



United States Department of Agriculture



Watershed Inspector Training 2019

Debbie Surabian, USDA NRCS State Soil Scientist, Connecticut & Rhode Island

Natural
Resources
Conservation
Service

nrcs.usda.gov/



- Know what USDA NRCS soil scientists do
- Be able to define soil
- Learn where to find official soil data
- Expand your awareness of soil data and interpretations

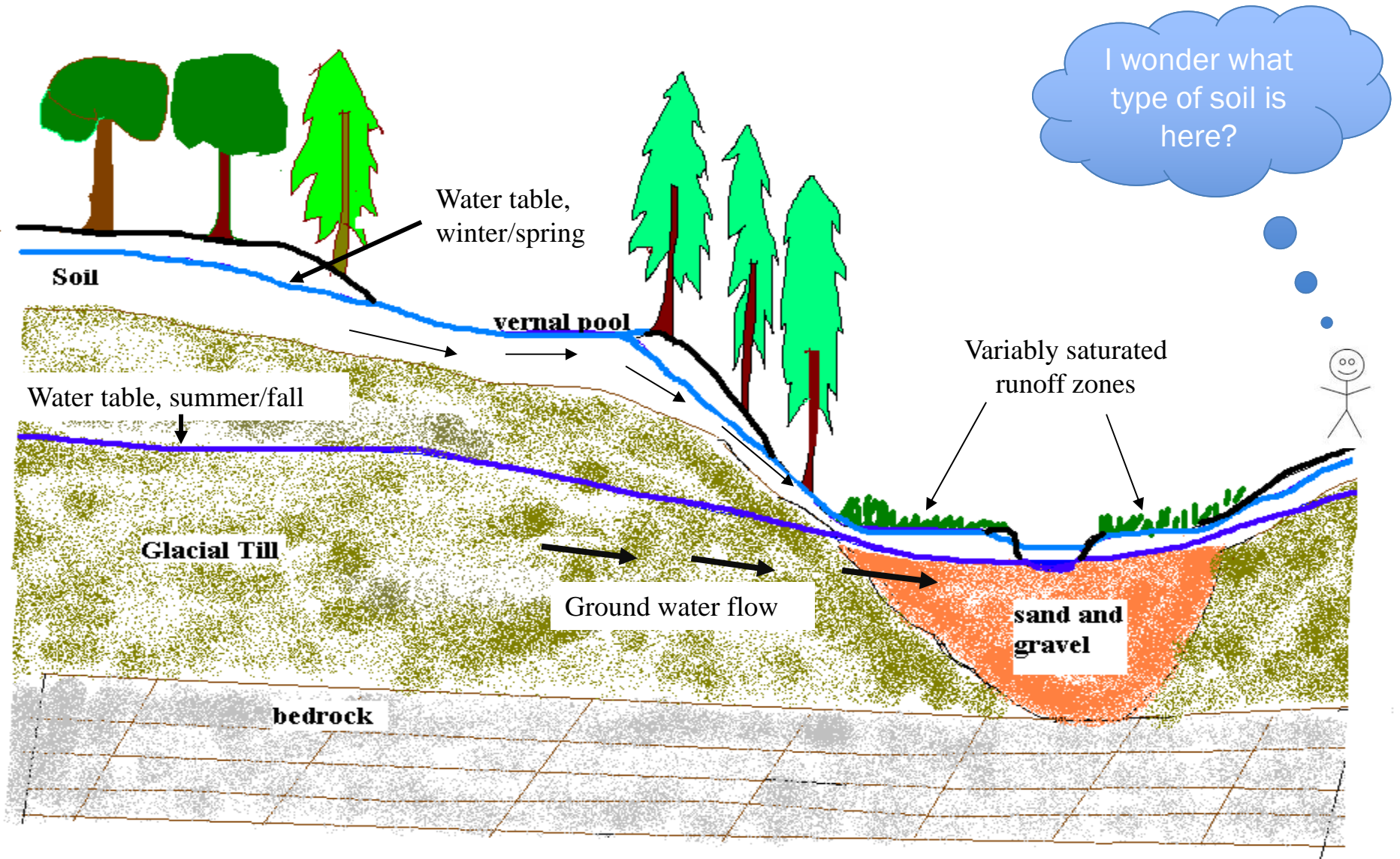
**I want to know, how do you use soils data and what are your needs?



United States Department of Agriculture

As a member of the National Cooperative Soil Survey, USDA Natural Resources Conservation Service (NRCS) is the lead federal agency for the mapping and interpretations of the nation's soil resources.

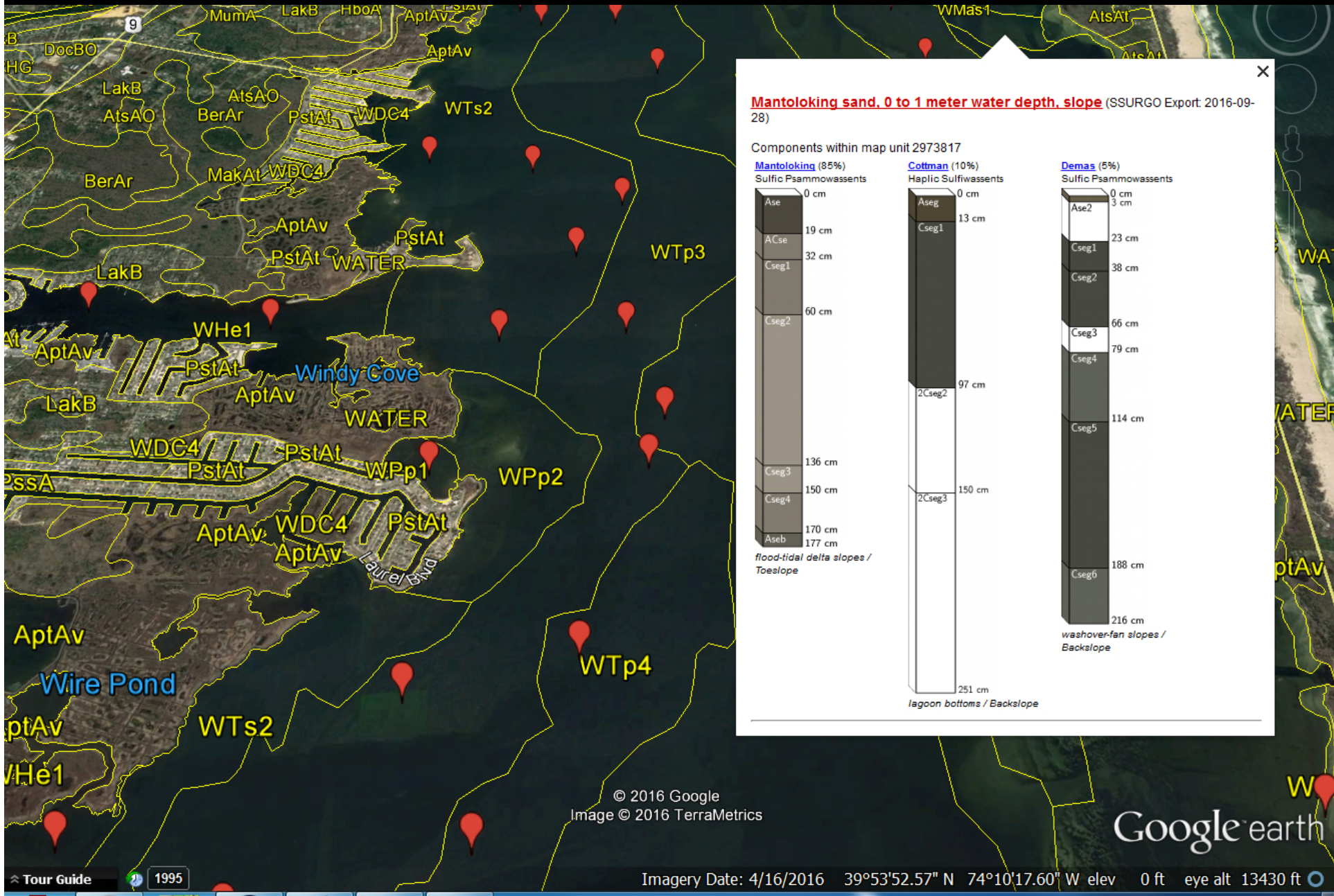
The NCSS has well established standards, techniques, and protocols used in mapping and interpreting soil resources.





United States Department of Agriculture

Soil Mapping Continues.....





