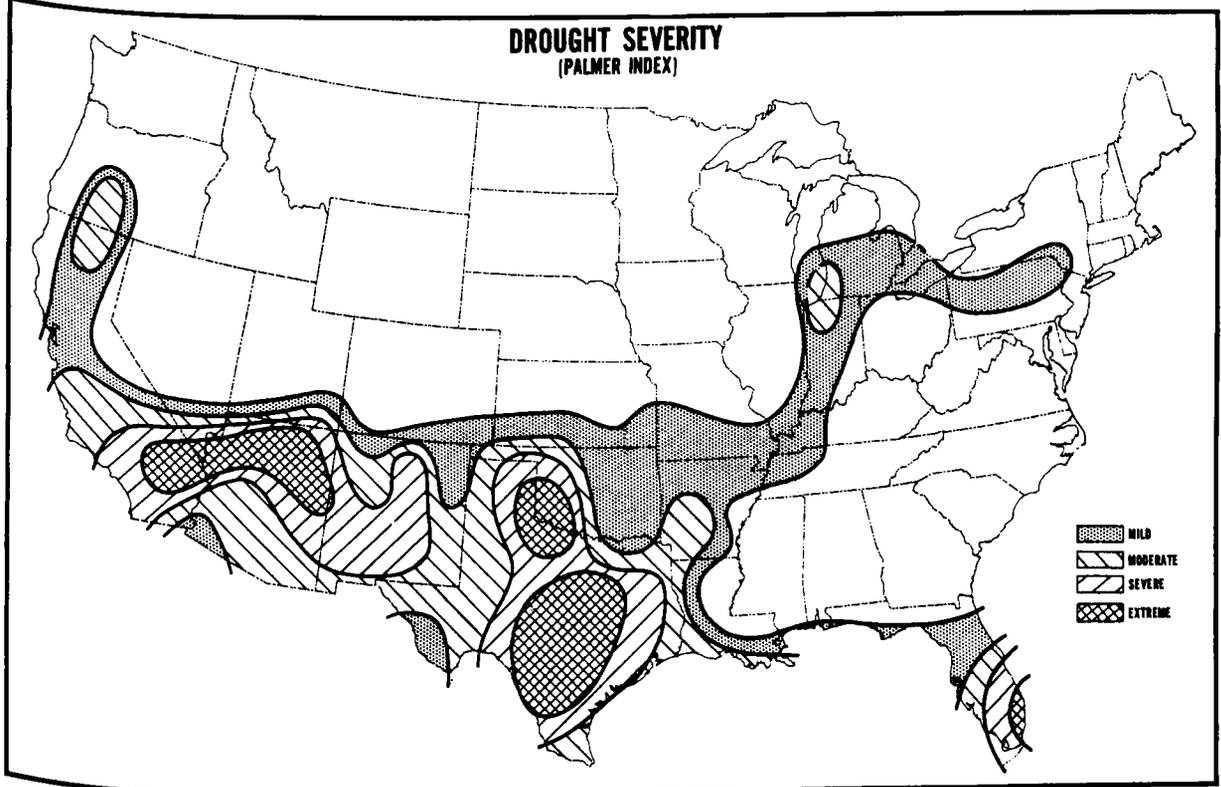


NOAA WEEK

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

Drought Intensifies in Several U.S. Areas



The latest report on drought conditions in the United States issued by Wayne C. Palmer, Chief of the Environmental Data Service's Bioclimatology Project, indicates that drought severity decreased over the northwestern third of Texas and northeastern New Mexico during the week ending May 29, but increased over the southeastern half of Texas, northwestern Louisiana and southwestern Arkansas. The drought in southern Florida also intensified. The band of mild drought across Indiana may have been wiped out by last week's rains. The weather also has been running drier than normal across northern Pennsylvania and a mild drought exists there. Long-range forecasters of the National Weather Service report that

drought-promoting patterns continued to persist over much of the United States during the week, and see no immediate change in the condition.

