UNITED STATES DEPARTMENT OF COMMERCE
WEATHER BUREAU
WASHINGTON

November 26, 1962

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

FILE: 922 MEMO (Climatological Service Memorandum No. 96) WASHINGTON, D. C. 11-26-62

MEMORANDUM

TO : Area and State Climatologists, NWRC, WRPC (Kansas City), Field Aides (HC), Field Aides, River Forecast Centers, River District Offices, Regional Substation Management Units, and Area Engineers (with copies to Regional Administrative Offices and Advisory Agricultural Meteorologists for information)

FROM : Director, Climatology

SUBJECT: Climatological Services Memorandum No. 96

1. MEETING OF THE COMMITTEE ON CLIMATOLOGY ADVISORY TO THE U. S. WEATHER BUREAU: The 14th meeting of the committee was held at the National Weather Records Center, Asheville, North Carolina, October 25 and 26, 1962.

Those present were: Dr. W. E. Reifsnyder, Chairman; Dr. D. B. Carter, Prof. A. V. Havens, Dr. J. R. Mather, Dr. D. H. Miller, Dr. N. J. Volk, and Dr. H. E. Landsberg.

The agenda which had been sent to members prior to the meeting follows:

A. Consolidation of Weather Records Processing Centers. (Landsberg)
B. Status of State Climatologist Program. (Landsberg)
C. Bulletin W Supplement, 1951-60. (Landsberg)
D. National Atlas--included maps; status.
E. County climatic surveys for Soil Conservation Service.
F. Third International Bioclimatological Congress. (Reifsnyder)
G. Fourth Congress of the World Meteorological Organization. (Reifsnyder)
H. Recruitment of climatologists for Office of Climatology
   a. Needs of the next decade
      (1) CAS and ICAS reports
      (2) Panel on Education of CAS
      (3) Current projections of the Office of Climatology
   b. Committee recommendations and/or activities
I. Supplementary items.
J. Roster of recommended committee replacements.
K. Date and place of next meeting.

Lettered items below refer to similar items in the agenda:

A. Dr. Landsberg briefed the Committee on progress of the consolidation of the Weather Records Processing Centers. The final decision to begin the move this fiscal year was prompted by the death of Mr. Leslie Smith, the supervisor in San Francisco, and the retirement of Mr. Vern C. Steves, the

supervisor in Chattanooga. In San Francisco the turnover in personnel also had reached a level detrimental to efficient operation. At the present time the move of the Chattanooga WRPC is nearly complete. The move of the San Francisco unit will be completed in November 1962. The move of the Kansas City WRPC will be held in abeyance until about the middle of 1963. Management of substations has been transferred to the various regional offices of the Weather Bureau. This move aligns the chain of authority for observations and results in better functional relations. The consolidation will result in higher efficiency in processing of weather data. It will permit utilization of the better computational facilities at NWRC. Ultimately the same amount of work can be performed by fewer employees.

The Committee noted this status report.

B. Dr. Landsberg informed the committee that Congress has approved three new State Climatologist positions. These will be activated in Virginia, West Virginia and Kentucky. The latter two are likely to be at the respective State Universities.

For the next fiscal year (1964) requests will be submitted for full-time State Climatologist positions in three additional states. These, tentatively, will be Arkansas, Mississippi, and Minnesota.

The program is advancing, in line with the advice of the committee as given in its letter of 27 August 1962 to the Chief of the Weather Bureau.

The Committee noted with satisfaction the progress made on the State Climatologist program.

The Committee also raised the question of desirable additions to the staff at various State Climatologists' offices.

C. The committee reviewed the draft on the Contents of the 1951-1960 Supplement to Bulletin W. The addition of tables for all monthly temperatures during the interval was particularly welcomed.

The Committee made two specific suggestions for additions. One is that an index be placed on the first page of the publication. The second refers to the inclusion, on the last page, of a cross reference system. This should list other publications in which corollary or supplementary information might be found. Consideration should also be given to develop a table giving for each meteorological element sources of data or summaries.

In connection with this agenda item the Committee discussed a number of other existing or planned publications in Climatology.

