

THE CHEMISTRY OF THE WINTER SNOWPACK
AND ITS RELATIONSHIP WITH THE ACID PRECIPITATION PROBLEM

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ABSTRACT

The chemical inputs in precipitation and losses in stream water have been monitored at the Hubbard Brook Experimental Forest since 1963. This data provides a basis for detecting trends in environmental pollution and its potential effect on natural ecosystems. During three winter seasons (1972-1975) the snowpack itself was sampled on a weekly basis to determine its relationship to the chemical inputs in precipitation and ecosystem chemical outputs in streamflow. The snowpack was generally slightly less acid and had about the same or lower concentrations of calcium, nitrate, and sulfate than incident precipitation. Potassium was found in higher concentrations in the snowpack than in precipitation. Leaching of the snowpack may be a major pathway for the removal of acidity and nutrients prior to spring snowmelt. The amount of nutrients stored in the snowpack was generally small in relation to the amount lost from the ecosystem in streamflow.

This paper reviewed research work conducted at Hubbard Brook over recent years. The following references provide a more complete review of subject.

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