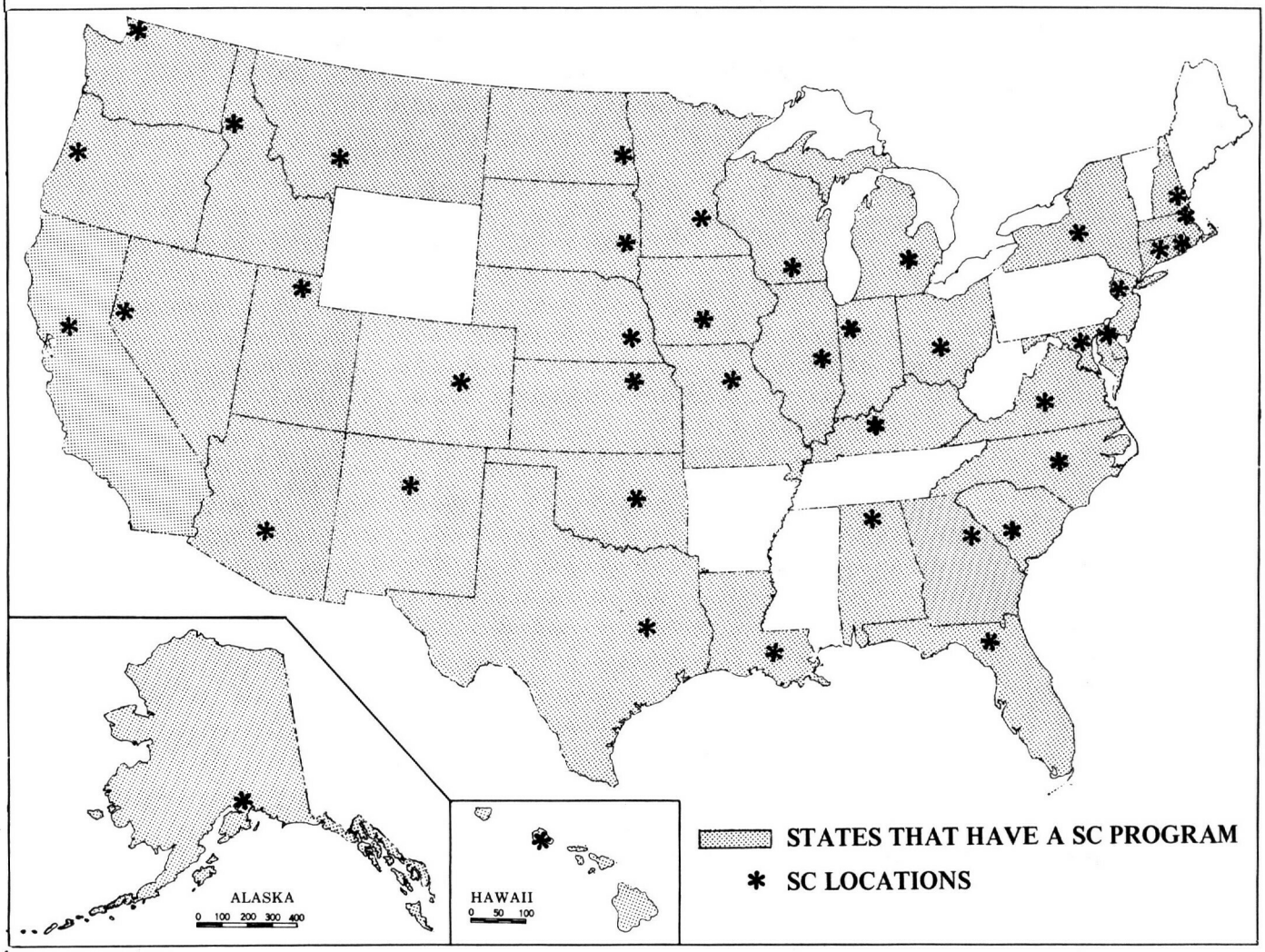
National Oceanic and Atmospheric Administration
Environmental Data and Information Service
National Climatic Center

NEWS LETTER

IN COOPERATION WITH
THE AMERICAN ASSOCIATION OF STATE CLIMATOLOGISTS



VOLUME 4 NUMBER 1 JANUARY 1980

PUBLISHED QUARTERLY AT THE NATIONAL CLIMATIC CENTER, ASHEVILLE, N.C.

NCC BRIEFS

Two States, New Mexico and Nebraska, have recently assigned new state climatologists. Dr. William P. Stevens, New Mexico State University, Las Cruces, New Mexico, is the acting state climatologist for New Mexico until a permanent state climatologist is appointed. He is replacing Dr. Iven Bennett. Dr. N. J. Rosenberg, 211 Agricultural Engineering Building, University of Nebraska, Lincoln, Nebraska, has replaced Mr. R. E. Myers, who retired as the Nebraska state climatologist.

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NCC hosted the annual meeting of the American Association of State Climatologists (AASC), October 16-18. Fifty-three people attended the meeting. Attendees included twenty-eight state climatologists, representatives from NOAA and EDIS Headquarters and National Weather Service's Central Office and Regional Offices, and Dr. Ian W. Marceau, Staff Director, Subcommittee on Natural Resources and Environment, House of Representatives, Washington, D. C. (A list of the attendees is enclosed with this Newsletter.)

Dr. Edward Epstein, Director of the National Climate Program Office (NCPO), NOAA, was the principal speaker at a dinner meeting on October 17.

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The Center for Environmental Assessment Service (CEAS) of NOAA's Environmental Data and Information Service (EDIS) expects to begin publishing a monthly Socio-Economic Assessment report for the United States. This report will relate the meteorological anomalies and geologic and coastal events that occurred during the previous month to eight general socio-economic activities, i.e., construction and property damage; energy; economics and commerce; food and agriculture; government and taxes; recreation and services; health; crime; population movement and education; and transportation.

