

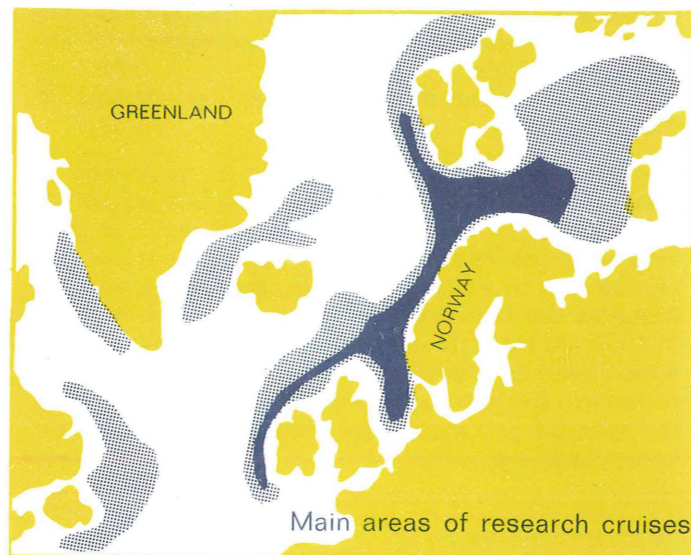
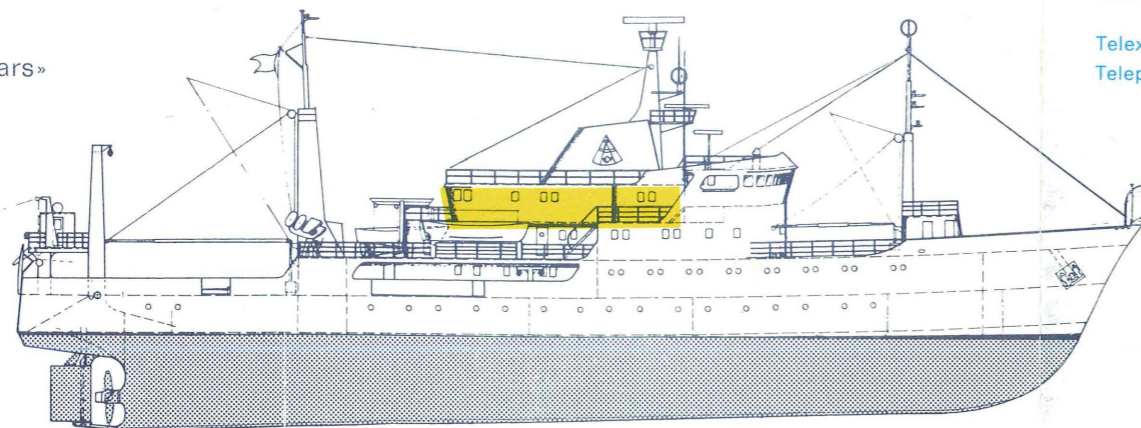
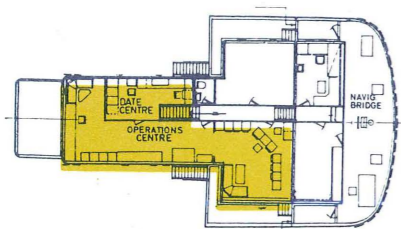
The Institute of Marine Research has 3 vessels:  
 «G. O. Sars» 230' LOA, 1500 GRT, comm. 1970  
 «Johan Hjort» 180' 600 1958  
 «Peder Rønnestad» 80' 100 1958  
 These are oceangoing vessels operated all year round, equipped for multipurpose research and fishing. The «G. O. Sars» was especially designed for fish resource surveys utilizing acoustic and electronic instrumentation, including echo integrators and a computer, together with all kinds of fishing gear. Several fishing vessels are usually chartered throughout the year for special research purposes and exploratory fishing.

The research vessels operate in the same areas as the Norwegian fishing fleet, the main regions being the Barents Sea, the Norwegian coast and fjords. In addition, cruises are more irregularly made to Newfoundland and West Greenland, to the west of the British Isles and to West African waters. About 170 persons are employed by the Institute of Marine Research, of which 55 are scientists. 70 persons work permanently on the research vessels as technicians, officers and crew.

