



NEWS

U. S. DEPARTMENT OF COMMERCE • Environmental Science Services Administration

VOLUME 1 NUMBER 15

DECEMBER 15, 1965

The Weather Bureau

BY DR. GEORGE P. CRESSMAN, DIRECTOR

The Weather Bureau, one of the oldest and most beneficial scientific agencies of the United States Government, is said to reach more people each day than any Federal Agency except the Post Office. The Weather Bureau is charged with provision of the national weather service, with observing and reporting the weather, and with issuing forecasts and warnings of weather and floods, in the interest of the national safety and economy.

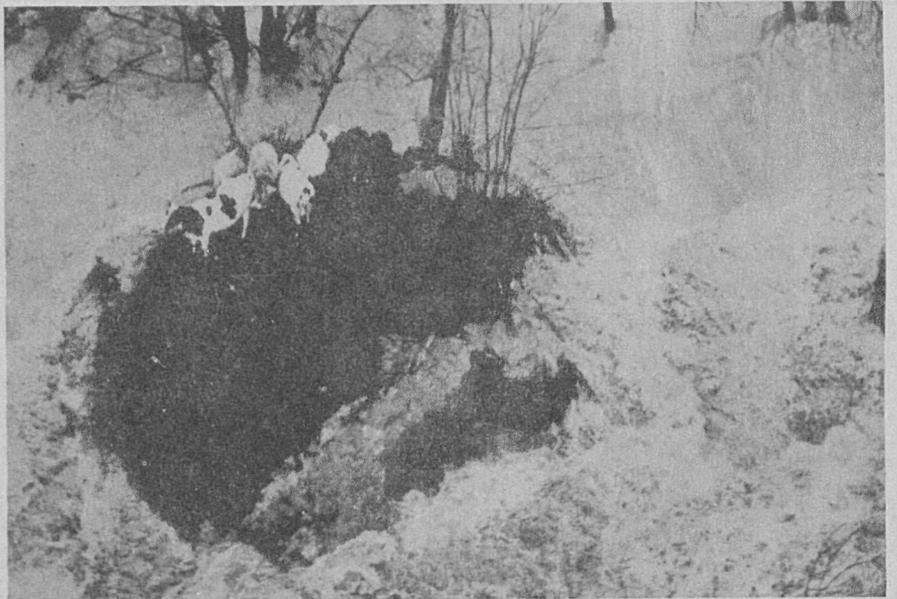
Because the atmosphere is unaware of the international boundaries established by men, the mission of the Weather Bureau extends far beyond the shores of the United States. It is responsible for operating observing stations in the Arctic -- far north of the Arctic Circle -- and in the islands of the South Pacific Ocean. It takes observations on board ships at sea and collects data from commercial aircraft in flight over both the Atlantic and Pacific oceans. The Weather Bureau participates in international meteorological and hydrological activities for the purpose of coordinating world-wide collection and exchange of data as well as for establishing standards for the processing and presentation of information.

The Weather Bureau has a number of programs in meteorology and hydrology through which it carries out its mission. The BASIC WEATHER SYSTEM supports all other program areas. This includes the operation by Weather Bureau personnel of a network of 300 surface stations, 119 upper-air sounding stations, 6 observing stations on ships at fixed locations, and 15 upper-air stations on traveling ships. Radar data are observed from 34 long-range and 58 short-range radars. These data are communicated to central loca-

Weather Bureau men
work at stations
north of the Arctic
Circle



The Weather Bureau
warns the public of
many natural hazards,
including floods.



