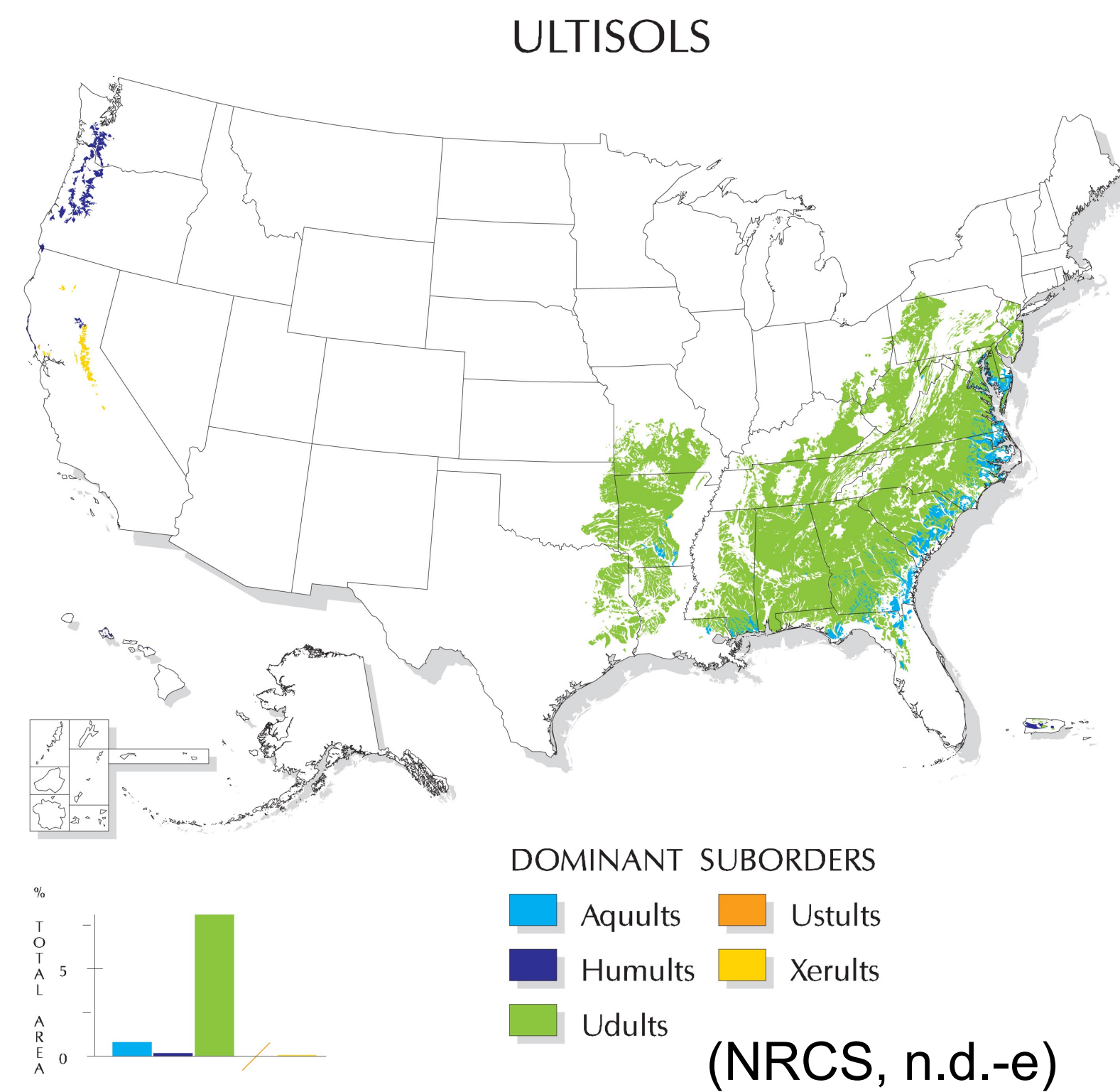


# Delaware State Soil - Greenwich

## Soil Order - Ultisols

- Humid temperate and tropical areas
- Found in older and more stable parts of the world
- 9.2% of the total US land area
- An accumulation of clay on the top layer
- Weathered, acid forest soils, low in Ca, Mg, and K.
- Common minerals: quartz Kaolinite, and iron oxides