The operations of the Institute of Marine Research is entirely financed by funds from the Norwegian Government, and the annual budget is about 20 mill. N. kroner (1973) of which about half is the cost of operating the vessels.

Because of the international character of the fisheries in the northern Atlantic the Institute maintains close cooperation in research with comparable institutions of other countries. Joint cruises are per-

The research vessel «G. O. Sars» with operations centre



Main areas of research cruises

formed every year, and scientific information is exchanged through international fisheries organizations, mainly the International Council for the Exploration of the Sea (ICES) and the International Commission for the Northwest Atlantic Fisheries (ICNAF).

No formal education is offered by the Institute of Marine Research, but close contact is kept with the Universities and the newly established Fishery College of Norway (Norges Fiskerihøgskole) with its department for fisheries biology in Bergen. These institutions offer degrees in fisheries sciences, and the students take part in field work carried out by the Institute of Marine Research.

Special training, particularly in the use of acoustics, are given to foreign research workers by special arrangements with the United Nations' Food and Agriculture Organization (FAO) or the Norwegian Agency for International Development (NORAD). Through these organizations scientists of the Institute of Marine Research also take part in fisheries development programmes in various parts of the world.

It is a major obligation of the Institute to make all findings known; convey information to fishermen and the fishing industry and act as adviser to the Norwegian fisheries administration. Reports on the results of the investigations are published in Fiskeridirektoratets skrifter, serie havundersøkelser (Report on Norwegian Fishery and Marine Investigations), Fiskets Gang, in international fisheries journals and in series of printed Norwegian reports.

The Institute of Marine Research will in the future continue to work for a wise use of the already heavily exploited living resources of the sea, to strive for a better understanding of the mechanisms governing marine production and to develop new food sources to the benefit of our country and everyone dependant of the sea for their livelihood.

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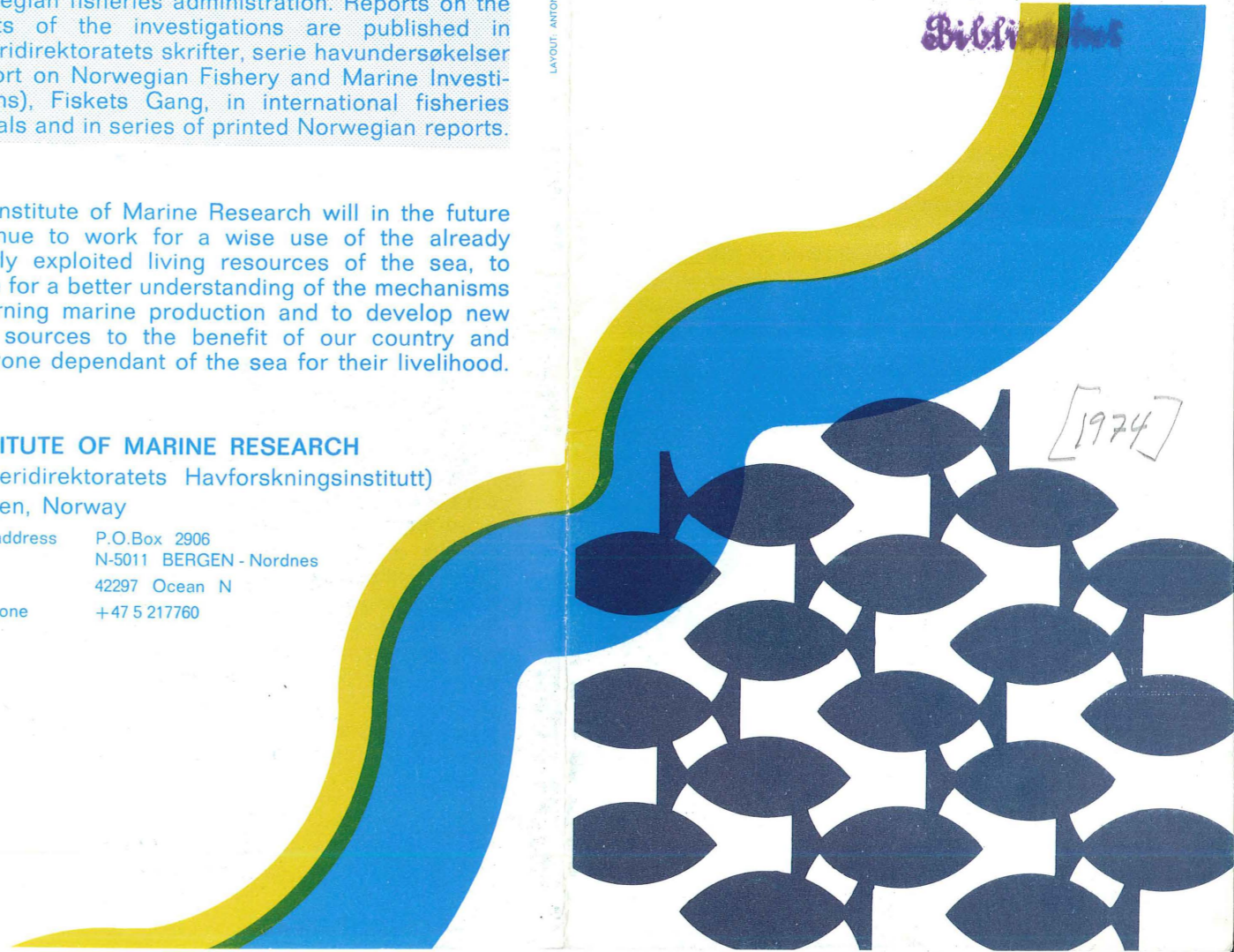
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**INSTITUTE OF MARINE RESEARCH**  
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## THE INSTITUTE OF MARINE RESEARCH

