



noaa week

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Prototype Maps Of Coastal Zone Are Completed

The State of Florida, the U.S. Geological Survey (USGS), and NOAA have announced the completion of prototype coastal zone maps of the Ft. Pierce area.

The new coastal zone maps are the result of the first cooperative effort between State and Federal agencies to show the detailed land/water interface of the coastline.

The maps of the Ft. Pierce area show approximately equal land and water areas on a photograph base. All dimensions, elevations, and water depths have been shown in the metric system following the trend toward metrication in the U.S. It is anticipated that this cooperative mapping of the coastal zone will be the model for all coastal states.

Map features represent the completion of extensive field and aerial surveys of the coastal area. The USGS provides topographic and planimetric detail of the land areas of the maps; and the National Ocean Survey provides the mean high and mean low water lines and details in the water areas. The State of Florida is providing funding support and field survey assistance.

Designed for general use, the
(Continued on page 3)

Support Requested For 1975-76 CFC

Secretary of Commerce Rogers C. B. Morton has urged all Commerce employees to join in making the 1975-76 Combined Federal Campaign (CFC) in the Washington, D.C., area, now underway, an overwhelming success.

He pointed out that the campaign "combines into a single drive the solicitation efforts of the United Way, the National Health Agencies, and the International Service Agencies. Working individually we can do little, but together we provide direct help to other human beings in the most effective manner at our disposal."

The Secretary also encouraged the use of the convenient payroll deduction plan, which "makes fair share giving easier."

Dr. Robert M. White, NOAA Administrator, also requested support for the CFC in his message to the Directors of NOAA's Principal Operating Elements in the Area. He stated that, "Through 1973, NOAA consistently met its assigned target in support of the CFC. In 1974, for the first time, NOAA fell short of its goal, a fact of which we cannot be proud. With your strong personal support, I look forward to fully meeting the NOAA fair share needed in the 1975 campaign to support this worthy endeavor."

Effects of Doubling CO₂ In Atmosphere Studied

Sea Grant To Fund Study of Ecology Of Coastal Marshes

Louisiana State University will examine the ecology of the State's coastal marshes and carry out a variety of other marine research, education, and advisory programs under a \$670,000 Sea Grant announced recently.

The grant will be matched by \$602,946 from non-Federal sources.

As a result of several years of detailed ecological studies centered in the Barataria Basin, Louisiana State scientists now understand the role of the major elements and physical processes in the salt-marsh ecosystem. Tidal fluctuations are important in maintaining the extremely high productivity of the coastal marshes, they have found, and the food web is based largely on decomposed plant materials lying on the marsh floor. Investigations of the complex biological, chemical, and physical relationships within the marshland ecosystem will continue this year.

The stresses placed on the
(Continued on page 4)

Human activity is steadily adding carbon dioxide to the atmosphere, theoretically causing a gradual warming of the earth. But scientists with the Environmental Research Laboratories have found that the effects of an increase in carbon dioxide would be much more complex than simple worldwide warming. The amount of warming would vary geographically, humidity would increase, evaporation and precipitation rates would intensify, and there would even be some cooling in the stratosphere.

Dr. Syukuro Manabe and Richard T. Wetherald of ERL's Geophysical Fluid Dynamics Laboratory in Princeton, N.J., have used a general circulation model of the atmosphere to predict some of the effects of doubling the concentration of carbon dioxide.

It has been estimated that combustion of fossil fuels at projected rates may increase the amount of carbon dioxide in the atmosphere by as much as 20 percent during the latter half of this century. Carbon dioxide acts as a sort of atmospheric gatekeeper, admitting solar radiation and trapping upward radiation from the earth.

The NOAA researchers found that the doubling of carbon di-
(Continued on page 4)



DEPARTMENT OF COMMERCE GOLD AND SILVER MEDAL WINNERS FOR 1975 received their Awards from Under Secretary of Commerce James A. Baker, III at a ceremony in the Commerce Auditorium in Washington, D.C., on October 21. NOAA recipients were (front row, from left) Dr. Thomas S. Austin; Dr. James L. Rasmussen; Dr. Harry R. Glahn; Spencer Bennett; Dr. Robert M. White, NOAA Administrator, who assisted in presenting the Awards to NOAA personnel; Robert F. White, Patent Office; R. Adm. Harley D. Nygren; Randolph Moore; (second row, from left) John P. McCallister; Joseph R. Irwin; Dr. Kirby J. Hanson; W. John Hussey; Arthur

