



## Northeast Friends of the Pleistocene 2015

June 5-7, 2015

The 78<sup>th</sup> Annual Reunion of the Friends of the Pleistocene will be head-quartered in Rocky Hill, Connecticut at Dinosaur State Park. The meeting is co-sponsored by the Geological Society of Connecticut and the Connecticut Geological and Natural History Survey.

The fieldtrip **“Glacial Lake Hitchcock and the Sea”** will be led by Janet Stone, Jack Ridge, Ralph Lewis, and Mary DiGiacomo-Cohen. The 2015 gathering will be held in Connecticut for the first time since 1935 when Richard Foster Flint hosted the 2<sup>nd</sup> annual FOP fieldtrip at New Haven, and stops included the Hartford Clay of Glacial Lake Hitchcock (at that time unnamed). Eighty years later, there is more to tell about Lake Hitchcock in Connecticut, thanks to geologists like Richard Lougee, who understood early on why this lake existed, and in 1935 he gave it the name of Glacial Lake Hitchcock, and Ernst Antevs, who in the 1920’s gave us the powerful chronologic tool of varve correlation. In recent years, the compilation of many detailed on-land mapping studies and high-resolution offshore mapping (Stone and others, 2005), and recent calibration of the North American Varve Chronology (Ridge, J.C., 2014) have provided many new insights.

The fieldtrip will demonstrate the evidence for the close connection of Lake Hitchcock levels with the position of sea level in Long Island Sound via the lower Connecticut River valley, and explain important offshore features like a -40-m marine delta, and the altitudes of the Race spillway cut through the Harbor Hill moraine and Block Channel spillway cut through the terminal moraine. The history of lake levels and knowledge of eustatic sea levels provided by the Barbados sea level curve (Bard and others, 1991) has implications for the magnitude of glacio-isostatic depression and the timing of rebound. We will also review recent refinements to the timing of ice retreat through the region as a result of recent coring of varves and the newly calibrated North American Varve Chronology.