In the "Climate of the States" an explanation of the confidence limits is desirable. Also, column headings should be repeated over the confidence limits. A footnote should be added to the freeze data tables, indicating that in this connection "spring" covers the period from January 1-June 30 and "fall" the period from July 1-December 31.

In the Documentation Series issue giving the substation histories a reference should be included where station histories for first order stations may be found. The committee deprecated the past practice of separating first order and substations in climatic publication series.

The Committee will recommend to the Chief of Bureau that future climatic and documentation publications include all relevant data irrespective of the level of stations involved.

The plan to prepare at an early date the 1951-1960 issue of the World Weather Records was welcomed. The Committee agreed that publication of the data in metric and Celsius units only is desirable. A suggestion was made to include a conversion table in front of the publication. It was also deemed essential to list precipitation totals as accurate values rather than the rounded values of the WMO Climat Code.

The Committee will discuss at its next meeting the need and possible contents of a publication guide by climatological parameters for Weather Bureau climatic publications.

D. A status report on the climatic maps so far issued and in preparation for the National Atlas of the U. S. was received. The matter of coloration of maps, suggested earlier by the Committee is still under discussion, but no further progress in this direction has been made. It was proposed that the maps on extreme wind speeds and on snow loads be included in the series. The usefulness of a map on low-level inversions was stressed. In connection with a map on degree-days the forthcoming NE-35 Bulletin was cited as source of information. This will be prepared under the direction of Professor Dickerson at the University of West Virginia. The Committee members were asked to send further suggestions for maps to be included in the climatic section of the National Atlas to the chairman who will consolidate these into a letter to the Chief of the Weather Bureau.

E. In response to an earlier request of the Committee samples of climatic compilations from county surveys of the Soil Conservation Surveys were distributed. The current instructions for minimum contents to State Climatologists were also briefly reviewed. No further action is required at this time.

F. The Chairman informed the Committee of the forthcoming Third International Congress for Biometeorology to be held in Pau, France, September 2-6, 1963. Attendance by the Chairman and the Director of Climatology is hoped for. Other members of the Committee should consider going to this meeting. Participation by other U. S. scientists is highly desirable.

The Committee wishes to be kept informed of details of the program of the Third International Congress on Biometeorology, as they become available.

G. The Chairman briefed the Committee on the invitation received from the foreign secretary of the National Academy of Sciences to submit suggestions for the U. S. position at the Fourth Congress of the World Meteorological Organization to be held in Geneva in April 1963. The various agenda items

to be discussed were read. The Committee felt that it had little to contribute until details will become known as to what will be considered under the various general headings. The Office of Climatology will make available to the Committee such working papers dealing with climatology as received from WMO. Individual committee members will then send their comments to the Chairman for transmittal to the National Academy of Sciences.

H. The Chairman informed the Committee of the newly formed panel on education of the Committee on Atmospheric Sciences of the National Academy of Sciences under the chairmanship of Dr. Werner Baum. This committee will carry on certain survey programs on educational needs in the field. The chairman is a member of this panel. The panel will ascertain the present possibilities for training in atmospheric sciences at existing departments. It will concern itself with the question of what training atmospheric scientists of the future should have.

The manpower requirements of the Office of Climatology for the next decade were reviewed. At current rates of expansion and attrition there is a need for about 6 to 10 academically trained climatologists per year in the Weather Bureau program. In the future one or two of these should be at the Ph.D level, 2 or 3 at the Master's level, the remainder at the Bachelor's level. Some of the advanced degree holders can be obtained through upgrading of present personnel through scholarships.

Several members of the Committee indicated that better use could be made of student trainees and that expansion of the student trainee program to students with majors in other areas than atmospheric sciences is needed. Use of professors on research projects during the summer period as stimulus to recruiting and cooperation between the Weather Bureau and the universities was advocated.

The Committee will recommend to the panel on education that university scholarships be used on a broader scale by the Weather Bureau to upgrade the personnel and that legislation be sought to authorize the Weather Bureau to award full-time undergraduate scholarships in atmospheric sciencies to promising young people with a service obligation of several years as condition for the awards.

Other recommendations will be developed by correspondence with the Chairman or, if desired, further discussion at the next meeting.

