

Mapping the Land:

*applications, tips, and tricks for landowners
that make mapping easy*

Topic 2: Important spatially based data sources for
the do-it-yourself mapper

December 18, 2013

James Jeuck

-**Extension Associate**, NCSU Extension Forestry
-**Vice President, Administration**, NC Tree Farm Program

jajeuck@ncsu.edu



What we will cover today

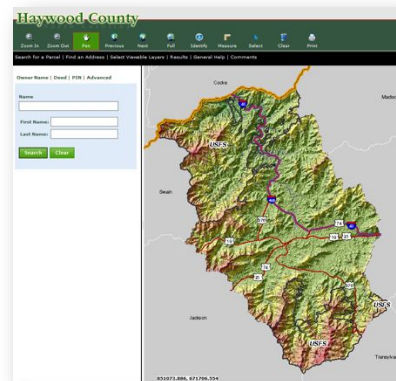
- 1. County-based interactive mapping (GIS)**
- 2. NRCS Web Soil Survey**
- 3. Rare Sites, Threatened and Endangered Species**
- 4. Invasive Plants**

Examples today will be drawn from.....



Part 1: County Mapping Sites

- Can give you important parcel and tax records
- Can provide you with boundaries and other map data to include in My Land Plan
- **KEY TIP!!** – many GIS servers work best using Internet Explorer or Firefox
- Start by Google Searching something like the example below:
 - “Haywood County NC GIS”

