Long Term Monitoring: an Integration of the Effects of Atmospheric Deposition and Climatic effects on the Arbutus Watershed in the Adirondack Mountains of New York

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The Arbutus Lake Watershed has been gauged at the lake outlet since October 1991 with a V-notch weir. The data logger at the weir is connected to a telephone line permitting real time monitoring of water discharge from Arbutus Lake. The 130 ha Archer Creek Catchment drains into Arbutus Lake. This catchment has been monitored since 1994 using a H-flume equipped with automated discharge logging and sample collection system. Water chemistry samples are taken weekly except during storm events when more frequent sampling is done. In addition, transects of piezometers, water table wells, soil tension lysimeters, snow lysimeters and throughfall collectors, have been installed for characterizing solute chemistry. Various plots and subcatchments including both upland and wetland sites have been intensively instrumented since 1994. In addition, a detailed Geographical Information System (GIS) has been developed for the site that includes a Digital Elevation Model (DEM) with 3-m resolution and other GIS information. Detailed stream and wetland maps have been produced and sampling points located all of which are part of the GIS.