March 1984

NEWSLETTER

WOODS HOLE OCEANOGRAPHIC INSTITUTION

ALVIN DISCOVERS OASIS OFF FLORIDA COAST

An underwater oasis of tube worms, mussels, and a rich assortment of marine life has been discovered in the Gulf of Mexico during a series of ALVIN dives off of Tampa, Florida. The community is the first found outside the eastern Pacific.

The totally unexpected discovery happened during Leg IV of Voyage #112 of the extended ATLANTIS II/ALVIN cruise. Goals for this leg were to conduct geological examinations of the West Florida Escarpment, a steep outcropping of permeable limestone.

This rocky 45-degree slope, which ranges from 2000 meters depth down to the Gulf's abyssal plain at 3300 meters, does not exhibit any of the tectonic activity of the ridge crests in the Pacific where similar communities were first discovered in 1977.

Ralph Hollis, chief pilot for ALVIN, was assigned to what was supposed to be a routine dive on March 9th. ALVIN was to dive to the edge of the cliff where it abutted the abyssal plain and take a sediment core, then proceed up along the cliff taking rock samples. "As we approached the base of the cliff, I noticed some clams and then the beds of mussels. We rushed around like mad taking samples and photographing the marine life, all the while reporting back to the A-II, where excitement was pretty high. In addition, we still had to take all the samples we were originally intending to take," said Ralph.

He reports that there were no temperature anomalies in the area, meaning that the community is probably surviving on the sulfur in the water, but the presence of sulfur has not yet been ascertained. "The decision of all involved was to name the area a 'cold vent' system," says Ralph. Temperature at the vent was measured at 4.4°C (40°F).

Observers on the three dives to the community (on March 9, 10 and 12) spotted possible white bacterial mats on rock surfaces, two to three-foot tube worms, snails preying on large fields of mussels, six to eight-inch blood-red clams, galatheid-type crabs and eel-like vent fish. Most of these animals are similar to the kinds of creatures found at the Pacific vents, although testing over the next few months will prove definitely whether or not these are the same species.

Jim Hardiman piloted the second dive and Ralph led the third dive which was donated by John Edmond of MIT from one of his upcoming cruises. Water samples were taken on this dive for shipment to his lab and analysis of their chemical content.

Observers on the dives were Barbara Hecker (Lamont), Raymond Freeman-Lynde (NORDA), Conrad Neumann (UNC), Stjepko Golubic (BU) and Charles Paull (Scripps), chief scientist for the leg. Hecker, the biologist on the dive, will be allocating samples to various specialists around the country.

Ralph reports that his second dive (the third of the vent dives) had to be cut short due to an approaching storm, but that all three dives located extensive underwater life. The community may prove to be larger than any of the Pacific communities, possibly covering large stretches of the escarpment from which sulfur rich groundwater may be escaping.

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.

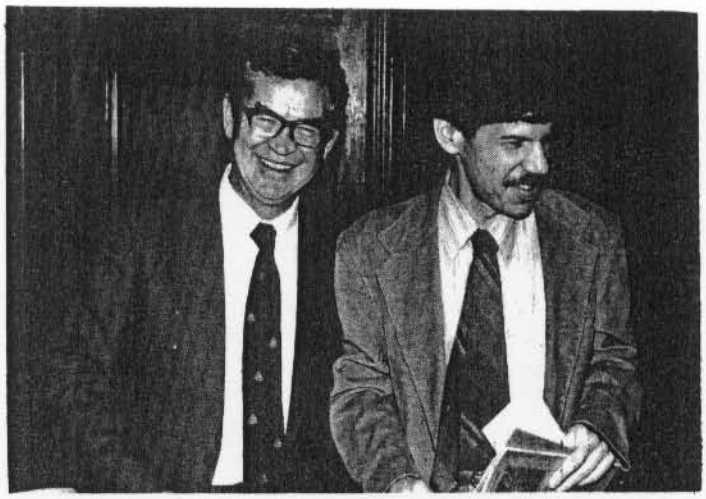
Monday, April 16, is the Patriots' Day Holiday. Good Luck if you're running in the Boston Marathon. Enjoy the day!

