How To Use
Web Soil Survey 3.0

Contents

- I. About Web Soil Survey
- II. Soil Data for an Area of Interest
  a. Define an Area of Interest (AOI)
  b. View Soil Map
  c. Explore Additional Soil Information
  d. Shopping Cart for Selected Information
- III. Download Soil Data for GIS

Part I: About the Web Soil Survey (WSS)

- Purpose
- Products
- New Features
- Pathways
- Starting WSS
- Opening Screen
- The Interactive Map

Purpose

- The WSS is a Web application that provides customers (producers, agencies, technical service providers, and others) electronic access to relevant soil and related information needed to make wise land use and management decisions.
- WSS replaces the traditional hardcopy publication.
- WSS provides quicker delivery of new or updated information.

Purpose—cont.

- WSS provides interactive access to the most current official data.
- WSS allows you to select the information you want:
  - Map units for your geographic area of interest (AOI),
  - Information relevant to your land use concerns; e.g., rangeland or cropland.
  - Downloadable soil survey data for use in a local geographic information system (GIS).

Products

- WSS can produce a soil map for your AOI using color imagery or a topographic map as a backdrop.
- WSS can produce tables of soil property data and interpretations by AOI.

Products—cont.

- WSS allows you to download SSURGO data clipped to your AOI.
- WSS allows you to download SSURGO data sets for entire soil survey areas.
- WSS allows you to download STATSGO2 data sets for entire states or for the entire United States.

Products—cont.

- WSS allows you to generate a custom soil resource report (in PDF) by adding selections to the free shopping cart.
  - The report is customized for your AOI.
  - The soil map, map unit legend, and map unit descriptions are included by default.
  - The other content is specifically chosen by you:
    - Thematic maps (including summary tables and text),
    - Ecological site description map and information,
    - Tabular data tables, and
    - Introductory material.

New Features

- A link to a list of new features is available from the homepage of WSS.

New Features—cont.

- After clicking on the link, scroll down the screen to see all new features.

New Features—cont.

- The maximum size for an AOI has been increased from 10,000 to 100,000 acres.
- The map imagery and map appearance have been improved.
- The number of options for changing map properties has been expanded to include:
  - Soil boundary color,
  - Soil boundary thickness,
  - Soil label size, and
  - Background image opacity.

New Features—cont.

- The identify tool can now display information about multiple data layers at the same time.
- SSURGO and STATSGO2 data can now be downloaded directly from WSS. You no longer need to go to the Soil Data Mart.
- Support has been added for data regarding the Pacific Island Area.
- Support has been added for map unit line and point data.

New Features—cont.

- The options for tiling printable maps have been improved.
- RSS notifications are now available regarding soil data updates.
- WSS is now online 24/7.

Pathways through WSS

- Two major pathways are available for using WSS:
  1. Define an area of interest, view the soil map, explore additional soil data, and check out with a report or data download that includes the selected information.
  2. Download SSURGO data for a whole soil survey area, or STATSGO2 data for a state or the entire U.S. directly from the “Download Soils Data” tab.

Pathway 1

- Define an area of interest (AOI). You must specifically set the AOI before you can view maps or reports in WSS.
  - In addition to maps and reports, a SSURGO GIS dataset may be downloaded that is clipped to the AOI boundary.
- View the soil map. The WSS generates a soil map for your AOI if the spatial data is available.

Pathway 1

- Explore additional soil data and related information.
  - Generate thematic maps.
  - Access tabular data and interpretive tables.
  - Print or download the selected maps and reports.
- Check out with the selected information by building a custom soil resource report in the shopping cart or by downloading SSURGO data clipped to the AOI.

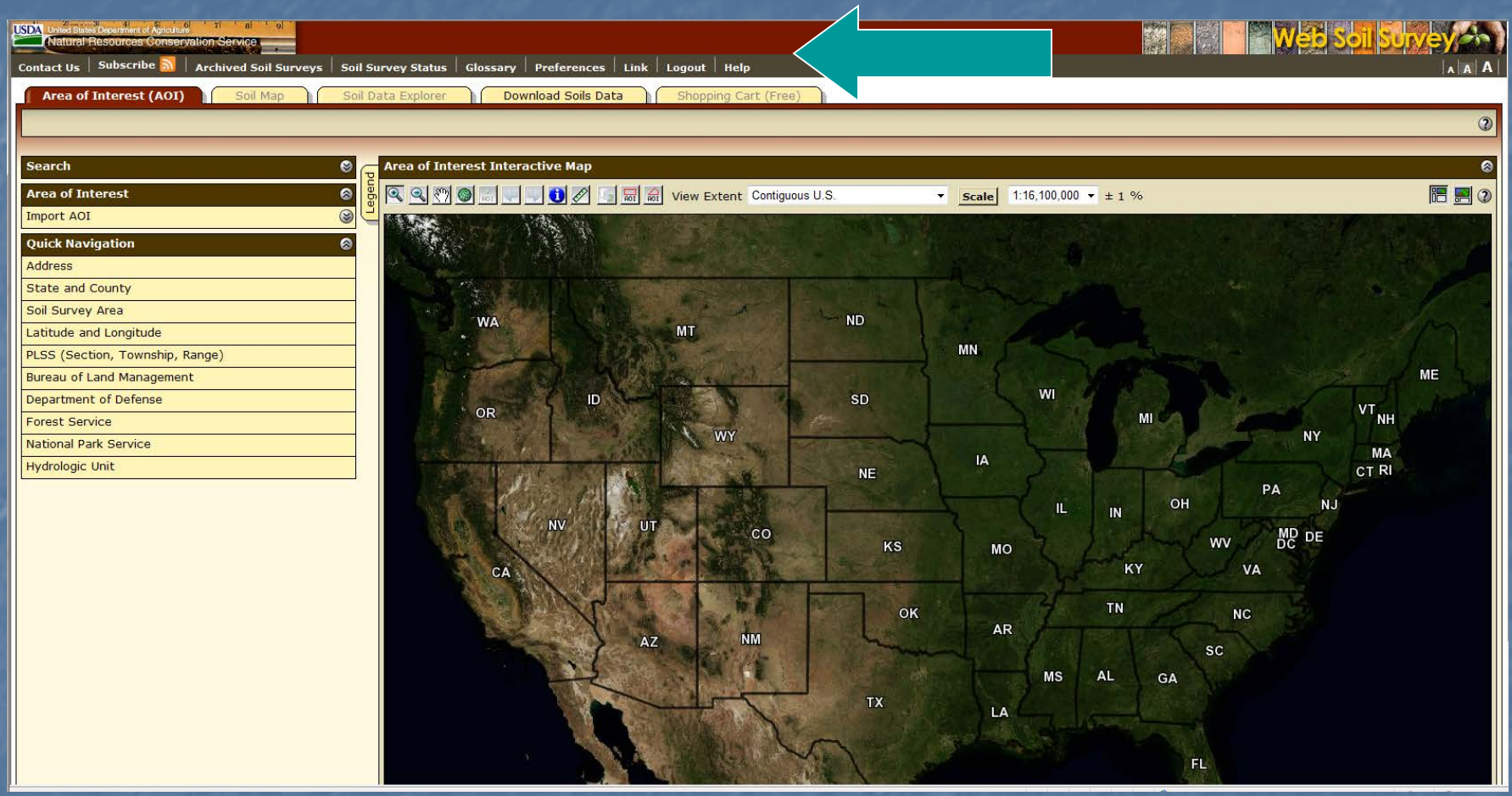
Pathway 2

- WSS 3.0 allows you to download raw soil data for use in a local GIS.
- Select the “Download Soils Data” tab. You can download:
  - SSURGO data clipped to the AOI boundary,
  - SSURGO data for entire soil survey areas,
  - STATSGO2 data by state or for the entire U.S.

Starting Web Soil Survey

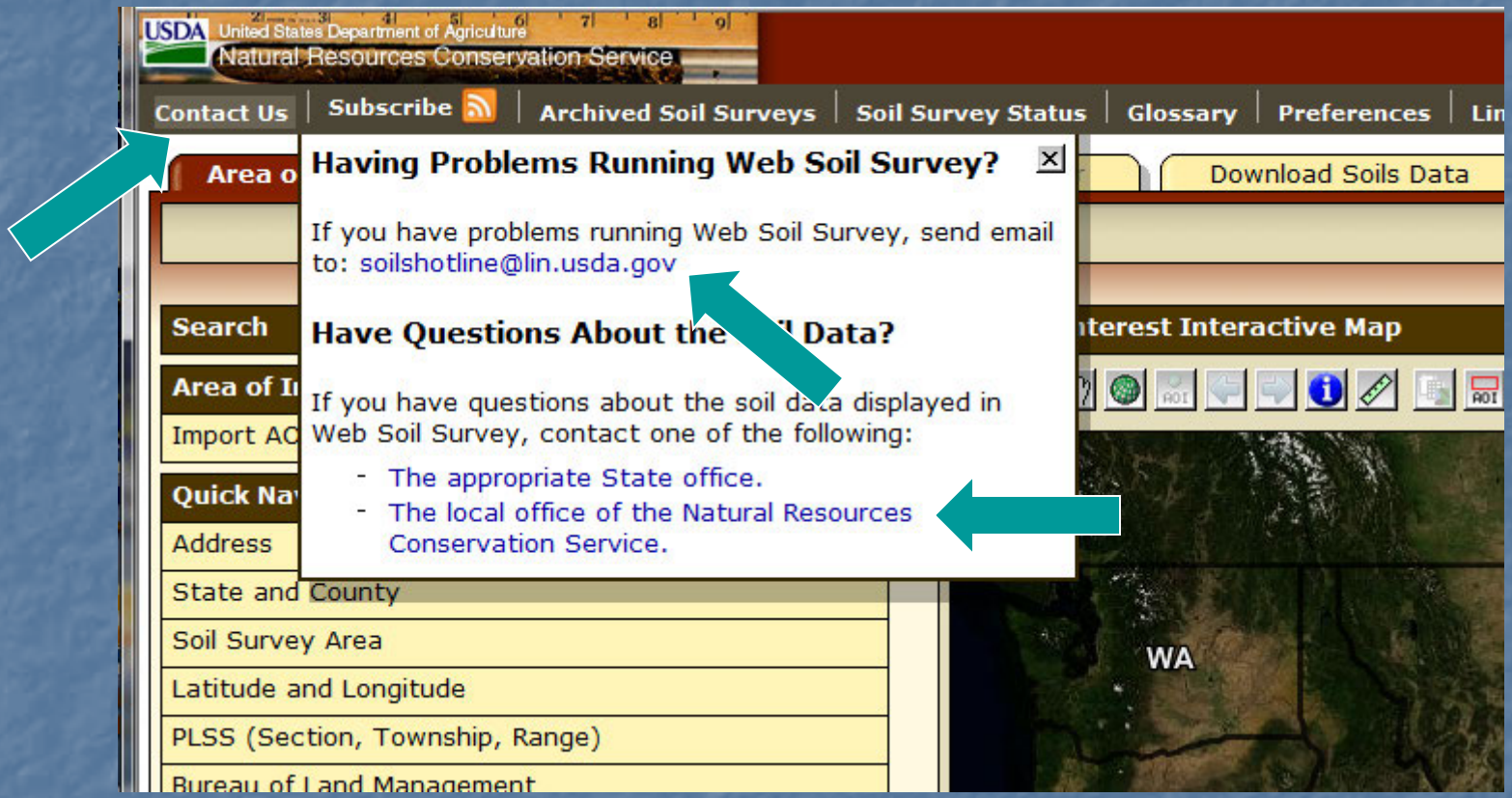
- On the homepage (http://websoilsurvey.nrcs.usda.gov/), click on the big green button to start the Web Soil Survey.

