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

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ESSA
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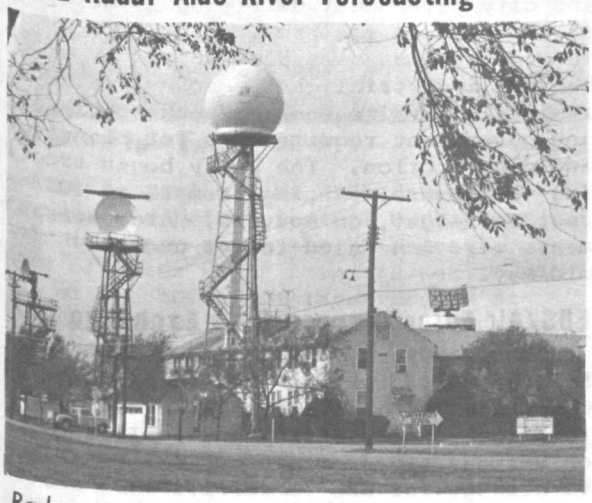
May 23, 1969

essa news

Volume 5 Number 21

## NSSL Radar Aids River Forecasting



*Radars at NSSL, Norman, Okla.*

ERL's National Severe Storms Laboratory at Norman, Okla., and the Weather Bureau River Forecast Center at Fort Worth began an operational field test on May 15, using the Laboratory's radar measurements of rainfall intensity to make river forecasts for Oklahoma and Texas. NSSL's radar, used for tracking and studying severe storms, can provide current estimates of rainfall and its areal distribution on a continuous basis. From observations every 15 minutes, the river forecasters obtain digitized information on the distribution, intensity, location, and amount of rainfall at 14,000 points on the radar scope extending as far as 120 miles from the NSSL radar. The hydrologists then determine the probable amount and location of runoff. Storm data acquired by NSSL is reduced to a form that can be transmitted over long-lines, and sent directly to the River Forecast Center in Fort Worth. Hydrologists combine the NSSL data with their computerized stream flow information to make forecasts for rivers in the Texas-Oklahoma area.

## Scientist Praises SURVEYOR's Work

Thomas E. Chase of the Scripps Institution of Oceanography was a member of the scientific party aboard the USC&S Ship SURVEYOR during a recent investigation of underwater features in the north-central Pacific basin. He later wrote to the men of the SURVEYOR in appreciation of their work:

"Long-range studies of the oceans are often hampered by the lack of reliable data. This is particularly true in parts of the north-central Pacific where both soundings and precise navigation are sparse.

"The soundings, magnetics, and gravity records obtained on TRANSPACMAG 3 have been invaluable in determining the locations of several deep-sea geologic features. One of prime importance is the Emperor Trough at its junction with the Chinook Fracture Zone.

"The high quality of navigation maintained throughout the cruise has allowed the accurate location of many other features. Their usefulness in geologic investigations cannot be measured fully as yet but are critical in deep ocean surveys."

## Commerce Fellowship Program Reinstated

Assistant Secretary of Commerce Myron Tribus has announced the reestablishment of the Commerce Science and Technology Fellowship Program for 1969-70. Interested ESSA personnel at the level of GS-15 (Commissioned Officers of the rank of Commander) and above should apply to the ESSA Personnel Office by June 2, 1969.

## McARTHUR Concludes Pacific Project

The USC&GS Ship McARTHUR has completed the project of photographing the submarine volcanic craters off the extension of the Kilauea Rift Zone in the Pacific. The ship was scheduled to depart for Seattle on May 19.

## Borg Chosen Lihue OIC

Leroy W. Borg was recently named the new official in charge of the Lihue, Kauai, Weather Bureau office. Mr. Borg joined the Weather Bureau in 1952 at Meacham, Oreg., and remained there until July of that year, when he was transferred to the Milford, Utah, weather office. After six months of duty, he reported to the weather station at Point Barrow, Alaska. During his 17 years in the Alaska Region, he served as an observer and as official in charge of the Bethel and Yakutat weather offices.

## Antarctic Mountain Named for Dean

The U. S. Board of Geographic Names has notified Jesse D. Dean, meteorological technician at WBO Huntington, W. Va., that a peak in the Queen Maud Mountains, Antarctica, has been named for him.

