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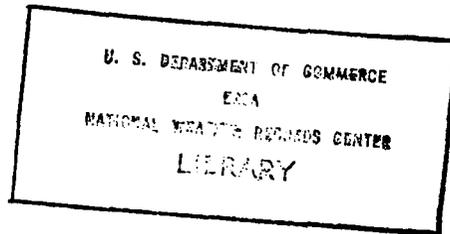
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Federal Agencies To Combat Clear Air Turbulence; Plan Stresses Detection and Prediction Techniques

A Federal Plan for Clear Air Turbulence was announced this week by Dr. Robert M. White in his capacity as Federal Coordinator for Meteorological Services and Supporting Research.

Under the Plan, the efforts of the Departments of Commerce, Defense, and Transportation and the National Aeronautics and Space Administration will be marshalled to mount a broad attack upon this phenomenon which poses serious problems to all of aviation.

Strong emphasis will be placed upon the development of airborne remote detection devices and accurate prediction of clear air turbulence areas for pre-flight planning. Other major portions of the Plan include the creation of a national CAT forecasting facility, improved criteria for identifying and reporting, and for aircraft design, and better flight techniques, instrumentation, and pilot-aircraft response. The Plan is designed to be accomplished in a five-year period, assuming adequate funding.

The Plan forthrightly faces the fact that the clear air turbulence problem is extremely difficult. "Although forecasting for CAT is improving, precise forecasts of the location and time of local patches of CAT do not appear feasible any more than the times and positions of individual small local thundershowers can be forecast with pinpoint accuracy," the Plan states. "For this reason, an airborne device is needed to detect and locate CAT sufficiently ahead of the aircraft to permit the pilot to take evasive action or to prepare for penetration. If such a system could be developed, it would permit pilots to avoid areas of

significant CAT in the same manner as they now avoid thunderstorms and squall line turbulence with the use of radar."

Dr. White is responsible as Federal Coordinator for overall coordination of the program. The Department of Defense has primary responsibility for Federal efforts in measurement and observation, including remote detection. The Department of Commerce is responsible for forecasting, the Department of Transportation for dissemination of information, and the National Aeronautics and Space Administration in the area of pilot-aircraft response.

Radar, laser, microwave radiometer, and spectrometer tests, crossed-beam studies, and acoustic soundings will be employed by the Air Force and other agencies in the search for development of a remote detection device, of which the Plan states: "Practically all developmental efforts of hardware and techniques for remote detection of turbulence have been and will continue to be, for a few more years at least, fundamental or exploratory in character. State-of-the-art advances are needed with regard to the phenomenon itself, including its physical and meteorological makeup, and with sensor technology."

Under the Plan, the Weather Bureau will establish a Central CAT Forecasting facility with a 24-hour CATwatch for quick alert and revision of forecasts, and will distribute its products via facsimile every six hours. It will coordinate selection and engineering of systematic CAT forecast methods for computer operations and will test new concepts in forecasting.

Ship Captain Receives Award



A Weather Bureau Public Service Award was presented to Capt. W. Buswell of the Great Lakes Steamer John J. Boland at shipboard ceremonies in Chicago recently. The award was in recognition of valuable service rendered when Capt. Buswell sent a special weather report during the severe storm condition of July 4 on Lake Erie. (See ESSA NEWS, December 19.) Left to right: Arthur W. Strong, Weather Bureau meteorologist; Capt. Buswell; Joe R. Fulks, MIC, Chicago; and Edward Lazar, Weather Bureau meteorologist.

90-Mile North Carolina Survey Completed

A 90-mile geodetic survey has been completed in North Carolina along the Cape Fear River between Fayetteville and Wilmington. Preliminary field work for the survey was conducted in 1968 when the sites were selected and bronze discs were imbedded in the ground for identification. Later, aerial photographs were taken of the entire area from which topographic details required for the new chart will be compiled. This year's survey party determined the measurements at the sites for compiling and locating photogrammetrically the buildings, roads, shoreline, aids to navigation, and other landmarks for the new chart. River depths will be those surveyed recently by the Army Corps of Engineers. The 17-man field party was headed by Lt. Charles L. Hardt.

Retired Weather Bureau Employee Dies

Edward J. Clabaugh, Jr., formerly an electronics technician at WBO Washington, D.C. (National Airport), died Dec. 16. Mr. Clabaugh had retired on disability Oct. 31, after eleven years of service.

