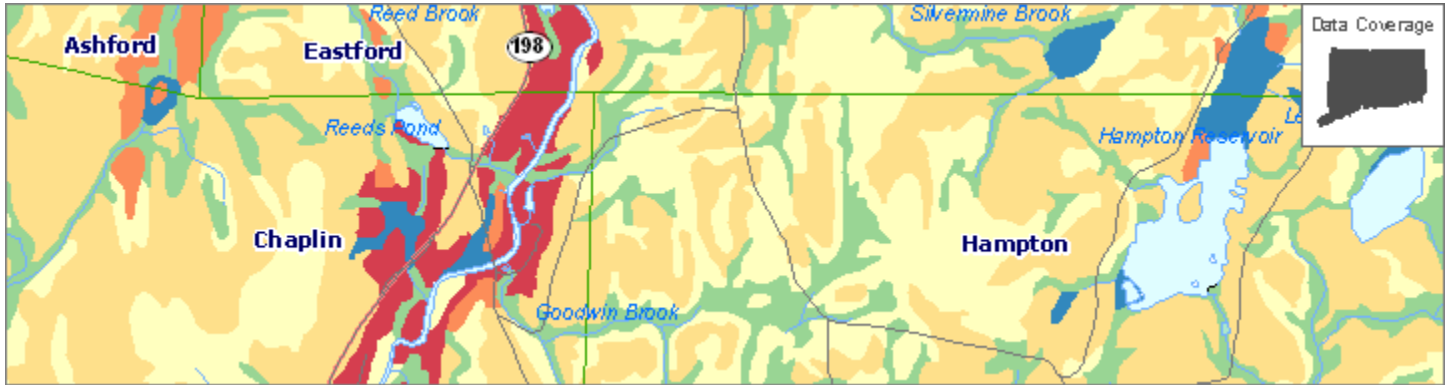


## Soil Drainage Class



### Description

Drainage Class (natural) refers to the frequency and duration of wet periods under conditions similar to those under which the soil formed. Alterations of the water regime by human activities, either through drainage or irrigation, are not a consideration unless they have significantly changed the morphology of the soil. Seven classes of natural soil drainage are recognized—excessively drained, somewhat excessively drained, well drained, moderately well drained, somewhat poorly drained, poorly drained, and very poorly drained. Drainage classes are from observations of water tables, soil wetness, landscape position and soil morphology. In many soils the depth and duration of wetness relate to the quantity, nature, and pattern of redoximorphic features. Redoximorphic features are soil features associated with wetness. They result from the reduction and oxidation of iron and manganese compounds in the soil after saturation with water and desaturation, respectively.

### Purpose

Drainage classes provide a guide to the limitations and potentials of the soil for field crops, forestry, wildlife, and recreational uses. The class roughly indicates the degree, frequency, and duration of wetness, which are factors in rating soils for various uses.

### Legend Description

**Soil map units are not homogenous units.** They contain both similar and dissimilar soils. Flooding class map units are dominated by soils that flood, but have inclusions of non-flooding soils. Non-flooding soil map units may contain inclusions of flooding soils. This legend indicates those types of soils that are dominated by the drainage classification. For those map units that have miscellaneous areas (Rock Outcrop, Urban Land, Dumps, Pits), the classification refers to the soil portion.



#### Excessively Drained

Water is removed very rapidly. The occurrence of internal free water commonly is very rare or very deep. The soils are commonly coarse-textured and have very

high hydraulic conductivity or are very shallow.

### **Somewhat Excessively Drained**

Water is removed from the soil rapidly. Internal free water occurrence commonly is very rare or very deep. The soils are commonly coarse-textured and have high saturated hydraulic conductivity or are very shallow.

### **Well Drained**

Water is removed from the soil readily but not rapidly. Internal free water occurrence commonly is deep or very deep; annual duration is not specified. Water is available to plants throughout most of the growing season in humid regions. Wetness does not inhibit growth of roots for significant periods during most growing seasons. The soils are mainly free of features that are related to wetness.

### **Moderately Well Drained**

Water is removed from the soil somewhat slowly during some periods of the year. Internal free water occurrence commonly is moderately deep and transitory through permanent. The soils are wet for only a short time within the rooting depth during the growing season, but long enough that most mesophytic crops are affected. They commonly have a moderately low or lower saturated hydraulic conductivity in a layer within the upper 1 m, periodically receive high rainfall, or both.