R. Cooke; Capt. John O. Boyer; Dr. John F. Noxon; (back row, from left) Ben P. Barker, Jr.; Dr. Peter L. Grose; Robert F. Long; Walter Telesetsky; Dr. Robert W. Burpee; Dr. Ray E. Jensen; N. Arthur Pore; Russell G. McGrew; Donald R. Whitman; Laurence G. Shaffer; (not in photo) Eric A. Anderson; Robert J. C. Burnash; Dr. Gerald B. Collins; Robert B. Doeker; Robert L. Ferral; Capt. Richard H. Houlder; Donald W. Kuehl; John C. Monro; Dr. Eugene L. Peck; Cdr. Sigmund R. Petersen; John H. Robinson; Charles E. Schauss; Vail P. Schermerhorn; Dr. Carl J. Sindermann; Dr. James K. Sparkman; Edward V. Tiernan; and C. E. Vicroy.

Current Vacancies in NOAA

To insure that NOAA employees are aware of job possibilities throughout the agency, a list of current NOAA-wide vacancies is published below. Employees interested in any of the listed vacancies

should contact their servicing personnel office for information on where to apply.

Announcement Number	Position Title	Grade
207-76	Meteorological Tech.	GS-10
208-76	Meteorological Tech.	GS-10
209-76	Meteorological Tech.	GS-10
210-75	Supv. Survey Statistician	GS-13
211-76	Meteorological Tech.	GS-11
212-76	Meteorological Tech.	GS-9
214-76	Oceanographer	GS-13
215-76	Meteorologist	GS-12
219-76	Oceanographer	GS-12
220-76	Civil Engineering Tech.	GS-9
222-76	Fishery Biologist	GS-11
223-76	Meteorological Tech.	GS-11
213-76	Supv. Research Cartographer	GS-16
227-76	Supv. Meteorologist	GS-15
230-76	Research Chemist	GS-12
231-76	Supv. Meteorologist	GS-11
232-76	Supv. Meteorologist	GS-12
216-76	Meteorologist	GS-13
217-76	Meteorologist, Oceanographer, or Physical Scientist	GS-14
218-76	Geologist, Physical Scientist, or Oceanographer	GS-12
221-76	Digital Computer Administrator	GS-14

MLC	Location	Issue Date	Closing Date
NWS	Lansing, Mich.	10/20/75	11/4/75
NWS	Des Moines, Iowa	10/20/75	11/4/75
NWS	Rapid City, S. Dak.	10/20/75	11/4/75
NMFS	St. Petersburg, Fla.	10/20/75	11/4/75
NWS	Huron, S. Dak.	10/20/75	11/4/75
NWS	Limon, Colo.	10/20/75	11/4/75
ERL	Miami, Fla.	10/23/75	11/7/75
NWS	College Station, Tex.	10/23/75	11/7/75
NOS	Rockville, Md.	10/23/75	11/7/75
NOS	Detroit, Mich.	10/23/75	11/7/75
NMFS	Highlands, N.J.	10/23/75	11/7/75
NWS	Grand Island, Nebr.	10/23/75	11/7/75
NOS	Rockville, Md.	10/20/75	11/11/75
NWS	Camp Springs, Md.	10/28/75	11/11/75
NMFS	Seattle, Wash.	10/28/75	11/11/75
NWS	Concord, N.H.	10/28/75	11/11/75
NWS	Corpus Christi, Tex.	10/28/75	11/11/75
ERL	Washington, D.C.	10/23/75	11/14/75
ERL	Boulder, Colo.	10/23/75	11/14/75
EDS	Boulder, Colo.	10/23/75	11/14/75
EDS	Asheville, N.C.	10/23/75	11/14/75

The Discrimination Complaints System

Oftentimes employees are confronted with actions which they believe to be discriminatory because of either their race, color, religion, sex, national origin, or age. Under the authorities of Executive Order 11478 of August 8, 1969, the Equal Employment Opportunity Act of 1972 (P.L. 92-261), and the Fair Labor Standards Act (P.L. 93-259), the Civil Service Commission is responsible for providing for the prompt, fair, and impartial consideration of employee complaints based on these factors. This article explains the system for processing those complaints.

