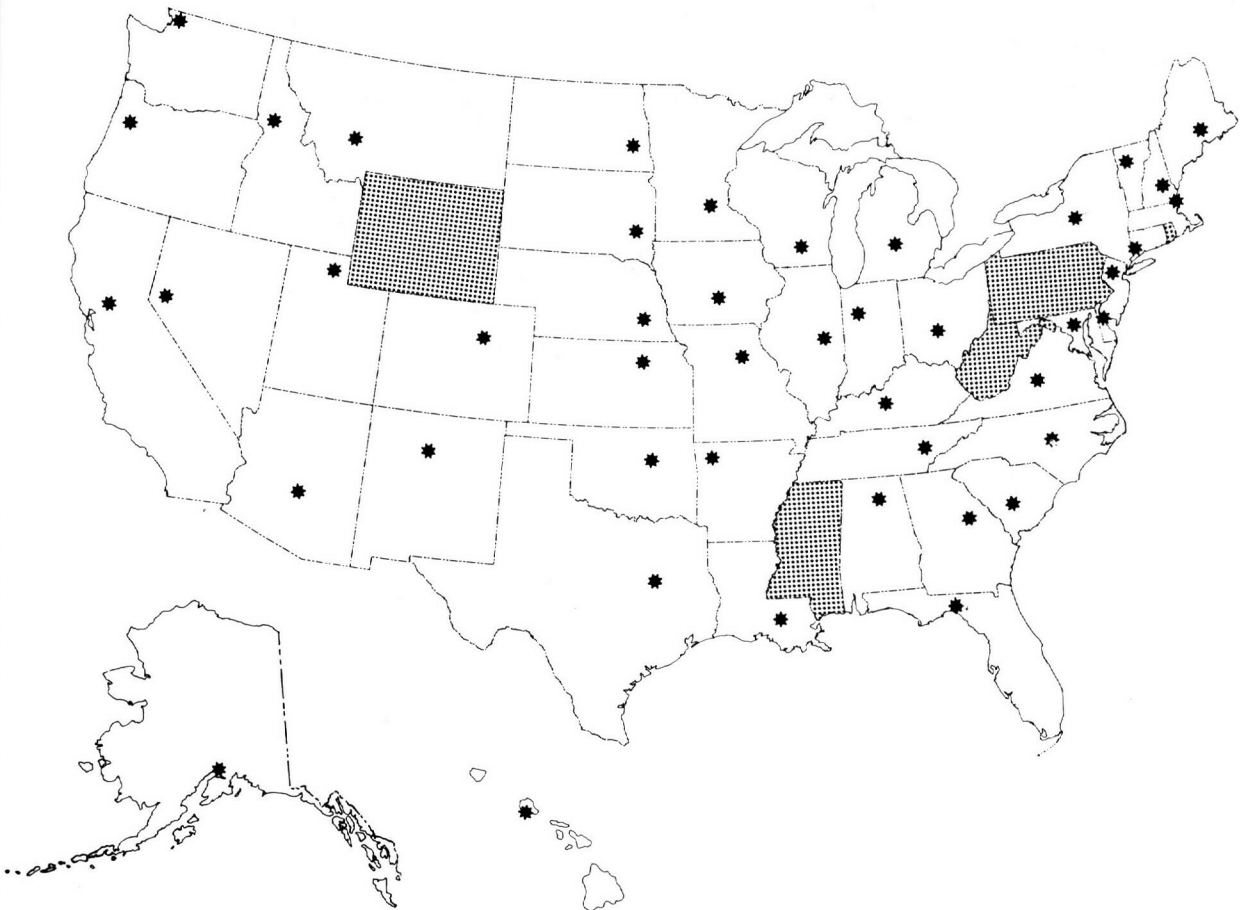


NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
ENVIRONMENTAL DATA AND INFORMATION SERVICE
NATIONAL CLIMATIC CENTER

THE STATE CLIMATOLOGIST

IN COOPERATION WITH THE
AMERICAN ASSOCIATION OF STATE CLIMATOLOGISTS



* SC LOCATIONS
▣ NO SC PROGRAM

VOLUME 6 NUMBER 3 JULY 1982
PUBLISHED QUARTERLY AT THE NATIONAL CLIMATIC CENTER, ASHEVILLE, N.C.



DANIEL B. MITCHELL

It is with much regret that the National Climatic Center and the American Association of State Climatologists bid farewell to Daniel B. Mitchell on July 30, 1982. Mr. Mitchell, who has been instrumental in obtaining the essential support needed to maintain minimum state programs and climatological data services to the general public during a crucial period of increasing state and federal budget cuts, will be leaving NCC after serving as its Director since September 1976

The National Climatic Center and the American Association of State Climatologists wish Mr. Mitchell the very best.