United States Department of Agriculture

Technical Soil Services



suitability for
marsh
migration

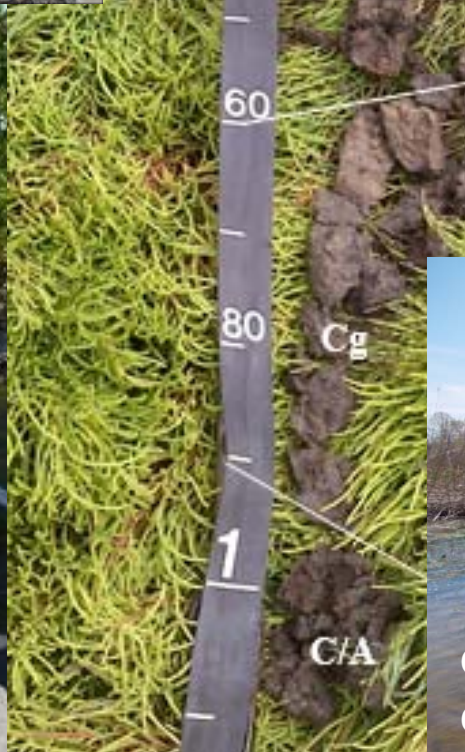


pXRF

DELTA Professional



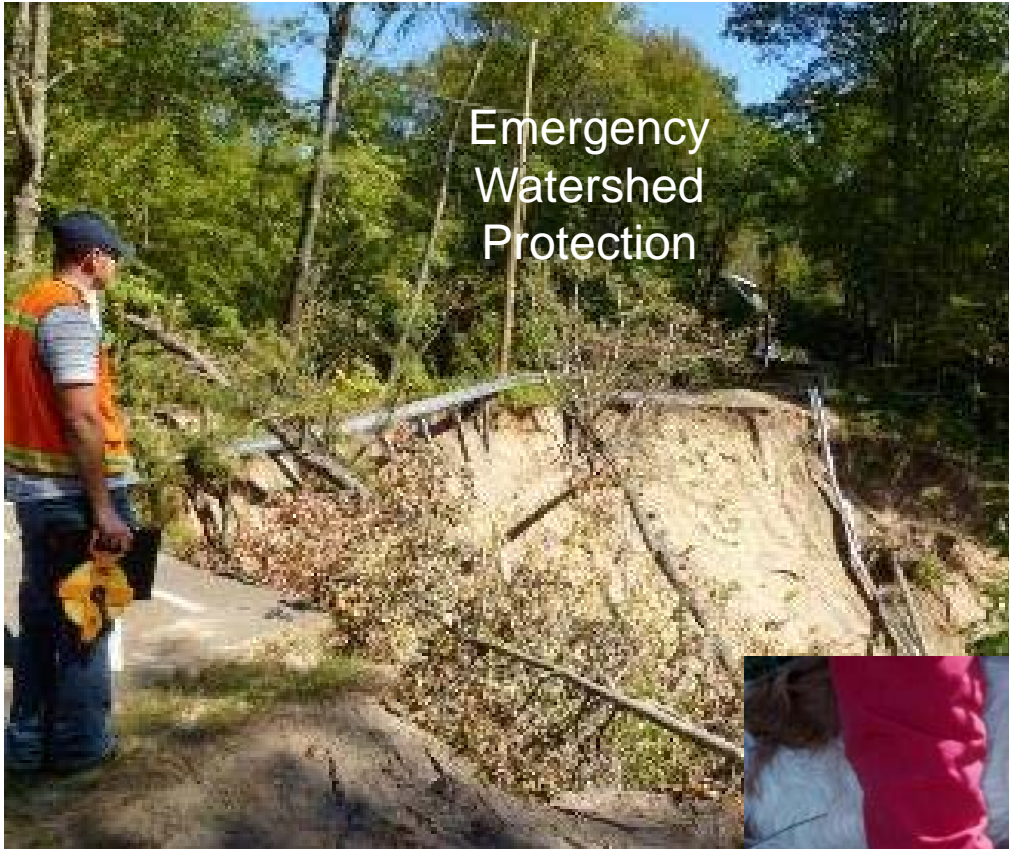
Emergency
Watershed
Protection



Potential or Active
acid sulfate soils



deposition of soil materials
due to storm events *EWP*



Emergency
Watershed
Protection



Workshops/Trainings
Soil Scientists – SSSSNE
Sanitarians - DPH
Wetland Commissions – DEEP
GPR and soils – archaeologists



