

CIRES Fears Earthquake Due in India

An area in northeastern India may be due for a major earthquake, according to two scientists with the Cooperative Institute for Research in Environmental Sciences in Boulder, Colo.

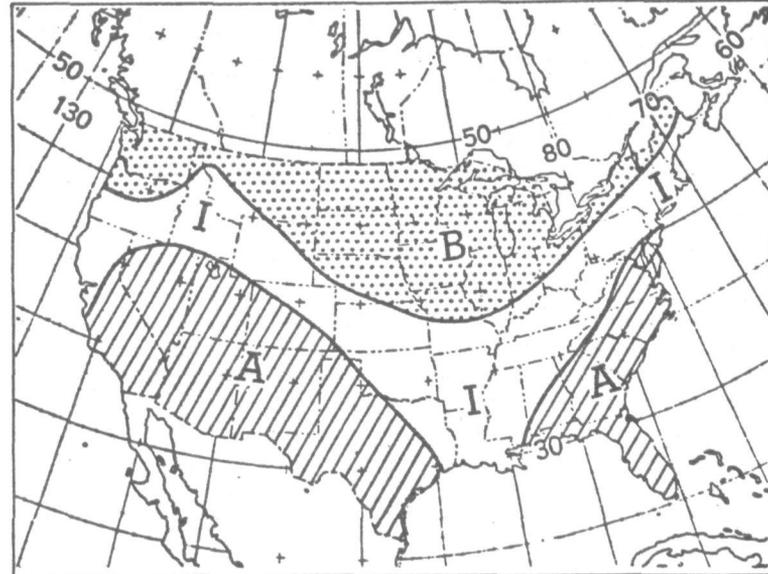
Drs. Khattri and Max Wyss of CIRES, a joint endeavor of NOAA and the University of Colorado, have found a pattern to the occurrence of earthquakes along the Himalayas. By projecting this pattern into the future, they have identified the area where the next large quake could occur.

Khattri and Wyss studied records spanning more than a century of earthquakes along a 100-mile (1,000-kilometer) section of the Indian earthquake zone. Their main source was EDS's World Data Center where information on Indian earthquakes since 1900 is archived. Other records compiled by Roorkee University in India of quakes dating back to 1816 supplemented the study.

The scientists found that every major earthquake over

(Continued on p. 2)

NWS Begins 6-10 Day Outlooks



OUTLOOK FOR WINTER AVERAGE TEMPERATURES, December 1977 through February 1978. A is Above Normal, 65 percent chance of occurrence; B is Below Normal, 65 percent chance of occurrence; areas marked I (Indeterminate) have a 50 percent chance of above or below normal. (Based on long-term average temperatures of the years 1941-70.)

This month, National Weather Service will begin issuing a new type of weather outlook for the period six through 10 days ahead.

The outlooks, first of their kind, will help fill a gap between NWS's shorter-range forecasts, which extend out through five days ahead, and its long-range outlooks, which extend through 30 days for temperature and precipitation, and 90 days for temperature only.

The new outlooks were made possible in part by a computer model of the Earth's atmosphere designed by Lloyd W. Vanderman of the National Meteorological Center. Vanderman's model predicts winds and temperatures up to six miles high, as well as precipitation amounts. Because of the model's relative simplicity, it can produce sixth through tenth day outlooks in 90 minutes on one of the large, fast computers at the National Meteorological Center. James F. Andrews will head the new program as Chief of Medium Range Forecasting.

Weather Service's National Meteorological Center will issue new outlooks, in both map and narrative form, three times a week. Each issuance will contain predictions of average temperature and precipitation for the five-day period beginning on the sixth day ahead and ending on the tenth.

Predictions will be for averages expected throughout the period, not for expected conditions on each individual day. Later on, such mid-range outlooks may also be issued for heating degree days and winds.

The new outlooks will carry predictions for temperature in the following categories: much above normal, above normal, near normal, below normal, and much below normal. Predictions

(Continued on p. 2)

NOAA Data Buoy Office Conducts Corrosion Tests

Tests of possible corrosion and fouling of Ocean Thermal Energy Conversion (OTEC) power plants are now being conducted by the NOAA Office of Ocean Engineering's Data Buoy Office, Bay St. Louis, Miss., under contract with the Department of Energy.