The Opening Screen



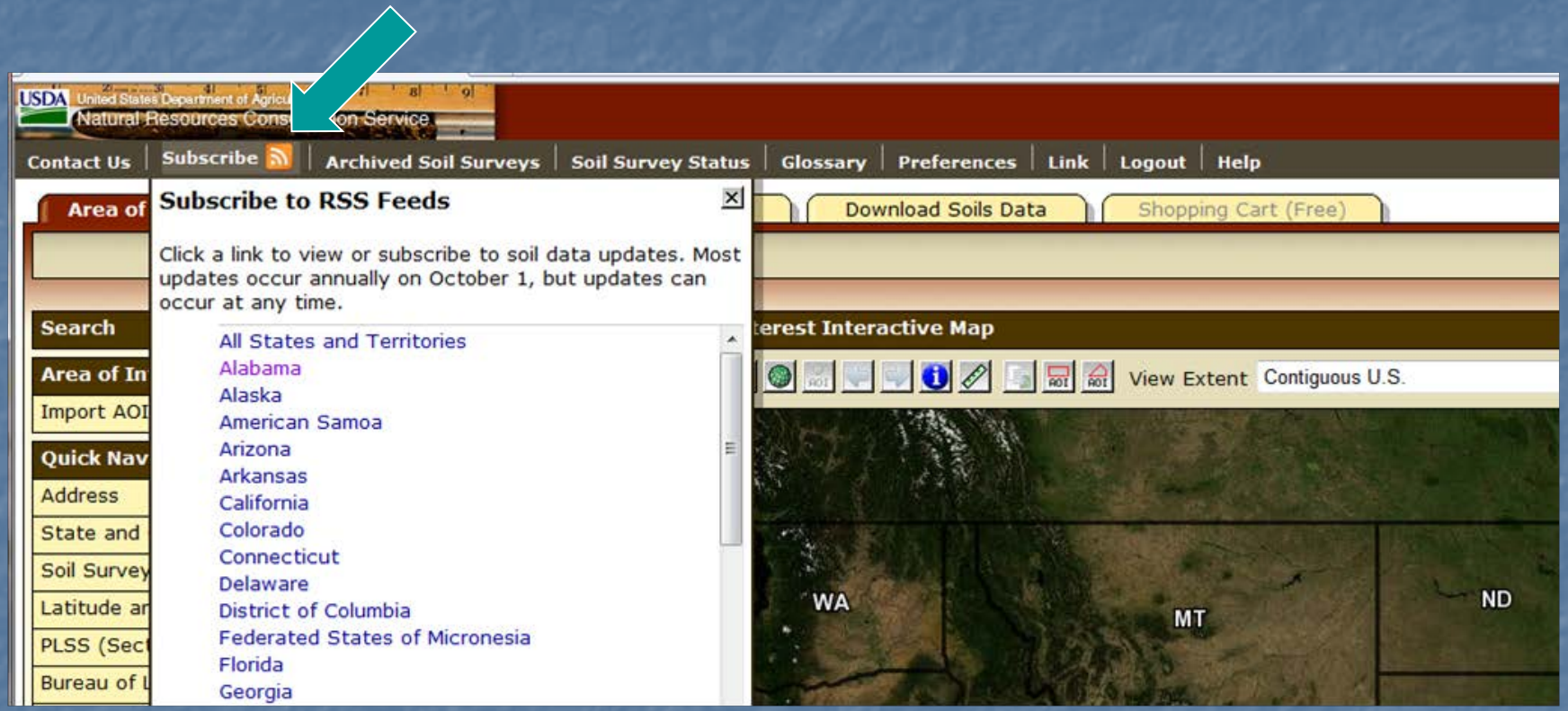
- This is the opening screen after starting WSS.
- The top navigation bar includes selections for Contact Us, Subscribe, Archived Soil Surveys, Soil Survey Status, Glossary, Preferences, Link, Logout, and Help.

Contact US



- You can get help via email by clicking on “Contact Us” and then clicking on one of the links.

RSS Subscriptions



- You can click “Subscribe” to begin the RSS subscription process.

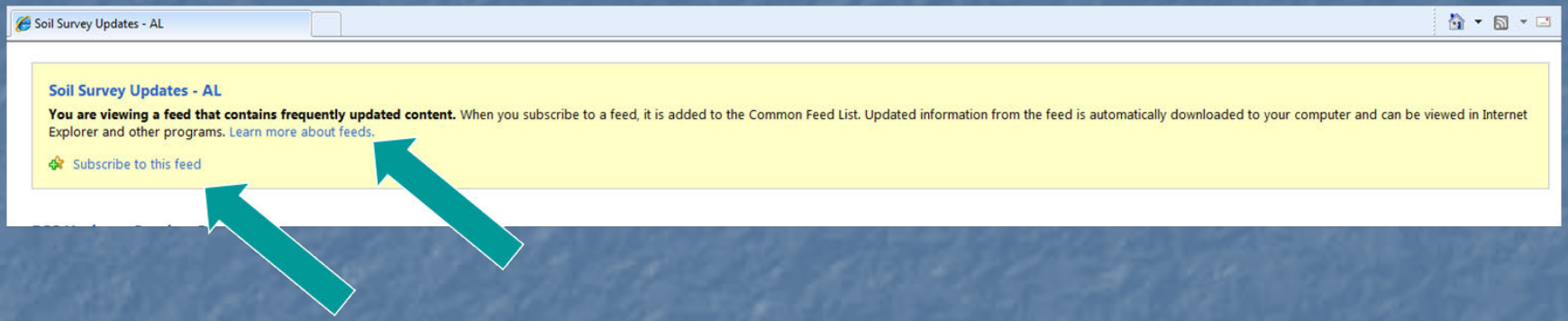
RSS Subscriptions—cont.

- WSS 3.0 allows you to subscribe to RSS notifications regarding the updating of data for soil survey areas.
- Updates to official soil survey data are generally only made on October 1 of each year. Exceptions are made for newly completed datasets. Exceptions are also made to resolve critical issues on a case-by-case basis.

RSS Subscriptions—cont.

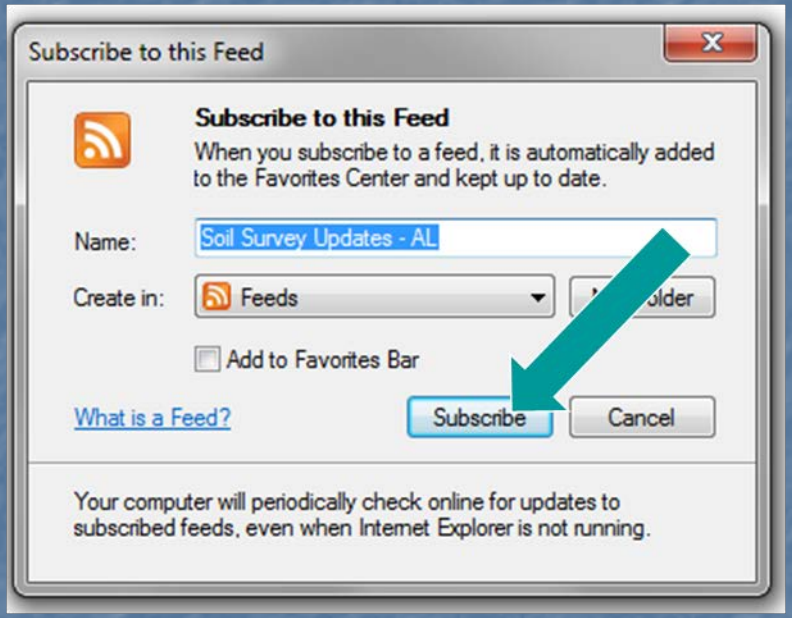
- Clicking on one of the State links opens a Web page that provides instructions for subscribing to the RSS feed.
- A listing of soil survey areas that have been updated in the selected state will be shown.

RSS Subscriptions—cont.