CEAS would welcome monthly reports from the Association of State Climatologists on the occurrence and effects of natural phenomena. Please call Malcolm Reid or Robert Leffler, CEAS, (202) 634-1822, for further details.

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AASC Newsletter Recommendations. In order that we may have a more informative and interesting AASC Newsletter, please send the following information to Bill Bartlett, NCC, for possible publication in the Newsletter:

1. A detailed narrative describing the development of your State's climatological organization and/or function to date; what service is provided, to whom, and how. What climate data are collected in your State other than National Weather Service data?

2. Describe the projects you have been working on or have completed, and a list of your climatological orientated publications. These should go back at least two years.

* * * * *

A Framework for a Cooperative Arrangement with State Climatologists. In the recently published "Report of the Climate Data Management Workshop" (NOAA, 1979), the need for long continuous data compilations from the earliest available records to the present was identified as a critical requirement for many climate research activities.

The National Climatic Center in 1977 instituted an historical data project intended to identify, catalog, assemble, and analyze long-term station records. Three publications have been completed and sent to each state climatologist as they were printed. They are: (1) "Index of Historical Surface Weather Records: New York" (1978), (2) "A Long Record of Weather Observations at Cooperstown, New York, 1854-1977" (1978), and (3) "Ninety-One Years of Weather Records at Yellowstone National Park, Wyoming" (1979).

The task, however, has proven to be a rather formidable one. In order to expedite the project and increase the number of such publications in the future, we are proposing that state climatologists select a number of the best long record stations for their States and assemble the data for publication (one station per booklet) in the style of the above mentioned publications. The NCC would then undertake to print and distribute them in the "Historical Climatology Series." The format could be varied, according to each State's requirements.

Authorship would be determined by each state climatologist. Completely typed and edited manuscripts would be accepted by NCC and printed as funds permit. NCC would be willing to help with art work for the covers, with ideas provided by the state climatologists.

If you are interested, either prepare a manuscript and submit it or contact Henry Diaz, NCC, (704) 258-2850, Ext. 765 (FTS 672-0765).

* * * * *

The organizational structures for the National Oceanic and Atmospheric Administration (NOAA), the Environmental Data and Information Service (EDIS), and the National Climatic Center (NCC) are enclosed with this Newsletter. This information is provided to assist members of the AASC in contacting these agencies. If additional assistance is needed, contact Bill Bartlett at NCC, telephone number (704) 258-2850, Ext. 275, or FTS 672-0275.

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VACANCY ANNOUNCEMENT. We are soliciting your help in filling a scientific position in the Federal civil service. You will find attached a copy of a vacancy announcement describing an employment opportunity open at the National Climatic Center, Asheville, North Carolina.

This is a permanent, full-time position established in the Federal career service. Preferably, an applicant for this position should have a U. S. Civil Service status obtained through a prior competitive appointment in the Federal service or the individual's name should be within

reach for appointment on a register of eligibles established by an appropriate Office of Personnel Management Civil Service examination.

However, any United States citizen who believes he/she meets the qualification requirements specified in the attached vacancy announcement should forward his/her completed application papers to the Personnel Office. Upon receipt, we will submit the application(s) to the Office of Personnel Management (OPM) for rating on an appropriate examination. The candidates receiving an eligible rating on such examination who could be reached on the civil service register for appointment could then receive full consideration for filling this vacancy.

We will be pleased to consider applications for this vacancy from members of your staff and others whom you believe have the qualifications specified in this vacancy announcement. To obtain filing forms, applicants should contact any Office of Personnel Management Area Office or Federal Job Information Center. Please consult local telephone directories for numbers. Applicants who are unable to send their completed applications to this Personnel Office on or before the specified closing date should telephone this office as indicated in the announcement's instructions for delayed filing.

You may be sure any applicant you may refer for this employment opportunity will receive full consideration. We appreciate any assistance you may be able to afford us in filling this vacancy.

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SPECIAL DATA FILES

a. The Climatological Analysis Division, NCC, is developing an historical data set of monthly sunshine data for the period 1913 to present. These data will be used to determine long-term transient variability and as input to the WMO Regional Atlas.

b. Wind towers. The NCC has received anemometer strip charts for 15 locations instrumented by the Department of Energy for wind "prospecting" purposes. The sites recorded wind direction and speed (approximately January 1977 through autumn of 1978) at two or more levels. Hourly averages of wind speed, hourly prevailing direction and estimates of direction variability and turbulence intensity are available on magnetic tape. Data have been recorded at 2-minute intervals on data-loggers since the autumn of 1978. These data and hourly means will be available early in 1980.

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DATA BASE MANAGEMENT. A pilot project to put an inventory of NCC digital data under Data Base Management System (DBMS) control is in progress. Use of the DBMS will provide considerable flexibility in the type of inventory questions that will be able to be answered via an on-line computer link or through the User Services Branch. Operational tests of a small part of this inventory system is scheduled to begin this spring. Loading the remainder of all of NCC's inventory data to the system will take several years to complete. The system will be available for use during this loading period.

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Merit Program

Announcement Number: NOAA/NCC-80-6 (CLS)

VACANCY ANNOUNCEMENT

U.S. DEPARTMENT OF COMMERCE National Oceanic & Atmospheric Administration

TITLE, SERIES, & GRADE:

Meteorologist, CS-1340-11

VACANCY LOCATION:

National Climatic Center
Information Services Div.
User Services Branch
Federal Building
Asheville, NC

AREA OF CONSIDERATION: NOAA Wide

FLSA STATUS: Exempt

DUTIES: Incumbent responds to a wide variety of difficult requests for meteorological information made in writing, by telephone, or, less frequently, in person. Incumbent analyzes requests; interprets and clarifies specifications; determines availability of data; advises requester of best methods of meeting requirements, use of alternative forms of data, existing studies which may be useful, etc. Provides cost estimates to customers. Prepares transmittals. Serves as project leader on particularly complex requests. Serves as Information Services Division's representative in contacts with other NCC organizations to provide input about the Division's requirements (e.g., relative to data base management system, data dictionary/directory system, magnetic tape library utilization, etc.). Designs and writes or adapts applications software to utilize digital inventories and extract information from the NCC data base; prepares program documentation; tests and evaluates software developed. As appropriate, suggests to Division officials changes in data handling techniques, computer hardware (e.g., remote terminals) for use in the Division, etc.

