UNITED STATES DEPARTMENT OF COMMERCE
WEATHER BUREAU
Washington 25, D. C.

February 19, 1954

MEMORANDUM

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

FROM: Climatological Services Division

SUBJECT: Climatological Service Memorandum No. 42.

INSTRUCTIONS

1. SHIPPING FORMS 1130 TO NWRG: Previous instructions to the
effect that surplus file cabinets should be shipped to the
National Weather Records Center, along with shipment of the
above forms, are no longer valid. NWRG now has sufficient
file cabinets, and surplus cabinets should not be shipped
with the forms.

2. DIRECTIONS ON FORM 531-1 FOR REACHING SUBSTATION: When
Form 531-1 (Report on Substation) was revised, the
"Directions for Reaching Station" was unintentionally
placed at the bottom of the page instead of being
centered in the blank space as formerly. When this form
is reprinted this will be corrected. Until then, when
it is being prepared, a dashed line should be placed
below the information on "topography" and the information
on reaching the substation should be given immediately
thereunder.

GENERAL

3. SECTION CENTER CONSOLIDATION: The January-February 1954
issue of Topics contained an item outlining the plan for
forthcoming Section Center consolidations. The following
list contains general information on actions to be taken
when these consolidations are undertaken. It is published
here for information only and some items may not apply in
all cases of consolidation. Each individual case will be
covered by details of instruction and guidance, including
exceptions to this information, when the authority to
proceed with consolidation is given, and no action will be
taken until specific Center Office authority to proceed
has been received.

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OUTLINE OF ACTIONS TO BE TAKEN IN CONSOLIDATING SECTION CENTERS

RETAIN AT THE OLD SECTION CENTER

1. Local station records (1014, Climatological Record books, 10A and B, etc.)

2. Bound volumes of Monthly Weather Review.

3. Individual bound volumes of Climatological Data for the section.

4. If office is a River District Office, retain specialized records and administrative forms for river and rainfall substations as normally required for river district operation.

SEND TO NEW SECTION CENTER

1. Substation correspondence and descriptive forms. (Substation histories and substation network map should be completed at old Section Center, if possible, prior to transfer of these files.)

2. Substation supplies, forms, copies of Circular B and similar material, Section Director letterheads.

3. Hydrologic Bulletins, if they are needed to provide the Section Center with a copy for the section. If not, they should be sent to the National Weather Records Center.

4. At least one copy of the 3rd edition (data through 1930) of Bulletin W for the section.

5. Approximately half of the supply of Climatological Data separates for the section. The remainder should be retained at the former Section Center.

SEND TO NATIONAL WEATHER RECORDS CENTER

1. All records (1014, 1063, Climatological Record books, 1130's, etc.) from closed Weather Bureau stations in the section.

2. All files of WMAN 10A and E, Forms 1001B and 1083, except the copy for the local station. (See CSM No. 38, Item 1).

3. Forms 1009 for 1950 and earlier years.

4. Bound volumes of Climatological Data for all U. S. Sections. (These bound volumes will no longer be furnished to former Section Centers.)
An inventory should be sent to the National Weather Records Center for each shipment.

MISCELLANEOUS

1. Old Section Center should report surplus library books to the Regional Office with request for instructions for disposal.

2. Collection of crop weather data, forwarding weekly crop message to Washington, and publication of bulletin should continue as before, unless this is not practicable.

3. Letters from the former Section Director should announce the change to climatological (not 1006) observers. Use attached draft as a guide, issue about 2 weeks before the change.

4. Complete substation histories and substation network map at old Section Center, if possible. Forward map to new Section Center.

5. Send copies of Cooperative Weather Observer to Central Office (unless new Section Center wants them).

6. Report to the Central Office, through the Regional Office, if an addressograph machine or any other equipment at old Section Center will be surplus.

7. Severe Storm data (4035A) should be prepared at new Section Center. Details of collecting information should be worked out between old and new Section Centers.

8. Regional Office should be requested to provide for the costs necessary to pack and crate items to be shipped, and to give shipping instructions. Former Section Center should furnish Regional Office an estimate of weight of material to go to each of the various places.

9. Current FC-1 substation payroll should be prepared at old Section Center. Copy should be made for new Section Center, and payroll prepared there hereafter. River station payroll to continue at River District Office.

10. Letter from former Section Center to all River District Offices handling forms for the Section being consolidated telling them that after (date) Section Center duties for the old section will be assumed by new Section Center, and that forms should be routed accordingly.

11. Letter or carbon copies to WRPC (copies to NWRC) advising them of the change in Section Center (no change is to be made in
publication of Climatological Data. WRPC should then send 5 copies of the section Climatological Data to the former Section Center each month, and the Section Center copies to the consolidated Center.

12. Former Section Center should continue collecting snow and ice reports, and sending composite message to Central Office (if this is now done for the section).