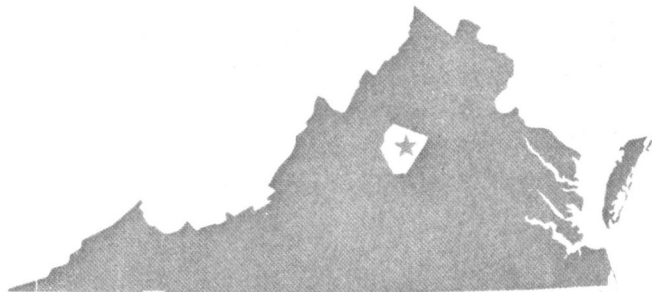
NCC BRIEFS

A recent reorganization at the National Climatic Center has transferred various responsibilities from one section to another. Because of this, the state Special Weather Summaries for inclusion in the Climatological Data monthly publication should now be submitted to:

Publications Control Section - D5121
National Climatic Center
Federal Building
Asheville, NC 28801

The NCC and the AASC are pleased to welcome into our group the new State Climatologist for the State of New Mexico, Mr. Kenneth E. Kunkel. Ken has taken over the SC duties from Dr. William Stevens, Director of the New Mexico Department of Agriculture. Ken's address is P. O. Box 5702, Department of Agriculture, Las Cruces, NM 88003. Ken tells us that he is looking forward to attending the Annual AASC Meeting in Charlottesville, VA in August.

ANNUAL AASC MEETING

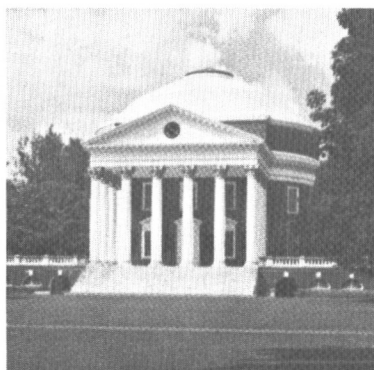


The 1982 AASC Annual Meeting has been scheduled for August 12-13, 1982 on the beautiful University of Virginia grounds in Charlottesville, Virginia. The agenda will include items vital to the future of the AASC and state climate programs. Some of the topics that will be covered include:

1. NCC Data Base
2. NESS/EDIS Merger
3. NMC interactions with the State Climatologists
4. NCPO - State/Federal relationships
5. Cooperative Observer Program
6. NWS Touch Tone Project
7. RCCO Project
8. National Historic Climate Center

Our business meetings will be held in the Board Room of the University Rotunda and plans are being finalized to have dinner in the Dome Room of the Rotunda on the evening of August 12th. Our after dinner speaker will be Bruce Hayden, former Virginia State Climatologist, who will speak on "Long Range Forecasting." Official meetings should end at approximately 12:30 p.m. on August 13th, but all participants who can should make plans to accompany us to Michie Tavern for lunch followed by a tour of Monticello, Thomas Jefferson's home. Later in the day, for those interested, a tour will be provided of the damage left in the wake of Hurricane Camille in August 1969.

****PLAN TO JOIN US****



THE ROTUNDA
UNIVERSITY OF VIRGINIA

OKLAHOMA CLIMATOLOGICAL SURVEY

710 ASP, SUITE 8
NORMAN, OKLA. 73019

Oklahoma Climatological Survey

July 1982

The Oklahoma Climatological Survey has made substantial progress since our last report in July, 1981. The Survey now is located at 710 Asp, adjacent to the University of Oklahoma campus in Norman. Our new facilities provide us with more office space (3100 square feet as of August 1, 1982) for our rapidly expanding operations as well as easier user access to our information resources.

One of our proudest accomplishments in the last year was the passage of Oklahoma House Bill 1937. This Bill provides for:

- 1) the legislative creation of the Oklahoma Climatological Survey;
- 2) the placement of the Survey under the direction and supervision of the Board of Regents of the University of Oklahoma;
- 3) the appointment of a director who shall be the State Climatologist;
- 4) the object and purpose of the Survey. Duties assigned to the Survey include:
 - a. To acquire, archive, process and disseminate, in the most cost-effective way possible, all climate and weather information which is or could be of value to policy and decision makers in the State;
 - b. To act as the representative of the State in all climatological and meteorological matters both within and outside the state when requested to do so by the legislative or executive branches of the state government;
 - c. To prepare, publish and disseminate periodic regular climate summaries for those individuals, agencies and organizations whose activities are related to the welfare of the State and are affected by climate and weather;
 - d. To conduct and report on studies of climate and weather phenomena of significant socio-economic importance to the State;

- e. To evaluate the significance of natural and man-made, deliberate and inadvertent changes or modifications in important features of the climate and weather affecting the State, and to report this information to those agencies and organizations in the State who are likely to be affected by such changes or modifications.