QUALIFICATIONS: Applicants must have completed four years of education at an accredited college or university or have a combination of education and experience totaling four years. Twenty semester hours in meteorology, including 6 semester hours in weather analysis and forecasting and 6 semester hours in dynamic meteorology, as well as differential and integral calculus and 6 semester hours in college physics, are required. In addition, applicants must have (1) three years of professional experience in appropriate subject-matter fields (one year of which was comparable to the GS-9 level or six months comparable to the GS-10 level); or (2) three academic years of graduate education or Ph.D.; or (3) any equivalent combination of professional experience and graduate education. In addition, candidates should have education or experience which has provided knowledge of computer programming and of one or more higher order computer languages.

FACTORS WHICH WILL BE CONSIDERED IN EVALUATING CANDIDATES:

1. Type and quality of related experience. (Current SF-171 and CD-261 required)
2. Job-related training and education.
3. Employee Appraisal (Form CD-332)
4. Awards. (Awards should show date received)

WHERE TO APPLY:
Personnel Office
National Climatic Center
Federal Building
Asheville, NC 28801

ATTN: Carol Shipman

Applications should be submitted by March 6, 1980.

If you are mailing your application during the 3 days prior to the above closing date, you should notify the Personnel Office by calling FTS 672-0239 that your application is enroute in order to insure proper consideration.

NOTE: The U.S. Department of Commerce is an equal opportunity employer. Vacancies are filled in accordance with non-discrimination policies of the U.S. Government.

FORM CD-260 (REV. 10-77)
PRESCRIBED BY D.A.O. 202-330

* U.S. GOVERNMENT PRINTING OFFICE: 1978—765-092/1009

Meteorologist, GS-1340-11, NOAA/NCC-80-6,

From the Secretary/Treasurer of the AASC - Dr. Peter Robinson.

To remain in good standing, members must pay their dues (contributions, fines, etc.) of $25 before the next meeting. Do it now, before you forget.

When you have a State Climate Program in a form suitable for the eyes of AASC, send it to the Secretary. It may be the text and support documents of a legislative bill, a basic working document, or a tentative outline; as long as you are prepared to show it to a friendly and interested audience. We would like a master file so that we know what people are doing and at what stage the Program has reached. We will try, in the next AASC Newsletter, to summarize the status of plans, so the more information you send, the better the job we can do.

The panel studying the relationship between the AASC and the NCP at the annual meeting made the following recommendation: Choose for your State five examples of the cost effectiveness of climatic information and let the AASC know about them (no weather modification nor forecasting, please). Send your five examples to the Secretary.

Send all monies, State programs, and cost-effective examples to:

Dr. Peter Robinson
Secretary/Treasurer, AASC
Department of Geography
University of North Carolina
Chapel Hill, NC 27514

Don't forget that the next annual meeting of the AASC will be held in Milwaukee, August 28-30, 1980. Plan to attend. Equally important, plan to attend the conference "Climatic Impacts and Societal Response" immediately prior to our meeting. The Program Chairman (who just happens to be the AASC Secretary/Treasurer) would be delighted to see you there, and even more delighted if you submitted a Paper for presentation. The Conference is being organized by the Applied Climatology Committee of the American Meteorological Society. An abstract from the Call for Papers in the Bulletin of the AMS follows:

> "The theme of the conference will be "Assessment of climatic impacts on societal activities," and the conference is intended to foster dialog between climatologists and the users of climatic information. Particular emphasis will be placed on anomolous and extreme events and their implications for the planning, design, and operation functions in various segments of society. Major areas of concern will be: 1) architecture, 2) power/energy, 3) insurance/banking, 4) transport/trade, 5) public and private institutions, and 6) fisheries. The thrust of the papers should be toward the solution of substantive problems in these areas, with quantitative considerations being emphasized where possible. Interdisciplinary contributions are encouraged.
>
> "Titles and short abstracts (approximately 200 words), typed double-spaced, should be sent as soon as possible to: Peter J. Robinson, Dept. of Geography, 203 Saunders Hall, 043A, Univ. of

North Carolina, Chapel Hill, N. C. 27514 (tel: 919-933-8902). All abstracts will be reviewed for applicability to the program theme. No concurrent sessions are planned for the program; thus, if the number of papers submitted exceeds the allotted time, those papers that most closely adhere to the program theme will be selected. Due to a short printing schedule for the program, it will be impossible to accommodate abstract revisions once the abstract has been accepted."

Applied Climatology is a relatively new field for the AMS and, if it is to flourish, it needs your support. The AMS and the AASC have a great deal to offer each other, and the scheduling of consecutive conferences could be the beginning of a relationship of mutual benefit.

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MINUTES

AMERICAN ASSOCIATION OF STATE CLIMATOLOGISTS MEETING

COUNCIL MEETING, OCTOBER 16-17, 1979

The meeting was called to order by President Critchfield at 3:55 p.m., October 16, 1979. The minutes of the 1978 Council Meeting were passed out and briefly discussed. Motion to accept as written, proposed by Wise, seconded by Changnon. Motion passed by voice vote.

President Critchfield presented his annual report. He expressed regret at the resignation of President Durrenberger and his own elevation from the office of President-Elect. He stated that since most of the activities of the Association were ongoing and would be fully discussed at other times during the Annual Meeting, no survey of activities was warranted.

