

noaa week

Volume 7

Number 14

April 2, 1976

NOAA Investigating Need for Whale Sanctuary

NOAA is investigating the desirability of creating a killer whale marine sanctuary in Puget Sound, Dr. Robert M. White, NOAA Administrator, has announced.

In a letter to Sen. Warren Magnuson of Washington, who requested on March 5 that Puget Sound be so designated, Dr. White said it appears the State of Washington will work with NOAA in developing information to support the designation process and in connection with the preparation of a draft environmental impact statement.

Should the present information base be adequate to justify the sanctuary, the designation process will proceed. If major data gaps are revealed, NOAA is prepared to undertake "a reasonable effort to close them," Dr. White said.

Marine sanctuaries are designated by the Secretary of Commerce, with the approval of the President, under the authority of the Marine Protection, Research,

(Continued on page 4)

Bacteria's Role As Precipitation Seeds Is Studied

Oceanic bacteria may be the marine atmosphere's main source for triggering precipitation, a scientist from the Environmental Research Laboratories reported to an American Meteorological Society meeting in Seattle this week.

Dr. Russell Schnell, a postdoctoral researcher in ERL's Atmospheric Physics and Chemistry Laboratory, and two fellow researchers have found that these tiny marine organisms appear to act as an active source of ice nuclei—the particles around which moisture in a cloud freezes to produce precipitation.

The bacteria live in association with marine phytoplankton (minuscule floating plant life) according to Dr. Schnell, and are "shot" into the air by seafoam bubbles bursting on the surface of the waves. Certain of them, he believes, find their way high into the air and become the core, or nucleus, around which supercooled water droplets freeze. They fall to the surface of the earth as rain or snow.

Scientists have long known that ice nuclei come from land—particles of dust and possibly decomposed vegetation. Dr. Schnell and his colleagues think that a major part may also come from the sea.

Dr. Schnell, Dr. Jayne F. Carney of Biospherics, Inc., and Cristine E. Carty of Rutgers University have isolated the particu-

(Continued on page 3)



James H. Czerwonky (right) Chief Program Analyst in the Office of the Director of the National Marine Fisheries Service and President of the Commerce Employees Recreation Association (CERA), presents Secretary of Commerce Elliott L. Richardson 1976 CERA membership card number 1976.

At left are CERA Vice President Jimmi L. Gleaton of the Economic Development Administration, and CERA Secretary Sheria A. Hunter, who is also Mr. Czerwonky's secretary at NMFS.

This is the first year that NOAA employees have been elected as officers of CERA, which operates under the aegis of the Office of the Secretary.

International Conservation Group To Meet

Conservationists from 26 nations and representatives from government and industry are expected to gather to discuss the principal issues affecting the environment of our world, when the World Wildlife Fund convenes its Fourth International Congress in San Francisco, Calif., Nov. 28-Dec. 1.

(Continued on page 3)

NOAA, NCAR Balloon Launches From Panama Probe Stratospheric Ozone Chemistry

A series of flights sampling materials in the stratosphere is being conducted for NOAA and the National Center for Atmospheric Research by the U.S. Air

Force from Albrook Air Force Station in the Panama Canal Zone.

The probes will add tropical

(Continued on page 4)

Study Shows Fisheries Management Necessary Under 200-Mile Limit

Even if the U.S. outlaws all foreign fishing within 200 miles of its coasts, domestic fishermen could easily overfish depleted offshore stocks, and will do so if effective regulations controlling entry to the fishery are not enacted, according to a Sea Grant study recently released by the Massachusetts Institute of Technology.

Whether through legislation passed by Congress, or through treaties resulting from Law of the Sea negotiations that resumed March 15, a 200-mile fisheries limit for the U.S. appears likely within the next year, MIT says.

"Many U.S. fishermen assume that exclusion of foreign fishermen under the limit will automatically solve the economic

(Continued on page 3)



DR. JOHN W. TOWNSEND, JR. (left), NOAA's Associate Administrator, received his 30-year Length of Service Award and hearty congratulations from Dr. Robert M. White, NOAA Administrator, at a staff conference this week.

personnel perspective

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 where to apply.