A full copy of this legislation is included in the June OCS Monthly Summary or may be requested directly from the Survey.

OCS information resources comprise:

1. Library Holdings - approximately 2500-3000 items

- a. micro-fiche or hard copies of most NCC publications dealing with Oklahoma.
- b. an extensive collection dealing with the economic impacts of climate as it relates to food, water, and energy.
- c. newspaper clipping files.
- d. numerous climate related circulars and periodicals
 - Weekly Weather and Crop Bulletin
 - Climate Impact Assessment - U.S. and foreign
 - Daily Weather Maps
 - Monthly Climatic Data of the World
 - Climatological Data - National Summary
 - Monthly Summary - Solar Radiation Data
 - Storm Data
 - Weekly Climate Bulletin
 - Water Spectrum
 - USDA - Outlook & Situation
 - Cooperative Observer - Southern Region
 - Farmline - USDA
 - Natural Hazard Observer
 - Weather & Climate Report
 - The State Climatologist
 - EPRI Journal
 - Local Climatological Data - Oklahoma City and Tulsa
 - Hourly Precipitation Data - Oklahoma
 - Climatological Data - Oklahoma

- Oklahoma Agricultural Statistics
- Water News - Oklahoma Water Resources Board
- Water Supply Conditions in Oklahoma

Monthly Summaries from:

- Canada
- Arizona
- Colorado
- Maryland and Delaware
- Iowa
- Louisiana
- New York
- South Carolina
- Utah

2. Computer Data Base

- a. Daily cooperative data for Oklahoma on microprocessor.
- b. Monthly summaries on microprocessor diskettes.
- c. OCS formatted NCC daily cooperative data
 - Oklahoma
 - Texas
 - Kansas
 - Montana (Fall 1982)
 - Nebraska (Fall 1982)
 - Minnesota (Spring 1983)
 - Ohio (Spring 1983)
 - and First Order U.S. stations
 - others (on request).
- d. Oklahoma crop and livestock data.

e. SOLMET tapes for the following locations:

- Omaha, NE
- Oklahoma City, OK
- Albuquerque, NM
- Madison, WI
- Seattle/Tacoma, WA
- Santa Maria, CA
- Appalachicola, FL
- Bismarck, ND
- Boston, MA
- Ely, NV
- Sterling, VA (Dulles)

f. Hourly meteorological data for several Oklahoma stations.

g. Limited collection of upper air data for Oklahoma and surrounding states in both raw form and processed by the Great Plains Cloud (Physics) Model - GPCM.

h. Oklahoma soils data.

i. The Oklahoma daily hydrology data (From NAWDEX, Reston, VA) for the period of record.

j. Various special network data sets.

Data Acquisition and Archival

The OCS has continued to expand and update its data holdings. Through NOAA/EDIS/CEAS funding, daily cooperative data from Texas and Kansas have been processed in the OCS format and four additional states (Montana, Nebraska, Minnesota, Ohio) will be completed by Spring 1983. The 1981 data for these six states, Oklahoma, and the First Order Stations have been acquired from NCC. The pre-1948 Oklahoma cooperative data set is being upgraded to include 20 additional stations. More early Oklahoma stations will be added as time permits. Computer-to-computer data exchanges between the NWS River Forecast Center in Tulsa, Oklahoma and the Climate Assessment Center in Washington, D.C. are being explored. Through NOAA/NWS funding, 1982-83 should also see OCS begin to process and disseminate historical D/RADEX system data from all D/RADEX sites across the U.S.

Information Dissemination

Although projects are underway that include color brochures, video-tapes and a microprocessor training project, at present the OCS Monthly Summary remains the primary mode of climatological information dissemination. Several color brochures have been produced at the Survey emphasizing particular aspects of applied climatology and are available on request. A list of brochure titles and funding agencies are given below:

Volume IV - The Economic Impact of Climate, NOAA/EDIS/CEAS, November 1980

Volume V - The Economic Impact of Climate Through Water Supply and Demand, NOAA/EDIS/CEAS, May 1981

Volume X - The Economic Impact of Climate on Cities, NOAA/EDIS/CEAS, May 1982

Volume 3 - Operational Weather Modification Series, A Course of Action for Oklahoma, sponsored in part by the Oklahoma Water Resources Board/BUREC, January 1982

The use of educational video tapes has recently been explored in an NCPO/IGP funded project. The first tape entitled "Weather Modification: Hope for a Thirsty State" is rapidly nearing completion. Two additional tapes, one dealing with water problems in Oklahoma and the other with energy, are planned.

In addition to these two dissemination tools, interest has been expressed by federal and international organizations in the design and implementation of low-cost computer systems capable of reliable, on-site climate data acquisition, processing, and dissemination for Third-World countries. Although the OCS has been promoting such a system in the U.S. for some time, the transfer of these ideas to other countries poses an exciting challenge.

