

UNITED STATES DEPARTMENT OF COMMERCE
WEATHER BUREAU
WASHINGTON

May 26, 1961

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 : Director, Climatology

SUBJECT : Climatological Services Memorandum No. 88

1. STATE CLIMATOLOGISTS MEETINGS IN CENTRAL AND NORTHWEST AREAS. The following is taken from Mr. L. A. Joos' report of the first two State Climatologist meetings:

"These SC meetings were the first such gatherings held since the implementation of the SC program in 1954. They are being scheduled on an Area basis with each Area Climatologist (AC) being responsible for the agenda and other details. Because a considerable portion (approximately 2/3 for a full-time SC) of a SC's time is spent on routine activities, these have become the principal theme of the first round of meetings. With the meetings for the Central and Northwest areas now having been held in FY-61, it is hoped that meetings for the Southwest, Southeast, and Northeast areas can be scheduled for FY-62.

"CENTRAL AREA: The meeting was held in Kansas City, Mo., on April 13-14 in the Federal Office Building. Area Climatologist R. F. Dale prepared a very detailed agenda. The 12 State Climatologists in attendance included full-time SC's R. W. Harms - Illinois; L. A. Schaal - Indiana; P. J. Waite - Iowa; A. D. Robb - Kansas; L. T. Pierce - Ohio; and M. W. Burley - Wisconsin. The combined SC and MICs were J. D. McQuigg - Missouri; A. H. Eichmeier - Michigan; S. R. Miller - North Dakota; R. E. Myers - Nebraska; and A. B. Pack - South Dakota. J. H. Strub, Jr., is both State Climatologist for Minnesota and a Hydrologist on the staff of WBAS, Minneapolis, Minn., with his office located in the city of Minneapolis.

"Routine Activities in the Central Area. The following list is not all-inclusive nor is the order indicative of relative importance since that will vary in the different states:

"(A) Severe Storm reporting takes a heavy toll of time and energy during the spring and summer in the Central Area. State "thunderstorm days", e.g., thunderstorms somewhere in a state area, probably average 20-25 per month and about 2/3 of these days provide some degree of storm

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damage. There was general agreement that omission of minor occurrences, i.e., non-tornadic storms without personal injuries and not over \$10,000 damage, was a real boon. There was a surprising lack of complaint over the STORM DATA publication and on-station typing of formats. Most SCs accept the job of storm reporting as necessary and routine; few of them are overly concerned with the accuracy of reporting. They apparently feel that improvements in the reporting of damaging storms must await increased support and a genuine interest in the problem on the part of research people. Reporting of storms by first order MICs is spotty. The efficacy of press clipping services is quite variable.

"(B) State Weekly Weather & Crop Bulletins are functioning smoothly in all states. The Indiana bulletin includes extension service, information-type articles with little or no pertinence to the current week's reporting of condition and progress. The idea has not caught on in other states. More popular is the practice of attaching to an occasional weekly issue a supplemental sheet showing freeze probability, or evapotranspiration, etc., usually in map form. Either a supplemental sheet or a special issue is considered to be an excellent way to distribute climatic material to a large and interested group. Although minor changes or improvements may occasionally be made, the state weekly bulletins are generally very good and very popular with marketing analysts, meat packers, flour millers, food processing companies, extension specialists, and all other segments of the agricultural community. The need for reporting on long-term trends as well as the current week's weather was emphasized.

"(C) Public Service of a general nature is a variable factor and generally dependent on the local situation, e.g., in Indiana and Illinois the records and information service loads are light because the State Climatologists' offices developed in new situations at universities located in smaller cities where the local public is unaccustomed to expecting much in the way of service. On the other hand, SCs at Topeka, Kansas and Minneapolis, Minnesota, have inherited heavy loads of which substantial portions might be considered the responsibility of first order stations in the same communities. The same is true at Lincoln, Nebraska, except that here the SC is also the MIC and must cope with a total program of large potential with a limited staff. Other SCs have this problem in varying degree.

"We tried to emphasize that a State Climatologist has a larger responsibility than the servicing of routine records and information calls; that where such routine work gets out of hand, it will limit the professional type of consulting and development work for which the SC is also responsible. It takes skill and diplomacy to sell the idea that the SC may have better ideas for answering a particular need than the requester is aware of, or that the SC would be cheating the taxpayers if he allowed routine work to crowd out the professional work he is being paid to do. It must be said, however, that many SCs are doing excellent jobs at both routine and professional types of work.

