In a more recent study, to quote the abstract, "Particulate sulfate in air was monitored daily from June 1978 to December 1979 at Whiteface Mountain, N.Y. The daily sulfate concentrations were related to surface-air trajectory ensembles to assess the relative contribution from the U.S. and from Canada. During the study period the site was influenced approximately equally by continental polar and maritime tropical air masses. However, the maritime air masses from the U.S. were the principal conveyors of high sulfate concentrations at this site and transported 4 to 5 times more sulfate than did the polar continental air from Canada".

In Canada data from the three eastern stations in the Air and Precipitation Network (APN) consistently show the highest concentrations of particulate sulfate and nitrate and sulfur dioxide gas with air arriving from the southerly and southwesterly sectors. At the westerly site near Kenora, Ontario, just north of the Minnesota border, average air concentrations are much lower for all species and the highest values that occur are more evenly spread around the compass.

6.5.2 Precipitation Concentrations

For concentrations in precipitation, similar results have been reported. In the Muskoka-Haliburton area of southern Ontario (about 150 kilometers north of Toronto) the majority of the hydrogen ion (75-80%), sulfate ion (70-80%) and nitrate ion (57-86%) in wet deposition is associated with air trajectories from the southwesterly and southerly octants. The Canadian APN network shows results for wet deposition that are very similar to those for air concentrations. At Whiteface Mountain, and Champaign, Illinois, precipitation events were sampled during 1978. For Whiteface, concentrations of the dominant ions were highest with precipitation events associated with