help them provide a service of maximum usefulness to everyone. In response to my request, I received eight letters and several phone calls.

With the exception of OK, no one seems to be making much use of the CAC system yet although nearly everyone said that they had not yet had time to fully explore its use. OK downloaded the Palmer Drought Index files together with normals to produce weekly moisture status maps. They used an Apple at 300 baud and used 20 minutes of telephone time. AK mentioned that the CAC system didn't include much on AK but those that are there are very timely and would be included in future news releases.

CT has used a PET to connect to their IBM but have not been able to connect to the NCDC VAX yet while both WA and IA are in the process of obtaining a micro-computer. NM has accessed the NCDC system with a terminal but not yet with a computer. All commented that this availability of these new systems was a

tain some hardware.

stimulus to try to ob

AK and ID reported downloading NCDC data. Computers used Wang and HP. Once the initial connections were made, ned to go smoothly although ID had problems with commercial e and Wang although nothing serious. KY and MI wrote their used a HP system used by EDIS in AK that was already set

Four states, MI, KY, A included Terak, Apple, transferring data seem programs on both Apple own programs while AK up to download data.

plementary about the NCDC system with only three suggestions first is that provision should be made to retrieve a range n having to start at the beginning each time. If there is ed to start all over again which eats up phone and computer ly, MI also would like to have some way for the computers interchange. Thirdly, ID suggested that days of no precipi- d which would greatly reduce the length of that record.

Everyone was very comp for improvement. The of stations rather tha a line drop, we now ne operator time. Second to control their data tation could be droppe

forward. We now have preliminary data in one month and hs in computer compatible form. NCDC is to be heartily le of their responsiveness to our needs.

This is a great step f final data in two mont thanked for this exampl

exchange has seen no additions this year although I expect y formats to appear soon as well as programs for the micros ata. Send me a description whenever you have a program you If you know of useful commercial programs, I would also m, particularly for the micros.

The computer program e programs using the new using the dowloaded da are willing to share. like to hear about the

Plus circuit board that enables the Apple to be connected re. This enables downloading of data and saving for near ards and programs are available for general use.

ID now has an Apple II to the NOAA Weather Wi real time use. The bo

## GEM STATE WEATHER AND WATER

### The Idaho State Climate Program

The Idaho State Climate Program grew out of a long history of cooperation between the National Weather Service in the exchange of data and cooperative projects. Many of these projects resulted in Idaho Agricultural Experiment Station (IAES) bulletins and other types of publications. When the federal program was discontinued in 1973, much of the material from the federal state climatologist was transferred to the University of Idaho. After that, it was only natural that persons requesting information contact the University. This was facilitated by continued good relations with the National Weather Service office in Boise, a situation which extends to this day.

Also in the earlier 1970s, the Idaho Water Resources Research Institute (IWRRI) and the IAES implemented a statewide data base which contained almost all of the hourly and daily climatic data for Idaho as well as much of the U.S. Geological Survey daily streamflow data and annual peak flow data. This system was heavily used by IWRRI projects and was released for general use in 1975. This data base became very popular because data could be obtained in hard copy or machine readable form without having to go through an intermediary.

In 1977, Bill Bartlett asked the IAES to send a representative to the American Association of State Climatologists' Meeting in Asheville with a view towards establishing a state climate program in Idaho. Myron Molnau, Professor of Agricultural Engineering, was chosen to go primarily because he was the custodian of the data base system. In May of 1978, an agreement among the National Climatic Center, the National Weather Service, and the University of Idaho formally established the

state climate program and legitimized many of the functions that were being carried out. The work of the SC and the purposes of the program are

- a. Act as liaison between Idaho weather information users and the National Oceanic and Atmospheric Administration, Environmental Information Data Service (now the National Environmental, Satellite, Data and Information Service).
- b. Maintain a data bank of climatological and hydrological information.
- c. Supply data to users in a form most useful to them.
- d. Answer requests for simple climatic and hydrologic analyses.
- e. Refer requests for complex analyses to the appropriate person or agency.
- f. Maintain contact with users of climatic and hydrologic information in order to ascertain their needs for data and analyses.
- g. Maintain contact with researchers to convey user needs to them and keep them apprised of other researchers' work.
- h. Maintain a bibliography of publications pertinent to Idaho and Pacific Northwest climate.
- i. Conduct climatic and hydrologic studies of an applied nature.