Basically the discrimination complaints system is segmented into three parts: (1) precomplaint, (2) formal complaint, and (3) appeal. The handling of each is done primarily by Equal Employment Opportunity Counselors; Equal Employment Opportunity Officers and Directors of Equal Employment Opportunity; and the Civil Service Commission, respectively. The opportunity to seek redress through the discrimination complaints system is available to all aggrieved employees except aliens employed outside the limits of the United States.

Employees who feel they have been discriminated against on the basis of race, color, religion, sex, national origin, or age must seek resolution of the issues through an EEO Counselor as the first step in the discrimination complaints process. The complainant must bring the matter to the attention of an EEO Counselor within 30 calendar days of the matter or, if a personnel action, within 30 calendar days of its effective date.

The EEO Counselor makes whatever inquiries necessary to resolve the issues in matters of discrimination complaints on an informal basis within 21 calendar days. Inquiries may include discussing the issues of the matters with the complainant's supervisor and associates if necessary. The EEO Counselor will not, however, reveal the identity of the complainant except when authorized to do so by the complainant or until the agency has accepted a formal complaint from the complainant. The EEO Counselor will, insofar as is practicable, conduct a final interview with the complainant within 21 calendar days from the date the matter was brought to the attention of the EEO Counselor. If the final interview is not concluded within 21 calendar days and the matters are not satisfactorily resolved, the complainant will be informed in writing of the right to file a formal complaint. The complainant may then file a formal complaint anytime up to 15 calendar days after the final interview.

Formal complaints must be submitted in writing by the complainant or the complainant's representative. In addition to the NOAA EEO Officer, appropriate officials who may receive complaints are: the NOAA Federal Women's Program Coordinator; Director of Equal Employment Opportunity, Department of Commerce (DOC); Heads of Primary Organization Elements; Directors of Regional Offices, Field Laboratories, and Centers; and the Administrator, NOAA. Complaints filed with any of the above designated officials other than the NOAA EEO Officer are forwarded to the NOAA EEO Officer without delay for processing.

The complainant may be accompanied, represented, and advised by a representative of the complainant's own choosing at any stage in the presentation of a complaint. EEO Counselors or EEO Officers, however, will not serve as representatives for a complainant or an agency in connection with the processing of a discrimination complaint whether or not involved directly or indirectly.

Upon receipt of a complaint, the EEO Officer acknowledges the complaint and reviews it to determine whether it should be accepted or rejected. If accepted the EEO Officer informs the Director, Equal Employment Opportunity, DOC, that a complaint has been accepted, and requests that an investigation be undertaken. The investigation, which is conducted by the DOC Office of Investigations and Security or the Civil Service Commission, includes a thorough review of the matter of the alleged discrimination. After the investigation is completed, the complainant is furnished a copy of the investigative file for review, and the EEO Officer provides an opportunity for an informal adjustment of the complaint. If adjustment of the complaint is not accomplished, the EEO Officer will notify the complainant in writing of the proposed disposition of the complaint and of the right to a hearing with a subsequent decision by the Director, EEO, DOC, or to a decision by the Director, EEO, DOC, without a hearing.

If a hearing is held, it is conducted by a complaints examiner who is employed by an agency other than DOC, usually the Civil Service Commission. From a record of the hearing and the investigative file the complaints examiner transmits findings, analysis and recommendations to the Director, EEO, DOC. The Director, EEO, then makes a final decision and forwards the complainant a copy of the complaints examiner's report along with that decision. The complainant is informed in the decision letter of the right to appeal the decision of the Department of Commerce to the Civil Service Commission, of the right to file a civil action if applicable, and of the applicable time limits.

Certificates Awarded



Mr. Robert Carnahan, Deputy Assistant Administrator for Administration, awarded certificates to the following Administrative Work Study Program graduates: P. James, Finance Division; Mulheron, P. Drew, Administrative Operations Division (AOD). Not shown are J. Pugh, Office of Management and Computer Systems and V. Gibson, AOD, Central Logistics Supply Center, Kansas City, Mo., who received her training in the field.