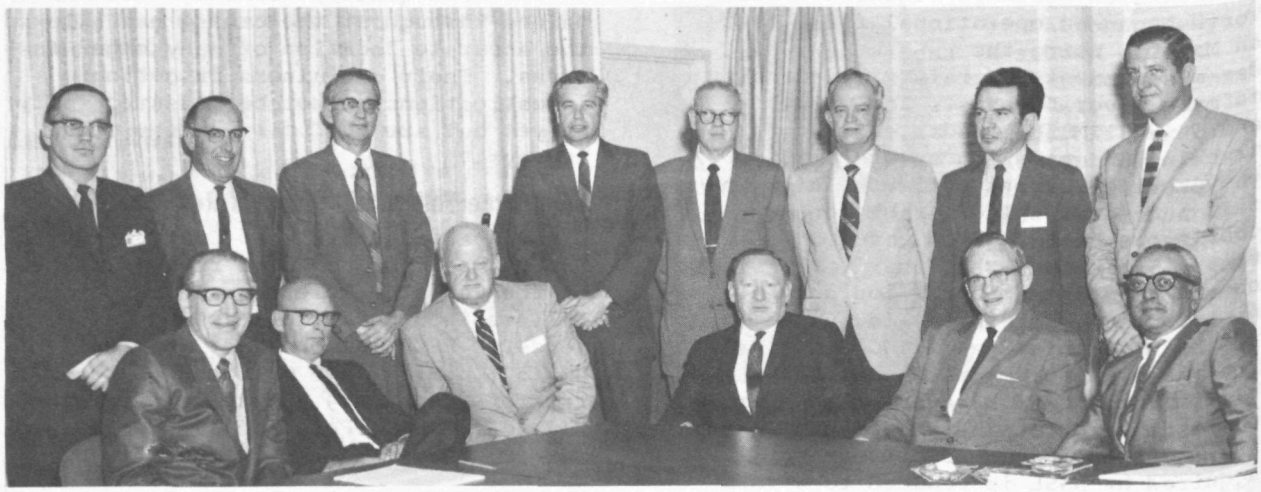
## Survey Begins in D.C. Suburbs

An 18-man Coast Survey field party, headed by John B. Jones, III, is erecting portable steel towers throughout the Washington suburban area for a two-year geodetic survey in Virginia and Maryland. The 1300-square-mile-area survey is a cooperative project, with each county and city government defraying 25 percent of the cost in its area. The need for the surveys has been accentuated in urban and industrialized areas by rapidly rising land values and by commercial and government requirements for planning and construction. The party began erecting the towers, ranging from 37 to 103 feet in height, on Apr. 30. Area measurements were scheduled to get underway in mid-May.

## EDS/Air Force Discuss Data Exchange

Herbert Meyers, chief of EDS' Earth Sciences Division, visited the Air Force Cambridge Research Laboratories on May 9, to discuss availability and applications of various types of geophysical data and to arrange for EDS to receive some geomagnetic data now being processed by the Laboratories.

## Personnel Officers Conference Held



Participants in the Personnel Officers Conference held at ESSA headquarters, May 12-14, were: Front row, left to right -- T. P. Gleiter, Assistant Administrator for Administration and Technical Services; Dr. John W. Townsend, Jr., ESSA Deputy Administrator; John Will, Director of Personnel, DOC; Guy H. Dorsey, Chief, Personnel Division, ESSA; Personnel Officers Edward Cook, WB Southern Region, and Nicholas Rizzo, WB Eastern Region. Back row, left to right -- Personnel Officers Gil Ehrsam, NWRC; Walt J. Gully, WB Western Region; Raymond M. Lumpkin, WB Central Region; Dale C. Gough, ERL; Tom F. Farrelly, C&GS Atlantic Marine Center; Freel W. Hubbard, C&GS Pacific Marine Center; Edmund D. V. Dickey, WB Alaska Region; and Frank Kocsis, Acting Personnel Officer, WB Pacific Region.

# BOMEX: The Ups and Downs of Research 6 Alpha

*Research Flight Facility DC-6*

A prime goal of the Barbados Oceanographic and Meteorological Experiment is learning more about the turbulent journeys of water vapor from the sea to the top of the 6000-foot layer of the atmosphere in which the trade winds blow.

One of several approaches to measuring this transport is the gust probe used by a variety of BOMEX aircraft. A sophisticated version of this instrumentation system has been installed by the Research Flight Facility, ESSA's aerial fleet.

Dr. Joachim P. Kuettner, BOMEX Director, observed the first gust probe flight during the project. The RFF plane, code-named Research 6 Alpha for this operation, was commanded by Fred Werley. Howard Mason, RFF chief, served as copilot.

Four ships serve as the corners of the BOMEX square. Others are stationed inside the square, among them the Coast Guard's ROCKAWAY, the center ship, and the Floating Laboratory Instrument Platform -- FLIP -- made available by the Navy and Scripps Institution of Oceanography. These vessels are measuring water vapor transport, among many other things, but in ways different from those used by the RFF.

Research 6 Alpha's mission was to fly past ROCKAWAY and FLIP at varying altitudes and wind angles, in a long series of four-minute precision runs during which the vital parameters are measured.

The FLIP is about 150 miles at sea. An unpowered, 355-foot platform resembling a part of a ship at the end of a 300-foot tube, she is "flipped" when the tube is filled with water. Upended, she presents a stable platform for scientific study. A network of booms extends outward, upward and downward from the small portion above water.

FLIP, loaded with experiments, is measuring water vapor flux from a fixed position using many different methods. Since she rises only 55 feet above the surface, Research 6 Alpha had to fly past her at approximately that height, taking the same measurements with a different technique. The results will be compared later.

