TO: Section Centers, Hydroclimatic Inspectors, Field Aides, WRPCs, River District Offices, and Area Engineers. (With copies to Regional Offices for information.)

FROM: Climatological Services Division

SUBJECT: Climatological Service Memorandum No. 28

INSTRUCTIONS

1. HYDROLOGIC BULLETIN FILE: (REFERENCE C.S.M. No. 27, Item 3)
   The referenced item provides that all surplus Hydrologic Bulletins may be discarded after June 30, 1952. Before these surplus copies are discarded the following distribution should be made:

   (a) One copy of each issue, regular and supplemental for all districts except the LM-WG and the Southwestern to:
       Department of Meteorology
       University of Utah
       Salt Lake City 1, Utah
       Attention: Professor J. Vern Hales

   (b) Two copies of each supplement to the Central Office Library.

   (c) Up to six copies of each issue and each supplement to the National Weather Records Center at Asheville, accompanied by an inventory on Form 1078.

   The National Weather Records Center now has one complete set for all districts.

   Complete, or nearly complete, sets of Hydrologic Bulletins have been turned over to the following depository libraries:

   1. North Atlantic District

      Massachusetts Institute of Technology Library, Cambridge, Massachusetts
      Library of Congress, Washington, D.C.
      College of the City of New York Library, New York, New York
      New York Public Library, Astor Branch, New York, New York
      Columbia University Library, New York, New York
      Pennsylvania State Library, Harrisburg, Pennsylvania
      Virginia State Library, Richmond, Virginia
2. Southeastern District

University of Georgia Library, Athens, Georgia
Library of Congress, Washington, D. C.
University of Florida Library, Gainesville, Florida
Chicago Public Library, Chicago, Illinois
University of North Carolina Library, Chapel Hill, North Carolina
Duke University Library, Durham, North Carolina

3. Ohio River District

Library of Congress, Washington, D. C.
University of Kentucky Library, Lexington, Kentucky
Massachusetts Institute of Technology Library, Cambridge, Massachusetts
College of the City of New York Library, New York, New York
New York Public Library, Astor Branch, New York, New York
Columbia University Library, New York, New York
Pennsylvania State Library, Harrisburg, Pennsylvania
Free Library of Philadelphia, Department of Public Documents
Philadelphia, Pennsylvania

4. Upper Mississippi River District

Massachusetts Institute of Technology, Cambridge, Massachusetts
Library of Congress, Washington, D. C.
University of Illinois Library, Urbana, Illinois
Chicago Public Library, Chicago, Illinois
Indiana University Library, Bloomington, Indiana
Indiana State Library, Indianapolis, Indiana
University of Minnesota Library, Minneapolis, Minnesota
Milwaukee Public Library, Milwaukee, Wisconsin

5. Missouri River District

Massachusetts Institute of Technology, Cambridge, Massachusetts
Library of Congress, Washington, D. C.
University of Illinois Library, Urbana, Illinois
Chicago Public Library, Chicago, Illinois
Indiana University Library, Bloomington, Indiana
Indiana State Library, Indianapolis, Indiana
University of Minnesota Library, Minneapolis, Minnesota
Milwaukee Public Library, Milwaukee, Wisconsin

6. Lower Mississippi - West Gulf District

University of Utah, Salt Lake City, Utah
7. Southwestern District

University of Arizona Library, Tucson, Arizona
University of California Library, Berkeley, California
Library of Congress, Washington, D. C.
University of New Mexico Library, Albuquerque, New Mexico
University of Nevada Library, Reno, Nevada
University of Chicago Library, Chicago, Illinois
University of Utah, Salt Lake City, Utah

9. North Pacific District

Library of Congress, Washington, D. C.
Library Association of Portland, Portland, Oregon
Oregon State Library, Salem, Oregon
University of Washington Library, Seattle, Washington
Washington State Library, Olympia, Washington
State College of Washington Library, Pullman, Washington

10. South Pacific District

Library of Congress, Washington, D. C.
University of California Library, Berkeley, California
Los Angeles Public Library, Los Angeles, California
San Francisco Public Library, San Francisco, California
Stanford University Library, Stanford University, California
University of California at Los Angeles Library, Los Angeles, California

Following is a list of supplemental hydrologic bulletins which have been issued. Any omissions or errors noted in this list should be reported to us.

