

AES-LRT Model

The Atmospheric Environment Service of Canada (AES) has developed and applied a Lagrangian box model to simulate ambient concentrations and deposition patterns of sulfur throughout eastern North America (Olson et al., 1979). The AES-LRT model is based on trajectories, at approximately 600 meters above the surface, which are calculated from each designated receptor four times a day using analyzed winds on the standard numerical weather prediction grid covering North America. As the air parcels follow the trajectories towards the receptor points, sulfur dioxide emissions (1976-1980), mixing heights and precipitation amounts along the path are determined from gridded arrays. The transformation and deposition processes are parameterized linearly. The concentrations at each receptor are combined to form daily, monthly, and annual average concentrations and depositions. An evaluation of the model is being conducted using measured data from several American and Canadian networks for 1978.

OME-LRT Model

The Ontario Ministry of the Environment (OME) has developed and applied a simple statistical model to simulate long term ambient concentration and wet deposition patterns on a regional scale for eastern North America (Venkatram et al., 1980). The dispersion and removal of pollutants and the required meteorological parameters in the OME model are specified in terms