(DSWS, n.d.;NRCS, n.d.-d)

## Background

Named from a historical town in Cumberland County, New Jersey. Greenwich became the state soil of Delaware in 2000, after a middle school class presented miniature monoliths of Greenwich to legislatures to advocate for the importance of a state soil and soil conservation. (Cowherd, n.d.;NRCS, n.d.-a)

## Location

- Uplands of the coastal plain and surrounding states
  - Mapped on more than 123,000 acres
  - 9.4% of land in Delaware
  - Found in all three counties
- (Cowherd, n.d.;NRCS, n.d.-a)



## Soil Horizon and Texture

### Ap horizon

- Color: hue of 10YR or 2.5Y, value of 3 to 5, chroma of 2 to 5. Texture: loam, very fine sandy loam, or silt loam.

### E or BE horizon (if they occur)

- Color: hue of 10YR or 2.5Y, value of 4 to 5, chroma of 3 to 8. Texture: Loam, very fine sandy loam, fine sandy loam, or silt loam.

### Bt horizon

- Color: hue of 10YR through 5YR, value of 4 or 5, chroma of 4 to 8. Texture: loam, very fine sandy loam, fine sandy loam, or silt loam.

### 2Bt horizon

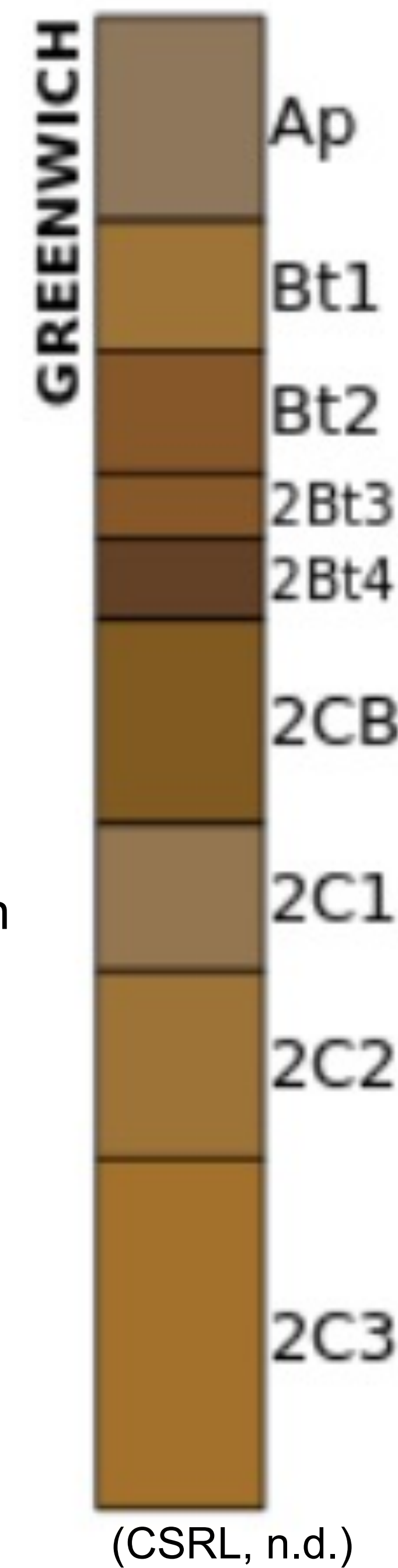
- Color: hue of 10YR through 5YR, value of 4 or 5, chroma of 4 to 8. Texture: coarse sandy loam or sandy loam. Some pedons have a thin subhorizon of sandy clay loam.

### 2CB or 2BC horizon (if they occur)

- Color: hue of 10YR through 5YR, value of 4 or 5, chroma of 4 to 8. Texture: loamy sand, coarse sandy loam or sandy loam.

### 2C horizon

- Color: hue of 2.5YR to 2.5Y, value of 4 to 7, chroma of 3 to 8. Texture: coarse sand, sand, fine sand, loamy coarse sand, loamy sand, or loamy fine sand and may be stratified. They commonly contain thin loamy sand or sandy loam lamellae less than 25 mm thick, with cumulative thickness less than 15 cm. (NCSS, 2015)



## Parent Material and Soil Formation

### Parent Material

- Sandy alluvial sediments, transported by water, from the Atlantic Coastal Plain make up the bottom portion.
- Over that are deposits high silt both eolian, wind blown, and water transported.

