

WILTON, CONNECTICUT

LIST OF MAP UNITS

POSTGLACIAL DEPOSITS - late Holocene, late Wisconsinan	GLACIAL MELTWATER DEPOSITS - late Wisconsinan	Explanation of Map Symbols
Artificial Fill	Undifferentiated Meltwater Deposits	✦ Ice Margin Position
Coastal Beach and Dune Deposits	Deposits of Major Ice-Dammed Lakes	✦ Inferred Ice Margin Position
Tidal Marsh Deposits	Deposits of Major Ice-Dammed Lakes	➤ Esker
Fluvial Alluvium	Deposits of Related Series of Major Ice-Dammed Ponds	✦ Glacial Stratification or Groyne
Swamp Deposits	Deposits of Related Series of Major Ice-Dammed Ponds	✦ Drumlin Axis and Center
Swamp Deposits	Deposits of Proximal Meltwater Streams	✦ Meltwater Channel
Lake	Deposits of Distal Meltwater Streams	✦ Glacial Lake Spillway
EARLY POSTGLACIAL DEPOSITS - early Holocene, late Wisconsinan	GLACIAL ICE-AID DEPOSITS - late Wisconsinan, Illinoian	✦ Inferred Glacial Spillway
Stream Terrace Deposits	Thin Till Deposits	✦ Location of Lower Till
Inland Dune Deposits	Thick Till Deposits	✦ Two-Till Outcrop
	End Moraine Deposits	▲ Deltic Bedding Outcrop
		✦ Weathered Bedrock Outcrop
		⊙ Radiocarbon-Dated Locality
Explanation of Map Symbols	Elevation Contours	
 Area of glacial/fluviolacustrine deposits grading to glacial lake	 100 Ft. Interval	
 Area of lake-bottom sediments	 50 Ft. Interval	

EXPLANATION

Quaternary Geology is 1:24,000-scale data that illustrates the geologic features formed in Connecticut during the Quaternary Period, which spans from 2.588 ± 0.005 million years ago to the present and includes the Pleistocene (glacial) and Holocene (interglacial) epochs. The Quaternary Period has been a time of development of many details of the Connecticut landscape and all surficial deposits. At least twice in the last Pleistocene, continental ice sheets swept across Connecticut from the north. Their effects are of pervasive importance to present-day occupants of the land.

The Quaternary Geology information illustrates the geologic history and the distribution of depositional environments during the emplacement of unconsolidated glacial and postglacial surficial deposits and the landforms resulting from those events. These deposits include glacial till, glacial drift, glacial outwash, glacial sand and gravel, thickness, overlie the bedrock surface and underlie the organic soil layer of Connecticut. Quaternary Geology is mapped without regard for any organic soil layer that may overlie the deposit.

The Connecticut Quaternary Geology information was initially compiled at a 1:24,000 scale (1 inch = 2,000 feet) then recompiled for a statewide 1:125,000-scale map, Quaternary Geology Map of Connecticut and Long Island Sound Basin. A companion map, the Surficial Materials Map of Connecticut, emphasizes the surface and subsurface texture (grain-size distribution) of these materials. The quaternary geology and surficial material features portrayed on these two maps are very closely related; each contributes to the interpretation of the other.

Most of Connecticut's surficial material is glacially derived, and can be divided into two broad depositional categories: Glacial Ice-Laid Deposits (nonsorted and generally nonstratified thin till, till, and end moraine) which are generally exposed in the uplands, and are the most widespread surficial deposit in Connecticut; and Glacial Meltwater Deposits (sorted and stratified deltaic, river bottom, lake bottom, and inland dune deposits) which are most commonly concentrated in valleys and lowlands.

Particular attention has been paid to understanding the distribution and characteristics of stratified meltwater deposits because they have historically influenced development patterns and groundwater availability throughout the state. Within the meltwater category, six classes of deposits have been recognized based on the conditions that prevailed during their emplacement. Four of the seven indicate whether previously deposited sediment, or the glacier itself, impounded the lake or pond where emplacement occurred (see the meltwater deposit discussion below). Meltwater stream deposits are differentiated based on their distance (proximal or distal) from the ice sheet when they were emplaced, and a separate meltwater map unit is reserved for deposits of undetermined provenance (uncorrelated).

Postglacial Deposits were emplaced by various processes after the melt back of the last ice sheet. Some of these deposits were emplaced early in post-glacial time and have been grouped together as Early Postglacial Deposits. Later deposits, resulting from processes that are still active (or are manmade), have been grouped together as Postglacial Deposits.