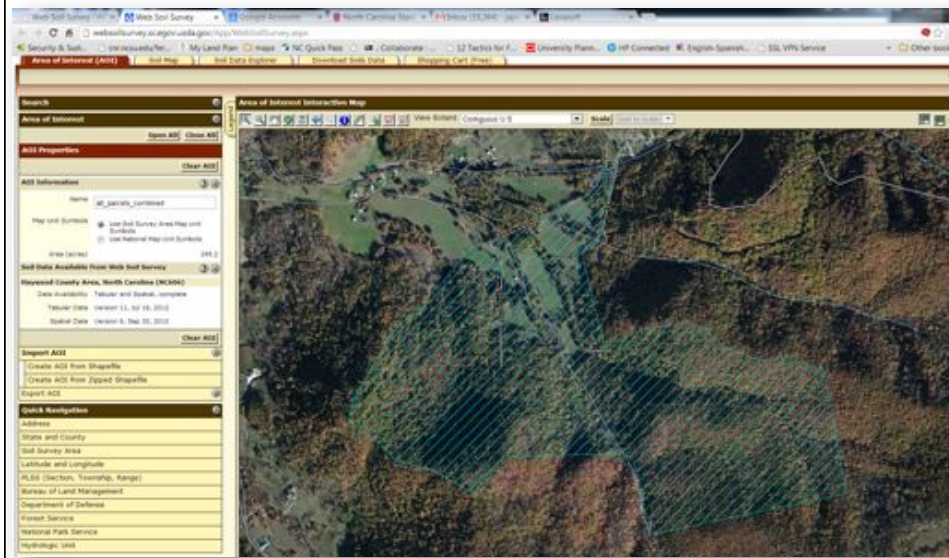


Part 2: NRCS Web Soil Survey

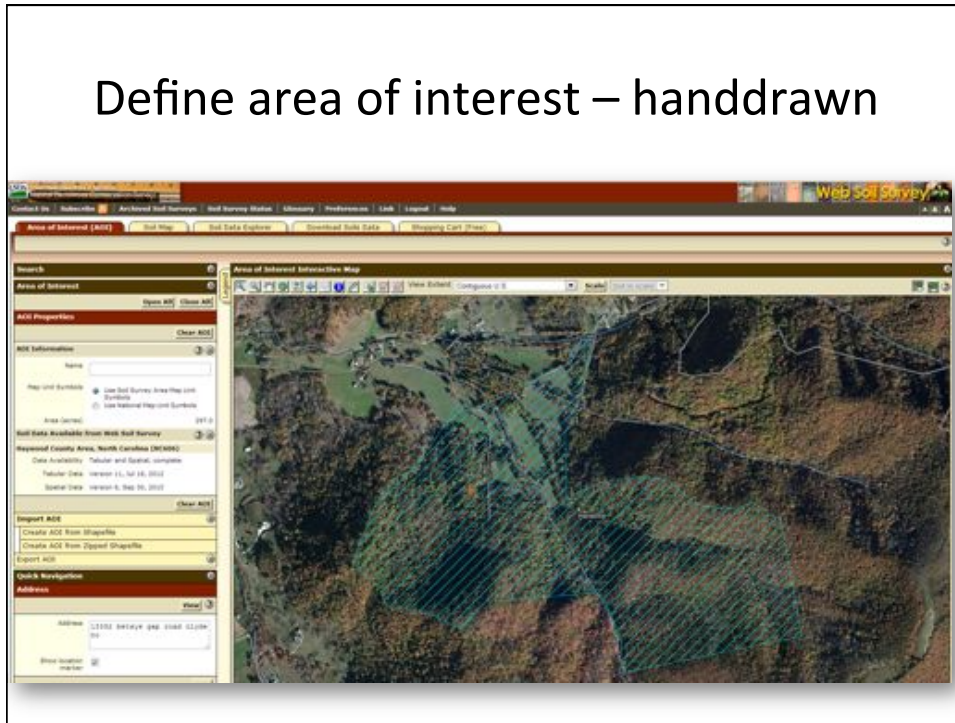


<http://websoilsurvey.sc.egov.usda.gov/App/HomePage.htm>
or Google NRCS Web Soil Survey

Define area of interest – used shapefile



Define area of interest – handdrawn



The screenshot shows the 'Soil Data Explorer' interface. The main map area displays a satellite-style view of the same landscape as the previous image, but with a hand-drawn red and yellow polygon representing the 'Area of Interest'. The left sidebar contains sections for 'Search', 'Substrates and Limitations Ratings', 'Construction Limitations for Haul Roads and Log Landings', and 'View Options'. The bottom section displays a table titled 'Summary by Map Unit - Hayswood County Area, North Carolina (NC090)'. The table lists various soil map units with their corresponding soil names, ratings, and percentages.

Map unit symbol	Map unit name	Rating	Component name (percent)	Rating column (numeric values)	Area to AOE	Percent of AOE
020	Culbassa very cobbly loam, 15 to 30 percent slopes, extremely boundary	Severe	Culbassa, extremely boundary (95%)	Stoniness (1.00) Slope (0.50) Lanability (0.50)	2.1	0.2%
016	Culbassa very cobbly loam, 30 to 50 percent slopes, extremely boundary	Severe	Culbassa, extremely boundary (95%)	Stoniness (0.50) Slope (1.00) Lanability (0.40)	2.5	0.3%
016	Ebbesville-Chestnut complex, 30 to 50 percent slopes, stony	Severe	Ebbesville, stony (40%) Chestnut, stony (20%)	Slope (1.00) Lanability (0.20)	6.2	2.7%
016	Ebbesville-Chestnut complex, 30 to 95 percent slopes, stony	Severe	Ebbesville, stony (40%) Chestnut, stony (20%)	Slope (1.00) Lanability (0.40)	25.8	9.7%
016	Plot fine sandy loam, 30 to 50 percent slopes, stony	Severe	Plot, stony (95%)	Slope (1.00) Lanability (0.20)	131.2	49.2%
016	Plot fine sandy loam, 50 to 95 percent slopes, stony	Severe	Plot, stony (95%)	Slope (1.00) Lanability (0.40)	28.4	9.8%
040	Saurcock loam, 0 to 15 percent slopes, stony	Moderate	Saurcock, stony (90%)	Line strength (0.50)	15.5	5.2%
040	Saurcock loam, 15 to 30 percent slopes, stony	Moderate	Saurcock, stony (90%)	Slope (1.00)	12.2	4.1%
040	Saurcock loam, 30 to 50 percent slopes, very stony	Severe	Saurcock, very stony (90%)	Lanability (0.20)	6.0	2.0%
040	Tuckasee-Culbassa complex, 15 to 30 percent slopes, very stony	Severe	Culbassa, very stony (50%)	Stoniness (1.00) Slope (0.50)	36.1	13.2%
040	Tuckasee-Culbassa complex, 30 to 50 percent slopes, extremely stony	Severe	Culbassa, extremely stony (50%)	Stoniness (1.00)	10.0	3.7%

Soil Data Explorer:
Construction
Limitations for Haul
Roads and Log
Landings

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

View Soil Information by User: All users | 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)

Harvest Equipment Operability

Mechanical Site Preparation (Deep)

