

PREAMBLE

The biogeochemical cycles of carbon, oxygen, nitrogen, sulphur and phosphorus constitute the life-supporting system for our planet since their dynamics determine the composition of the atmosphere as well as the fertility of land and water. Disturbances in these cycles may have global, regional and local implications which can only be assessed against the background of integrated, interdisciplinary knowledge of the budgets and the flows of the cycle components and of the mechanisms mediating their conversions and transport.

The idea of incorporating a project on biogeochemical cycles into SCOPE's programme was first put forward at the Paris SCOPE meeting of 1973 by the representatives of IUBS and IUPAC. A more detailed plan was approved later that year in the Bureau meeting at Indianapolis, and this formed the basis for seeking out sponsors and interested scientists to execute it. The gestation period was concluded at the SCOPE meeting in Moscow in 1974 where it became clear that a great deal of interest had developed among the national SCOPE committees. Subsequently the Swedish national SCOPE committee undertook to organize in 1975 the literature survey and workshop on the N, P and S cycles, the results of which are now being published. This first step had become possible by generous grants from UNEP and from Shell as a supplement to Swedish funds. SCOPE is most grateful to these sponsors and in addition wishes to thank Professor E. Eriksson and T. Rosswall for their initiative and hard work in mounting and executing the exercise.

Meanwhile a great deal remains to be done to fill the gaps in knowledge identified in the present report. No doubt, further surveying of the carbon cycle and the interaction of the cycles will indicate additional lines of action that eventually may lead to the feasibility of designing useful models on global, regional and local scales.

This project originated within SCOPE itself and did not arise from outside requests. It is, therefore, another good example of SCOPE's capacity to act as an independent body with a fresh point of view. The decision to incorporate special SCOPE sessions on the biogeochemical cycles in the future International Symposia on Environmental Biogeochemistry already shows that the response of the scientific community is positive. Similar indications both from intergovernmental and nongovernmental organisations give us the confidence that continuation of the project is important as well as feasible.

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