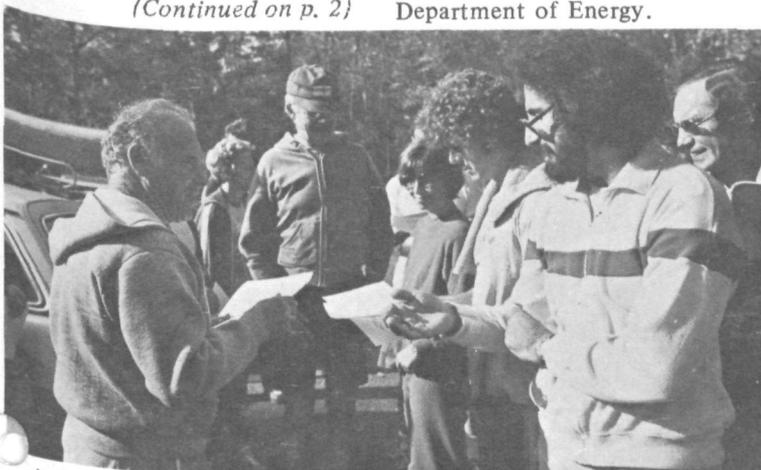
OTEC power plants will use the temperature difference between deep cold water and the surface waters warmed by the sun to develop electrical power. The NOAA tests will obtain information on how fouling by sealife, corrosion, and inorganic precipitates (scale) will affect the heat transfer surfaces used in the OTEC process.

(Continued on p. 2)

Code-A-Phone Now Lists NOAA Jobs

A new direct dial system listing current NOAA job vacancies began December 5 in the Washington, D.C., area. Called Code-A-Phone, the phone service resulted from a suggestion by the NOAA Admin EEO Committee.

(Continued on p. 2)



At the end of the day, NWS's Bernie Edelman (left) gave out certificates of completion to the NOAA joggers who ran the course along the C & O Canal, Oct. 29. More NOAA joggers on pages 4 and 5.

IG Calendar For 1978 is Now Ready

The 1978 International Geophysical Calendar, prepared in cooperation with the world scientific community, is now being distributed by EDS's National Geophysical and Solar-Terrestrial Data Center (NGSDC), Boulder. Compiled from information on coordinated observing programs involving scientists from different disciplines, institutions, and countries, the calendar is issued each year.

The calendar continues the series begun for the International Geophysical Year (1957-58). The preparation is done by the International Ursigram and World Days Service (IUWDS). J. Virginia Lincoln of NSGDC is the IUWDS Secretary for World Days.

A single day each month is designated a Priority Regular World Day. There also are three consecutive Regular World Days each month, always on a Tuesday through Thursday near the middle of the month.

Copies of the 1978 Calendar and additional information on scientific programs and data exchange may be obtained from J. Virginia Lincoln, World Data Center A for Solar-Terrestrial Physics, Boulder, Colo. 80302.

Data Buoy (From p. 1)

The 80-foot tugboat Dana Dauntless, now moored 62 n.m. south of Mobile, Ala., in the Gulf of Mexico, carries special equipment, designed by Carnegie-Mellon University, being tested under conditions closely approximating those expected for future operating OTEC power plants. Later, the tug will be replaced by a specially equipped 100-ton, 40-foot diameter data buoy, to continue the monitoring program for an extended period of time.

Although some experts



Dr. Ned A. Ostenso, Director, National Sea Grant Program (center), signs a \$208,900 grant to the University of Minnesota as Congressman James L. Oberstar of Minnesota (left) and Dr. Richard Kolf, Sea Grant staff, look on. Formal signing of the grant at the Capitol in Washington was held to underscore the expansion of the university's Sea Grant efforts into research. Previously, the program was limited to advisory services. The Federal grant was matched by \$174,500 in non-Federal funds.

Outlooks (From p. 1)

for precipitation will be for above normal, near normal, below normal, or none.

The Weather Service has been making predictions for this mid-range period for more than a year, on an experimental basis.

Weather Service officials are planning to canvass a number of agencies to find a wide range of ways the new outlooks can be used. Already, a Weather Service study shows the following activities are good candidates, being especially weather-sensitive: Fishing, agriculture, air transport, forestry, construction, land and water transportation, energy use, health and safety, resources utilization, merchandising, water-supply

predict that as much as one-tenth of the nation's electrical power requirements could be supplied by OTEC power plants, the predicted thermodynamic efficiencies of such plants are low. Heat exchangers required for them, therefore, will have to be exceptionally large compared to power plants that use fossil or nuclear fuel.