Research

Current research interests of the OCS focus on two major projects. The first is a continuing examination of the economic impact of climate (NOAA/EDIS/CEAS funding). Now entering its third year, the Consortium consisting of the Universities of Oklahoma, Missouri and Nebraska has produced ten volumes dealing with various aspects of econo-climatic impacts and interactions with food, water, and energy production and use. Three of the volumes are color brochures. Two additional color brochures are planned for this contract period. With the increasing importance of climatic impacts in an ever-tightening national economy, OCS looks forward to continuing its participation in this rewarding joint research effort.

A second area of active OCS research is weather modification, particularly operational program development and evaluation. Weather modification research at the OCS has been funded for the past two years by the Southwest Drought/Weather Modification Study (BUREC/Oklahoma Water Resources Board). So far this project has yielded four reports; a collection of seminar papers, an Oklahoma cloud climatology, a color brochure, and a report on the impact of climatological variability on surface water supply in Oklahoma. A total of ten reports is anticipated by the end of the project. Most of the latter volumes will deal with aspects of Oklahoma climatology upon which the design of an operational weather modification program will be based. Once the current project has been completed for Oklahoma, similar analysis techniques can be applied to other states in order to obtain appropriate seeding opportunity climatologies.

Other major projects scheduled to begin in the next fiscal year include:

1. The archiving of digital radar data from the National Weather Service D/RADEX network.
2. The evaluation of the North Dakota Operational Weather Modification Program (North Dakota Weather Modification Board/NOAA).
3. Design of climate information acquisition, archiving, and dissemination systems for Third-World countries (WMO/WCP).

The Oklahoma Climatological Survey has recently completed its second full year of operation. During this time, user services have more than doubled and state funding has grown to approximately \$210,000.00 per year. Outside contracting more than matches this figure. Another valuable asset is the provision of effectively unlimited computer time on the University of Oklahoma mainframe.

Through the use of more creative forms of climatological information presentation, quality research, and increased user contacts and services, the OCS will continue to grow in order to meet the future climatological needs of Oklahoma. Since the recent arrival of Dr. Kenneth Crawford to take over the MIC position at the Oklahoma City WSFO, active plans are underway to coordinate State and Federal efforts to provide the very best possible climate and weather services to the people of Oklahoma. We are all enthusiastic about the prospects.

