



NEWSLETTER

December 1983 WOODS HOLE OCEANOGRAPHIC INSTITUTION

Merry Christmas



OCEAN INDUSTRY PROGRAM LOOKS AT MARINE POLICY, ECONOMICS, AND USE OF THE SEA

On December 7-8, representatives of several corporations met with WHOI personnel to discuss topics in "Marine Policy and Economics and Our Use of the Sea." Sessions covered economics of ocean resource use, Law of the Sea implications for marine resource development, and opportunities and limitations of the U.S. ocean policy-making process. Featured speakers included James Broadus, William Lahey, Robert Bowen, William Westermeyer, Kurt Shusterich, Robert Knecht, Biliana Cicin-Sain (all MPOM), John Farrington (Director, Coastal Research Center), Dave Ross (Director, MPOM), Bob Spindel (Chairman, O.E.), Timothy Hennessey (URI), and Garry Brewer (Yale).

30-YEAR EMPLOYEES TO BE HONORED DEC. 16

WHOI will officially recognize William M. Dunkle, Jr., Paul M. Fye, Thomas D. Rennie, and Eloise M. Soderland for each of their 30 years of service to the Institution on Friday, December 16, at 4 p.m. in Clark 507. Appreciation will also be extended to those who have retired in 1983. All hands, families, and friends are welcome.

UNITED FUND REMINDER

This is your last chance to contribute to the 1983 United Fund Drive. Nat Corwin, WHOI United Fund Chairman, reports that we've done well to date, with employees contributing \$9,500. If you've misplaced your pledge card, he has plenty on hand. Nat can be reached at Clark 413, ext. 2822.



A hired crane lifts ALVIN off of LULU and onto the Iselin dock in preparation for the move to ATLANTIS II on November 18. Photo by Frank Medeiros. (See related story on page 8.)

WHOI TO OFFER COMPUTER SOFTWARE NATIONWIDE

The Woods Hole Oceanographic Institution will offer computer software created by faculty members/researchers to potential users at other nonprofit institutions, in industry and in government.

Software often represents valuable intellectual property that can bring royalties back to the author and to the Institution. Arrangements to market computer programs have just been completed with Research Corporation/Research Software (RC/RS), a national clearinghouse in Tucson, Arizona.

On receipt of debugged programs and concise operating instructions suitable for publication, RC/RS will copyright the material and market it to users. RC/RS will collect fees for use of software and return a 60 percent share to the Institution, retaining 40 percent to cover RC/RS operating costs. In accordance with Institution Memorandum 9-63 (Patent Policy), fees collected by the Institution will be divided equally (50-50) between the authors and the Institution.

The benefits for all who participate in the software marketing program include not only the possibility of collecting royalties, but national exposure through regularly published catalogs and other promotional materials, and the opportunity to purchase the software of other authors at substantial discounts.

Those with completed software or with programs now in preparation should contact Fred Hess, ext. 2275, for further information about submitting the material to RC/RS. Generally, authors are asked for five copies of debugged programs and for operating manuals in draft form. These should be accompanied by a simple software administration agreement, also available from Fred Hess, which must be signed by the author and an Institution representative.

Established in 1912 "to make inventions more available and effective in the useful arts and manufactures" and "to provide means for scientific research and experimentation by contributing the net earnings of the corporation," Research Corporation has had over 70 years of experience in transferring new concepts from academic researchers to users in academe, industry and government.

RC/RS was established by Research Corporation this year to spur progress by making computer programs rapidly available, and to help provide additional resources for hard-pressed research institutions.

ADDITIONS TO WHOI FAMILIES

Patricia M. Glibert, assistant scientist in the Biology Department, and Todd M. Kana are the parents of their first daughter, Kathryn Marguerite Kana, born November 5 at Falmouth Hospital. She weighed 7 lbs, 7-1/2 ozs. And best wishes to Mike and Catriona Purdy on the birth of their daughter, Phillipa Robyn, on November 22 at Cape Cod Hospital. Phillipa weighed 9 lbs, 1 oz. Mike is an associate scientist in G&G. Congratulations to all.

WHOI WEDDINGS

Congratulations go out to Brian Cook, research assistant in the Physical Oceanography Department, and Donna Cook who were married on October 15.