SUGGESTED LETTER TO OBSERVERS WHO WILL REPORT TO A NEW SECTION CENTER

(Name)
(Address)

Dear Mr. ________:

In the interest of economy and efficiency of operation the climatological services of several states are being combined. In this connection the supervision of the climatological service in (old section) is being transferred to our (city and state in which new section center is located) office. Beginning (effective date), all observational records will be forwarded to (new section center) instead of to (old section center).

This change will not affect the present method of publishing your reports, but will only change your mailing procedure. It will not affect in any way your present instructions as to telephoning or telegraphing tornado reports to your designated collection center, or your receipt of publications.

Those observers who provide weekly information for our weekly weather and crop bulletin will continue to mail the weekly card on Friday to (old station).

The (new section center) office will furnish you a supply of self-addressed envelopes in time to take care of the mailing of your reports to that office. When these are received, please discard the old ones addressed to (old section center), as the cost of handling for remailing exceeds the value of the envelopes.

The following items that are checked indicate action that should be taken by you on and after (effective date):

1. Mail weekly crop cards to (old section center).
2. Mail Forms 1009 to (new section center).
3. Mail weighing rain gage charts to (new section center).
4. Other ________

Very truly yours,

Meteorologist in Charge
4. **USE OF THE MACHINE ARRAY FOR CHECKING SET MAX INCONSISTENCIES**

(REFERENCE: CSM NO. 41, ITEM 6): Please change the first sentence of the referenced item to read:

"All agree that significant set max inconsistencies (usually more than three degrees) must be reviewed and adjustments made on the basis of supporting evidence, either" . . .

5. **FORMS WB 612-13 CONTAINING RIVER STAGE DATA:** CSM No. 41, Item 5 does not apply to those Forms WB 612-13 (formerly WB 1006) which contain river stage data. Such forms should be returned to the River District Office monthly for correction of the carbon copies and for transmittal to the Central Office as in the past.

It will be necessary for WRPCs to recall temporarily any of these forms needed for reference purposes during the year.

**FOR WRPCs**

6. **FORWARDING UNTAILED CLIMATOLOGICAL DATA TO NWRC** (REFERENCE: CSM NO. 35, ITEM 14(c)): The number of copies of each issue of Climatological Data, trimmed but untailed, should be changed in the reference item to 34 for monthly and 36 for annual issues, instead of 50 for monthly and 55 for annuals.

7. **AMENDMENT TO INSTRUCTIONS:** Please cancel Item 1(b) of COM No. 39, dated December 1, 1950.

Paragraph 1010.012 - Change the next to last sentence to: "The place where printed and year should not be printed on the cover."

Paragraph 1010.012(b) - Change to "The number of copies for the NWRC should be the number given in CSM No. 36, Item 5."

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**ENVOY**

My final official act is to sign this CSM on my last working day, February 19, 1954, thus bringing to a close a period of 43 years of service in the Weather Bureau. It has been a good career, with much pleasure and profit in long association with the climatological work and some of its more obvious opportunities for personal effort.

Inclosed with this issue of CSM is a more extended memorandum note,
in which I have tried to set down an appraisal of the present status of Weather Bureau climatology. To share with you, at long last as the tillage has begun to yield a visible harvest, has been good. I know you will enjoy still greater fruits as you carry on.

W. F. McDonald,
Chief, Climatological
Services Division

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UNITED STATES DEPARTMENT OF COMMERCE
WEATHER BUREAU
Washington 25, D. C.
February 25, 1954

MEMORANDUM
(To Section Centers, Hydroclimatic Inspectors,
Field Aides, WRPCs, River District Offices,
Regional Office, and Area Engineers.)

Subject: Climatological Service Memorandum No. 42.

Attached is a memorandum entitled "A Brief Report on the
Climatological Program in the Weather Bureau" written by
W. F. McDonald, Retiring Chief of Division of Climatological
Services. This memorandum, intended as an attachment to
CSM No. 42, was inadvertently omitted. Please attach it
to your copy of the CSM.

R. E. Spencer,
Acting Chief, Climatological
Services Division

Attachment
February 19, 1954

MEMORANDUM

A BRIEF REPORT ON THE CLIMATOLOGICAL PROGRAM
IN THE WEATHER BUREAU

by W. F. McDonald
(Retiring Chief of Division of Climatological Services)

Climatology can never be better than the data on which it draws for conclusions. Unlike synoptic forecasting, climatology (given good data) is inherently capable of offering useful expression of the limits and probabilities for weather variables—a most valuable species of long-range weather forecasting. However, this effort is conditioned by the reliability and length of record available for analysis, hence the patient accumulation of high-grade records is the heart of climatology.

The vast scope of a records program, capable of serving climatology in the United States, must of necessity make this fundamental substratum of the science a governmental function for no private enterprise can be expected to assume such a long-term, costly undertaking, the benefits of which are so diffused over the whole of our economic and cultural concerns. The Weather Bureau does this job and has long been doing it, unadvertised and almost unnoticed. The basic need for and value of this fundamental service has usually been overlooked or minimized by those who would proclaim broad new values and opportunities in the climatological field.