LIST OF HYDROLOGIC SUPPLEMENTS

<table>
<thead>
<tr>
<th>Storm</th>
<th>Area</th>
</tr>
</thead>
<tbody>
<tr>
<td>Storm of July 25 - 27, 1940</td>
<td>Northeastern Iowa and adjacent areas</td>
</tr>
<tr>
<td>Storm of August 6 - 10, 1940</td>
<td>Louisiana and adjacent areas</td>
</tr>
<tr>
<td>Storm of August 10 - 19 and</td>
<td>Georgia, North Carolina, South Carolina, and Virginia</td>
</tr>
<tr>
<td>August 28 - 31, 1940</td>
<td></td>
</tr>
<tr>
<td>Storm of August 11 - 20, 1940</td>
<td>Ohio River Basin</td>
</tr>
<tr>
<td>Storm of August 25 - 31, 1940</td>
<td>Kentucky and Tennessee</td>
</tr>
<tr>
<td>Storm of September 3 - 4, 1940</td>
<td>Oklahoma and Kansas</td>
</tr>
<tr>
<td>Storm of November 21 - 27, 1940</td>
<td>Louisiana and Texas</td>
</tr>
</tbody>
</table>
Storm of December 1 - 16, 1940 Texas and Louisiana
Storm of April 13 - 20, 1941 Arkansas, Kansas, Missouri, and Oklahoma
Storm of May 20 - 28, 1941 Southeastern New Mexico
Storm of June 5 - 16, 1941 Illinois, Iowa, Kansas, Missouri, and Nebraska
Storm of August 28 - September 1, 1941 Minnesota, Wisconsin, and Upper Michigan

Storm of September 1 - 3, 1941 Kansas
Storm of September 20 - 24, 1941 Pecos River Basin
Storm of October 17 - 22, 1941 Northern Florida
Storm of October 19 - 22, 1941 Kansas
Storm of November 11 - 17, 1941 Oregon

Storm of January 22 - February 8, 1942 Northern California
Storm of April 14 - 18, 1942 Southeastern Florida Coast
Storm of May 16 - 23, 1942 New Jersey, New York, and Pennsylvania
Storm of June 14 - 18, 1942 Maine, New Hampshire, New York, and Vermont

Storm of June 24 - 26, 1942 Parts of Illinois, Iowa, Kansas, Missouri, and Nebraska
Storm of July 6 - 11, 1942 Kentucky
Storm of July 17 - 18, 1942 New York and Pennsylvania
Storm of August 21 - 22, 1942 Michigan

Storm of September 15 - 19, 1942 Portions of Wisconsin, Minnesota, and Michigan
Storms of October 11 - 18, 1942 Potomac River Basin
Storm of December 26 - 29, 1942 Alabama, Georgia, and Mississippi
Storm of January 19 - 24, 1943 Sacramento Basin and Los Angeles
Storm of March 10 - 22, 1943 Ohio River Basin
Storm of May 5 - 21, 1943  Ohio & Lower Mississippi River Basin and adjacent areas  
( three sections )

Storm of June 7 - 14, 1944  Iowa, Kansas, Minnesota, Missouri, Nebraska, and South Dakota

Storm of June 17 - 19, 1946  Printed at C. O. for Fort Worth Hydrologic Unit

A few offices still need some copies of various issues to complete their files. Any office with a surplus copy of any issue listed below should send it (or them) to the proper office.