Keith Bradley, research associate in Physical Oceanography, displays a "work at sea" photo given to him at his going away party December 2 as his wife, Mary Jo, and Betty Guillard look on. The photo is inscribed with one of his favorite sayings "People pay thousands of dollars" (to go out to sea). Keith has joined the marketing staff at Benthos.

WHOI SCIENTIST ELECTED FELLOW OF AMERICAN PHYSICAL SOCIETY

Jack Whitehead, associate scientist in the Physical Oceanography Department, was recently elected a Fellow of the American Physical Society. He received the certificate at the Annual Meeting of the Division of Fluid Dynamics in Houston, Texas, November 20-23.

Fellowship in the American Physical Society is limited to 1/2 percent of the total division members each year. The citation reads: "For experimental investigation yielding fundamental knowledge concerning the development of thermal convection and numerous other fluid phenomena of importance to the dynamics of the atmosphere, oceans, and planetary interiors."

Jack has been involved in a variety of fluid dynamics studies at WHOI including models of the density driven flows similar to those in the Strait of Gibraltar. He showed that water from great depth in the Mediterranean may be drawn up and out through the Strait through selective withdrawal, with the gyre in the Alboran Sea playing an important role in this process. A gyre is also observed in the Atlantic side, produced by turbulent suction of the plume of Mediterranean water rushing down into the Atlantic.



Jack Whitehead (right) and Bob Frazel check results of one experimental run on the rotating table. Fresh water (dyed blue) released from the holding tank (imitating a bay) travels along the basin wall and then across the sloping shelf. Photo by Anne Rabushka.

This month, Jack and Senior Research Assistant Bob Frazel have started a series of experiments at the Coastal Experimental Laboratory on modeling density coastal currents over a sloping bottom. Distilled water with blue dye (representing a fresh water reservoir such as bay water held back by wind) is released and flows against the shelf, held in this pattern by the rotation of the tank (representing an ocean basin on the rotating earth). Jack is looking at the properties of this transport -- its speed, how the slope of the shelf affects the current, the shape of the current's front.

This research has application in areas of the world such as the Norwegian Sea where fresh water from the Baltic can be held back by the wind, and when released during periods of slack winds, flows along the Norwegian coast. This Norwegian Sea Coastal Current can be as wide as 40km, as deep as 200m, and as long as 200-300km. This fluid dynamics research is beneficial to oil drilling and fishing industries in that part of the world.

IN MEMORIAM

The Institution notes with sorrow the death of Allen Be of the Lamont-Doherty Geological Observatory on October 13. Dr. Be was a respected colleague and friend to many researchers here at WHOI. His work included studies of planktonic foraminifera and related calcium carbonate secreting zooplankton, and encompassed micro-paleontological, biogeographical, and biological topics.

WHOI CALENDARS ON SALE AT STOCKROOM

The 1984 Institution calendar, featuring a four-color photo of the ATLANTIS II, is now on sale at the Stockroom. The correct, revised price is \$3.00 per copy. The calendar lists all major holidays and Institution events.

NEWSLETTER NOTICES - Please send notices, photos, or photo suggestions, and any items of interest to the oceanographic community to Anne Rabushka, editor, Co-op, ext. 2271.

WHAT CAN YOU DO WITH A MICROCOMPUTER?

by Ann Martin, Microcomputer Users Group
(second of two parts)

At the Oceanographic, the answer is "a lot." The uses can be categorized as: data analysis, data entry, data logging, graphics, instrument control, modelling, program development, telecommunications, VAX terminal, word processing.

Apparently, the micro is displacing the typewriter; nearly everyone uses theirs for word processing. There are 87 word processing packages here, most of them (48) for Wordstar. In the entire Institution there are 140 electric and 84 manual typewriters, plus the Wang word processing systems with 30 workstations. Micros may be influencing our scientific and technical writing as much as they are enhancing the staff's scientific prowess.

Computer graphics, instrument control, modelling, and telecommunications are other fields of special interest. A Kaypro portable computer is used to talk to our ships at sea via satellite. In the May 1982 census, it was found that 18 out of the 56 micros counted had been taken to sea.