The economic feasibility of OTEC power plants will depend in part on acquiring ocean data such as that now being compiled by the NOAA Data Buoy Office.

planning, communications, recreation, and manufacturing.

Phones (From p. 1)

Two phone lines have been dedicated to the recordings—one in English and one in Spanish—and the service will operate 24 hours a day. The English language recording number is 443-8274. The Spanish language recording number is 443-8275. The recordings will be updated each Wednesday.

The Code-A-Phone system will not affect the biweekly vacancy announcement report.



Dr. C. Gordon Little, chief of ERL's Wave Propagation Laboratory in Boulder, Colo., was unable to get to Washington, D.C., Oct. 7, to receive his NOAA Award for Scientific Research Achievement. But rest easy: Dr. Edward S. Epstein (left), NOAA Acting Assistant Administrator for Research and Development, personally delivered the award to Dr. Little in Boulder.

Earthquake (From p. 1)

magnitude 6.6 in that area had been preceded by a period when there were few or no earthquakes. Conversely, every period of seismic silence was followed by a major quake.

The pattern seems to have begun again in Assam. A map of the earthquakes that occurred there since 1950 report the scientists, shows a "well defined area of quietness. Portions of the gap with dimensions of 60 to 120 miles (100 to 200 kilometers) exhibit suspiciously low seismicity during the last 25 years. Furthermore, this quiet area is on a line with the locations of past great earthquakes.

"There are three elements to predicting an earthquake: location, size, and time," says Wyss. "When you find a seismic gap, you already know the first two approximately. The only question then, is when?"

The data on the Assam area are suggestive, say the CIRES scientists, "but they do not warrant an earthquake prediction. However, we feel that the Assam gap should be designated as an area for intensive search for other precursors."

They point out that 40 percent of all large earthquakes are preceded by foreshocks. A network of seismographs in the area could detect these small preliminary quakes and perhaps give warnings of a large quake to come.

Heating Degree Days -- Where to Find, How to Use

In the 11/25 issue of *NOAA News* we began the discussion of heating degree days, as a fuel management tool. But to use the concept, it is necessary that one have access to heating degree data.

NWS's Long Range Prediction Group, at the National Meteorological Center in Washington, D.C., routinely publishes an *Average Monthly Weather Outlook*, which contains among other things, a chart that estimates whether temperatures are expected to be Above Normal, Near Normal, or Below Normal during the next 30 days. The chart, based upon an analysis of meteorological observations from a major part of the Northern Hemisphere, has a 65 percent reliability on estimates given.

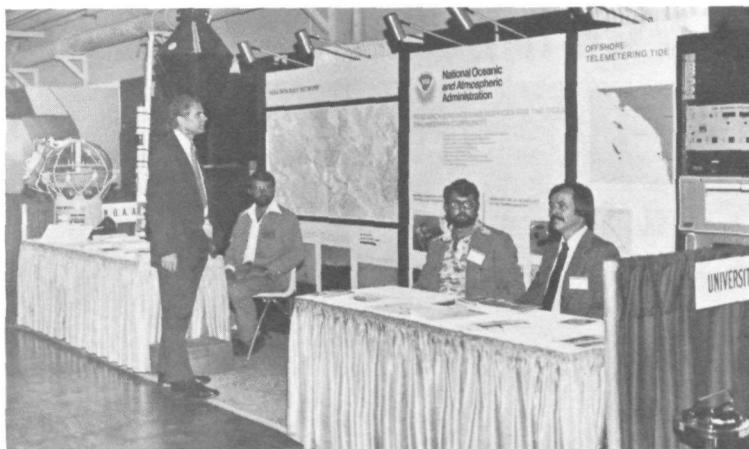
Accompanying the chart is a table containing the normal heating degree days for major cities. These normal heating degree days are the averages observed for a given month over the past several decades. Bracketing the "norm" for heating degree days are two columns, B and A. B stands for Below Normal and A for Above Normal, and both represent the number of degree days that would have to accumulate to

exceed the limits which define the "norm."

