

SIO receives \$5.4 million letter contract from National Science Foundation for drilling and research

July 21, 1966

The University of California, San Diego's Scripps Institution of Oceanography has received a \$5.4 million letter contract from the National Science Foundation (NSF) to fund the first part of a four-year, broad-scale drilling and research program to explore the deep-sea floor of the Pacific and Atlantic Oceans and adjacent areas.

A formal contract between Scripps Institution and NSF is being drawn up to cover costs of chartering a drilling vessel, storing and distributing the core samples obtained, and assembling an organization to support the program, according to its principal investigator, Scripps Director William A. Nierenberg.

Proposals leading to this contract were prepared jointly by Scripps Institution, the Woods Hole (Mass.) Oceanographic Institution, the Lamont Geological Observatory of Columbia University, and the Institute of Marine Science of the University of Miami, Fla., acting together in the Joint Oceanographic Institutions' Deep Earth Sampling program, or JOIDES, for short.

"Recent progress in developing offshore drilling techniques and vessels now makes it possible, without further technical breakthroughs, to drill shallow holes of 1,000 to 2,000 feet in sediments in great depths of water of 18,000 to 20,000 feet, Dr. Nierenberg said.

"Our contract from NSF calls for chartering a drilling vessel with which to explore the history of the ocean basins, their sediments, past climate and oceanographic conditions, and the origins of their major topographic features."

He said that Dr. W. W. Rand, who has engaged in offshore drilling and exploration since 1948 and is sometimes described as the "father of offshore drilling," has joined the Scripps staff as project manager for the drilling program.

Dr. Tjeerd H. van Andel, Scripps research geologist, is the Scripps representative on the JOIDES Planning Committee. His alternate on the committee is William R. Riedel, associate research geologist.

Dr. Nierenberg said he hopes actual drilling of some 80 holes at generally widely spaced localities in the Pacific and Atlantic Oceans will begin in 1967.

The program would provide a reconnaissance study of the Mesozoic-Cenozoic history (going back perhaps as far as 100 to 200 million years) of both oceans and of the problems connected with the origin of deep abyssal plains, mid-ocean mountain ranges, the deep ocean floor, and, perhaps, of continental drift.

"The most clearly delineated avenue to the study of the evolution of our planet lies in the investigation of the deep-ocean floor and its boundaries Dr. Nierenberg pointed out.

It Here, the record of the geological events on and in the crust of the earth is preserved most completely and is least disturbed.

"Only recently, the development of geophysical methods and the careful and detailed investigation of ancient sediments outcropping in mid-ocean have made possible a new approach to problems of the history and genesis of the ocean basins and the earth as a whole.

"Much thought has been given to the development of tools capable of penetrating the sediment carpet as far as possible to recover large portions of the geological record.

"This development has progressed from the gravity and explosive-propelled corers to the piston corer.

"Now, developments in offshore drilling technology produced by the petroleum industry and recently stimulated by the Mohole Project, have reached a stage in which the hardware and know-how are available to examine a much more complete record of sedimentation in the ocean.

"The response of several major offshore drilling companies to our request for advice concerning deep-ocean drilling operations has been favorable and highly encouraging."

The project group at Scripps will determine the characteristics of the vessel required and seek bids from the offshore-drilling industry to provide the vessel and operate it. With advice and guidance from JOIDES, the group will outline the scientific program to be followed and when core samples become available, will distribute them to interested and qualified scientists in the academic world and in industry.

"Scripps Institution is operating the project as a national program for the benefit of all scientists interested in the history and the geology of the oceans, Dr. Nierenberg said.

He emphasized that the technological and scientific complexity and the cost of a large-scale drilling program in the deep ocean exceed the capabilities of any single group of researchers or of any individual institution.

He said several attempts had been made in recent years to create organizations to manage such a program by combining the resources and experience of oceanographic institutions and individual oceanographers.

"The execution of a modest drilling program managed by Lamont Geological Observatory on the Blake Plateau in the Atlantic earlier this year and the success of a large section of the community of oceanographers and geologists in the planning and execution of deep-sea drilling, demonstrated the viability of an organization such as JOIDES," Dr. Nierenberg said.

Six holes were drilled in the Blake Plateau program, to maximum depths of 600 feet and up to 200 miles off the shores of Florida.

"Considering all the facts, therefore," Dr. Nierenberg concluded, "we believe the time is ripe for a broad investigation of the historical record of the ocean basins, as well as of the structural and topographic development of such major oceanic features as mountain ranges, abyssal plains, fracture zones, and seamounts, and of the latest history of climate and ocean circulation.

"It has become clear that technically less can be learned from a continued drilling effort in shallow water than from an immediate advance to deep-ocean conditions. Hence, the time is judged favorable to begin a mid-ocean drilling program."

NOTE --- Simultaneous release is being made by the National Science Foundation in Washington.

(7/21/66)