

this in mind it appears that dry deposition is more amenable to such a treatment, and in fact, dry deposition simulation is progressing well, with a number of temporal and spatial dependences being included in some models. Wet deposition is more complex, has a shorter characteristic time scale, and is therefore more difficult to simulate. One might expect that wet deposition simulation could be improved with a more complete knowledge of the temporal and spatial distribution of storm type and dominant scavenging mode throughout the study region.

Despite (1) the simplified formulations that have been used to incorporate wet and dry deposition processes into large-scale models and (2) the deficiencies of our scientific knowledge of the microphysics and chemistry in a number of important areas, it is encouraging to be able to reproduce the right order of magnitude of the large time and space scale features of the wet sulfur deposition fields. The current degree of scientific effort applied to this area provides a reassuring outlook for improvements in deposition modeling during the next few years.

#### 5.4 Summary and Recommendations

The following items are most crucial to our further understanding of acid deposition, and to our ability to simulate the processes in models.

##### 5.4.1 Dry Deposition

The state of the science is such that advances are required in the experimental and measurement areas before there is likely to be much