DIRECTOR'S ACTIVITIES

Director John H. Steele participated in the One Hundredth Anniversary celebration of Phi Beta Kappa this winter. As chairman of Phi Beta Kappa's Science Award Committee, he presented the organization's prestigious Science Award to Harvard's Stephen Jay Gould for his book "Hen's Teeth and Horse's Toes: Further Reflections in Natural History." This book was the unanimous choice of the Committee and Dr. Steele said that the "collection of essays on diverse topics is unified both by the brilliance of the writing and by the breadth and depth of Stephen Gould's vision of biological processes in the general context of our evolutionary history." Stephen Gould is a frequent visitor to the Institution, where he works with Bill Berggren and other colleagues in paleoceanography.

In January the Director attended the ONR Workshop on Bioacoustic Sampling in New Orleans and presented the overview and concluding remarks to this meeting. In February he chaired an Advisory Panel of the Congressional Office of Technology Assessment regarding oil and gas development in hostile offshore environments. The OTA has been asked by the Congress to review long-term developments of resources in the Arctic Ocean; Bill Westermeyer, a former MPOM Fellow, is on the OTA staff preparing this report.

Earlier this month John Steele, Derek Spencer and Bob Spindel met the Dean of Graduate Studies and other staff from Southeastern Massachusetts University to discuss collaboration in regard to Governor Dukakis' interest in the development of a Center of Excellence in this area for marine technology and education. Bob Spindel has held discussions with local industries on appropriate collaboration.



John Steele congratulates Stephen Jay Gould after presenting him with Phi Beta Kappa's prestigious Science Award at the 100th Anniversary Celebration of that group in Washington, D.C. Photo by Ankers Capitol Photographers.

KETCHUM LECTURE SCHEDULED FOR APRIL 30

WHOI's first annual Bostwick H. Ketchum Award, an endowed lectureship honoring well-known oceanographer Bostwick "Buck" Ketchum who passed away in 1982 at age 70, will be presented April 30 by Dr. Edward D. Goldberg, professor of chemistry at the Scripps Institution of Oceanography in La Jolla, California. Dr. Goldberg will speak on "Informational Needs for Ocean Waste Disposal" at 4 p.m. in Redfield Auditorium.

More than $30,000 has been raised to date, much of it from friends and colleagues of Dr. Ketchum, to support an annual lecture in Woods Hole by an internationally-recognized scientist or to support a longer visit by a younger researcher.

Buck Ketchum was an outstanding scientist at the international level, a strong force in the development of biological oceanography in Woods Hole, and a respected member of the civic and scientific communities. He was associated with WHOI for more than 40 years, retiring in 1977 as Associate Director. He continued to write following his retirement, and at the time of his death was co-editor of a series of four volumes on ocean dumping entitled "Wastes in the Ocean."

Appropriately, the first lecture in Dr. Ketchum's honor will focus on the coastal zone and ocean waste disposal, topics on which he carried out pioneering research. Dr. Edward Goldberg is an internationally-known marine geochemist who has been affiliated with the Scripps Institution of Oceanography since 1949. His present research projects include the factors governing metals in the environment, the use of glaciers in studying recent geological events at the earth's surface, and the dissemination of charcoal about the environment as a consequence of natural and man-induced burning.

SPENCER ADDRESSES ANNUAL STAFF MEETING ON RESEARCH PRIORITIES IN OCEANOGRAPHY

Derek Spencer, Associate Director for Research, said in a speech at the annual staff meeting that federal funding for Institution projects has remained steady over the past few years (inflation considered) with a steady increase in National Science Foundation (NSF) funds and variable increases and decreases in the Office of Naval Research (ONR) budget. Of the major oceanographic research institutions receiving federal funds in 1982, Scripps led the list with just over $50 million and WHOI followed with $32.5 million in 1982; however, the transfer of the $25 million Deep Sea Drilling Project from Scripps to Texas A&M should change the order for 1984.