Announcement Number	Position Title	Grade	MLC	Location	Issue Date	Closing Date
491-76	Geodesist	GS-14	NOS	Rockville, Md.	3/22/76	4/12/76
492-76	Oceanographer	GS-13	NOS	Rockville, Md.	3/22/76	4/12/76
493-76	Electronics Engineer	GS-12	NOS	Rockville, Md.	3/22/76	4/12/76
494-76	Meteorologist	GS-11	ERL	Research Triangle Pk., N.C.	3/22/76	4/12/76
495-76	Meteorologist	GS-12	ERL	Las Vegas, Nev.	3/22/76	4/12/76
509-76	Physical Scientist	GS-12	NWS	Silver Spring, Md.	3/29/76	4/12/76
510-76	Meteorologist (Instructor)	GS-12	NWS	Oklahoma City, Okla.	3/29/76	4/12/76
512-76	Fishery Methods & Equipment Spec.	GS-7/9	NMFS	LaJolla, Cal.	3/29/76	4/12/76
513-76	Fishery Biologist	GS-12	NMFS	LaJolla, Cal.	3/29/76	4/12/76
514-76	Research Meteorologist	GS-12	NWS	Kansas City, Mo.	3/29/76	4/12/76
515-76	Research Meteorologist	GS-12	NWS	Kansas City, Mo.	3/29/76	4/12/76
516-76	Meteorologist	GS-13	NWS	Honolulu, Hawaii	3/29/76	4/12/76
520-76	Supv. Meteorologist	GS-13	EDS	Asheville, N.C.	3/31/76	4/14/76
522-76	Supv. Computer Operator	GS-12	ERL	Princeton, N.J.	3/31/76	4/14/76

DOC 1976 National EEO Affirmative Action Plan Summary

The Equal Employment Act of 1972 requires each Federal department to develop an annual national affirmative EEO action plan. To assure that NOAA employees are familiar with the contents of the Department of Commerce's 1976 National Affirmative Action Plan for Equal Employment Opportunity, important areas of the Plan are summarized below.

Within the Department of Commerce, EEO efforts are implemented through the combined actions of managers, supervisors, and personnel office staff members whose EEO responsibilities are specified in Administrative Order 202-713. This Order also outlines the responsibilities of other important EEO personnel including the Director of EEO, EEO Officers, and the Special Assistant for Civil Rights.

Equal employment opportunity within the Department is considered to be an integral part of our total personnel administration activities. Each and every supervisor within Commerce carries a personal responsibility to assure that all judgements regarding personnel matters in employment, placement, training, classification, or incentive awards are devoid of discrimination and based solely on principles of merit. It is on this basis that the Department's 1976 National Affirmative Action Plan for EEO has been developed and under its provisions, each Commerce agency is required to:

1. Organize their resources to administer the EEO Program in a positive and effective manner by:

- allocating sufficient manpower and funding resources to implement a results-oriented EEO program;
- reviewing the qualifications of management officials and employees responsible for EEO activity and certifying to their adequacy;
- developing regional and local action plans which include specific goals and timetables;
- assessing EEO programs and, as necessary, revising action plans;
- gathering input of employee groups interested in the furtherance of EEO;
- collecting and evaluating complaint processing data in order to identify problem areas, and properly correcting such deficiencies;
- analyzing and correcting any deficiencies in the EEO counseling program;
- publicizing EEO accomplishments and program policy to keep employees aware and informed.

2. Develop recruitment activities designed to reach and attract job candidates from all sources by:

- reviewing recruitment results and activities and making necessary revisions to assure that all sources are being tapped;
- developing programs which encourage women and minority group persons to enter the scientific, technical, and administrative career fields utilized by the Department;
- establishing continuing contact with minority and women's organizations which may be helpful in our recruiting efforts;
- continuing to utilize and expand the Cooperative Education Program;
- establishing additional part-time positions.

3. Assure full utilization of the present skills of employees by:

- identifying underutilized employees in the work force and providing them with selective placement consideration including special training plans and reassignment;
- maintaining a department-wide skills bank to match underutilized employees with available job opportunities;

-restructuring jobs to establish entry level and trainee positions to facilitate movement among occupational areas.

