

Earth and Environment Notes

OCEANOGRAPHY

Pacific Buoy Study

One of the most extensive deep ocean buoy projects to date is being planned by Scripps Institution of Oceanography to collect data on mid-Pacific Ocean weather and currents.

A group headed by Professor John D. Isaacs plans to moor eight catamaran instrument buoys and two General Dynamics Corporation Monster buoys in two clusters north of Hawaii.

The buoys, moored in water up to 18,000 feet deep, are to collect data for a pilot study of ocean-atmosphere interactions in a four million square mile area of the north central Pacific. They will be left on station for at least six months.

The first of the buoys is expected to be put in the water some time next summer. Data from the smaller catamaran buoys will be recorded on board, while the Monsters are to radio their information to shore stations.

OCEANOGRAPHY

Tropical Marine Science Center

A \$10.5 million tropical marine science center that would serve the "total scientific community" has been proposed to the National Science Foundation by Associated Universities.

NSF reaction to the proposal, which was prepared with foundation money by AUI, is not expected for several months.

AUI's proposal envisions a center staffed by 80 resident scientists to support field work by several hundred visiting scientists and students every year.

Land for the center, which would be constructed on the southwest coast of Puerto Rico near Mayaguez, would be donated by the Commonwealth of Puerto Rico. Annual operating costs are expected to run around \$3.3 million.

GEOLOGY

Strains Showing in San Andreas Fault

Definite signs of strain that may indicate the imminence of large-scale displacements are showing up in two places along the San Andreas Fault.

The two areas are near Cholame, Hollister and Paicines in California's coastal range and the Santa Cruz mountain area near the towns of Felton and Ben Lomond.

They were identified in papers presented at a conference last month on geologic problems of the San Andreas Fault system sponsored by Stanford University and the Geological Survey, and held at Stanford.

Near Hollister, according to a paper read by Robert A. Wallace of the Survey's Menlo Park office, the fault has been moving 0.45 inches a year for the past seven and a half years.

In that area, he says, "chances are great . . . that the most recently active strand will again be the site of . . . surface breaks."

In the Santa Cruz mountains, according to Professor Joseph Clark of the University of California at Santa Barbara, "geologic evidence does not preclude large-scale lateral displacement . . ."

LIMNOLOGY

Alewife Control Program

A three-part, \$10 million program to rid Lake Michigan of alewives has been proposed by a Department of the Interior task force.

Alewives, eight-inch-long members of the herring family, thrive in the lake. Annual die-offs clog the beaches with thousands of dead alewives, creating a massive cleanup problem and a terrible stench (SN: 7/1). Michigan resort owners reportedly lost more than \$50 million this summer because of the fish.

The Interior program calls for study of alewife population size and causes of the annual die-off. A recommended second step would be development of an efficient method of removing the dead fish from the beaches. Last, the task force says, would come efforts at reducing the numbers of alewives.

An essential part of the program, according to the report, should be continuing efforts by the Great Lakes Fishery Commission to eliminate the sea lamprey. Lampreys have helped alewife population growth by killing off fish that would normally eat alewives. Alewives themselves are too small to attract lampreys.

Recommended research, the task force says, would cost about \$1.6 million the first year and \$2 million a year thereafter.

GEOLOGY

Olympic Limestone Shows Fossils

Close association of limestone beds with a thick layer of Eocene volcanic rocks in the Olympic Peninsula of Washington once led geologists to suggest that they were formed by direct precipitation from sea water—instead of from fossil organisms, the source of other limestone.

Examination of the limestone with an electron microscope at the University of British Columbia, Vancouver, has revealed an abundance of exceptionally tiny fossil plankton.

Up to 60 percent of the rock consists of nanno-fossils, relics of the smallest kinds of plankton, according to a report by Robert E. Garrison of the University's geology department.

In the September 23 NATURE, he describes the fossils as including coccoliths as well as Thoracosphaera shells, Braarudosphaera pentoliths and discoasters.

The limestone occurs as lenses within the volcanic rock matrix, known as the Crescent or Metchosin Formation. The volcanic rocks are mostly basalt, apparently the products of submarine eruptions.

This juxtaposition and the fine-grained, apparently fossil-free appearance of the limestone led earlier geologists in the region to suggest that the stone had formed from calcium carbonate precipitated from the sea during volcanic eruptions.