

THE AMERICAN ASSOCIATION
OF STATE CLIMATOLOGIST

NEWS LETTER

THIS IS THE FIRST ISSUE OF THE AMERICAN ASSOCIATION OF STATE CLIMATOLOGIST (AASC) QUARTERLY NEWSLETTER.


THE NEWSLETTER IS A JOINT EFFORT OF EDS (NCC), NWS, AND THE AASC AND IS DESIGNED TO FILL A NEED FOR COMMUNICATION AMONG THESE AGENCIES. NCC HAS AGREED TO PUBLISH THE INFORMAL QUARTERLY NEWSLETTER FOR THE EXCHANGE OF INFORMATION.

INPUTS ON NEW TECHNIQUES TO SOLVE COMMON PROBLEMS OR ANYTHING OF GENERAL INTEREST TO THE AASC PROGRAM ARE SOLICITED FROM THE AASC, THE NOAA AGENCIES LISTED ABOVE AND OTHER INTERESTED PARTIES.



January 7, 1977

MEMORANDUM TO: Mr. Daniel B. Mitchell
Director, National Climatic Center
Asheville, N. C.

FROM: Edward S. Epstein 
Associate Administrator for
Environmental Monitoring
and Prediction

SUBJECT: American Association of State Climatologists

Word has reached me of the plans for an American Association of State Climatologists. I welcome the news and commend the National Climatic Center for its initiatives in supporting this new organization. Through an Association of State Climatologists it will be possible to make more effective use of climatological information and climatological expertise to the benefit of the American people. I wish to extend my best wishes to the new Association.



NCC Briefs

A reminder that the dates of the Spring 1978 AMS meeting on Climate and Energy and on Industrial Meteorology are May 8,9 & 10 and May 10, 11, & 12, respectively.

Since the AASC Committee indicated they would like to have their next meeting with this conference, either before or after, we will need to know the exact dates. Please advise Bill Bartlett, NCC, as soon as possible of your preference for the AASC meeting.

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The National Climatic Center (NCC) is processing data for the period 1961-1970 for inclusion in the publication World Weather Records. It is hoped that all stations with long-term climatologically homogeneous records can be included. If you are aware of such stations that were not included in the 1951-1960 publication, the NCC would be glad to consider them at this time. Suggestions and recommendations must be received at NCC, Asheville, N. C., no later than February 25, 1977.

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During the second meeting of the State Climatologists, on October 5 and 6, 1976, at NCC, Tom Prizio, Chief of NCC's Archival Services Branch, announced that all SC's were eligible to receive NCC's manuscript records, for their permanent files, after these records are placed on film by NCC in accordance with specified federal standards. SC's interested in being considered as recipients of records ready for disposal by NCC were encouraged to write a letter to NCC indicating their interest in participating in such a program. To date, NCC has received only two such letters; however, during the referenced meeting, many others expressed an interest in receiving selected NCC records after being placed on film.

Our microfilming program has accelerated this year due to the acquisition of a high speed camera. We are now developing plans to accelerate this program even further. These expanded activities may make it possible for us to begin disposing of records during the next few years - some of which may be for locations in your State. When the time comes for NCC to dispose of records, pending files will be screened to identify agencies that expressed an interest (in writing) in receiving these records. Decisions will then be made by NCC as to proper disposition of records. If you wish to be considered in this program, let us know - in writing. Your letter will be placed in our pending file along with any others we may receive.

If any of you have federal records which were not sent to NCC when the federal SC program terminated, it would be in the national interest to return them to NCC so they can be microfilmed. These records would be returned to you after they have been microfilmed.

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The publication Climatography of the United States No. 60 has been published in the new format for Alabama, Arizona, Arkansas, Colorado, Connecticut, Florida, Idaho, Illinois, Indiana, Iowa, Kansas, Louisiana, Maine, Massachusetts, Nebraska, North Carolina, and North Dakota. Present plans call for the completion of an additional 10 to 15 States by October 1977, and the remainder by October 1978. This series is quite different from the earlier version. They contain only the narrative and the means and extremes tables from the LCD Annuals and the Substation Summaries (Climatography of the United States No. 20). The freeze data, normals, etc., that were formerly carried are generally available in other publications and were not duplicated in this series. A map showing the location of each station summarized is also included along with a station list.

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The program for summarizing climatic data for the Soil Conservation Service is continuing. The NCC has now completed summaries for over 200 areas throughout the United States.

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The FAA Advisory Circular 150/5335-4, dated June 14, 1976, outlines design standards for airports served by air carriers. The wind analysis is explained in Appendix 1 and for the first time recommends a wind summary tabulated to 36 points and calm. The NCC has modified its computer program to output wind direction to tens of degrees and new graphs have been printed to accomodate such requests. It is important to note that almost all wind summaries prepared at NCC to date have been to 16 points and requests received for 36 point summaries will require either manual or computer processing. Some users were under the mistaken impression that because wind direction has been reported to 36 points since 1965, it was automatically being summarized in that manner. We changed our procedure only when asked to do so by the users. The only station with wind data processed to 36 points is Dulles International. Recent wind summaries to 16 points include: Jackson, Wyoming; Greeley and Broomfield, Colorado; Glasgow, Montana; and Minot, North Dakota.