The President announced that the ballot to change the constitution, to include the Past-President as a member of the Executive Board, and to change the office of Secretary to Secretary-Treasurer resulted in 24 affirmative votes and no negative ones. The constitution, as amended, was distributed to the members present. The President, having also acted as Treasurer, presented a financial statement:

Balance, February 1, 1979 (Transferred to Critchfield from Durrenberger) (Includes contribution from 10 members for 1979-80)	$178.61
Income (Contributions from 3 members)	$ 75.00
Expenditures (All expenses were met by members and/or their institutions) (The President estimated his expenses to be $441.19 for the 9-month period in office)	0
Balance, October 15, 1979	$253.61

The nominating committee (Goodridge, Bark, Caprio) presented the following nominations, noting that because the President-Elect has assumed the Office of President, it was necessary this year to elect both a President and a President-Elect:

President - Dr. Thomas McKee
President-Elect - Mr. Stanley A. Changnon
Secretary-Treasurer - Dr. Peter Robinson

No further nominations were received and the above were duly elected.

The meeting was adjourned at 4:45 p.m.

The Council Meeting was reconvened by the President at 3:30 p.m., October 17, 1979.

(During the intervening period, several working groups had met and subsequently presented reports to the membership, and a general discussion of AASC membership, dues, and structure was held. These were informal meetings. Formal resolutions only, without substantive discussion, were presented to the Council Meeting).

The newly elected officers of the AASC were introduced. President McKee took the chair.

Motion - " No changes shall be made in the Constitutional Statement on membership during the 1979-80 AASC year."

Proposed by Mitchell, seconded by Muller, passed by voice vote.

Motion - "Each voting member of the Association be assessed $25 AASC expenses payable prior to the 1980 Annual Meeting."

Proposed by Richardson, seconded by Muller, passed by voice vote.

The President requested nominations for the 1980 nominating committee. Proposed were: Waite, Richardson, Carter. Bark moved to confirm nominations, seconded by Changnon, passed by voice vote.

The President asked for nominations and volunteers for the other committees of the Association (terms of reference of all committees being unspecified, but following the guidelines embodied in previous discussions).

The following committees were formed (vacancies to be filled by the Executive Board in consultation with those members already serving).

Standing Committee on State Climate Programs: Bark, Changnon, Decker, and Mather

Computer Committee: Eddy (chair)

Constitution and Bylaws: Hayden (chair)

Standards for Monitoring Climate: (vacant)

Relations with EDIS and NWS: (vacant)

For the last two committees above, it was emphasized that their role was to explore the role of AASC, to facilitate communication between the various organizations, and to ensure that AASC has input where appropriate. The role was not to recommend specific courses of action to the other agencies.

It was reconfirmed that the Executive Board has the responsibility to maintain liaison with NCPO and the authority to speak for AASC on all aspects of the National Climate Program. The Executive Board must keep the membership informed of all actions it takes in this respect.

The location and date of the 1980 Annual Meeting of the AASC was discussed.

The membership approved: Location: Milwaukee, Wisconsin
Date: August 28-30, immediately following the Applied Climatology meeting sponsored by the AMS.

Meeting adjourned at 4:35 p. m.

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ATTENDEES

AMERICAN ASSOCIATION OF STATE CLIMATOLOGISTS MEETING

OCTOBER 16 - 18, 1979
Asheville, North Carolina

1.	ALMAZAN, James Dr.	NACOA (Nat'l Advisory Committee for Oceans & Atmosphere)
2.	BARK, Dean Professor	Kansas SC
3.	BARROWS, Joan Dr.	NOAA, Office of Congressional Affairs
4.	BARTLETT, William D.	NCC, Special Projects Officer
5.	BRASEL, Anthony Dr.	Arizona SC
6.	BUTSON, Keith D.	NCC, Executive Officer
7.	CANFIELD, Norm	NOAA
8.	CARTER, Eugene	Alabama SC
9.	CHADWICK, Herbert	NWS Eastern Region
10.	CHANGNON, Stanley	Illinois SC
11.	CLARK, Douglas	University of Wisconsin
12.	CRITCHFIELD, Howard Dr.	Washington SC
13.	CRUTCHER, Harold Dr.	Consulting Meteorologist, Asheville
14.	CONNER, Glen	Kentucky SC
15.	DAVIS, Jerry	N. C. State University
16.	DETHIER, B. E. Dr.	New York SC
17.	DOESKEN, Nolan	Colorado State University
18.	EDDY, Amos Dr.	Oklahoma SC
19.	EPSTEIN, Edward S. Dr.	Director, National Climate Program Office
20.	FINGER, Frederick	Climatic Analysis Center
21.	GOODRIDGE, James	California SC
22.	GRIFFITHS, John Prof.	Texas SC
23.	HAVENS, A. Vaughn Prof.	New Jersey SC
24.	HAYDEN, Bruce Dr.	Virginia SC
25.	KEYS, Conrad Dr.	New Mexico SC
26.	KUEHNAST, Earl	Minnesota SC
27.	MARCEAU, Ian Dr.	House Committee on Science & Technology
28.	MATHER, John Dr.	Delaware SC
29.	McKAY, Grady F.	Chief, ADPSD, NCC
30.	McKEE, Thomas Dr.	Colorado SC
31.	MICHALS, Patrick	University of Virginia
32.	MITCHELL, Daniel B.	Director, NCC
33.	MITCHELL, Val Dr.	Wisconsin SC
34.	MOLNAU, Myron Dr.	Idaho SC
35.	MULLER, Robert Prof.	Louisiana SC
36.	PLUMMER, Gayther Dr.	Georgia SC
37.	POGERMAN, William	NWS
38.	POTTER, Tom Dr.	Acting Director, EDIS
39.	PREGENT, Gerard	New Hampshire SC
40.	QUINLAN, Frank T.	NCC, Chief, CAD
41.	RAYNER, John Prof.	Ohio SC
42.	RICHARDSON, Arlo	Utah SC
43.	RIDGE, Charles	NWS
44.	ROBINSON, Peter Dr.	North Carolina SC
45.	ROSENBERG, N. J. Prof.	Nebraska SC
46.	SCHAAL, Lawrence Prof.	Indiana SC
47.	SEGUIN, Ward R. Dr.	NCC, Chief, DOD
48.	SHUMBERA, A. L.	NCC, Data Administrator
49.	SNIDER, Arlin	NWS
50.	SPITTLER, Bernard	NWS Central Region
51.	SUITS, H. L.	NCC, Chief, ISD
52.	WAITE, Paul	Iowa SC
53.	WISE, Jim	Alaska SC