On-site investigations and
wetland determinations for
Farm Bill programs



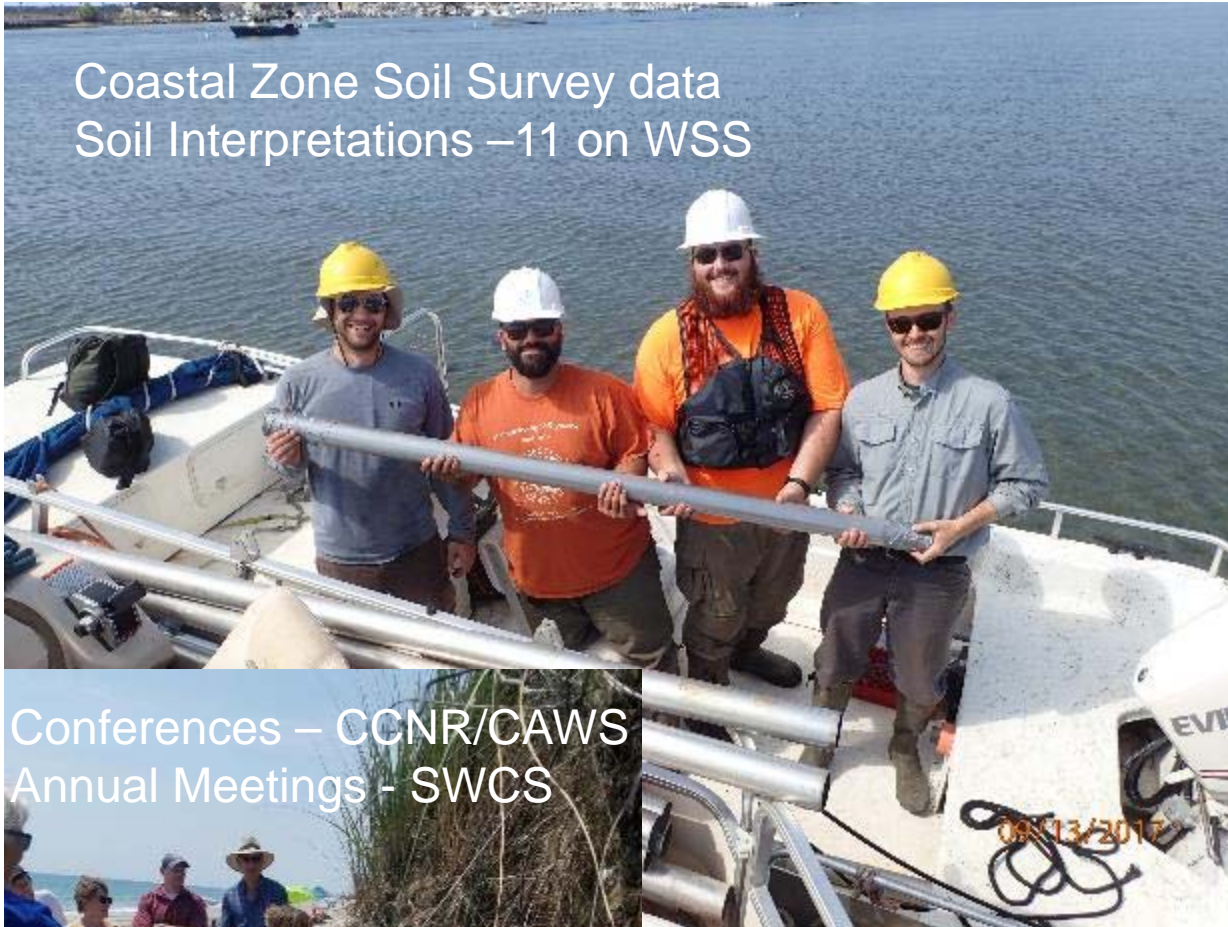
Soil Health



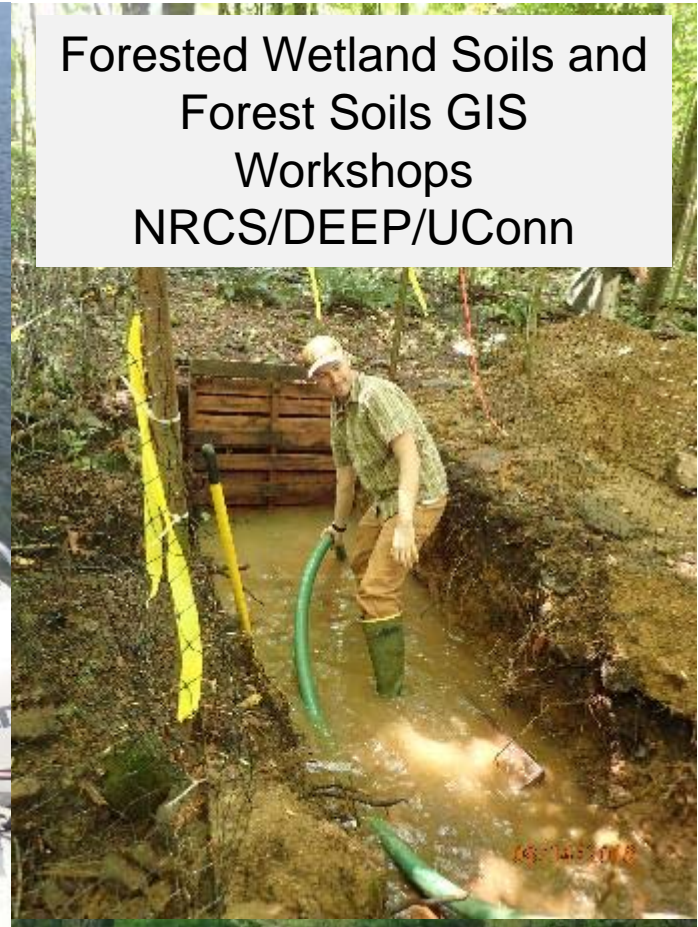
Cultural Resources



Coastal Zone Soil Survey data
Soil Interpretations –11 on WSS



Forested Wetland Soils and
Forest Soils GIS
Workshops
NRCS/DEEP/UConn



Conferences – CCNR/CAWS
Annual Meetings - SWCS

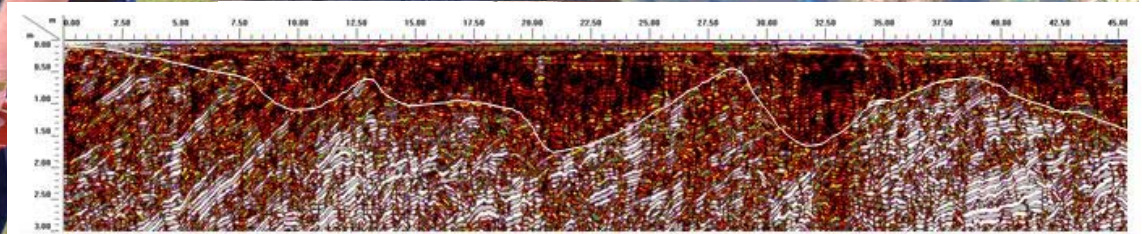
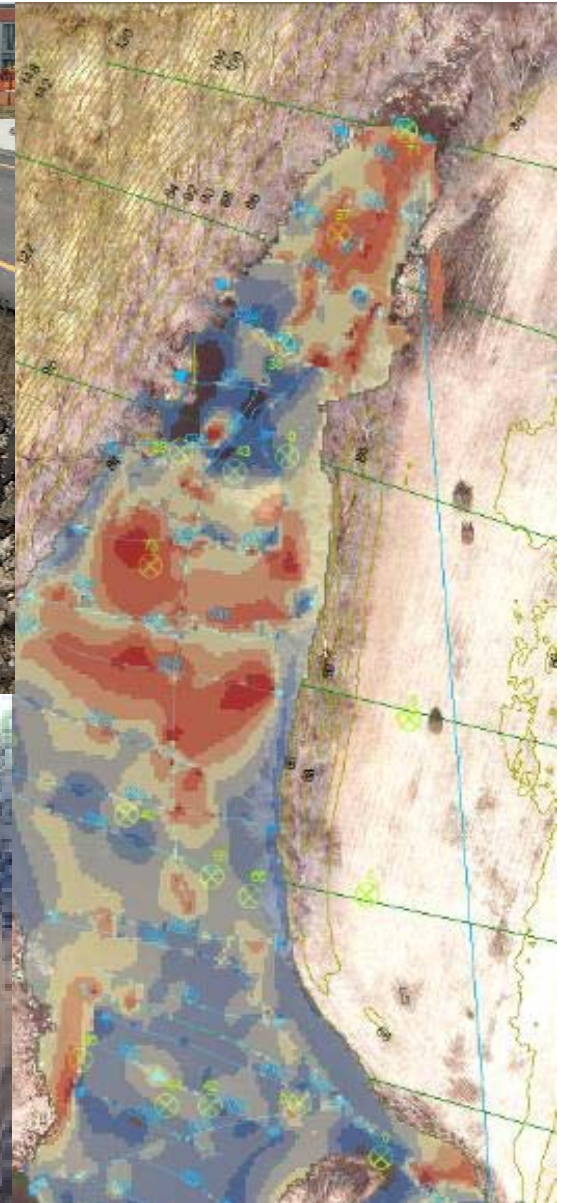


FFA Soil Judging
Envirothon
UConn NRCA





GPR – non-invasive, fast, highest resolution geophysical method



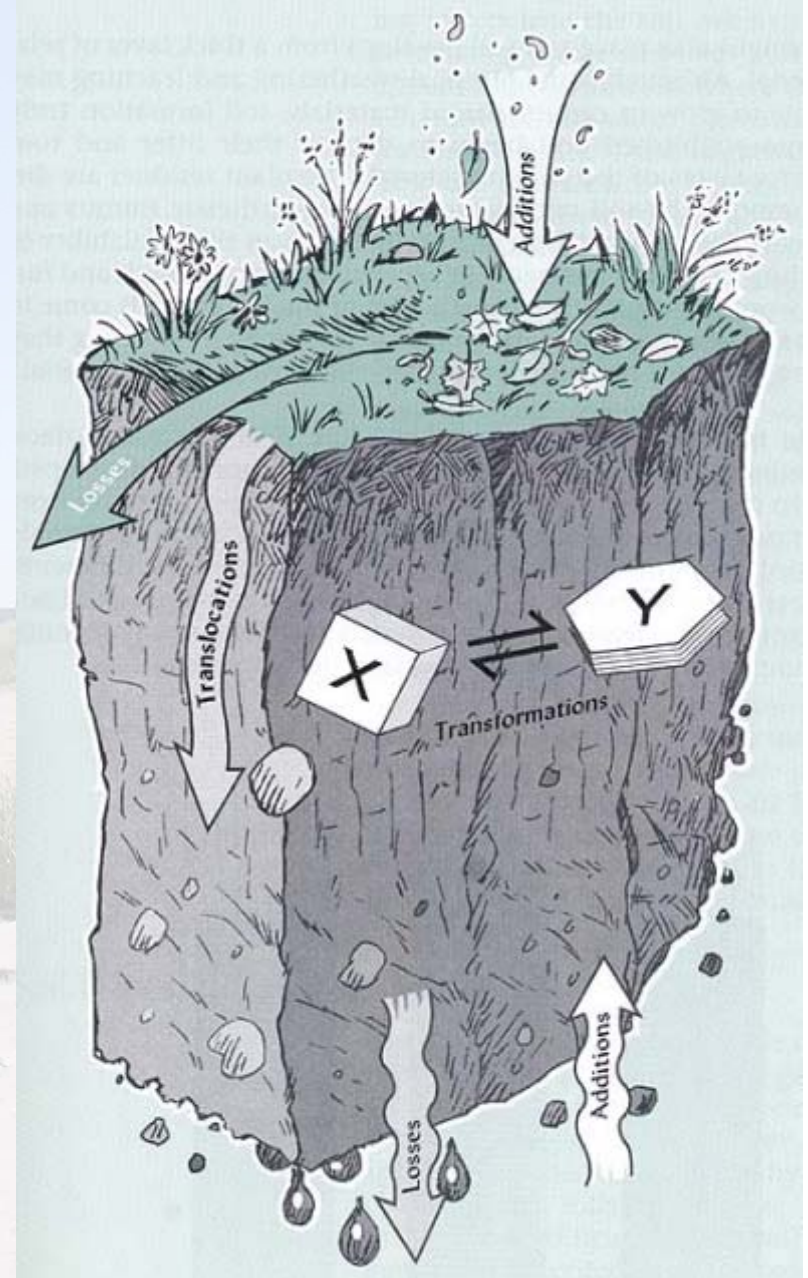
What is Soil?

