

**Long-term Changes in the East Hampton Town  
Atlantic Ocean and Peconic Estuary Shorelines and  
their Contiguous Dunes and Bluffs  
as Inferred from Historic Maps, Land Surveys,  
Orthographic Vertical Photographs, LIDAR and  
Subcentimeter GPS Measurements.**

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The Town of East Hampton is bordered on the south by the Atlantic Ocean, on the north by the waters of the Peconic Estuary, including Block Island Sound. The outer shoreline approximates 60 miles, including Gardiners Island, 75 miles. We have ascertained the long-term rate of shoreline recession by using historical maps, two dimensional land surveys, orthographic vertical photographs, survey-grade GPS and LIDAR. In some areas, e.g., the Block Island Sound dunal shoreline west of Lake Montauk's inlet, erosion has been exacerbated by an upgradient jetty and the recession rate is as great as 3.8 feet per year. Terminal morainal ocean bluffs in a high wave energy zone between Montauk's downtown dunal shoreline and Montauk Point are retreating at a rate of two to four feet a year and in a few spots, as much as five feet a year. The long stretch of shoreline rimmed by a tallish primary dune ridge between the east end of the Napeague isthmus and Hook Pond in East Hampton Village are relative stable and show the least amount of annual erosion, less than one foot per year. Most of the erosive materials are lost to the sea, but in a few areas, sediments are deposited by updraft winds on top of retreatal morainal bluffs such as at the north end of Barcelona and the Gardiners Bay bluffs east of Cedar Point County Park. West of Georgica Pond which traps littoral drift sand in its internal delta, the Wainscott ocean bluff are retreating at 3 to 5' per year, but are being continually replenished by sand brought in from quarries and sand removed from the mouth of Georgica Pond. Certain low sandy spits such as Cartwright Island on the south end of Gardiners Island lose and gain sand intermittently and change the long axes of their orientations from year to year. Some low-lying residential areas experience overwash from nor'easters and would be seriously damaged by major tropical storms or very large nor'asters. The low-energy shorelines of the inner bays and tidal creeks are comparatively stable.