



Field Trip

Sea Level Rise and Flooding History of Long Island's South Shore

Steven Goodbred
Stony Brook University

Saturday October 30, 2004
9 a.m to 5 p.m.

The modern South Shore of Long Island is a geologically young setting, largely developed in the past few thousand years. In fact, the present marshes, lagoons, and barrier islands comprise only a thin veneer of recent sediments draped over glacial deposits. Thus, what has shaped the present-day coast has been the more recent interaction of sea-level rise and coastal processes with pre-existing glacial landforms. On this trip we will visit the lower reaches of a prominent valley carved by glacial meltwater, a tributary in this valley is presently occupied by the Carmans River. Glacial influence ceased on Long Island some 20,000 years ago, leaving the area uninfluenced by major geological processes for thousands of years. As the melting of distant ice sheets continued to raise sea level, low-lying areas such as the Carmans valley became inundated, perhaps as early as 7000 years ago. So it is at Carmans River that we will see brackish-water marsh peats that are deposited directly over the much older glacial outwash. These early deposits grade upward into marsh sediments of increasing marine influence, reflecting the continued rise in sea level.

Our trip will then move to Fire Island National Seashore, where we will investigate the barrier island that separates the modern Carmans River marshes from high-energy marine processes. At the shoreline, old marsh peats can actually be found below the present sandy beach, indicating long-term landward migration of the barrier island. Finally, we will discuss modern features of the barrier island and how they reflect the continued influence of sea-level rise and coastal processes on the South Shore.

We will meet at 9 a.m. at the National Seashore Wilderness Visitor Center (Tel. 631-281-3010) located on the west end of Smith Point County Park. From 495 take exit 68 south on William Floyd Parkway to the end. Free parking is available at Smith Point County Park. Park at west end of lot.

We will go rain or shine. Dress appropriately. There will be no refunds. Bring lunch and drink.

If you wish to participate, we need to know by **Tuesday, October 26**. Make your reservations by sending a check for **\$10.00 per participant** made out to Long Island Geologists. **No confirmation will be sent.**

Long Island Geologists

Earth and Space Sciences Building
S.U.N.Y.
Stony Brook, New York 11794-2100 Tel. 631 632 8535; Fax 631 632 8240

Cut here _____

Enclosed is a check for \$ _____.to reserve ____places for the Field Trip on Saturday October 30, 2004.

Name(s) _____

Affiliation _____

Address _____

Town _____ State _____ Zip _____

Phone Number _____ Fax Number _____

e-mail _____

If you are a teacher, would you like in-service credit? _____