Mechanical Site Preparation (Surface)

Potential for Damage by Fire

Potential for Seedling Mortality

Soil Rutting Hazard

Suitability for Hand Planting

Suitability for Log Landings

Suitability for Mechanical Planting

Suitability for Roads (Natural Surface)

Recreational Development

Sanitary Facilities

Vegetative Productivity

Map - Forest Productivity (Tree Site Index): northern red oak (Obon 1959 (E10))

Forest Productivity (Tree Site Index): northern red oak (Obon 1959 (E10))

Summary by Map Unit - Haywood County Area, North Carolina (NC606)

Map unit symbol	Map unit name	Rating (feet)	Acres in AOI	Percent of AOI
CE	Cobbles very cobbly loam, 15 to 30 percent slopes, extremely bouldery	32	2.1	0.7%
CE	Cobbles very cobbly loam, 30 to 50 percent slopes, extremely bouldery	32	2.5	0.8%
E8E	Ebonyville-Chestnut complex, 30 to 50 percent slopes, stony	80	8.2	2.7%
E8F	Ebonyville-Chestnut complex, 50 to 95 percent slopes, stony	80	25.8	8.7%
P8E	Pitts fire sandy loam, 30 to 50 percent slopes, stony	85	25.4	8.6%
P8F	Pitts fire sandy loam, 50 to 95 percent slopes, stony	85	131.2	44.2%
S4C	Saunooke loam, 8 to 15 percent slopes, stony	107	28.4	9.6%
S4D	Saunooke loam, 15 to 30 percent slopes, stony	107	15.6	5.3%
S8E	Saunooke loam, 30 to 50 percent slopes, very stony	107	12.2	4.1%
T8D	Turkington-Cobbles complex, 15 to 30 percent slopes, very stony	92	8.0	2.6%
T8E	Turkington-Cobbles complex, 30 to 50 percent slopes, extremely stony	92	39.1	13.2%
W	Water		0.6	0.2%
Totals for Area of Interest			297.0	100.0%

Description - Forest Productivity (Tree Site Index)

The "site index" is the average height, in feet, that dominant and codominant trees of a given species attain in a specified number of years. The site index applies to fully stocked, even aged, unmanaged stands.

This attribute is actually recorded as three separate values in the database. A low value and a high value indicate the range of this attribute for the soil component. A "representative" value indicates the expected value of this attribute for the component. For this attribute, only the representative value is used.

View Options

Map

Table

Description of Rating

Rating Options Detailed Description

Basic Options

Tree: northern red oak (Obon 1959 (E10))

Advanced Options

View Description | View Rating

Range Production (Favorable Year)

Range Production (Unfavorable Year)

Yield of Irrigated Crops (Component)

Yield of Irrigated Crops (Map Unit)

Yield of Non-Irrigated Crops (Component)

Soil Data Explorer:
Forest Productivity,
site index, northern
red oak

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

View Soil Information by User: All users | 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)

Harvest Equipment Operability

Mechanical Site Preparation (Deep)

Mechanical Site Preparation (Surface)

Potential for Damage by Fire

Potential for Seedling Mortality

Soil Rutting Hazard

Suitability for Hand Planting

Suitability for Log Landings

Suitability for Mechanical Planting

Suitability for Roads (Natural Surface)

Recreational Development

Sanitary Facilities

Vegetative Productivity

Map - Forest Productivity (Tree Site Index): yellow poplar (Bnk 1962 (E50))

Forest Productivity (Tree Site Index): yellow poplar (Bnk 1962 (E50))

Summary by Map Unit - Haywood County Area, North Carolina (NC606)

Map unit symbol	Map unit name	Rating (feet)	Acres in AOI	Percent of AOI
CE	Cobbles very cobbly loam, 15 to 30 percent slopes, extremely bouldery	309	2.1	0.7%
CE	Cobbles very cobbly loam, 30 to 50 percent slopes, extremely bouldery	309	2.6	0.8%
E8E	Ebonyville-Chestnut complex, 30 to 50 percent slopes, stony	88	8.2	2.7%
E8F	Ebonyville-Chestnut complex, 50 to 95 percent slopes, stony	88	25.8	8.7%
P8E	Pitts fire sandy loam, 30 to 50 percent slopes, stony	113	25.4	8.6%
P8F	Pitts fire sandy loam, 50 to 95 percent slopes, stony	113	131.2	44.2%
S4C	Saunooke loam, 8 to 15 percent slopes, stony	107	28.4	9.6%
S4D	Saunooke loam, 15 to 30 percent slopes, stony	107	15.6	5.3%
S8E	Saunooke loam, 30 to 50 percent slopes, very stony	107	12.2	4.1%
T8D	Turkington-Cobbles complex, 15 to 30 percent slopes, very stony	108	8.0	2.6%
T8E	Turkington-Cobbles complex, 30 to 50 percent slopes, extremely stony	108	39.1	13.2%
W	Water		0.6	0.2%
Totals for Area of Interest			297.0	100.0%