4. Provide opportunities for employees to enhance their skills, performed at their highest potential, and advance in accordance with abilities and available opportunities by:

- providing maximum opportunity and encouragement to employees to participate in existing upward mobility training programs;
- utilizing occupational analysis, job redesign, and restructuring to provide opportunities for entry employment, advancement, and bridges to higher grade career ladders;
- establishing additional career systems thereby increasing advancement and training opportunities;
- providing skillful career counseling services.

5. Assure program understanding and support on the part of supervisors and managers through training, advice, incentives, and performance evaluation by:

- evaluating existing supervisory training in EEO and enacting necessary changes;
- re-evaluating the criteria used to evaluate supervisory and managerial performance in EEO;
- recognizing employees or supervisors who contribute significantly to EEO program success.

6. Participate in community efforts to improve conditions which affect employability by:

- actively supporting community equal housing efforts;
- assisting employees in finding suitable housing;
- cooperating with local authorities and community groups in efforts to improve community transportation facilities and in the establishment of day care centers;
- assisting local schools in developing curricula which relate to the requirements of Federal positions.

7. Develop a system for internal program evaluation by:

- collecting, maintaining and analyzing statistical data on employment of women and minorities;
- reviewing, evaluating, and assessing all EEO affirmative action program efforts;
- developing annual reports on EEO plan progress.

The Department of Commerce considers the action items discussed above to be essential in bringing about significant progress toward EEO in 1976. These action items are directed primarily at the affirmative steps to be taken to improve the employment status of minorities and women; however, the total described effort is to be applied to all employees and applicants in concert with the principles of the merit system, thereby assuring true equal opportunity for all.

To implement the DOC Affirmative Action Plan within NOAA, the NOAA 1976 Affirmative Action Plan has been distributed to all POB Directors and will be made available by them to employees under their jurisdiction. Copies of the NOAA plan are also available from the Special Personnel Programs Branch, AD451, Personnel Division, Rockville, Maryland. This NOAA National Plan was written after consultation with NOAA EEO Committee members, MLC EEO Management Coordinators, and representatives of NOAA unions. Each MLC, in turn, has developed its own 1976 National Plan, and may have Regional and Local Plans where appropriate. Local Plans are required where NOAA has 50 or more employees located in one geographical area. All plans, when completed, will be made available to employees who are covered by the plan.

A NOAA UNIT CITATION was received by the National Weather Service Office in Norfolk, Va., for developing an excellent recreation-marine weather service program, providing outstanding service as the communications link with the Fifth Coast Guard District, and for maintaining an outstanding record of accuracy with synoptic and station observations.

Staff members are (from left) Weather Specialist Raleigh A. Marshall, WSS Andrew J. Treat, Meteorologist in Charge Terry A. Ritter, WSS William D. Stanford, Principal Assistant Dorothy J. Chapman, WSS Jack W. Miller, WSS Ruth E. Owens, WSS John R. Garton, and (not in photo) WSS Joseph H. Richter, and Port Meteorological Officer William A. Gribble.



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Fisheries Management (Continued from page 1)

problems of America's fishing fleet," says Dr. John W. Devanney, III, associate professor of marine systems in the M.I.T. Department of Ocean Engineering, the author of the Sea Grant Program study, "but I disagree. U.S. control of offshore fish stocks will not restore America's rich fisheries resources without efficient management to prevent domestic overfishing. The 200-mile limit thus represents an opportunity for the U.S. to apply hitherto ignored resource allocation principles in managing its fishing industry."

In his research, funded by NOAA and M.I.T.'s Center for Policy Alternatives, Dr. Devanney used economic analyses to evaluate alternative schemes, such as gear restrictions, fixed landing payments, total take restrictions and quotas, or boat-by-boat quotas or licensing, and found that competitive bidding for quotas may be the method most likely to bring about efficient exploitation of the stocks and to maximize national income.

