

UNITED STATES DEPARTMENT OF COMMERCE

U.S. WEATHER BUREAU  
WASHINGTON

June 8, 1960

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

C-3.1

MEMORANDUM

TO : Area and State Climatologists, Field Aides (HC), Field Aides, WRPCs, River Forecast Centers, River District Offices, and Area Engineers (with copies to Regional Offices for information)

FROM : Office of Climatology

SUBJECT : Climatological Services Memorandum No. 80

GENERAL

1. INFORMAL MINUTES OF THE TENTH MEETING OF THE ADVISORY COMMITTEE ON CLIMATOLOGY, (NAS-NRC): The Committee met on May 11, 1960 at the Office of Climatology in Suitland, Maryland.

Present were the following members:

Dr. J. H. Longwell, Chairman - Director, Division of Agricultural Science, University of Missouri

Dr. E. Wendell Hewson - Department of Civil Engineering, University of Michigan

Dr. William E. Reifsnyder - School of Forestry, Yale University

Dr. David H. Miller - Pacific Southwest Forest and Range Experiment Station

Also present was the Acting Executive Secretary of the Division of Earth Sciences of the National Research Council, Dr. Adrian Richards. Dr. Landsberg reported to the Committee progress on a number of projects which had found the Committee's attention at prior meetings.

An unbound volume of the 49 available issues of the Climates of the States was shown to the Committee and the target date for the issues of the remaining two states (Hawaii and Puerto Rico) was indicated. The discussion brought out the somewhat unfortunate compromise in the tables of mean values which show 1921-1950 normals for Weather Bureau stations and 1931-1955 means for substations. It was pointed out that this will be one of the first revisions when reprints of the pamphlets are made. At that time uniform data from 1931-1960 will be used.

The Committee inspected the finished climatological charts for the National Atlas and those now in various stages of completion. A list of the climatic charts planned for this atlas follows at the end of this item.

The detail of Dr. Barger, Deputy Director of the National Weather Records Center, to the Harvard Seminar on Science in Government was discussed briefly.

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The draft of the new format for the LCD Supplement was shown to the Committee but no particular suggestions for changes arose from the discussion.

The geographical distribution of the prospective recipients of the Jefferson and Holm awards was presented and some of the citations were read to the Committee. The program in general and the style of the citations were favorably commented upon.

The Committee was informed of the current status of the temperature-humidity index and received copies of the following items:

1. The Discomfort Index Finder (Springfield Instrument Co., Inc.)
2. Central Office Memo (C-4.4) dated April 8, 1960 with attachments
3. Letter from Mallenckrodt Chemical Works of June 2, 1959
4. E. C. Thom's paper "Facts behind the Weather Index"
5. Mapback "Temperature-Humidity Index"
6. Volume 5, #4 of the Bulletin of the National Warm Air Heating and Air Conditioning Association.

The Committee was informed of the status of the world sunshine charts which the Office of Climatology is preparing for the WMO.

The status of the Decennial Census was discussed and the Committee was informed that a small initial fund will be available for this purpose. The first installment will be used to compute new 1931-1960 normals for the First Order Stations.

The subject matter was discussed in conjunction with the problem of station exposures and changes that are being encountered in connection with the installation of hygrothermometers. The Committee voiced the opinion that the new normals should be computed for the latest positions of the respective stations. The discussion also brought out that it would be better to have sites free from influences of the city and other errors as bases for these normals. Where needed, differences of the new normals to metropolitan centers should be established.

The Committee was informed of our plans for a Seattle City Guide to be accomplished during Fiscal Year 1961. Among other plans for the same fiscal year are computations of power spectra of long climatic series for other stations in addition to Woodstock, Maryland for monthly data and lags of one year to about 20 years.

Long-range plans include microfilming of records, of which a considerable back-log has developed, and additional full time state climatologist positions. The need in certain states is particularly acute. The climatological use of satellite data was briefly discussed and the problem which will confront the National Weather Records Center in indexing, archiving and recall of these data was presented. The Committee's opinion and support for an adequate system in this respect was solicited. The Committee discussed this matter in Executive Session and appropriate advice will be given between now and the next meeting.

Publications issued by the Office of Climatology during the past year were inspected. The Committee reiterated its desire that better lists of these publications be made generally available and suggested that these lists not only contain research papers but also titles of translations, bibliographies, technical papers and casual reprints. In this connection the problem of free distribution of publications for educational and similar purposes was discussed.

The Committee was also briefed on the plan for the pamphlet "Climatology at Work" and a dummy of the title page and introduction was exhibited.

