Acidic Precipitation. Volume 2: Biological and Ecological Effects


This volume is one of four in a series dealing with the issue of acidic deposition in the environment. The book includes three chapters dealing with limnological ecosystems, one dealing with streams and two concerning lakes. Three chapters are devoted to acidic deposition effects on trees. A chapter by Haines and Carlson deals mainly with the mechanisms by which both direct and indirect effects on trees are manifested. Two chapters deal with forest ecosystems; one by W.H. Smith concerning North American forests, and a chapter by B. Ulrich on European forests. The chapter by Ulrich is very comprehensive, 81 pages with 322 references, affording the reader with a good source of mainly European literature on tree response to acidic deposition. The remaining chapters deal with acidic deposition effects on soil, crops, and a review of aluminum toxicity and tolerance in plants.

Each chapter reviews the current understanding of the subject matter, the future research needs, and a list of references. The book is sparsely illustrated, with a total of 47 figures, more than one-third of which are contained in the chapter by Ulrich. Indexing is adequate, allowing sufficient cross-referencing among chapters to find subject areas of interest.

As is the case for all books, the time lag in preparing and publishing precludes inclusion of very recent works. The impact of this lag is particularly noticeable, because there has been a wealth of recent peer-reviewed literature documenting the response of crops, forests, and aquatic systems to acidic deposition. However, the book is well-written and contains valuable information that should be of interest to graduate and undergraduate students, industry, government agencies, and academia.

Acidic Precipitation. Volume 3: Sources, Deposition and Canopy Interactions


This is the third in a five-volume series on "acidic precipitation" published by Springer-Verlag. Most recently, at least in the USA, there has been some decline in the interest on this subject. Nevertheless, the contents of this volume can be of value in furthering our understanding of atmospheric processes and a specific aspect of atmosphere-plant canopy interaction.

There are eight separate contributions in this volume written by several authors with established scientific reputations. There are several topics in this volume that should be of direct interest to air pollution effects scientists. However, individual contributions are uneven in their coverage and the overall contents of the volume do not provide a balanced treatment.

At the first glance, the reader could be misled by the title of the volume. It is well known from previously published literature that, closer to the geographic source regions of gaseous pollutants, dry deposition is the major mechanism for the transfer of such pollutants from the atmosphere to the surfaces and farther away from the source regions, wet deposition plays a major role. The main thrust of this volume is on discussions relevant to dry deposition, with very little coverage of wet deposition. In fact, one chapter alone (Dry Deposition of Particles and Vapors) accounts for 34% of the total volume. Although this contribution represents a thorough treatment of the theory of dry deposition, it also contributes to the imbalance in the treatment of the overall subject stated in the title. This is not the fault of the specific authors, but should have been rectified at the outset by the editors.

In the preface to the series, the series editors state that it is their intent to bring thematic topics to the attention of the reader, particularly those topics that are being hotly debated. In addition to the fact that there is no continuity and integration of themes in this volume, at least in my opinion, while the topics discussed are important, none of them are being hotly debated at the present time.

The objective of the publisher might have been to market this volume to education and research institution level clientele. At the present time we have a copy of this volume in our institution-wide library network. Beyond this, I as an individual would not acquire a copy at the price it is marked.

Acidic Precipitation. Volume 4: Soils, Aquatic Processes, and Lake Acidification


This book is part of a four-volume series on acidic precipitation that was conceived and organized by D.C. Adriano and W. Salomons. In this fourth volume of the series, editors Norton, Lindberg, and Page have assembled a collection of eight papers concerning patterns and processes of soil and surface water responses to inputs of acidic deposition.

Chapter 1 deals with soil chemical responses to atmospheric deposition of strong acids. The chapter is a lucid and interesting expansion of earlier papers by Reuss and others on this topic area. The second chapter presents an overview of the chemistry and genesis of acidic sulfate soils. According to the editors, this chapter was included in this volume on acidic precipitation, because these "soils, acidic end members of a continuum, yield insight into the processes one expects in acute acidification of podzolic soils or as a result of drainage and oxidation of soils that have stored reduced