

ecosystems. The deposition is the product of the concentration and the rainfall amount. Thus in considering the relevance of the low pH values in remote areas, this must be considered. Sensitivity, in the form of the buffering capacity of the receptor surfaces is also important in defining the seriousness of impact. Most remote areas, especially arid regions, are well buffered and so the impact of any acidic deposition is minimized. In contrast, the regions with lowest pH and highest depositions of  $H^+$  ion in the northeastern U.S., eastern Canada and southern Scandinavia cover large areas of poorly buffered lakes and soils and thus have a major impact on the receptors there.

While there is considerable variability in the background pH values, they are in general consistent with the concepts proposed in sections 3 and 4. The limited vertical profiles available are also supportive of the hypothesis that most precipitation starts off as acidic cloud droplets. The higher the elevation the more important is the global background of chemical components relative to those generated locally.

It must also be pointed out that some of the observations cannot be readily explained and clearly, more analysis of existing data bases (for example trajectory analyses to identify whether observed background levels are due to natural sources or far downwind residuals from man-made sources) are required to refine the ideas presented here.