It is characterized by [either]

Horizons, or layers, that are distinguishable from the initial material as a result of **additions, losses, transfers, and transformations** of energy and matter

or

The ability to **support rooted plants** in a natural environment



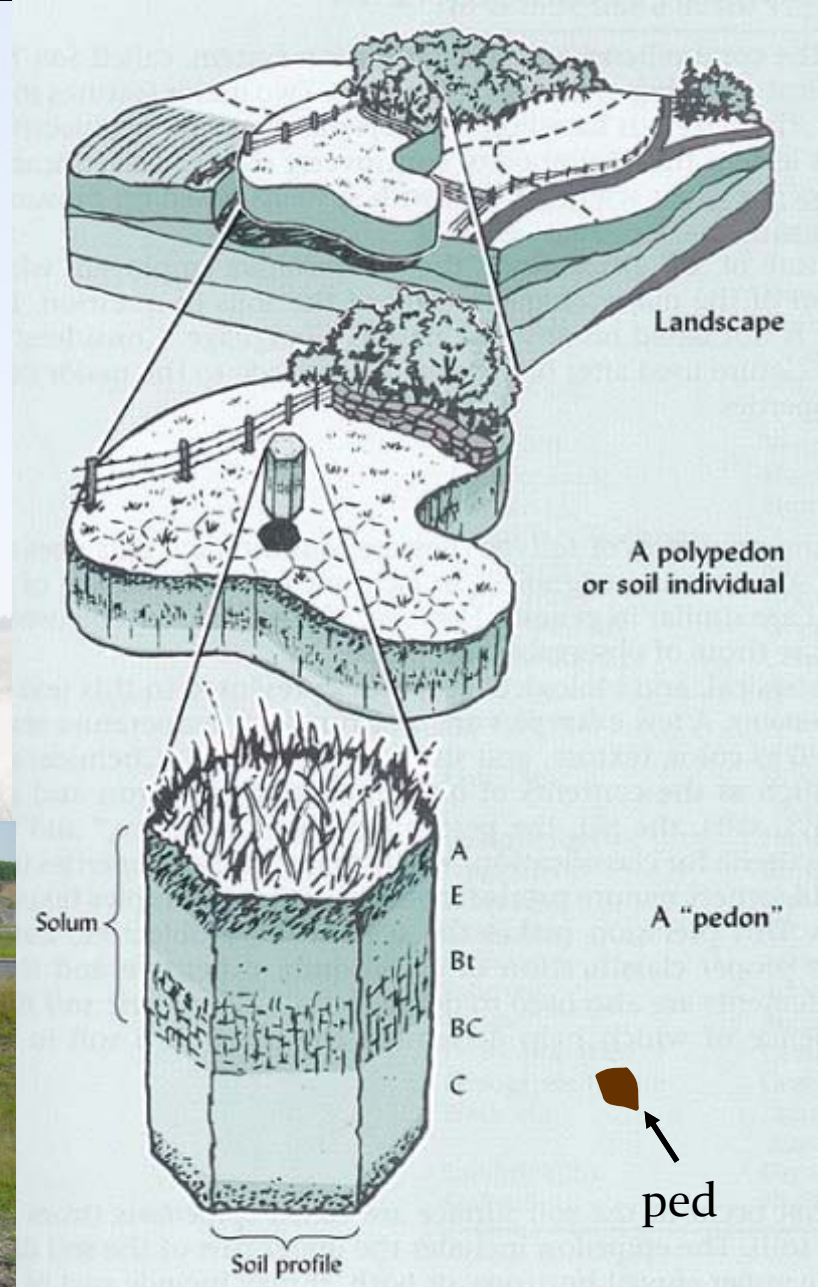
What is Soil?

The upper limit of soil is the boundary between soil and air, shallow water (about 5 meters deep), live plants, or plant materials that have not begun to decompose. The lower limit of soil is 2 meters.

Is this soil?

No: active gravel pit, pavement

Yes: vegetated area, Fortress and Tihonet series





United States Department of Agriculture

SoilWeb

Menu ▾

SoilWeb

UCDAVIS NRCS University of California
Agriculture and Natural Resources

[Link to WSS](#)



Outline
Color

Official soil data
lives here

Welcome

This interactive map allows you to explore USDA-NCSS soil survey data for locations throughout most of the U.S. It is compatible with smartphones, tablets, and desktop computers.

Getting Started

Zoom To: Enter an area of interest or your current location.

Click on "Map Units", which are delineated by yellow lines. Then click on the expandable category headings to view the data of interest to you.

For survey terms and definitions, see the topics under *Menu->Help*.

About This App

This app was developed by the [California Soil Resource Lab](#) at UC Davis and in cooperation with the [USDA Natural Resources Conservation Service](#).

UCDAVIS NRCS

University of California
Agriculture and Natural Resources

Don't show this message again

OK

<http://nrcs.maps.arcgis.com/apps/MapSeries/index.html?appid=57b5679ef42d4cdeabb91be4b491e965>

Lat: 38.5364
Lon: -121.6654

SoilWeb Series Extent Explorer Soil Properties Soil Agricultural Groundwater Banking Index (SAGBI)

Menu **SoilWeb** UCDAVIS NRCS University of California Agriculture and Natural Resources

Zoom To Location Help

Link to WSS

Outline Color

< Close **SoilWeb** UCDAVIS NRCS University of California Agriculture and Natural Resources

Zoom To Location

Use My Current Location ? About this...

Settings when finding my current location:

Desired accuracy: 100 m

Maximum wait: 10 sec

Automatically display soil data after my location is determined

- OR -

Enter a location:

Burlington, CT **Go**

Locations may be entered as:

- Complete address
- City, state
- Zip code
- Landmark (Example: Mt. Diablo, CA)

- OR -

Enter a latitude/longitude:

latitude, longitude **Go**

Enter latitude and longitude in decimal degrees, separated by a comma. Use positive values for degrees North and East, and negative values for degrees South and West.

Example: 38.543, -121.739

Link to WSS

Outline Color

Lat: 41.5495
Lon: -72.0631

Leaflet | Powered by Esri | CRCOG/State of CT, USDA FSA, GeoEye

esri A Story Map



< Close

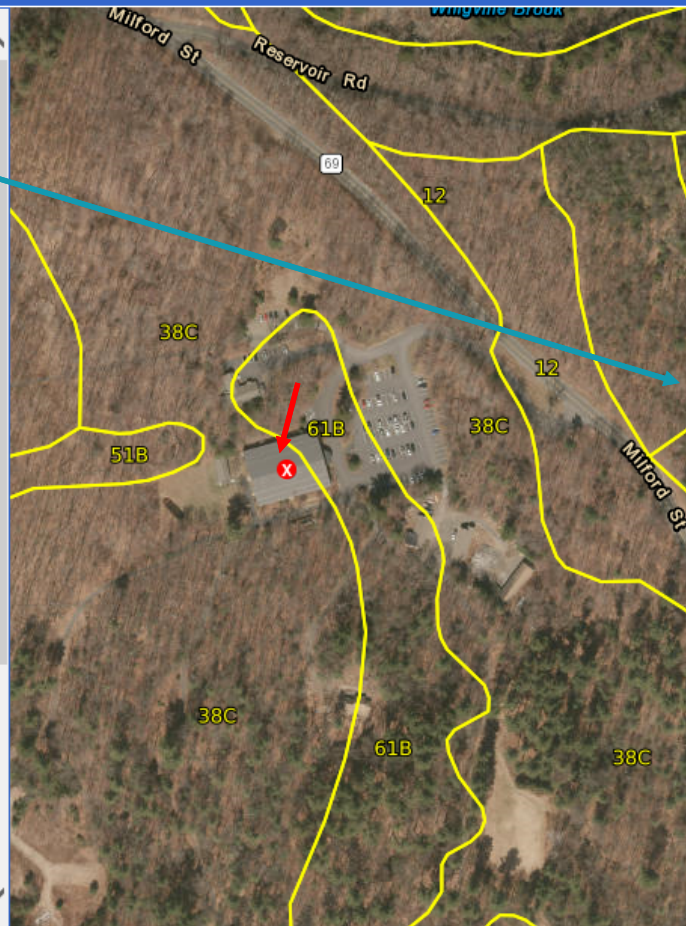
Hinckley loamy sand, 3 to 15 percent slopes (38C)

▲ Map Unit Composition

- 85% - **Hinckley**
Geomorphic Position: *kame terraces*
- 5% - **Merrimac**
Geomorphic Position: *outwash terraces*
- 5% - **Windsor**
Geomorphic Position: *kame terraces*
- 3% - **Agawam**
Geomorphic Position: *kame terraces*
- 2% - **Sudbury**
Geomorphic Position: *kame terraces*

▲ Map Unit Data

- Map Unit Key: 286046
- Type: *Consociation* ?
- Farmland Class: *Farmland of statewide importance*
- Available Water Storage (0-100cm): 7.11 cm
- Flood Frequency (Dominant Condition): *None*
- Flood Frequency (Maximum): *None*
- Ponding Frequency: 0
- Drainage Class (Dominant Condition): *Excessively drained* ?
- Drainage Class (Wettest Component): *Excessively drained* ?
- Proportion of Hydric Soils: 0% ?
- Min. Water Table Depth (Annual): n/a

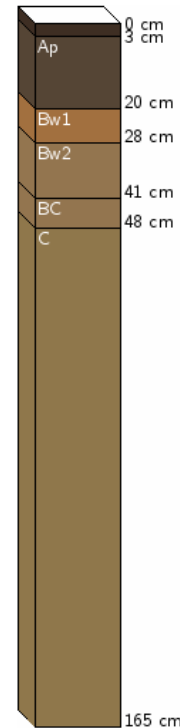


Hinckley

Soil Data Explorer | Series Extent Explorer | Description

▲ Soil Profiles

- Typical Profile >
- Org. Matter | Clay
- Sand | Ksat
- pH | Kr Factor
- EC | SAR
- CaCO₃ | Gypsum
- CEC @ pH7
- Linear Ext.



