

Preface

Emissions of sulfur and nitrogen oxides into the atmosphere in Europe and North America have resulted in widespread environmental effects, including acidification of soils, surface- and groundwaters, injury to vegetation, corrosion of building materials and decreased atmospheric visibility. Although there is still considerable uncertainty regarding some of the cause and effect relations, e.g. in connection with injury to forests, many environmental effects are well documented.

There are very good reasons to consider acidification as one of the most serious environmental problems facing industrialized countries today. A natural question to ask is whether acidification is also a serious problem in other parts of the world. Even if this is not the case, it is important to know what the prospects are for the future: how susceptible are tropical ecosystems, for example, to future emissions of sulfur and nitrogen pollutants?

In 1984 the SCOPE Executive Committee decided to launch a project to answer some of these questions. A steering committee was formed consisting of H. Rodhe (chairman), P. Dillon, R. Herrera, T. Rosswall, and E. Salati. In preparation for the workshop held outside Caracas in April 1986, case studies were initiated in late 1984 to describe the current situation in relation to acidification and other regional air pollution problems in seven countries: Australia, Bangladesh, Brazil, China, India, Nigeria and Venezuela. These case studies were presented at the Caracas workshop together with several background papers prepared by scientists experienced with acidification problems in Europe and North America. The participants at the Caracas workshop included about 25 unusually able graduate students who contributed to the lively discussions and friendly spirit of the workshop and gave great hope that many gaps in knowledge about air pollution in tropical countries will be filled in the future.

During the year following the Caracas workshop the case study reports were reviewed, expanded and improved. Unfortunately, for reasons outside the control of the project, two of the case studies (Bangladesh and India) were never completed.

The contributions in this book reflect our current understanding of the potential for acidification in five countries. The data used in this assessment are generally sparse and thus may not be representative of all parts of the

tropics. The book should therefore not be regarded as a final assessment. It is rather a beginning that needs to be completed by much additional data.

The book includes a synthesis chapter, which summarizes the most important findings of the project.

We wish to express our sincere thanks to all who have contributed to the successful completion of a difficult undertaking. This includes the steering committee as well as all the other participants of the Caracas workshop. We are especially grateful for the devoted work done by M. Robinson and T. Whelan as technical editors of the manuscripts during different periods. Technical assistance by the staff of Instituto Venezolano de Investigaciones Cientificas (IVIC) in Caracas and the International Meteorological Institute (IMI) in Stockholm is also gratefully acknowledged.

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