We in Weather Bureau climatology need to take account of what we are doing; to do our job in proud awareness of the worth of our program; and to extend our own efforts toward materializing practical benefits for the nation from the mine of treasure that now lies ready at hand, and into which we have pushed the tracks and other auxiliary workings for the extraction of useful products. Above all, we must remain stable in our program, resisting all tendencies to shift and change with the whims of wishful thinking that seem so readily to flourish in the world of meteorology.

These last few years have brought great progress in our fundamental field of gathering, organizing and making more reliable and useful the basic materials of climatology. This emphasis was being placed upon our Weather Bureau program before it fell to my lot to undertake the duty of Chief of the Climatological Services Division, so what is recapitulated below is not a list of accomplishments for which I personally deserve credit, but rather a fruition of teamwork that has its origin well in advance of my advent on the team. Whatever small part has been mine is, of course, a great personal satisfaction to me.

Let us turn to the record. In a recent memorandum to the Chief of Bureau summing up these last several years of stewardship in the position of Chief of Climatological Services Division, I said in part.
""... distinguished visitors, competent to judge, express
unbounded admiration for our system of gathering, processing,
and publishing the current flow of climatological reports. We
are receiving the sincerest flattery from many other national
weather services who are making efforts to copy our methods and
procedures.

"In the two years of my stewardship we have tried hard ...
to reorganize the structure and clarify the relationships within
the organizational parts and ramifications of climatological
operations throughout the Bureau. This effort has, I think, reached
a good stage of completion in the Central Office and in Weather Rec-
cords Processing Centers; it is well under way in the National Weather
Records Center. It is also progressing in the field sections; how-
ever, reorganization and 'streamlining' in this last connection have
only well begun. Overall, we have today what we never had before,
namely, a clear functional outline of climatological operations
within which each part is rapidly finding its proper place of
relationship with real resultant gains from elimination of lost
motion and fuzzy effort...

"We have tried to advance the usefulness of the masses of
data that flow into and through the climatological mill: first,
by studying and stressing the problems of 'quality control'; second,
by substituting the proved capacity of machines to better in all
respects the work formerly attempted on an inadequate scale by
human machines'; third, by raising as high as possible the
efficiency of our printing and distributing services; and fourth,
by organizing and cataloging full files of records and publications
in the National Weather Records Center and establishing there the
most efficient modern means of photographic and punch card repro-
duction. Good progress has been made in all these things; several
seem to be near the peak of efficiency...

"We have tried mightily to find out what needs to be done
to make all this effort pay off in useful end-products. We have
some real results. Very fine work has been done in devising the
type of 'engineering statistics' that lend new values to old data
and offer short cuts to evaluation of limits of probability, of
degrees of reliability, etc. Some of the old and neglected data
(such as records of 'fastest single mile') are found to have real
values for engineering design when properly analyzed. However, we
are still in the dark if not in the dark, about the order of value
(and therefore of priority) to assign to our own readily-stated
projects in climatological analyses, although a few have stood out
so clearly by /some/ demand! as to have secured from us all the
small margin of effort available to put into end-products. Note-
worthy among these accomplishments are: (1) The reevaluation and
complete publication of new and improved basic normals including
for the first time the much-sought-after normals of degree day
values. (2) The design and advancement in practical terms of means
for bringing Bulletin W up to date without awaiting special recognition in appropriations. We are producing a 'supplement' to Bulletin W, extending the data 22 years from 1930 through 1952 as a by-product of all small surpluses of time that show up in current operations from the peaks and hollows as the weather varies from month to month.

"... We have conceived and with your approval made an experimental start on establishing competent professional staff assistance in the field, in the 'area climatologist' position ... Our experiment with a single area climatologist reveals no deterrent evidence against establishing the plan for at least three such staff aides. The consolidation of sections, with recognition that there is a need and place for a 'State Climatologist' in each State regardless of section center location gives added point now to my urging that my successor review this idea and, if he finds it worthy, that he be fully supported in carrying it into effect...

"The privilege of working again in Weather Bureau climatology has been great and personally rewarding. Much indeed remains to be done, especially to discover the most valuable avenues and means for development of useful end-products in climatological services to the nation and, even more important to our mission in the Weather Bureau, to harness together climatology and weather prediction for a much better integrated two-horse team to pull at the most important load we haul."

My judgment is sure and firm on one point (made moot in some minds by recently expressed views to the contrary). Climatology is very much alive in the Weather Bureau and growing livelier each round of the seasons. Any small constructive part I may have had in giving our climatological work the recognition it deserves has been abundantly matched and multiplied by the efforts of all of you, my co-workers, who keep the wheels turning.

W. F. McDonald, Chief,
Climatological Services Division.