

Use of Long Island as a geological laboratory for K-12 earth science education

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Long Island, with its array of Pleistocene and modern-day geological features, is an excellent teaching laboratory for earth science education. Sites for student field activities on Long Island include glacial moraines, outwash plains, kettles, streams, ponds, bogs, beaded drainage systems, coastal bluffs, tombolos, cobble beaches, barrier islands, salt marshes and lagoons. The subsurface geology and hydrogeology also offer much potential as subjects for educational activities. Unfortunately, however, most teachers do not utilize Long Island's natural environment as a resource for providing hands-on earth science educational experiences for their students. The Museum of Long Island Natural Sciences is attempting to remedy this situation by developing new educational tools, offering hands-on earth science programs for schools and training teachers to use Long Island as a teaching laboratory.

The Museum offers an educational resource to schools, entitled *Long Island Water Resources: A Curriculum Activities Guide*. This two-volume set is designed for grades K through 12 and includes activity-oriented sections on the hydrologic cycle, bodies of fresh surface water, Long Island's aquifers, and the effects of land use on water quality.

The Museum also offers educational programs that bring school classes to the Stony Brook campus and to various field sites on Long Island. Field-oriented courses include programs entitled "Salt Marsh", "Long Island Geology", and "Seashore". In "Long Island Geology", students collect data at selected sites along a north-south transect across Long Island that includes a North Shore cobble beach, a salt marsh, the Ronkonkoma Moraine, a glacial kettle, the Hempstead Outwash Plain and a South Shore barrier beach. In another program known as "Long Island's Water: Cloud to Faucet and Back Again", students investigate the permeability of various types of Long Island soils and experiment with properties of water in order to understand the island on which they live from a hydrogeological perspective.

An important facet of any effort to promote Long Island as a teaching laboratory is to educate teachers on the subject of Long Island geology. Through the Office of Continuing Education at SUNY at Stony Brook, staff of the Museum offer courses for teachers that include "Long Island Geology", "Long Island's Natural Environment", "Long Island's Water Resources", "Humanity and Nature" and "Wilderness and Society". Each of these courses includes field trips in which teachers learn how to use the natural environment as a classroom.