

THE WEAK ACID NATURE OF PRECIPITATION

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ABSTRACT

Recent measurements of the pH of precipitation leave no doubt that rainfall is acidic. Evidence will be presented that precipitation is a weak acid system. The results of this research indicate the need to establish standard sampling procedures to provide uniform sampling of precipitation

Samples were collected from twenty-six separate precipitation events and analyzed for free hydrogen ion concentration and total hydrogen concentration. The free hydrogen ion concentration ranged from 7.5×10^{-5} to 1.7×10^{-6} while the total hydrogen ion concentration ranged from 4.4×10^{-4} to 7.27×10^{-5} . These results cast doubt on the two basic assumptions concerning acid rain which are that the pH of "geologically pure" rain should have a pH of around 5.7 and that any decrease from that value is due to strong acids such as sulfuric acid.