The memory size of the computers ranges from 4K to 512K, with 64K and 128K the most common sizes. Most of the micros (63) are 8-bit machines, but 43 are 16-bit, as are the new machines on order. Some micros have operating systems that are customized -- Hewlett-Packard, IBM, Commodore, Radio Shack -- but most owners who have a choice are using CP/M. The micros talk an array of languages: Assembly, the various dialects of BASIC, C, COBOL, FORTRAN, LOGO, Macro, Pascal.

Every micro needs a terminal and a storage system. There are 103 CRT monitors, 8 of them color, the rest monochrome, including four television sets. Only three printing terminals are used here with micros. Storage systems include 97 sets of floppy disk drives and five hard disk drives (Winchesters). Most of the floppies are double density (77) and have a storage capacity from 108Kb to 1000Kb (1Mb). Their physical sizes differ: 56 of the drives take 5-1/4" disks, 40 of them use 8" disks (the size in the 26 NEC micros now in the Institution). Four of the hard disks are 5-1/4", and one is 8"; their storage capacity ranges from 5 to 16Mb.

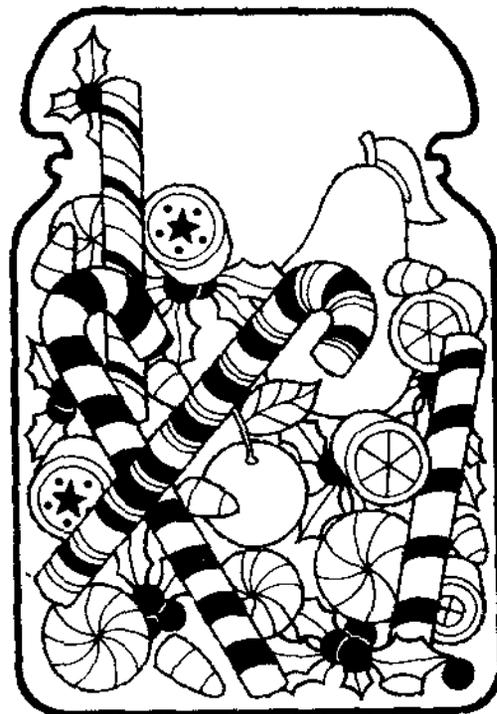
Buying a Central Processing Unit (CPU)

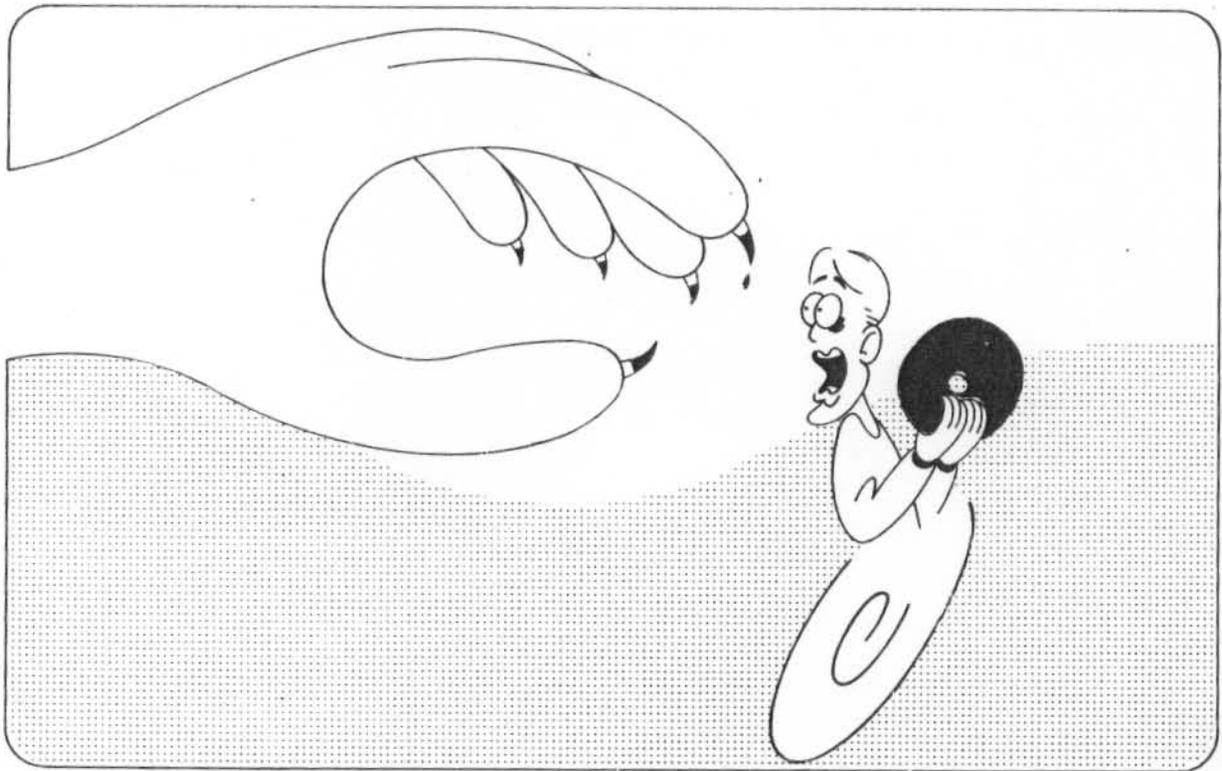
is only the start. WHOI micros have 101 printers attached to them, including 27 Epsoms, 26 Prowriters and Spinwriters. Most (72) of our printers are dot matrix; there are 16 impact and 12 thermal machines. For graphics there are 20 plotters, four of them drum plotters, the remainder flatbed. Ten out of the 20 plotters are Hewlett-Packard.