He notes that there is no danger of any ships being laid up and that a constant increase in ship funding has been seen. ONR and NSF are committed to replacing the nation's oceanographic fleet by the 1990s. "Now is the time for us to be looking and thinking about what we'll need in the future," said Derek.

In the list of research priorities for this decade, NSF includes the maintenance of current services with special emphasis on the academic fleet, computational needs, laboratory instrumentation and sampling tools. New initiatives encompass lithosphere studies and global ocean/climate studies. ONR priorities affecting Institution programs are signature reduction research and environmental processes and their effects. Included in the latter area are the topics of underwater acoustics, storm dynamics and related effects at sea, and a better understanding of the ocean's dynamic behavior at all scales.

Dave Ross, director of the Marine Policy and Ocean Management Program, warned the assembled staff about the absence of funding for all Sea Grant programs in the 1985 budget now before Congress. But he also noted that this has happened in three previous budgets, and all three times Sea Grant money was reinstated by Congress. In addition, significant decreases in other National Oceanic and Atmospheric Administration (NOAA) programs have been proposed for 1985; however, WHOI should not be adversely affected by these budget cuts.

TINKER FOUNDATION AWARDS GRANT TO WHOI FOR GALAPAGOS ISLAND STUDY

The Tinker Foundation has awarded a $133,000 grant to WHOI in support of a three-year project on the development of a marine management plan for Ecuador's Galapagos Islands. The project, one of several international studies underway at the Institution's Marine Policy and Ocean Management Program, is being led by Jim Broadus, Maynard Silva, and Senior Fellow Robert Knecht.

A four-member team from the MPOM Program visited the Galapagos Islands at the invitation of the Ecuadorian Government this past summer (August Newsletter). The two-week visit enabled the team to collect information for the Presidential High-Level Commission, which is developing a Master Plan for the Galapagos Islands to cover coastal and marine resource management. Among the issues facing the islands are the balance between environmental protection of the marine resources of the coastal zone and increased exploitation of these resources for the benefit of the islands' population. The WHOI team will report to Ecuadorian President Osvaldo Hurtado with recommendations for the solution of the legal-environmental problems.

Established in 1958, the Tinker Foundation focuses its funding activities on projects concerned with Latin America, Spain and Portugal. Although grants have traditionally emphasized the social sciences, increasing attention is being given to the field of natural resources.

Numerous harbor seals have been spotted sunning themselves on the rocks between WHOI and Naushon Island. Photo by Anne Rabushka.

OCEANOGRAPHIC SHIP NOTES

Following newsworthy discoveries of deep water communities off of Tampa (see article on page 1), ATLANTIS II and ALVIN continued on with Leg IV of Voyage #112 which brought them to Cristobal, Panama, on March 19. After loading of a new isotope lab (see article on page 5) and other equipment, A-II departed March 26 on Leg V for chemical and biological studies between Panama and Acapulco, Mexico. Scientists on board will conduct in situ experiments on the sediment-water interface with particular emphasis on organic transformations and the turnover of surface layers by animals. ALVIN is scheduled to make eighteen dives in the Panama Basin. A-II and ALVIN are due in Acapulco on April 19.

KNORR continues on extended Voyage #104. Leg VIII, which began on March 16, is taking the ship from Recife, Brazil, to Dakar, Senegal (expected arrival April 10).

The purpose of this cruise is to study the dynamic response of the Upper Equatorial Atlantic Ocean to the seasonally varying surface winds. This is the third cruise in the field program of the multi-institution SEQUAL Program. The scientific program will involve the recovery and re-deployment of six surface current meter moorings, recovery of tide gauge moorings, deployment of surface drifter buoys and XBT stations. KNORR is due back in Woods Hole in mid-May.