Each scheme would encourage different levels of fishing effort, with corresponding variations in the yield of marketable fish, and hence, the price paid by consumers and received by the fisher-

men. Without regulations, free entry to the fishery would allow any vessel to harvest the resources without limit. High levels of fishing effort would result in overfishing, consequent low yields, and correspondingly high prices, Dr. Devanney said.

In such a situation, fishermen's income may not suffer from overfishing. While few fish may be landed, their price will be high, and fishermen may actually be better off than if they landed more fish at lower prices.

The major economic impact of

WWF Congress To Meet (Continued from page 1)

The theme of the Congress is "THE FRAGILE EARTH: TOWARD STRATEGIES FOR SURVIVAL." More than 1,000 people are expected to attend.

The World Wildlife Fund is a private, nonprofit publicly supported international organization which has financed over \$19 million for scientific research and conservation projects to preserve endangered species and natural areas.

The WWF holds a Congress every three years, but this is the first to be held in the U.S. It represents a unique opportunity for conservationists to meet and discuss issues of mutual concern—problems of industrial waste, population, energy, conservation economics, wildlife and natural resource management. Seminars composed of three to four panelists will be moderated by well known environmentalists Barbara Ward (Lady Jackson), Maurice Strong, Russell Peterson, Dr. Ruth Patrick, Dr. Lee M. Talbot and Dr. Raymond Dasmann.

Also scheduled are a speech on man's relationship to the marine environment by marine biologist and aquanaut Dr. Sylvia Earle Mead of the California Academy of Sciences; a concert by the Paul Winter Consort which will include music composed especially for the Congress; and a Wildlife Film Festi-

North Carolina Awarded CZM Grant

The State of North Carolina has received a \$12,202 grant from NOAA to study and plan for the onshore impact of offshore oil and gas production.

The grant will be used primarily to determine the potential for developing energy off its coast and the value of its marine resources. Also, the State will evaluate the effects of offshore energy production in terms of people, jobs, and coastal facilities; identify existing laws and regulations related to development of the Outer Continental Shelf; and determine if new legislation is needed.

Officials also will develop an information exchange system to relay findings to citizens, and will assist local governments in

preparing for offshore impacts by integrating control measures into local land use plans.

Results of the various efforts will be included in a broad coastal zone management program North Carolina is developing under its State-mandated Coastal Areas Management Act.

North Carolina, which expects to have its coastal zone management program completed and submitted for approval to the Secretary of Commerce by June 1976, has received nearly \$1 million in program development funds from the Office of Coastal Zone Management. The current grant is a supplement to the second-year planning grant made last summer for \$503,000, under provisions of the Coastal Zone Management Act of 1972.

Annotated Acronyms

Publication Updated

Annotated Acronyms and Abbreviations of Marine Science Related International Organizations and Programs, compiled originally by Jeannette North in 1969, has now been updated by Charlotte M. Ashby of the Environmental Data Service's National Oceanographic Data Center. Acronyms and abbreviations are listed alphabetically and are indexed to a text describing organizations and programs. A separate alphabetical list of titles is also included.

Copies, while they last, are available from:
 Technical Records Branch (D764)
 National Oceanographic Data Center
 Washington, D.C., 20235
 (202) 634-7301

overfishing, argues Dr. Devanney, may be on the fish consumer who is forced to buy less fish at higher prices. To resolve the price conflict between fish suppliers and fish consumers, he says, fishing effort must be held at that level which will provide the most national income (the sum of fishermen's and fish consumers' income) realizable from the fishery. Controlled entry to the U.S. fishery will have to be enforced in order to manage the resource in this manner.

Bacteria's Role in Precipitation (Continued from page 1)

lar bacterium but not yet identified it.

Further information is available from The World Wildlife Fund, Fourth International Congress, 1319 Eighteenth St., N.W., Washington, D.C. 20036.

Bacteria's Role in Precipitation (Continued from page 1)

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Dr. Schnell analyzed three years' ice nucleus measurements made by another scientist in the southern hemisphere—chiefly Australia and the Antarctic Ocean—and discovered that there were higher concentrations of nuclei over areas of the ocean favorable to phytoplankton growth than over the dusty Australian interior.