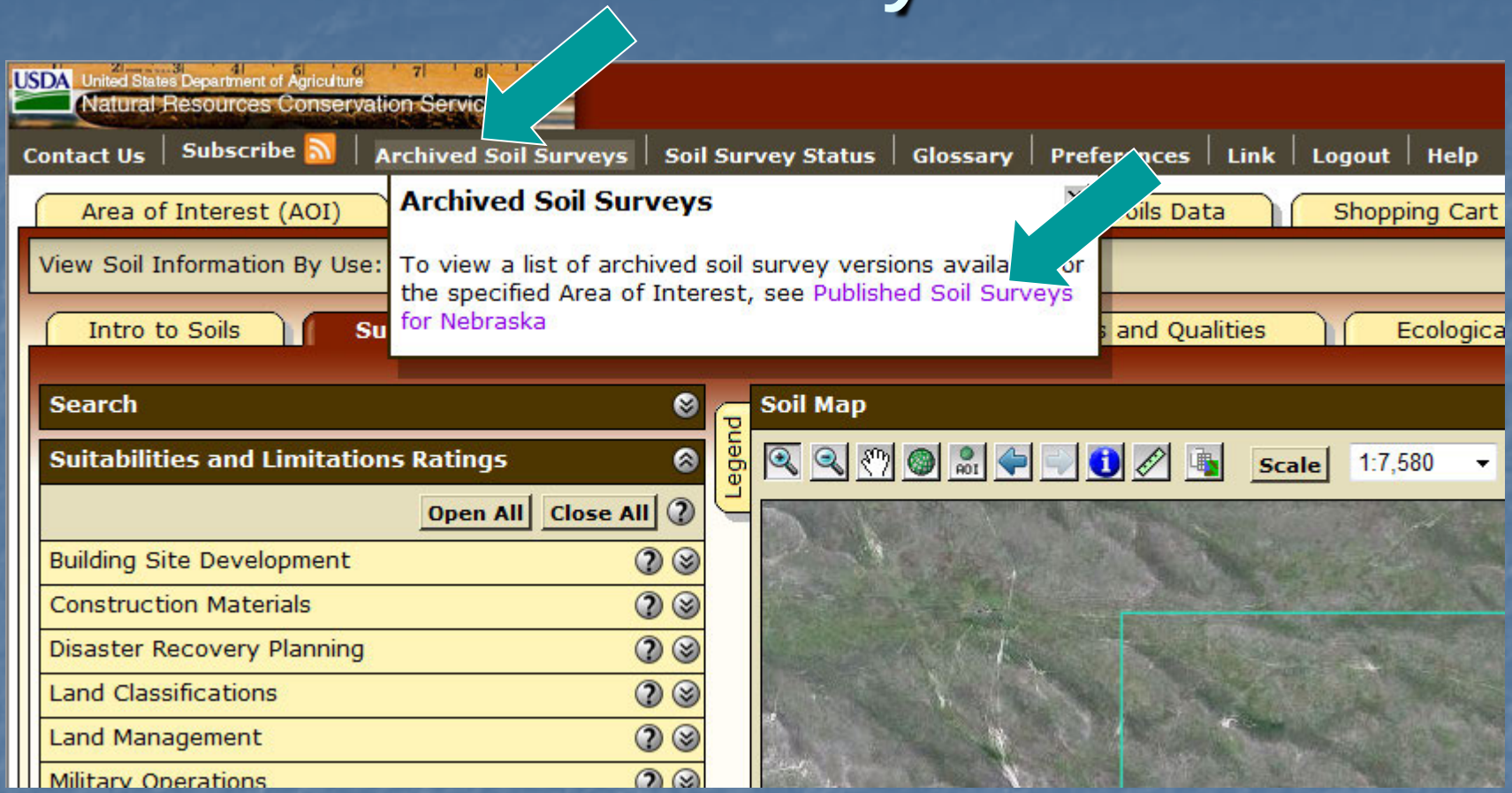
- Click on the "Subscribe to this feed" link to initiate your subscription.
- A second link is provided to "Learn more about feeds."

RSS Subscriptions—cont.



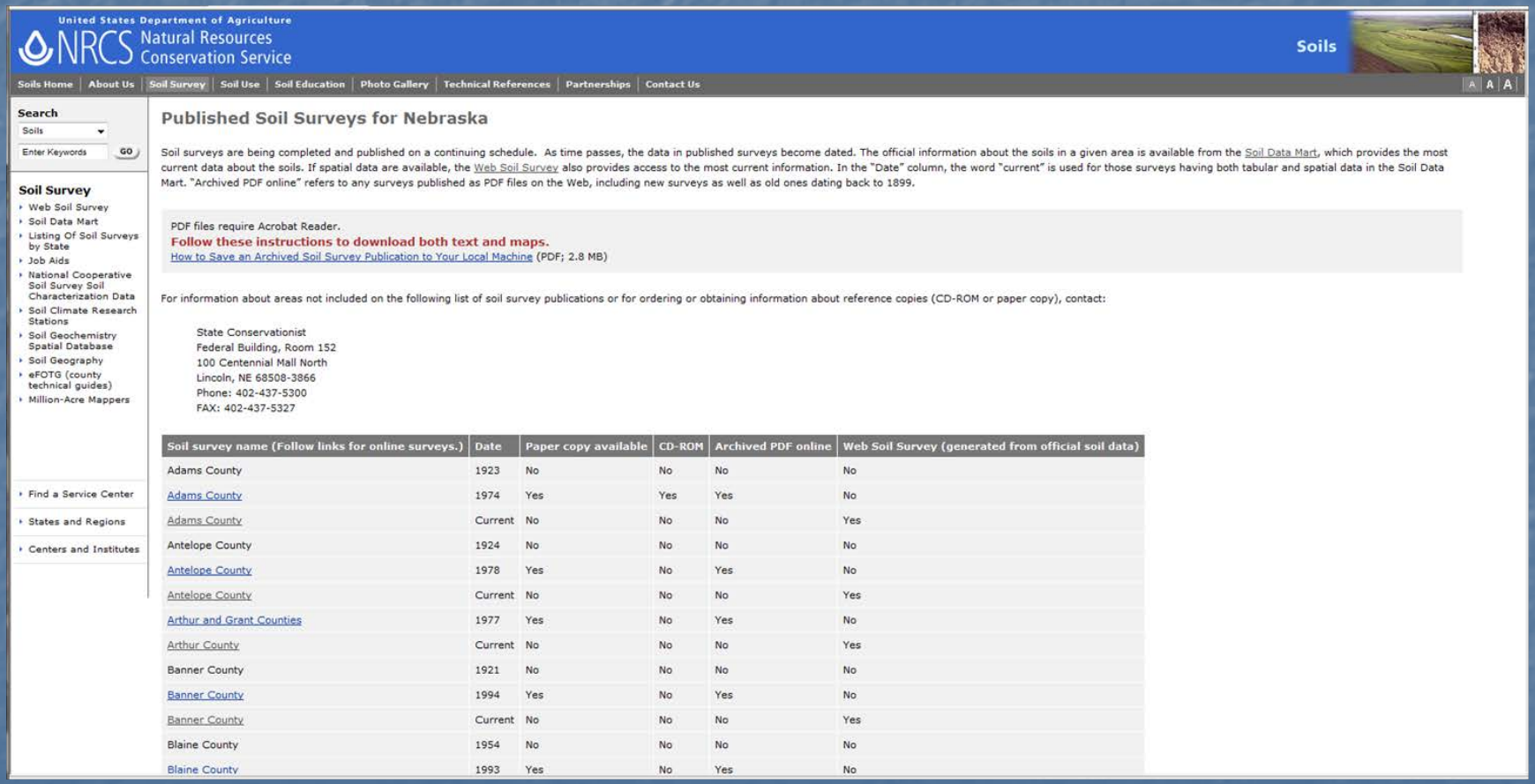
- The following dialog box is displayed. Click the "Subscribe" button to complete the process.

Archived Soil Survey Publications



- Listings of published soil surveys are stored on an external Web site. For a listing of the state(s) included in the AOI, click the link.

Archived Soil Survey Publications—cont.



United States Department of Agriculture
NRCS Natural Resources Conservation Service
Soils

Soils Home | About Us | Soil Survey | Soil Use | Soil Education | Photo Gallery | Technical References | Partnerships | Contact Us

Search
Soils
Enter Keywords GO

Soil Survey
- Web Soil Survey
- Soil Data Mart
- Listing Of Soil Surveys by State
- Job Aids
- National Cooperative Soil Survey Soil Characterization Data
- Soil Climate Research Stations
- Soil Geochemistry Spatial Database
- Soil Geography
- eFOTG (county technical guides)
- Million-Acre Mappers

- Find a Service Center
- States and Regions
- Centers and Institutes

Published Soil Surveys for Nebraska

Soil surveys are being completed and published on a continuing schedule. As time passes, the data in published surveys become dated. The official information about the soils in a given area is available from the Soil Data Mart, which provides the most current data about the soils. If spatial data are available, the Web Soil Survey also provides access to the most current information. In the "Date" column, the word "current" is used for those surveys having both tabular and spatial data in the Soil Data Mart. "Archived PDF online" refers to any surveys published as PDF files on the Web, including new surveys as well as old ones dating back to 1899.

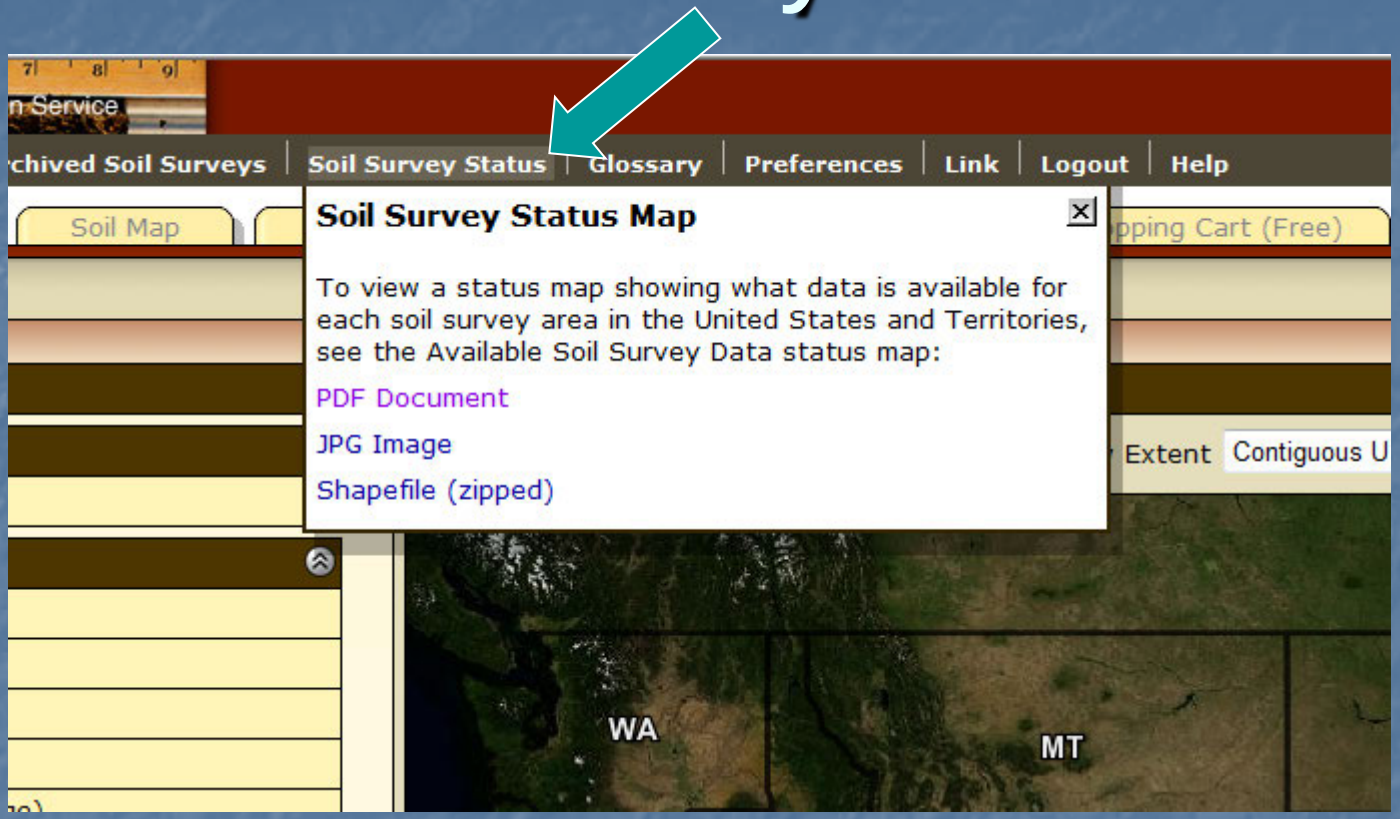
PDF files require Acrobat Reader.
Follow these instructions to download both text and maps.
How to Save an Archived Soil Survey Publication to Your Local Machine (PDF; 2.8 MB)