Whether a given city will exceed its norms is predicted in the chart and, thus, the number of heating degree days for a given city during a given month may be determined.

The chart indicated, for instance, that meteorologists expected Washington, D.C. to experience Above Normal temperatures during November 1977. Washington, D.C. was predicted to accumulate only 480 heating degree days during that month (Above Normal temperatures, hence fewer heating degree days). In the last issue, we determined that a sample homeowner used .10 gallons of oil per degree day during November 1976. By multiplying 480 by .10, this same homeowner can expect to use 48 gallons of oil during November, 20 gallons less than was consumed during the same period last year. If your city falls within the Near Normal or Below Normal sections of the chart, you would use the Norm or B column, respectively.

When the *Monthly Outlook* predicts a large increase in heating degree days (i.e., lower temperatures), you can close off unneeded rooms, especially



The NOAA exhibit at the OCEANS '77 conference of the Marine Technology Society, held in Los Angeles Oct. 17-19, was manned by (left to right) Jack Cawley, director of NOAA's Ocean Instrument Engineering Office, Rockville; James Lecky, NMFS Southwest Region; William E. Woodward, OOE, Rockville; and Charles W. Isely, Marine Technology Engineering Development Lab, Riverdale, Md.

those on the shady side of the house; seal off the space between the floor and bottoms of doors to the outside or to closed-off rooms with scatter rugs; keep window draperies open on the sunny side of the house during the day and closed at night; break out sweaters, extra blankets, and quilts.

Restating how to figure your fuel consumption baseline as explained in the earlier article; divide the amount of fuel used by degree days in your area for that month. If you used 68 gallons of oil in November 1976 and there were 652 degree days, your baseline is .10 gal-

lons of oil per degree day.

The Average Monthly Weather Outlook may be obtained by subscription through the Government Printing Office for \$7.50 a year. If this is inconvenient, degree day information may be obtained from your local National Weather Service office, most public libraries, your fuel supplier, or your local county agent. Information on heating degree days abounds in most communities—the fuel dealers have been using it for years. With energy now in short supply and fuel prices continuing to rise, why not add it to your energy-saving arsenal?

NOAA NEWS

Published biweekly at Rockville, Md., by the Office of Public Affairs for the information of employees of the Commerce Department's National Oceanic and Atmospheric Administration.

Articles to be considered for publication should be submitted at least 10 days in advance to NOAA News, Room 221, WSC5, Office of Public Affairs, National Oceanic and Atmospheric Administration, Rockville, Md., 20852.

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

Nancy Pridgeon, Editor
Warren W. Buck, Jr., Art Director



The following National Marine Fisheries Service employees participated in NOAA's Supervision and Group Performance training course conducted at Fenno House, Quisset Campus, Woods Hole Oceanographic Institute, Woods Hole, Mass., September 26-30: Joe Liccardello, Dan Bella (instructor), Jim Thomas, Jeff Laurence, Marvin Grosslein, Marge Hock, Henry Jensen, Red Wright, John Ryan, Bill Brey, Jon Gibson, Fred Nichy, Bob Burnett (coordinator/participant), Roy Morejon, Mert Ingham, and Phil Chase.

NOAA Jogger's Day . . .



Let's see now...10,000 meters is...



Everybody ready?



An enthusiastic group of Northwest NOAA joggers from the National Marine Fisheries Service met at Seattle's Green Lake on Saturday, Oct. 29, to participate in the first NOAA-wide Joggers' Day. The weather prediction for the day was "rain," but the skies cleared just long enough for the event to run. Seven NOAA-ites finished the 10,000 meter run; four, the 5,000 meter run.

From Washington State Florida . . . NOAA-ites Run the Measured Meter



Streakers? At Headquarters?



On the towpath at the historic C & O Canal just outside Washington, D.C., NOAA Joggers turned out in force. Representatives from all NOAA agencies in the area tried out their physical fitness for up to five miles.



The C & O Canal on an autumn day ...



The NOAA Environmental Research Laboratories' runners celebrated the day on Oct. 29 by running 13.1 miles. They ran the scenic route along the "River Corridor Classic" in Dayton, Ohio. Left to right, Bob Pickett, Janice Boyd, and Don Dossett all finished with times less than 7.4 minutes per mile.