Lat: 41.7324
Lon: -72.9579

atural
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United States Department of Agriculture

SoilWeb – Link to WSS

< Close

SoilWeb

UCDAVIS NRCS University of California Agriculture and Natural Resources

Hinckley loamy sand, 3 to 15 percent slopes (38C)

▲ Map Unit Composition

- 85% - [Hinckley](#)
Geomorphic Position: kame terraces
- 5% - [Merrimac](#)
Geomorphic Position: outwash terraces
- 5% - [Windsor](#)
Geomorphic Position: kame terraces
- 3% - [Agawam](#)
Geomorphic Position: kame terraces
- 2% - [Sudbury](#)
Geomorphic Position: kame terraces



USDA United States Department of Agriculture Natural Resources Conservation Service

Web Soil Survey

Contact Us | Subscribe | Archived Soil Surveys | Soil Survey Status | Glossary | Preferences | Link | Logout | Help

Area of Interest (AOI) | Soil Map | Soil Data Explorer | Download Soils Data | Shopping Cart (Free)

Search

Area of Interest

AOI Properties

AOI Information

Name

Map Unit Symbols

Soil Data Available from

State of Connecticut (CT600)

Data Availability: Tabular and Spatial, complete

Tabular Data: Dec 6, 2018

Spatial Data: Sep 5, 2018

Import AOI

Export AOI

Area of Interest Interactive Map

View Extent: Contiguous U.S. | Scale: (not to scale)

Hartford

Official soil data lives here too!





United States Department of Agriculture

Web Soil Survey

Click on the green “START WSS” button

USDA United States Department of Agriculture Natural Resources Conservation Service

Web Soil Survey

Home About Soils Help Contact Us

You are here: Web Soil Survey Home

The simple yet powerful way to access and use soil data.

START WSS

Welcome to Web Soil Survey (WSS)

Web Soil Survey (WSS) provides soil data and information produced by the National Cooperative Soil Survey. It is operated by the USDA Natural Resources Conservation Service (NRCS) and provides access to the largest natural resource information system in the world. NRCS has soil maps and data available online for more than 95 percent of the nation’s counties and anticipates having 100 percent in the near future. The site is updated and maintained online as the single authoritative source of soil survey information.

Soil surveys can be used for general farm, local, and wider area planning. Onsite investigation is needed in some cases, such as soil quality assessments and certain conservation and

I Want To...

- Start Web Soil Survey (WSS)
- Know Web Soil Survey Requirements
- Know Web Soil Survey operation hours
- Find what areas of the U.S. have soil data
- Find information by topic
- Know how to hyperlink from other documents to Web Soil Survey
- Know the SSURGO data structure
- Use Web Soil Survey on a mobile device

Search
 Enter Keyword
 All NRCS Sites

Browse by Subject

- Soils Home
- National Cooperative Soil Survey (NCSS)
- Archived Soil Surveys
- Status Maps
- Official Soil Series Descriptions (OSD)
- Series Extent Explorer
- Geospatial Data Gateway
- eFOTG
- National Soil



Natural Resources Conservation Service

nrcs.usda.gov/



United States Department of Agriculture

Navigate to the Area and Create AOI



Contact Us | Subscribe | Archived Soil Surveys | Soil Survey Status | Glossary | Preferences | Link | Logout | Help

Area of Interest (AOI)

Soil Map

Soil Data Explorer

Download Soils Data

Shopping Cart (Free)

Search

Clear Search

Basic Search

Enter keywords

Advanced Search

Clear Search

Area of Interest

Import AOI

Create AOI from Shapefile

Create AOI from Zipped Shapefile

Quick Navigation

Address

State and County

Soil Survey Area

Latitude and Longitude or Current Location

PLSS (Section, Township, Range)

Bureau of Land Management

Department of Defense

Forest Service

National Park Service

Hydrologic Unit

Area of Interest Interactive Map

Legend

View Extent Contiguous U.S. Scale (not to scale)



Quick Navigation

Address

State and County

Soil Survey Area

Latitude and Longitude or Current Location

PLSS (Section, Township, Range)

Bureau of Land Management

Department of Defense

Forest Service

National Park Service

Hydrologic Unit

Area of Interest (AOI) | Soil Map | Soil Data Explorer | Download Soils Data | Shopping Cart (Free)

Search

Basic Search

Advanced Search

Area of Interest

Open All | Close All

AOI Properties

Clear AOI

AOI Information

Name

Map Unit Symbols

Use Soil Survey Area Map Unit Symbols

Use National Map Unit Symbols

Area (acres) 84.1

Soil Data Available from Web Soil Survey

State of Connecticut (CT600)

Data Availability Tabular and Spatial, complete

Tabular Data Version 16, Dec 6, 2018

Spatial Data Version 10, Sep 5, 2018

Area of Interest Interactive Map

View Extent Contiguous U.S. Scale (not to scale)



United States Department of Agriculture

View Spatial and Tabular Data

CT mapped at 1:12,000 scale

Area of Interest (AOI) **Soil Map** Soil Data Explorer Download Soils Data Shopping Cart (Free) Printable Version Add to Shopping Cart

Search
 Basic Search: Enter keywords
 Advanced Search

Map Unit Legend

State of Connecticut (CT600)			
Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
12	Raypol silt loam	5.9	7.0%
38C	Hinckley loamy sand, 3 to 15 percent slopes	45.3	53.8%
38E	Hinckley loamy sand, 15 to 45 percent slopes	2.0	2.3%
51B	Sutton fine sandy loam, 0 to 8 percent slopes, very stony	6.0	7.1%
61B	Canton and Charlton fine sandy loams, 0 to 8 percent slopes	16.2	19.3%

Soil Map Scale: 1:12,070 ± 1%

Map Unit Description Printable Version

Report — Map Unit Description

State of Connecticut
12—Raypol silt loam
Map Unit Setting
 National map unit symbol: 9ljx
 Elevation: 0 to 1,200 feet
 Mean annual precipitation: 43 to 54 inches
 Mean annual air temperature: 45 to 55 degrees F
 Frost-free period: 140 to 185 days
 Farmland classification: Farmland of statewide importance

Map Unit Composition
 Raypol and similar soils: 80 percent
 Minor components: 20 percent

Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Raypol
Setting
 Landform: Depressions, drainageways
 Down-slope shape: Concave
 Across-slope shape: Concave
 Parent material: Coarse-loamy eolian deposits over sandy and gravelly glaciofluvial deposits derived from granite and/or schist and/or gneiss

Typical profile
 Ap - 0 to 8 inches: silt loam
 Bg1 - 8 to 12 inches: very fine sandy loam
 Bg2 - 12 to 20 inches: silt loam
 Bw1 - 20 to 26 inches: silt loam
 Bw2 - 26 to 29 inches: very fine sandy loam
 2C1 - 29 to 52 inches: stratified very gravelly coarse sand to loamy fine sand
 2C2 - 52 to 65 inches: stratified very gravelly coarse sand to loamy fine sand

Properties and qualities





United States Department of Agriculture

Soil Data Explorer Tab

Area of Interest (AOI) Soil Map **Soil Data Explorer** Download Soils Data Shopping Cart (Free)

View Soil Information By Use: All Uses Printable Version Add to Shopping Cart

Intro to Soils **Suitabilities and Limitations for Use** Soil Properties and Qualities Ecological Site Assessment Soil Reports

Search

Suitabilities and Limitations Ratings

Open All Close All

- Building Site Development
- Construction Materials
- Disaster Recovery Planning
- Land Classifications
- Land Management**
- Construction Limitations for Haul Roads and Log Landings
- Erosion Hazard (Off-Road, Off-Trail)
- Erosion Hazard (Road, Trail)
- Fencing, Post Depth 24 Inches or Less
- Fencing, Post Depth 36 Inches or Less
- Ground Penetrating Radar Penetration
- Harvest Equipment Operability
- Mechanical Site Preparation (Deep)
- Mechanical Site Preparation (Surface)
- Pesticide Leaching Potential
- Pesticide Runoff Potential
- Potential for Damage by Fire
- Potential for Seedling Mortality
- Potential Mobility of Road Salt (CT)
- Soil Rutting Hazard
- Soil Sustainability Forest Biomass Harvesting (CT)
- Suitability for Hand Planting
- Suitability for Log Landings
- Suitability for Mechanical Planting
- Suitability for Roads (Natural Surface)

