



UNITED STATES DEPARTMENT OF COMMERCE  
WEATHER BUREAU  
WASHINGTON

April 27, 1964

IN REPLY, PLEASE ADDRESS  
CHIEF, U. S. WEATHER BUREAU  
WASHINGTON 25, D. C.  
AND REFER TO  
C-3.1

FILE: 922 MEMO

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 Offices, Agricultural Service Offices, and Agricultural Forecast Offices for information)

FROM : Director, Climatology

SUBJECT: Climatological Services Memorandum No. 104

(Climatological Services Memorandum No. 104)

1. USE OF HONEYWELL 800 FOR 1009 TYPE PROCESSING: Beginning with September 1963 data the NWRC has been processing substation data and preparing Climatological Data printer's copy on the Minneapolis-Honeywell 800 computer. The tape-driven printer is capable of producing 900 lines of copy per minute. The new procedure was tested by running a sample of a few states with both procedures for an earlier month for comparison. Funds were insufficient for really adequate testing so that a number of special cases and exceptions had not been completely tested at the time of the changeover. Resulting reruns and delays have put processing about a month behind schedule. NWRC estimates that they will be back on the old WRPC schedule within a few months from now.

The programming of such a procedure on an electronic computer involves a large expenditure of effort. For example, the monthly substation processing involves 11 computer programs and required about 15 man-months to write the programs. While the procedure is actually a refinement of the old process, it is quite complicated primarily because of the large number of exceptions in the data. Eventually this improvement may be considered comparable in importance to the change to punch card procedure in the late 1940's. As in that case, the present operations are subject to change and will improve as newer equipment and ideas become available during the next few years.

It would be appreciated if you would call our attention to any criticism or complaints which you may receive, and to any errors or unreadable figures which you may notice. Suggestions or comments are welcome at any time.

2. PUBLICATION OF DATA IN CD BY DIVISION: In order to take advantage of the Minneapolis-Honeywell 800 Computer, discussed in the preceding item, it became desirable to arrange data by divisions in all CD tables. This has the advantage that data for adjacent stations, i.e., within one division, are found near each other in all CD tables thus facilitating quick and easy comparison over a relatively uniform area.

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To aid in locating stations in the proper division, a column will be added to the Station Index showing the division number of each station. This change probably will be made with the 1963 Annual and the March 1964 monthly issues of CD.

3. SUBSTATION SUPERVISING OFFICES: In processing substation records at the National Weather Records Center it is found necessary each month to correspond with someone about inconsistencies, omissions, etc., for a small percentage of substation records. The following procedure is now in use at NWRC:

1. NWRC corresponds with the substation observer for all substations under the direct supervision of the Regional Substation Management Units. Copies of correspondence are sent to the appropriate RSMU. This correspondence is confined to inquiries about daily data apparently missing from the record and dun letters for missing forms.
2. For substations under the direct supervision of River District Offices, Weather Bureau Offices, State Climatologists, etc., NWRC corresponds with the supervising office.

NWRC's information as to supervising offices has been compiled from WRPC records, Forms 531-1 submitted since consolidation, and any other reliable source available. When time permits all supervising offices should furnish NWRC a list of substations under their supervision. This will help to eliminate some of the confusion as to where correspondence should be sent relative to substation records.

4. LONG DISTANCE PHONE CALLS TO THE NWRC: From time to time it may be necessary that State or Area Climatologists call the NWRC. In order that such calls may reach the person who is in a position to supply needed information the calls should be made person-to-person to the Director (Number 704-253-0427). By use of the NWRC intercom system any staff member can be promptly called to his extension while the caller and someone in the Director's office start the conversation.

Long distance calls should be made only when they are necessary and when to the Bureau's advantage.

5. DROUGHT DISASTER DESIGNATIONS: In reply to a recent inquiry, we pointed out that the lists of drought disaster counties in the Federal Register do not necessarily include all the counties so designated by the U. S. Department of Agriculture. If a complete list is desired we suggested consulting the State Agricultural Stabilization and Conservation Service. The office of the Agricultural Statistician will probably also have complete information.