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Within the next few months the NCC plans to publish the first 20 Airport Climatological Summaries out of a proposed 170 total. They are being prepared for major airports, based on records from 1965-74, and are intended primarily as aids to aviation. The selection of stations and priority dates for publication were determined by the FAA in accordance with the number of instrument approaches at airports.

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Delays were encountered in getting the EPA report, "Use of Climatic Data in Estimating Storage Days for Soils Treatment Systems" published. It should be in the mail very soon according to the EPA Project Officer. The NCC continues to get requests from engineers for the processing of daily data using EPA-3 program.

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THE IOWA STATE CLIMATOLOGY PROGRAM
By Paul J. Waite, Iowa State Climatologist

The position of State Climatologist for the Iowa Department of Agriculture was established June 1976. The office, with a staff of two, is located immediately adjacent to the National Weather Service Substation Network Specialist and two floors below the National Weather Service Forecast Office at the Municipal Airport.

The office activities are centered around four activities: (1) Iowa climatological data archival, (2) climatological assessments, (3) public service and (4) applied researches. This office supports Iowa agriculture and other facets of the State economy with climatological assessments and probability outlooks for the very necessary decision making processes that extend beyond the range of weather forecasting.

Due to the long-term continuing precipitation deficiency in Iowa and the passage of the coldest autumn during the 20th Century in Iowa, the pressure for information relating to next season's planning for food production and this season's high rate of energy usage (30-40% above normal) have primarily directed Iowa State climatology into the climatological areas supporting food production and energy usage.

Within the six months period since the State Climatologist position was created, the Iowa Department of Agriculture's climatological requests have quadrupled. The state climatologist is becoming involved in the Iowa Water Resources Development Plan.

The news, radio and TV media are now utilizing this office for stories, tapes and appearances at the rate of about ten per week. Speaking appearances to farm, engineering and other professional groups now average one per week and are scheduled for two per week in January. While stressful climatic conditions contribute to the popularity of climatic data for the media and for speaking engagements, the climatological impacts on Iowans have been long recognized and will continue to be news because there will be other newsworthy climatological events affecting Iowans after this particular set of events has passed.

With the very active and rapidly expanding operational program that also includes the Weekly Weather and Crop Bulletin releases and other Statistical Reporting Service cooperative publications, the applied researches have been limited to a study of (1) climatic predictors for decision making and (2) the effects of observational time change on climatic data interpretations.

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U. S. STUDYING MINNESOTA WEATHER REPORTING SYSTEM
By Don Muhm

(Reprint from Des Moines Sunday Register, 12/12/76)

Federal weather officials are taking a close look at the Minnesota weather reporting system as a possible means of compiling more accurate and detailed information relating to crop production.

Regional U. S. Weather Bureau specialist Bernard L. Spittler of Kansas City, Mo., a native of Hamburg, said the agency is interested in the Minnesota plan.

Here is how the Minnesota reporting program, called Operation Rain-Snow, works:

In 1971, Minnesota vocational agriculture officials set up a pilot project in which Future Farmers of America (FFA) members in the crop-producing regions of the State (mainly southern and western Minnesota) kept simple weather records.

These unpaid volunteers recorded precipitation totals and then reported the figures monthly to the state climatologist in St. Paul.

In case of severe weather - such as snowstorms, tornadoes or heavy rains which pose flooding problems - the agency called the FFA weather reporters to get updated information on the weather and any problems it might represent.

W. J. Kortesmaki, the Minnesota FFA executive secretary, praised this volunteer reporting program. He said the program uses 2,000 young people from 270 FFA chapters to represent about 628 townships in Minnesota.

RAINFALL VARIES

"We have found that there is a wide difference in the same township in how much precipitation has fallen," he said.

"One of the FFA members reported eight to nine inches of rainfall, for example, during a particularly heavy storm. He just kept emptying and emptying a three-inch (rain) gauge.

"Only a few miles away, the FFA weather observer reported only 1.5 inches of rain - out of that same storm which had dumped nearly nine inches in that one neighborhood," he said.

Kortesmaki feels this kind of variable weather needs to be reported, from the standpoint of a public hazard in case of flooding or other weather-related danger, as well as for crop information.

Spittler agrees. "This kind of project helps us in the Weather Bureau and it helps the public," he said. "We encourage all of the midwest States to follow Minnesota's lead."

Regional weather officials are considering the adoption of the Minnesota volunteer weather reporting service in 13 other States, including Iowa, Spittler said.

The other States are Colorado, Wyoming, Kansas, Nebraska, North Dakota, South Dakota, Missouri, Illinois, Wisconsin, Kentucky, Indiana, and Michigan.

"This is the nation's bread basket, really," added Spittler.

John Graff, the meteorologist in charge of the Weather Service in Minnesota, said the FFA volunteer reporting system in that State "has helped us establish a new bank of knowledge of moisture patterns and storm tracks."

TOO FEW STATIONS

"Great strides have been made in recent times to record the weather, but our reporting stations are still too few and too widespread," he said.