The National Climatic Center

Current Status and Future Plans

By Daniel B. Mitchell, Director

INTRODUCTION

The National Climatic Center (NCC) is the national archive for climatological data. Data observed by the National Weather Service network, cooperative network, satellite systems, and other national sources are archived. Data are both in manuscript or hard copy form and in digital form. However, digital data comprise only a portion of the total NCC data archive.

The National Climatic Center also provides user services. Approximately 66,000 customer requests were answered last year. The number of customers serviced each year has been steadily increasing for the last seven years. The type of customer requests include requests for data and information which has been tailored to meet the customer's request. As a result of the emphasis placed on services by the Climate Act, we anticipate that the National Climatic Center's services to the customer will increase dramatically over the next several years.

The NCC is located in Asheville, North Carolina. The Center is divided into six Divisions and two Staff Functions. One of its Divisions, the Satellite Data Services Division, is located in Camp Springs, Maryland, and is a special Center within itself.

The Administrative and Technical Services Division is responsible for the administrative and logistical support for the NCC. Their functions include printing plant operation, personnel services, procurement, budget and fiscal functions, and space allocations.

The Automated Data Processing Services Division is responsible for ADP support to the Center. Their functions include computer operations, data translation, and systems design and operations.

The Data Operations Division is responsible for processing of the climatological data. All climatological data received by the NCC are processed by the Data Operations Division. Their functions include the receipt, inventory, edit and verification, and the preparation of special publications of the data.

The Climatological Applications Division is responsible for the development of climatic applications tailored to the customers' requests. Their functions include the preparation of summaries, statistical analyses, and assessments.

The Information Services Division (ISD) is the NCC interface between the Center and its customers. The ISD basic function is to provide user services and manage the manuscript archives.

The Satellite Data Services Division, located in Camp Springs, is responsible for archiving satellite data from NOAA operational satellites and for providing user services from these archives. Since the Satellite Data Services Division is not collocated with the NCC, they are also responsible for their data processing, user services, and ADP support functions unique to the satellite data services.

In addition to the six Divisions I have just described, we have the Information Management Center and the Data Administrator assigned to the Director's Staff. The Information Management Center is responsible for the receipt of all correspondence and making distribution of this correspondence within the Center. It is also responsible for word processing. We currently utilize up-to-date word processors and a Center-wide dictation system to allow for general correspondence preparation within the Center.

The Data Administrator with the Data Base Administration Staff is responsible for the design, development, maintenance, and management of the NCC digital data base. This staff function has just recently been added to the Director's Staff.

GOALS AND OBJECTIVES

In the process of serving thousands of customers over the last several years and through the participation in numerous user workshops held over the past three years, we have identified firm user requirements for climatological data. By analyzing these data requirements and reviewing our data management practices, we have identified several principal problems with the NCC data base. In an effort to provide better customer services, we have established four basic goals, which we hope to achieve over the next seven to ten years. These goals are: (1) modernize NCC by automating manual data processing functions and by providing automated support to user services; (2) improve the data base by providing better quality control, more comprehensive inventory of data, and by providing a more complete digital data base; (3) develop an interactive digital data base by making more climatological data available on-line to a computer system under a data base management system; (4) provide user access to NCC data base by providing a capability for State Climatologists and certain other customers access to the NCC data base by remote terminals.

In an effort to meet these specific goals, NCC has developed a short- and long-term plan. In subsequent paragraphs, I shall discuss objectives we have established, actions we are planning, and actions we have already completed in an effort to meet our goals.

In our processing of climatological data for archival and user services, we still employ many manual procedures. With the current ADP technology available today, we have an opportunity to more completely automate our data processing. For example, we manually reduce many data recorded on strip charts onto a data entry form and then key entry the data into digital form by using a key-entry device. This function can be more completely automated by utilizing a digitizer with a pen and tablet and going directly from a chart to digital information. Additionally, the NCC receives weather observation data in manuscript form from the National Weather Service observing stations. These data are collected and converted into digital form via an Inforex key-entry system. In the future, the National Weather Service plans to implement the AFOS system. The operational date is scheduled for 1979. The NCC is a spur on this system, and as a result, will receive all the weather observation data on this system in digital form. Thus, this will alleviate the manual key-entry of data from manuscript form which we do today.

In our contact with the user community, we have learned new requirements for data quality control. The user wants better quality control of data, and that data which is quality controlled, the user wants information about the quality of the

data. Hence, we plan to develop new edit and validation programs for the surface, upper air, cooperative, solar, and marine surface data sets. The development of new programs has already begun and is planned to be completed by 1981.

Along with the development of new edit and validation programs, NCC has initiated a project to develop a data base inventory. The project has been initiated this year and shall be completed by 1984. Once this project is completed, NCC and NCC users shall know what data are available in both manuscript and digital form at NCC.

In an effort to develop a better quality data base, NCC has also initiated the procurement of a Quality Assurance Graphical Subsystem. This system, when installed, shall give the data validator an interactive capability whereby he can graphically review data that have been identified as suspect in the process of editing and validating of the particular data sets previously mentioned. This system, when implemented, shall give NCC a capability to more readily examine and to more quickly complete validation of data. This system is planned to be implemented in 1980.