Hawaii Wave Forecasts Lauded

A storm far to the northwest of Hawaii caused exceedingly high surf on some shores of the islands during the week of Dec. 1-5. Wave damage has been estimated at a million dollars, with the majority of the destruction on Oahu's north shore.

Dr. Robert M. White, ESSA Administrator, has congratulated the Honolulu Weather Bureau Forecast Office for its early predictions of the giant waves. "Please express my appreciation to those responsible for the excellent forecasts and warnings of the destructive waves in the Hawaiian waters, Dec. 1-2, 1969," Dr. White said. "Your first bulletin provided ample warning...on Sunday, Nov. 30, which was well in advance of the onset of destructive waves."

The Honolulu Advertiser praised the forecasters in a Dec. 4 editorial:

"The Weather Bureau deserves a big pat on the back for its accurate forecasting of the destructive and deadly waves that hit the Islands this week.

"Utilizing new techniques in the forecasting of ocean swells and sea conditions, the Weather Bureau Sunday morning issued an alert, predicting 30- to 40-foot surf by Monday.

"The high waves struck only a few hours after the predicted time.

"The warnings--updated every six hours--were distributed by telephone and teletype to the news media, public agencies and utilities firms.

"A Weather Bureau spokesman said the newly intensified marine weather program went into effect shortly before the development of the big storm that caused the high surf.

"Weather Bureau personnel modestly state that they were only doing their job, but a grateful public says 'Well done!'"

Speer To Be SURVEYOR Operations Officer



Lt. Cdr. Raymond L. Speer will be the new operations officer aboard the USC&GS Ship SURVEYOR. Speer, formerly chief of the Flight Operations Group in Rockville, will assume his new post Jan. 16. The SURVEYOR is based at Seattle, Wash.

Coast Survey Is Book Subject

A book tracing the beginnings of C&GS, Benjamin Peirce and the U.S. Coast Survey by V. F. Lenzen, has been published by San Francisco Press, Inc. The author, a member of the physics department of the University of California in Berkeley, is also a distinguished historian of science. The illustrated volume describes the career of Benjamin Peirce, one of the most important mathematicians that 19th-century America produced, and father of Charles Sanders Peirce, who like his father was associated with the Survey and collaborated with him on his scientific work. Included in the book is the text of the 1807 Act by which Thomas Jefferson established the U.S. Coast Survey, a facsimile reproduction of the instructions issued to George Davidson for the first survey of Alaska that led to its acquisition by the United States, and a number of other illustrations. Copies of the book are obtainable directly from the publishers, San Francisco Press, Inc., 255 Twelfth St., San Francisco, Calif. 94103, for \$2.75 postpaid (California residents \$2.89). The book is one in a series of History of Technology Monographs.

Dubuque Weather Bureau Has New Quarters

The Dubuque, Iowa, Weather Bureau Office has moved into new quarters in the recently constructed terminal building. Present at the dedication of the new building were James Huntoon of Weather Bureau headquarters, Roy L. Fox, Director of the Weather Bureau Central Region, Stephen Rigney, MIC of the Madison, Wisc., Weather Bureau Office, and Richard Reesor, Official in Charge of the Rockford, Ill., Weather Bureau Office.

C&GS Director Appoints Display Committee

Rear Adm. Don A. Jones, Director of the Coast Survey, has named a five-member committee to coordinate displays to be erected in Coast Survey facilities. The displays will be designed to improve public understanding of the agency's production, services, and history. Committee members are: Capt. Miller J. Tonkel, general chairman; Guy P. Meredith, William D. Halluin, Clem E. Arens, and D. Norwood Forehand.

Weather Film To Feature Rare Aircraft



ESSA and Purdue University are cooperating in the preparation of a film on agricultural meteorology and the ESSA Weather Wire in Indiana. Included in the film is a rare WACO F biplane (above) of 1930 vintage; there are only five of these planes in the United States. The film will relate the old with the new in the use of weather information and forecasts.

Survey Automation Discussed at Symposium

A symposium on Automation of Field Survey Instrumentation and Data Acquisition, sponsored by the Coast and Geodetic Survey and the American Congress on Surveying and Mapping, drew more than 200 surveyors, engineers, instrument makers, and physicists from all over the nation. The symposium, believed to be the first of its kind, covered problems of the private surveyor and of metropolitan, state, and federal surveyors. The seminar was held in Rockville, Dec. 8-10, with Capt. Leonard S. Baker and Joseph F. Dracup in charge of arrangements.