I. The Office of Climatology sought advice of the Committee on several items.

a. What should be the lower limit of rainfall observations with the advent of automatic stations?

The Committee suggested that, provided traces can be clearly distinguished, one millimeter might be a suitable threshold.

The Committee felt in general that for publication of monthly totals the nearest 0.1 inch is satisfactory; for daily values publication to one-hundredth of an inch remains desirable until such time as the Weather Bureau

converts to the metric system where the millimeter should be adopted as the smallest unit.

b. Does the Committee see any continuing need for the publication of solar radiation data by solar weeks?

The Committee commented that if daily data are published no ostensibly useful purpose is served by solar week data. A check should be made prior to abolishing this publication if the history of this practice might disclose additional information, which might be relevant in reaching a decision.

c. For certain LCDs only a few subscribers are listed and even the free distribution list is small. Some savings can be effected by discontinuing printing of these LCDs. The discussion developed that it would probably be best to make a user survey and especially check if photocopies at a higher cost will be acceptable. Also noting that several of the stations involved are in the Pacific Trust Area, it would be essential to check if international exchange obligations might be affected.

This item will be brought up again for further consideration at a subsequent meeting.

d. The problem of stations in urban areas was discussed. The Committee was, in general, quite convinced that dual observational installations are needed wherever there are substantial differences from airport observations to be expected. Although a network of urban stations cannot solve the problems of microclimatic variation in a metropolitan area, it can give characteristic data for the populated area and act as a reference point for microclimatic work. In this respect, the urban network should be comparable to the bench mark stations. In particular, all stations should have ground exposure. Sites in parks or cemeteries will permit continuity. Where feasible sites should be shared with other installations measuring atmospheric parameters. (As an example the air pollution sampling site of the Public Health Survey above the underground Union Square Garage in San Francisco was mentioned.) Particular attention should be paid to radiation measurements and paired installations with radiometers inside and outside the urban area should be in the program. Among first steps:

The Committee suggested to survey existing city stations and plan, where necessary, their relocation. Also complete exposure description, aerial photographs, and circular photographs around the site should be taken.

For the latter purpose one member of the Committee suggested use of the Pleijel camera developed for architectural purposes to get shape factors all around a site. Further suggestions on the urban network will be solicited by the Chairman in writing.

e. The Committee informally discussed the use of satellite information for climatic cloud cover studies.

f. The Committee also expressed concern under existing world conditions for the safety of records at the National Weather Records Center. They were

briefed on present safety precautions and duplicate records. A complete report on all aspects of this problem will be made at the next meeting.

J. The National Academy of Sciences - National Research Council would like to have a roster of suitable individuals who might serve on the Committee in the future in line with the rotation policy adopted by NAS-NRC. Several names were suggested and the Chairman would welcome further names to be submitted in writing.

K. The Committee tentatively agreed to meet in the late spring at Rutgers University.

2. PROGRESS ON SCS SOIL SURVEY REPORTS: The following memo was recently received from Franklin Newhall of the Soil Conservation Service:

"In response to your recent inquiry I have looked at the first fourteen Soil Survey report manuscripts which came to hand from the files of the Soil Survey Reports Editorial Section. These 14 are a sample, I hope representative, of the some 35 to 40 reports which will be processed this fiscal year. I did not examine the climate sections in detail, but rather confined my attention mainly to whether the temperature and precipitation table was prepared according to the new or old format, and whether freeze risk was presented in the recommended fashion. Eight of the fourteen climate sections contained the new format, and only two of the remaining six contained, exclusively, tables prepared following the old format. The remaining four climate sections were what might be called transitional, two containing the old table plus addition newer climatic material, and the other two following still different but generally acceptable formats. Most of the eight new-format climate sections and one of the six old-format sections also contained considerable supplementary information in tables and graphs.

"The publishing schedule of these fourteen reports will probably continue as follows: Nine manuscripts will go to the printer in December and the rest in April. Then, it normally takes a year or more from the time of transmission to GPO until the printed copies of the report are received from GPO. Hence, with luck, the state climatologists will begin to see the fruits of their efforts sometime in 1964.

"I had not fully realized the speed with which the suggestions for the new format had been taken up in the field. I was both surprised and greatly pleased with this look at the climate sections and am sure I echo the sentiments of the Division of Soil Survey when I thank the State Climatologists for their efforts."

