

how much of the emitted sulfur and nitrogen is being deposited locally. Results should be averaged over both extended and shorter periods during specified meteorological conditions. These studies would include the measurement of concentrations in the ambient air and in precipitation, not only of sulfur and nitrogen compounds but if possible other substances which may effect the sulfur and nitrogen chemistry, such as oxidants and catalysts such as trace metals. These measurements should be carried out with sufficient spatial extent and resolution to shed insight into the transformation rates of the various chemical species and their budgets.

(2) A careful examination should be made of the existing data on local and mesoscale deposition that can be found in the literature in order that maximum use be made of them.

(3) Existing, less complex, analytical models may be appropriate for use out to distances of a few kilometers. Existing, more complex, Lagrangian, Eulerian or hybrid models, may also be appropriate for distance scales of the order of a few tens to a few hundred kilometers. The local models need to be improved to better account for chemical transformation and wet and dry deposition processes.

(4) Mesoscale models which are used for large spatial scales with corresponding time scales of the order of a few hours to a few days must include the chemical transformation, wet and dry deposition processes, as well as transport and diffusion processes with suitable vertical resolution.

(5) As indicated in the survey, there are numerous models in all of