PREDICTED DATE OF LAST LAKE ICE HAS MANY USES IN MINNESOTA

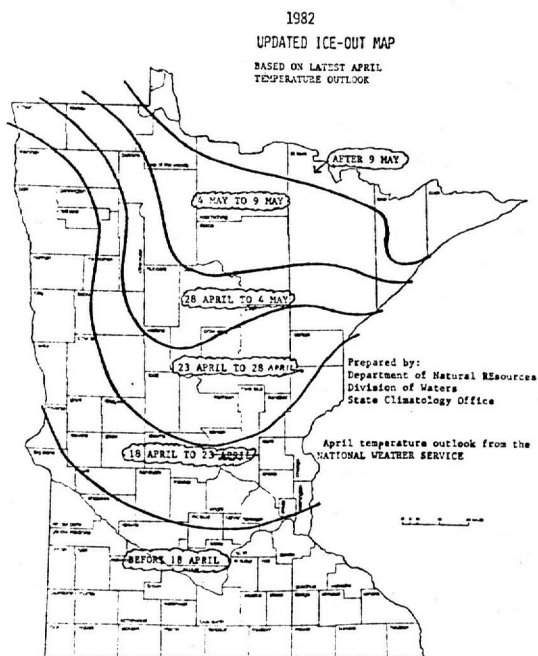
Earl L. Kuehnast
State Climatologist

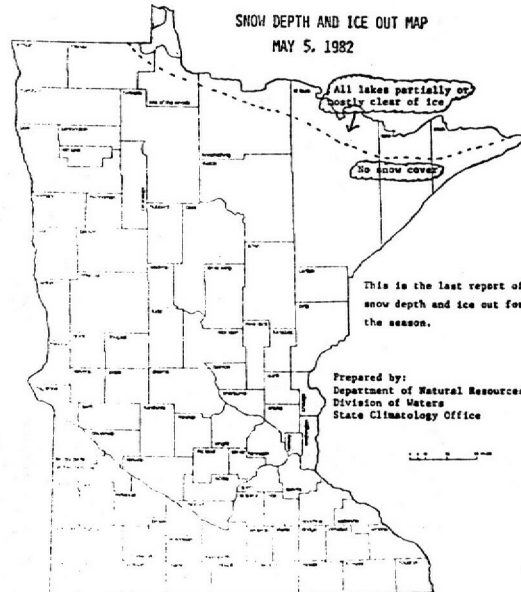
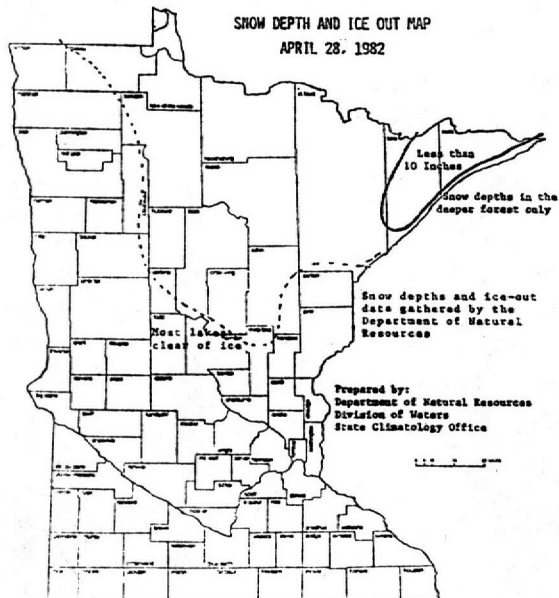
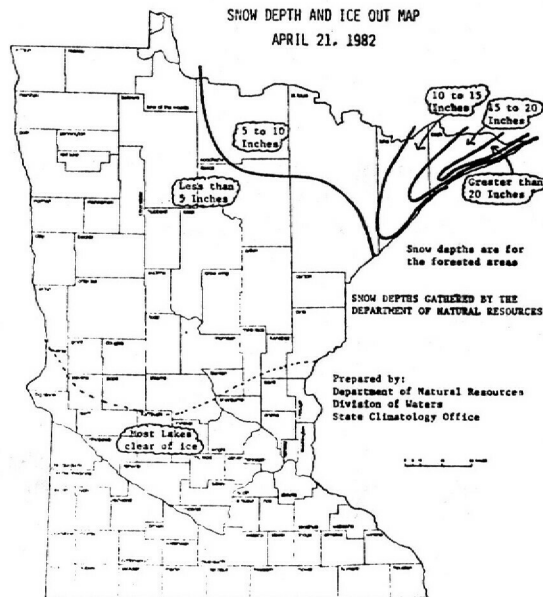
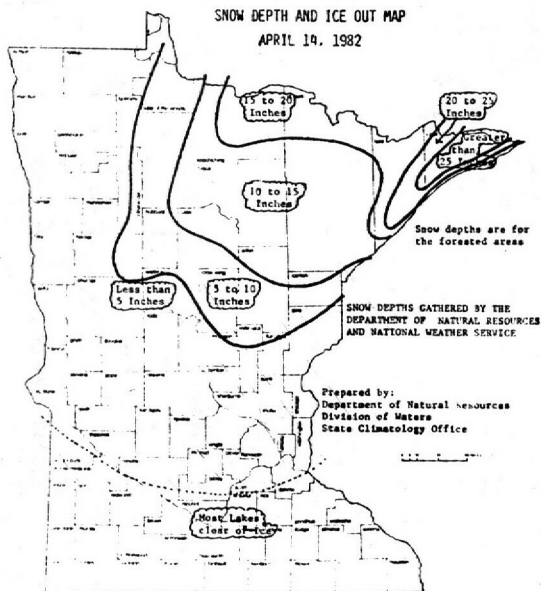
James A. Zandlo
Asst. State Climatologist

The Predicted date of last lake ice was first produced as an aid to the Minnesota Department of Natural Resources Fisheries. When the ice is going out of the lakes, several species of game fish and rough fish spawn, at which time additional personnel are needed to catch the fish and strip them of their eggs to restock the DNR fisheries each spring. Planning for the hiring date of such seasonal personnel can be more accurately done with the ice-out map.

In Minnesota, about 2.5 million people live in the Minneapolis-St. Paul area. On fishing season opener, near one million people head north for the lakes. Further, with some 10 to 15 thousand lakes in Minnesota, many of these people have lake cabins. Thus, since the first lake ice map was prepared, additional applied uses have been made of the information, particularly by the public. "Will the ice be out by the fishing opener?", or "When will the ice be out so that I can go to my cabin and put my dock out?", are just two typical variations of the more basic ice-out question. Further, "The predicted date of last lake ice approximates the last date of soil frost" can be used as a 'rule-of-thumb' along with the lake ice-out map if some consideration is given to the time of onset of snow cover for any particular agricultural region. The loss of soil frost means that the surface water can enter into the subsoil and that the topsoil is dry enough to allow field work. Some modification of the map is made depending on the depth of the subsoil frost.

The lake ice-out predictive models for several of the larger and/or deeper lakes across the state of Minnesota were developed from 40 years of lake ice-out dates which were regressed on mean March and April air temperatures, the last day of snow cover, and snow depths at various dates at the lake sites. Such climatic variables used as indicators serve a diverse set of interests by functioning as annual benchmarks against which planning can be done.





