



ANNUAL MEETING - JUNE 1966

Report on Fourth Session of the Intergovernmental Oceanographic Commission:

Paris: 3-12 November 1965

ICNAF was represented at the Fourth Session of the Intergovernmental Oceanographic Commission (IOC) held in Paris from 3 to 12 November 1965 by the Executive Secretary and myself. Of the 16 resolutions passed, the following are of interest to members of the ICNAF Research and Statistics Committee:-

Resolution 3 was concerned with the retrieval of scientific information.

It noted the efforts being made by the Fisheries Division of FAO to provide an intelligence and information retrieval service, especially through their Current Bibliography on Aquatic Sciences and Fisheries (CBASF), and recommended member states, together with SCOR and ACMRR, urgently to consider what steps might be taken to ensure that sufficient funds, facilities and staff are made available for the provision of an adequate retrieval service for the international marine research community. It also requested UNESCO to consider how to develop increased collaboration with FAO with a view to enlarging the discipline coverage of the CBASF.

Resolution 4 recognised that an understanding of air-sea interaction is fundamental to the prediction of ocean surface conditions and of the oceanic circulation and that such predictions are of value in fisheries research. It established an IOC Working Group on Ocean-Atmosphere Interaction to consider the operational aspects and opportunities for inter-governmental action in this field.

Resolution 5 noted the growing concern about marine pollution and established an IOC Working Group on Marine Pollution. It requested SCOR and ACMRR to assist the group, invited other interested international organizations to collaborate with it, and urged member countries to intensify their investigations of marine pollution.

Resolution 6 called for a further meeting of the IOC Working Group on Data Exchange in Copenhagen in March 1966 in order to consider ways of improving oceanographic data exchange.

Resolution 9 dealt with Variability in the Ocean. It accepted the report of the first meeting of the IOC Working Group on Variability in the Ocean which had been convened to discuss a USSR proposal to work standard hydrographic sections in the North Atlantic at frequent intervals.

Recommendation 29 of the Research and Statistics Committee's 1965 meeting called for an ICNAF observer at this meeting: I acted as such in addition to representing the United Kingdom. I was elected Rapporteur of the Working Group and the report I drew up in this capacity can also act as a report to the Research and Statistics Committee. It is therefore appended to this document.

The Intergovernmental Oceanographic Commission adopted its Working Group's recommendations as set out in this report, viz. (a) SCOR should be invited to establish a working group on instrumentation suitable for time-series measurements (b) SCOR's proposal to hold a symposium on oceanic physical

and biological variability in Rome in May 1966 should be welcomed (c) the group should meet again in Copenhagen in September 1966 (before the annual ICES meeting) in order to discuss proposals for possible experiments to investigate variability in the North Atlantic.

Resolution 13 noted that the International Co-operative Investigations of the Tropical Atlantic (ICITA) had been brought to a successful conclusion and considered that this type of study could be usefully extended to other parts of the North Atlantic. It requested SCOR and ACMRR in co-operation with ICES and ICNAF to study the possibility of such an extension and to report their findings to the Fifth Session of the Commission, if possible suggesting plans for the conduct of the necessary investigations.

During the session the Secretary of IOC announced that UNESCO intended to make a financial contribution to the FAO-ICNAF-ICES Symposium on Marine Food Chains.

The Fifth Session of the Intergovernmental Oceanographic Commission will be held in Paris in October 1967.

A. J. Lee
10 May 1966

UNITED NATIONS EDUCATIONAL,
SCIENTIFIC AND CULTURAL ORGANIZATION

INTERGOVERNMENTAL OCEANOGRAPHIC COMMISSION

(Fourth Session)

Unesco, Paris, 3-12 November 1965

WORKING GROUP ON COOPERATIVE INVESTIGATIONS OF VARIABILITY
IN THE OCEAN

Summary of discussions which took place at Unesco House on
2 and 5 November 1965

At its meeting in Hamburg late in 1964 SCOR endorsed in principle a proposal resulting from discussions between Professor Kort and Canadian and U.S. oceanographers, that a section between Scotland and Iceland be intensively studied for one year, with sampling frequency ranging from continuous to once a week. SCOR suggested that a more suitable section would be located in the Norwegian Sea off Bergen and recommended that IOC, together with ICES, should establish a working group to study the question. Subsequently, the IOC Bureau and Consultative Council at its Fourth Meeting agreed to form such a group and established its membership and terms of reference.

During the present meeting, the Working Group on Cooperative Investigations of Variability in the Ocean (CIVO) has examined the scientific basis of the proposed experiment. A distinction was made between measurements permitting a description of variations in the distributions of temperature, salinity, density and other properties, and those which permit a description of the horizontal velocity field. In the former case existing instrumentation is probably adequate, in the latter case it may not be, but it is this latter case which is the more important. Unfortunately, within the time and space limitations of the experiment, it seems likely that an important part of the motion will not be determinable from the distribution of density alone, and that direct measurements of velocity or of absolute pressure will be essential for an adequate description of variability.

Certain restrictions in the sampling program were also recognized. Although variations of all periods may be present, no significant information can be obtained on periods longer than the duration of the experiment. Further, it was considered that in view of the complexity of the problem involved, periods of less than a few days should not be studied. Thus the periods amenable to adequate sampling will range from about one week to one or two months.

Within these limitations, and assuming the eventual availability of suitable instruments for direct measurement of velocity, the Working Group agreed that a pilot scale experiment would be valuable in assessing whether it is worthwhile to proceed with larger scale experiments on the lines of the International Synoptic Investigations of the Atlantic and Pacific Oceans adopted by IOC at its Second Session (Resolution 6). For this pilot experiment a section several hundred miles in length and located in an appropriate part of the eastern North Atlantic was envisaged. At intervals along this section devices to allow the continuous measurement of total fluxes would be placed. Ships would be used to measure in detail the distribution of properties along the section between these devices. The section might be routinely sampled at weekly intervals,

although during perhaps two periods of several months' duration it would be desirable to sample several times per week. Although careful consideration was not given to possible meteorological and biological measurements, clearly these should be incorporated, provided that this did not interfere with the primary experiment, which should be physical.

The Working Group felt that design of the experiment should await a clearer picture of the suitability of available equipment for the direct determination of velocity and for the in situ measurement of temperature, conductivity, salinity, etc., as well as a detailed discussion of the results of analysis of existing time series data from repeated standard sections. With respect to the former, it urged that SCOR establish a working group to bring together scientists engaged in the design and use of fixed instruments for the direct determination of velocity in order to evaluate the possibility of obtaining suitable equipment for the experiment in the foreseeable future. With regard to the latter, it welcomed the proposal of SCOR to hold a symposium on physical and biological variability in the ocean at its next General Meeting in May 1966.

The Working Group recommended that after the SCOR symposium it should meet again to review the status of problems identified at the present meeting, to discuss the design of an effective experiment or experiments in the eastern North Atlantic, and to examine the operational and logistic aspects of the program involved as set forth in the terms of reference of the group. Because of the importance of close cooperation with the countries working together in northern Europe under the aegis of ICES, it seems appropriate to hold this meeting in Copenhagen in association with the next Statutory Meeting of ICES. To hasten progress by the Working Group in the design of a possible experiment or experiments, it is proposed that Professor Kort, Dr. Mann and Professor Dietrich should form small committees in the USSR, North America and Western Europe respectively, and that each of these committees should submit its plans for possible experiments for discussion by the Working Group at its meeting in September 1966.