<table>
<thead>
<tr>
<th>District</th>
<th>Issue</th>
<th>Desired By</th>
</tr>
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<tbody>
<tr>
<td>Southeastern</td>
<td>Feb. and March 1940</td>
<td>WBO, Raleigh, North Carolina</td>
</tr>
<tr>
<td>Southeastern</td>
<td>Feb., March, July 1940</td>
<td>WBAS, Nashville, Tenn.</td>
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<tr>
<td></td>
<td>Sept. 1943</td>
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<td></td>
<td>March 1946</td>
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<tr>
<td></td>
<td>Sep. 1, Oct., Nov., Dec. 1940</td>
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<tr>
<td></td>
<td>Oct. 1941</td>
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<tr>
<td></td>
<td>June, July, Aug., Oct., and Dec. 1943</td>
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<tr>
<td></td>
<td>April through Aug. 1945</td>
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<tr>
<td></td>
<td>May 1946</td>
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<tr>
<td></td>
<td>WBAS, Nashville, Tenn.</td>
<td></td>
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<tr>
<td>Ohio River</td>
<td>Feb. 1940</td>
<td>WBAS, Cheyenne, Wyoming</td>
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<tr>
<td></td>
<td>Dec. 1941</td>
<td></td>
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<td></td>
<td>July 1948</td>
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<tr>
<td></td>
<td>Jan. 1946</td>
<td>WBAS, Nashville, Tenn.</td>
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<tr>
<td></td>
<td>Dec. 1940</td>
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<tr>
<td></td>
<td>May, Sept., Oct. 1941</td>
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<td></td>
<td>Apr. 1941</td>
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<td></td>
<td>Aug. 1942</td>
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<td></td>
<td>Cooperative Studies Section of Hydrologic Services Div.</td>
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<tr>
<td></td>
<td>Jan., Feb., Apr., May 1943</td>
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<tr>
<td></td>
<td>July, Aug., and Sept. 1946</td>
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<tr>
<td></td>
<td>Apr. 1947</td>
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<td></td>
<td>May 1948</td>
<td></td>
</tr>
<tr>
<td>North Pacific</td>
<td>June and Aug. 1940</td>
<td>WBAS, Cheyenne, Wyoming</td>
</tr>
<tr>
<td>South Pacific</td>
<td>Jan. through Nov. 1940</td>
<td></td>
</tr>
<tr>
<td></td>
<td>May 1940</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Jan. through June 1942</td>
<td>WBO, Denver, Colorado</td>
</tr>
</tbody>
</table>
Jan. through Nov. 1940
Jan. and Feb. 1943
May, June, July 1943
Feb. 1944
June and Oct. 1945
Dec. 1946
Jan. and Feb. 1948
WBAS, Cheyenne, Wyoming

Jan., July, Aug.,
Sept., and Nov. 1940
Jan., May, July 1941
WBAS, Albuquerque, N. M.

2. PRECIPITATION RECORDS - FORMS 1006 AND 1009: A serious source of errors in published precipitation data has recently come to our attention. These particular errors occurred several years ago but only recently came to light in the course of a study of past storms. Passages from a letter written by the Section Director, Oklahoma City, on this subject are quoted below for your information. They point up the need for care on the part, not only of River District Offices, but also of Section Centers to insure that important precipitation reported in connection with the river or crop weather service is contained in the Forms 1006 or 1009:

"All but one of the discrepancies including the major error of omission of a 5-inch rain at Calvin were due to failure of observers to enter telephoned amounts on record forms, and hence the omission in the published data by the Processing Center.

"It is believed that a number of discrepancies of this character may have occurred between 1947 and 1950, and until the present form of 1006 and instructions for entry of special reports were put into use. The discrepancies, as a rule, are not between the original record forms and the published data, and for that reason preference to the original records will not disclose the discrepancies.

"Forms 1006 now in use provide space for entry of "Special observations", and observers are carefully instructed to make such entries whenever a report is telephoned. Still observers fail on occasions or regularly to do so. Circular Letter 8-50 places the responsibility on the River District Center for checking the completeness of the data entered on the form against wired or mailed reports and such practice normally now should prevent discrepancies of the type common to your discovery. This form of checking has been conducted by the Oklahoma City River District Center since Circular Letter No. 8-50, and we hope has eliminated such errors."
3. USE OF W.B. FORM 4031, SPECIAL STORM AND FLOOD REPORT BY AMERICAN RED CROSS: REFERENCE C.S.M. NO. 25, ITEM 5.

Please advise us the extent that Form 4031 is being used by the Red Cross.

4. CIRCULAR B, INSTRUCTIONS FOR COOPERATIVE OBSERVERS: "Instructions for Cooperative Observers," Circulars B and C, combined, and "Instructions for Installation and Operation of Class "A" Evaporation Stations," Circular L, have been revised and combined for issue as "Instructions for Climatological Observers" Circular B, 10th edition. Instructions for operating the weighing type precipitation gage have been included. A copy of Circular B is now at GPO for printing. We expect to have the circular available for distribution in August.