Drought-index maps are prepared weekly by the Environmental Data Service and disseminated by the National Weather Service. Mr. Palmer classifies national drought areas as mild, moderate, severe, or extreme, on the basis of computations of weekly temperature and rainfall by EDS's National Climatic Center in Asheville, N.C. The maps are transmitted to all State National Weather Service facilities each week by the National Meteorological Center, for further dissemination to local news outlets and other interested parties.

NOAA Sea Grant Supports Georgia Salt Marsh Study

NOAA has awarded a \$216,700 Sea Grant to the University of Georgia, Athens, for a program headed by Dr. Edward Chin of the Institute of Natural Resources at the university, to conduct broad-scale research into the utilization and conservation of salt marsh estuaries in Georgia. Portions of the program will be conducted by scientists at the Skidaway Institute of Oceanography at Savannah. The need for salt marsh ecological and utilization studies in Georgia has recently become of great importance. With the exception of areas around Savannah and Brunswick, the Georgia coastal region has for a century been one of low population and very little development. Today the situation is rapidly changing. Coastline and estuarine development is accelerating, with little information available on what the life cycles of organisms within the marshes are, what resources the marshes contain, and what the effects of proposed changes might be.

The Sea Grant program of the University of Georgia and Skidaway Institute of Oceanography includes numerous projects designed to provide better understanding of the marshes, and of ways that they can be utilized without destroying the environment that nourishes them. Among the research projects to be undertaken within the overall program will be several investigations of natural and biological factors affecting growth and reproduction of marsh organisms, and possible economic potential of the salt marshes. Another major effort will be undertaken to study disease organisms that affect man's use of estuarine species. Anaerobic (non-oxygen-using) microbial action in the estuaries, and its effects on the ecosystem, will also be studied.

The NOAA Sea Grant will provide for the first year's work on the program, and will be eligible for renewal. NOAA Sea Grant funds will be matched by at least half by the university from non-Federal funds.

Purdy To Head ERL Administrative Office

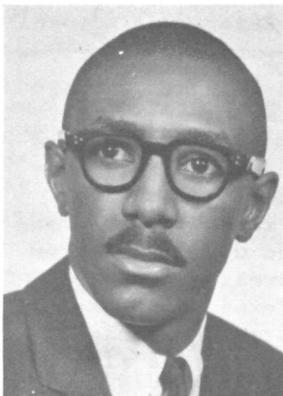
Charles M. Purdy, formerly an electronic engineer in ERL's Aeronomy Laboratory, Boulder, Colo., has been named chief of ERL's Administrative and Management Services.

EDS Goes Over the Top In Savings Bonds Drive



Dr. Thomas S. Austin (seated), EDS Director, observes Payroll Savings Day with Environmental Data Service Keyman J. Allen Wallace, Jr. Congratulations were the order of the day when EDS's participation reached 84.9 percent.

G. Richter Is Honored for Antarctic Duty



Gregory S. Richter (left), meteorologist in the National Weather Service's Public Weather Branch, has been honored by the National Science Foundation's U.S. Board on Geographic Names. A geographical feature located in the Saunders Coast of Marie Byrd Land, Antarctica, has been named Richter Glacier. Mr. Richter served as meteorologist in charge and Station Scientific Leader at Byrd Station, Antarctica, from October 1967 to November 1968.

Cloud Seeding Project To Continue in Florida

A special two-month NOAA-State of Florida cloud seeding project aimed at relieving the worst drought in Florida history ended May 31. The State's Central and Southern Flood Control District, which originally requested the seeding, has asked NOAA's Experimental Meteorology Laboratory to continue the experiment in conjunction with a previously scheduled research program that began in South Florida on June 1 and is scheduled to run to mid-July.

