UNITED STATES
DEPARTMENT OF
COMMERCE
PUBLICATION

gust 28, 1970
ume 6
mber 36

essa news

U.S. DEPARTMENT OF COMMERCE ENVIRONMENTAL SCIENCE SERVICES ADMINISTRATION

Public Reaction to Warnings of 1969 Hurricane Detailed in Mississippi State Group's Report

Gulf Coast residents who failed to heed evacuation pleas for Hurricane Camille did so because they discounted official warnings of wind and tide dangers and did not believe they were in peril, a survey has shown.

Eighty-one thousand persons fled to safety before the storm struck the U.S. mainland on August 17, 1969. One hundred and forty-six persons died, and another 21 are still listed as missing.

A preliminary report of the survey by Dr. Kenneth P. Wilkinson and Peggy J. Ross of the Mississippi State University Social Science Research Center was presented on August 27 at the annual meeting of the Rural Sociological Society in Washington, D.C. The university study was supported in part by the Weather Bureau.

The survey was taken in a coastal strip approximately one half mile wide and 45 miles long, the length of Harrison County, Mississippi, from Biloxi to Pass Christian, an area containing an estimated 100,000 population and encompassing Gulfport and Long Beach.

Three hundred and eighty-four heads of households were interviewed. Of them 277, or 72 percent, evacuated their homes; 107 remained.

"This was basically an older, stable, upper middle-class white population," the report stated. "Age did not distinguish between leavers and stayers, nor did home ownership, median years of education or median years of residence on the coast."

The only major differences between those who left and those who stayed were differing degrees of comprehension of danger, the survey showed. In both categories, most persons had been convinced that the storm would strike the Mississippi coast; 84 percent agreed that the warning system worked effectively. Both categories made extensive preparations for the storm by getting gasoline, stocking food and water, and securing property. Those who fled were more knowledgeable about the Weather Bureau's watch and warning terms than those who stayed; those who stayed were more knowledgeable about the Bureau's hurricane safety rules, which deal largely with riding out a storm.

Of those who left, 50.5 percent were convinced that winds of the predicted velocity could bring death and injury in their areas, and one quarter were convinced it could totally destroy their homes. Of those who stayed, only 28 percent believed that the predicted winds could deal death and injury in their areas, and only 7.5 percent believed the predicted winds could flatten their homes.

Of those who left, 40.5 percent believed the predicted tides could cause death and injury in their areas and 12.3 percent believed the tides could wreck their homes. Of those who remained, only 19.6 percent believed predicted tides could cause death and injury in their areas and less than one percent believed the predicted tides could ruin their homes.

"The data indicate that leavers had a much greater sense of appreciation than did the stayers of the potential danger to themselves," the report stated. "Especially on tide predictions, the stayers tended to discount the warnings.

"There is, of course, no way to know the number of those among the dead who miscalculated the odds or underestimated the imminent force."

Four Seismic Stations Added To Tsunami Warning Network

The Coast Survey's Pacific Tsunami Warning System is being improved with the addition of four new seismic reporting stations and the installation of new equipment at various key points. Data from the new stations are expected to provide a greater degree of accuracy and to expedite the determination in certain Pacific areas of the epicenter of earthquakes. New and improved visual recording seismograph systems are being installed at 12 key stations. The first new equipment has been installed at Hong Kong. A second system will be placed in Manila, Philippines, during August, and others are scheduled to be installed later this year at Apia, Western Samoa; Huancayo, Peru; Guam, Mariana Islands; La Plata, Argentina; and Tucson, Arizona. Similar equipment will also be installed at four new stations in Port Moresby, Papua; Wellington, New Zealand; Suva, Fiji; and Antofagasta, Chile. The equipment was assembled and is being installed by personnel at the Coast Survey's Albuquerque, New Mexico, Seismological Center.

New Data-Logging System Tried

A multiple-input, data-logging system is now being used at the Weather Bureau's Sterling (Va.) Research and Development Center to gather comparative statistical data on the output of meteorological sensors and systems. This system, built for the Systems Development Office's Test and Evaluation Laboratory, permits unattended collection of precise information on the performance of weather instruments--information which could not be obtained through manual observations.

A.F. Spilhaus Is New AGU Executive Director

A. F. Spilhaus, Jr., has been appointed Executive Director of the American Geophysical Union, effective Sept. 1. He succeeds Waldo E. Smith as the top administrative officer in the 10,000-member organization that includes space scientists, oceanographers, meteorologists, hydrologists, and solid-earth geophysicists.

Dr. Spilhaus is a graduate of M.I.T. with a B.S. in chemical engineering, an M.S. in geology and geophysics, and a Ph.D. in oceanography. He joined the AGU staff as Assistant Executive Director in 1967.