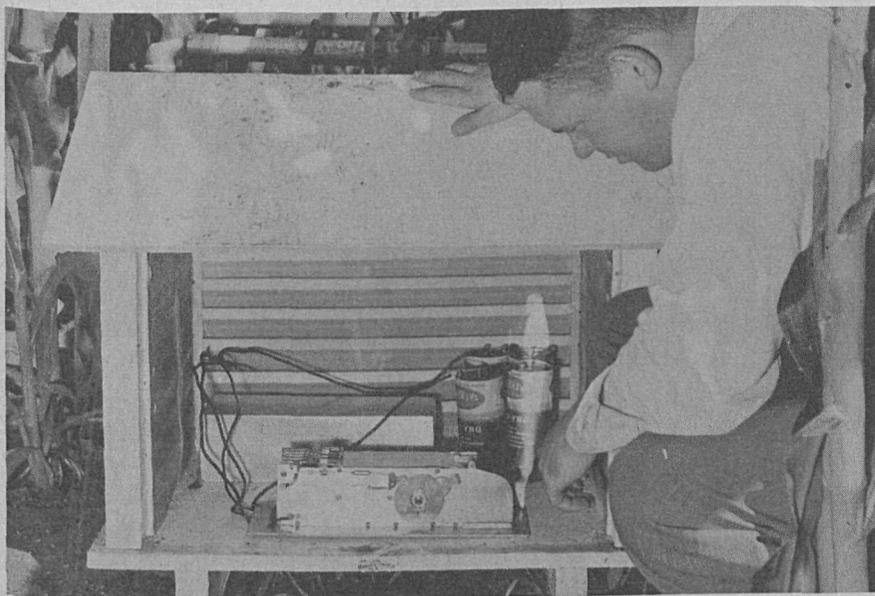
tions and exchanged with other nations by a communications system operated in collaboration with the FAA, as well as with governments of other nations. The central processing of these data takes place at the National Meteorological Center in Suitland, Maryland, where they are analyzed and used in the preparation of hemisphere-wide predictions with the aid of a system of high-speed computers. These predictions are then distributed by facsimile to 250 forecast offices and weather service stations, which distribute them to the public and other users, through the Public Weather program.

The Hurricane and Tornado program is operated to protect the Nation from these violent storms. Specialized forecast centers in Miami (for hurricanes) and in Kansas City (for tornadoes) prepare forecasts and warnings on a nation-wide basis for these phenomena.

Special sectors of the Nation's economy are so heavily dependent on weather that they merit individual attention. The Agriculture Weather and Fire Weather programs in support of these activities are especially useful and pay back to the economy in savings many times the cost of their services.

The Aviation Weather program is essential for safety and for efficiency of operation of the Nation's aviation activities. The 22 Flight Advisory Weather Service offices of the Weather Bureau provide terminal, route, and area forecasts for aircraft operations.

Newer programs of the Weather Bureau include the Marine Weather and Space Operations Support activities.



As part of the agriculture program, weather measurements are made among the growing crops.

The Weather Bureau's program in hydrology -- the River and Flood program -- provides a river and flood forecast and warning service. Rainfall and river discharge information is collected through 85 River District Offices and forwarded to the River Forecast Centers. These Centers prepare the river forecasts by means of a combined physical-statistical model of the river flow and relay the forecast information back to the River District Offices for dissemination to a long list of users. The River Forecast Centers are making increasing use of electronic computers in preparing their forecasts.

In the Weather Bureau headquarters, two offices establish policy, develop plans and procedures, and provide general guidance for Bureau operations; these are the Office of Meteorological Operations and the Office of Hydrology. The National Meteorological Center at Suitland, Maryland, is responsible for the central production of analysis and prognostic material. The Systems Development Office applies scientific methods to the planning and design of the systems for meeting meteorological requirements and is the focal point for all Weather Bureau planning activities.

The Weather Bureau has a significant capacity for the conduct of applied research and development. The Laboratory of Hydrology, the Techniques Development Laboratory of the Systems Development Office, and the Development Division of the National Meteorological Center all conduct research and development aimed at problems of importance to Weather Bureau operations. Equipment development is undertaken by the Equipment Development Laboratory. The Test and Evaluation Laboratory has the mission of determining whether newly developed equipment is suitable for operational use.

The field structure of the Weather Bureau, organized into six Regions, is the most essential part of the organization, since it is here that almost all services are provided to the people who need them. Each Regional Director, through the staff of his headquarters office, is responsible for scientific leadership and operational guidance of the field activities within his Region. He also provides management of the administrative functions within his Region. The meteorologists, hydrologists, or technicians in charge of the forecast centers and field stations report to the Regional Director for all functions of their stations. This regionalization, started 18 months ago, is now practically complete.

I have endeavored to indicate, in general terms, the principal functions of the Weather Bureau and the way it is organized to perform these functions. We in the Weather Bureau are particularly fortunate to be able to work with the fascinating and lively sciences of meteorology and hydrology and at the same time to be rendering an essential service of great value to the nation.