Shipments of Circular B to accomplish the initial distribution of the manual will be made direct to the Section Centers. Subsequent stock requirements of Section Centers will be obtained through the Regional Office. To assist us with these shipments, each Section Director should report to the Central Office, Attention 0-4.2, by July 10, 1952: (1) the number of copies required to furnish one circular to each substation within his section; (2) an estimate of the number of copies required for new observers and other purposes through June 30, 1953; and, (3) an estimate of copies required July 1, 1953 through June 30, 1954. Each Regional Office should also forward an estimate of the number of copies needed to supply one to each first order station (other than Section Centers), and each field aide and to fill other requests through June 30, 1953. Estimates submitted by Section Directors for item (3) above will be used in stocking regional supply depots to fill requests of Section Centers for fiscal year 1954.

Distribution of Circular B to substations under the direct supervision of River District Offices, or other offices, will be coordinated by the Section Center with the distributing office concerned.

GENERAL

5. LETTER TO A COOPERATIVE OBSERVER: The following letter was sent to a cooperative observer over fifty years ago, on April 5, 1902.

Dear Sir:

Your report of the weather for March shows that you have neglected to measure the rainfall during the month. An entry like that in the summary to the effect that the rainfall was less than one inch is entirely useless, indicating that you simply
guessed at it. We know from surrounding stations that the rainfall at ______ must have been between half an inch and an inch. Please inform me if there is anything the matter with your raingage or any other reason why you should not have reported the amount of rainfall in inches and tenths, in accordance with instructions. If your raingage or measuring stick is not in good condition, it should be reported immediately and never send in a report which shows on the face of it you have neglected the work.

Very respectfully,

Section Director

Is there anything wrong with this letter? (Improved versions will be welcome, especially if submitted with consent to circulate in future C.S.M.)

6 LOAN OF CARBON COPIES OF FORMS 1009: One Section Center reports that the carbon copy of Form 1009 (held at the Center during the period between forwarding the original to the WRPC and its return to the Section Center) is often loaned to inquirers desiring data prior to receipt of the printed Climatological Data. This use of the form is said to save labor and to make an excellent impression on the recipient. If this plan is adopted at other Centers, proper stress should be placed on the need for early return of the carbon copy to the station file. (This is not to be taken as relaxing the prohibition against loan of original copies of meteorological records.)

7. RETURN OF CARDBOARD PROTECTING SHEETS USED BY WRPCs IN SHIPPING CLIMATOLOGICAL DATA: All offices receiving Climatological Data from the WRPCs protected by cardboard sheets are asked to return the cardboard protectors at intervals to the WRPCs for further use. Return by mail in packages not exceeding four pounds in weight.

8 CHANGES IN FLOOD STAGES: The Hydrologic Services Division reports the following changes in flood stages, effective May 1, 1952:

<table>
<thead>
<tr>
<th>Station</th>
<th>River</th>
<th>Flood Stage Changed From</th>
<th>Flood Stage Changed to</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pattonsburg, Mo.</td>
<td>Grand</td>
<td>20 feet</td>
<td>25 feet</td>
</tr>
<tr>
<td>Gallatin, Mo</td>
<td>Grand</td>
<td>20 feet</td>
<td>24 feet</td>
</tr>
<tr>
<td>Chillicothe, Mo.</td>
<td>Grand</td>
<td>18 feet</td>
<td>24 feet</td>
</tr>
<tr>
<td>Sumner, Mo.</td>
<td>Grand</td>
<td>25 feet</td>
<td>26 feet</td>
</tr>
<tr>
<td>Nebraska City, Nebr.</td>
<td>Missouri</td>
<td>15 feet</td>
<td>18 feet</td>
</tr>
<tr>
<td>Lewistown, Pa</td>
<td>Juniata</td>
<td>27 feet</td>
<td>23 feet</td>
</tr>
</tbody>
</table>
9. REQUESTS FOR WEEKLY PRECIPITATION REPORTS BY PRIVATE CONCERN: Many cooperative observers have received requests from rainmaking organizations for special mail reports of rainfall. The following letter, outlining Weather Bureau policy on this matter, is suggested for use wherever indicated.

Dear Cooperative Observer:

You may be asked to furnish special mail reports of rainfall measured at your station, for use in the study or control of rainmaking activities.

This is to advise you that the Weather Bureau favors all reasonable cooperation in rainmaking experiments. You may therefore feel free to render special reports that may be requested, provided such an undertaking appeals to you and its acceptance will not diminish your satisfaction with our work as presently agreed upon.