White Shrimp Mark-Recapture Study Is Underway in Galveston Bay Area

Biologists of the National Marine Fisheries Service Gulf Coastal Fisheries Center in Galveston, Tex., are directing and participating in a mark-recapture study of white shrimp in the Galveston Bay area in cooperation with the Texas Parks and Wildlife Department and with the Galveston County Extension Marine Agent Program (supported by Sea Grant at Texas A&M University).

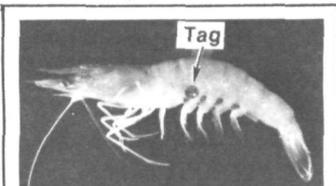
The purpose of the study is to obtain estimates of rates of growth, migration, fishing mortality and natural mortality in white shrimp (*Penaeus setiferus*) in the area.

Between September 8 and September 19, more than 19,000 white shrimp were marked with Petersen disk tags and released in Moses Lake, an approximately 1,500-acre estuarine lake near

Texas City, Tex. By the 25th of September, 556 of the marked shrimp had been recaptured.

The biologists also will obtain information on white shrimp catch and fishing effort in Moses Lake by interviewing fishermen and bait shrimp dealers through October.

This work is part of the shrimp population dynamics research activities of the NMFS GFCF Task entitled "Fishery Analysis: Shrimp, Northern Gulf of Mexico."



White shrimp (*Penaeus setiferus*) marked with a Petersen disk tag. Tag is attached to second abdominal segment.

Contract Awarded for Advanced Radar Systems for NOAA Aircraft

Advanced radar systems to help scientists study hurricanes and other storms will be installed on three NOAA research aircraft. The unique radars will carry into the sky a degree of precision and data analysis capability that until

now could be attained only with ground-based radars.

Cubic Corporation of San Diego, Calif., has been awarded a \$2,799,999 contract to build the radars, to be installed in the fall of 1976 on NOAA's two Lockheed WP-3D Orions and one of its C-130 planes. NOAA's fleet of research aircraft is operated by the Environmental Research Laboratories' Research Facilities Center in Miami, Fla.

IDOE Progress Report Published by EDS

The fourth of a series of progress reports on the International Decade of Ocean Exploration (IDOE) has been published by the Environmental Data Service under a National Science Foundation (NSF) contract. IDOE is a long-term, international cooperative program to enhance utilization of the ocean and its resources.

The report, prepared for the NSF Office for IDOE, covers the period April 1974 to April 1975 and provides information, data inventories, and lists of scientific papers. The text is ordered by program subject areas established for IDOE: Environmental Quality, Environmental Forecasting, Seabed Assessment, and Living Resources. An appendix contains a summary of Reports of Observations/Samples Collected by Oceanographic Programs.

In addition to publishing the progress reports, EDS is also under contract to NSF to manage the scientific data collected during IDOE. EDS either has the data, information, and papers described in the progress reports, or knows where they may be obtained.

Requests for copies of the report should be directed to the National Oceanographic Data Center, telephone: (202) 634-7301.

The narrow-beam radars will provide finer resolution than any existing aircraft radar, and their accompanying data analysis equipment will give flight scientists immediate information for evaluation which previously had to be accomplished later, on the ground.

Aboard the aircraft the radar's return signal, reflected from precipitation, will be digitized and recorded on magnetic tape for later analysis in detail by powerful ground laboratory computers. But the digitized signal also will be fed immediately into a video display on the plane, showing the density of precipitation at a given distance and direction from the aircraft.

This improvement over the present procedure of photographing the radar screen and analyzing the photographs later on the ground will give NOAA meteorologists an immediate quantitative measure of echo intensity—and, therefore, precipitation density—within each of a number of range sectors along the radar's beam.

The radars and their accompanying data systems were designed by a special NOAA task force charged with instrumenting the Lockheed Orions, the first of which was delivered this spring. The Task Force is headed by Byron Phillips of ERL's Office of Weather Modification.

LSC Chart Sales Facilities Expanded

The Lake Survey Center has added new shelving racks to its Detroit sales room to accommodate the nautical and aeronautical charts most requested by Great Lakes area residents. Local residents may now purchase all the charts needed to sail or fly anywhere on the eastern and southern seacoasts, in addition to those for the Great Lakes.

The Engineering Division's Fred Ritzer and Ken Focht, assisted by Fred Lindsey of Chart Sales, designed, built and installed the new storage space, which will accommodate about 150 charts. Ella Shaw is head of the Chart Sales Section.