Mobile weather stations speed to forest fires where they provide information and forecasts to assist fire fighters.



Balloons are launched from ships at sea to gather weather information in the upper air.



A weather map is drawn by automatic equipment at the National Meteorological Center.



DR. GEORGE P. CRESSMAN

Dr. George P. Cressman became Director of the Weather Bureau on September 1. Before this recent appointment, he was Director of the Bureau's Office of National Meteorological Services since April 1964, providing policy guidance and direction of Bureau field offices.

Dr. Cressman came to the Weather Bureau in 1958 as Director of the newly formed National Meteorological Center (NMC). During his six years at NMC, he coordinated the operations and directed the research and development of the center's branches. He received the Department of Commerce Gold Medal in 1961 for his outstanding accomplishments, his distinguished authorship, and his leadership of the NMC.

He received his bachelor's degree in physics from Pennsylvania State College, his master's degree in meteorology from New York University, and his doctorate in meteorology from the University of Chicago. Serving as an officer in the U. S. Army from 1941 to 1946, he first studied meteorology at New York University and later taught there and at the University of Chicago. From 1943 to 1946, he operated Army weather stations.

In late 1945 and early 1946, he was an instructor at the Institute of Tropical Meteorology, University of Puerto Rico, and then worked three years as a research assistant in the Department of Meteorology at the University of Chicago.

In 1949, Dr. Cressman became a civilian research meteorologist with the Air Weather Service (AWS) at Andrews Air Force Base in Washington. While with the AWS, he played an important role in establishing the Joint Numerical Weather Prediction Unit, which was organized in 1954. Under his guidance, this special forecast

unit, sponsored jointly by the Weather Bureau, Air Force, and Navy, pioneered in the field of operational forecasting procedures by numerical weather prediction techniques. Dr. Cressman received the Air Force's Exceptional Civilian Service Award in 1955 for his work in organizing this unit.

The author of numerous technical articles, Dr. Cressman is a professional member of the American Meteorological Society, the Association for Computing Machinery, and the Washington Academy of Sciences. Also, he is President of the World Meteorological Organization's Commission for Aerology (1961 - 1965) and is a member and past Chairman of the WMO Advisory Committee.



DR. ROBERT H. SIMPSON

The Acting Associate Director of the Weather Bureau (Meteorological Operations) is Dr. Robert H. Simpson, who has had a wide variety of experience during his more than 25 years of service in the Bureau.

In 1964, Dr. Simpson became Deputy Director for Operations of the Office of National Meteorological Services. Before that, he was Assistant Director of Research (Severe Storms), when his area of responsibility included hurricane and severe storms projects as well as the Research Flight Facility. Also, he has served as Director of the National Hurricane Research Project.

A graduate of Southwestern University with a B. S. degree, he earned his M. S. degree in physics at Emory University and did further graduate work at the University of Chicago, where he received his doctor's degree in the geophysical sciences. Dr. Simpson entered the Bureau in 1940 and has served at Brownsville, Swan Island, New Orleans, Miami, Washington, West Palm Beach, and Honolulu.

He was introduced to hurricane forecasting at the New Orleans Forecast Center. During his first tour of duty in Washington, he took part in a series of special hurricane research flights through and over the great hurricane of September 1947, which swept over Florida and Louisiana. As a result of these and later flights, Dr. Simpson became interested in using aircraft for a more detailed study of hurricanes.

During his Washington assignment from 1946 to 1948, he directed the professional intern training classes for men entering the Bureau from the armed forces. While Meteorologist-in-Charge at Honolulu, he was a Weather Bureau member of Joint Meteorological Committees for the Central Pacific and Far East, serving in this capacity on the staffs of CINCPAC and CINCPF.

From 1952 to 1955, he was Special Assistant to the Assistant Chief of Bureau for Operations. At that time, he was a member of the WMO Commission for Synoptic Meteorology and of the Technical Committee on the Antarctic.

In recognition of his outstanding contributions to the study of hurricanes, Dr. Simpson received the Department of Commerce Gold Medal for Exceptional Service in 1962. He was awarded an honorary doctorate in science by Southwestern University in 1963.