### Climate

- Warm humid climate with mild temperatures and frequent rainfall results in leaching.

### Organisms

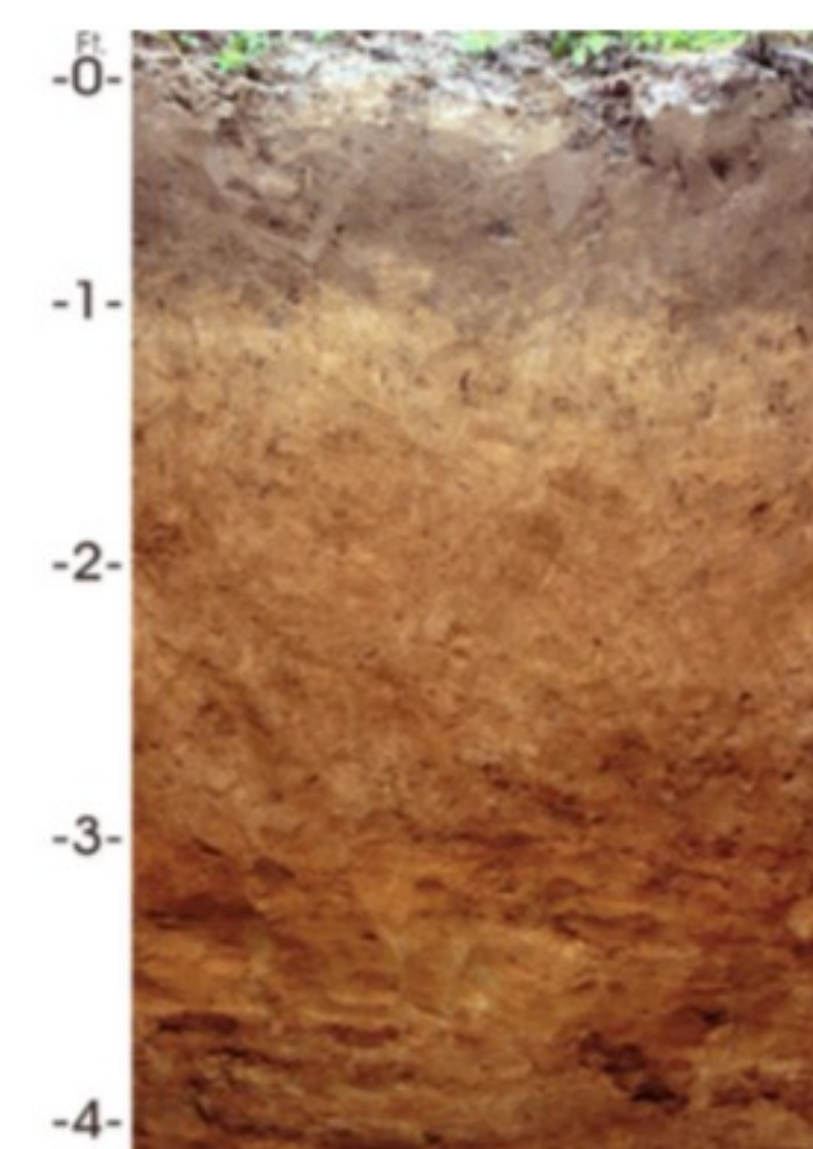
- Leaves, twigs, roots, and other plant material on the surface of pine forests degrade into the soil.

### Relief

- Forming in the uplands, the higher position of the landscape caused the soil to be well drained.

### Time

- Soil profiles develop quickly in warm humid climates.



(Cowherd, n.d.)

## Use

### Construction and recreational development

- Cities, parks

### Crops

- Productive soil
- Vegetables and forest products (Cowherd, n.d.;NRCS, n.d.-a)



## Management and Limitations

### Managed for soil blowing and erosion

- Contour farming
- Grassed waterways
- Use of no-till
- Cover crops like grasses and legumes

### Limitations

- Risk of soil caving - Caution must be taken when excavating the soil because of the sandy subsurface texture
- Slow infiltration of the subsoil makes Greenwich not suitable for septic tanks (Cowherd, n.d.)

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