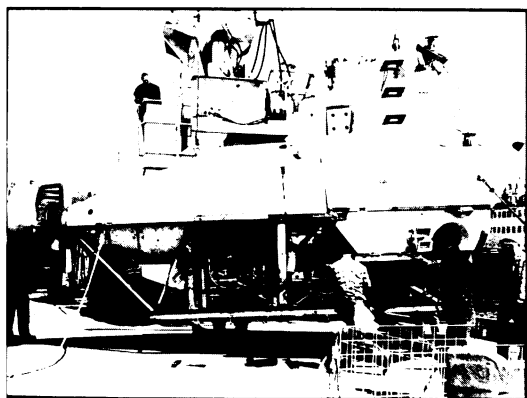


Bigger, better *Alvin* for 18-month voyage



Woods Hole Oceanographic Institution

A new, improved *Alvin* ready to set sail.

With a schedule that sounds like a "ten cities in seven days" vacation, the Deep Submergence Research Vehicle *Alvin* left Woods Hole Oceanographic Institution last Saturday for 18 months of dives in the Atlantic, Caribbean and Pacific.

Sporting a new, stronger titanium frame, which operations manager Lawrence Shumaker says should stretch the time between overhauls, the *Alvin* was lengthened last spring from 23 to 25 feet. The extra length accommodates a fourth battery to add to *Alvin's* underwater stamina and the new frame will support more sampling equipment and instruments. In July, based on Navy testing on a duplicate submersible, the *Alvin's* operators at Woods Hole decided to hike its depth capability from 12,000 feet to 13,124 feet. *Lulu*, the support ship, also was reoutfitted in the refurbishing fury last spring. It gained two new engines and new berthing, making it "more habitable," for the 30 crew members, scientists and technicians on board.

After all the fuss and about five months of debut dives in the Bahamas, Azores and the North Atlantic, the *Alvin* is ready to show its stuff in bigger and better things. The submersible is a "national oceanographic facility," meaning that its services are available to researchers and for projects selected by the National Science Foundation, National Oceanic and Atmospheric Administration and the Office of Naval Reserve. During the next 18 months, Shumaker estimates, about 75 U.S. and foreign scientists representing about a dozen projects will use the sub.

For approximately a month during the first part of the voyage, the *Alvin* will participate in geological and biological studies of the Bahamas. During a ten-day stay in the waters off Puerto Rico, it will set up a permanent bottom station to monitor the biology and ecology of bottom living organisms. This will be one of several similar stations already established to study the effects of outside influences, such as ocean dumping, on sea bottom ecology.

The longest venture, and the most potentially exciting, will be a two-and-a-half-month stint near Ecuador to study the Galapagos rift. Not only is the area geologically fascinating as a site of sea floor spreading, but the discovery in 1977 of unusual creatures living around deep, warm water vents (SN: 3/30/77, p. 279) led to speculation about the possibility of a food chain based on sulfide oxidizing bacteria.

After studying the biology of mid-depth waters off the coast of Mexico and California, the sub will sample the ocean bottom and waters for a U.S. Geological Survey environmental study of the effects of deep ocean mineral mining.

Returning to Ecuador, the *Alvin* will pick up instruments left on the previous visit and recover samples of sterilized mud placed on the ocean bottom to determine how quickly growth resumes. By January 1980, the *Alvin* will be in Panama, spreading glass beads on the ocean floor to determine the effect of such disturbances on bottom ecology. □

Metric conversion — is it mandatory?

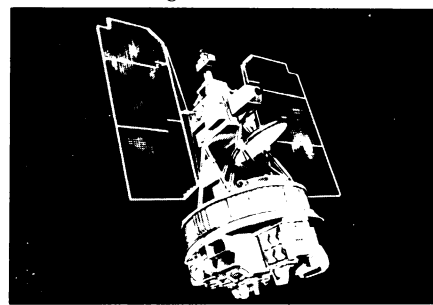
The Metric Conversion Act of 1975 signaled the beginning of a mandatory national program to convert from the "customary" measurement units to metric units, right? Wrong. Despite its name, the federal policy defined by the act is merely to assist various sectors of society *when*, and *if*, they *choose* to convert. In fact, the government is told to refrain from actions that would favor one system.

Widespread confusion, if not downright misinformation, however, has spurred many businesses and federal agencies to begin a metric changeover. The change is costly and usually passed down to consumers and taxpayers. But seldom will the changeover positively affect consumers, producers, participants or even the prospects for foreign trade, according to a report issued by the General Accounting Office last week. In addition, most people polled for the report indicated a preference not to convert. No country with an economy and population anywhere near the size of the United States' has ever converted to the metric system. GAO estimates the cost of total conversion here will run in the billions of dollars.

Potential advantages to going metric have been offered, but few benefits are not possible maintaining customary units, the report says. It outlines the type of costs involved in metrication and the degree of misinterpretation that has prompted metric conversion thus far. The GAO recommends that Congress be asked to decide whether mandatory metric conversion be made, and suggests that for now the government should do more to educate people on what the act really says. □

Nimbus-G in orbit

The Nimbus-G satellite, described by NASA as the "first global atmosphere-pollution monitor," was successfully launched on Oct. 24 toward a near-polar orbit from which it will cover the entire earth nearly 14 times a day. Besides an ozone-mapping instrument, it carries sensors to measure atmospheric concentrations of nitrogen oxides, carbon monoxide, methane and other gases, as well as water vapor and aerosols. An additional instrument, called the coastal-zone color scanner, will monitor the color of the oceans as an indicator of chlorophyll concentrations (relevant to productivity of fishing grounds), sediment distributions and salinity. The scanner will also be used in programs to determine improved ways of tracking oil spills, sewage, industrial waste dumpings and river effluents. The \$79 million satellite (which NASA says cost \$2.6 million less than was budgeted for it) involves scientists from the United States, the United Kingdom, Denmark, Switzerland, Canada, South Africa, West Germany, France and Belgium. □



NASA

Interferon vs. cancer

As if interferon, the body's natural viral fighter, hasn't dazzled the public enough with its ability to prevent flu, colds and herpes virus infections (SN: 2/16/74, p. 103), it now reveals another talent as well — the ability to counter cancer. Preliminary clinical findings from Sweden and the United States, in fact, combined with interferon's nontoxic status, have convinced the American Cancer Society to invest \$2 million in controlled clinical trials to further document and explore interferon's cancer-fighting abilities.

The trials, to start next month, will be conducted at Sloan-Kettering Institute for Cancer Research and Columbia College of Physicians and Surgeons in New York City, Roswell Park Memorial Institute in Buffalo, M.D. Anderson Hospital and Tumor Institute in Houston and Stanford University Medical Center in Palo Alto. Because interferon cannot yet be synthesized and natural interferon is scarce and terribly expensive, the trials will have to be limited to 100 to 150 patients. Only individuals with advanced disease not helped by established modes of therapy will be accepted into the research program. □