A member of the American Meteorological Society, American Geophysical Union, Royal Meteorological Society, and the Washington Academy of Science, he has published numerous technical articles in meteorological journals.



WILLIAM E. HIATT

William E. Hiatt, Acting Associate Director of the Weather Bureau (Hydrology), formerly was Director of Hydrology, a position which he held since 1964.

He entered the Weather Bureau in 1940 as a Hydrologic Engineer at Macon, Ga., and subsequently served at Iowa City and Chicago. Mr. Hiatt was stationed in Washington beginning in 1949 as Eastern

Area Hydrologic Engineer. In 1951, he was named Assistant Chief for Hydrology and a year later became Chief of the Hydrologic Services Division.

Before joining the Weather Bureau, Mr. Hiatt worked for private industry and two other Government agencies -- the U. S. Geological Survey and the Federal Power Commission.

A recipient of a Department of Commerce Silver Medal for Meritorious Service in 1962, Mr. Hiatt has both a B. S. degree in civil engineering and an M. S. degree in hydraulics from Purdue University. He is a member of the American Society of Civil Engineers, the American Geophysical Union, and the American Meteorological Society.



DR. FREDERICK G. SHUMAN

As Director of the Weather Bureau's National Meteorological Center, Dr. Frederick G. Shuman serves in the same position he held before the current reorganization. He has been Director of NMC since 1964 and previously was Chief of NMC's Development Branch.

A graduate of Ball State Teachers College in Indiana, Dr. Shuman worked for the Weather Bureau at Indianapolis for a short time before he entered the Army Air Corps, where he served as a weather officer throughout World War II.

Upon his release from the service, he briefly rejoined the Weather Bureau at Detroit before leaving to attend Massachusetts Institute of Technology, where he obtained his M. S. and Sc. D. degrees. He has done graduate work at the University of Chicago, was assigned to a special project studying numerical weather prediction at the Institute for Advanced Study in Princeton, N. J., and was a visiting professor at New York University in 1961.

Located at the Weather Bureau's Central Office in Washington since 1951, Dr. Shuman was named Chief of the Development Branch in 1957. Also in 1957, he received the Department of Commerce Silver Medal "for outstanding contributions in the development of numerical weather prediction techniques." He has published numerous papers in the meteorological field.



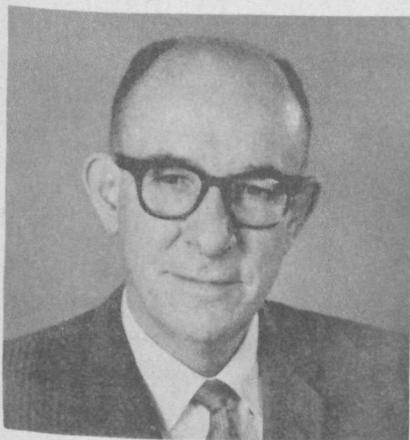
MERRITT N. TECHTER

Merritt N. Techter was named Director of Systems Development at the Weather Bureau in 1964, and he retains this title in the new organization.

He came to the Weather Bureau from the United Aircraft Corporate System Center, where his most recent position before entering the Bureau was Technical Head of Operations Analysis in the Weather Systems Center. Among other duties, he was responsible for direction of weather systems studies for the Bureau.

Mr. Techter was production manager for a boatbuilding firm before joining United Aircraft's Operations Research Section in 1950. For eight years, he conducted and directed operations research studies in commercial data-processing systems, allocation of manpower effort analyses, production and inventory control systems, and various military weapons systems evaluations. In 1958 and 1959, he headed the Mathematical Analysis Section of United Aircraft's Research Department.

A 1947 graduate of Yale University with a B. S. degree in industrial engineering and administration, Mr. Techter later studied operations research at Case Institute and the Massachusetts Institute of Technology. He served in the Navy from 1943 to 1945.



RUSSELL C. GRUBB

Acting Director of Executive and Technical Services is Russell C. Grubb, who has served the Weather Bureau for more than 38 years.

Joining the Bureau at Roswell, New Mexico, in 1927, Mr. Grubb transferred to Albuquerque in 1937, and in 1941 he went to Fort Worth to help in the establishment of the Regional Office there when the Bureau first regionalized its activities. Later he became Assistant Regional Director at Fort Worth.