Charles and Carol Fuss



Bill Stevenson



Jorge Picon and James Vestri (11 mile runners)



In St. Petersburg, Fla., National Marine Fisheries Service joggers met at Northshore Park on the big day. At top right, Southeast Regional Director Bill Stevenson finishes the 2-mile run. Even the children got involved. Above (left to right) are Chris Fuss, Cindy Fuss, Frank Fuss, Manuel Picon, Mike Fuss, and Diego Picon.

Coming Soon: Share Your Ideas and Earn a NOAA Patch

Reach out! Share your ideas. An employee suggestion to give a suggestion appreciation token to employees who submit bona fide proposals to NOAA's Suggestion Program has been adopted and will be put into effect January 1, 1978. Starting

on January 1, NOAA will acknowledge receipt of suggestions with both the Acknowledgement of Registration (Part II of Form CD-36) and an official NOAA Patch.

President Carter has made a

commitment to the American people for more effective government. He also has made it clear that he is vitally interested in employee ideas as part of Government-wide efforts to improve operations and services from personnel at all levels of

government. Your interest in active participation in the Suggestion Program is of value to NOAA beyond the obvious increased tangible benefits from improved services. NOAA offers benefits from the increased motivation and productivity.

NOAA Personnel Division Lists Current Vacancies

Announcement No.	Position Title	Grade	MLC	Location	Issue Date	Closing Date
78-13	Consumer & Trade Education Assistant	GS-7	NMFS	Washington, D.C.	12/5/77	12/12/77
108-78	Electronics Technician	GS-10	NWS	Swan Island, Honduras	11/29/77	12/13/77
109-78	Electronics Technician	GS-11	NWS	Suitland, Md.	11/29/77	12/13/77
111-78	Industry Economist	GS-13	NMFS	St. Petersburg, Fla.	11/29/77	12/13/77
112-78	Statistician (Biology) or Biologist	GS-13	NMFS	Washington, D.C.	11/29/77	12/13/77
113-78	Electronics Technician	GS-10	NWS	Brownsville, Tex.	11/29/77	12/13/77
114-78	Electronics Technician	GS-11	ERL	Miami, Fla.	11/29/77	12/13/77
117-78	Physical Scientist (Part-Time 35 hours)	GS-9	ERL	Ann Arbor, Mich.	12/1/77	12/15/77
118-78	Ecologist	GS-13	ERL	Boulder, Colo.	12/1/77	12/15/77
119-78	Computer Programmer	GS-9	ERL	Boulder, Colo.	12/1/77	12/15/77
120-78	Meteorological Technician (Weather Service & Radar Technician)	GS-8/9/10	NWS	Cape Hatteras, N.C.	12/1/77	12/15/77
121-78	Fishery Biologist (Research)	GS-12	NMFS	San Diego, Calif.	12/1/77	12/15/77
123-78	Supervisory Meteorologist (Meteorologist-in-Charge)	GS-12	NWS	Eureka, Calif.	12/5/77	12/19/77
126-78	Engineering Technician	GS-8	NOS	Corbin, Va.	12/5/77	12/19/77
127-78	Program Analyst	GS-12	NMFS	Miami, Fla.	12/5/77	12/19/77
128-78	Architect	GS-9/11	NWS	Garden City, N.Y.	12/6/77	12/20/77
107-78	Meteorologist	GS-13	NWS	Silver Spring, Md.	11/29/77	12/20/77
110-78	Electronics Engineer	GS-12	NWS	Silver Spring, Md.	11/29/77	12/20/77
130-78	Meteorologist (Forecaster)	GS-12	NWS	Birmingham, Ala.	12/6/77	12/20/77
105-78	General Engineer	GS-12	NWS	Silver Spring, Md.	11/29/77	12/20/77
131-78	Electronics Technician (2 positions)	GS-10	NWS	Salt Lake City, Utah San Francisco, Calif.	12/7/77	12/21/77
135-78	Communications Specialist (5 positions)	GS-12	NWS	Suitland, Md.	12/7/77	12/21/77
136-78	Electronics Technician (Senior Instructor, Communications)	GS-12	NWS	Kansas City, Mo.	12/7/77	12/21/77
137-78	Meteorologist (Leading Forecaster)	GS-14	NWS	San Francisco, Calif.	12/7/77	12/21/77
3-78	Fishery Administrator	GS-13/14	NMFS	Washington, D.C.	12/1/77	12/22/77
115-78	Electronics Engineer	GS-12	NOS	Corbin, Va.	12/1/77	12/22/77
116-78	Civil Engineer	GS-13	HDQS	Rockville, Md.	12/1/77	12/22/77
122-78	Grant-in-Aid Coordinator	GS-9/11	NMFS	Seattle, Wash.	12/5/77	12/27/77
124-78	Surveying Technician	GS-7	NOS	Norfolk, Va.	12/5/77	12/27/77
125-78	General Engineer	GS-13	HDQS	Bay St. Louis, Miss.	12/5/77	12/27/77
129-78	Instrument Maker	WG-12	NWS	Silver Spring, Md.	12/6/77	12/28/77
132-78	Budget Officer	GS-11/12	NWS	Salt Lake City, Utah	12/7/77	12/29/77
133-78	Meteorologist (Hurricane Specialist)	GS-14	NWS	Miami, Fla.	12/7/77	12/29/77
55-78	Meteorological Technician	GS-10	NWS	Kansas City, Mo.	11/1/77	5/4/78