OCEANUS' week-long Voyage #149 departed Woods Hole on March 12. The purpose of the cruise was to continue the study of currents and sediment transport on the Continental Slope south of Martha's Vineyard and Georges Bank. After returning to Woods Hole for three days, OCEANUS again departed for another seven-day cruise to the Continental Slope and Shelf south of Martha's Vineyard as well as Block Island and Long Island. This cruise, the third of the 1984 SEEP (Shelf Edge Exchange Processes) Program, entails the retrieval of seven instrumented subsurface moorings and eight guard buoys. Additional scientific activities will be CTD/rosette stations, XBTs, Niskin bottle casts and gravity cores. OCEANUS is due back on March 29.

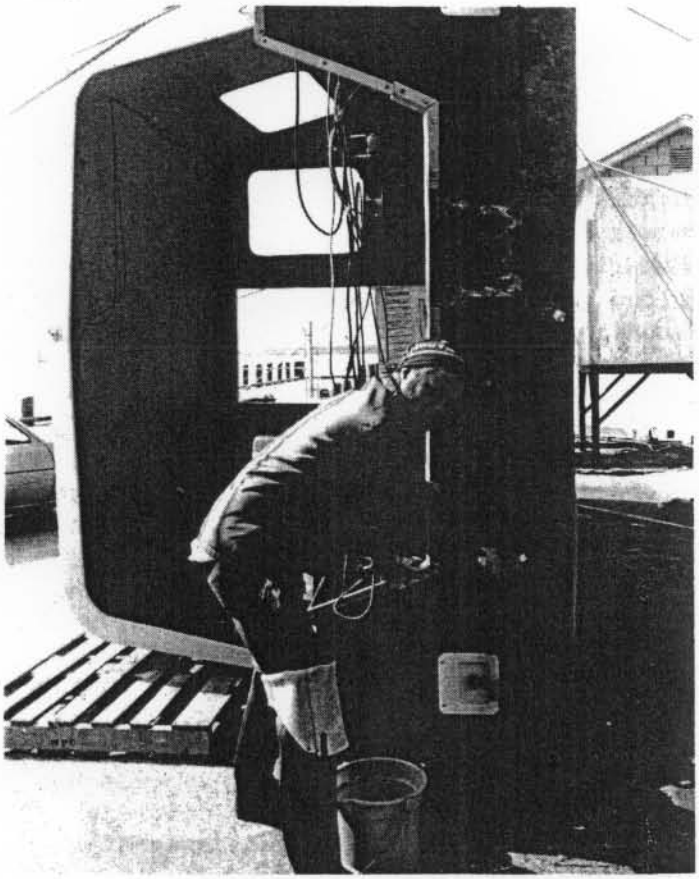
ASTERIAS returned to Woods Hole from McDougall's Shipyard on March 25. She is scheduled to return to service on or about April 1 after installation of electronics and further equipment.

SMALL BOATS AVAILABLE FOR RESEARCH WORK

WHOI employees using any of the Institution's small boats for their research should adhere to the policies set forth in Institution Memorandum #1-83.

The Coastal Research Center (CRC) has operational control of five small boats: the 24-foot Sea Truck, a 22-foot catamaran, a 17-foot Boston Whaler, a 13-foot Boston Whaler, and an 11-foot Yankee Skiff.

Permission for use of any of these small boats can be obtained by qualified employees after submission of a "Float Plan," copies of which are available from Hovey Clifford at CRC, ext. 2353.



Hovey Clifford scrubs down the Sea Truck on Dyers Dock. Photo by Anne Rabushka.

30-DAY MAGIC ACT AT ISELIN TURNS AN EMPTY CONTAINER VAN INTO A PORTABLE ISOTOPE LAB

A 20-foot long, 8-foot wide container van was converted into a transportable isotope laboratory at the Iselin shops in less than a month.

"I don't think anyone else other than WHOI could have done it in this amount of time," says Ernie Charette, assistant facilities manager. "When the van came in on February 2, all we had was an empty shipping container. When it left on March 1 for shipment to Panama to meet the ATLANTIS II, it was a completely insulated, air conditioned/heated lab with exhaust and intake air flow systems similar to the ones in the new Fye Lab."