For information about areas not included on the following list of soil survey publications or for ordering or obtaining information about reference copies (CD-ROM or paper copy), contact:

State Conservationist
Federal Building, Room 152
100 Centennial Mall North
Lincoln, NE 68508-3866
Phone: 402-437-5300
FAX: 402-437-5327

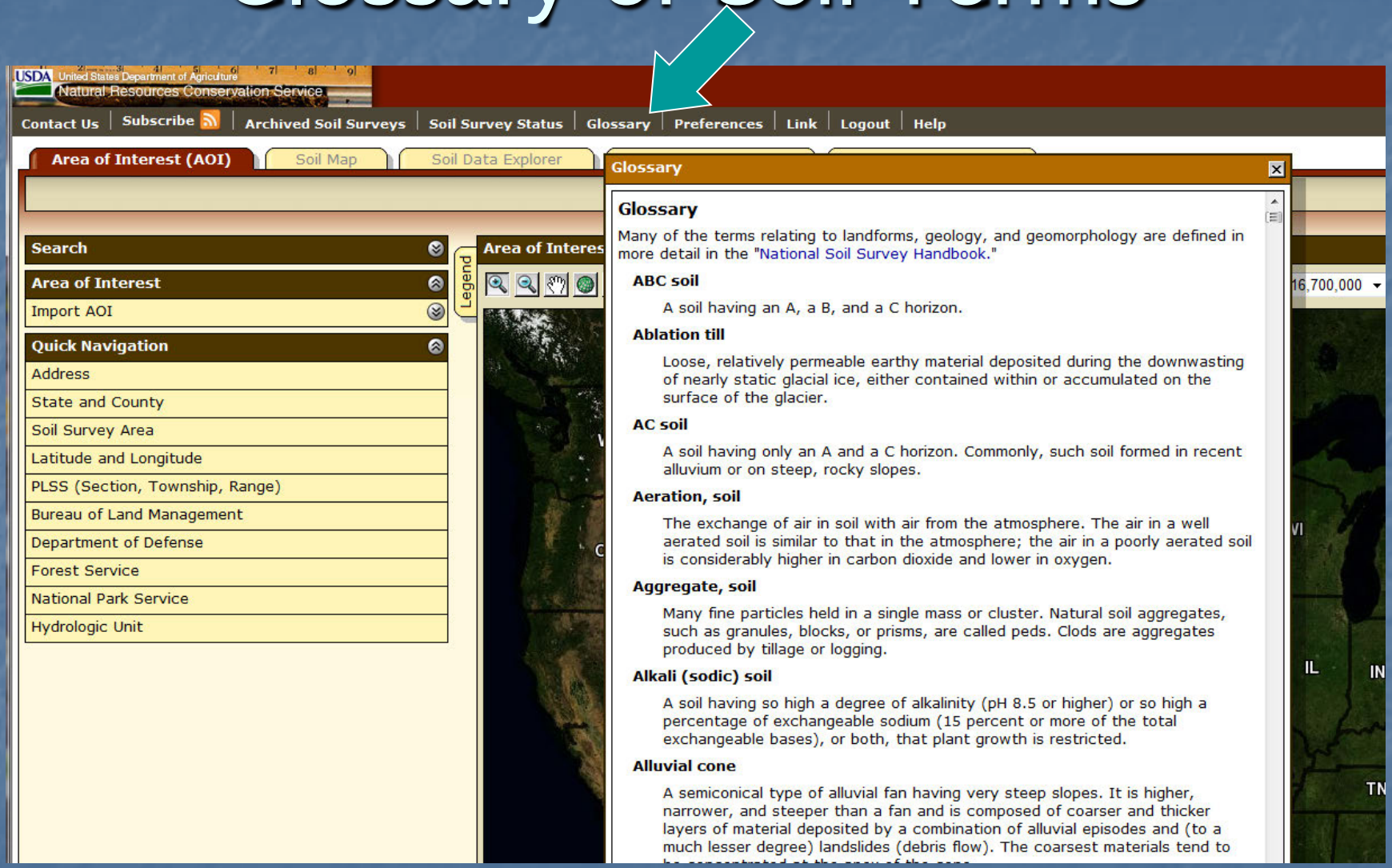
Soil survey name (Follow links for online surveys.)	Date	Paper copy available	CD-ROM	Archived PDF online	Web Soil Survey (generated from official soil data)
Adams County	1923	No	No	No	No
Adams County	1974	Yes	Yes	Yes	No
Adams County	Current	No	No	No	Yes
Antelope County	1924	No	No	No	No
Antelope County	1978	Yes	No	Yes	No
Antelope County	Current	No	No	No	Yes
Arthur and Grant Counties	1977	Yes	No	Yes	No
Arthur County	Current	No	No	No	Yes
Banner County	1921	No	No	No	No
Banner County	1994	Yes	No	Yes	No
Banner County	Current	No	No	No	Yes
Blaine County	1954	No	No	No	No
Blaine County	1993	Yes	No	Yes	No

Soil Survey Status

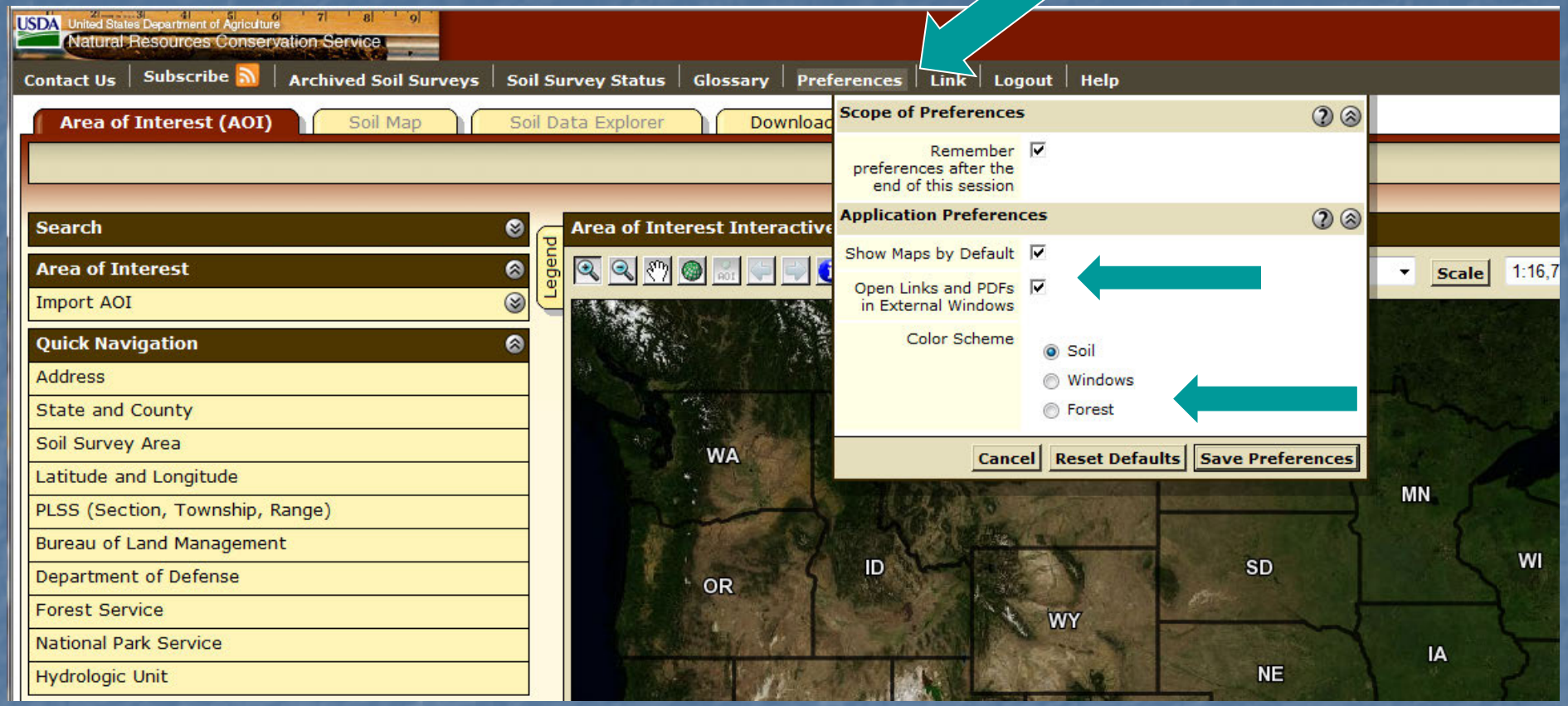


- This menu item includes a link to a map showing what types of data (tabular, spatial, or both) are available for each soil survey area.

