vegetative cover, type of surface (land, water),
etc.; and

(4) Parameter values.

The precise nature of the input data requirements is a function
of the complexity of the long-range transport model and its
application.

The main uses and advantages of LRT models include the
following:

(1) A model is a vital component of data interpretation.
For example, parameters such as the oxidation rate of
SO_2 to particulate-sulfate material can be inferred
by fitting model results to measurements.

(2) A model can be used to interpolate between monitored
observation points. This application is important
in the computation of deposition over an area covered
by a limited number of monitors.

(3) A model is an invaluable tool in the planning of
large scale field experiments and in the design of
monitoring networks. Sensitivity studies can be
done to determine the relative importance of physical
variables to be measured. Also, simulations can be
used to estimate the optimal location of monitors.

(4) The computer simulation is the only way to estimate
the relative contribution of many different source
areas to the deposition at a receptor of interest.