Coastal Zone Maps

(Continued from page 1)

USGS maps are at a scale of 1:24,000 (1 centimeter = 240 meters on the ground), and will eventually cover the entire coastline of the state. Anticipated for production in populated coastal areas only, the NOS maps, at a scale of 1:10,000 (1 centimeter=100 meters on the ground), are designed for detailed requirements.

The maps were submitted to coastal zone surveyors and mappers for inspection and comment at the Coastal Zone Surveying and Mapping Symposium in St. Petersburg, Fla., on October 21. In addition, government agencies will be provided copies of the prototype maps on request.



PARTICIPANTS IN THE CONFERENCE OF REGIONAL HYDROLOGISTS hosted by the Office of Hydrology at National Weather Service Headquarters in Silver Spring, Md., recently were (seated, from left) Glen L. Audsley, Southern Region; Roland L. Raetz, Western Region; (standing, from left) Elroy C. Balke, Central Region; Albert S. Katchic, Eastern Region; Thomas J. Bowers, Alaska Region; John P. McCallister, Chief, Hydrologic Services Division, Office of Hydrology; Allen F. Flanders, Assistant to the Associate Director, Hydrology.

Obituary

Dr. A. L. Shalowitz

Dr. Aaron L. Shalowitz, former Special Assistant to the Director of the Coast and Geodetic Survey (predecessor of the National Ocean Survey), died on October 19 in Washington, D.C. He had retired in 1964 after 48 years with the agency, which included service as a member of the first group of C&GS commissioned officers. He transferred to Civil Service status in 1921, served in successively more responsible positions, and specialized in the law of the sea. His two-volume work, *Shore and Sea Boundaries*, has become a classic in the fields of oceanography, marine cartography and the law of the sea. He received a Department of Commerce Gold Medal in 1959.

He is survived by his wife, Pearl, and a son, Ernest, of 1520 Kalmia Road, N.W., Washington, D.C. 20012; a son Erwin, of Bethesda, Md.; and three grandchildren.

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Catherine S. Cawley, Editor
Warren W. Buck, Jr., Art Director

notes about people

At the 22nd Eastern Pacific Oceanic Conference in Lake Arrowhead, Calif., Dr. Glenn A. Flittner, Chief of The National Weather Service Ocean Services Division in Silver Spring, Md., was reelected Chairman for the fifth consecutive year. EPOC is an ad hoc body of working-level oceanographers, academicians and government agency leaders that attempts to find solutions to oceanographic problems of the Eastern Pacific.



Dr. Flittner

Robert E. Woodward, Jr., has been appointed Official in Charge of the National Weather Service Office in Roswell, N. Mex. His meteorological experience of 24 years began in the U.S. Air Force, and he has served as a Meteorological Technician at the Weather Service Meteorological Observatories in Boothville, La., and Fort Worth-Dallas, Tex.



Mr. Woodward

Michael Wascom of NOAA's Office of Congressional Liaison has recently been assigned to the Office of Sea Grant. He will supply the Congressional staffs with information on various Sea Grant research projects and publications in order to assist the Federal lawmakers in writing legislation dealing with marine-related activities. In addition, he will keep the Office of Sea Grant apprised of pending legislation that will have a bearing on the projects that Sea Grant sponsors—marine advisory services, research, and education.



Mr. Wascom

Mr. Wascom, a recent graduate of Louisiana State University's School of Law, is a native of Baton Rouge. He is currently pursuing a Master of Law degree at Georgetown University Law School.

DO YOU KNOW THAT—
Dividends of 6% have been paid each quarter this year.
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Dr. Russell B. Chadwick, a project leader in the Meteorological Radar Program in the Environmental Research Laboratories' Wave Propagation Laboratory in Boulder, Colo., has been elected a senior member of the Institute of Electrical and Electronics Engineers.

Election to senior member status has been bestowed on only 12 percent of the total membership (which now numbers more than 170,000), and is an

honor given only to those members who have attained the required experience reflecting professional maturity.

Dr. Chadwick is currently engaged in atmospheric probing with FM-CW and meteorological radars.

He received his B.S. from Montana State University, M.S. from the University of Wyoming, and Ph.D. from Purdue University, all in electrical engineering.