To learn more about the relationship between marine phytoplankton and freezing nuclei, Dr. Schnell obtained samples of 23 plankton species from a plankton "library" maintained at Scripps Institution of Oceanography. He injected dried, crushed samples of the plankton cultures into a cloud chamber. Samples that contained freezing nuclei would cause particles of supercooled fog in the chamber to freeze, grow into snow crystals, and fall as in a life-size cloud. He found that only three species of plankton contained especially high concentrations of nuclei.

The next step was to pin down what property of phytoplankton actually forms the ice nucleus—the whole or parts of phytoplankton cells, excretion products, or some organism associated with the phytoplankton, such as bacteria. Last August, Dr. Schnell, Dr. Carney and Ms. Carty collected samples of seawater and fog water off the east coast of Nova Scotia and tested them for both ice nuclei and bacteria. A number of the fog samples contained ice nuclei capable of causing freezing at temperatures warmer than 23 degrees F (-5C). Bacteria isolated from a phytoplankton sample from Scripps were able to cause freezing at 26.6 degrees F (-3C).

Nature has a very efficient mechanism to get the bacteria into the atmosphere, explains Dr. Schnell. The bacteria float among plankton at or near the surface of the water. Rising bubbles collect them and upon bursting propel the nuclei into the air at speeds up to and exceeding 100 miles (160 kilometers) per hour.

noaa week

Published weekly at Rockville, Md., by the Office of Public Affairs for the Department of the Interior, Office of the National Oceanic and Atmospheric Administration.

Articles to be considered for publication should be submitted at least a week in advance to NOAA Week, Room 221, WSC 5, Office of Public Affairs, National Oceanic and Atmospheric Administration, Rockville, Md. 20852.

NOAA Week reserves the right to make corrections, changes or deletions in submitted copy in conformity with the policies of the paper or the Administration.

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

A SPECIAL ACHIEVEMENT AWARD was presented to Joyce H. Gnagy for her outstanding contribution to the Outer Continental Shelf Energy Assessment (OCSEAP) research program in Alaska. During the summer of 1975, Ms. Gnagy led a party of biological technicians collecting intertidal organisms at remote sites on the coast of the Gulf of Alaska and Bering Sea.

According to Dr. William A. Smoker, Director of the National Marine Fisheries Service Laboratory at Auke Bay, Alaska, who presented the Award, her good judgment, leadership, and scientific competence were instrumental in achieving all program objectives under difficult field conditions.



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Hurricane Research Grant Awarded

A \$22,177 grant for continuing research on computer-modeling the relationship between the behavior of hurricanes and ocean temperature has been given to Pennsylvania State University in State College by the Environmental Research Laboratories.

The award was made to Dr. Richard A. Anthes, an associate professor in the university's Department of Meteorology.

Atmospheric scientists know that the intensity of a hurricane depends upon the temperature of the underlying ocean, which supplies crucial heat and water vapor to the storm. By developing improved hurricane models, Dr.

Anthes hopes to provide increased understanding of the coupling between the ocean and the atmosphere, and in particular, to obtain a more accurate response of the hurricane model to varying sea-surface conditions.

His ultimate goal is to provide a basis for development of an interacting ocean-atmosphere model capable of simulating the feedbacks between air and ocean.

Dr. Stanley L. Rosenthal, Supervisory Meteorologist with ERL's National Hurricane Experimental Meteorology Laboratory in Coral Gables, Fla., is monitoring the project.

obituaries

Charles B. Haegele

Charles B. Haegele, a Mechanical Engineer in the Facilities Engineering Branch of the National Weather Service Engineering Division, in Silver Spring, Md., died on March 27. He began his NWS career as a weather observer in Alaska in the 1930's, and has been in the D.C. area since 1944. His NWS accomplishments included developing a number of inventions, such as a miniature gear puller.

He is survived by his wife, Elsie, of 6105 - 44th Ave., Riverdale, Md., 20840; his mother, Lily Baird Haegele, and a brother, W. R. Haegele, both of Silver Spring, Wash.; a daughter, Mrs. Poma, of Hyattsville, Md.; two sons, E. D. Haegele, of Damascus, Md., and C. W. Haegele, of Abilene, Tex.; and five grandchildren.