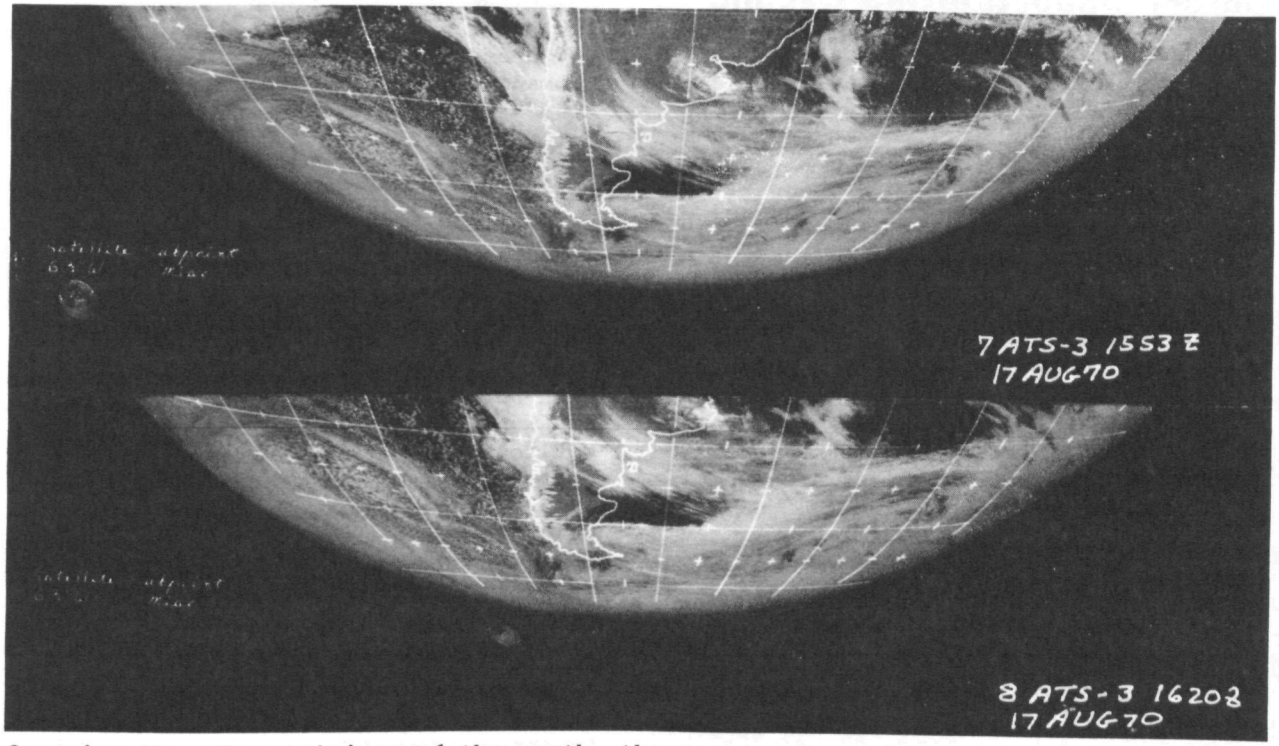
Dr. Lester Machta, ARL, Gets Commerce Award

Dr. Lester Machta (right), Director of the Air Resources Laboratory, received a Department of Commerce Special Achievement Award from Dr. Robert M. White, ESSA Administrator, on August 19. The award cites Dr. Machta for his outstanding leadership and assistance to the Federal Aviation Administration on problems dealing with the Boeing 747 and Supersonic Transport programs.

AMS Eases 1970 Professional Requirements

The American Meteorological Society membership has approved an amendment to the Constitution liberalizing requirements for Professional Membership during the year 1970. The amendment allows the Council to waive the requirement of a degree from an institution of higher learning for election as a Professional Member. As a substitute for a degree, an applicant may offer a record of more than 18 years of professional service in meteorology consistent with the objectives of the Society. The action commemorates the Golden Anniversary of the American Meteorological Society and the Centennial of the U.S. Weather Services. Under the terms of the amendment, only those applications received during 1970 may be considered. Provisions of the amendment apply both to individuals who are presently Associate Members of the Society, heretofore ineligible for Professional Membership, and to nonmembers. Application forms may be obtained from the American Meteorological Society, 45 Beacon Street, Boston, Massachusetts, 02108.

Satellite Photos Present August Moon In Unusual Perspective



Occasionally, the positions of the earth, the moon, and an earth-synchronous spacecraft are such that the moon appears in the satellite's photographs. In the two successive ATS-3 pictures above, received on August 17, the moon's shape is distorted because of the satellite's motion during the time the pictures were being taken.

ERL Triggers Lightning Strikes During Thunderstorm Studies

ERL scientists have been probing Colorado thunderstorms with a light aircraft and launching rockets in New Mexico, in a continuing search for ways to protect rocket vehicles from lightning.

After completing airborne studies in Colorado, the group, led by Dr. Heinz Kasemir of the Atmospheric Physics and Chemistry Laboratory, moved on to the rocket test range at Socorro, N. Mex., where the team shot 15 small instrumented rockets into thunderstorm bases. This attempt to trigger lightning was successful in several cases. The aircraft instruments, calibrated by the Colorado flights, recorded changes made by the rockets in the electrical structure of the clouds.