MAN, THE GREAT MODIFIER

by

E. Arlo Richardson
Utah State Climatologist

Much has been written during the past decade about weather modification both pro and con. In reality, man is continually modifying the weather conditions of the biosphere either intentionally or inadvertently by his actions. Such modifications may be beneficial or non-beneficial depending to a large extent upon the point of view.

One of the great modifiers of weather and/or climate is the rapid increase in the size of urban areas. Urbanization causes an increase in the environmental temperatures as well as an increase in the local precipitation in the area. In a series of transects across Salt Lake City a few years ago I found that the temperature of the air at about 2 West was 5 to 7 degrees warmer than the temperature on the east bench and at the Salt Lake International Airport. Similar surveys in large metropolitan areas such as New York, San Francisco and Washington D.C. indicate an increase in temperatures of the air in comparison with the surrounding rural areas of as much as 10 degrees.

One might well ask WHY? Lets look at a comparison of the typical temperatures of various surfaces exposed to bright sunlight as compared to the ambient air temperature in the same area. In a rural setting we find mostly natural surface of soil, grass, trees, etc. Studies show that the soil surface under a lawn averages only 0.1 degree C above air, the tips of the grass about 6.0 degrees above, tree leaves about 2 degrees above, bare sand 9.5 degrees, bare rock 11.0 degrees and bare dark soil 15.5 degrees. Much of a rural environment then will normally be less than 6 degrees warmer than the surrounding air and hence has the capability of raising the temperature of the air in contact with the surface only a degree or two on a sunny clear day.

By contrast, in a large metropolitan area the surfaces are mostly concrete, asphalt, brick shingles, etc. Similar tests of these surfaces show that on the average a concrete surface will have a temperature of 17.5 degrees higher than the ambient air, asphalt road surface 22.5, asphalt roofing shingles 17.0, asbestos shingles 19.0, a brick wall 10.5 degrees, galvanized metal painted red 19.5 degrees and painted black 26.0 degrees. Remember, these values are in degrees Celsius and a degree Celsius is equal to 1.8 degrees Fahrenheit, the common temperature scale used in the U.S., so that 26 degree value for black painted metal becomes an amazing 46.7 degrees F.

What are some of the implications of these figures. Every time we remove a square foot of lawn and replace it with a square foot of blacktop we are increasing the temperature of that square foot by more than 40 degrees on a sunny day. Every time we cut down a tree we are increasing the temperature of the air in the area by many degrees since a tree not only absorbs less energy but most of what it does absorb is converted to matter and will not be reradiated or conducted back into the adjacent air to increase the temperature.

Another aspect of plant life in terms of temperature is the fact that the moisture transpired by the lawn, shrubs and trees produces further cooling of the air during the growing season. An average deciduous tree with all of its leaves has a cooling effect on the adjacent ambient air equivalent to 20 one ton air conditioners operating at little or no expense to the home owner. Similarly, the transpiration from a lawn will produce marked cooling effects

especially in shaded areas where the combination of trees and lawn are combined. One hot summer day at my home in Salt Lake City a few years ago, I measured the air temperature with a sling psychrometer in various areas around my home. On the south-facing front driveway with a small area of lawn, the air temperature at 4 feet above the concrete was 108 degrees. On the back lawn which was surrounded by trees and shrubs, the temperature at the same height above the lawn was only 76 degrees, cool enough to want a sweater when moving from the front of the house to the back. Many of the energy problems with urbanization can be related to poor planning and poor landscaping; or, in other words, a lack of understanding of the proper use of the tools mother nature uses to maintain a comfortable environment in the rural setting.

ESTHER CULWELL RETIRES FROM NEBRASKA CLIMATE OFFICE



After a noteworthy career of serving Nebraska climate data users, Esther Culwell retired on June 30, 1982. Esther began her weather career with NOAA in the NWS Nebraska State Climatologist's Office located at Lincoln, Nebraska. In 1973 she began working as Climate Data Technician at the University of Nebraska-Lincoln.

Since 1973 Esther has served as the primary contact at the University of Nebraska for users of climate data archived at the Nebraska Climate Resources Library in the Center for Agricultural Meteorology and Climatology. She has worked closely with offices of the National Weather Service and the National Climatic Center in order to maintain a complete archive of data. Esther also prepared a preliminary monthly climatic summary for public dissemination.

Esther's familiarity with the state of Nebraska and her experience with applications of climate data have allowed her to serve a wide audience including: university students and faculty; private citizens and firms; and city, state and federal agencies. Esther cites one of the valuable lessons learned in her years serving climate data users: inquire about the nature of the intended use of the climate data. In this way, the best available data can be furnished.