#### DATA FILES

From the beginning of the program, there has been a strong emphasis on service through the use of the computerized data bank called the Hydrologic Information Storage and Retrieval System (HISARS) developed at North Carolina State University. This has been adapted, changed, and added to in order to maximize its usefulness to Idaho users. The following elements for Idaho stations are available to anyone with a University computer account:

Daily Air Temperature	60,406 Station-Months
Daily Pan Evaporation and Wind Speed	2,118 Station-Months
Annual Peak Flows	14,854 Station-Years



Daily Precipitation	67,824 Station-Months
Hourly Precipitation	158,400 Station-Days
Daily Reservoir Contents or Levels	6,796 Station-Months
Daily Snowfall	31,521 Station-Months
Daily Streamflow	124,382 Station-Months
Daily Water Temperatures	3,637 Station-Months

There are similar amounts of climate data available only for the states of Oregon and Washington.

Other data are kept on tape. We have twenty tapes which contain SOLMET, Airways, Snowcourse, and other types of data for Idaho and selected stations within surrounding states. Most of these were obtained in response to requests on specific projects, usually within the University or federal agencies.

We maintain an active filming program of putting reports and hard-to-obtain data on microfiche. In addition to the microfiche obtained from NCDC, we film SCS, Forest Service, and other reports containing both raw and processed data. We also film the original records as we receive them from Boise. This filming program enables us to have more data and publications available than would be the case if we were restricted to paper copies. We have microfiche records of the monthly CDs for all the surrounding states. This is an excellent way to keep records which are not accessed very often but can provide a real service to that occasional user. This saves users a great deal of frustration and time.

#### SERVICE PROGRAMS

To me, the reason for any state climate program should be that of providing service to users of climatic and hydrologic data and information, whether these users have very sophisticated applications or

whether they are relatively simple. In all cases, I feel very strongly that we should be prepared to supply what the user needs in a form that is most useful for them in solving whatever their problem might be. Therefore we offer a wide range of service-oriented projects to cover as many users as our budget will allow.

Because we are associated with the University of Idaho, the bulk of our requests for help do come from the University community. The majority of this consists of accessing the data base and does not require personal intervention on the part of the SC. This system had over 1000 accesses in 1982 although we have no idea who accessed it or for what purpose. The most heavily used elements are air temperature, daily precipitation, daily streamflow, and annual peak flows which, combined, account for 75 percent of the accesses in the past six months. The use of our microfiche and library is primarily by students and researchers and only rarely by people outside the University. The one exception to this has been requests for solar radiation and wind data which come from many people outside of the University. These come from a wide range of people. Another growing area outside the University is the area of small scale hydroelectric power production. This requires the computation of duration curves and monthly discharge for ungaged areas. The requests for data and information which must be manually handled by the SC tend to be for large amounts of data or they require analyses of some type. These come in large part from the private sector and federal and state agencies who are working on various types of development or environmental impact statements. Examples are opening up of new mining areas, exploration for both gas and new mineral deposits, and timber harvests. Many of these can be handled by

bulletins or use of canned computer programs. About ten requests per month require substantial amounts of analysis time. These are all billed on a cost basis. Anything which requires less than one half hour of time is not billed. Computer costs are rarely enough to worry about except for outputs which require the use of the plotter. IAES requests and extension requests are not billed as they supply a substantial amount of the sponsorship of the SC program.

A growing part of the program is the advising of people on instrumentation for various projects and helping to put the system into operation. Many people around the state require assistance to properly collect hydrologic or climatic data. These range from consultants installing a stream gage or weather monitoring station to ranchers worried about weather during lambing or calving. This type of help requires a great deal of time per request but is extremely important in that the economic returns are usually large.