Micros, which initially were used as self-contained loners, are becoming more sociable. Thirty-five of the micros have data communications capabilities; Commodore, IBM, Kaypro, NEC, and Radio Shack are so equipped. They can send and receive data at rates from 300 to 9600 baud; most of the modems operate at 300 and 1200 baud. This capability means that there is a micro ready to talk on 35 of the Institution's 705 telephone extensions.

The day may come when every lab at WHOI has a micro. If you decide to buy one, please notify Ann Martin so that it can be logged in the IPC Microcomputer Information database. A listing of the contents of the entire database is available for copying upon request.

NOTE: Part one, "TIPS ON BUYING A MICROCOMPUTER," was printed in the November Newsletter. For a copy of that article contact the Public Information Office, ext. 2271.





CONFERENCE ROOMS OUTFITTED WITH RED CAROUSELS

Slide carousels located in Institution conference rooms are intended for everyone's convenience and should not be removed from the rooms. Individuals may purchase carousels from the stockroom for \$6.36. The conference rooms have recently been outfitted with bright red carousels, and anyone caught making personal use of a red one will be in deep trouble with the Great Hand of Graphics.

RETIREMENT PARTY PLANNED FOR CHIC MEDEIROS

Photo Lab Supervisor Chic Medeiros is retiring January 1 after almost 20 years of meeting impossible deadlines. A party for him is being planned at Fenno House the afternoon of Friday, January 13 (he says Friday the Thirteenth has never been a problem for him...). Please watch bulletin boards and interoffice mail for details or call Vicky Cullen, ext. 2719.

STOCKROOM NOTES

The Stockroom is now on-line with a computer inventory system. All employees making purchases, whether for work or personal use, will have to give their employee numbers for record-keeping purposes.

THROUGH RAIN, SNOW, SLEET AND HAIL (AND STRANGE ADDRESSES) WHOI GETS ITS MAIL

The Publications and Information Office recently received a letter addressed as follows:

WHOI
729 Fifteen St., NW
Washington, DC 02543.

Does this person know something we don't know?



The Smith Stockroom demonstrates its Christmas spirit. Photo by Anne Rabushka.

