

natural and/or very distant anthropogenic sources of sulfur and other compounds that are capable of contributing to the acidity of precipitation. The sources of such substances producing acidity in these remote locations has not yet been determined but may be due to the relative absence of buffering substances (such as calcium) and the presence of organic acids in the precipitation. The role which such natural or very distant anthropogenic sources of acidity play in eastern North America, although likely to be small, remains to be clarified in order to determine what "background" deposition to use in constructing atmospheric models of source-receptor relationships.

- o Monitoring data at individual stations have been classified according to the trajectory that the air mass appeared to have taken during the preceding time period. Observations at monitoring sites, such as those in Ontario, New York State, Illinois and Bermuda generally indicate higher sulfate and nitrate concentrations in the air and in precipitation when the air mass has passed over areas of higher emissions. While such back air trajectory analyses reinforce the conclusion that man-made emissions have a major influence on acidic deposition, this method is unable to distinguish between near and more distant sources within the same directional sector and cannot be used to trace an air mass trajectory during periods of weak, variable air flows or over very long distances.
  
- o Although the historical data are of poor quality and limited quantity, one may note that in the eastern U.S.: a) the lack of a noticeable trend in wet sulfate deposition during approximately the past 5 years is consistent with the small changes in sulfur dioxide emissions; and b) an upward trend in the wet nitrate deposition agrees with a similar upward trend in nitrogen oxide emissions.
  
- o Acidic deposition can occur via precipitation (rain, snow, etc.) or through dry deposition involving gaseous or particulate species. Wet deposition measurements are available for a large number of chemical species. Experimental techniques to monitor dry deposition