Description - Forest Productivity (Tree Site Index)

The "site index" is the average height, in feet, that dominant and codominant trees of a given species attain in a specified number of years. The site index applies to fully stocked, even aged, unmanaged stands.

This attribute is actually recorded as three separate values in the database. A low value and a high value indicate the range of this attribute for the soil component. A "representative" value indicates the expected value of this attribute for the component. For this attribute, only the representative value is used.

View Options

Map

Table

Description of Rating

Rating Options Detailed Description

Basic Options

Tree: yellow poplar (Bnk 1962 (E50))

Advanced Options

View Description | View Rating

Range Production (Favorable Year)

Range Production (Normal Year)

Range Production (Unfavorable Year)

Yield of Irrigated Crops (Component)

Yield of Irrigated Crops (Map Unit)

Yield of Non-Irrigated Crops (Component)

Soil Data Explorer:
Forest Productivity,
site index, yellow
poplar

Soil Data Explorer:
Forest Productivity,
site index, **black
cherry**

Map unit symbol	Map unit name	Rating (best)	Acres in AOI	Percent of AOI
OD	Culpeper very cobbly loam, 15 to 20 percent slopes, extremely bouldery	2.1	0.1%	
OE	Culpeper very cobbly loam, 20 to 30 percent slopes, extremely bouldery	2.5	0.8%	
EM	Edenville Chestnut complex, 20 to 50 percent slopes, stony	8.2	2.7%	
EMF	Edenville Chestnut complex, 50 to 95 percent slopes, stony	25.8	8.1%	
PEF	Wet fire sandy loam, 20 to 50 percent slopes, stony	87	25.4	8.8%
PEF	Wet fire sandy loam, 50 to 95 percent slopes, stony	87	171.2	44.2%
SAC	Saunook loam, 8 to 15 percent slopes, stony	28.4	9.6%	
SAD	Saunook loam, 15 to 20 percent slopes, stony	15.6	5.3%	
SEF	Saunook loam, 20 to 50 percent slopes, very stony	12.2	4.1%	
TUD	Tuckasee Culpeper complex, 15 to 20 percent slopes, very stony	6.0	2.0%	
TdF	Tuckasee Culpeper complex, 20 to 50 percent slopes, extremely stony	39.1	13.2%	
W	Water	8.6	0.3%	
Totals for Area of Interest			393.9	100.0%

Check Out (Its Free)

Check Out

Delivery Options

Select a Delivery Method:

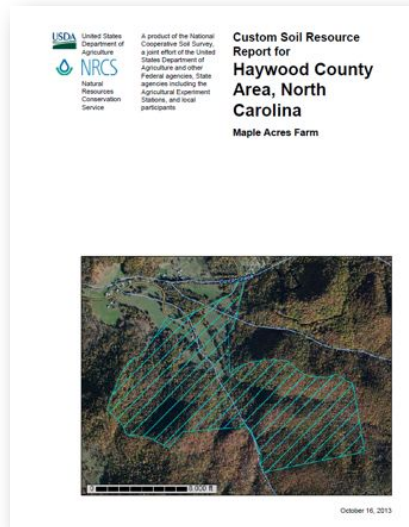
- Get new
- Download later

When your report has been assembled, you will receive a message at the email address you enter, including a URL for your report as a PDF.

Email Address: jpanek@ncsu.edu

Cancel OK

Customized report



- In PDF Format
- Has all the maps you created
- Can be placed in MLP as a reference document

Part 3: Natural Heritage Program Data

- State programs that provide detailed information of critical habitats, T&E species and other species of special concern
 - » Pennsylvania Natural Heritage Program
 - » Massachusetts Natural Heritage & Endangered Species Program
 - » North Carolina Natural Heritage Program



NC Natural Heritage Program

13392 betsy's gap road clyde nc

35.671429 -82.913632

Search Radius: 2 miles

Enter an Address
OR
Latitude and Longitude
(decimal degrees)
OR
Just click a map location below...