Glacial Ice-Laid Deposits (nonsorted and generally nonstratified thin till, thick till, and end moraine); **Glacial Meltwater Deposits** (sorted and stratified deltaic, river bottom,

Figure 1 : A morphosequence is a body of meltwater deposits composed of a continuum of (terrace, delta plains), that were deposited simultaneously at and beyond the margin of a glacier through sand and gravel and sand beneath delta plains and foreset slopes to silt and clay in lake

Deposition of the morphosquences that progressively filled bedrock valleys and lowlands as the last glacier melted northward required the presence of impounded lakes and ponds. The nature of the impoundments and the resulting distribution of the meltwater deposits on the landscape were controlled by the topography of the area being deglaciated. Where a northward succession of ice positions was established in south-draining basins, previously deposited sediment formed the dams, and the oldest morphosquences occupied the lowest, widest parts of the valley. Deposition then

Postglacial Deposits (flood-plain alluvium and swamp deposits, but also including stream-terrace, talus, dune, tidal-marsh, beach, channel fill, marine delta deposits, and artificial fill) are less widely distributed and are typically thinner than the glacial deposits that they overlie. The oldest postglacial deposits occur in Long Island Sound and in southeastern Connecticut because these areas were deglaciated first. Many of the depositional processes that were initiated as postglacial conditions began to prevail are still operative today.

Postglacial deposits provide locally important ecological, agricultural, commercial,

DATA SOURCES

QUATERNARY GEOLOGY DATA – Quaternary Geology shown on this map are from the Quaternary Geology Poly, Point Feature, and Line Feature dataset intended to be used at a 1:24,000 scale. Based on Connecticut Quaternary Geology digital spatial data published in 2005 by the U.S. Geologic Survey, in cooperation with the Connecticut Department of Environmental Protection. These data were digitized from the 1:24,000-scale compilation sheets prepared for the statewide Quaternary Geology Map of Connecticut, (Stone, J.R., Schafer, J.P., London, E.H., DiGiacomo, Cohen, M. L., Lewis R.S. and Thompson, W.B., 2005, U.S. Geological Survey special map, 2 sheets, scale 1:125,000).

BASE MAP DATA - Based on data originally from 1:24,000-scale USGS 7.5 minute topographic quadrangle maps published between 1969 and 1992. It includes political boundaries, railroads, airports, hydrography, geographic names and geographic places. Streets and street names are from Tele Atlas® copyrighted data. Base map information is neither current nor complete.

CONTOUR DATA - Derived from Connecticut's 2000 statewide LiDAR, (Light Detection and Ranging), dataset by the University of Connecticut, College of Agriculture and Natural Resources, Department of Natural Resources and the Environment. These data are a Beta product intended for research and demonstration purposes. NOTE: Contour line data is known to be incorrect in some areas due to anomalies in the underlying elevation data used to generate those specific contour lines. Areas where contour lines are too straight or angular, do not naturally curve where expected, or don't exist where they probably should are good indications of erroneous data.

0 0.25 0.5 1 1.5

0 0.25 0.5 1 1.5 2

SCALE 1:24,000 (1 inch = 2,000 feet) when map is printed at original size

 STATE OF CONNECTICUT
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and recreational resources. Talus, a result of rockfall at the base of steep bedrock (primarily trap rock) cliffs, and inland dune deposits, that developed as winds swept across newly exposed glacial lake beds, provide ecological niches that are atypical for Connecticut. Beach, dune, marsh and swamp deposits are key ecological elements of coastal and poorly drained inland settings. Deposits of floodplain alluvium are largely composed of sands, gravels and silts that have been reworked from glacial deposits and mixed with organic matter which increases their fertility. Despite their flood-prone nature, low, flat, fertile floodplains have historically been attractive for agricultural uses and development related to water-dependent commerce.

RELATED INFORMATION

This map is intended to be printed at its original dimensions, (48 x 36 in), in order to maintain the 1:24,000 scale (1 inch = 2,000 feet).

QUATERNARY GEOLOGY AND SURFICIAL MATERIALS combined into a 1:24,000-scale digital spatial data of Connecticut Quaternary Geology and Surficial Materials combined into one dataset, published by the Connecticut Department of Environmental Protection, in cooperation with the U.S. Geological Survey. These data were derived from a 1:24,000-scale compilation sheet series for both the Surficial Materials Map of Connecticut (Stone, J.R., Schafer, J.P., London, E.H. and Thompson, W.B., 1992, U.S. Geological Survey Special Map, 2 sheets, scale 1:125,000, map and pamphlet, 71 p.) and the Quaternary Geologic Map of Connecticut (Stone, J.R., Schafer, J.P., London, E.H., Thompson, W.B., 1992, U.S. Geological Survey Special Map, 2 sheets, scale 1:125,000, map and pamphlet, 71 p.) and the Quaternary Geologic Map of Connecticut (Stone, J.R., Schafer, J.P., London, E.H., Thompson, W.B., 2005, U.S. Geological Survey Scientific Investigation Map 2784, 2 sheets, scale 1:125,000).

OTHER GEOLOGIC MAPS - This map is also available for individual USGS topographic quadrangles of Connecticut. This map is intended to be used with other bedrock, surficial, and quaternary (glacial) geology town maps and reports published by the Connecticut Geological and Natural History Survey, USGS, and others. Those maps are reports are also available from CT DEP.

MAPS AND DIGITAL DATA - Go to the CT ECO website for this map and a variety of others. Go to the CT DEP website for the digital spatial data shown on this map.

MAP LOCATION

200 miles

et

36 in)

State Plane Coordinate System of 1983, Zone 3526
Lambert Conformal Conic Projection
North American Datum of 1983



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