Mr. Grubb came to the Washington Central Office in 1946 as Chief of the Regional Operations Branch, Stations Operations Division. A few months later, he was appointed Budget Officer, a position he held until 1956, when he became Assistant Chief of the Bureau for Administration. He was named Director of Administrative and Technical Services in 1964.

A member of the American Meteorological Society and the American Geophysical Union, Mr. Grubb was awarded a Department of Commerce Silver Medal for Meritorious Service in 1962. He has taken extensive courses in mathematics, physics, meteorology, and administration while attending the University of New Mexico, Texas Christian University, George Washington University, American University, and the U. S. Department of Agriculture Graduate School. During World War I I, he taught meteorology at the evening college at Texas Christian University.

NATIONWIDE TEST REQUIRED FOR SUMMER EMPLOYMENT. High school graduates and undergraduate college students who are interested in employment with ESSA or **any** other Government agency in clerical and scientific aide positions, grades GS-1 to GS-4, during the summer of 1966 must take an examination, titled "Office and Science Assistant Examination." This test will be administered only once, on a Saturday in late January or February 1966. Applicants must file CSC Form 5000-AB by January 3, 1966, with the Civil Service Commission, Washington, D. C. 20415. The Commission will inform applicants of the test date, time, and locations. CSC Form 5000-AB may be obtained at Post Offices, ESSA personnel offices, and Civil Service Commission Regional or Branch Offices. It is important that students desiring summer employment be encouraged to apply for the examination in order to acquire necessary eligibility for appointment.

GEMINI WEATHER BROADCASTS. During the Gemini-7 and Gemini-6 space flights, all three television networks are being provided continuous global weather information from the Weather Bureau's National Meteorological Center (NMC) at Suitland, Md. The information, distributed simultaneously to the networks on a pool basis, includes surface and upper-air charts as well as global forecasts. Data gathered by weather satellites is provided to the networks through the cooperation of the National Environmental Satellite Center. The Weather Bureau's Spaceflight Meteorology Group, which provides weather information and forecasts required for the flights, is furnishing its forecasts for both launchings and splashdowns to the television networks. A two-way teletypewriter and document and photofacsimile equipment were installed at NMC by the networks to handle the flow of data.

Gemini-7 astronauts Frank Borman and James Lovell are conducting a synoptic weather photography experiment, photographing selected clouds in color and in greater detail than can be obtained by the TIROS weather satellites. Phenomena chosen for attention during the current flight include squall line clouds, thunderstorm activity not associated with squall lines, frontal clouds and views of fronts, jetstream cirrus clouds, typical morning stratus of Gulf states, coastal cloudiness, tropical and extratropical phenomena, wave clouds induced by islands and mountain ranges, and broad banking of clouds in the trade winds or other regions.

14 ENSIGNS COMMISSIONED. Fourteen men were commissioned as ensigns in the ESSA commissioned corps in graduation ceremonies held at the Atlantic Marine Center on December 7. The new ensigns and their assignments are: Michael W. Chalfant, Pathfinder; Henry M. Coghlan, Hydrographer; Gordon P. Dodge, Wainwright and Hilgard; George R. Knecht, Peirce; Richard T. LeRoy, Bowie; Christopher C. Mathewson, Surveyor; Roy K. Matsushige, Pioneer; Charles H. McClure, Discoverer; Larry K. Nelson, Surveyor; Arthur D. Ross, Explorer; Otto F. Steffin, Explorer; David L. Sweetland, Hodgson; Jack L. Wallace, Hydrographer; and A. Conrad Weymann III, Pathfinder.

National Oceanic and Atmospheric Administration

ERRATA NOTICE

One or more conditions of the original document may affect the quality of the image, such as:

Discolored pages
Faded or light ink
Binding intrudes into the text

This has been a co-operative project between the NOAA Central Library and the Climate Database Modernization Program, National Climate Data Center (NCDC). To view the original document, please contact the NOAA Central Library in Silver Spring, MD at (301) 713-2607 x124 or Library.Reference@noaa.gov

HOV Services
Imaging Contractor
12200 Kiln Court
Beltsville, MD 20704-1387
July 23, 2010