3. USE OF COLUMNS 20 TO 23 IN LCD: A recent survey of the use made of these optional columns shows the following:

Data	Number of Columns
Discomfort Index	1
Flood stage	1
Soil temperature	1
Day of week	2
Heat units	2
Visibility	2
Dew points	3
Fastest mile	3
Station pressure	3
Sunrise and sunset	4
Evaporation and related data	4
Degree days	7
Water temperature (lake or sea)	11
Cooling degree days	12
Precipitation	13
Wind-peak gusts (direction and/or speed)	28
Temperature	29
Relative humidity	42
Solar radiation	42
River stage	64

Sixteen stations used all 4 columns, 144 stations used one or more columns, while 162 stations did not use any of them.

4. SUBSCRIPTIONS TO CLIMATOLOGICAL PUBLICATIONS: The total money received annually from subscriptions (not sale) to climatological periodicals, is now more than $30,000 broken down as follows:

Total LCD-monthly	3,778 pd subscriptions		@ $1.00	$ 3,778.00
" combined LCD - monthly and supplement	8,291 "	"	@ $1.50	12,436.50
" LCD-Supplement	67 "	"	@ $1.00	67.00
(Breakdown in various LCD categories estimated, based on Chicago report)				
HPD	230 "	"	@ $1.00	230.00
Clim. Data (47 sections)	3,460 "	"	@ $2.50	8,650.00
CDNS	449 "	"	@ $4.00	1,796.00
Climatic Data for World	202 "	"	@ $2.75	555.50
Storm Data	266 "	"	@ $1.50	399.00
Northern Hemisphere, Part I	0			0
" " , Part II	23 "	"	@ $5.00	115.00
National Weekly Weather and Crop Bulletin	760 "	"	@ $3.00	2,280.00
Mariners Weather Log	0			0
Total Subscriptions	17,526			
Total Money				$30,307.00

The total number of regular free recipients to climatological publications is 96,678, divided as follows:

LCD monthly	33,340
LCD Supplement	24,711
Hourly Precipitation Data	2,793
Climatological Data	29,672
Climatological Data (National Summary)	1,087
Climatic Data for World	704
Storm Data	495
Northern Hemisphere, Part I	286
Northern Hemisphere, Part II	317
Mariners Weather Log	2,800
National Weekly Weather and Crop Bulletin	759
Total	96,678

The largest number of paid subscribers to any of our publications is 1,257 for the New York LCD and the largest number of paid and free recipients is 2,292 also for the New York LCD.

The total number of recipients (paid and free) to climatological publications is 111,584.

5. GUIDE TO STANDARD WEATHER SUMMARIES, NAVAER 50-1C-534: (Ref: Office of Climatology Memo to ACs and SCs dated 10/2/62). Some questions have been raised as to the manner in which the "changes" were issued for updating this "guide". We were aware that the long delay in our learning of Change No. 1 made it almost obsolete before distribution. However, the revised pages and the pen and ink changes for Part Three of the NAVAER guide (the tabular pages) are usable. Please note that the first two pages of the description and example of the SMAR summary in Change No. 1 did not have legibly reproduced page numbers and should be discarded. Also, in Item 2 of the Reference, "42B" should have been "42A".

Since the Weather Bureau had no part in preparing either the guide or the revisions, we were fortunate to get as much out of this as we did. Although the two "changes" were not in the form we would have preferred, they were distributed as received in order to reach the field without delay.

We regret that at present there is very little prospect for reprinting or further updating NAVAER 50-1C-534.

6. SLIDE PREPARATION: Occasionally we are asked to do drafting work and prepare slides for talks by State Climatologists. Preparation of slides can usually be done without much difficulty if about two weeks time is available. However, drafting time is at a premium, hence State Climatologists are asked not to request drafting work from the Central Office if the desired result can be obtained in any other way.

7. INCOMING LONG DISTANCE DIRECT IN-DIALING TELEPHONE CALLS: Faster and more convenient telephone service for incoming paid long distance station to station calls to the Office of Climatology will result from the following recent changes.