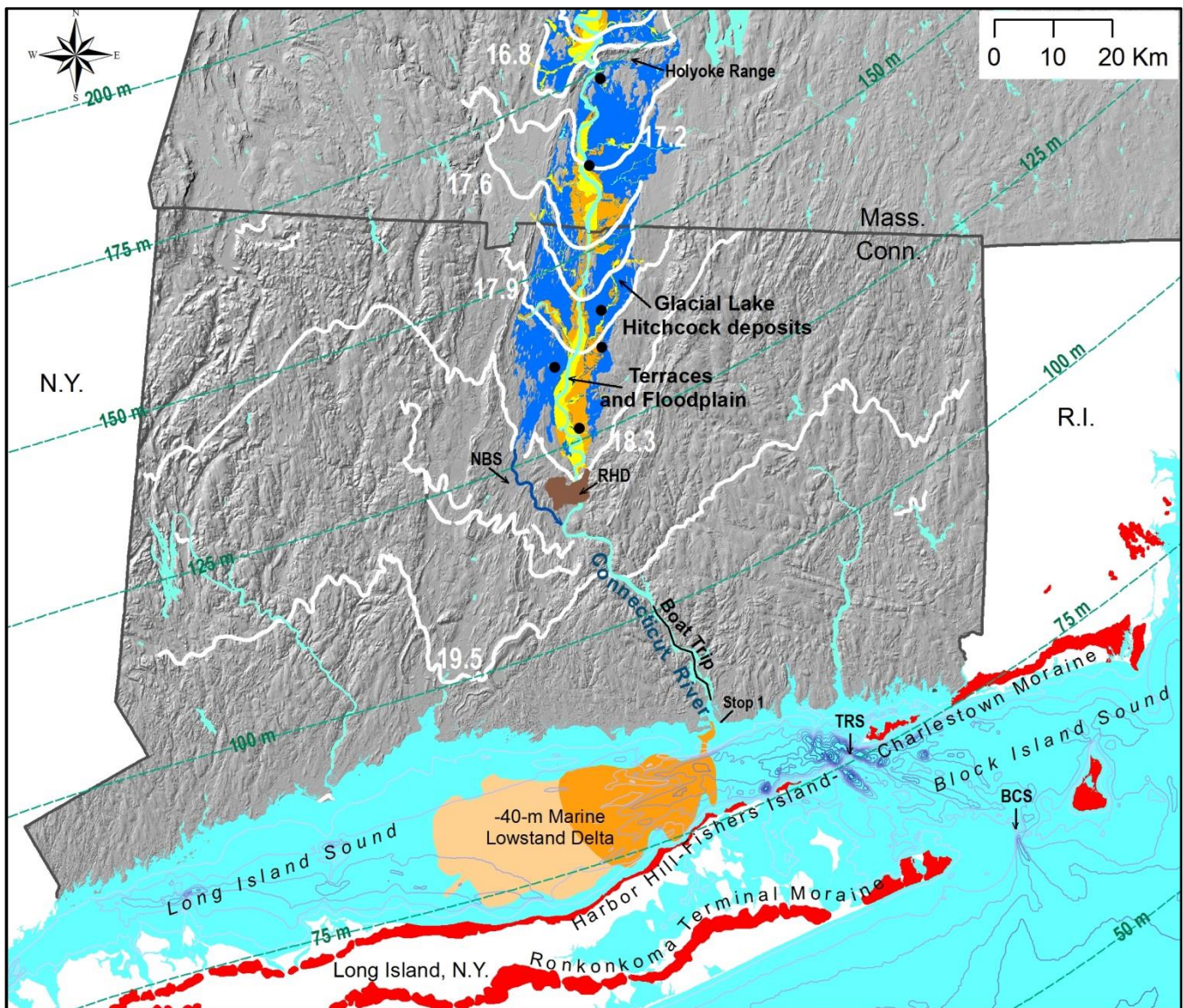


Figure 1. Glacial Lake Hitchcock in the Harford-Springfield Basin and the -40-m lowstand marine delta in Long Island Sound. **NBS**-New Britain spillway, **RHD**-Rocky Hill dam, **TRS**-The Race spillway, **BCS**-Block Channel spillway. Green lines are isobases of glacio-isostatic depression, numbers are total depression in meters. White lines are selected retreatal ice-margin positions, numbers are calibrated dates in thousands of years based on varve records from the North American Varve Chronology (Ridge, 2014). Black dots are locations of varve cores that penetrate to the base of the lake section and identify the oldest varve present at each site.

**The first day's trip will begin in Rocky Hill at about 10 AM on Friday, June 5.** We will travel by bus or vans to Griswold Point, Old Lyme on the shore of Long Island Sound at the mouth of the Connecticut River. Here we will discuss important submerged features in Long Island and Block Island Sounds and examine the ice-marginal delta sediments exposed in the cliff face. At Stop 2, just below the I-95 bridge across the CT River, we will briefly discuss the geologic section there, and then board the River Quest for a scenic boat trip and view of the geology along the river to East Haddam, eating our box lunches along the way. From E. Haddam we will travel northward in the lower Connecticut River valley examining features and deposits that affected Lake Hitchcock levels, eventually returning to Rocky Hill.

**Friday evening**, we plan to have a happy hour / day-trip review, since we expect that not everyone will be able to attend the Friday fieldtrip despite its importance to the story.

**On Saturday**, we will again board a bus (or vans) and travel to Stops at the dam for Lake Hitchcock in Rocky Hill and the historic spillway of Lake Hitchcock in New Britain. We will also examine Lake Hitchcock delta exposures in the Farmington River delta complex, which records the high-level, stable-level, and post-stable-level stages of the lake. We will also have a stop at Matianuck Dunes State Park, where we will examine features on a lake-bottom surface in front of the Farmington delta including parabolic dunes and clusters of sub-circular rimmed depressions that may be pingo remnants indicative of permafrost conditions following lake drainage at 15.6 cal ka.

**Saturday evening**, Happy Hour and Buffet Dinner will be held at Dinosaur State Park. The Dinosaur footprint trackway in outcropping East Berlin Formation under the dome will be available for viewing and the Park gift shop will be open.

**On Sunday**, we are planning a shorter day and travel will be by individuals cars. We will cross to the east side of the Connecticut River and Stops will include a gravel pit in Glastonbury exhibiting the deltaic nature of the Rocky Hill dam, and the former Kelsey-Ferguson clay pit in South Windsor. Varve cores obtained by Jack Ridge and his students in Glastonbury, South Windsor, and East Windsor will be shown/illustrated. The important discussion on Sunday will be to review recent refinements to the timing of ice retreat through the region as a result of this recent coring of varves and the newly calibrated North American Varve Chronology (Ridge and others, 2012).

Details on Lodging and other Registration information coming soon!