"(D) There was general agreement that the present system of optional Climatological Data (CD) narratives prepared by State Climatologists is working well and is much to be preferred over centralized preparation at

WRPC. Printing delays from lack of a promised summary are quite rare. We tried to clarify the philosophy of what should go into a CD narrative. The narrative has but little current use so that we should generally write for the future research worker or historian. Actual data should rarely be lifted from the tables and repeated in the narrative. The unusual weather described should include long-term spells such as drought, and the wet spells, hot or cold seasons, etc., which are not readily discernible from monthly data tabulations as well as the severe storminess, unusually damaging freezes, heavy snows, dust storms, etc., which are slighted in data tabulations. We suggested a system of sub-headings in capitals, ie., TEMPERATURE, RAINFALL (or PRECIPITATION), etc., as an aid both to the writer and the reader.

"(E) Data Collection takes varying amounts of time and energy by State Climatologists. Items range from climatological observations at a downtown location through soil moisture and temperature, freeze depths, special rainfall networks, and into special phenological programs. These may be of considerable help to the SC but mainly in the development stage; he should try to avoid long-term involvement in routine data collections.

"(F) A lively discussion centered on the Field Aide (HC) activities and the substation inspection program. In 7 of the 12 Central Area states a FA is based at or near the SC office. This arrangement is highly advantageous in that both SC and FA benefit from guidance and mutual exchange of ideas and information. Where the FAs may move into and out of positions rather frequently, the SC can supply continuity of planning and policy which is invaluable. Supervision of a FA is an efficient means of liaison between SC and observers. The SCs feel that observers are not getting the kind of attention needed in many instances.

"It was unanimously agreed that an important goal in the Central Area would be to have one FA in each State and based at the SC office.

"Non-routine activities in the Central Area are varied and impressive. All State Climatologists have been active in NC-26, i.e., a regional Committee of Agricultural Experiment Stations with a program of relating weather and agriculture. The main product of NC-26 has been the model series on precipitation probability. Current work centers on a temperature "runs" study. A regional phenology project is in the planning stage.

"Other non-routine activities include the work on evapotranspiration in Ohio, the phenology work in Wisconsin, the work on grain drying and in agricultural economics (weather-related) in Missouri, and the statistical testing of weather "singularities" in Michigan. A large number of substation summaries have been prepared in cooperation with local or state interests. Freeze bulletins, tornado summaries, climate portion of county soil survey (SCS) reports, and studies of wet-bulb temperature, soil temperature, solar radiation, critical temperatures, and snowfall climatology illustrate other types of non-routine work.

"NORTHWEST AREA: The meeting was held in Seattle, Washington, on April 19-20 in the Federal Office Building. Area Climatologist M. D. Magnuson prepared the agenda and made local arrangements. Six of the seven State Cli-

matologists were in attendance. SC C. E. Watson of Alaska did not attend because of the distance involved and because he was on detail at both Office of Climatology and the office of the Area Climatologist during his home leave only three months ago. In attendance were full-time SCs C. R. Elford - California; D. J. Stevlingson - Idaho; G. L. Sternes - Oregon; E. L. Phillips - Washington; and J. D. Alyea - Wyoming. R. A. Dightman attended as SC for Montana and is also MIC at Helena. H. C. Steffan represented WRPC, San Francisco, and H. L. Lewis represented the RAO at Salt Lake City.

"Non-routine activities in the Northwest Area are also impressive in their variety and range of interest. The W-48 regional committee (analogous to NC-26) has so far been much less active than NC-26 and has taken somewhat less of the SCs time. The importance of irrigation and the seriousness of the water supply problem in the west have created much interest in evaporation and evapotranspiration. Mean maps of actual and potential evapotranspiration have been prepared for California and detailed evaporation maps for Washington. In Montana (and perhaps in other western states) there have been a number of special evaporation pans operated by other government agencies and some important comparisons have been made with the Class "A" pan. Snowfall climatology is vital in estimating runoff but is equally important to engineers in designing roofs for maximum snow load.