Glossary of Soil Terms

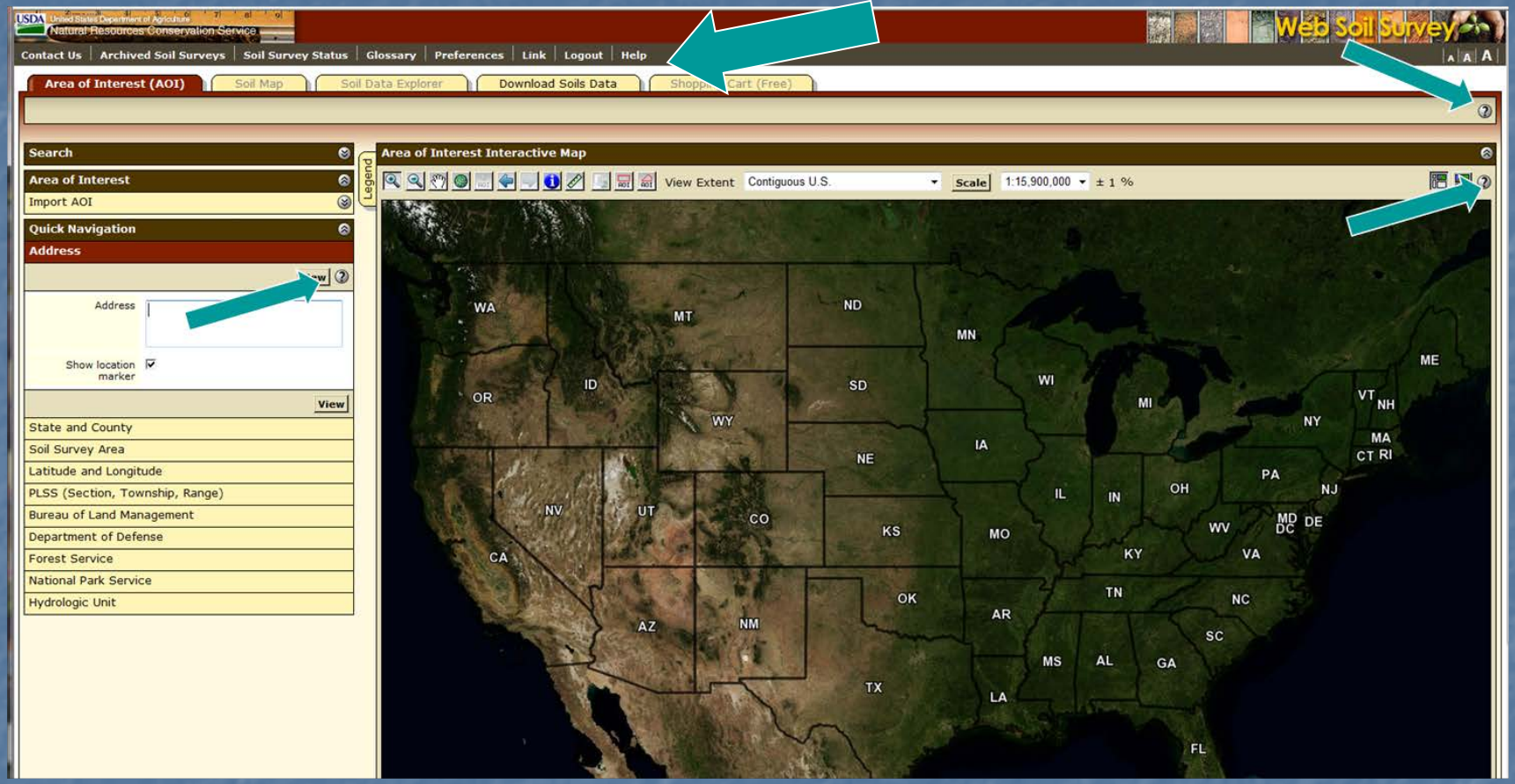


Preferences



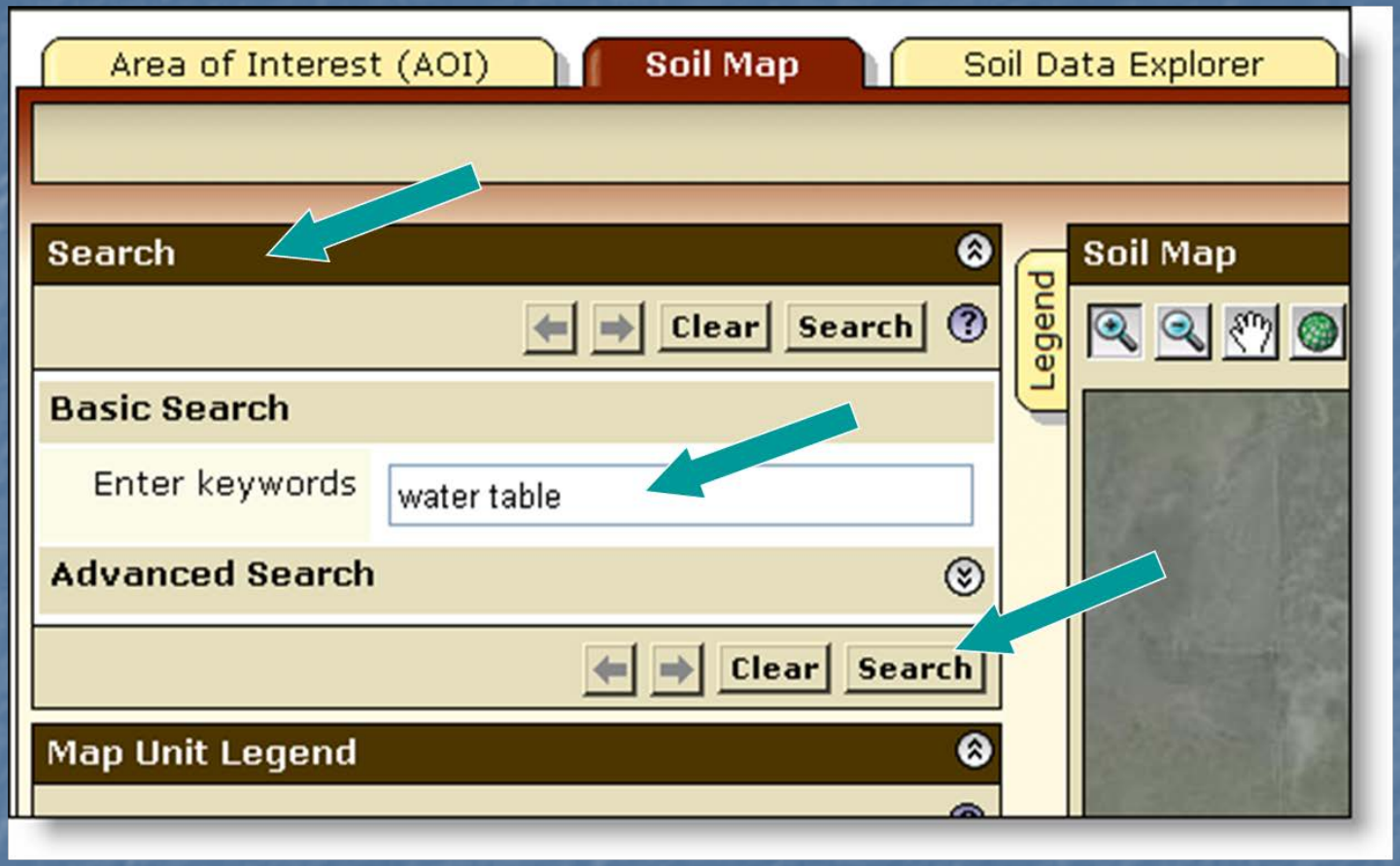
- You can set certain user preferences. For example:
  - You can choose to view PDF files and links in the same browser window as WSS or in different window,
  - You can choose not to view maps by default, and
  - You can choose between three color schemes.

Help



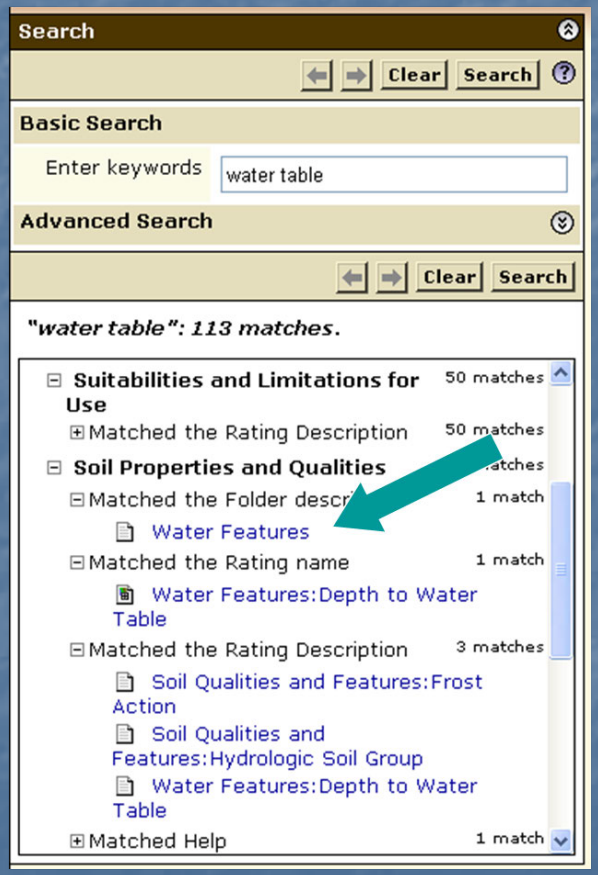
- You can get general help from the top navigation bar or context-specific help from the “?” symbols.

Search



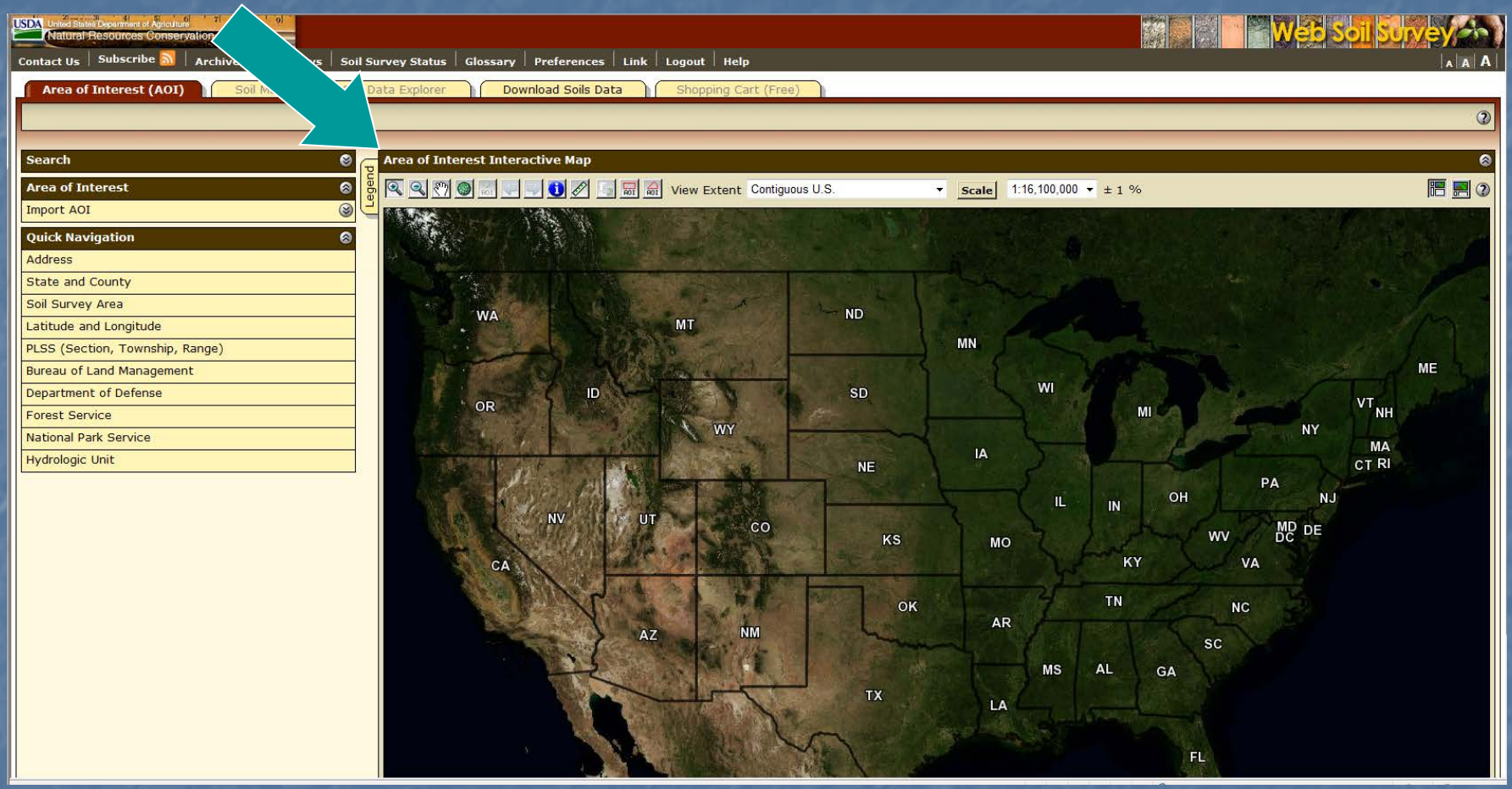
- The WSS has a search function.
- Click Search title bar. Enter key word(s). Click “Search” button.