If the desired extension number is known it may be called by dialing the Washington Area Code - 301 - plus 440 - plus the extension. For example, a call to Mr. Schloemer's desk (extension 7288) could be made by dialing 301-440-7288.

Extensions which State and Area Climatologists may have occasion to call are:

Dr. H. E. Landsberg	7287	Pauls H. Putnins	7374
R. W. Schloemer	7288	M. L. Blanc	7356
H. C. S. Thom	7369	H. B. Harshbarger	7355

The procedure to be used for collect calls, for person-to-person calls, or for calls where the extension is not known is to use Area Code 301 followed by REdwood 5-2000 (Census switchboard) and then ask the Census operator to complete the call.

Persons placing calls should bear in mind that a charge is made for completed station to station calls whether or not a desired person is contacted. If discussion is desired with a specific person it is best to make a person-to-person call.

8. INSTRUCTIONS TO WRPC AND NWRC: The following instructions have been issued to the Kansas City WRPC and the NWRC:

Par. 1009.83 - Delete the fourth reference note and substitute the following:

"Normals for all stations are climatological standard normals based on the period 1931-1960."

Par. 1130.853 - Change the first sentence to read as follows:

"List the Summary of Day cards on two-part stock paper...."

Change the last sentence to read:

"Retain the original in WRPC files as long as it is needed locally (see Para. 1130.854), and mail the carbon copy to the Solar Radiation Research Project, OMR."

Make appropriate changes to the Summary of Routing Instructions, Appendix I.

9. CLOSING OF KANSAS CITY WRPC: Since the meeting of the Advisory Committee a decision has been made to move the Kansas City Weather Records Processing Center responsibilities to Asheville, N. C., effective with data for January 1963. Kansas City WRPC will be deactivated effective January 31, 1963, with the exception that a small group will be retained for a period of one to two months in Kansas City for the purpose of completing the Climatological Data annuals and other assigned work.

10. NORTHEAST AREA STATE CLIMATOLOGISTS MEETING: The meeting for the NE Area was held at WBO, New York City, on November 7-9. This meeting was under the leadership of Dr. J. K. McGuire and was attended by the following State Climatologists: Mr. Joseph J. Brumbach of Connecticut-Rhode Island; Mr. Donald B. Dunlap of New Jersey; Mr. Nelson M. Kauffman of Pennsylvania; Mr. Robert E. Lautzenheiser for northern New England; Dr. A. Boyd Pack of New York; and Mr. A. Delbert Peterson for Delaware-Maryland. Mr. Horace C. Dwelle participated as acting State Climatologist for West Virginia. Portions of the meetings were attended by Mr. Lloyd E. Brotzman, Regional Administrative Officer, Mr. George M. Krahl of O&SF Division, and Mr. George C. Stephenson of the RAO-I Substation Management Unit. Mr. L. A. Joos was the Office of Climatology representative.

Following the pattern of previous meetings the discussion of routine items centered around such matters as severe storm reporting, weekly weather and crop summaries, instrumentation, data processing, services to the public, office files and data sources, etc. From here the discussion ranged over substation summaries, county soil survey reports, freeze probability, extreme value statistics, drouth, soil moisture surveys, snow climatology, etc.

This was the last of the first series of SC meetings which began at Kansas City and Seattle in April 1961, and continued with meetings at Chattanooga in October 1961 and Fort Worth on January 31-February 2, 1962. We have tentative plans for a second series to begin in about another year. These may be developed along a central theme appropriate to each region such as mountain climatology in the West, snow climatology in the North and Northeast, arid zone climatology in the Southwest, human comfort climatology in the South, etc. Any suggestions or comments would be appreciated.

11. PUBLICATIONS DISTRIBUTED TO STATE AND AREA CLIMATOLOGISTS SINCE CSM #95: "The Probability of Completion of Outdoor Work", McQuigg and Decker, reprint from Journal of Applied Meteorology.

"History of Verification of Weather Records in the United States Weather Bureau", J. H. Hagarty. USWB Key to Meteorological Records Documentation No. 2.01.

Key to Meteorological Records Documentation No. 5.33 - "Catalogue of Meteorological Satellite Data TIROS III Television Cloud Photography".

H. E. Landsberg

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