Soil Map

Scale: (not to scale)

Local Interpretations



Area of Interest (AOI) | Soil Map | **Soil Data Explorer** | Download Soils Data | Shopping Cart (Free)

View Soil Information By Use: All Uses Printable Version | Add to Shopping Cart

Intro to Soils | **Suitabilities and Limitations for Use** | Soil Properties and Qualities | Ecological Site Assessment | Soil Reports

Search

Suitabilities and Limitations Ratings

Open All | Close All

Map Legend

Layer Properties Menu

- Soil Rating Polygons
 - High potential
 - Medium potential
 - Low potential
 - Very low potential
 - Extremely low potential
 - Not rated
 - Not rated or not available
- Daily Cover for Landfills
- Sanitary Landfill (Area)
- Sanitary Landfill (Trench)
- Septic Tank Absorption Fields
- Sewage Lagoons
- Soil-Based Residential Wastewater Disposal Ratings (VT)
- Subsurface Sewage Disposal Systems (CT)**

[View Description](#) | [View Rating](#)

View Options

- Map
- Table
 - Component Breakdown
- Description of Rating
- Rating Options
 - Detailed Description

Map — Subsurface Sewage Disposal Systems (CT)

Scale: (not to scale)

Tables — Subsurface Sewage Disposal Systems (CT) — Summary By Map Unit

Summary by Map Unit — State of Connecticut (CT600)

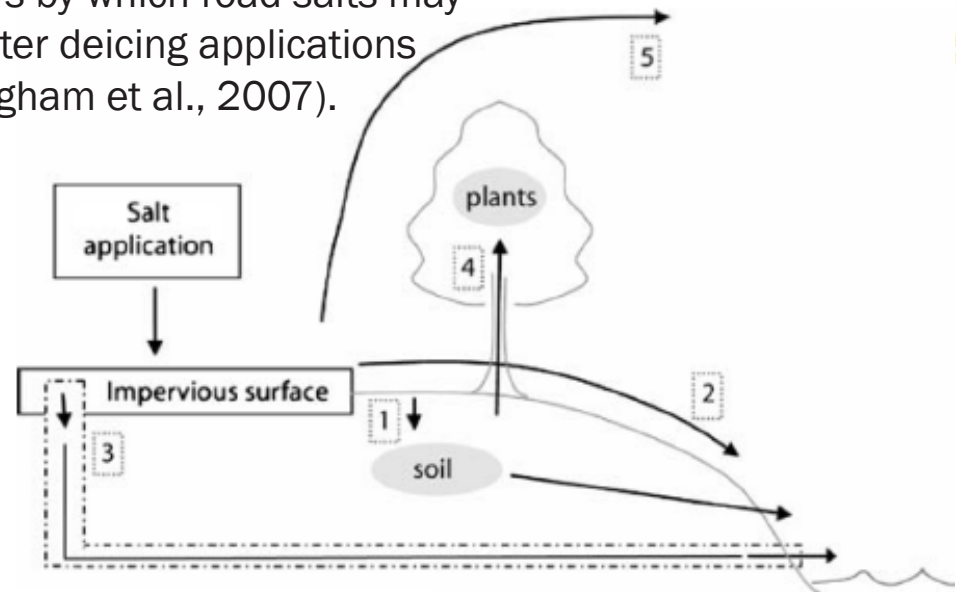
Summary by Map Unit — State of Connecticut (CT600)

Map unit symbol	Map unit name	Rating	Component name (percent)	Acres in AOI	Percent of AOI



Soil Potential Mobility of Road Salt Applications on Soils

Pathways by which road salts may move after deicing applications (Cunningham et al., 2007).

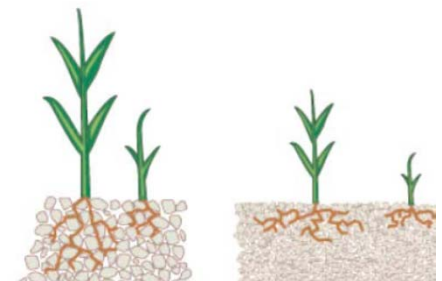


The purpose of this soil interpretation is to identify soils that have the potential to retain or mobilize salts due to the application of road salts.

Salt tolerance of stock to drinking water		
Poultry	Production decline begins	3,100 EC
	Maximum	6,250 EC
Pigs	Production decline begins	3,100 EC
	Maximum	6,250 EC
Horses	Production decline begins	6,250 EC
	Maximum	10,900 EC
Dairy cattle (lactating)	Production decline begins	4,700 EC
	Maximum	9,300 EC
Beef cattle	Production decline begins	6,250 EC
	Maximum	15,600 EC
Lactating ewes, weaners	Production decline begins	6,000 EC
	Maximum	10,000 EC
Sheep, dry feed	Production decline begins	9,300 EC
	Maximum	21,800 EC

Salt tolerance of fruit varieties to applied irrigation water		
Up to 500 EC	500-900 EC	900 EC and above
Passionfruit Strawberry Apple Peach Grape Pear Lemon	Plum Apricot Quince Raspberry Orange	Olive Fig Cantaloupe

Salt tolerance of vegetable varieties to applied irrigation water		
Up to 800 EC	800 - 2300 EC	2300 - 5500 EC
Lettuce Carrot Sweet corn Potatoes Celery Onion	Cabbage Cauliflower Broccoli Tomato	Spinach Asparagus





Likely salt-induced effects on soils include:

- decreased osmotic potential of the soil solution reduces the availability of water to plants – reduced growth to death of plants
- decreased germination as well as seedling and vegetative growth
- degraded soil structure and permeability
- reduced soil fertility – impaired crop production
- increased soil swelling, dispersion, and slaking
- increased potential for soil erosion and increasing sediment in runoff
- higher rates of nitrification (the transformation of ammonium to nitrate)
- increased mobility of heavy metals (e.g., cadmium, copper, lead, zinc, nickel)
- mobilization of radium and radon
- changes in soil pH
- increased turbidity in surface waters
- decreased microbial biomass and organic carbon in the soil

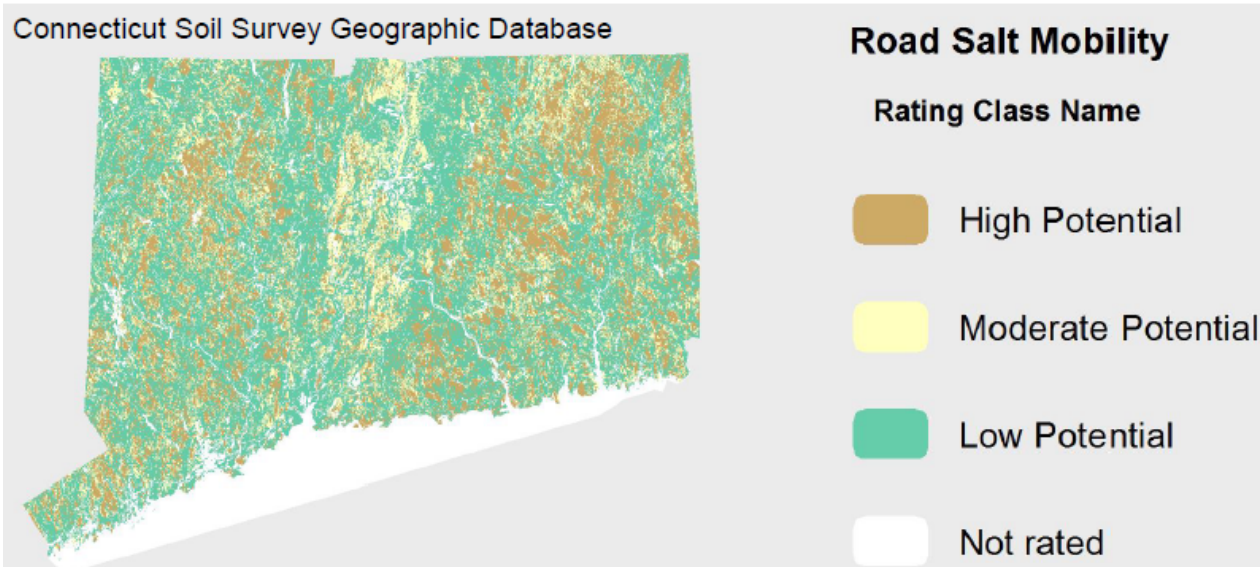
All of these impacts get worse with increasing sodium content in the soil.





