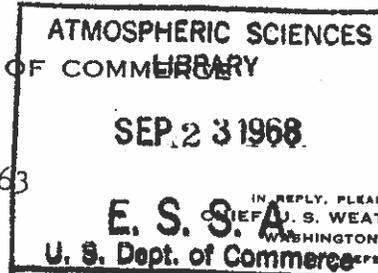


UNITED STATES DEPARTMENT OF COMMERCE  
WEATHER BUREAU  
WASHINGTON

September 24, 1963



IN REPLY, PLEASE ADDRESS  
CHIEF, U. S. WEATHER BUREAU  
WASHINGTON 25, D. C.

C-3.1

MEMORANDUM

TO : Area and State Climatologists, NWRC, Field Aides (HC), Field Aides, River Forecast Centers, River District Offices, Regional Substation Management Units, and Area Hydrologic Engineers (with copies to Regional Administrative Offices, Agricultural Service Offices, and Agricultural Forecast Offices for information)

FROM : Director, Climatology

SUBJECT: Climatological Services Memorandum No. 101

1. MEMBERSHIP ON COMMITTEES: The field of applied climatology is very broad and as yet it has been only partially exploited. For this reason Area and State Climatologists have been encouraged to proceed along the line of their greatest interest instead of being directed to proceed along any specific course.

A recent survey indicated that State and Area Climatologists serve on a variety of committees with stated goals as follows:

- Patterning of weather factors important to the Great Plains.
- Study of factors influencing grasshopper population in the Great Plains.
- Conservation of natural resources.
- To foster and encourage activities in the field of agricultural meteorology.
- To collect factual health and hazard data for the state Nuclear Commission.
- To make recommendations on elements to be measured by automatic weather stations.
- To recommend coordinated development of university departmental interests in the field of meteorology.
- To study weather patterns in the Midwest.
- Study of phenology.
- To interpret state climatic data.
- To study radioactivity in rainfall.
- To advise on needs for weather records at a University substation.
- To study storm amounts and variation in a metropolitan area.
- To study storm variation and runoff in small drainage basins.
- To study the types and best use of land by counties.
- To consider water supplies for the Upper Missouri River.
- To study state conservation requirements.
- To consider meteorological and fallout observations and forecasts.
- To develop preventative measures for flood control.

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- To inventory soil resources of the state, including climate.
- To inventory and publish listings of published and unpublished studies and records; to establish listings of resource people able to aid in climatological problems; and to develop a means of communicating pertinent information regarding studies completed or in progress.
- To determine if counties should be declared drought disaster areas.
- To prepare an inventory of the physical needs of state agricultural lands and to determine ways of making maximum use of available water supplies.
- To work on problems relating to the soil survey program.
- To prepare guidelines for the Southwest Interagency Committee in interpreting parameters used in hydrologic studies.
- To describe climatic patterns by the analysis of long term weather records.
- To develop statistical techniques applicable to weather modification activities.
- To install complete weather stations on University farms.
- To consider the problems of weather measurements.
- To study the application of climatology to agriculture.
- To consider soil-plant-water relationships.
- To make technical recommendations to Agricultural Experiment Stations in states participating in Technical Committee project S-47 "Responses of Forage Crops to Environmental Factors".
- To serve as a "clearing house" for the exchange of ideas between research workers in the field of hydro-meteorology.
- To analyze weather records for agriculture.
- To consider climate in relation to soil classification and interpretation.
- To assess needs of watershed districts, and carry on watershed investigation.
- To consider weather equipment needs in Experiment Station programs.
- To evaluate climate to provide planting recommendations when irrigation water becomes available.
- To analyze current and projected conservation requirements on the basis of changes in land use.
- To obtain technical assistance for students presenting projects at a science fair.
- To further inter-agency cooperation and avoid duplication of agency endeavors, and to plan for inter-agency data requirements.
- To plan coordinated efforts in dealing with breakup flooding in Alaska.

We feel that the above represent great potential for worthwhile results.

2. AREA CLIMATOLOGISTS MEETING: A meeting of the five Area Climatologists in the contiguous United States is tentatively planned for October 16 - 18. The 18th will be devoted, in part, to a joint meeting with representatives of the U. S. Department of Agriculture concerning common problems and interests.