#### TENTATIVE LIST OF CHARTS FOR NATIONAL ATLAS

##### Temperature

Daily average by months and annual

" " maximum by months and annual  
" " minimum " " " "

Standard deviation of monthly average (completed)

Monthly average dry bulb (at synoptic hours)

" " wet bulb " " "  
" " dewpoint " " "  
" " relative humidity (at synoptic hours)  
" " vapor pressure " " "  
" " maximum " " "  
" " minimum " " "

Average daily change

Number of days 65°

Monthly degree days

Standard deviation of heating season degree days

Quantiles of annual extreme daily degree days and daily average temperature

Number of days with:

- (a) max.  $\geq 90^\circ$
- (b) max.  $\leq 32^\circ$
- (c) min.  $\leq 32^\circ$
- (d) min.  $\leq 0^\circ$

Freeze free season

First and last days of 32°, 28°, 24°, 20°, 16°

##### Precipitation

Total monthly and annual

Total snowfall (annual)

Number of days with snow

Quantiles of snowfall thresholds

Millions of gallons per capita per year (completed)

" " " " square mile per year (completed)

Mean monthly and annual by state climatic divisions

Number of days with:

- (a)  $\geq$  .01
- (b)  $\geq$  .04
- (c)  $\geq$  .10
- (d)  $\geq$  .25
- (e)  $\geq$  .50
- (f)  $\geq$  1.00
- (g)  $\geq$  2.50
- (h)  $\geq$  1.00 per hour

Number of days with snow:

- (a)  $\geq$  .10
- (b)  $\geq$  1.0

Number of days of snow cover

Pressure

Station average at synoptic hours

Sea level at synoptic hours

Highest with date

Lowest with date

Wind

Average speed

Prevailing direction

Direction at synoptic hours

Speed " " "

Maximum speed with direction and date

Number of days with wind 32 mph

" " hours with wind 25 mph

Sunshine

Total monthly and annual

Percentage possible monthly and annual

Hours of sunshine " " "

Other

Number of clear days monthly and annual

" " partly cloudy days monthly and annual

" " cloudy days monthly and annual

" " days with hail (monthly and annual)

" " " " sleet " " "

" " " " fog " " "

" " " " thunderstorms (monthly and annual)

Average sky cover

Tornadoes

2. THE NATIONAL ACADEMY OF SCIENCES - NATIONAL RESEARCH COUNCIL: The following description of the National Academy of Sciences - National Research Council is taken from a report to the Secretary of Commerce by a Special Advisory Committee of the National Academy of Sciences:

The National Academy of Sciences--National Research Council is a private, non-profit organization of scientists, dedicated to the furtherance of science

and to its use for the general welfare. The Academy itself was established in 1863 under a Congressional charter signed by President Lincoln. Empowered to provide for all activities appropriate to academies of science, it was also required by its charter to act as an adviser to the Federal Government in scientific matters. This provision accounts for the close ties that have always existed between the Academy and the Government, although the Academy is not a government agency.

The National Research Council was established by the Academy in 1916, at the request of President Wilson, to enable scientists generally to associate their efforts with those of the limited membership of the Academy in service to the nation, to society and to science at home and abroad. Members of the National Research Council receive their appointments from the President of the Academy. They include representatives nominated by the major scientific and technical societies, representatives of the Federal Government, and a number of members at large. In addition, several thousand scientists and engineers take part in the activities of the Research Council through membership on its various boards and committees.

Receiving funds from both public and private sources, by contribution, grant, or contract, the Academy and its Research Council thus work to stimulate research and its applications, to survey the broad possibilities of science, to promote effective utilization of the scientific and technical resources of the country, to serve the Government, and to further the general interests of science.

3. STATION HISTORIES IN LCD ANNUALS: From time to time we are reminded by users that there are inaccuracies in the Station Location table of some LCD Annals.

While state climatologists do not have the basic information to check all of the published data they should review them for consistency and discuss them with the MIC when visiting at first-order stations. It is important to impress upon the MIC the need for accuracy in this table, and to urge that it be reviewed and kept current. We feel that it is particularly important that all moves of instruments be shown as separate line entries in the table (not merely in Remarks or as references).

4. REPRINTS FURNISHED BY STATE AGENCIES: The Florida State Climatologist reports that the Florida State Marketing Bureau has furnished him with a number of reprints of climatological charts, texts and tables published in the Bureau's 42nd annual report. Other State Climatologists with a need for similar reprints might investigate the possibility of such an arrangement in their state.

5. TRAINING IN AGRICULTURAL METEOROLOGY: The Agricultural-Meteorological Institute at the University of Maryland and Suitland will not be held this summer. Plans are being developed looking toward setting up of a program for training Agricultural Meteorologists and Climatologists at various universities this fall or next spring. Further information will be given on this new program if and when it becomes more definite.