One data collection program that we have is the Frost Depth Measuring Network. Frost depths are measured at the UI Research and Extension Centers. People are very interested in these data which are used each winter as part of the NWS Flood Forecasting System. They also have been used by contractors through the Associated General Contractors of Idaho to set depth codes for sewers, water lines, and so forth.

Our major publication project is the updating of the probability bulletins for various amounts of precipitation, freeze dates, etc. We are also updating summaries for the more important stations around the state. We have found that having these bulletins available helps to answer many requests. In addition to these bulletins, short courses have been given in the interpretation of computer output and the use of these bulletins. These have been well received.

## RESEARCH

Much of the SC research program is agriculturally oriented or is conducted in support of the IAES research program. A good example of this is the current effort to upgrade the weather stations at each of the eight R & E centers around the state. The agricultural researchers at these centers are finding that the type of animal and crop experiments being conducted today require detailed weather data in order to separate weather effects from other experimental effects. These stations being contemplated will probably be automated units with cassette recording and modems for direct interrogation.

Staff support for the SC program is hard to separate out from the departmental program because it is included in the entire climate and hydrology program of which the SC is a part. This includes a technician, three scientific aides, and graduate students supported by contract research projects. A major contributor to the climate research effort is Dr. Dale Everson of the Department of Mathematics and Applied Statistics. He has been heavily involved in writing bulletins and in research particularly related to weather effects on insects and animals since the early 1960s. In addition to these people, equipment includes an Apple computer, a WANG 2200 computer, as well as several different types of terminals all connected to the University IBM 4341.

State Climatologist Myron Molnau and hydrologic technician H.M. Gibson discuss the printout from the Moscow weather station.



Scientific Aide Laine Melbye looking at the output of the automated weather station program.

Hydrologic technician removing a raingage chart at a research site. The automated station is in the background.





**New York State College of Agriculture and Life Sciences**  
a Statutory College of the State University  
**Cornell University**

Department of Agronomy  
Bradfield and Emerson Halls, Ithaca, N. Y. 14853

POSITION ANNOUNCEMENT

POSITION: Assistant Professor of Agricultural Meteorology

This is a tenure-track position in the Department of Agronomy. The initial appointment is for a three year period. Upon favorable review the individual is reappointed for a second three-year term. Tenure review normally occurs at the end of the fifth year.

STARTING DATE: 1 July 1984

The Department of Agronomy, a large department of more than 30 faculty members, conducts programs of instruction, research, and extension in the areas of field crop science, soil science, and meteorology. Departmental facilities include well-equipped bioclimatic and electronics laboratories, machine shops, and several field research sites. Communications facilities provide access to current meteorological observations and National Weather Service analyses and forecast products. The meteorology unit also maintains an extensive climatic data base on its own mini-computer system.

RESPONSIBILITIES:

1. Developing and directing high quality individual and/or collaborative research programs which focus on interactions between the atmosphere and the biosphere.
2. Teaching agricultural meteorology or biometeorology at the undergraduate and graduate level.
3. Serving as a consultant and resource person on the subject of meteorological data and its application to such areas as crop development and production systems modeling, integrated pest management, and agronomic extension work.

The division of effort is approximately 50% teaching and 50% research.

QUALIFICATIONS:

Ph.D. degree in agricultural meteorology, biometeorology or closely related area required. Training or experience in applied mathematics, statistical analysis, plant, crop, and soil science desirable.

APPLICATION INFORMATION:

Applicants for this position should submit the following:

1. A letter outlining your qualifications, interests, and date of availability for employment.
2. A personal resume or vita, including education, chronological list of work experience, and professional publications. Applicants are encouraged to submit reprints of publications.
3. The names and addresses of three persons who are qualified to evaluate your professional abilities.
4. A complete set of academic transcripts.

Applications should be addressed to:

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APPLICATION DEADLINE:

1 January 1984

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Annual American Association of State Climatologist Meeting  
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