Preface

The large and rapidly expanding body of literature related to nitrogen cycling in both managed and native terrestrial ecosystems reflects the importance accorded to the behaviour of this vital and often limiting nutrient. Research at the organism, ecosystem and landscape levels commonly addresses questions concerning nitrogen acquisition, internal cycling and retention. Goals for this research include increased agricultural productivity and a better understanding of human impact on local, regional and global nitrogen cycles.

Nitrogen cycle research in tropical regions has a long and distinguished history. Research on different aspects of nitrogen cycling in ecosystems of the tropics has been carried out in many regions. In relatively few instances has there, however, been a focus on the biogeochemical cycles at the ecosystem level. The meeting resulting in this volume was an attempt to bring together existing information on nitrogen cycling in ecosystems of Latin America and the Caribbean and discuss this in an ecosystem context.

The papers represent the proceedings of a workshop on Nitrogen Cycling in Ecosystems of Latin America and the Caribbean, the third workshop on nitrogen cycling within particular regions organized by the SCOPE/UNEP International Nitrogen Unit of the Royal Swedish Academy of Sciences, Stockholm. The purpose of the workshop was fivefold: 1) to emphasize the importance of the nitrogen cycle in the different ecosystems of the region, 2) to provide a forum for scientists from the region to present papers describing ongoing nitrogen-cycle research, 3) to compile available data into coherent nitrogen budgets for the region's main ecosystems, and 5) to define nitrogen-cycle research priorities for the region. Previous workshops have been held in West Africa[1] and in Southeast Asia[2]. The three workshops have been supported by UNEP under contract FP/1303–78.01(1330).

The present workshop was held 16–21 March, 1981, at CIAT (Centro Internacional de Agricultura Tropical) in Cali, Colombia. Three days of symposia and contributed paper sessions were followed by two days of workgroup discussions organized around major ecosystems of the region. These included shifting cultivation and traditional agroecosystems, sugarcane, cereal and grain crops, coffee and cacao plantations, savannas and shrublands, forests, and wetlands and aquatic systems. Workgroups were charged with building informal nitrogen budgets of the respective systems and thereby summarizing the current state of knowledge regarding nitrogen cycles in each system. They were also asked to discuss research priorities, which were later reviewed by the plenary session. These priority rankings will, we hope, be useful for efficiently focusing increasingly scarce research resources on important but little-understood nitrogen-cycle processes.

The volume contains most of the papers presented at the meeting and the work group reports. Three additional papers by scientists from the region unable to participate in the meeting are also included. A number of papers were originally presented in Spanish or Portuguese. In order to ensure as large an audience as possible for these reports we decided to publish all papers in English with a Spanish summary.

Co-sponsors of the meeting apart from SCOPE and UNEP included the Man and the Biosphere (MAB) programme of Unesco, and the Committee on Science and Technology in Developing Countries (COSTED). We are greatly indebted to all the sponsoring organizations for their interest and support. The organizers also extend particular thanks to CIAT Director General J. L. Nickel and his hospitable staff, and also to the simultaneous translators.

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Despite minor difficulties with communicating in three languages, we think most participants will agree that the workshop was a success and that its major objectives were well-met.

East Lansing and Uppsala, April, 1982

G. P. Robertson, R. Herrera and T. Rosswall

References

1 Rosswall T (Ed.) 1980 Nitrogen Cycling in West African Ecosystems. Stockholm: Royal Swedish Academy of Sciences, 450 p.

2 Wetselaar R, Simpson J R and Rosswall T (Eds.) 1981 Nitrogen Cycling in South-East Asian Wet Monsoonal Ecosystems. Canberra: Australian Academy of Sciences. 216 p.