SHOW RESULTS FOR: Significant Natural Heritage Areas Managed Areas

Show 10 entries per page Download Results Filter search results:

Site Name	Acres	Owner	Representational Rating	Collective Rating
Crabtree Bald	28.33	PRV	R5	C5
Raven Cliff	114.72	PRV	R3	C4

Endangered Species Search Codes

Show 10 entries per page Filter search results:

Taxonomic Group	Scientific Name	Common Name	State Status	Federal Status	State Rank	Global Rank	County	County Status
Moth	<i>Abraxis ovalis</i>	a looper moth	W3		S1		Wayne	
Natural Community	Acidic Cove Forest (Typic Subtype)				S4			
Natural Community	Acidic Shale Slope Woodland				S1			
Vascular Plant	<i>Aconitum reclinatum</i>	Trailing Wolfsbane	SR-T		S3			
Liverwort	<i>Acrobolbus ciliatus</i>	A Liverwort	SC-V		S1			
Vascular Plant	<i>Adiantum fergusonii</i>	Climbing Fern	SC-V		S2			
Bird	<i>Angulus acadicus</i> pop. 1	Southern Appalachian Northern Saw-whet Owl	T	FSC	S2B, S2H			
Freshwater Invertebrate	<i>Azamielonta raveneliana</i>	Appalachian Elktoe	E	E	S1			
Vascular Plant	<i>Allium burdickii</i>	White Rampe	W3		SNR			
Vascular Plant	<i>Amelanchier sanguinea</i>	Roundleaf Serviceberry	W1		S3			

T Threatened
"Any native or once-native species of wild animal which is likely to become an endangered species within the foreseeable future throughout all or a significant portion of its range, or one that is designated as a threatened species pursuant to the Endangered Species Act." (Article 25 of Chapter 113 of the General Statutes; 1987).

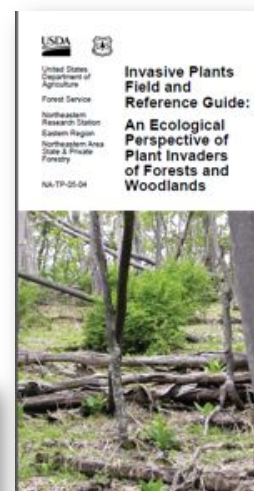
SC Special Concern
"Any species of wild animal native or once-native to North Carolina which is determined by the Wildlife Resources Commission to require monitoring but which may be taken under regulations adopted under the provisions of this Article." (Article 25 of Chapter 113 of the General Statutes; 1987).

Part 4: Invasives and Pests

- Identify what invasive plants / insect your property may be threatened with
- Identify appropriate monitoring, prevention, and control monitoring
- State / regional resources

Field Guides

- <http://masswoods.net/sites/masswoods.net/files/pdf-doc-ppt/InvasiveSpeciesFieldGuide.pdf>



North Carolina Resources

- http://www.ncforestservice.gov/forest_health/invasives.htm



- http://www.ncforestservice.gov/forest_health/forest_insects.htm




- http://www.ces.ncsu.edu/forestry/resources/publications/forest_health.php



Early Detection and Distribution Mapping Systems

- <http://www.eddmaps.org/distribution/>





Questions?

Remember: To qualify for and receive continuing education credits for participating in today's webinar, you must

1. Complete the satisfaction survey pushed out during the webinar
2. Take and pass the short quiz at the end of the webinar
3. Complete the Continuing Education Unit Request Form (CEU Form) and certify that you have participated or viewed the webinar in its entirety

Subscribe: Join our email subscription list if you would like us to keep you automatically informed of upcoming webinars (<http://forestrywebinars.net> and click on subscribe)



Coming up in the series...

- **Part 3: Leveraging the power of Google Earth (Part 1)**
January 15 at 12 PM Eastern
- **Part 4: Leveraging the power of Google Earth (Part 2)**
Part 2 January 22 at 12 PM Eastern

Part 3 and 4 will cover the basic elements of Google Earth, how to create and store new project data, and how to share your data with others.