A Thank-You Note from Boothville, La.

On behalf of myself and the other employees of the Boothville Meteorological Observatory, I would like to express our appreciation to the many ESSA employees for their generous response to the Boothville Relief Fund. Without a doubt the proceeds from the Fund did much to help all of us through the difficult days after Hurricane Camille.

Gerald P. O'Donnell, OIC
WBMO, Boothville, Louisiana

FERREL Crew Members Honored for Service



Chief Steward Sam Smith and Junior Engineer Tom Gaskill recently received 25- and 15-year service awards aboard USC&GSS FERREL. The awards were presented by the FERREL's Captain, Lt. Cdr. Richard J. DeRycke. Left to right, Chief Smith, Tom Gaskill, and Capt. DeRycke.

Length-of-Service Awards

Weather Bureau Southern Region employees eligible for service awards in December were: 35 years - James O. Savage, 30 years - Annie Ruth Kolbohn, Fort Worth; Robert B. Orton, Austin, Tex.; Joe D. Worrell, Lake Charles, La.; Ted C. Trapp, Memphis; Matthew Garfinkel, Orlando; Wil- lard L. Broussard, Savannah. 25 years - Clifton E. Holsapple, Fort Worth; Harold T. Paukert, Fort Worth; Aliene B. Beckham, Fort Worth; Nathan Ellis, Miami; Alvin M. Samet, Miami. 20 years - Nicholas J. Ropar, Jr., Albuquerque; Bobby D. Allen, Daytona Beach, Fla.

In the Weather Bureau Central Region, the following employees were eligible for service awards in December: 30 years - Rose M. Fries, Kansas City; Parmelino Casorso, Detroit; James M. Stone, Minnea- polis. 25 years - Robert H. Nolen, Kansas City; John J. Condon, Chicago.

In the Mid-Continent Field Area, C&GS: 25 years - Ullis O. Jones and Vernon Wilson, Kansas City. 20 years - Albert Sulfridge, Kansas City.

Weather Bureau Western Region employees eligible for service awards in December were: 30 years - Melvin L. Fields, San Francisco; Marvin D. Magnuson, WBRH; Robert J. Schmidli, Phoenix. 25 years - Leslie E. Ensign, Seattle; Harold A. Ward, Great Falls. 20 years - John E. Collins, Astoria; Walter L. Gibson, Meacham; James J. McCoy, Boise; William C. Melendy, Astoria.

College-Level Courses Offered in D.C.

More than 100 college level courses will be offered after working hours to civilian, military personnel, and members of industry in over 15 downtown Federal buildings in the District of Columbia this next semester through the Federal After-Hours Education Program.

This program, coordinated by the Civil Service Commission's Bureau of Training in cooperation with the College of General Studies, George Washington University, offers opportunity for individuals to enroll in undergraduate and graduate courses leading to Bachelor of Science and Master of Science degrees. Those individuals seeking self-improvement courses designed to broaden their career may enroll as non-degree students.

Courses to be offered include Accounting, American Civilization, Anthropology, Art, Business Administration, Business and Public Administration, Economics, English, Geography, Geology, History, Humanities, International Affairs, Mathematics, Oceanography, Political Science, Psychology, Public Administra- tion, Sociology, Speech and Drama, and Statistics.

Registration will be held in confer- ence rooms A and B -- just off the lobby -- Department of Commerce building, 14th Street and Constitution Avenue, N.W., from 10 a.m. to 3 p.m. on January 27 and 28. Classes begin the week of February 2.

Tuition is \$47.00 per semester hour and all courses are 3 semester hours. This compares with a cost of \$64.00 per semester hour for courses taken on the George Washington University campus.

The Government Employees Training Act of 1958 gives Federal agencies broad authority to pay all tuition costs and other fees if courses to be taken are related to present or anticipated job requirements.

For further information regarding this spring semester program contact Mr. Robert W. Stewart, Jr., Field Representa- tive, College of General Studies, George Washington University at 676-7018 or 7028, 7065 or 7069.

Items to be considered for ESSA NEWS must be received by Monday for publica- tion 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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