The most appropriate place to describe and record a drought is in a narrative summary published in CD. Although monetary loss may be heavy, the cause of drought is not a sudden or specific event and so does not fit the

format or purposes of Storm Data. The same is usually true for spells of hot weather. Although WB Manual mentions the listing of unusually hot or dry weather in Storm Data, the next revision will delete these items.

6. STATE AND AREA CLIMATOLOGISTS ON LEAVE: State Climatologists are reminded to let the Area Climatologist and the Office of Climatology know when they plan to be on leave for more than a week. Area Climatologists should let this office know of their expected absences. This information is helpful for planning purposes.

7. CLIMATES OF THE STATES: In general there is an ample supply of this publication for most states, either at the NWRC, Publications Section of the CO, or the Superintendent of Documents.

A few issues are in relatively short supply and will be reprinted as necessary. Reprinted issues will be updated as follows:

- (a) Text reviewed to see if any changes are needed. State Climatologists will be asked to do this.
- (b) Known errors will be corrected. All errors known should be reported to the NWRC.
- (c) Latest normals will be used in the Mean Temperature and Precipitation table, and the title of this table changed to "Normals by Climatological Divisions".
- (d) The latest Normals, Means and Extremes table used from the LCD.
- (e) Isoline maps updated, wherever possible. State Climatologists will probably be asked to do this.

Climates of the States was reprinted for Florida some time ago, and revision is now underway for Washington. No other reprintings are believed necessary in the near future.

For planning purposes it will be helpful if each State Climatologist reports to us the approximate number of copies of this publication needed annually by him for his State.

8. PREDICTION OF SOIL MOISTURE UNDER CORN AND MEADOW FOR THE WINTER PERIOD IN IOWA: A new contract report (Cwb 10554), "The Prediction of Soil Moisture under Corn and Meadow for the Winter Period in Iowa", has been prepared by Dr. Robert H. Shaw, Professor, Agricultural Climatology, Iowa State University, Ames, Iowa. This report describes a method for estimating changes in soil moisture between November and April. It takes account of rain, snow, frozen soil, runoff and evaporation. Results are surprisingly good. A separate appendix, "Computer Program for Estimating Soil Moisture under Corn", was prepared by Robert F. Dale and Michael Hartley. This Appendix provides flow-diagrams and instructions for preparing the computer program.

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Copies of both the Report and the Appendix are available by writing to Dr. Shaw.

9. CORRECTION TO ITEM 4, CSM 103: The reference to Par. 1009.65 in Item 4 should be changed to Par. 1009.83.

10. PUBLICATIONS DISTRIBUTED TO STATE AND AREA CLIMATOLOGISTS SINCE CSM 103:

"Weather Analysis for Crop Drying"; D. B. Brooker and J. D. McQuigg, Research Bulletin 837, University of Missouri, Columbia, Missouri.

"Estimation of Soil Moisture Under Corn"; R. H. Shaw, Research Bulletin #520, Iowa State University, Ames, Iowa, December 1963.

"A New Short Cut to Estimating Fuel Consumption"; H. C. S. Thom, Office of Climatology, U. S. Weather Bureau, reprinted from Air Conditioning, Heating and Ventilating, September 1963.

Reprint of Dr. Ludlum's Cold Extremes paper from the December 1963 issue of Weatherwise (5 copies to each State and Area Climatologists' office).

"Population Build-up of the Cereal Leaf Beetle and the Apparent Influence of Wind on Dispersion"; Research Progress Report No. 8, Purdue University, Lafayette, Indiana, March 1964.

"Weather and Man - The Role of Meteorology in Economic Development" - WMO, No. 143, TP 67, Geneva.

"Meteorology - A Key to Economic Progress" - WMO.

*R. W. Schwemer*  
for H. E. Landsberg

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