NOTES ABOUT PEOPLE

Jay Hull, Meteorologist-in-Charge of NWS's Cape Hatteras office, recently participated in Hurricane Awareness Day in Winton, N.C. Included in the audience were nearly 250 school children, civil preparedness coordinators, Red Cross, National Park Service, the media, and others vitally interested in preparing a community should an emergency arise. Hulls' presentation included an outline of the hurricane safety rules.

Connie Lee Henderson, employed by the NOAA Ship Discoverer, passed the "oiler" test administered by the U.S. Coast Guard early in November.



Connie Lee Henderson

Henderson, of Seattle, Wash., was hired as a wiper this past February and became the first woman employed in marine engineering in the NOAA fleet. According to the Discoverer's Chief Engineer, Oskar Vennersborg, she does her job well and studied hard to pass the test.

Orval P. Jurgena is the new Meteorologist-in-Charge of the Lincoln (Neb.) Weather Service

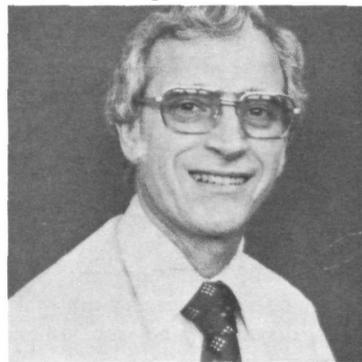
Office, succeeding Gordon Lippert who retired. Jurgena's meteorological training and experience began while serving in the Navy for four years. He



Orval P. Jurgena

entered the Weather Service at the Kansas City SELS unit in 1955, and also served at Omaha and Vandenberg AFB.

Max R. Griffith is the new Meteorologist-in-Charge of the WSO Wichita (Kan.), succeeding Jack Hughes who retired. Griffith began his weather



Max R. Griffith

career while serving in the Air Force for nine years. In 1955, he entered the Weather Service at Topeka. He also served at Wichita; Neenah as MIC; and Montgomery as MIC.

Harold L. Goodwin, project consultant for the National Sea Grant Policy for Marine Education Project, and the University of Delaware Sea Grant Project, is the editor of a soft-cover book intended as a national statement on the importance of marine education. Entitled "Americans and the World of Water," the book is available from the University of Delaware Sea Grant College Program, College of Marine Studies, Newark, Del. 19711, and costs \$2.50.

Troubled Employees May Ask For Employee Assistance

"We must give up the idea that alcoholism is a moral weakness and accept the reality that it is a disease that affects persons from all walks of life," says Sue Balboa, NOAA's Employee Assistance Program Coordinator.

NOAA employees need to be reminded periodically that there is a viable NOAA program to help them, Balboa feels. In any workforce, statistics show that five or six percent would be alcoholics.

One barrier in dealing with the problem is that many people are uncomfortable discussing alcohol abuse. But the Employee Assistance Program is ready to provide help in overcoming the problem to individual employees, to encourage employees to get professional help, and to give specific information about where to go for appropriate help. And all queries and use of the program are entirely confidential.

"No record is kept," Balboa said. "So it never would jeopardize a promotion."