Esther Culwell will be remembered for her unswerving dedication to her job. She plans to continue making her home in Lincoln, Nebraska.

FEDERAL AND STATE COOPERATIVE CLIMATE ACTIVITIES

National Climate Program Office,
NOAA,
6010 Executive Blvd,
Rockville, MD 20852

July 1982

Dear Colleague:

* * * * *
*
* This letter continues the occasional informational *
* series concerning the Intergovernmental Climate *
* Program, now called Federal and State Cooperative *
* Climate Activities, as seen from the viewpoint of the *
* National Climate Program Office (NCPO). *
* * * * *

PROGRAM TITLE CHANGE

The title "Intergovernmental Climate Program" (ICP) has been changed to "Federal and State Cooperative Climate Activities". Although more cumbersome, the new title more truly represents what we are trying to accomplish. It anticipates the changes that will come about as a result of passage of Amendments to the National Climate Program Act. These amendments will repeal the separate section of the Act establishing the ICP, replacing it with a more general statement establishing cooperative activities as an element of the national program. This will allow us much more flexibility in developing and running the program. Certainly the original formal ICP could not have been developed in the present fiscal and political climate. However, the net effect of the changes will be slight, since the program was not far enough advanced to have approached the formal stage.

NEWS ITEMS

New NCPO Director: On April 1, 1982, Dr. Alan Hecht became the Director of NCPO. Alan was formerly Director of the Climate Dynamics Program at NSF. His interest in the ICP stems from that time - one of my first duties for NCPO was to participate in a meeting he organized to explore the relationship between the NSF and NCPO intergovernmental programs. He has already made clear that Federal and State Cooperative Climate Activities will have high priority in the National Climate Program.

NCPO Section in AMS Bulletin: NCPO is initiating an occasional series in the Bulletin of the American Meteorological Society devoted to the National Climate Program. The first of these, due shortly, contains a review of the history and plans of the ICP.

* * * * *

TABLE 2

APPROACHES TO PROGRAM DEVELOPMENT

Coordinate data collection activities between and within federal, state and private agencies, to ensure an high quality system.

ACTION: NCPO develop strategy options to promote coordination.

Automate Cooperative Network to increase value and functions of local climate centers and foster links with NWS.

ACTION: North Central Region explore methods of use.

Develop climate service system nationwide, including use of federal funds for effects studies research encouraging states and credible local experts to participate.

ACTION: NCPO coordinate long term development strategy.

Establish clearinghouse - referral system to ensure that Federal and State data availability, information products, and generation techniques, are widely known and readily available.

ACTION: (1) NCPO lead effort to establish clearinghouse.

(2) NCPO establish Climate Impact Early Warning Coordination body with Federal and regional input.

Investigate Regional Center model to provide interface between federal and state programs.

ACTION: (1) NCPO continue to support existing regional programs.

(2) Stimulate development of other appropriate regions.

Demonstrate use by decision-makers in public and private sector, particularly use of local services by federal field offices.

ACTION: Demonstration projects funded by NCPO.

Increase user awareness by using publicity and demonstration projects to increase range of users, value, and opportunities.

ACTION: (1) NCPO strengthen ICP Newsletter, increase use of AMS "Bulletin" and AASC "State Climatologist".

(2) Demonstration projects funded by NCPO.

Establish industrial user group to increase the participation of the private sector in the program and explore ways in which they can use climate information.

ACTION: (1) NCPO establish Industrial User Advisory Group.

(2) Demonstration projects funded by NCPO.

* * * * *

PLANS FOR STRATEGY IMPLEMENTATION

A mixture of approaches, including long-term strategy development efforts and short term demonstration projects, are needed to meet the program goals (Table 2). In general the long-term tasks are the responsibility of NCPO, while demonstration projects are local program responsibilities. Federal and state cooperation is needed in all of them. Indeed, some tasks can only be undertaken as joint ventures.

Fiscal Year 1982 is a transition year, moving from the previous wide ranging demonstration project approach towards a more clearly focussed program. The monies available (\$200K) are being used to continue existing long term local service development projects, but now emphasising those aspects that address the newly defined goals.

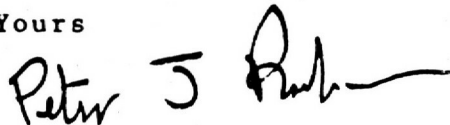
It is anticipated that funding for new projects will be available in Fiscal Year 1983. Proposals relating to the approaches listed in Table 2 will be welcome from any individual or group. All will be subject to peer review. Proposals may be submitted to NCPO at any time, but specific evaluation dates will be established. Potential proposers are encouraged to discuss their ideas with NCPO prior to making a formal submission.