3. PRINTING 1962 CD ANNUALS: Preparation of these annuals for printing (for all except the Kansas City WRPC area) was delayed until this fiscal year as an economy measure. Present plans are to print them during the first week of October.

4. MAILING LIST RECIPIENTS OF NATIONAL WEEKLY WEATHER AND CROP BULLETIN: A recent survey of the 1647 names on the mailing list for the National Weekly Weather and Crop Bulletin shows the following breakdown:

	<u>Free</u>	<u>Paid</u>
Business or professional. . . . .	31	324
Colleges and universities . . . . .	150	23
Foreign . . . . .	44	14
Government - Local, State, and Federal (not including Weather Bureau stations) . . . . .	370	0
- Weather Bureau installations . . . . .	243	0
Publicity - Publications, Radio, Television . . . . .	63	12
Public Libraries (City or State). . . . .	22	2
Undesignated business or vocation . . . . .	98	251
<b>TOTALS</b>	<b>1021</b>	<b>626</b>

5. CLIMATIC INVESTIGATIONS: The Budget Digest for the past several years has carried an item on this subject. Following is the latest revision:

"The research and development programs in climatology are actively engaged in improving the usefulness and quality of climatological data, in seeking new and better ways to present the data and apply them to human problems, and in interpreting and analysing the data against the background of rapid developments in related geostrophysical disciplines.

"The basic problems of collecting, editing, processing, storing, and recalling the ever-increasing quantities of data continue to tax or overwhelm available equipment and facilities. Constant attention is given to keeping abreast of developments in electronics and systems engineering to adapt new equipment and methods to climatology. The quickening flood of satellite cloud photography and radiation data requires continued development of higher-speed and more efficient microfilm data storage and retrieval equipment and techniques, such as improved models of FOSDIC (Film-Optical Sensing Device for Input to Computer), and ultra-high speed printing on microfilm via electronic methods.

"Water and water supplies continue to occupy the attention of many planners in agriculture, commerce, and industry. Continued research must be carried out toward the development of indices which will assist in identifying onset and termination of drought. Studies of long-term trends and fluctuations of climate are of broad interest, both for economic and scientific reasons. New statistical techniques are being used to investigate the whole problem of climatic change.

"Among all environmental factors, climate is the most important one in life processes. Investigations, in part jointly with the Department of

Agriculture and the Public Health Service, serve to elucidate the bioclimatic influences. This includes the search for climatic factors in the etiology of pathologic processes.

"Continued studies in three-dimensional description of atmospheric variables are under way for the benefit of designers and operators in the aerospace field. Particular emphasis is presently based on information useful to supersonic air transport operations."

6. CSM INDEX: An Index covering CSMs 91 through 100 has been issued and distributed under date of July 22, 1963.

7. SEVERE STORM REPORTS (SELS LOG): SELS logs have not been sent to State Climatologists since the Kansas City WRPC closed partly because there seems to be no simple or inexpensive way to set up this job at another office. In order to evaluate this discontinuance any SC who has found the omission to be a serious handicap to him is invited to let us know.

8. EARLIER RELEASE TIME FOR WEEKLY WEATHER AND CROP BULLETIN: Statistical Reporting Service has decided to advance the release time of the state Weekly Weather and Crop Bulletin to 3 P.M. Monday. There will be some exceptions for states where the earlier release time is not practical.

We believe that most State Climatologists can make the earlier release time, and of course all are encouraged to do so where practicable.

The effective date of this change was August 5, 1963.

9. WEEKLY WEATHER AND CROP BULLETIN: Data from cooperative stations play an important part in the Weekly Weather and Crop Bulletins published for individual states. These bulletins, issued as a cooperative project of the Weather Bureau, Statistical Reporting Service of the USDA and various State Agricultural agencies, portray the weather and crop progress during the preceding weeks and are of interest to those concerned with agriculture. Weather data from selected cooperative stations are presented in tabular or map form, and these data are also used in preparing the textual part of the report.

The number of recipients of these state bulletins ranges from 129 to 4013 and average 1004. There are a total of 45,260 addresses for all bulletins.

Weather Bureau man-hours spent on the bulletins range from 2 to 16, with an average of 5.1 hours spent weekly on this task. The Weekly Weather and Crop Bulletin is an excellent example of cooperation between Federal agencies and between Federal and state agencies.