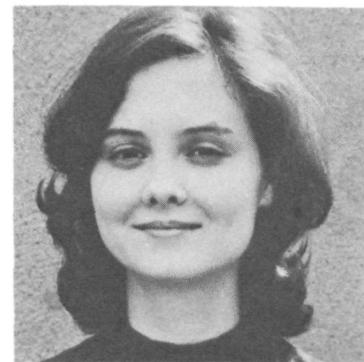
She is quick to point out that supervisors may be reluctant to refer employees for suspected alcohol (or drug) abuse problems. Poor performance by an employee may be due to other factors—lack of training, other personal problems, or inability to do the job. She suggests that supervisors avail themselves of the assistance the EAP coordinator can provide.

In the Washington area during FY 76, 75 persons used the program and 55 persons were counseled in the field. Balboa estimates that the program reached about one percent of those who potentially need the program's services.

But supervisors are cautioned not to confront employees suspected of abuse of alcohol or drugs outside working hours, even when they may be aware of such abuse. Any confrontation must be based on job performance. Instead, the

employee must be motivated to seek assistance.

In some areas, including the Washington, D.C., area, in-house or direct employee assistance programs for employees are provided. Some programs have been set up in field offices. Balboa has been doing supervisor training within NOAA for



Sue Balboa

the past several months to let supervisors know the role they play in unwittingly preventing an employee from getting the help he or she needs.

"If any employee has an alcohol or drug problem, and is not offered assistance to deal with the problem," Balboa said, "then if he or she is later dismissed, he/she has recourse under existing laws and may be reinstated."

NOAA recognizes alcohol and drug abuse, alcoholism, and mental health problems as treatable health problems. Sue Balboa, who has been with NOAA for five years, has been the Employee Assistance Coordinator for about a year. She holds a Master's degree in Psychology from the University of Missouri.

"Any employee with a problem in these areas should consult the nearest EAP counselor," Balboa says. "If you do not know where to turn, call me on 443-8105."

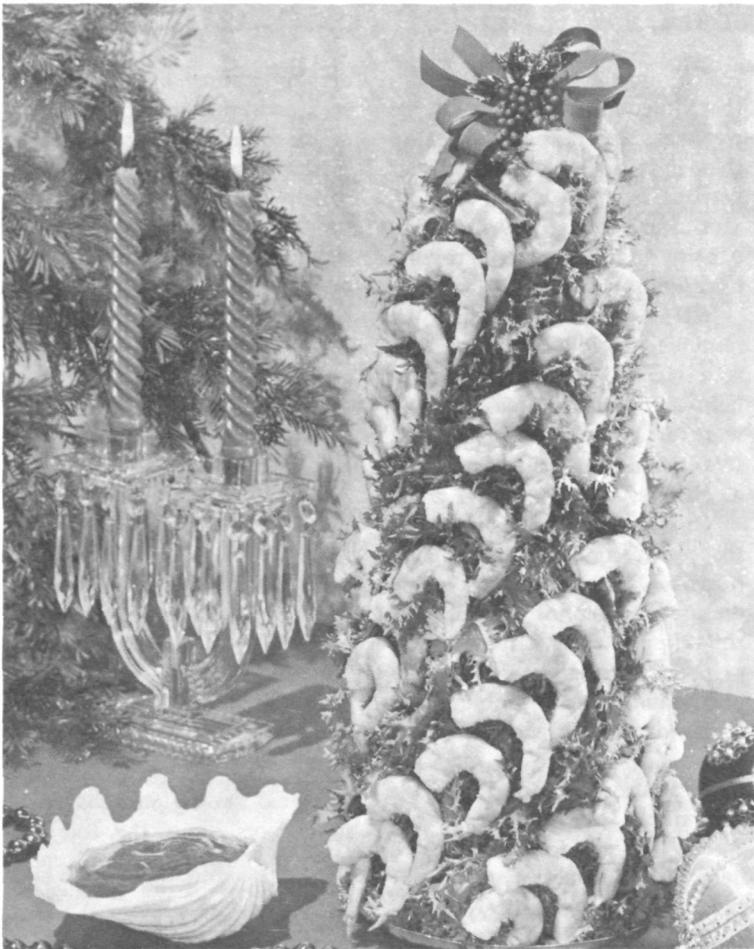
"Supervisors are invited to consult with coordinators in situations where they are uncertain about the need to refer any employee to the program."