The RFF plane was steaming hot, yowling with noisy equipment. The 60-foot runs involved much donning and doffing of Mae Wests; this was a hazardous-pay day, with the ocean streaking past just below the belly, and the sea spray hitting the windows. Nevertheless, the men in orange flight suits moved about her with the air of men at work in a laboratory -- which they were.

The run past FLIP was made at 60-foot, 150-foot, and 500-foot levels many times -- upwind, downwind, and crosswind. The gust probe recorder was manned by Charles Travis, RFF engineer; a microwave refractometer by Dr. Richard Gilmer of the ESSA Research Laboratories.

Over ROCKAWAY, the lowest run was 150 feet, with others at 500, 1800, 4000, and 8000. ROCKAWAY looks as though she is flying a very rich man's kite -- the BLIP. BLIP is a boundary layer instrument package which looks like a 26-foot-long dirigible. It is instrumented for low-level soundings providing temperature, humidity, and wind at three levels close to the sea surface -- the same things for which FLIP and Research 6 Alpha were searching. It looked as if Werley were flying more or less aimless patterns past the ship; actually, he was following a set of extremely rigid instructions. At the higher levels, clouds surrounded the plane. Here the water vapor condenses and the "latent" heat becomes real heat or, as the atmospheric physicists call it, "sensible heat."

FLIP seeks to measure water vapor transport only on booms. ROCKAWAY does it by flying balloons. Research 6 Alpha does it at varying altitudes and from numerous angles. It is typical of the thoroughness with which the Nation's scientific establishment is attacking this small piece of a huge and complex problem. It will be done many times over the next three months. And when the results are analyzed, BOMEX hopes to add materially to man's store of knowledge about the mysterious beginnings of that awesome phenomenon we call weather.

## Alaska Students Graduate

Six native Alaskans were honored by the Weather Bureau Alaska Region on May 2. The students, all members of the current training class, have recently completed ten months of training in surface and upper-air observation techniques as well as academic courses at the Anchorage Community College -- a branch of the University of Alaska. The students are now in training at various stations in Alaska and will enter on duty with the Weather Bureau after ten months' orientation. Shown, front row, left to right: Charles Kashatok, John Evan, Ted McGlashan. Back row: Charles Baker, Class Instructor, Don Koutchak, Tom Edwards, David Angaiak and L. R. Mahar, Director, Alaska Region.

## Employee Advisory Council Meets

The WB Eastern Region's Employee Advisory Council met on April 30 and May 1 to discuss problems outlined by field personnel. Members of the Council are: Dorothy Chapman, WBO, Norfolk, Va.; Albert Flahive, WBFO, Boston, Mass.; Moses Lopez, WBO, Charleston, S. C.; Irving Pullman, WBFO, New York (Kennedy); and Rodney Winslow, WBFO, Cleveland, Ohio.

## Retired C&GS Engineer Dies

James L. Harris, Sr., retired photogrammetric engineer for the Coast Survey, died May 2 in Portland, Oreg. Mr. Harris was employed by the Coast Survey Baltimore District Office before transferring to the Portland Office in 1945.

## IRLS Tested with USNS ELTANIN

The Interrogation Recording and Location System (IRLS) -- a new meteorological experiment on NASA's polar-orbiting Nimbus III satellite -- was successfully tested May 6, when it collected and transmitted weather data from the USNS ELTANIN operating in the Tasman Sea south of Melbourne, Australia. IRLS demonstrates how a satellite can gather data from special platforms, store the data, and then replay it to a central point for dissemination. In addition to collecting data from the platforms, IRLS determines the platforms' location. The system has potential usefulness to meteorology in locating and interrogating drifting buoys and balloons. In the current experiment, the Weather Bureau hopes to obtain real-time surface and rawinsonde data from the ELTANIN while she is sailing in Antarctic waters.

## ESSA Cosponsors Measurement Symposium

ESSA and the American Geophysical Union, in cooperation with the International Association of Geodesy, are sponsoring an International Symposium on Electromagnetic Distance Measurement and Atmospheric Refraction, to be held in Boulder, Colo., June 23-27. The 200 scientists expected to participate from more than 20 countries will review advances in the use of radio, infrared, and optical distance and angle measurement methods.

## Service Awards

Washington-area ESSA employees eligible for length-of-service awards during April and May are: 35 years - Arthur Nugent and Roy Elkins. 30 years - Albert Williams, Leroy Senasack, Francis Leimbach, and Abe Rosenbloom. 25 years - Martha Cournoyer, Anna May Rudisill, William Metivier , Alma Heinly, William D. Lyons, David Wark, John Feerrar, Jr., George P. Evans, Loyal Stark, Roy Wyett, Jessica Martin, Leonard S. Baker, John T. Smith, and John L. Berger, Jr. 20 years - William Comer, Richard Hagemeyer, Emma Fleming, Wesley Butler, Richard Bartman, Claude Scott, and Simon Roman.

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Items to be considered for ESSA NEWS must be received by Monday for publication the following Friday. Send material to: Office of Public Information, ESSA, Room 804, Bldg. 5, Rockville, Md. 20852. Phone (301) 496-8243.

# National Oceanic and Atmospheric Administration

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July 23, 2010