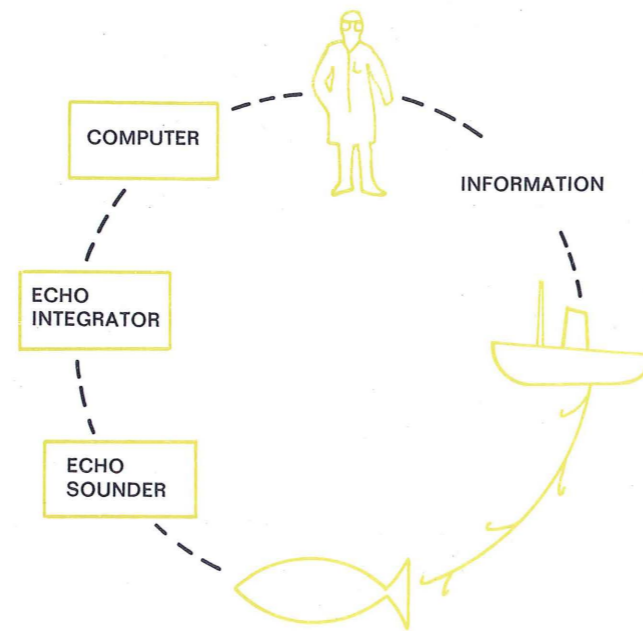
The main objective of the Institute of Marine Research is to carry out scientific research related to fisheries: applied research aimed at solving technical or biological problems of the sea and thus to assist fishermen and fishing industries.

Fish and fisheries play an important part in the Norwegian economy. The total annual catch is about 3 mill. tons giving Norway the rank of number five among the fishing nations of the world. The first-hand value of the catch is 2,000 mill. Nkr. (1973), and fish accounts for about 14 % of the value of Norway's exports. These figures, however, hardly reflect the true and vital importance of fishing in many coastal communities, especially in northern Norway.

Biological investigations of fish started in Norway about 100 years ago with the focus on the commercially important species cod and herring. In 1900 a fisheries research vessel was launched, and this initiated a period of extensive studies of the various fish stocks along the coast, in the Norwegian Sea and in arctic waters. After a period with limited financial support followed by war years, fisheries research activities increased greatly from 1950 onwards. During the next decade the Institute of Marine Research obtained two new larger vessels which were named «G. O.Sars» and «Johan Hjort» in honour of the prominent Norwegian fisheries scientists. These vessels made it possible to follow and observe the major fish stocks in their varying environment all year round and assess their strength as the pressure of the modern fishery increased.

The research programmes of today cover a wide range of topics in fisheries science with an emphasis on studies of the abundance and distribution of the fish resources which support Norway's commercial fisheries. Among the most important species are cod, capelin, mackerel, haddock, saithe and herring, together with shellfish, seals and whales. For these and other species studies are conducted on life history: spawning, growth, age, migrations and food as this basic knowledge is essential for further investigations of the fish stocks. Several research programmes concentrate on evaluation of

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the quantity of various fish species present in an area. This work is largely dependant on acoustic instruments; echo sounders, echo integrators and sonar.