The data can be used, Graff added, to help predict such things as floods, droughts, severe weather, pollution patterns, and other weather developments, as well as to alert farmers, the public, and others to prepare for such things.

Kortesmaki noted that if the central regional reporting system is developed for the 14-State area, there is a potential of nearly 150,000 FFA members to handle the chores.

But the FFA official noted that senior citizens might be used as well.

"These old-timers are usually more interested in the weather, and they have the time and interest to keep the records," he said.

Five years of collecting such localized weather information has convinced Kortesmaki that rainfall can be "very spotty."

"This is why we feel it is most important to have more reporters monitoring the weather," he said. "This could give us better information about crop yield potential, too."

Officials are aware of the scarcity of reporters and the shortcomings of the current weather monitoring system, Kortesmaki said.

In Iowa, for example, this year was an example of just how "spotty" weather can be. Crop yield estimates were elevated in November because the harvest of corn had turned out much better than earlier anticipated in several States, including Iowa and Illinois.

In Iowa, the U. S. Department of Agriculture in its November 1 crop estimates boosted the average yield for corn by four bushels per acre. In Illinois, the boost was seven bushels over USDA estimates made one month earlier.

But, while localized weather reporting may be important from the crop and public standpoints, there is another significant aspect - hail damage. "We have found our local records are quite useful in the case of hail damage for use by the farmer-customer as well as by the hail insurance company," Kortesmaki said.

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ARIZONA WEATHER WATCHERS

By Dr. Robert W. Durrenberger, Arizona State Climatologist

"Arizona Weather Watchers" is the name of an organization which was formed to allow amateur weather observers and all interested citizens to communicate with each other and share their observations of unusual atmospheric phenomena in the State. It is a program of the Office of the State Climatologist for Arizona. Its objective is to gather first-hand visual observations of unusual weather events as well as standard daily meteorological observations. Although in its early days of existence the "Arizona Weather Watchers" concentrated its efforts primarily in the metropolitan area of Phoenix, it is the goal of this organization to establish a network of observers in all regions of the Grand Canyon State. Meteorological data recorded by the Weather Watcher network is compiled and archived monthly by the State Climatologist for use in climatological research and as a data base for public inquiries.

All unusual atmospheric phenomena merit the consideration of the Weather Watcher. Some examples are rain and hail storms, lightning, wind and its effects, tornadoes, duststorms, dust devils, optical displays such as rainbows, haloes, and sun pillars. The organization is also interested in obtaining information on the effects of man on the environment; therefore, observations of pollution, fires, contrails, etc., will also be reported.

At present, "Arizona Weather Watchers" is interested in identifying all individuals and agencies that are concerned with any of these phenomena and who would like to participate in the program. Degree of involvement will be essentially up to each individual. Minimum efforts would probably entail the monthly reporting of rainfall for those with rain gauges or the description of unusual observations via photographs, by written accounts, or by telephone. The measurement of daily maximum and minimum temperatures particularly in agricultural areas would be significantly useful. The State Climatologist has made arrangements for discounts to be offered on the cost of necessary meteorological instruments and equipment.

Participating observers come together for a monthly meeting of the "Arizona Weather Watchers" on the third Wednesday evening of each month. This meeting is held in conjunction with the Central Arizona Chapter of

the American Meteorological Society at a designated location in the Phoenix metropolitan area. Weather Watchers may call the Laboratory of Climatology at 965-6265 for specific information on the time and location of each meeting. This forum provides an opportunity for all Weather Watchers to share their experiences with other members. It also serves as an educational setting in which observers may expand their knowledge of meteorology and climatology through social interaction with other colleagues and by acquiring pertinent information from the monthly guest speaker.

As a member of "Arizona Weather Watchers," each observer receives the monthly newsletter, Arizona's Weather Word, which is published by the Laboratory of Climatology at Arizona State University. This publication contains articles and announcements of interest to individuals utilizing weather and climate data in Arizona.

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THE COOPERATIVE WEATHER OBSERVER

By William I. Pogerman, Substation Program Leader, NWS

Cooperative weather observers are selected to take observations at predetermined locations in order to define the climate of an area. While cooperative observers may take several different kinds of observations, they usually make daily readings of maximum and minimum temperatures and precipitation.

Observers are usually selected from permanent residents in a community who have an interest in observing weather, so that a long record can be assured. Observations must be taken seven days a week throughout the year. The value of data is enhanced to a great extent by the records extending over a number of years. Most cooperative observers have served from 25 to 50 years.

A cooperative station represents an area of approximately 600 square miles. This distribution of stations varies somewhat in accordance with the topographic features of the country.

Where a cooperative station is needed, the Weather Service provides the shelter, thermometers, and rain gage. The observer takes one observation daily, preferable near sunset, and records the data on forms provided for this purpose. These records are forwarded to a processing center at the end of each month where the data are verified and published in a Climatological Data bulletin for each State or area.

This network of cooperative stations has become rather stable in recent years and practically no new installations are being made at the present time.

While the age has not been stressed, observers must be able to assume the responsibility of recording official observations.

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