OCEANOGRAPHIC EQUIPMENT HEAVILY DAMAGED IN BUZZARDS BAY

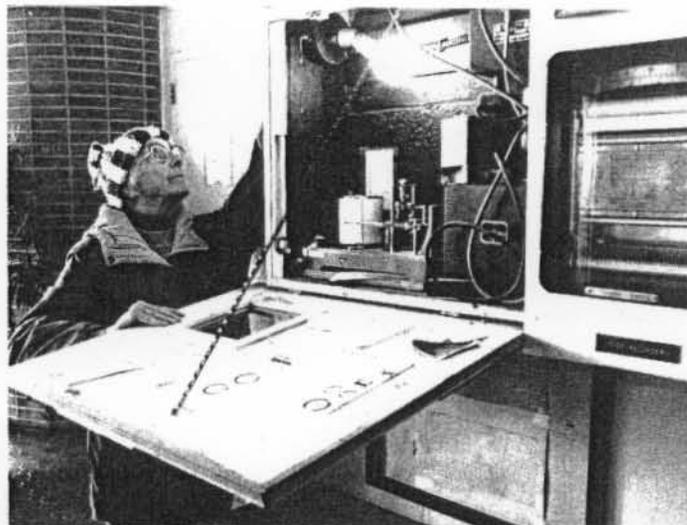
A \$5,000 Institution buoy was heavily damaged recently by a bullet that pierced the casing and caused seawater to flood the electronics. The buoy, part of a Sea Grant project studying PCB pollution in the New Bedford Harbor area, contained instrumentation for measuring currents, wave energy, and wave height and had a telemetric capability that allowed it to transmit information immediately back to the lab. The equipment was developed by Bill Grant in Ocean Engineering for John Farrington, Director of the Coastal Research Center.

"We've notified the Coast Guard about the incident," reports Bruce Tripp, a research associate in the Chemistry Department who is involved in the project. "We hope that the shooting was just a one-time prank rather than a malicious premeditated action," he said.

WHOI work in Buzzards Bay led to the recognition of the extensive PCB pollution problem. Subsequently, actions by the state government resulted in a ban of all fishing in the inner New Bedford Harbor area and lobstering over much of the Harbor. "Our research and the work of the EPA (which has granted "Superfund" money for the clean-up operation) will have long-term benefits to the harbor itself and to the people earning their livings on Buzzards Bay," said Tripp. "The research should lead to a cleaner, safer, and potentially more productive marine environment," he added.



Chris Dunn, research associate in O.E., indicates the trajectory of the bullet that heavily damaged an Institution buoy placed in New Bedford Harbor.



Dot Rogers has been recording air and water temperatures in the Smith Building Lobby for almost 26 years. Photo by Anne Rabushka.

26 YEARS OF WATCHING THE WEATHER

Dot Rogers, WHOI's participant in the Department of Commerce's National Ocean Survey, has been recording daily temperature data since 1957. Each day (Monday-Saturday) around noon Dot takes readings of air and water temperature, wind velocity and direction, water salinity, and tide measurements. A permanent record by week and month is kept at the Smith and Iselin buildings where she makes her readings.

Dot came to WHOI in 1954, working for Frank Mather in the Biology Department on a gamefish tagging project. She officially retired from WHOI in 1978 but continued on with the Ocean Survey program.

After recording temperature data for more than 25 years, Dot suspects that this winter will be mild like last year (as indicated by the mild water temperature of 45.5°F on December 6). Since seawater freezes at 25°F, she believes we might not have any ice in the harbor again this year.

IN MEMORIAM

WHOI notes with sadness the passing of Winifred H. Frank on December 3. Winifred worked as a clerk in the Physical Oceanography Department's "BT" section for 17 years before retiring in 1977.

NEW FACES

December 1983



Christopher J. Belting
Research Assistant
Ocean Engineering
Bigelow 103/x2492
Y. Agrawal



Dudley B. Foster
DSRV Pilot
ALVIN Operations
Smith 301/x2579
B. Walden



Kathryn A. Kelly
Postdoctoral Scholar
Physical Oceanography
Clark 343A/x2539
R. Beardsley



Eileen M. Klopfer
Research Assistant
Biology
Clark 416/x2584
R. Naiman



Jacques Malod
Guest Investigator
Geology & Geophysics
Clark 252B/x2828
J. Heirtzler



Peter S. Meyer
Postdoctoral Invest.
Geology & Geophysics
McLean 214C/x2829
H. Dick



John J. Polcari
J. P. Student
Ocean Engineering
Bigelow 314/x2206
A. Baggeroer



Peter R. Shaw
Postdoctoral Scholar
Geology & Geophysics
Clark 242/x2472
M. Purdy

PROMOTIONS AND OTHER PERSONNEL CHANGES

Recent appointments include:

KATHRYN A. KELLY - P.O. - Postdoctoral Scholar.