Search–cont.



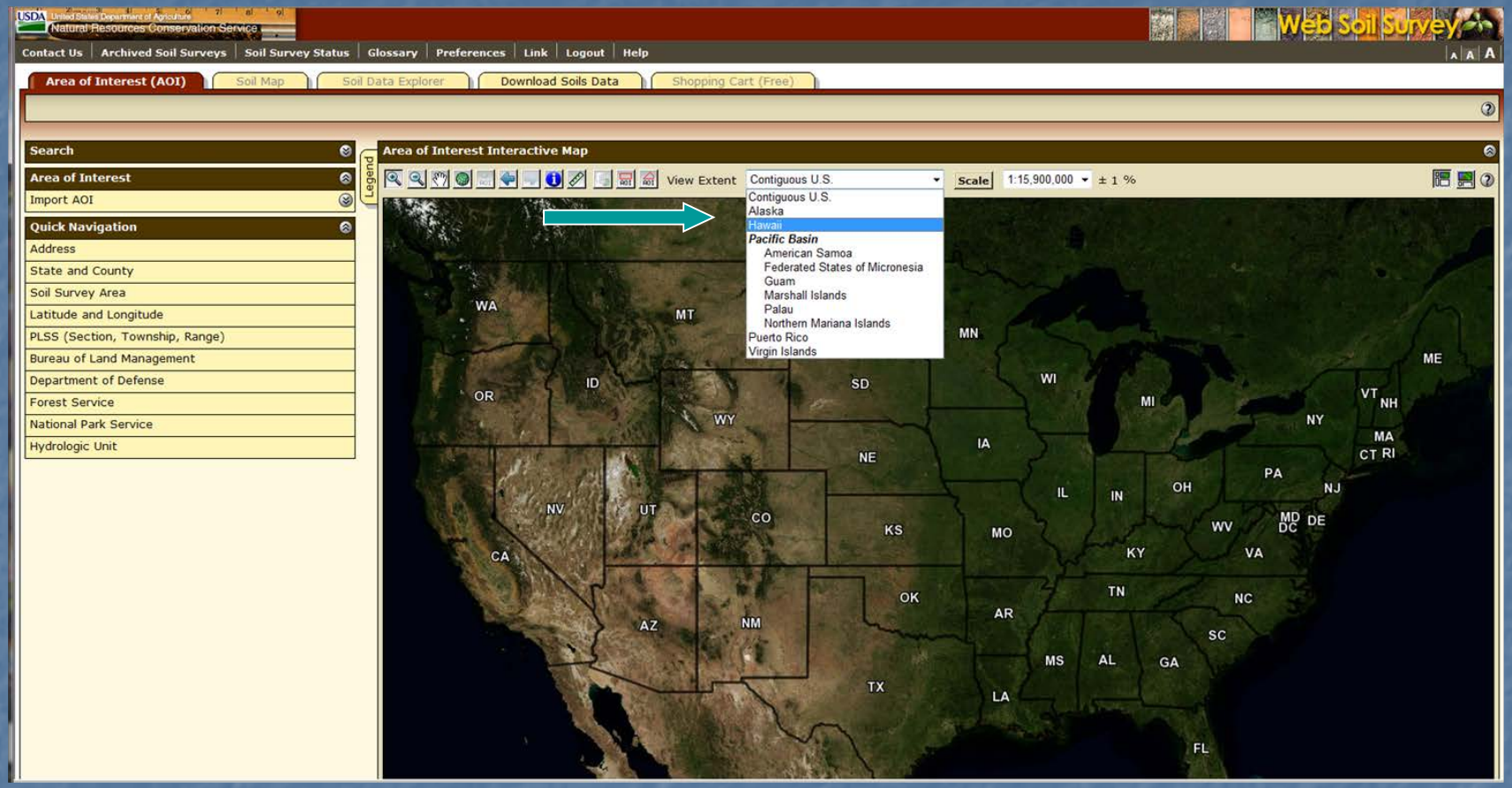
- **Search results are displayed with links to parts of Web Soil Survey where the key word(s) can be found.**
- **Click on a link to go to the relevant section.**

The Interactive AOI Map



- Several tools are available to zoom to your area of interest on the interactive map.

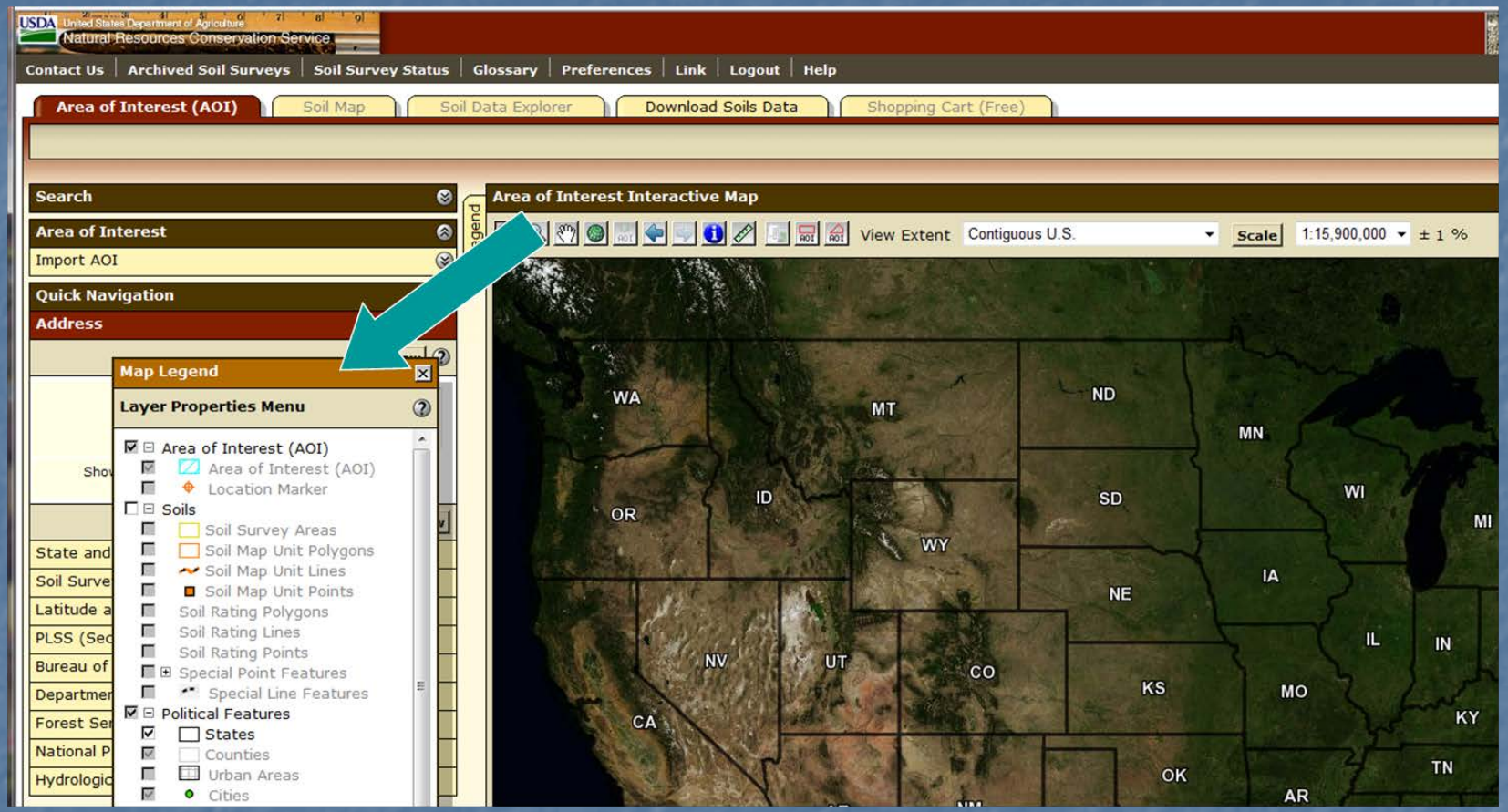
View Other Geographic Areas



- You can view other geographic areas by selecting from the “View Extent” drop-down menu.