The purpose of this portable isotope lab is to insure a radiation-free environment on board the ship. Studies such as the Transient Tracers in the Ocean (TTO) program record minute traces of radiation in the oceans. Contamination of the ships' work areas would seriously and adversely affect those studies. The lab is intended as the sole workplace for isotope studies aboard ship.

"We designed the lab for a worst case spill," notes Ernie. Ease of containment and cleanup were priorities; to that end the lab was installed with many safety features. An epoxy coating was applied inside and out for easy cleaning, two fume exhaust hoods were installed with air flow velocities of 125 feet per minute, and all hoods, countertops and floors are fiberglassed and gel-coated (as well as 12 inches up the walls of the lab and adjacent dressing area). All counters have barriers along the edges and all plumbing and air moving equipment is acid resistant.

Modular in design, the lab can be rearranged with various combinations of counters, cabinets, hoods (up to two) and sinks (two with both hot and cold water, two extra sinks in the hoods with cold water only).

The portable lab requires about one hour of set up time (electrical and water connections) before it is up and running.

"One unusual feature of the lab is the outer design," says Ernie. "Because of the need to ship the lab (down to Panama, and later from ship to ship) all exhaust fans and connections had to be recessed into niches to prevent any damage during transit. From the outside the van looks like any other empty container van."

A new, transportable, modular isotope lab was created out of an empty container van by the Wizards of the Iselin Shops during the month of February. Photo by Anne Rabushka.

Requirements for the lab contents were set by the Isotope Users' Committee. The $23,000 budget was supplied by the National Science Foundation (NSF).

"We've done other portable labs here at WHOI, but this was the first isotope lab we've ever created. The fact that all the work was done in just four weeks was remarkable and shows the resourcefulness of the shops," Ernie added.

STOCKROOM NOTICE

The Stockroom requests that any cash sales be made before 1600 hours so as to allow time to close out the computer for the day.

MITCHELL RETIREMENT PARTY HELD FEB. 24

Over 250 friends, associates, and family attended a retirement party for Jim Mitchell, WHOI's facilities manager and an employee of the Institution for 24 years.

The party was held in Clark 507 on February 24. Well-wishers presented a variety of gifts to Jim including a portable TV for his trailer, binoculars, a cordless phone, an album of photos of WHOI facilities constructed during Jim's tenure, a leather-covered road atlas, a map holder, and a giant gold key signed by party attendees.

A NOTE FROM JIM

I would like to thank all the people who provided such a tremendous retirement party for me. If you are missed during my efforts to do this personally, please accept this newsletter note as my great gratitude to you.

While it was not a "surprise" party I was surprised by the number of people and the warmth of the good wishes. Gertrude and I are already making good use of many of the gifts and are planning the placement of others in our new trailer.

You all will travel with us and we will think of you often.

Over 250 friends and family of Jim Mitchell attended his retirement party in Clark 507. Photo by Shelley Lauzon.

Jim Mitchell displays the leather-covered atlas he received at his retirement party on February 24. Photo by Shelley Lauzon.

WHOI HOCKEY TEAM LOSES AT URI

The WHOI hockey team travelled to Portsmouth, R.I., on St. Patrick's Day to meet the URI team on their home ice. Unfortunately, the luck of the Irish did not favor WHOI, as URI took an early lead and went on to win, 5-3. The Niskin Challenge Cup, won by WHOI earlier in the season (7-2), will stay in Rhode Island until the next meeting between these two teams in the annual home-and-home series.

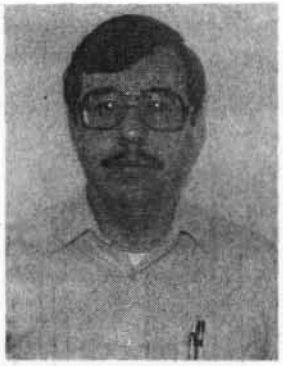
WHOI goals were scored by Steve Ferreira (Sr. Stockroom Clerk), Phil McClung (Sr. Buyer) and Bill Klimm. Other members of the team are Cathy Cetta, Gregg Dietzmann, Paul Dragos, Fred Keller, Nancy Marcus, Laurie Raymond, Jill Scharold, Jim Sullivan, Steve Swift, Joe Bohenberger, Steve Cross, Dana Phares, Bill Kramer, and Pat Twohig.