10. PRINTING OF CLIMATOLOGICAL DATA PUBLICATIONS: Routine climatological data publications printed at the NWRC are now being produced making more efficient use of the available space. We are using a lesser photo-reduction, making the data easier to read, and we are doing this at the expense of margin space. We hope that the greater legibility will make our publications more useful than ever before.

11. ISOLINE TEMPERATURE AND PRECIPITATION MAPS IN MONTHLY CD: Re Item 6, CSM #97. In view of the work involved in preparing these maps, and the fact that we have had no indication at all that they were missed we do not plan to resume preparation of them.
12. PRESIDENTIAL LETTER TO SIXTY-YEAR COOPERATIVE OBSERVER: President Kennedy has signed a commendatory letter to Mr. Charles E. Barret of Anchorage, Kentucky, who completed sixty years as a cooperative observer on September 1, 1963. Details of Mr. Barret's service may be found on page 52 of "The Cooperative Weather Observer". This is the fifth time that a cooperative observer has been commended by the Nation's Chief Executive.
13. TECHNICAL PAPER NO. 40: This Technical Paper, "Rainfall Frequency Atlas of the United States, for Durations from 30 Minutes to 24 Hours and Return Periods from 1 to 100 Years" has been repaginated and reprinted. Distribution of one copy has been made to all stations. Any office not receiving a copy, and desiring one, should advise us.
14. PROCEEDINGS OF THE INTERNATIONAL SEMINAR ON SOIL AND WATER UTILIZATION: Proceedings of the above seminar held at Brookings, South Dakota, July 18 - August 10, 1962, have been published. The Central Area Climatologist contributed a section on "The Climatic Limitations on Resource Utilization".

We do not have copies for general distribution. State Climatologists who are interested in the proceedings could ask for a copy from the Agricultural Engineering Department, South Dakota State College, Brookings, South Dakota.

15. JEFFERSON AND HOLM AWARDS: All offices making presentations of these certificates are asked to report to us (through the RSMU) when presentation has been made. Pictures and newspaper clippings are desired. A list of observers selected and their citations was carried on the back of the Daily Weather Map for August 27, 1963.

16. PUBLICATIONS DISTRIBUTED TO STATE AND AREA CLIMATOLOGISTS RECENTLY: "Prediction of Soil Moisture Under Oats for the Spring Period". R. H. Shaw, reprint from Iowa State Journal of Science, Vol. 37, No. 4, May 15, 1963, pp. 417-423.

"History of Climatological Records Forms 1009 and 612-14". J. P. Kohler, U. S. Weather Bureau Key to Meteorological Records Documentation No. 2.11.

Eighth Progress Report, South Dakota Cooperative Project in Climatology, July 1963.

Climatological Services of the Weather Bureau (one page).

Reprint of Dr. Ludlum's Heat Extremes paper from the June 1963 issue of Weatherwise.

Proceedings - National Conference on Air Pollution, December 10-12, 1962. U. S. Department of Health, Education and Welfare.

CSM No. 101 - 6

Catalogue of Meteorological Satellite Data - TIROS II Television Cloud Photography. U. S. Weather Bureau Key to Meteorological Records Documentation No. 5.32.

Catalogue of Meteorological Satellite Data - TIROS IV Television Cloud Photography. U. S. Weather Bureau Key to Meteorological Records Documentation No. 5.34.

History of Weather Bureau Wind Measurements. Louis P. Harrison. U. S. Weather Bureau Key to Meteorological Records Documentation No. 3.151.

History of Tornado Observations and Data Sources. M. Oliver Asp. U. S. Weather Bureau Key to Meteorological Records Documentation No. 3.131.

Decadal Census of Weather Stations. U. S. Weather Bureau Key to Meteorological Records Documentation No. 6.11. States as follows:

Arkansas	Montana	North Dakota	Tennessee
Iowa	New Jersey	Ohio	Utah
Kansas	New Mexico	Pennsylvania	Virginia
Louisiana	New York	South Carolina	West Virginia
Maryland & Delaware	North Carolina	South Dakota	Wisconsin
Missouri			Wyoming

Climatology of the Upper Air as Related to the Design and Operation of Supersonic Aircraft. Harold L. Crutcher. U. S. Weather Bureau.

Climatic Atlas of Irrigated Regions in Nebraska, No. 1, "The Climate of the Central Platte Valley". University of Nebraska.

*H. E. Landsberg*  
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