ANDREW R. MAFFEI - O.E. - Research Assoc.

PETER S. MEYER - G&G - Postdoctoral Investigator.

PETER R. SHAW - G&G - Postdoctoral Scholar.

Recent promotions include:

JAMES F. PRICE - P.O. - from Assistant Scientist to Associate Scientist.

Recent retirements include:

EARL E. HAYS - O.E. - Senior Scientist.

PRICE PROMOTED TO ASSOCIATE SCIENTIST

James F. Price has been named an Associate Scientist in the Physical Oceanography Department. He started at WHOI in 1979 as an Assistant Scientist after spending two years at the University of Rhode Island as a Research Associate. Jim received his undergraduate degree in physics from the University of Oklahoma and his master's and Ph.D. from the University of Miami in physical oceanography. His research interests include the dynamics of the upper ocean, surface mixed-layer and generation of inertial-internal motion; and the dynamics of the mid-ocean, description of the general circulation, and dynamics of open ocean eddies.

OCEANOGRAPHIC SHIP NOTES

Work on ATLANTIS II is continuing, but minor problems with the installation of the submersible handling system have necessitated a delay in the ship's schedule. Estimates now call for A-frame load testing in late December, and completion of all work in early January. A-II should be sailing south shortly thereafter.

ALVIN, now aboard the A-II, has been undergoing routine maintenance and servicing of batteries. Transfer to the A-II took place on Friday, November 18, safely but not uneventfully. Not only was the crane late in arriving (WHOI had to hire a heavy-duty crane to lift ALVIN off LULU onto the dock and then onto the A-II), but the crane lost its steering and had to be maneuvered by manually pushing the wheels. Since the submersible handling system was not operational, the crane had to then push the A-frame away from the hangar to allow room for ALVIN. In so doing, several hydraulic fluid lines sprang leaks, which were quickly contained. Eventually, ALVIN was gently lowered onto its new mother ship and slipped into its new hangar home.

KNORR has just completed its final 1983 leg of Voyage #104. This cruise was for study of the stratification and circulation of the Agulhas Current in the retro-flection region south of Africa. KNORR will remain in Cape Town, South Africa, through the holiday period and will return to sea on Leg VI of Voyage #104 on January 11.

OCEANUS departed Woods Hole on December 5 on Voyage #143 for ocean engineering studies. The purpose of Leg I, which took the ship to St. George's, Bermuda, was to test the recently overhauled and modified Traction Winch System. Leg 2 entailed the recovery of a subsurface mooring deployed on OCEANUS Voyage #139. OCEANUS returned to Woods Hole on December 14 and will remain here throughout the holidays. The ship will begin the 1984 schedule January 9.

LULU has been officially offered back to the Navy. A decision as to her future use has not yet been made. She remains at the dock with a small crew for maintenance.

ASTERIAS is now at MacDougalls Boatyard in Falmouth undergoing engine overhaul, equipment reconditioning, and hull repairs. Work should be completed by late March or April. In the interim, the Institution will

be hiring any of several small charter vessels in the Woods Hole area.

WATCH OUT FOR YOUR PURSES AND WALLETS

On November 14 an incident of theft occurred in Clark Laboratory resulting in the loss of a purse and wallet. An individual, who appeared not to be an employee, was observed in the building at about the time the theft is thought to have occurred.

It is suggested that employees offer to assist any strangers observed, and in the event of questionable or suspicious responses, immediately notify the Facilities Office, ext. 2205.

Efforts will be made to interview such individuals and confirm the reason for their presence.

BENEFIT BRIEFS - TAX TIME

IRS has contacted us with an offer to help you prepare your 1983 tax forms. They have offered to come here in February to work with you in completing 1040A or 1040EZ tax forms. They will not be able to help you under this proposal if you itemize deductions or need separate schedules.

If you would like to attend one of their meetings, please contact Terri Monroe, ext. 2706, as soon as possible. She will let you know where and when the meeting will be held. The IRS representative will not be able to come unless a sufficient number of employees indicate an interest.

CREF value as of November 30 has increased to \$66.94 from \$65.95.



***** HAPPY NEW YEAR! *****