High Potential: These soils have the best combination of characteristics or properties for lower salt retention and increased salt mobility in soils. These soils are less likely to have a buildup of salts due to increased infiltration to groundwater and runoff to surface water. **These soils may be located on steep slopes and may have a low water table, very shallow or shallow restrictive feature like bedrock or dense till, low cation exchange capacity, low effective cation exchange capacity, low soil organic matter, and high or very high saturated hydraulic conductivity.**

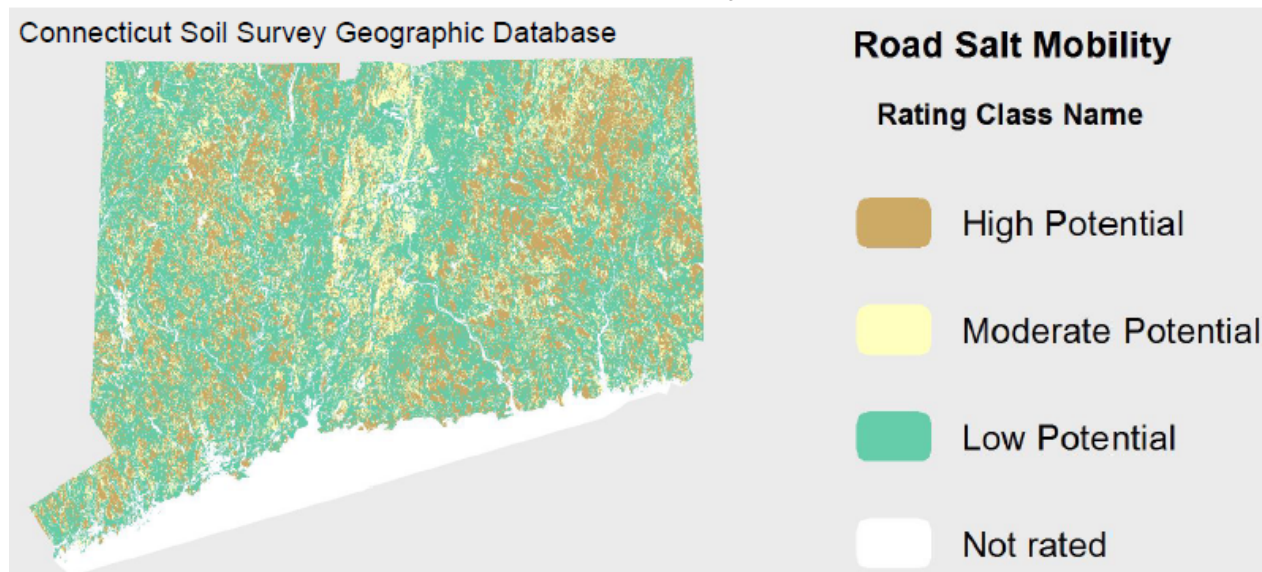
Moderate Potential: These soils have a combination of characteristics or properties for moderate salt retention and mobility.





Low Potential: These soils have the best combination of characteristics or properties for greater salt retention and lower salt mobility in soils. The soils are likely to have a buildup or accumulation of salts and continued salt-induced land degradation. **These soils may be located on gently sloping landscapes and may have a high water table, very deep restrictive features, high cation exchange capacity, high effective cation exchange capacity, high soil organic matter, and very low to moderately high saturated hydraulic conductivity.**

Not Rated: The soils or miscellaneous areas may not have enough information to make a recommendation on the retention and mobility of salts.



Area of Interest (AOI)

Soil Map

Soil Data Explorer

Download Soils Data

Shopping Cart (Free)

Download Soils Data for...

Your AOI (SSURGO)

General Information

[Link](#) [Description of Soil Survey Geographic \(SSURGO\) Database](#)

Download Contents Tabular data, spatial data (if available), thematic map data, template database, and FGDC metadata

Spatial Data Format ESRI Shapefile, Geographic WGS84

Soils Data Download Package for your AOI (SSURGO)

AOI Location

State of Connecticut

Soil Survey Areas

State of Connecticut (CT600)

Area in AOI

84.1 acres

Data Availability

Tabular and Spatial, complete

Version

Survey Area: Version 18, Dec 6, 2018

Tabular: Version 16, Dec 6, 2018

Spatial: Version 10, Sep 5, 2018

Template Database

State: CT

Microsoft Access Version: Access 2003

Template Database Version: 36

Template Database Name: soildb_CT_2003

Download Size

4.0 MB

Download Link

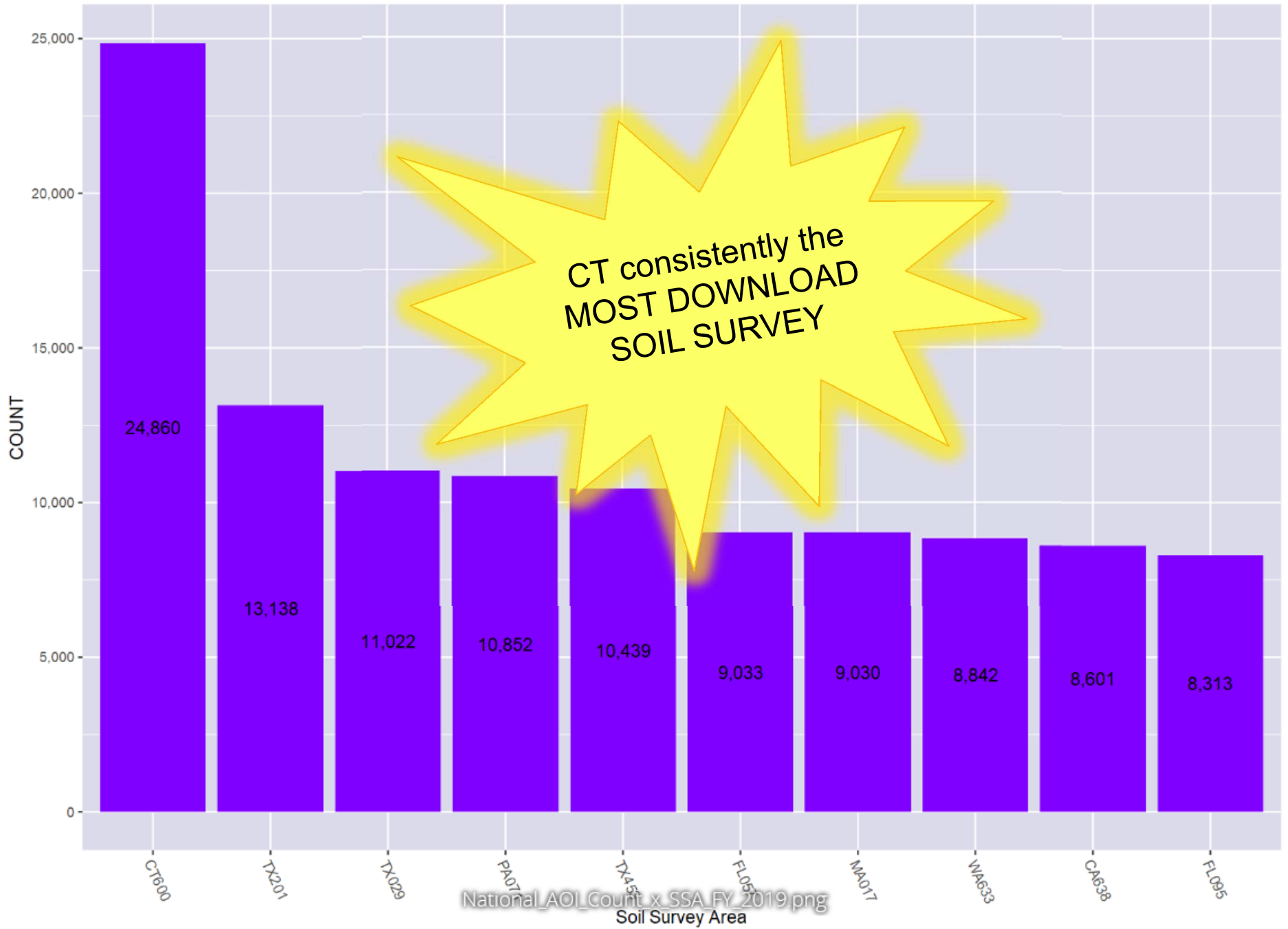
[wss_aoi_2019-09-16_12-14-04.zip](#)

Soil Survey Area (SSURGO)

U.S. General Soil Map (STATSGO2)

Download SSURGO Template Databases

AOI Created By Soil Survey Area
National FY2019



National_AOI_Count_x_SSA_FY_2019.png
Soil Survey Area



United States Department of Agriculture

CT NRCS soil webpage

USDA Natural Resources Conservation Service Connecticut

United States Department of Agriculture

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Browse By Audience | A-Z Index | Help

You are Here: [Home](#) / [Soils](#) / Soil Survey of the State of Connecticut - Interpretations



Soils

Soil Survey of the State of Connecticut - Interpretations

Some of the following documents require [Adobe Acrobat](#) .