The NCC is also in the process of procuring a new computer output to microfiche system. The NCC produces many publications, summaries, and tabulated data each year in support of customer requirements. The capability of the new computer output to microfiche system will provide NCC additional capability to more readily tailor products to the user requirements. This new system is scheduled to be installed and implemented late 1979.

Today NCC has access to some 75,000 magnetic tapes which contain digital climatological data. This large, cumbersome tape resource is difficult to manage and often difficult to access economically. As a result, NCC is in the proces of procuring a mass store subsystem. With the installation of the mass store subsystem, NCC plans most of the digital data contained by the magnetic tapes onto the mass store subsystem to make it available on-line to the computer system. Once data are loaded into the mass store subsystem, quicker access and more cost effective access to the data will be a reality. Another objective within our plans is to implement an interactive data base between 1981 and 1984. I shall discuss this further in subsequent sections under the 1981 initiative.

Current and planned satellites in the Geostationary Operational Earth Satellite (GOES) series of NOAA operational geostationary satellites are collecting and will collect unprecedented volumes of data. These data in their original digital forms, or processed imagery data, represent a valuable national asset with significant retrospective application potential in the areas of oceanography, marine biology, coastal management, deep water port planning climatology, solar insolation climatology, severe weather meteorology, hydrology, and agriculture. Presently, NCC archives only processed imagery and only a small amount of digital GOES data. This limited archive is inadequate to meet the user needs because users are presently limited to copies of this imagery only, and cannot specify the coverage, enhancement, and resolution required to best meet their needs. The potential benefit of GOES data in the areas cited above can only be met by archiving the full-resolution digital data, and by providing the capability of producing from the archived data the digital and image products required by the user community. Hence, NCC has as an objective to procure and implement a GOES

data archive/service system. Our goal is to implement this system by 1981. Once implemented, this system would provide us with the capability to archive GOES satellite data for a period of five years and to provide services from this archive.

Our long-term plans are to upgrade our computer system in the 1984 period. With the Climate Act stressing customer services, we anticipate that our user requests will continue to climb at an even higher rate than they have in the past several years. Hence, we believe that we will need to upgrade our current system to meet the future demands.

Also in the same time frame, we are planning to provide access to the NCC data base to the State Climatologists and limited other users who will require a near real-time access to a climatological data base. Such access would be through a remote job entry terminal or a time share terminal. We are currently looking in the 1985 time frame for this type of interface. Today we do not possess the capability to have users other than internal to NCC access the NCC data base. First, before we can provide such access, NCC must develop the interactive data base, which I will address later, and also enhance its ADP system capabilities.

Many actions have already been initiated and some have been completed in our effort to meet our goals. NCC is in the process of microfilming some 80 million manuscript weather records. The microfilmed data are being inventoried and indexed in the process of microfilming. This is being done so that the recently established Micrographics Service Center can readily retrieve microfilmed data in the servicing of customers.

In an effort to modernize NCC, a Univac 1100/10 was recently installed and is operational at NCC. We are in the process of program conversion, and hope to have this particular effort completed by late summer. A data digitizer has been purchased and implemented in our Cooperative Data Branch. The digitizer is being used to automate the input of cooperative data into digital form. An additional three digitizers will be added later this year to complete the automation of that function.

In the satellite data archive and services area, NCC has recently completed action to procure an Image Display and Hardcopy Subsystem. Once implemented, this subsystem will enable the Satellite Data Services Division to more efficiently tailor satellite data products to the customer needs. Additionally, a mass store subsystem was installed in our Satellite Data Services Division to archive satellite data from TIROS-N.

Due to our major effort in the development of our data base, I have established a Data Base Administration Staff to manage the NCC Data Base. This staff is responsible for the design, development, and implementation of the data base management system and to restructure the data base so that it can be more easily accessible for servicing customers.

NCC 1981 INITIATIVE

As I previously mentioned, one of the objectives for NCC is to develop an interactive digital data base. For NCC to complete the development and implementation of this digital data base would take approximately seven to ten years. However,

with the emphasis that the Climate Act places on services, we feel that we must develop this data base much sooner than we could normally do it with the existing resources. Therefore, we have submitted an initiative for 1981 requesting additional resources which will enable us to accelerate the development of this data base. We are planning to complete the development of this interactive data base in approximately five years if additional resources are made available over the entire period. Over the history of NCC, hundreds of data sets have been established in response to, and in a mode dictated by, then existing observation systems and data needs. These data exist in digital form on thousands of computer tapes in various forms and documents. The large digital files are cumbersome, extremely expensive to use, and contain numerous duplicates and specialized products. The data vary in quality due to changes in existing procedures dictated by changes in regular/special observing systems, technology, and data requirements throughout the NCC history. There is a serious lack of comprehensive documentation including inventory information. Gaps and inconsistencies in and between the digital sets require specialized editing techniques in processing data from hard copy records to make the data available in forms which are cost and time effective, relative to existing and projected national needs. These problems make it difficult and expensive to provide users with required data and information.

In the development of the interactive data base, we plan to complete the development of data sets by filling in missing observations and extending the period of record. Also, data will be merged and restructured to minimize use of cumbersome media. Duplicate data sets will be eliminated.

To provide better quality of data, NCC will more completely automate and standardize data editing and validation. Additional validation will be performed on data as necessary, and the data quality will be flagged so that this information can be passed on to the users.

As the interactive data base is being developed, it will be loaded under a data base management system. In an effort to improve the access and reduce the cost to the users, NCC will restructure the data base based on user statistics so that the access becomes more economical.

In summary, the initiative will provide:

Edited, validated, and compacted historical data files.

Complete data files.

Ultra long periods of record for selected stations.

Improved digital station library.

Reduced data costs to users.

