

## SCOR WORKING GROUP 40

## PALEO-OCEANOGRAPHY

Progress Report by Chairman, Tj. H. van Andel

Since the first meeting of WG 40 in May 1973 developments in paleo-oceanography have been rapid and extensive. Studies in the paleo-oceanography of the late Quaternary have resulted in global data sets for the sea surface temperatures, shoreline positions and ice cover during the height of the last glaciation at 18 000 years BP, which have been used as input in a global dynamic climate numerical model. These studies form part of the internationally based CLIMAP programme which is supported by the International Decade of Ocean Exploration. In pre-Quaternary paleo-oceanography, developments have been equally significant, mainly as a result of the data generated by the Deep Sea Drilling Project. Large papers dealing with the circulation of bottom water in the Pacific during the last 50 million years, with the relation between Cenozoic glaciations on Antarctica and the development of the circum-antarctic circulation, and with the paleo-oceanographic history of the Atlantic can be cited as examples (see Note). These and other publications should appear in print in the next 6-9 months; they will stimulate considerable further activity.

In view of this rapid evolution WG 40 has not pressed the compilation of a report detailing the opportunities in paleo-oceanography as it proposed in its first meeting. A more opportune time for such a report may occur in another year or so, and the item remains on the agenda.

On the other hand, these same developments promise the opportunity for an outstanding and very timely Symposium on Paleo-oceanography at the Joint Oceanographic Assembly in Edinburgh in 1976. Preliminary plans for this symposium were formulated several months ago. At the Kiel meeting of WG 37 a group of members of WG 40 met under chairmanship of Dr E. Seibold to further develop these plans and it is expected that a list of speakers will be complete early in 1975 so that organization of this symposium can begin.

In its previous report, WG 40 made two other recommendations, viz. to organize a small workshop on mathematical and statistical models in paleo-oceanography, and to explore the feasibility of organizing in the USSR a workshop on the paleo-oceanography of the late Quaternary. The technical workshop was held in April 1974 at the University of Wisconsin in Madison under sponsorship of WG 40, chaired by Dr John Imbrie of the group and with financial support of the Advanced Research Project Agency and the International Decade of Ocean Exploration. A report of this very successful workshop is being prepared for wide distribution.

Early in our exploration of the feasibility of the USSR conference the Chairman was informed that under the bilateral US-USSR scientific cooperation programme a Working Group (VIII) had been formed that included amongst its tasks, essentially the objectives WG 40 had in mind. Dr John Imbrie, member of WG 40, was instrumental in organizing the special subgroup devoted to this task and attended the first meeting in the USSR in June 1974. A report on this conference demonstrated that the WG 40 activities as planned were fully included and that it would be wise for WG 40 not to take any independent action for the time being. WG 40 will continue to observe these activities, using Dr Imbrie as a rapporteur and will report from time to time on developments.

At the present time the organization of the Edinburgh Symposium is thus WG 40's principal activity. No meetings are planned in the near future, but the group remains alert to opportunities that might arise late in 1975 or early in 1976.

Note: these publications are:

- Tj. H. van Andel, G. Ross Heath and T. C. Moore, Jr., Cenozoic tectonics, sedimentation and paleo-oceanography of the Central Equatorial Pacific, Special Paper Geol. Soc. Amer. in press.
- J. P. Kennett and R. E. Houtz, eds, Initial Reports of the Deep Sea Drilling Project v. 29, US Government Printing Office, in press.
- W. A. Berggren and C. D. Hollister, Paleogeography, Paleobiology and the history of circulation in the Atlantic Ocean, Special Paper, Soc. Econ. Pal. Miner. in press.