Or call Sue Balboa, Room 216, NBOC-2, Rockville, Md. 20852; FTS 443-8105.

OBITUARY

Gary L. Rosenberger

Gary L. Rosenberger, 25, an electronic engineer with ERL's Air Resources Laboratories Geophysical Monitoring near Queenstown, New Zealand, in a motorcycle accident. He was on leave in New Zealand after a one-year tour at the South Pole with the 1977 U.S. Antarctic Research Program. He is survived by his parents, Mr. and Mrs. G. Rosenberger, Boulder, Colo., and a sister, Mrs. Lewis VanSant, Littleton, Colo.



SHRIMP CHRISTMAS TREE

- 3 pounds shrimp, fresh or frozen
- 2 quarts water
- ½ cup salt
- 4 large bunches curly endive
- 1 styrofoam cone, 2 ½ feet high
- 1 styrofoam square, 12 by 12 by 1 inch
- 1 small box round toothpicks
- Cocktail Sauce

Thaw frozen shrimp; place shrimp in boiling salted water. Cover and simmer about 5 minutes or until shrimp are pink and tender. Drain. Peel shrimp, leaving the last section of the shell on. Remove sand veins and wash; chill. Separate and wash endive; chill.

Place cone in center of styrofoam square and draw a circle around the base of the cone. Cut out circle and insert cone. Cover base and cone with overlapping leaves of endive. Fasten endive to styrofoam with toothpick halves. Start at the outside edge of base and work up. Cover fully with greens to resemble Christmas tree. Attach shrimp to tree with toothpicks. Provide cocktail sauce for dunking shrimp. Makes 12 servings.

BEST FISH BUYS

According to the NMFS National Fishery Education Center in Chicago, the best fish buys for the next week or so are likely to be frozen haddock fillets and fresh salad shrimp along the Northeast Seaboard; fresh croaker and seatrout in the Middle Atlantic states, including the D.C. area;

fresh whole mullet and fresh mackerel fillets in the Southeast and along the Gulf Coast; frozen pan-dressed smelt and fish sticks in the Midwest; fresh oysters and frozen shrimp meat in the Northwest; and frozen turbot fillets and fresh Pacific Red Snapper fillets in the Southwest.

BSE Instruction

Commerce Conducts Clinics

“Let’s fight cancer with knowledge!” urges Dr. Paul M. Selfon, Chief of the Commerce Department’s Medical Division.

According to a Gallup survey conducted for the American Cancer Society, cancer is the number one concern of American women. Breast cancer figures prominently in this concern. The fears are well founded since nearly one out of 10 American women will develop breast cancer at some time during their lives. Despite this, one-half of the adult female population does not have an annual breast examination conducted by a physician.

Cancer typically begins as a “localized” disease. The problem is to detect cancer in this state before it has spread so that it can be treated promptly. In addition to seeing a physician annually, an effective method of detecting early breast cancer is by a monthly breast self-examination. About 95 percent of breast cancers are found by women themselves.

The American Cancer Society urges women who find lumps, nipple discharge, or other changes in their breasts to see a physician without delay. Most lumps are benign; however, only a physician can make the diagnosis and recommend proper treatment.

A program of instruction in breast self-examination, or BSE,

developed by the American Cancer Society will commence in the Health Unit of the Post Office Building. It will be conducted later in other Health Units serviced by the Medical Division. Employees not located at Post Office Buildings will be notified of other locations in later editions of NOAA News.

Remember, age is no factor and the sooner the monthly habit of BSE is established, the better.

NOAA Business Cards

Once again, NOAA official business cards are available on order from the NOAA Employees Association. NOAA Directive Manual 68-18, dated 4-6-76, outlined the purpose, authority, format, and procurement of business cards for use in an official capacity by NOAA employees. The business cards, which must be purchased at the employee’s expense, are \$7.00 per 25 cards, which includes storage box and carrying case. Checks should be payable to NOAA Employees Association. Allow a week to 10 days for delivery. Contact the Association delegate in your building or call Jack Herkert, 763-5481, or Mary Wyvill, 763-2610.



Felix J. Jackson recently was sworn in as an ensign in the NOAA Corps by Cdr. Charles H. Nixon, Operations Division Chief, in ceremonies held at NOS’s Atlantic Marine Center, Norfolk, Va.

National Oceanic and Atmospheric Administration

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