A CERTIFICATE OF ACCOMPLISHMENT IN SURVEYING AND MAPPING recently was awarded by the U.S. Department of Agriculture

Graduate School to Wilton Y. Morgan, a Cartographer in the Review Section of the Visual Chart Branch in the Aeronautical Chart Division of the National Ocean Survey's Office of Aeronautical Charting and Cartography.



The award was presented to Mr. Morgan (center) by Dr. John B. Holden, Director of the Graduate School. On the right is Nicholas C. Koka, Chief of the Visual Chart Branch.

Study of Ecology of Coastal Marshes

(Continued from page 1)

State's wetlands by urban development, petroleum operations, and recreational activities will be studied. One project will investigate the exchange of energy between the New Orleans metropolitan area and the surrounding estuarine systems, and estimate the environmental costs of alternative plans for future development of New Orleans. Recreational dwellings in Louisiana coastal marshes will be inventoried and mapped, and their effect on the marshland environment will be assessed.

Two studies will contribute to determining the overall impact of petroleum operations on the ecology and productivity of the Louisiana coastal area, examining the effects of crude oil on a salt-marsh grass and investigating water and sediment chemistry in an old oil well located in a wetland.

To aid fisheries management, scientists will determine the timing of the emigration of young fish, shrimp, and crabs from marsh habitats to the Gulf of Mexico, as well as the sizes and numbers of the migrating animals. In offshore waters west of the Mississippi Delta, they will measure the population of microorganisms that provide food for larger animals, relate these populations to environmental factors, and determine the causes of regional and seasonal differences.

A study to be conducted in collaboration with the Louisiana Wildlife and Fisheries Commission will determine how shellfish ingest and release petroleum hydrocarbons, in order to develop routine methods of assessing the degree of petroleum contamination in the shellfish.

A continuing aquaculture project is developing techniques for growing crawfish together with other species—a method called polyculture—and studying the feasibility of raising crawfish in tanks. Scientists also will continue to seek ways of eliminating salmonella from baby green turkeys and newly hatched young.

University lawyers, sociologists, and economists will explore various methods of achieving the nation's ocean policy goals and will study the considerations involved in selecting port, waterway, and pipeline sites in Louisiana. The social and cultural factors responsible for the high rate of labor turnover in Louisiana's maritime service industries also will be examined.

LSU's Sea Grant education program will include preparation of a nautical mathematics textbook for use in training adults, and continued development of a model nautical science training program for technical schools.

Effects of Doubling CO₂ in Atmosphere Studied

(Continued from page 1)

oxide produces a warming in the lowest layer of the atmosphere of as much as 10 degrees Celsius (18 degrees Fahrenheit) in polar regions.

In the stratosphere—the atmospheric layer above the troposphere—an increase of carbon dioxide would have the opposite effect, a decrease in temperature of as much as 6 degrees Celsius (10.8 degrees Fahrenheit).

On a global scale, the NOAA model indicates that the equilibrium temperature of the earth's surface would increase by 2.9 degrees Celsius (5.3 degrees Fahrenheit) as a result of doubling carbon dioxide. At a World Meteorological Organization symposium this summer two university researchers studying past climates reported that the global average sea surface temperature during the ice ages was only about 2.5 degrees Celsius (4.5 degrees Fahrenheit) cooler than now.

The NOAA computer model also showed changes in relative humidity—an increase of a few percent in the lower troposphere and a decrease of a few percent in the middle and upper troposphere.

The hydrologic cycle in the

model atmosphere with a double dose of carbon dioxide was intensified, with significantly greater rates of precipitation and evaporation.

Dr. Manabe and Mr. Wetherald caution that the computer model they used in their study contains a number of simplifications. For example, the "ocean" portion of the globe is treated as an area of wet land, so that it resembles a real ocean in being an infinite source of moisture, but lacks the effects of heat transport by ocean currents. The biggest ambiguity in the model, says Dr. Manabe, is the assumption of fixed cloudiness. "A decrease in low cloudiness of just a few percent could have the same effect on temperature as doubling the carbon dioxide. We don't know yet what effects an increase in carbon dioxide will have on cloudiness; we're working on that."

So the scientists do not regard the actual numbers generated in their study—degrees of temperature change, humidity—as definitive. They believe their research does clarify the mechanisms that control the response of the climate to increasing carbon dioxide, and give an idea of the general patterns of change.



National Oceanic and Atmospheric Administration

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