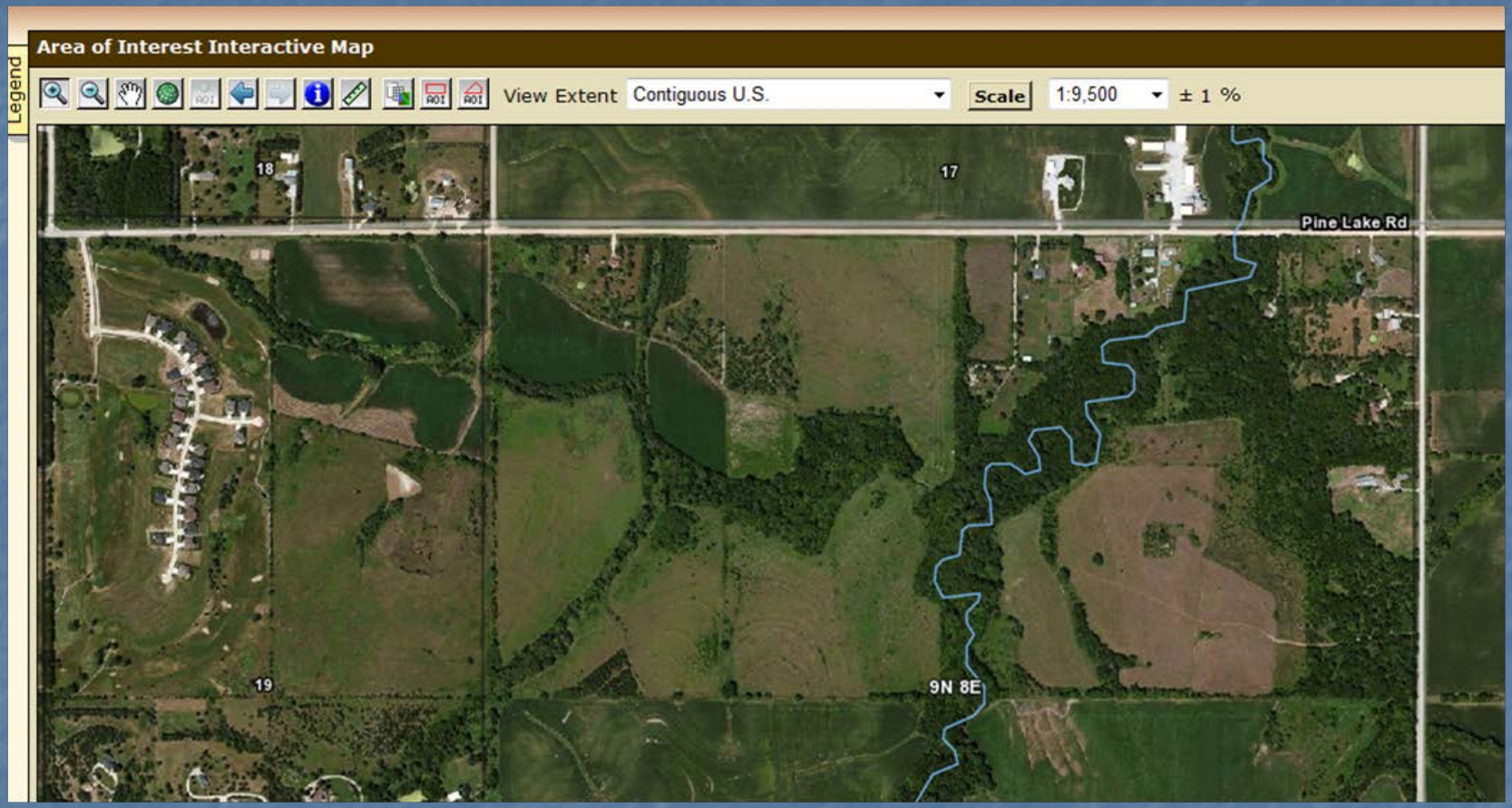
View Map at Full Screen Width

Floating Map Legend



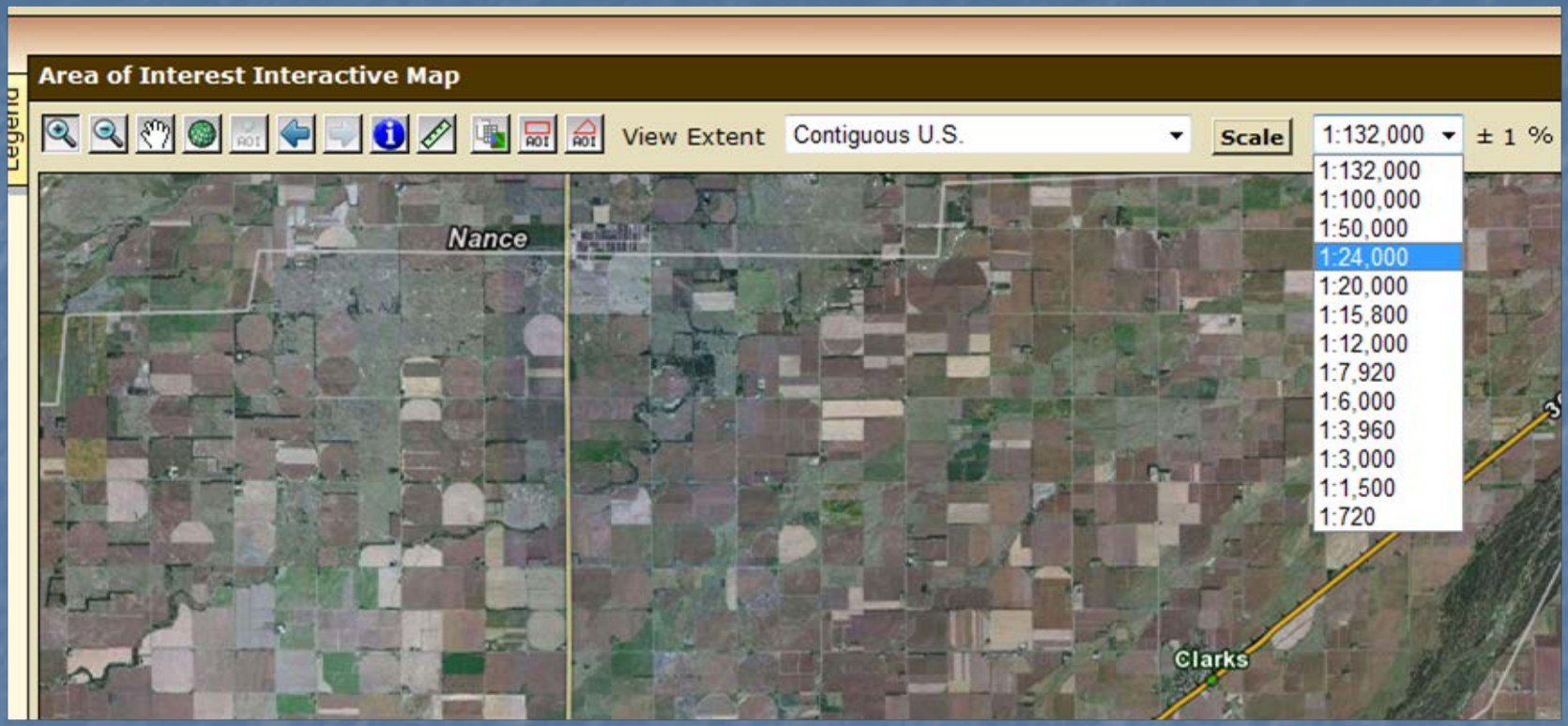
- You can view the map legend, which has a floating window. Click the "Legend" tab to drag the map legend.

Zoom Tools



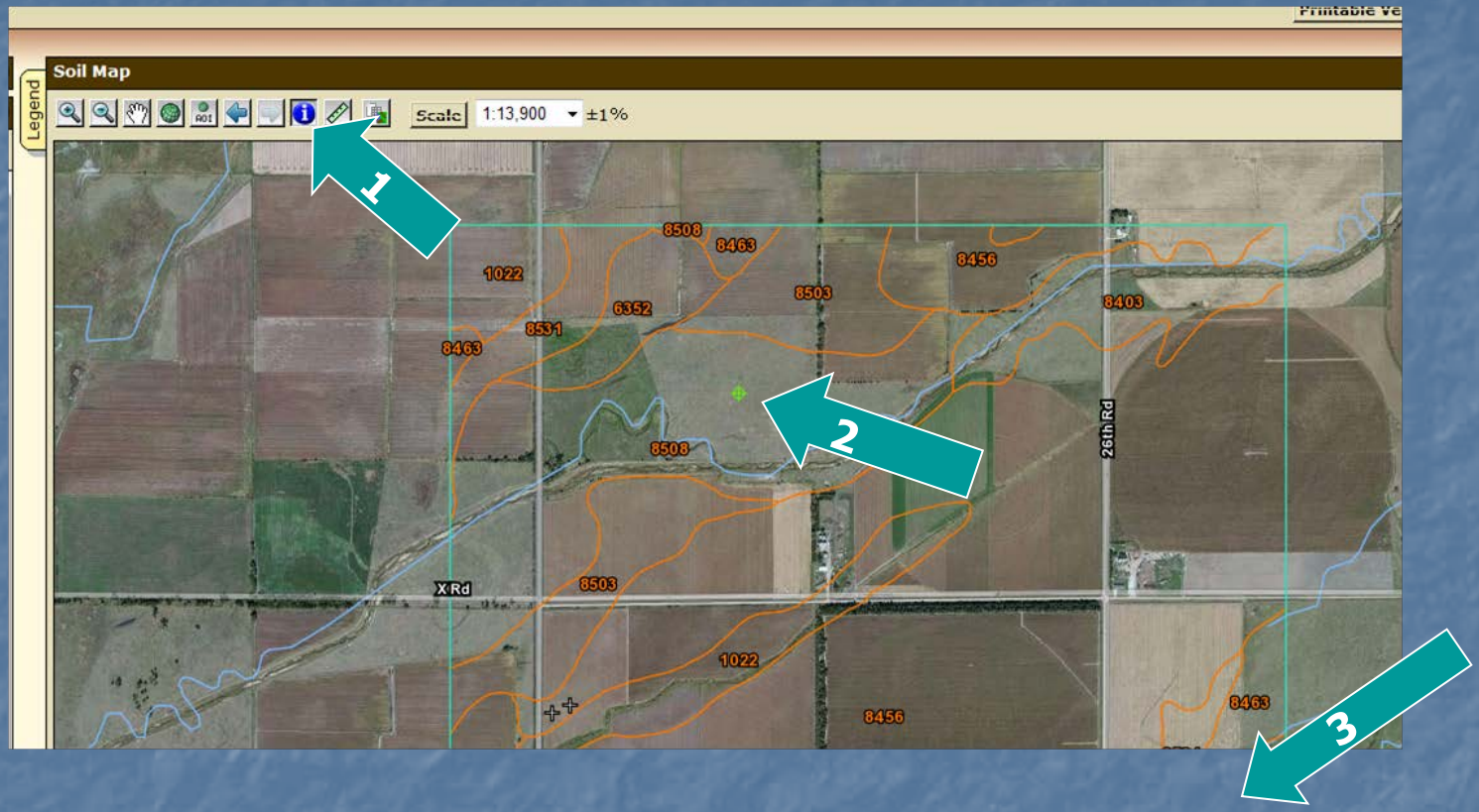
- The map has zoom-in and zoom-out tools. Click on the symbol of the magnifying glass with a plus sign, then click and drag on the map to zoom in to a selected rectangle.

Onscreen Map Scale



- You can view or specify the onscreen map scale.
- First, calibrate your monitor by clicking the “Scale” button and following the directions.
- The current scale of the map is then displayed.
- Use the drop-down menu to change to a specific map scale.

Identify Tool



- The identify tool provides information about visible data layers.
- 1) Click the identify tool and then a point on the map.
- 2) A marker identifies the point you clicked on.
- 3) The attribute values for information on the layers are listed in a table below the map.

