

while downgrading marine geophysical work. The latter, through further study of the movement of the sea floor, will ultimately be the key for global earthquake understanding and prediction.

NOAA also found its fisheries research cut to the tune of \$11 million. Four fisheries ships were tied up (one was then recommissioned for fiscal 1974); three fisheries labs, at Boothbay Harbor in Maine, Brunswick in Georgia, and St. Petersburg in Florida, were shut down, and the fish protein concentrate program was discontinued. The decision did not lack for critics in Congress, and Senator Ernest Hollings (D-S.C.) attacked Roy Ash, OMB director, vigorously on the subject: "The President . . . has urged Americans to eat more fish to avoid the high cost of beef. But Mr. Ash and the OMB have 'watergated' him again by ordering the closing of fisheries research laboratories . . . and canceling major studies on how to increase our fish harvest." The decision is also odd in the light of the United States' need to defend its fishing rights at Law of the Sea Conference meetings and in other international forums. However, OMB seems to feel that its decisions on present and future NOAA fish budgets will not affect the U.S. negotiating postures, which are already fixed. "We still spend more on ocean research than any other country in the world," an OMB official said.

Further evidence of Administration hostility to NOAA's role in ocean policy also came in the bitter dispute—not resolved until a few weeks ago—over whether NOAA will get the lead role in future management of coastal areas. Under legislation passed last year, NOAA would have planning responsibility for state-run development of the entire U.S. coastline—including rivers, harbors, and offshore resources—to introduce some rationality into what promises otherwise to be pell-mell offshore development by oil and other interests. But despite the fact that the President signed the act into law, the OMB has refused to fund it and hence NOAA has never been able to get started. The ostensible reason was that the White House wanted to integrate coastal management with overall land management policy. But a more immediate reason was that the Department of the Interior covets the coastal zone assignment as part of the planning empire it would acquire under the Administration's pending land use bill. The coastal zone management issue

was obviously a sore subject during the months that OMB and NOAA administrators were at loggerheads over the question of how to wield the budgetary ax. However, in late July, perhaps because the White House thought its land use bill would not pass Congress this year and that someone had to start work on coastal development, the OMB reversed itself and awarded NOAA \$5 million for coastal zone planning. Whether the change represents a NOAA victory in the battle with Interior over coastal zone management or one in the overall war, remains to be seen.

The changes in NOAA's oceans programs are most significant because they could herald a decline of that part of

its mission; but atmospheric programs did not get off unscathed. An OMB official states that "NOAA's main mission is the Weather Service, and when you're retrenching you preserve the main mission and cut secondary things." Nonetheless, some of the program changes in atmospheric work occasioned howls from the scientists involved.

Most controversial was the decision, made by White and Townsend, to abolish the jobs of state climatologists—60 scientists, stationed in universities around the country, who assemble climatological data into charts, booklets, and other services useful to the locality. The state climatologists have

## Biologists Need Work

Unemployment among biologists now appears to have exceeded the national unemployment rate. More and more people are choosing careers in biology, even though a recent survey indicates that the unemployment rate for biologists is about 6 percent, and trends indicate that the situation won't improve in this decade. By contrast, enrollments in the physical sciences and engineering continue to drop, despite the fact that the dislocations of the past few years are over and unemployment is falling to below 1 percent.

The survey of biologists, conducted by the American Institute of Biological Sciences (AIBS), "would seem to indicate an abruptly deteriorating position for biological sciences," says Betty Vetter, head of the Scientific Manpower Commission in Washington. Demand forecasts by the government indicate there will be new shortages of physical scientists and engineers and an oversupply of life scientists. The situation will be particularly bad for biologists in institutions of higher education, where 60 percent of them are employed, because tenured faculty are now fairly young and little expansion of departments is expected.

It is difficult to get a handle on the true employment status of biologists because of the vast size and diversity of the life sciences professions (biologists at the doctoral level outnumber physicists by about seven to one). The AIBS survey indicates that the rate of unemployment is 4 percent at the very least—a considerable jump from the 1.7 percent calculated from a survey conducted by the National Science Foundation in early 1971.

Vetter reports that in the past 3 years both the Labor Department and the NSF have predicted an oversupply of life scientists. Nonetheless, enrollments continue to rise. Stanford University, for example, recently announced that biology has become its largest undergraduate major.

It would appear, then, that students are not basing career choices on future employment prospects or on the availability of federal aid. Rather, the choice of biology reflects in many cases the desire of young people to contribute to improved health care, nutrition, increased food production, and preservation of the environment, as well as the fact that many now associate physical sciences and technology with war technology and environmental degradation.

Joan Creager of AIBS points out that students are enrolling heavily in fields where there is a clear need, but demand for their services—that is, jobs—is in question as long as the Administration persists in its tight-fisted domestic policies.—C.H.