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Argo (ship) sets sail for investigation of Eastropac

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Local participation in a four-nation oceanographic investigation of the eastern tropical Pacific (Eastropac) began here today (January 24) when the research vessel Argo of the University of California, San Diego's Scripps Institution of Oceanography, sailed from San Diego Bay.

Argo will work with three other vessels during the first two-months' survey cruise of the Eastropac Expedition, scheduled to last four years and cost some \$6 million.

The expedition is sponsored by the U.S. Bureau of Commercial Fisheries (BCF), which, with the Office of Naval Research (ONR) and the National Science Foundation (NSF), is funding the vast project.

Scientists and ships from the United States, Ecuador, Chile, and Peru will take part in Eastropac, described as the largest ocean research expedition ever to study the eastern tropical Pacific.

Dr. Warren S. Wooster, chairman of the department of oceanography at Scripps and an internationally known research oceanographer, is the coordinator for Eastropac and for several months has been relieved of some of his Scripps duties to map the program.

In announcing Dr. Wooster's appointment to head Eastropac, Donald L. McKernan, BCF director in Washington, said a main goal of the study is to gain more knowledge of the relationship between ocean conditions and tuna and marlin resources in the area to be investigated, itself many times the size of the United States.

He said solutions to many problems relating to fisheries, weather prediction, and defense depends upon an understanding of the changing ocean environment.

For the first 18 months of the program, Eastropac will emphasize physical, chemical, and biological oceanography. From 1968 through 1970, fishery investigations, including development of weather forecasting techniques, exploration, and experimental fishing, will receive major attention.

Four ships will take part in Eastropac's initial survey during February and March Dr. Wooster said. Besides Argo, they are the David Starr Jordan, of BCF's La Jolla laboratories, which sails from San Diego February 3; the U.S. Coast Guard's Rockaway, which departed New York January 20; and the Alaminos, of Texas A&M University, which sailed from Galveston, Tex., January 20.

Dr. Maarice Blackburn, director of Scripps Institution's Tuna Oceanography Research program (STOR), will be chief scientist aboard Argo, with Capt. Alan S. Phinney, La Jolla, as ship's master. Argo will cover some 6,500 miles before returning to San Diego about March 7.

Chief scientist aboard the Jordan will be Dr. Alan R. Longhurst, also of STOR, with Capt. Charles W. Forster, San Diego, as ship's master. Jordan will carry a scientific party of 12. She returns to San Diego about March 20, after covering some 7,800 miles. Her only stop will be for re-fueling, at Manzanillo, Mexico.

Dr. Paul Smith of BCF-La Jolla and Robert W. Wagner, of the Inter-American Tropical Tuna Commission here, are aboard the Rockaway to assist in taking scientific measurements and Dougall Reith, of STOR, will do similar work on the Alaminos.

The region in which the expedition vessels will operate covers an area between the latitudes of 20 degrees north and south and from the coast of the Americas to 126 degrees west longitude, roughly from San Diego to northern Chile and some 2,000 to 4,000 miles west.

In this first survey, the four vessels will generally make their scientific observations on a rectangular north-south course, with the Alaminos nearest the South American coast, the Rockaway some 500 miles farther west, the Jordan about 500 miles beyond the Rockaway, and Argo some 500 miles west of the Jordan.

Eastropac ships will intensely survey the region for periods of 40 to 50 days at opposite seasons, in February-March and August-September, 1967, and February-March, 1968. Before and after these multiship surveys, two singleship monitoring cruises each also of about 50 days' duration, will record ocean climate changes at consecutive seasons by following strategically selected tracks. Jordan has this assignment in April-May, June-July, October-November, and December-January 1968.

Peruvian and Chilean contributions will consist of observations to a distance of at least 300 miles off their own coasts by the research vessels Unanue (Peru) and Yelcho (Chile). Ecuador plans one or more surveys by the Huayaipa in the regions of the north boundary of the Peru Current, near the equator in the area between the Gulf of Guayaquil and the Galapagos.

The first buoys used will measure ocean and air temperatures and wind velocity and direction and monitor and accumulate information on seasonal and year-to-year variations in the ocean environment. This monitoring is considered vital to future weather forecasting.

After the oceanographic work ends, Eastropac would become largely fishery oriented.

BCF officials said the fishery task would be two-fold. One aim is to advance the understanding of the relationship of fishery yields to ocean conditions. This would lay the groundwork for predicting effects of changing ocean conditions on the availability and abundance of commercial fishes in the region and provide fishermen with information to improve their tactical and scouting operations.

Second goal would be to determine the magnitude, location, and other characteristics of unexploited skipjack tuna resources west of the traditional eastern tropical Pacific purse seine fishery and to determine the feasibility of harvesting these resources with purse seine nets.

Dr. Wooster and BCF officials have indicated that Eastropac investigations could result in increasing the annual United States tuna catch by more than 100,000 tons, valued at \$30 million or more.

BCF officials said that Eastropac would also benefit fisheries other than those for tuna. For example, the Peruvian anchovy fishery which has, in recent years, become one of the world's greatest single fishery, with nine to ten million tons' production, has made Peru a leading fishing nation. Ecuador and Chile are expanding their fisheries and, with Peru, are engaging in marine research.

Eastropac would also provide the scientific basis for increasing the harvest of living marine resources that are important to the protein-deficient countries bordering the region to be investigated and that are of economic importance to both the advanced and underdeveloped countries of the Americas.

It was explained that the eastern tropical Pacific is producing some ten percent of the total world fishery harvest, but its potential is vastly underutilized, hence the potential value for a program such as Eastropac.

While on leave from Scripps Institution in 1961-63, Dr. Wooster was director of the Office of Oceanography for the United Nations Education, Scientific, and Cultural Organization. He is a member for the United States of the Scientific Committee on Oceanic Research (SCOR) of the International Council of Scientific Unions, and serves as secretary of SCOR.

In addition to the BCF, Scripps Institution, U.S. Coast Guard, Texas A&M University, ONR, NSF and IATTC, the Smithsonian Institution, the Environmental Science Services Administration, and the U.S. Navy Oceanographic Office will also take part in Eastropac.

Participating South American organizations are the National Fisheries Institute of Ecuador, the Peruvian Institute of the Sea, and the Navy Hydrographic Institute of Chile.