Carl Fritz Kelley

Carl Fritz Kelley, Director of the National Geodetic Survey Information Center since March 1972, died on March 20 in Chevy Chase, Md.

His entire life, except for military service, was spent with the NOS and its predecessor, the Coast and Geodetic Survey, as he was the son of a career C&GS mobile geodetic field party employee, and he began his own career as a field party employee. After receiving his B.S. in civil engineering at Purdue University, he served as a captain in the U.S. Army and commanded a Geodetic Surveying Detachment and Map Reproduction Company. He was an instructor at George Washington University and at ACSM Instrumentation and Computation Workshops.

He is survived by his wife, Mary Jo, and two children, Diana and Michael, of Gaithersburg, Md.; and his parents, Mr. and Mrs. Bert Kelley of Osgood, Ind.

Need for Whale Sanctuary Investigated

(Continued from page 1)

and Sanctuaries Act of 1972. The program is administered by NOAA's Office of Coastal Zone Management, which processes nominations and makes determinations concerning conditions warranting the designation.

The first two marine sanctuar-

ies named under the program have been the Monitor Marine Sanctuary, established Jan. 30, 1975, to protect the site of the Federal ironclad Monitor off the coast of North Carolina, and the Key Largo Coral Reef Marine Sanctuary off the coast of Florida, established Dec. 18, 1975.

Balloon Launches From Panama Probe Stratospheric Ozone

data to samples taken earlier by NOAA and NCAR at higher latitudes. The samples will be analyzed for fluorocarbons 11 and 12, nitrogen oxides, and some chlorine compounds. These materials are key players in the complicated process scientists believe destroys ozone in the stratospheric layer which shields life at the earth's surface from hazardous ultraviolet solar radiation.

NOAA's package consists of five stainless steel sampling spheres with a minicomputer programmed to open and close valves on the flasks at predeter-

mined altitudes. The package was developed by Dr. Arthur L. Schmeltekopf and his colleagues at ERL's Aeronomy Laboratory in Boulder, Colo. These samples are subsequently analyzed for nitrous oxide and fluorocarbons 11 and 12.

The larger NCAR package measures hydrochloric acid vapor, particulate chloride, nitric acid vapor and sulfuric acid aerosols. It will also attempt to measure chlorine oxide, a missing link in the chemical cycle which may destroy stratospheric ozone.

Dr. Allan L. Lazrus of NCAR,

which is funded by the National Science Foundation, directs this stratospheric sampling program.

Two balloon probes will carry both the NCAR and NOAA packages. One balloon is being funded by the National Aeronautics and Space Administration under a contract with NCAR; the other is funded by the Energy Research and Development Administration. Personnel from the Air Force Geophysics Laboratory detachment at Holloman Air Force Base, N. Mex., will conduct the launches.



PARTICIPANTS IN A NOAA INTERAGENCY SUPERVISORY TRAINING COURSE held recently in Asheville, N.C., included (from row, from left) Samuel R. Rogers, National Forestry Service, North Carolina (NFSNC); Ernie H. Love, NFSNC; Grady Owenby, Air Weather Service; Carol L. Shipman, National Climatic Center (NCC); Terrel Roper, NFSNC; Richard R. McGlamery, General Services Administration; Carl R. Anderson, NCC; (back row, from left) Robert Harris, NOAA Personnel, Coordinator; Leslie A. Watson, NCC; Walter L. Mayer, Blue Ridge Parkway; Ralph M. Hooper, South East Forestry Experiment Station (SEFES); Tommy L. Bailey, NFSNC; Johnny L. Jones, NFSNC; Truett J. Smith, SEFES; James Stewart, NCC; Donald E. Beck, SEFES; Ralph E. McNeese, SEFES; Norman Seay, NFSNC; Nolan L. Snyder, SEFES; Robert A. Cathey, SEFES; and Bruce H. Blankenship, NCC.

National Oceanic and Atmospheric Administration

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July 23, 2010