Steve Boyd, the injured (knee) player-manager-coach of the WHOI team, notes that this is the fifth year for the series. "It's a good opportunity to meet others in science and it adds another dimension to our interaction with URI," he said.

Home teams are responsible for providing chili and liquid refreshment after the game.

NEW FACES

March 1984



Robert D. Tavares
Research Assistant
Physical Oceanography
Smith 111/x2263
J. Valdes

Deborah A. Parent
Secretary
Ocean Engineering
Clark 163A/x2763
W. Little

PROMOTIONS AND OTHER PERSONNEL CHANGES

Recent promotions include:

DAVID J. GOLDSTEIN - O.E. - from Laboratory Assistant II to Research Assistant I.
ROGER H. MALOOF - O.E. - from Research Assistant III to Research Associate.
LEWIS J. SAFFROM - Facilities - from Janitor to Service Assistant.

BENEFIT BRIEFS

Effective June 1984, TIAA/CREF participants will be allowed to transfer all or part (a minimum of $1,000 or more) of their CREF accumulation to TIAA at any age up to and including the time annuity income begins. Partial transfer may be made as often as once a month. Funds are transferred from CREF to TIAA at the end of the month in which a transfer election is completed. These funds begin participation in TIAA on the first day of the following month. There is no charge to transfer funds from CREF to TIAA. Funds cannot be transferred from TIAA to CREF.

The primary difference between TIAA and CREF funds is how they are invested. TIAA funds are invested in long-term loans to business and industry; CREF units purchase broadly diversified common stock.

For the period March 1, 1984 through February 28, 1985, the interest rate on new monies to TIAA will be 11.5%. The investment return on CREF for 1983 was 25.3%.

The CREF unit value ending February 29, 1984 was $64.21, down from its January 31 value of $66.50.

ADDITIONS TO WHOI FAMILIES

Congratulations go out to a number of WHOI families this month.

On February 21, Chris and Nancy (Galbraith) LoCascio became the proud parents of Nicholas. The baby was born at Jordan Hospital in Plymouth and weighed in at 8 lbs., 3 ozs. Nancy is a research assistant in Ocean Engineering.

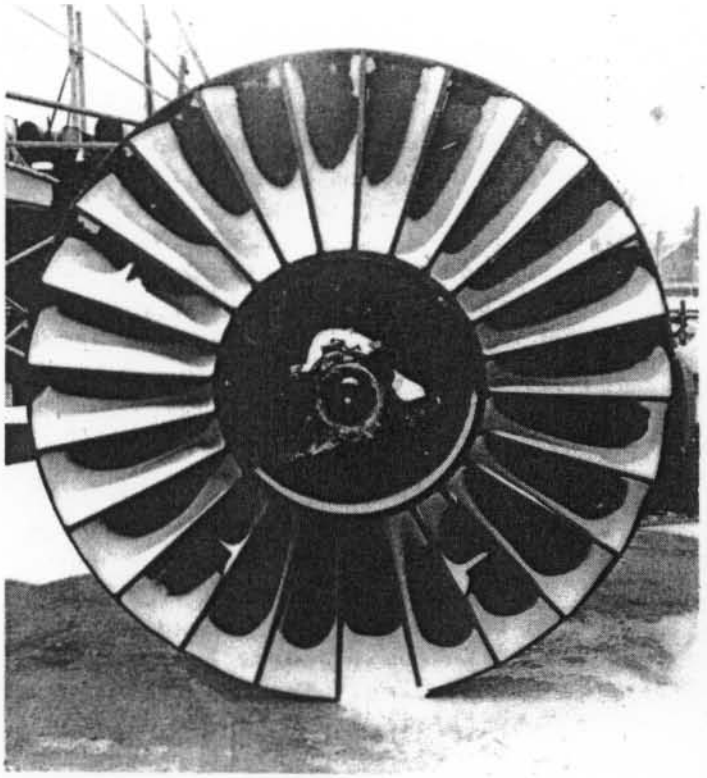
WHOI's Photographic Supervisor David Gray and his wife Joyce welcomed Vanessa Lynn into the world on February 25 at Tobey Hospital in Wareham. Vanessa weighed 7 lbs., 1 oz.