During the past two months, two Research Flight Facility aircraft--a DC-6 and a B-57--were maintained on a daily standby basis by the RFF crew. The aircraft flew 16 cloud seeding missions and were able to seed on 14 of those days. The DC-6 flew 72 hours on seeding missions; the B-57, used as a back-up seeder, flew 17 hours. More than 2000 silver iodide flares were used. Early analysis of the results by project scientists shows that on only three of the seeding days was there little or no effect from seeding efforts. On the remaining 11 days, considerable cloud growth, sometimes accompanied by natural cloud growth, occurred in the seeded areas. On ten of the days, seeded clouds merged and produced heavy rainfall in the parched Everglades. On April 26 and May 22, substantial rainfall also occurred in the Miami area. A detailed evaluation of the rainfall results for the entire period will be conducted during the next two months. The Flood Control District installed 147 recording rain gages in the 4800-square-mile prime target area in central Florida. During May, the State of Florida also purchased an extra 1000 flares to continue the project.

The experiment was under the direction of Dr. Joanne Simpson and Dr. William L. Woodley of the Experimental Meteorology Laboratory, with Dr. James McFadden of RFF serving as Project Coordinator. The RFF was responsible for the development, implementation, and operation of the total flight plan for the project. The RFF took the requirements outlined by Dr. Woodley and shaped them into an operational plan that was compatible with FAA regulations, U.S. Air Force requirements for the use of a major portion of the operational seeding area for military activities, as well as its own operational policies. The crew operated

these aircraft fulltime during the two-month experiment. The design, fabrication, and installation of the silver iodide seeding devices used in the project on both aircraft was also performed by the RFF crew.

The regular research program now beginning is a continuation of the successful experiments conducted in 1968 and 1970 in South Florida. During those experiments, it was found that "dynamic cloud seeding" promotes the growth of single clouds and mergers between separate clouds with greatly enhanced rainfall of the seeded clouds compared to unseeded ones. The regular research program will be a randomized, fully radar monitored scientific experiment under the joint direction of Dr. Simpson and Dr. Woodley.

J. Strahl Is Appointed Chief Of Office of Hydrology Branch



Joseph A. Strahl (above), of the National Weather Service's Office of Hydrology, has been selected as chief of the Hydrologic Services Division's Operations Branch. Mr. Strahl has served in the Operations Branch for the past three years. Before coming to Washington, D.C., he was assigned to the Sacramento, Calif., River Forecast Center. He is presently completing a year of graduate study in hydrology at the University of Maryland.

Water Circulation Studies To Aid Pollution Control

A detailed study of the dynamics of water circulation in Boston Harbor and Massachusetts Bay is being conducted by the NOAA Ship FERREL, commanded by Lt. Cdr. Karl W. Kieninger, Jr. Part of a larger NOAA program of similar studies in coastal and estuarine waters, the survey will provide data needed by pollution control authorities to maintain and preserve the quality of the marine environment. The FERREL is scheduled to remain in the Boston area through October 1971 and then resume survey operations in the spring of 1972. The ship will be based at South Boston during the study. The FERREL's primary means of observing currents is the TICUS (Tidal Current Survey) System which is being used extensively in the program. In addition, a photographic recording current meter is being used to record the speed and direction of the current on 16 millimeter film. The results of the survey will appear in two National Ocean Survey publications, The "Tidal Current Tables, Atlantic Coast of North America," and The "Tidal Current Chart, Boston Harbor." Over the next three to five years, circulation studies of the entire coastal area from southern Maine to Rhode Island are scheduled to be conducted.

Schloemer Authors Technical Paper On Terrain and Climate

"Terrain and Climate,"--NOAA Technical Memorandum EDS 19--issued in April, was authored by Robert W. Schloemer, Deputy Director for Climatology, EDS. The paper which will also be a portion of a monograph prepared for the Coastal Zone Commission, offers information related to the effects of interaction between the atmosphere and the terrain on climate. The technical memo is available for \$3.00 from the National Technical Information Service, U.S. Department of Commerce, Sills Bldg., 5285 Port Royal Rd., Springfield, Va. 22151.