The primary objective of this work, being done on contract to the National Aeronautics and Space Administration, is to investigate the triggering and possible control of lightning. A seemingly benign rainstorm can generate destructive lightning when penetrated by an aircraft or rocket.

The Colorado flights were aimed at getting a better understanding of the initial electrification processes in the cumulus and cumulonimbus clouds which precede the buildup of large opposing charge centers and subsequent lightning discharges.

Flight operations called for NASA pilot Lindy Mason to take the NASA Beechcraft above 10,000 feet, while ESSA meteorological observer searched for a suitable target--a vigorously growing cumulus cloud. ESSA equipped the NASA aircraft to measure the electric fields, and repeated passes through the base of the cloud yielded a "map" of atmospheric electricity buildup as the cloud matured into a thunderstorm. Electric fields in excess of 100,000 volts per meter were measured several times and in one storm reached 230,000 volts per meter.

Many WB Met Techs Upgraded, Career Opportunities Expand

The majority of meteorological technicians in the Weather Bureau field forecast system are in higher grade levels, effective Aug. 23. Recognizing the technological changes in this area of work during the past decade, the Civil Service Commission approved a GS-9/10/11 grade structure. The new grade structure affects approximately 75 percent of the technicians in the Weather Bureau field system and expands career opportunities for all meteorological technicians. A large segment of the technician occupation is not affected, but the Civil Service Commission is presently studying the total meteorological technician area, and new or modified standards are expected to evolve.

Climatic Center Man Awarded Scholarship

Clyde J. Cable, chief of the Administrative Operations Branch, National Climatic Center, has been granted a one-year academic scholarship to pursue advanced studies in the field of Administration and Management. The scholarship is for the academic year beginning August 1970. Mr. Cable will participate in the business administration graduate program being co-sponsored by Furman and Clemson universities.

Length-of-Service Awards

Weather Bureau Eastern Region

45 years - John A. Cummings, Charleston, S.C. 40 years - James F. McCloy and Dwight A. Rigney, ERH. 30 years - Joseph J. Adamo, Charles F. Dorer, James C. Hunter, and Russell E. Johnson, Washington, D.C.; Robert Appleton, Wilmington, Dela.; Daniel Krueger, Atlantic City, N.J.; Phillip H. Lord, Portland, Me.; James H. Morrell, Columbia, S.C.; John H. Pike, Jr., Allentown, Pa.; and F. Howard Rexroad, Boston. 25 years - John J. Barter, Nantucket, Mass.; Albert Intonti, Boston; Herman J. Jordan, New York; Raymond A. Manske, ERH; Edward Maree, New York; John E. McNamera, Syracuse, N.Y.; and Elias Morin, N. Y. 20 years - Donald J. Close, Harrisburg, Pa.; Helen Hoff, ERH; Nicholas Valle, Greensboro, N.C.; and Carl L. Webber, Buffalo, N.Y.

New DAVIDSON Exec Appointed

Lt. Cdr. Darrell W. Crawford is the new Executive Officer of the USC&GS Ship DAVIDSON, now conducting hydrographic survey operations in Alaska. Lieutenant Commander Crawford joined the Coast and Geodetic Survey in 1961. He served just prior to this assignment as Operations Chief at the Mid-Continent Field Office in Kansas City, Mo., and before that at Patrick AFB and St. Petersburg, Fla., and aboard the USC&GSS PATHFINDER, WAINWRIGHT, HILGARD, and HYDROGRAPHER.

Substation Specialist Gets Bronze Medal

Lloyd B. Seidel, Weather Bureau substation network specialist at Columbus, O., has won a Commerce Bronze Medal "for meritorious contributions in the development and installation of third order station instrumentation." Henry Rockwood, chief of the Eastern Region's Data Acquisition Branch, presented the medal to Mr. Seidel on Aug. 14.

Hawaii and Louisiana State Taxes Increased

There will be a slight state tax increase for employees in Hawaii and Louisiana, based on new tax tables received from these states. This increase is effective in Pay Period number 18, Aug. 9 - 22, 1970. The new rates will be deducted from salary checks dated Sept. 2, 1970.

FAA Flight Service Stations Mark 50th Year

August 20 marked the 50th anniversary of Flight Service Stations, the pilot's most valued between-terminal links with the ground, and the Weather Bureau's long-time partners in gathering and distributing weather information for aviation. In 1920, a string of 17 "airway radio stations" was authorized to assist the Post Office Department's mail-plane fliers. These widely scattered early stations--using one-way Morse code to communicate with single-engine, open-cockpit mail planes--have given way to the Federal Aviation Administration's network of nearly 340 FSS's, staffed by 4,600 specialists who contact an average of 30,000 private and business pilots daily, providing them with the latest weather reports and other flight data.

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. Phone (301) 496-8243.

National Oceanic and Atmospheric Administration

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July 23, 2010