

INTRODUCTION

Background

This Sub-Group report contains four contributions which are pertinent to the atmospheric chemistry and deposition aspects of the modeling being done by Work Group 2. This material was prepared and compiled for the purposes of providing some background and support for the modeling work, and of providing access to current scientific thinking and reference material in these areas.

Paper 1, on "Sulfur and Nitrogen Chemistry in Long-Range Transport Models," and Paper 2, on "The Seasonal Dependence of Atmospheric Deposition and Chemical Transformation Rates for Sulfur and Nitrogen Compounds," were prepared initially during Phase II of the MOI work at the request of Work Group 2, to review areas of the science which were thought to be inadequately treated in the MOI LRT models. Draft versions of these papers were included in Phase II Report 2-14. Following review and comment by several readers, they have been revised to the form presented here.

Two additional brief contributions have been included in this Phase III report. They are executive summaries of major contributions to the EPA Critical Assessment Document on Acid Deposition (1982): one on "Dry Deposition of Acid Substances," and another on "Precipitation Scavenging Processes." These summaries have been included to alert the reader to the availability of current and more extensive reviews of wet and dry deposition than are presented in Paper 2 of this report (which was intended to deal only with seasonal effects), or in Chapter 5 of MOI Report 2F-A.

This collection of supporting papers is not intended to be an exhaustive, in-depth review of atmospheric chemistry and deposition. Rather it provides some information to MOI modelers in areas of particular concern. In all cases, the final responsibility for the views expressed rests with the individual authors.