1970 Fish Consumption Statistics

During 1970, Iceland led all other nations in per capita consumption of fishery products, with 86.1 pounds of edible meat, followed by Japan with 71.6 pounds. Per capita consumption of fishery products in the U.S. was 11.4 pounds, up .3 of a pound from 1969.

Richard Sawyer Becomes OIC Of Johnston Island Station



Richard C. Sawyer is the new official in charge of the Weather Service Office at Johnston Island in the Pacific. Mr. Sawyer began his weather career in February 1955 as a chartist at the National Meteorological Center in Suitland, Md. Five years later he transferred to Portland, Me., where he remained until his recent assignment at Johnston Island.

NMFS Laboratory Tags Tanner Crabs

A team of National Marine Fisheries Service Auke Bay Biological Laboratory scientists, headed by John Karinen, project supervisor, has developed a method for tagging tanner crab with identification that is retained through molting. Up to now, there had been no known method for accomplishing this task. After small-scale tagging studies, laboratory scientists report that of nine male crabs fitted with Floy anchor tags in the area of the third walking leg, 30 percent molted successfully and retained the tag. It is believed that molting success of tagged crab can be improved by modifying the tag and method of insertion. The tagging problem also has shown that tanner crabs return to a "home" area to molt and mate each year. Scuba divers recently recovered a tagged male tanner crab in 30 feet of water at the Auke Bay Biological Laboratory dock that was one of ten tagged in March 1970 and released at the same location. Further tagging of tanner crabs is underway to learn more about their migration and behavior.

Scuba Diving Equipment Demonstrated at Auke Bay Laboratory



Dr. Hoopes shows 4th graders how female crab carries eggs in the abdomen.

A group of scientist-divers from the National Marine Fisheries Service's biological laboratory at Auke Bay, Alaska, demonstrated the use of scuba equipment for fourth graders during Sea Week in Juneau, as one of the observances of the 100th anniversary of fish conservation work in the United States. Dr. David Hoopes, acting as spokesman, explained the safe use of diving equipment as an aid to research in the marine environment. He also pointed out samples of



Dr. Hoopes explains that this crab will grow a new leg to replace the missing one.

crabs and other animals entangled in discarded monofilament fishing line. Participating divers--Robert Dewey, Lou Barr, John Karinen, Richard Haight, and Richard Carlson--collected a variety of marine organisms, as well as heaps of trash brought up from the sea floor. Each of the three fourth grade classes attending the demonstration carried away a large bag of the trash for disposal in Juneau's landfill disposal area.

World's Hydrologic Cycle Successfully Simulated by Computer

NOAA meteorologists have put mathematical equations to work in a computer and successfully simulated many of the major features of the world's hydrologic cycle. Starting only with equations describing atmospheric motions, the locations and heights of the continents, and sea-surface temperatures, the computer correctly located rainbelts in the tropics, areas of desert such as the Sahara and western Australia, and the watersheds of some of the world's major rivers, such as the Amazon in South America, the Congo and Nile in Africa, and the Mississippi. Dr. Syukuro Manabe and J. Leith Holloway of NOAA's Geophysical Fluid Dynamics Laboratory, Princeton, New Jersey, describe this modeling work in the May issue of the Monthly Weather Review.

According to their article, "The computer simulation of the hydrologic cycle

over the entire globe, however crude this first attempt may be, provides great insight into the mechanisms which distribute water throughout the atmosphere and over land areas. Without basic understanding of how the atmosphere works and how climate is determined, we can never hope to make truly accurate long-range forecasts." The Laboratory's hydrologic model is the latest in a series of attempts to create a facsimile of our atmosphere in a computer. The current model simulates wind, temperature, pressure, humidity, precipitation, evaporation, soil moisture, snow depth, and water runoff from the continents to the seas. Having ascertained the qualitative accuracy of their model, the scientists are now moving on to various numerical experiments aimed at determining how global climate is maintained.

