



## *Field Trip*

# "Glacial Tectonics and Walking Dunes Hither Hills State Park"

**Dan Davis and Mitchell Cangelosi**

Stony Brook University

**Saturday October 29, 2005**

Hither Hills State Park on the South Fork of eastern Long Island, features a long trend of regularly-spaced, NE-SW-trending hills that are cut by a dendritic network of valleys that may have originated subglacially as a tunnel valley system. Several viable geologic models have been suggested for the formation of the hills. *Sirkin* (1983; 1995) envisioned the features as recessional moraines deposited during the orderly retreat of the Wisconsin ice, while *Fuller* (1914) attributed them to glacial meltwater erosion. We will walk among these hills, comparing the features seen at the surface with the subsurface structure revealed by a series of GPR (Ground-Penetrating Radar) surveys. A recent M.S. thesis by Kurt Goetz reveals evidence for folding, erosion and deposition in and among these hills, which are above an enigmatic radar reflective layer that is apparently exposed along the northern shore.

We will also visit the nearby Walking Dunes, an active dune system that is overrunning a forest. While on the dunes, we will compare what we see at the surface with what is revealed in a series of recent 2-D and 3-D GPR surveys, many of which are part of James Girardi's B.S. honors thesis. These GPR data clearly show the buried sedimentary record of dune growth and migration. We will also compare the landforms we see with those revealed by aerial images over the past 75 years and maps dating back to the middle of the 19th century.

We will meet at **9 a.m.** in the western (Main) parking field at Hither Hills State Park. Hither Hills State Park is on Highway 27 (Montauk Highway) about nine miles east of Easthampton and about four miles west of Montauk.

We will walk about five miles total. The tour will finish by **5 p.m.**

Be prepared for inclement weather.

We will go **rain or shine**. Bring **lunch and drink**. Wear sturdy **walking shoes or boots**

If you wish to participate, we need to know by **Tuesday, October 25**. Make your reservations by sending a check for \$10.00 per participant made out to Stony Brook Foundation.

Long Island Geologists  
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Stony Brook, New York 11794-2100  
Tel. 631 632 8200

Long Island Geologists web site is [www.geo.sunysb.edu/lig/](http://www.geo.sunysb.edu/lig/)

**7.5 contact hours toward in-service credit**

**Long Island Geologists**

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Enclosed is a check for \$\_\_\_\_\_.to reserve \_\_\_\_places for the Field Trip on October 29, 2005.

Name(s) \_\_\_\_\_

Affiliation \_\_\_\_\_

Address \_\_\_\_\_

Town \_\_\_\_\_

State \_\_\_\_\_ Zip \_\_\_\_\_

Phone Number \_\_\_\_\_ e-mail \_\_\_\_\_

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