### **Somewhat Poorly Drained**

Water is removed slowly so that the soil is wet at a shallow depth for significant periods during the growing season. The occurrence of internal free water commonly is shallow to moderately deep and transitory to permanent. Wetness markedly restricts the growth of mesophytic crops, unless artificial drainage is provided. The soils commonly have one or more of the following characteristics: low or very low saturated hydraulic conductivity, a high water table, additional water from seepage, or nearly continuous rainfall.

### **Poorly Drained**

Water is removed so slowly that the soil is wet at shallow depths periodically during the growing season or remains wet for long periods. The occurrence of internal free water is shallow or very shallow and common or persistent. Free water is commonly at or near the surface long enough during the growing season so that most mesophytic crops cannot be grown, unless the soil is artificially drained. The soil, however, is not continuously wet directly below plow-depth. Free water at shallow depth is usually present. This water table is commonly the result of low or very low saturated hydraulic conductivity of nearly continuous rainfall, or of a combination of these.

### **Very Poorly Drained**

Water is removed from the soil so slowly that free water remains at or very near the ground surface during much of the growing season. The occurrence of internal free water is very shallow and persistent or permanent. Unless the soil is

artificially drained, most mesophytic crops cannot be grown. The soils are commonly level or depressed and frequently ponded. If rainfall is high or nearly continuous, slope gradients may be greater.

### **Not Rated**

Soils have characteristics that show extreme variability from one location to another. Often these areas are urban land complexes or miscellaneous areas. An on-site investigation is required to determine soil conditions present at the site.

## **Use Limitations**

*This data set is not designed for use as a primary regulatory tool in permitting or siting decisions, but may be used as a reference source.* This is public information and may be interpreted by organizations, agencies, units of government, or others based on needs; however, they are responsible for the appropriate application. Federal, State, or local regulatory bodies are not to reassign to the Natural Resources Conservation Service any authority for the decisions that they make. The Natural Resources Conservation Service will not perform any evaluations of these maps for purposes related solely to State or local regulatory programs.

## **Related Information**

Soil survey interpretations are predictions of soil characteristics for specified land management practices. Below are descriptions of soil survey interpretations available through CT ECO.

[Farmland Soils](#) - CT ECO Complete Resource Guide

[Inland Wetland Soils](#) - CT ECO Complete Resource Guide

[Soil Flooding Class](#) - CT ECO Complete Resource Guide

[Soil Potential Ratings for Subsurface Sewage Disposal Systems](#) - CT ECO Complete Resource Guide

[Soil Parent Materials](#) - CT ECO Complete Resource Guide

## **Data Collection Date**

The original data was collected from published surveys from 1962 to 1981, field mapping from 1985 through 2001 and additional attribute documentation to 3/23/2007.

## **Status**

This information is updated as needed. The previously published county soil surveys (published between 1962 and 1981) are superseded by this official soil information. County soil surveys are for historical use only.

## **Map Scale**

The source map scale is 1:12,000 (1 inch = 1,000 feet). This information is designed to be viewed and analyzed at this map scale. The minimum size delineation is 3 acres.

## Contact

State Soil Scientist, USDA, Natural Resources Conservation Service, 334 Merrow Rd., Suite A, Tolland, CT 08084. Phone: 860-871-4011 or visit the [Connecticut NRCS office website](#).

## Additional Documentation

[Soil Drainage Class](#) – CT ECO Basic Data Guide

[Soils](#) – CT ECO Complete Resource Guide

[Soil map unit GIS Metadata](#) – Contains technical documentation describing the Soil map units data and the data sources, process steps, and standards used to collect, digitize, and store this information in a geographic information system (GIS).

[Soil interpretation GIS Metadata](#) – Contains technical documentation describing the data table that defines soil interpretation such as Hydric Soils, Inland Wetland Soils, and Potential for Subsurface Disposal Systems. This lookup table is related to the soil map unit data and used to create the various soil interpretations included in CT ECO.

## Originators

[USDA, Natural Resources Conservation Service \(NRCS\)](#)

## GIS Data Download

Soils data downloadable from [DEEP GIS Data](#) originated from the [Soils Data Mart \(SDM\)](#) where additional soils data is available.

Connect GIS and AutoCAD software to this information online using the Soils [CT ECO Map Service](#).