

WOODS HOLE OCEANOGRAPHIC INSTITUTION.

(From various pamphlets of the Institution).

The WOODS HOLE OCEANOGRAPHIC INSTITUTION, founded in 1930, is a research establishment supported by endowment. While it is wholly independent in organization, close association with universities and other educational bodies is assured through the personnel of its Board of Trustees.

The purpose of the Institution, as stated in its charter and as its name implies, is to encourage and carry on the study of oceanography in all its branches. To this end it maintains at Woods Hole a marine laboratory which serves as the headquarters of its regular staff and where visiting investigators will be made welcome.

Woods Hole is situated on the shore of Massachusetts Bay, eighty-five miles from Boston. The location of the laboratory at this particular point on the coast line was based on the combined advantages of close proximity to the MARINE BIOLOGICAL LABORATORY and laboratory of the U. S. BUREAU OF FISHERIES, and of the exceptional opportunities for illustrative investigations in the major divisions of oceanography that are afforded by the neighbouring waters.

The nearness of Woods Hole to the transition zone between inshore and oceanic waters, the abruptness of this transition, and the nearness of the continental abyss and ocean basin, make this a particularly favourable headquarters for investigations into many of the basic problems in physical oceanography that are now engaging scientific attention.

Thus there are few oceanographic problems but can be attacked profitably at Woods Hole, unless primarily associated either with tropical shallows, with Arctic ice or with mid-oceanic conditions. And operation of a sea-going research ship by the institution makes Woods Hole a convenient headquarters for studies in the last two of these fields, by making trips possible on the one hand to the Arctic discharge from Davis Strait, and on the other to the open Atlantic basin, with Bermuda in the offing as an offshore base.

Buildings. — The main building is a four-storey brick and concrete structure 136 ft. long by 50 ft. deep. In the basement are the receiving and shipping rooms, a refrigeration room, and one laboratory containing concrete aquaria.

The first floor contains the offices, the directors' room, a large chemical laboratory and nine smaller research laboratories. On the upper floors are the reading room, chart room, camera and drafting room. The Library of the MARINE BIOLOGICAL LABORATORY contains an excellent selection of the more important oceanographic titles and serials and a supply of charts is also provided in the reading and chart rooms.

Equipment. — The Institution owes its unique position among research institutions to its excellent marine equipment, which includes two sea-going vessels for work both near shore and in the open ocean.

1. The research ship *Atlantis* is a steel ketch with 250 h.p. Diesel engine designed for a speed, under power alone, of about eight knots. The cruising radius under power alone is about 3,000 miles, which can be extended indefinitely by sail. Her dimensions are 142 ft. length over all, 29 ft. beam, 17 ft. extreme draft, about 380 tons displacement. The living accommodations for the scientific staff include single and double cabins for six persons. There are two laboratories, one on the upper and one on the lower deck.

On extended cruises on the high seas comfort and steadiness are essential for an oceanographic research vessel, and *Atlantis* has been especially designed with this view. Safety is ensured by heavy construction, in all details meeting the most exacting specifications. The ship's company of officers and crew numbers about seventeen. Her special equipment includes a heavy-duty electric winch for handling large nets, trawls, and so forth, carrying 30,000 feet of dredging wire, a light-duty electric winch for hydrological observations, a wire sounding machine (also electric), while sonic apparatus is installed. With this equipment, work in all fields of oceanography can be carried on at any desired depth.

2. The launch *Asterias*, 40 1/2 ft. long, 12 1/2 ft. broad, with draft of 4 ft., is of the type commonly used for flounder dragging and for offshore fishing in the region. She is powered with gasoline engine to give a speed of nine knots and has comfortable living quarters for four men for short cruises. Her pilot house uncludes a small laboratory.

Asterias is designed for general oceanographic work down to depths of one hundred fathoms within a few days' run of Woods Hole.

Programme. — A series of quarterly cruises on *Atlantis* have been initiated in the western Atlantic covering a triangle between Chesapeake Bay, Bermuda and Nova Scotia, coordinated with similar explorations that are carried out in the eastern Atlantic under the auspices of the INTERNATIONAL COUNCIL FOR THE EXPLORATION OF THE SEA. The first object of this work will be to trace the periodic fluctuations in the characteristics of different phases of oceanography in the North Atlantic.

Sonic soundings, taken by *Atlantis* in 1933, have been communicated to the INTERNATIONAL HYDROGRAPHIC BUREAU by the WOODS HOLE INSTITUTION. These soundings have been taken into account in the preparation of the new edition of the General Bathymetric Chart of the Oceans.

