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WEATHER BUREAU
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MEMORANDUM

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. 41.

INSTRUCTIONS

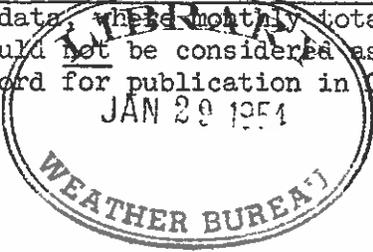
1. DATA FROM POOR SUBSTATIONS (REFERENCE: PAGE 5 OF MAL NO. 37-53):
Section Centers are reminded that when substation network maps are prepared consideration should be given to closing poor stations or replacing observers at substations that are consistently poor. No observations at all are preferable to consistently poor ones.

If any Section Center would like to have WRPC help in selecting poor stations in the section, they may feel free to request such help directly from WRPC.

2. PROMPT RETURN OF ARRAYS TO WRPCs: It is requested that machine arrays and adjustments recommended by WRPCs be reviewed by Section Directors and returned promptly to WRPCs, with any necessary changes indicated, so as not to delay publication. There are two paramount elements in our climatological data publications: first, the reliability of the data itself; and second, the timeliness with which it is distributed. Neither of these elements can be overlooked or neglected if we are to do our job properly.

3. QUALITY OF SUBSTATION RECORDS: It is very helpful to the WRPCs to have reasons stated when the Section Center restores adjusted readings on arrays, especially when such remarks add information on peculiarities of location. Such explanations give the WRPC personnel who work with these records improved basis for future judgments.

4. LENGTH OF RECORD PUBLISHED IN CLIMATOLOGICAL DATA ANNUAL:
Interpolated data, where monthly totals or averages have been obtained, should not be considered as missing when determining length of record for publication in Climatological Data annuals.



Memo - (Climatological Service Memorandum No. 41)
Washington, D.C.
1-21-54

GENERAL

5. DISCONTINUANCE OF WRPC MICROFILMING: For several reasons, microfilming can be accomplished more efficiently and more satisfactorily at one location than three: (1) annual rather than monthly microfilming can be accomplished without seriously disrupting other programs, (2) indexing procedures can be greatly simplified, and (3) modern flo-film type high speed cameras can be used at less expense.

Aside from providing a reference copy of the data for use at the WRPC (primarily for preparation of annual summaries) WRPC microfilm is of dubious value because the record is filmed in alphabetical station-month order, requiring that several reels of film be searched to review any single year of record for any given station. It is therefore necessary that we consider discontinuance of this procedure of providing reference microfilm for WRPCs.

As an experimental measure WRPCs will retain, without microfilming, all original substation forms for the year 1954 until after the 1954 annuals are published. Section Centers will continue to use the carbon copies and/or published data in providing service for the section. The published data contain all corrections made on original forms and the carbon copies provide data on beginnings and endings of precipitation and general remarks not published. If for any special purpose selected original forms will be required during the year, Section Directors may borrow these from the WRPC. WRPCs will keep a log of the number of times original records are required by each section so that this frequency may be considered in formulating a firm policy at the end of 1954.

6. USE OF THE MACHINE ARRAY FOR CHECKING SET MAX INCONSISTENCIES: All agree that set max inconsistencies must be reviewed and adjustments made, either in the Section Center or in the WRPC, but to do this work in the Section Center delays the forwarding of forms to the WRPC for processing, and defeats one phase of machine techniques for quality control. (See December issue of TOPICS.)

The collator check of the set max relationship will show up practically every inconsistency in the record, no matter how infrequent, whereas even the most thorough manual check will miss a good many of them. Each inconsistency is flagged on the array, and can be quickly resolved as the array is inspected, and on a basis of comparison that makes this the efficient place to reach judgments of the sort required.

Tests have shown that manual review of records fails to uncover other types of faulty observational practices or instrumental equipment which the machine array clearly shows up. Hence the array becomes an additional tool for discovering such faults.

Section Directors should take monthly note of the stations that show a large number of errors. In many cases it will be found that the same observers submit poor records month after month. For the sake of economy as well as the scientific accuracy of the records published with the Weather Bureau stamp of approval, consistently poor stations should be closed or the observers be replaced.

7. MENTION OF NEW COOPERATIVE OBSERVERS IN NEWSLETTERS (REFERENCE: CSM NO. 40, ITEM 7): The following interesting letter on this subject has been received from the Montana Section Director:

"Our experience with six newsletters a year furnishes absolutely no basis for confirmation of the flurries of resignations allegedly resulting from listing the names of new observers, as noted in the Oklahoma Section. As a matter of fact, we have word from many observers - both directly and through the substation inspector - that they appreciate being kept up-to-date in that manner. Also we are sure that the new observers really enjoy being welcome in a way that all others in the section can note. It is our feeling that if most resignations follow the issuance of a newsletter, then the rest of the newsletter should be examined to see whether there is anything more concrete than a new observer list that other observers could take offense from. Excessive formality, fault-finding, talking down, school-teacherish style, etc., each can cause much more dissatisfaction than the above subject. Friendliness in the approach is all-important. If an observer quits because of a new observer listing, we don't doubt that he would soon find another reason anyway.