"In California a number of county climatic summaries have been prepared in cooperation with the Soil Conservation Service or with county development organizations. Freeze probability studies are active in several states. Although maps of freeze risk might seem futile in mountainous areas, the consensus of agriculturalists is that they are still worth while. Elevations are considered in drawing the isolines and users are always warned of local variations. In Montana, an interesting analysis showed a great improvement in hay-drying weather between June 1 and July 1. The studies of Grinnell Glacier changes related to weather are unique in the contiguous United States.

"Routine activities of State Climatologists in the Northwest Area were discussed and generally followed the pattern established at the Kansas City meeting. For that reason, the following discussion is slightly abbreviated. The inspection program and Field Aide activities were thoroughly discussed but with a reduced amount of "heat". It should be noted that each SC in the NW Area has a FA in close association (in California, there are 3 FAs with one each at the WRPC and WBO, San Francisco, and one at Los Angeles). This allows a well coordinated inspection program. In fact, one SC, Mr. Dightman of Montana, stated that the inspection program there is in much better condition than it was a few years ago. An important factor is the very active liaison between WRPC and the FAs and SCs. For example, whenever the San Francisco WRPC knows a FA itinerary in advance, a "trouble sheet" for guidance in instructing observers is made available.

"The anticipated discussion of CD narrative summaries was also rather mild. Everyone agreed that narratives are best prepared by the SC. Mr.

Steffan indicated that the present optional system is working well and very seldom causes even a slight delay in publication. We discussed the necessity of documenting time trends and cumulative effects which are not easily revealed by the data so that future research people will be benefited. There will doubtless continue to be valid differences in judgment as to when a narrative is needed and what should be included. In doubtful cases the material should be included but the tendency to be too wordy should be strongly resisted.

"Severe storm reporting is a relatively small problem in the western states. The newspaper clipping services are reasonably effective. In estimating losses due to soil erosion, time lost from work during snow, and similar nebulous factors, we suggested that the damage estimate had better be blank when the uncertainty is great. State weekly weather and crop bulletins are working smoothly in all states. In this area also the suggestion came forth that an occasional supplemental page or special issuance to the weekly mailing list is an excellent way of distributing material.

"Public Service activity of the routine type involving general weather information or looking up data from the records looms rather heavily in the far western states. A rather basic and fundamental discussion developed. At first approach, it was strange to see how strongly entrenched is the idea of giving full attention to every request from every source and with little apparent concern for the basic mission of the climatological field service. One must realize that in each of the three Pacific coastal states the SC is located in a long-established city office with a tradition of general weather service. Because of the distance involved the original Forms 1009 were never transferred to NWRC. Because of long and active Section Center work many types of local or special studies and summaries have been made. Current climatological observations are being made and they continue a long period of record. With such a wealth of material available, it is only natural that the public should know about it and the demand continue. The present staff has become quite accustomed to this pattern.

"In presenting the ideas mentioned earlier in this report, we were confronted with statements similar to, (a) "It is wrong to refuse or attempt to modify a request from the public" and (b) "MICs at large WBAS stations with designated Public Service Units are difficult to persuade that local climatological service may be their responsibility and not that of the SC." It is also felt that distance from NWRC is a severe handicap in servicing requests for data.

"As was seen earlier in this report, the SCs of the Northwest Area are really doing rather well in non-routine research and development. They are probably doing a better job on routine matters than they are aware of. Some offices are rather well staffed, e.g., seven people are charged to Climatology in the three states of California, Oregon, and Washington, while the three states of Illinois, Indiana, and Wisconsin, each have only one Weather Bureau person working in this field. The western SCs also benefit from an almost complete lack of the tornadoes and other se-

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vere local storms which cause so much work for SCs in the central United States.

"ACKNOWLEDGEMENTS: At the Kansas City meeting, H. C. McComb represented the RAO, Verne Alexander spoke as Area Hydrologic Engineer, D. C. House spoke as Chief of the SELS Unit, and G. E. Stegall spoke as Chief of the WRPC.

"At Seattle, we had H. L. Lewis representing the RAO, while H. C. Steffan spoke as Supervising Climatologist of WRPC, San Francisco. We are happy to acknowledge the important contributions made by each of these men.