NOS and OEP To Collaborate In California Quake Study

The National Ocean Survey, in collaboration with the Office of Emergency Preparedness, will undertake an eight-month study of the effects of earthquakes to assist the government in planning for earthquake disasters. The study will take place in California, and data from the Feb. 9 Los Angeles earthquake will be used as background for the proposed study. The results of the study will include estimates of total earthquake losses that could be experienced in the event of a large quake. These will include estimates of damage to various types of structures, public utilities, transportation, and communications systems. Major geologic hazards and probable casualties at each degree of severity also will be included.

The study will provide the Office of Emergency Preparedness with a better data base for preparedness planning assignments to Federal agencies, and for providing guidance to state and local agencies preparing earthquake disaster plans for California and other states. Such emergency operating procedures could include medical care, evacuation, housing, and mass feeding facilities. Considerable assistance will be sought from studies by leading earthquake engineers, geologists, seismologists, and structural engineers engaged in earthquake engineering studies.

New Weather Programs Begin At Four California Localities

A new Environmental Meteorological Support Unit at Los Angeles and an additional low level sounding site at El Monte, Calif., are now operational. These installations provide unique data acquisition as soundings will be taken simultaneously at two points within the Los Angeles basin. In addition, smoke management weather forecast programs recently became operational at Weather Service Offices at Fresno and Sacramento, with the assignment of one air pollution meteorologist at each office. The functions of these specialists will be to take surface and upper air observations within the central valleys of California and to use these data to prepare smoke management control forecasts for the cultural burning of agricultural wastes.

Dr. Hess Gives Lectures Under ASTM Sponsorship



Dr. Wilmot N. Hess (left), ERL Director, who is also the 1971 Thomas A. Marshall, Jr., Distinguished Lecturer of the American Society for Testing and Materials (ASTM), recently completed a series of lectures on "Changing the Weather: Realities and Projections" at five locations

around the country, under ASTM sponsorship. Speaking at the University of Colorado, Georgia Tech, the Franklin Institute, Columbus University, and the University of Minnesota, Dr. Hess discussed ERL's ten-year effort to modify and control certain phases of the weather, progress made to date, and projections for the future.

NMFS Aids Salmon Screening Project

A program is underway by California's Department of Fish and Game to keep migrating San Joaquin River king salmon from being diverted onto the fields along with irrigation water. Two fish screens, which are operating at irrigation diversion points on the river are expected to contribute significantly to improving the runs of king salmon. Under the Anadromous Fish Act of 1965, administered by NMFS, half the cost of the projects was reimbursed with Federal funds. The screens are located at Banta Carbona, the lowest major diversion on the river, and at El Solyo, just upstream from Banta Carbona. The Banta Carbona device recovers screened fish by pumping them into a trap, after which they are transported below the diversion area by truck. In evaluation tests, the Department of Fish and Game found that fish could be handled in this manner with little or no mortality. State officials expect the average number of fish saved by the screens to be at least 150,000, and that this number will increase as more migrating salmon reach the ocean and return upstream as adults. It is estimated that the structures will repay their costs in ten years by saving fish that otherwise would be lost.

Fifteen Employees Get Certificates in Supervisors Course



Fifteen participants were recently awarded certificates for completing an "Introduction to Supervision" course at NOAA headquarters. Seated, left to right: Robert Harris, instructor from the Career Development Branch; Anne Tzarnas, Elaine V. Collins, Kathryn K. Nicolle,

Grace C. Sollers, and August F. Korte. Standing, left to right: George S. Stephenson, Howard W. Granoff, Meredith R. Anthony, Chester P. Jelesnianski, William V. Mast, Stephen E. Luckey, Larry Murphy, Frank L. Branom, and Bob Schoner. Not shown: Lt. Cdr. Jeffrey G. Carlen.