"We have used the direct welcome system described in CSM No. 39, Item 8, for several years. In addition, we make a practice of writing an observer a letter of encouragement when his first report arrives. These things are extremely important when we recall that a person doing anything for you for nothing but the love of it needs friendly recognition from time to time."

8. LIGHTSHIP RECORDS: The following item is addressed to those Section Centers (see list below) that have on hand coastal

Lightship records for 1952 not already forwarded to NWRC. Prompt forwarding will be appreciated. Though Weather Bureau Manual, Volume III, Chapter C-0802 authorizes holding at Section Centers for one year, any Centers that can forward Lightship records sooner and more often should do so, as requests (principally related to Navy research projects) for recent Lightship data are regularly being received by NWRC. The Centers affected are as follows:

Boston: Portland, Pollack Rip and Nantucket Lightships
 Albany: Ambrose
 Trenton: Barnegat, Five Fathom
 Baltimore: Chesapeake
 Raleigh: Diamond Shoals, Frying Pan Shoals
 Jacksonville: Savannah, St. Johns
 San Francisco: San Francisco, Blunts Reef
 Portland, Oregon: Columbia River
 Seattle, Washington: Swiftsure Bank

Any Section Centers having records from these Lightships for years prior to 1952 should send these also to NWRC.

9. WB FORM 4052 (REFERENCE: CSM NO. 39, ITEM 9): Replies to the referenced CSM item indicate that WB Form 4052 is used by a number of stations and should not be declared obsolete. The form has therefore been revised and reprinted. The new number of this form is O38.1-2. The more widespread use of this form is recommended.
10. DAYS WITH .01 OR MORE PRECIPITATION IN TABLE 2 OF CLIMATOLOGICAL DATA: (REFERENCE: CSM NO. 40, ITEM 11): Our recent decision to discontinue publication of days with .01 or more is more fully explained by the following, taken from a letter to a Section Director:

"Consider that the "mean number of days with 0.01" statistic is a fairly conservative one in that it does not vary sharply with distance or altitude change; this, of course, is not true of "mean total precipitation". Consider also that substitution means of "days with 0.01" are frequently in disagreement with first-order station values whereas "mean total precipitation comparisons" are generally good between the two types of stations. Consider further that when substitution means of "days with 0.01" disagree with first-order station isoline analysis for the same period of record, the substitution means are always lower, frequently by a considerable amount, even in metropolitan areas with substitution networks.

"All of this suggests that substation observers frequently miss small rainfall occurrences, but that total amounts measured are sufficiently accurate because evaporation of an unmeasured rain catch is relatively insignificant.

"You may find it interesting to prepare a rough chart of mean annual days with 0.01 inch for a group of states in your area by plotting long term annual values of first-order stations together with the same values for substations, and then attempting to fit isopleths to both sets of data."

Number of days with .01 or more are to be discontinued in Table 1 of Climatological Data, as well as in Table 2, effective with data for January 1954. Number of days with 0.10 will be published instead in Table 2.

The reference note outlined in CSM No. 40, Item 11 will be carried in Climatological Data during 1954 to call attention to this change.

FOR WRPCS

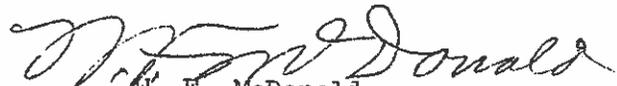
11. AMENDMENTS TO INSTRUCTIONS: (Reference: CSM No. 38, Item 9): Paragraph 1010.035 - Instead of the column headings listed in the referenced CSM the following should be used:

MEAN
TEMP
MAX
MIN

(Reference: CSM No. 38, Item 9): Paragraph 1010.038 - Delete the word "entire" in the reference note given in the referenced CSM.

Since it will be difficult, if not impossible, for WRPCs to determine length of record for recorder-only stations for publication in the Climatological Data annuals, these data should be omitted for those stations. The explanation for the reference letter "C" (par. 1009.83 of procedures) should be changed to:

"Data for recorder stations denoted by "C" are processed for special purposes and published in "Hourly Precipitation Data". Length of record for recorder-only stations may be found in the annual issue of "Hourly Precipitation Data"."


W. F. McDonald,
Chief, Climatological
Services Division

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