6. COOPERATION WITH THE BUREAU OF LAND MANAGEMENT (RE: CSM 79, ITEM 1): As a part of the continuing cooperation between the Bureau of Land Management and the Weather Bureau, the BLM has furnished us with the names of their district managers. State Climatologists are urged to give these representatives any assistance that they can in line with Item 1 of CSM 79. The list follows:

Area 1

CALIFORNIA

Virgil Bottini  
Harry B. Rathner  
William K. Barker  
Jens C. Jensen

Bakersfield, Calif.  
Susanville, Calif.  
Redding, Calif.  
Calif. Fruit Building, Room 701, 4th  
and J Streets, Sacramento, Calif.  
Ukiah, Calif.

Wilson Bjorge

OREGON

Roland C. Burgess  
Donal Z. Robins  
Maxwell T. Lieurance  
Richard H. Petrie  
Euel L. Davis  
Otto C. Krueger  
Lester C. Dunn  
Archie Craft  
Ross A. Youngblood  
Boris T. Vladimiroff

Lakeview, Oregon  
Burns, Oregon  
Vale, Oregon  
Prineville, Oregon  
Baker, Oregon  
Salem, Oregon  
Eugene, Oregon  
Roseburg, Oregon  
Medford, Oregon  
Coos Bay, Oregon

Area 2

ARIZONA

Warren J. Gray  
Myron H. Allen

359 N. First Ave., Phoenix, Ariz.  
Safford, Arizona

IDAHO

Delbert Fallon  
John F. Wilson  
Charles R. Nettleton  
Edward Jones  
Dale H. Kinnaman  
Richard L. Schaertl

Boise, Idaho  
Burley, Idaho  
Idaho Falls, Idaho  
South Salmon, Idaho  
Shoshone, Idaho  
Coeur d'Alene, Idaho

NEVADA

Lowell J. Udy  
John N. Russiff  
Dante Solari  
Jesse L. Kirk  
A. W. Magleby  
August L. Rohwer

Elko, Nevada  
Winnemucca, Nevada  
Carson City, Nevada  
Ely, Nevada  
211 Ogden Street, Las Vegas, Nevada  
Battle Mountain, Nevada

UTAH

Garth M. Colton  
 J. Kent Giles  
 J. Pratt Allred  
 Kay W. Wilkes  
 Robert C. Krumm  
 Keith E. Norris  
 Donald S. Moffitt  
 Rex J. Morgan  
 Martin H. Galt  
 Clair Whitlock

Brigham City, Utah  
 4913 South State, Murray, Utah  
 Fillmore, Utah  
 Cedar City, Utah  
 Richfield, Utah  
 Monticello, Utah  
 Price, Utah  
 Vernal, Utah  
 Kanab, Utah  
 St. George, Utah

AREA 3COLORADO

William J. Malencik  
 Douglas A. Cross

Craig, Colorado  
 214 Old Custom House Bldg, Denver,  
 Colorado

John W. Riley  
 Harold C. Hammit  
 Rowland G. Thompson  
 Lloyd W. Bruce

Montrose, Colorado  
 Durango, Colorado  
 Canon City, Colorado  
 Federal Bldg., P.O. Box 209, Grand  
 Junction, Colorado

MONTANA

Albert K. Leonard  
 Horace E. Jones  
 Wayne W. Wilde  
 James F. Cotter  
 Rex S. Zobell  
 Richard H. Bauman

Malta, Montana  
 Miles City, Montana  
 Bridger, Montana  
 Dillon, Montana  
 Lewistown, Montana  
 P.O. Box 1041, 316 Savings Center Bldg.  
 Missoula, Montana

NEW MEXICO

James W. Young

Virgil A. Pate  
 Morris A. Trogstad  
 William W. Campbell  
 Warren D. Brough

Balcomb Bldg., 106 Broadway Ave., S.E.  
 Post Office Box 733, Albuquerque,  
 New Mexico  
 Socorro, New Mexico  
 Las Cruces, New Mexico  
 Roswell, New Mexico  
 Farmington, New Mexico

WYOMING

Rex D. Colton  
 Rex W. Hendryx  
 Riley E. Foreman  
 Ivan O. Vickers  
 Harry R. Finlayson  
 Robert L. Caudill, Jr.

Worland, Wyoming  
 Lander, Wyoming  
 Rawlins, Wyoming  
 Rock Springs, Wyoming  
 Pinedale, Wyoming  
 740 Pendell Boulevard, Casper, Wyoming

*R. W. Schloemer*

R. W. Schloemer  
 Assistant to Director  
 Office of Climatology

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