- > Soil Potential Ratings of Subsurface Sewage Disposal Systems by Soil Map Unit (35 KB) Manuscript (551 KB)
- > Soil Parent Material of Connecticut (1.27 MB)
- > Connecticut Catastrophic Mortality, Large Animal Disposal, Pit and Trench
- > Tips and Tricks for Interpretations
- > Mooring Anchors: Deadweight -- A Subaqueous Soil Interpretation (**NEW**) (1 .1 MB)
- > Land Utilization of Dredged Materials -- A Subaqueous Soil Interpretation (**NEW**) (1.1 MB)
- > Eelgrass Restoration Suitability -- A Subaqueous Soil Interpretation (**NEW**) (1.3 MB)
- > Northern Quahog or Hard Clam Habitat Suitability -- A Subaqueous Soil Interpretation (**NEW**) (1/1 MB)
- > Mooring Anchors: Mushroom -- A Subaqueous Soil Interpretation (**NEW**) (1 MB)
- > Eastern Oyster Habitat Suitability -- A Subaqueous Soil Interpretation (**NEW**) (1.3 MB)
- > Potential Mobility of Road Salt (3 MB)
- > Soil Potential Mobility Ratings of Road Salt Applications on Soils (poster) (2 MB)

Potential Mobility of Road Salt

Soil Interpretation for the Soil Survey of the State of Connecticut

Contact: Debbie Sunbina
State Soil Scientist
Connecticut NRCS
(860) 871-4042
debbie.sunbina@ct.usda.gov

Natural Resources Conservation Service
nrca.usda.gov

Helping People Help the Land

Natural Resources Conservation Service

nrca.usda.gov/





Soil Data Explorer Tab -- Web Soil Survey – for Connecticut

Soil Interpretation	Map or Table Name	Tab of Soil Data Explorer	Menu	Sub Menu	Map or Table	User Options		Notes
						Minor Soils	Depth Range	
AASHTO	AASHTO Group Classification, Surface	Soil Properties and Qualities	Soil Qualities and Features		M,T	•		
	Engineering Properties	Soil Reports	Soil Physical Properties		T	•		interp uses typical depths
Animal Disposal	Catastrophic Mortality, Large Animal Disposal, Pit	Suitabilities and Limitations for Use	Disaster Recovery Planning		M,T	•		
	Catastrophic Mortality, Large Animal Disposal, Trench	Suitabilities and Limitations for Use	Disaster Recovery Planning		M,T	•		
	DHS - Catastrophic Mortality, Large Animal Disposal, Pit	Soil Reports	AOI Inventory	Selected Soil Interpretations	T	•		
	DHS - Catastrophic Mortality, Large Animal Disposal, Trench	Soil Reports	AOI Inventory	Selected Soil Interpretations	T	•		
	Large Animal Carcass Disposal	Soil Reports	Waste Management		T	•		
Available Water Capacity	Available Water Capacity	Soil Properties and Qualities	Soil Physical Properties		M,T	•	•	
	Available Water Capacity, 0 to 100 cm	Soil Properties and Qualities	Soil Physical Properties		M,T	•		
	Available Water Capacity, 0 to 150 cm	Soil Properties and Qualities	Soil Physical Properties		M,T	•		
	Available Water Capacity, 0 to 25 cm	Soil Properties and Qualities	Soil Physical Properties		M,T	•		
	Available Water Capacity, 0 to 50 cm	Soil Properties and Qualities	Soil Physical Properties		M,T	•		
	Physical Soil Properties	Soil Reports	Soil Physical Properties		T			interp uses typical depths
Bivouac Areas	Bivouac Areas	Suitabilities and Limitations for Use	Military Operations		M,T	•		
	MIL-Bivouac Areas (DOD)	Soil Reports	AOI Inventory	Selected Soil Interpretations	T	•		
Buildings, Small Commercial	Small Commercial Buildings	Suitabilities and Limitations for Use	Building Site Development		M,T	•		
	ENG-Small Commercial Buildings	Soil Reports	AOI Inventory	Selected Soil Interpretations	T	•		
	Dwellings and Small Commercial Buildings	Soil Reports	Building Site Development		T	•		





Soil Catena Charts

PARENT MATERIAL	LITHOLOGY	TEXTURE GROUP	SOIL DRAINAGE CLASS					
			Somewhat Excessively Drained	Well Drained	Moderately Well Drained	Poorly Drained	Very Poorly Drained	Subaqueous
LODGEMENT TILL**	carboniferous#	coarse-loamy		Newport	Pittstown	Stissing	Mansfield	
		sandy mantled (eolian) over loamy till		Poquonock	Birchwood			
	acidic crystalline rocks (granite, gneiss and schist)	coarse-loamy		Paxton	Woodbridge	Ridgebury	Whitman	Burlingame
		< 40" of loess overlying till; coarse-loamy		Broadbrook	Rainbow			
ABLATION TILL++	acidic crystalline rocks (granite, gneiss and schist)	> 40" of loess overlying till; coarse-silty			Scio			
		coarse-loamy		Charlton	Sutton	Leicester		
		sandy and gravelly to bouldery	Gloucester					Napatree*
		sandy and gravelly, moderately deep to bedrock	Lippett					
		coarse-loamy over sandy to sandy skeletal		Canton				
GLACIOFLUVIAL‡	carboniferous#	loess mantled coarse-loamy over sandy and gravelly		Narragansett	Wapping			
		sandy and gravelly with high percentage of dark channers	Quonset					
	acidic crystalline rocks (granite, gneiss and schist)	sandy and gravelly	Hinckley	Merrimac	Sudbury	Walpole		Anguilla*
		sandy	Windsor		Deerfield		Scarboro	Aquapaug
		loamy over sandy and gravelly		Agawam	Ninigret			Shannock
		< 40" loess mantle; coarse silty over sandy and gravelly		Enfield	Tisbury	Raypol		
ALLUVIAL+	acidic crystalline	> 40" loess mantle coarse silty		Bridgehampton				
		coarse-loamy			Podunk	Rumney		
HUMAN ALTERED	dredged sand	sandy		Bigapple	Fortress			
COASTAL DEPOSITS	Sand	sandy formed in eolian and/or overwash deposits on dunes and back barriers	←	Hooksan	Succotash		Sandyhook	
			←		Udipsamments (UAB Map Unit)			
	Clay	mixed clay and till on coastal escarpments along Block Island	←		Udorhents, very steep (UBE Unit)			
MARINE/ ESTUARINE DEPOSITS	marine/estuarine sands	sandy	0-10 cm highly fluid surface					Massapog*
			10-50 cm highly fluid surface		sulfidic			Rhodesfolly*
	marine/estuarine silts	silty	10-50 cm marine silts					Nagunt*
			>100 cm marine silts					Marshneck*
ORGANIC DEPOSITS	freshwater/inland organics	variable	16-50" of organics				Swansea	Wickford
			>50" of organics				Freetown	Tuckertown
		salt and brackish (tidal) organics	loamy	16-50" of organics				Ipswich
	sandy		0-8" of organics				Westbrook	
			8-16" of organics				Sandyhook	
			16-50" of organics				Matunuck	Billington*
						Pawcatuck		

Derived from carboniferous materials of the Narragansett Structural Basin (dark colored metasediments, phyllite, and shale)
 ** Firm, compact, basal, dense till: Unsorted/unstratified mixture of sand, silt, clay, and clasts deposited directly by a glacier
 ++ Debris-flow, friable, loose till: Dominantly unstratified heterogeneous mixture of clasts, sand, and minor percentages of silt and clay
 ‡ Glaciofluvial deposits: material moved by glaciers and subsequently sorted and deposited by streams flowing from the melting ice
 † Alluvial deposits: Material deposited in modern-day flood plains; mixture of stratified sand and fines
 * Indicates subaqueous soils submerged under salt/brackish waters





United States Department of Agriculture

There is an App for that!

Set the desired GPS accuracy with the slider, and click "Done" to return to the main view.

Component names are linked to their details on the CA Soil Resource page. Use the "back" arrow to return to the main view.

Click to start application

Application starts with GPS disabled. Click "GPS" to start acquiring location data. Click on the "info" button for application details.

Once a location with sufficient accuracy is acquired, map unit components are displayed. Soil profiles link to their Official Series Description

SoilWeb

SoilWeb : An Online Soil Survey Browser

Explore USDA National Cooperative Soil Survey data at locations throughout most of the U.S with this interactive map. It is compatible with your desktop computer, tablet, or smartphone.

Getting Started

1. Go to <http://casoilresource.lawr.ucdavis.edu/soilweb/> and click on SoilWeb.
2. Go to **Menu > Zoom To Location** to enter your area of interest or let your browser determine your current location.
3. Click on the map to identify "map units", which are delineated by the yellow lines. Then click on the expandable category headings to view the data of interest to you.

For more help with the use of this app, or for help with soil survey terms and definitions, see the topics under **Menu->Help**.

Screenshots