Enable quicker response to users.

Enable NCC to tailor data products to users.

The principal data sets that NCC is planning to put into the interactive data base are: U.S. hourly airway surface observations, global marine surface observations, U.S. summary of day and month observations, global rawinsonde observations, hourly precipitation data, and selected global surface observations.

SUMMARY

The NCC is presently enbarked on a massive rehabilitation of all its processing systems. New hardware, new software, and new ideas and procedures will enable NCC to process the data in a more automated fashion. We anticipate that much of these upgraded processing systems will be implemented within two years. These new processing systems, coupled with current development of a modern data base management system and an interactive data base, will provide the facility to rapidly and inexpensively access and service the large amounts of data required by the Climate Program and other national interests including our current customer base. The development of the interactive data base is a long term project considering our current level of resources. However, with the support of the 1981 initiative, and subsequent additional resources during the period through 1984, we would hope that we can complete the development of the data sets and the interactive data base by the end of 1984.

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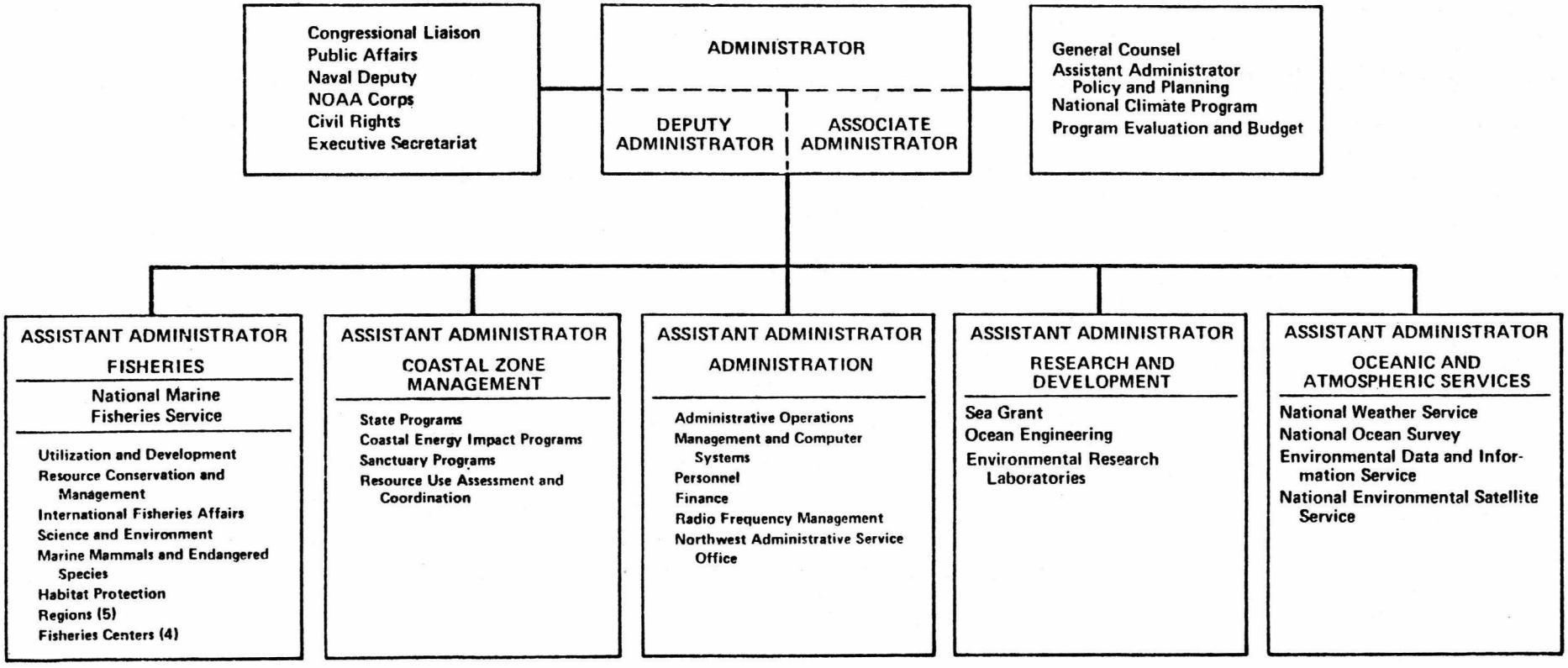
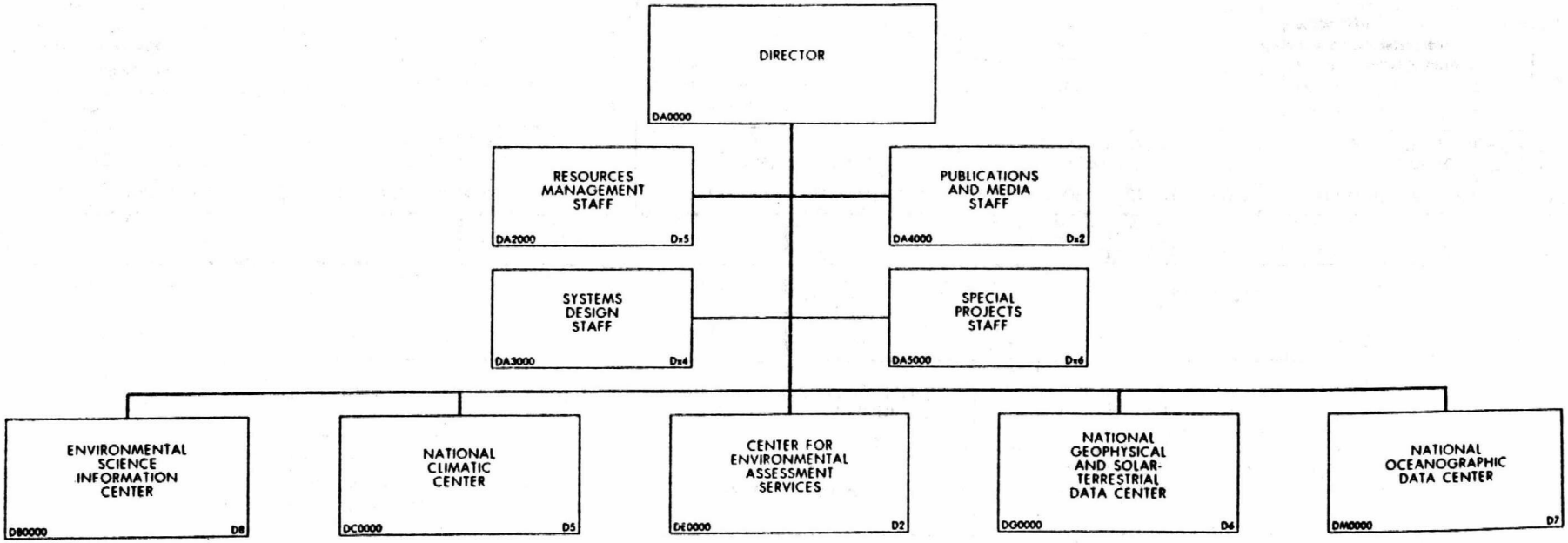
U.S. DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration