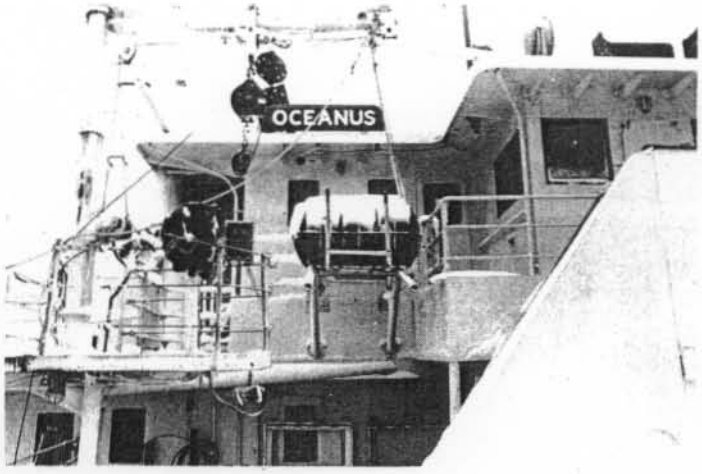
Congratulations go out to Vicky Cullen and John Waterbury on the birth of their Leap Year's Day baby at St. Luke's Hospital in New Bedford. Andrew weighed 8 lbs., 2 ozs. Vicky is manager of Graphic Services and John is an associate scientist in Biology.

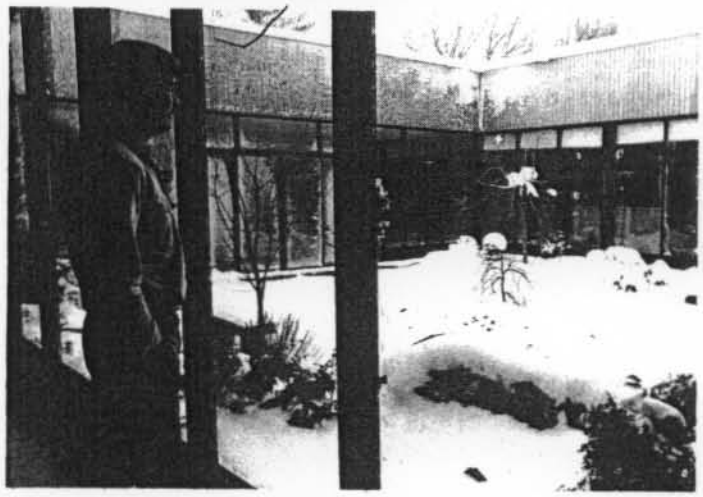
And on March 8, a son was born to Bruce and Jane Woodin at Falmouth Hospital. Erik Alexander weighed 6 lbs., 10 ozs. Bruce is a research assistant in Biology.

MAY SCUBA CLASSES NOW FORMING

Enrollment for May scuba classes leading to WHOI certification is now underway. If you will be using scuba for research this year and are not already Institution-certified, call Diving Safety Officer Terry Rioux, ext. 2239, as soon as possible.







STORM HITS WOODS HOLE ON MARCH 9

A blanket of six to eight inches of snow covered WHOI during the morning hours of March 9, leaving a last reminder of winter. The Japanese Garden at the McLean Laboratory offered a beautiful display of snow-covered shapes and shadows, while the Iselin dock offered a variety of snow-sculptured equipment. Photos by Anne Rabushka.