ANNEX VI

SCOR WORKING GROUP 28 (with IAPSO and IAMAP)

AIR-SEA INTERACTION

Report of fifth meeting, Melbourne, 23 January 1974

Present

H. Charnock (Chairman)
J. Namias
A. M. Oboukhov (representing L. R. Zwang)
C. H. B. Priestley
R. W. Stewart

By invitation

Pollard, Woods, Ostapoff, Pond, Dyer, Mitsuta, Franceschini, Laevastu, Coantic, Anderson, Hamon, Toba, Wucknitz, Yaplee, Valenzuela, Halpern, Golitzin.

The meeting started with a tribute to Karl Brocks, member of the Committee, who had died since the Moscow Assembly.

1. Apologies for absence

Apologies for absence were received from K. Bryan, S. S. Zilitinkevich and L. R. Tsvang.

2. Minutes of the last meeting

The minutes of the fourth meeting, held in Moscow on 1 to 7 August 1971, were read and agreed.

3. Matters arising

It was noted that the air-sea interaction symposium at Melbourne had included many papers on the upper layers of the ocean and on long-term (synoptic and climatic) interactions. Relatively little attention had been paid to the change of gases between the atmosphere and the ocean.

4. Membership

There was a general discussion on this subject but it was agreed that any action should be left until the Plenary Session of IAMAP and IAPSO at the XVI General Assembly, when changes to the membership would be recommended to the Associations.

5. Intercomparison trials

No arrangements had yet been made for instrument trials in Australia: Dr Dyer agreed to consult interested parties and to report progress.

The proposed intercalibration of airborne instruments would to some extent be replaced by the work to be done in connection with GATE. Nevertheless some of those present felt that further comparisons were desirable and agreed to take advantage of any opportunity which presented itself.

6. Transfer of gases between atmosphere and ocean

As reported in (3) above it had not been possible to arrange a symposium on this subject. Much work remained to be done on the interfacial layer but the practical and theoretical difficulties were considerable. It was suggested that progress might be more rapid if oceanographers and meteorologists were better acquainted with the chemical engineering literature. Several of those present expressed an interest in following up this possibility especially in connection with laboratory experiments.

7. Air-sea interaction in relation to ocean circulation projects

Discussion on this topic was postponed to a later meeting.

8. Air-sea interaction in relation to GATE, FGGE, etc.

Professor Woods gave an account of the proposals for oceanography and for atmospheric boundary layer work in GATE, drawing particular attention to the need for efficient data management.

Professor Stommel had prepared a JOC/SCOR information letter about oceanographic programmes during FGGE drawing attention to the suitability of the Indian Ocean monsoon for testing ideas about the oceanic response to seasonal atmospheric forcing. There was considerable interest in proposals described by Dr Halpern for studying upwelling in the Arabian Sea. There were plans for pilot experiments and it was hoped that these would be borne in mind in making the arrangements for MONEX.

It seemed likely that FGGE would include some relatively simple buoys, measuring sea-surface temperature and surface pressure, mainly in the Southern Oceans. These could perhaps be used to measure currents in the upper mixed layer of the ocean.

9. Air-sea-land interaction

Dr Laevastu gave an account of the work on cyclogenesis off Punta Arenas and Dr Mitsuta reported on the plans for AMTEX. The first phase was to take place in February 1974 and the second a year later.

It was readily agreed that the exchange processes in these areas where cold dry winds flow from land over warmer seas were very important. The difficulties involved in studying them were recognized but the meeting wished to recommend increased observational and theoretical attention to the problem.

10. Air-surface interaction in relation to seasonal and climatic change

Dr Namias gave a valuable review of progress in this aspect. Both he and the meeting were gratified at the increased attention being paid to it, as evidenced by the Melbourne symposia.

He gave an account of the NORPAX project, a 10-year endeavour to understand how anomalies of sea-surface temperature and the corresponding oceanic heat storage react on the atmosphere to affect its long-period variation. He referred to the phenomena, experiments and models, pointing out the importance of relating the processes in the atmospheric and oceanic boundary layers to the large-scale motions.

Dr Halpern reminded the meeting of the scientific and economic importance of the El Niño problem, pointing out that coastal upwelling was an important component of the NORPAX problem. The meeting recognized the relevance of such studies to the second GARP objective.

11. WWW and IGOSS

There was some discussion on the discontinuation of some Ocean Weather Ships in the western North Atlantic. The future of those in the eastern North Atlantic was under discussion.

The meeting was informed about the IGOSS pilot project for bathythermograph observations. It seemed likely that both WWW and IGOSS would wish to have sea-surface temperature charts on a synoptic basis.

12. Future activity of the Committee

It seemed clear that one major aim of the Committee, to foster research on air-sea interaction, was no longer needed: there was a lot of activity ranging from large international projects to individual researches.

The need now appeared to assist in selecting projects which would most illuminate the relevant physical processes and in ensuring that data were collected, processed and stored so as to allow their wide use not only by the group by whom they had been collected.

Dr Pond pointed to the need for a collection of case histories of thermocline development in relation to varying weather conditions. This was an example of data which were, in principle, available but which in practice were difficult to assemble because of differing data-banking procedures.

Dr Priestley reported that the WMO project on historical sea-surface temperatures was still in progress: this may be another data set which would be widely used if it were readily accessible.

13. Any other business

The Committee recorded its thanks to the University of Melbourne and to the Organizing Committee of the IAMAP/IAPSO Joint Assembly for making the meeting facilities available.

14. Date of next meeting

The next meeting would be held in association with the XVI General Assembly of IUGG at Grenoble in August/September 1975.

ANNEX VII

OCEAN CLIMATE PANEL OF WG. 34

Oceanographic Basis of Ocean Monitoring and Prediction Systems
Report of Meeting on 20 October 1973

The first meeting of the SCOR WG 34 Panel concerned with Monitoring Global Ocean Climate took plate on 20 October 1973 during the Ocean/Atmosphere Climate Workshop (Session 2) in Victoria, British Columbia. Four members of the Panel (Dickson (Chairman), Namias, Smed, Tabata) were present, while the fifth member (Hupfer) communicated his views by mail.