FINAL NOTE

Finally, this is the last newsletter you will receive from me. My stay with NCPO ends on August 15. I shall be returning to the Department of Geography, University of North Carolina at Chapel Hill as the Coordinator of the North Carolina Climate Program. Bernie Dethier, from the Atmospheric Science Unit, Cornell University, NY, State Climatologist of New York, and currently President of the AASC, will replace me. As you can see from this letter, he will have plenty to do, including keeping you all informed of activities.

In closing, let me say I have enjoyed working with you during my time with NCPO and have appreciated the opportunity to be in at the beginning of what promises to be an exciting and worthwhile program. I hope Bernie has as much fun, and wish him, and you all, much success in the program.

Yours



Peter J. Robinson
Assistant Director, Data and Information
National Climate Program Office



UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
Washington, D.C. 20230

OFFICE OF THE ADMINISTRATOR

UNIVERSITY AFFAIRS LETTER
Washington, DC, June/July 1982

Dear Colleague:

NOAA's budget . . . for the present year, FY 1982 . . . is expected to support a total of \$32 to 35 million in university R&D. Included in the total is NOAA's Sea Grant Program. This sum is down from the \$41 million in last fiscal year's funding. Looking ahead, and assuming that Congress will not make specific agency appropriations but will authorize another continuing resolution to cover the budget in FY 1983, it is likely that NOAA will support university R&D at the current year's level (\$32 to 35 million) during FY 1983 which begins 1 October 1982.

Two (2) IPA term appointments . . . are available in the Washington, DC area . . . in ocean research and engineering. These one- or two-year temporary appointments provide opportunity for university faculty to participate in the ocean thermal energy conversion program, one of the most challenging ocean engineering programs of our times: research, analysis, at-sea tests, etc. Contact Dr. Joseph Vadus, Office of Ocean Technology and Engineering Services, NOAA, Rockville, Maryland 20852, telephone (301) 443-8655.

The National Climate Program Office . . . has limited funds for the support of university R&D and welcomes inquiries. Write to Dr. Alan D. Hecht, Director, National Climate Program Office, NOAA, 6010 Executive Boulevard, Rockville, Maryland 20852, telephone (301) 443-8646.

Some results . . . of NOAA's senior academician program . . . are noted on the reverse side of this letter. NOAA hopes more faculty members will want to take sabbatical leave with NOAA and be engaged in challenging, front-line mission activities. Each appointment aims for a minimum of one calendar year, or any period between one year and two years, which is probably the practical limit of temporary assignments. Under a written agreement (Form 69) which records the financial arrangements, obligations, and responsibilities of the parties, NOAA normally would reimburse the university for the appointee's services. Out-of-pocket costs involved in relocation and carrying out the term assignment are included in the financial negotiations. NOAA costs are shared 50/50 by the Office of University Affairs and the NOAA unit employing the services of the appointee.

Sincerely yours,

Earl G. Droessler
Director of University Affairs



NOAA IPA TERM APPOINTMENTS
SENIOR ACADEMICIANS
University Affairs

Appointee	Activity and Location	Term	NOAA Sponsor
Dr. David H. Miller Professor of Atmospheric Sciences University of Wisconsin at Milwaukee	At the National Climate Program Office, Rockville, Maryland and involved in the assessment of climate applications and the development of plans and programs to improve the effectiveness of the National Climate Program.	12 months beginning 7/1/81	Dr. Alan Hecht, Director National Climate Program Office Washington, DC
Dr. Douglas Yarger Professor of Climatology and Meteorology Iowa State University	At the Air Resources Laboratory, Boulder, Colorado in full-time research on sun-climate relation- ships including studies of upper level ozone and interlinkage with variations in solar activity.	12 months beginning 8/1/82	Dr. Lester Machta, Director Air Resources Laboratories Washington, DC
Dr. Carl G. Justus Professor of Geophysical Science Georgia Institute of Technology	At the Applications Laboratory of the National Earth Satellite Service, Camp Springs, Maryland engaged in evaluation of satellite techniques to estimate precipitation, soil moisture and net radiation balance.	12 months beginning 9/1/82	Mr. Dan Tarpley, Physical Scientist National Earth Satellite Service Camp Springs, Maryland

-20-

The University Affairs Office . . . has underway a program aimed at bringing into NOAA each year a few of the top senior academicians through term or IPA appointments. This is a NOAA-wide effort to further strengthen the personal bonds between the university community and the NOAA community. The goal is to invite about seven energetic and creative academic leaders each year, at the full professor level, to take temporary appointments in the most attractive positions that can be arranged for them within NOAA. Through the program NOAA hopes to attract a variety of skills and expertise that otherwise would not be available.

The next deadline for applications is January 1, 1983. Send letter of application with curriculum vitae to NOAA's Office of University Affairs, Room 5810, Department of Commerce, NOAA, Washington, DC 20230.