You should feel free to disregard the request if it adds significantly to your load of weather work, but equally free to accept the task if you so desire, under the condition that acceptance does not change your hour or method of observing for our records.

10. CONSOLIDATION OF CLIMATOLOGICAL SERVICE MEMORANDUM AND CLIMATOLOGICAL OPERATIONS MEMORANDUM: Since 1947 Climatological Operations Memorandums have been issued, first as Status Reports and later C.O.M.s, to keep WRPCs informed of the progress of the mechanization program and to carry instructions to the WRPCs regarding the processing and handling of weather records.

Since the program is now stabilized the need for the C.O.M. has diminished to the point where it could be discontinued. The final issue, C.O.M. No. 49, was dated April 21, 1952.

A section in C.S.M. headed "Items of interest to WRPCs" will carry the type of material formerly issued in C.O.M.s.

OF INTEREST TO WRPCs

11. AMENDMENT TO INSTRUCTIONS: Paragraph 1009.6419. Delete "Awy-airway" from the list of abbreviations given. Second-order stations on the Climatological Data maps should be designated in the same manner as cooperative substations.

Paragraph 1009.685 should be changed to:

Paragraph 1009.685 - Table 3 should be prepared in groups of five stations. A period (.) should be wired in on the 407 control panel for WB Form 5103R, printed
two type wheels to the right of the 31st day.
Grouping of stations on other tables is optional with WRFCs.

12. FORWARDING CLIMATOLOGICAL DATA AND LOCAL CLIMATOLOGICAL
DATA TO CENTRAL OFFICE AND TO NWRC (REFERENCES (1) COM
No. 35, Item 3; (2) COM No. 38, Item 1; (3) COM No. 46,
Item 1; (4) COM No. 48, Item 1: The reference instructions
regarding forwarding of publications are superseded, and
the following instructions will apply:

Monthly and Annual Climatological Data

(a) Five copies, stapled and trimmed, marked for Climatic
Information Section of the Climatological Services Division,
should be mailed as early as possible.

(b) Thirty copies of each monthly issue and 130 copies of
each annual issue, stapled and trimmed, should be shipped
to the National Weather Records Center, Arcade Building,
Asheville, North Carolina, with the following exceptions:

(1) 40 copies of the monthly issues and 140 copies
of the annual issue should be sent to NWRC for:

<table>
<thead>
<tr>
<th>Alabama</th>
<th>Louisiana</th>
</tr>
</thead>
<tbody>
<tr>
<td>California</td>
<td>Ohio</td>
</tr>
<tr>
<td>Georgia</td>
<td>South Carolina</td>
</tr>
<tr>
<td>Illinois</td>
<td>Texas</td>
</tr>
<tr>
<td>Indiana</td>
<td>Virginia</td>
</tr>
<tr>
<td>Iowa</td>
<td>Washington</td>
</tr>
</tbody>
</table>

(2) 50 copies monthly and 140 copies of the annual
issue should be sent to NWRC for:

<table>
<thead>
<tr>
<th>Florida</th>
</tr>
</thead>
<tbody>
<tr>
<td>Maryland</td>
</tr>
<tr>
<td>Delaware</td>
</tr>
<tr>
<td>North Carolina</td>
</tr>
</tbody>
</table>

(3) 60 copies monthly and 160 of the annual issue
should be sent to NWRC for:

<table>
<thead>
<tr>
<th>New England</th>
</tr>
</thead>
<tbody>
<tr>
<td>New Jersey</td>
</tr>
<tr>
<td>New York</td>
</tr>
<tr>
<td>Pennsylvania</td>
</tr>
</tbody>
</table>

Sixty copies, trimmed but unstapled should go to
National Weather Records Center, Asheville for each
section except Alaska, Hawaii, and the West Indies.
Local Climatological Data, Monthly and Supplements

(c) Five copies of each monthly and each supplement, mailed to Climatic Information Section of Climatological Services Division.

(d) Twenty copies of each monthly and each supplement sent to the National Weather Records Center at Asheville.

Local Climatological Data, Annual

(a) Six copies to Climatic Information Section of Climatological Services Division, mailed as early as possible.

(b) Forty copies sent to the National Weather Records Center at Asheville.

W. F. McDonald
Chief, Climatological Services Division
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<td>11.</td>
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