AMENDMENT 2
JANUARY 28, 1979

U.S. DEPARTMENT OF COMMERCE
NOAA
ENVIRONMENTAL DATA AND INFORMATION SERVICE

OFFICE OF ENVIRONMENTAL DATA AND INFORMATION SERVICE



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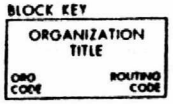
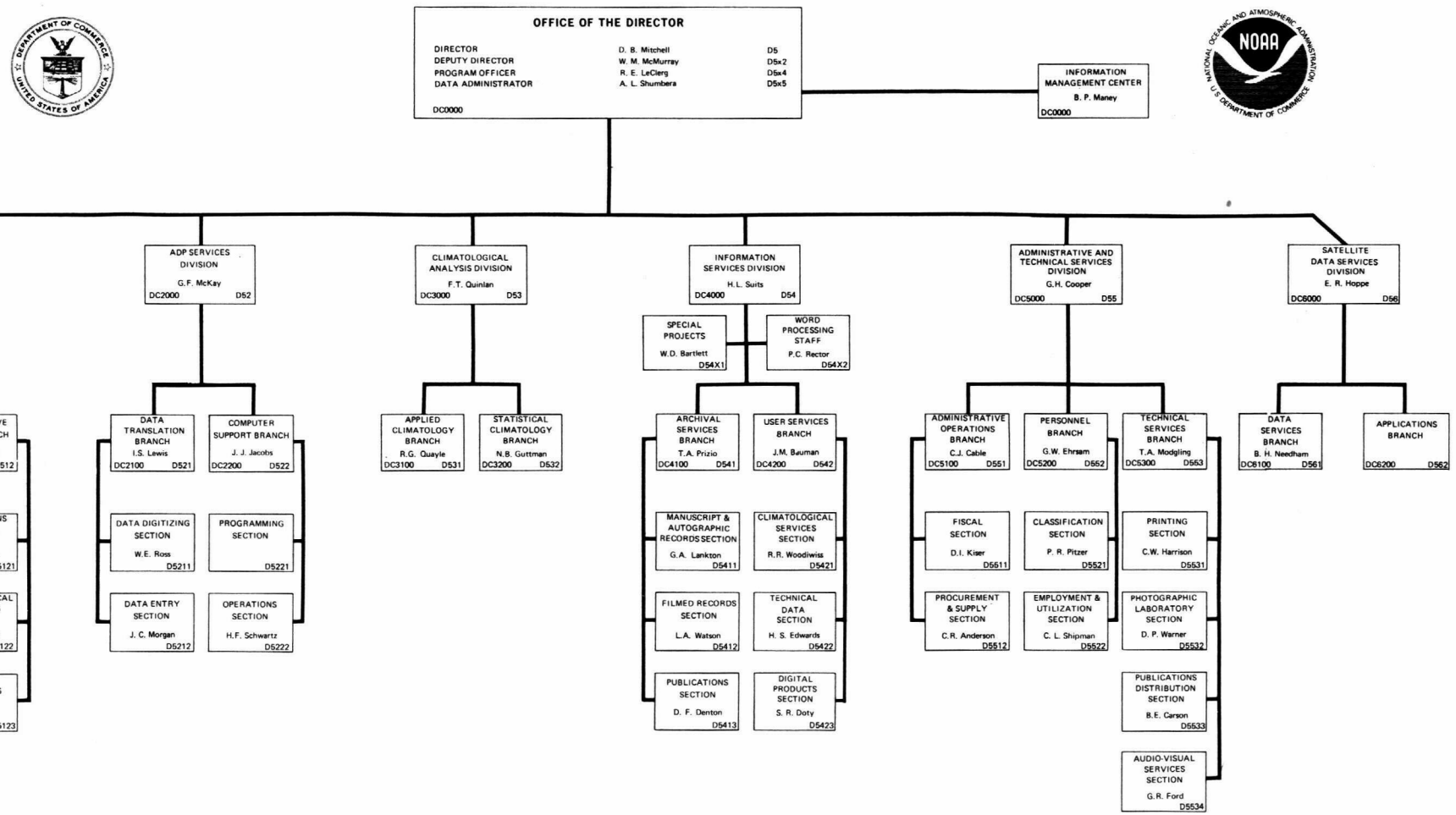


JULY 16, 1978
MANAGEMENT ANALYSIS DIVISION, OMCS

U.S. DEPARTMENT OF COMMERCE
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
ENVIRONMENTAL DATA AND INFORMATION SERVICE
NATIONAL CLIMATIC CENTER



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