"Our sincere thanks go to Area Climatologists R. F. Dale and M. D. Magnuson for energetic and stimulating leadership in the planning stage and during the meetings themselves. These highly successful meetings are another milestone in our SC program; they reflect credit on all the men of our field service."

2. SUPERVISION OF STATIONS. When publication of data from a station under the supervision of the WRPC is discontinued, but for some valid reason the station is not closed supervision reverts to the office to which the observer submits his monthly forms. If the station is to be continued but not published, the WRPC should send a final letter to the observer telling him of the change and advising him where to send his forms. Where the supervisory office is the State Climatologist office, any request for supplies such as recording forms will move through that office for coordination but will normally be filled by the WRPC. The State Climatologist may keep a few forms for emergency use but he is not expected to maintain a supply for routine use.

3. C D WEATHER STORIES. It has now been three full years since the preparation of narrative summaries for Climatological Data ceased to be a routine task of the WRPC staff. Under voluntary preparation by the State Climatologist, we find that of the 540 issues published during 1958, narrative summaries appeared in 202 issues; during 1959 the count was 195 and in 1960 it was 213. This is an average of 40% with weather stories and 60% without; for an average state and year this would be 5 issues with stories and 7 issues without. However, some states had as many as 35 stories in 36 issues while one state had no stories during the three year period.

It seems therefore that the present optional system is working well and that the stories now appearing have more value because the State Climatologist concerned is in the best position to evaluate the highlights and trends that should be written up. We recognize that there is no such thing as an "average" state or an average year, hence some states will consistently have fewer summaries than others. Some years are full of droughts, long continuing wet spells, blizzards, etc., while other years are uneventful.

See "D" under Routine Activities, Item I of this CSM for further comments on this subject.

4. FEE BASIS OBSERVERS TO CONTRACT BASIS. O & S F Division reports that the change of observers from fee basis to contract basis has proceeded quite smoothly and satisfactorily. On the basis of reports which may not be entirely complete, all but 61 observers of the some 3500 have been changed, and 26 of the 61 may still be converted.

5. FIELD AIDE (HC) MEETING IN SAN FRANCISCO, FEBRUARY 27-MARCH 2, 1961.

The above meeting was similar to the ones held two years ago at the Kansas City and Chattanooga WRPCs. Field Aides (HC) from the western WRPC area were in attendance, as were representatives from the WRPC, O & S F Division, Hydrologic Services Division and the Office of Climatology.

Each Field Aide had previously been assigned a topic, related to the inspection program, to discuss. The sessions moved along smoothly. The discussion period following each talk was animated, well directed, and enlightening, and all concerned appeared to benefit from the free flow of ideas.

Slides and pictures were used to illustrate the talks, and were very helpful in bringing out specific points.

These meetings are particularly beneficial since the Field Aides seldom have the opportunity to discuss common problems with each other, or with representatives of their headquarters office. In addition to formal discussions of the Field Aide programs the meetings afforded opportunities for Field Aides and WRPC personnel to pass along comments, suggestions, queries and criticisms on all phases of the inspection program.

A great deal is gained by such personal discussion, particularly of those problems which do not readily lend themselves to solution, but with which we have to contend.

6. PART-TIME ASSISTANCE IN STATE CLIMATOLOGISTS' OFFICES. It will help us, in planning, to have up-to-date information regarding part-time clerical or stenographic assistance now available to State Climatologists.

Each State Climatologist who has part-time help is asked to report to us the grade, salary and hours per week (or month) of such assistance.

7. JEFFERSON AND HOLM AWARDS. Ref. Para. D-5107 (f) of Weather Bureau Manual, Volume I.

Selection has been made of 5 observers for the Jefferson and 24 for the Holm Award. The certificate will soon be sent to supervising offices for distribution along with a press release.

8. FILM FILE CABINETS. Two film file cabinets are being obtained for each State Climatologist. These should be received within the next few weeks.

9. CSM 87. CSM #87, revising the information in CSM #72, will be issued within a few weeks.

10. PUBLICATIONS DISTRIBUTED SINCE CSM 85. History of Soil Temperature Stations in the United States, Key to Meteorological Records Documentation No. 1.4. J. H. Hagarty.

Development and Use of a Special Slide Rule for Computing Meadow Evapotranspiration. Unpublished USWB Manuscript. L. T. Pierce and G. H. Snyder.



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Director, Climatology

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