ERL Lab Tests Temperature Profiling Methods

Twenty-six scientists from ERL's Wave Propagation Laboratory, the National Center for Atmospheric Research, the National Weather Service, Sperry-Rand, and the Air Pollution Control Office, recently conducted a radiometer evaluation experiment at the Table Mountain Field Site near Boulder, Colo. The primary objective was to compare two techniques of radiometric temperature profiling: the angle-scan, single-frequency approach used by the Air Pollution Control Office, and the multi-frequency approach being explored by the ERL laboratory. A secondary objective was to perform simultaneous observations of wave structure in the atmosphere.

Three NOAA Ships Survey Delaware Bay

Three NOAA ships are conducting an intensive hydrographic and wire drag survey of Delaware Bay this year. The ships are the hydrographic survey vessel WHITING and the wire drag vessels RUDE and HECK, operated by NOS. The task is to continue a long-range program begun in 1969. The project got underway earlier this month. The NOAA Ship WHITING is charting the waters off Wildwood and Cape May, N.J., then proceeding into the bay along the New Jersey coast. The RUDE and HECK are searching out, with a submerged wire, shipwrecks, reefs, and sand bars in the sea lane approaches to the bay.

Joann Dennett Receives Awards For Professional Authorship



Joann Temple Dennett (left), public information specialist in ERL's Public Affairs Office, has been honored by two Colorado organizations for authorship. Mrs. Dennett won a third-place certificate and a cash award for nonfiction writing in a statewide contest, sponsored by the Colorado branch of the National League of

American Penwomen. In addition, she was one of ten writers awarded a Colorado Author's League 1971 Top Hand Award at a banquet in Denver, May 22. Mrs. Dennett won her Top Hand plaque in the scientific-technical article classification of the adult article division. The Top Hand awards are among the highest honors open to authors in the state.

Students Train at Survey Center Under Co-op Agreement Program

Lake Survey Center's Engineering Division has four co-op students who work and study alternating terms. Marvin P. Peruski, a student at the Macomb Community College (MCC), and Harry A. Lee, Wayne State University (WSU), Detroit, will work in the field this summer with the Revisory Section. Jerome M. Nahas and Jeff R. Weiser are presently continuing their studies at the campus of MCC and WSU, respectively. When the four exchange roles this fall, the latter two will be assigned to one of the Engineering Sections, where they will receive valuable practical experience in their chosen field of study. The Macomb students are working toward associate degrees in civil technology with a major in surveying, a two-year program which takes four years under the co-op program; and the Wayne State students toward bachelor of science degrees in civil engineering.

Forecasters Complete Course In Ag Met at Clemson U.



Milton E. Brown, Weather Service Forecast Office at Columbia, S.C., and Ronald W. Crandall, Oklahoma City Weather Service Forecast Office, have successfully completed the agricultural meteorology training course at Clemson University, Clemson, S.C. Both forecasters ended the course with a 4.0 grade point average--the highest possible average. The course is conducted each year at land grant colleges in the United States. In above photo, Alex J. Kish, meteorologist in charge of the Agricultural Weather Service Office, Clemson, S.C., gives instructions on temperature sensors and recorders to Mr. Brown (center) and Mr. Crandall (right).

Candidates Urged To Apply Now For Commerce Fellowship Program

The NOAA Personnel Division's Career Development Branch is seeking possible candidates for the 1971-72 Commerce Science and Technology Fellowship Program. Candidates in grades GS-14-16, who have exhibited potential growth in the public service, will be considered. Nominations should be submitted on ESSA Form 53-1 to the Career Development Branch by June 11. The Commerce Science and Technology Fellowship Program seeks to build a clearer understanding of the Federal Government and the major segments of our industrial and technological society, and the interaction between both groups.

National Oceanic and Atmospheric Administration

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