The sizes of the fish stocks are influenced by natural fluctuations in recruitment of the young fish, and therefore every year estimates of year class strength are made on the basis of cruises in nursery areas. From these estimates and other available information the Institute of Marine Research makes annual forecasts of abundance of the important species of fish, shellfish and marine mammals. Other studies include ecological aspects with assessments of the effects of temperature, ocean currents, pollution and fishing upon the distribution and number of fish. Background information for these and other studies can be drawn from the systematic observations of the sea environment carried out by the Institute of Marine Research through several decades.

More recently research on aquaculture and fish farming in the sea have been taken up. Emphasis is also placed on the development of acoustic techniques and methods for scientific investigations of fish.

In general, the studies of fish and marine mammals provide the biological basis for management of the Norwegian fisheries with the object of obtaining maximum harvest of the biological production in the sea.

The Institute of Marine Research is organized in five main divisions, and groups are formed as required to carry out specific research tasks or provide services needed. The Institute is part of the Directorate of Fisheries which administratively belongs to the Ministry of Fisheries located in Oslo. In 1960 the Institute of Marine Research moved into a new building erected in Nordnes Park on a tongue of land in Bergen harbour. The building is connected with Bergen Aquarium which is a separate private institution.

### RESEARCH DIVISIONS

PHYSICAL-CHEMICAL OCEANOGRAPHY  
BIOLOGICAL OCEANOGRAPHY  
DEMERSAL FISH  
PELAGICAL FISH NORTH  
PELAGICAL FISH SOUTH

### RESEARCH SUBDIVISIONS AND PROJECT GROUPS

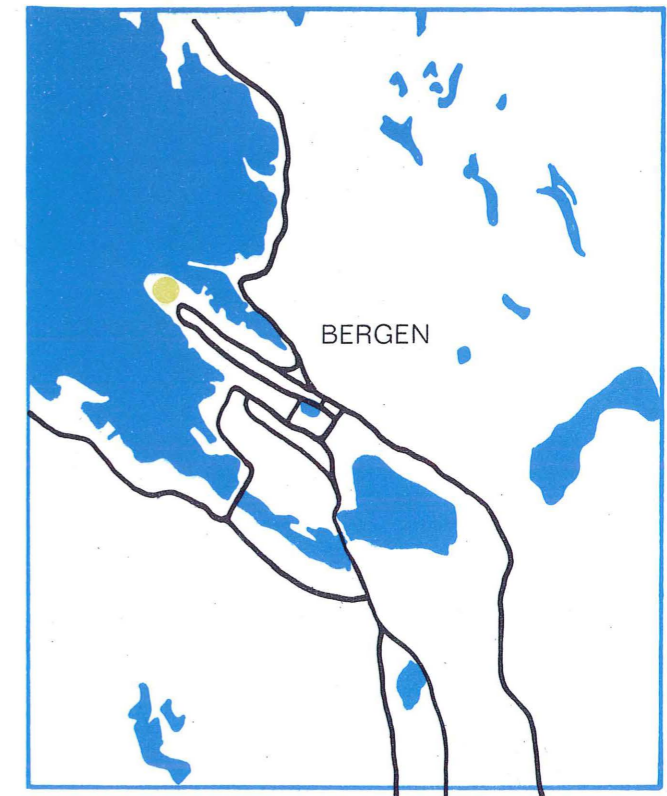
ZOOPLANKTON  
SHELLFISH  
MARINE MAMMALS  
POLLUTION  
MARINE AQUACULTURE  
ACOUSTIC INSTRUMENTS  
PROJECTS IN DEVELOPING COUNTRIES

### FIELD STATIONS

STATENS BIOLOGISKE STÅSJON FLØDEVIGEN  
MATRE STATION FOR FISH FARMING AND REPRODUCTION

### SERVICE UNITS

LIBRARY  
DATA PROCESSING  
OCEANOGRAPHIC DATA CENTER  
RESEARCH VESSELS  
INSTRUMENT WORKSHOP  
ELECTRONIC LABORATORY  
AQUARIUM LABORATORIES  
PUBLISHING



The site of the Institute of Marine Research