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NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION
SUFFOLK COUNTY DEPARTMENT OF HEALTH SERVICES
SUFFOLK COUNTY WATER AUTHORITY
TOWN OF NORTH HEMPSTEAD
TOWN OF SHELTER ISLAND
AND THE U.S. ENVIRONMENTAL PROTECTION AGENCY

SCIENTIFIC INVESTIGATIONS MAP 3270
Depth to water table—SHEET 4 of 4
Monti, Jack, Jr., Como, Michael, and Busciolano, Ronald, 2013,
Water-Table and Potentiometric-Surface Altitudes in the Upper Glacial, Magothy, and Lloyd Aquifers beneath Long Island, New York, April–May 2010

EXPLANATION

Depth to water table below land surface, in feet

- 🟥 Less than 11
- 🟥 11 to 20
- 🟥 21 to 30
- 🟩 31 to 50
- 🟩 51 to 75
- 🟨 76 to 100
- 🟨 101 to 125
- 🟫 126 to 150
- 🟫 151 to 175
- 🟫 176 to 200
- 🟫 Greater than 201
- ⬜ **No water-level measurement available**
- ● 52.4 **Depth to water table at monitoring well**—Number is depth to water table below land surface, in feet

Depth to Water Table

This map depicts the depth to the water table beneath Long Island during April-May 2010. A geographic information system was used to create a continuous surface of the water table using an iterative finite difference interpolation technique with measurements from 349 observation wells, 16 streamgages, interpreted 10-foot (ft) contour intervals, and the coastline.

The land surface or topography was downloaded from the National Map portal (http://nationalmap.gov), which represents the most currently available terrain representation as a 10-meter digital elevation model (DEM). The National Map terrain representation was combined with an additional land surface terrain model of Suffolk County, which was collected using LiDAR to produce a high accuracy three-dimensional land surface altitude model based on the geospatial product for coastal flood mapping.

The continuous surface of the water-table altitude was adjusted for the vertical datum differences across Long Island. This surface was then subtracted from the topography at the same location. The results are shown as a depth to water table map.

The general configuration of the depth to the water table reflects the topography data; however, because the map scales of the topography (1:24,000) and water-table altitude (1:125,000) differ, the horizontal accuracy of the depth to water table is 1:125,000 with a vertical error of ± 5 feet. Areas in which no water-level data were available for comparison are shown in gray; however, in areas along the south shore of Long Island, including marshes and the barrier island, the water-table altitude was assumed to be NGVD 29. Areas in which the depth to water table is shallow are shown in red and indicate areas where potential substructure flooding may occur.

Groundwater-level Data

Groundwater-level data were downloaded from the USGS National Water Information System (NWIS) database (http://waterdata.usgs.gov/nwis/si). This database consists of more than 850,000 records of wells, springs, test holes, tunnels, drains, and excavations in the United States. Available site descriptive information includes well-location and completion information, such as latitude, longitude, well depth, and aquifer. NWIS water-level data can be queried and used to construct historical time-series hydrographs for wells. As an example, for Suffolk County mapped well "S16783," search NWIS on Site Name "16783" and choose the option button "match any part"; then click Submit. A search will be performed, and a resulting list of site numbers will appear. Click on the Site Number link, then click on the Field groundwater-level measurements link.

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Base from U.S. Geological Survey digital data 1:100,000 series
Lambert Conformal Conic projection
Standard parallels 40° 40' N and 41° 2' N, central meridian 74° 00' W
North American Datum of 1983

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2013

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