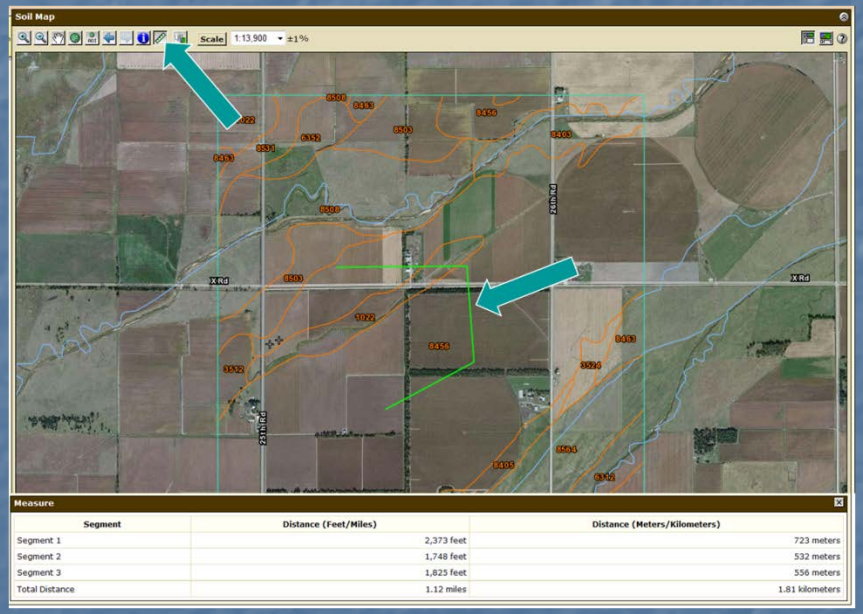
Identify Tool—cont.

Identify

Layer	Attribute Name	Attribute Value
Location	Latitude, Longitude	41.26916°, -97.82226°
Area of Interest (AOI)	Area (acres)	1,384
Soil Map Unit Polygons	Map Unit Name	Lex variant loam, occasionally flooded
	Map Unit Symbol	8508
	Map Unit Key	1709662
	Soil Survey Area Symbol	NE121
	National Map Unit Symbol	1vd1d
Aerial Photography	Date(s) Photographed	Aug 11, 2010—Sep 30, 2010

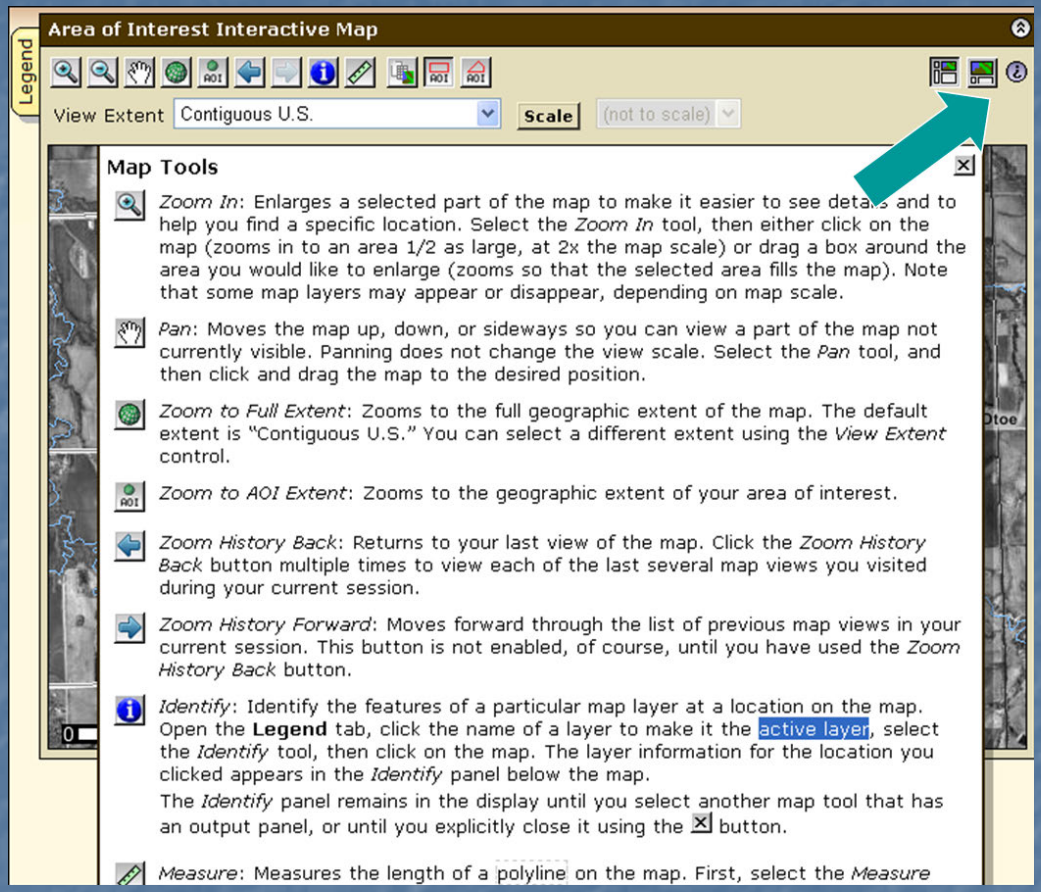
- The “Identify” table provides information about the selected data layers at the point identified. The table appears below the interactive map after a point is selected with the identify tool.

Linear Measuring Tool



- Click the ruler button.
- Click on the map to begin and end linear segments.
- Segment length and cumulative length are displayed in metric and English units in the table.

Help



- Additional help with the interactive map is available by clicking on the "?" icon.

Part II. Soil Data for an Area of Interest

a. Define an Area of Interest (AOI)
    1. AOI Features
    2. Navigate to the area
    3. Define a specific area
b. View Soil Map
c. Explore Additional Soil Information
d. Shopping Cart for Selected Information

IIa. Define an Area of Interest

The Web Soil Survey is backed by a database that contains soil information for the entire country. You can use the interactive map to select the area for which you want information.

a. Define an Area of Interest (AOI)
    1. AOI Features
    2. Navigate to the area
    3. Define a specific area

II(a1). Area of Interest Features

- You can navigate to the area where you wish to specify an area of interest using basic map navigation data layers:
  - Transportation,
  - Aerial photography,
  - Hydrography, and
  - Political features.

Area of Interest Features—cont.

- You can navigate using selection criteria:
  - Street address,
  - State and county,
  - Soil survey area,
  - Latitude and longitude,
  - PLSS (township, range, and section),
  - Federal land boundaries,
  - Hydrologic unit, and
  - Coordinates in a URL.

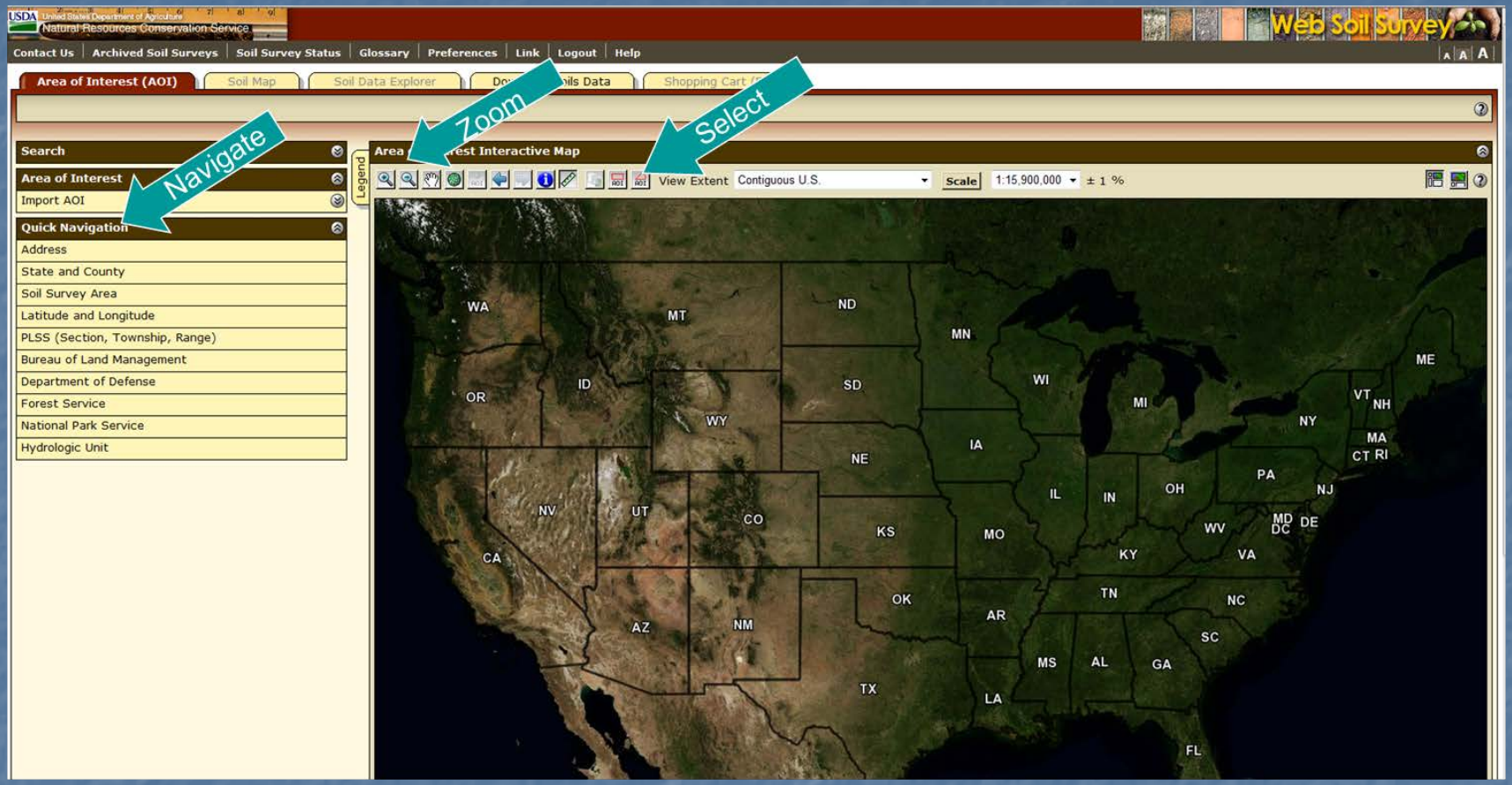
Area of Interest Features—cont.

- You can use the zoom in/out tools.
- You can define an AOI by:
  - Drawing a polygon on a map
    - Using the rectangle tool, or
    - Using the multi-sided polygon tool;
  - Selecting a soil survey area;
  - Importing an AOI boundary file; or
  - Embedding bounding coordinates in a URL.
- You can clear a previously selected AOI.

Area of Interest Features—cont.

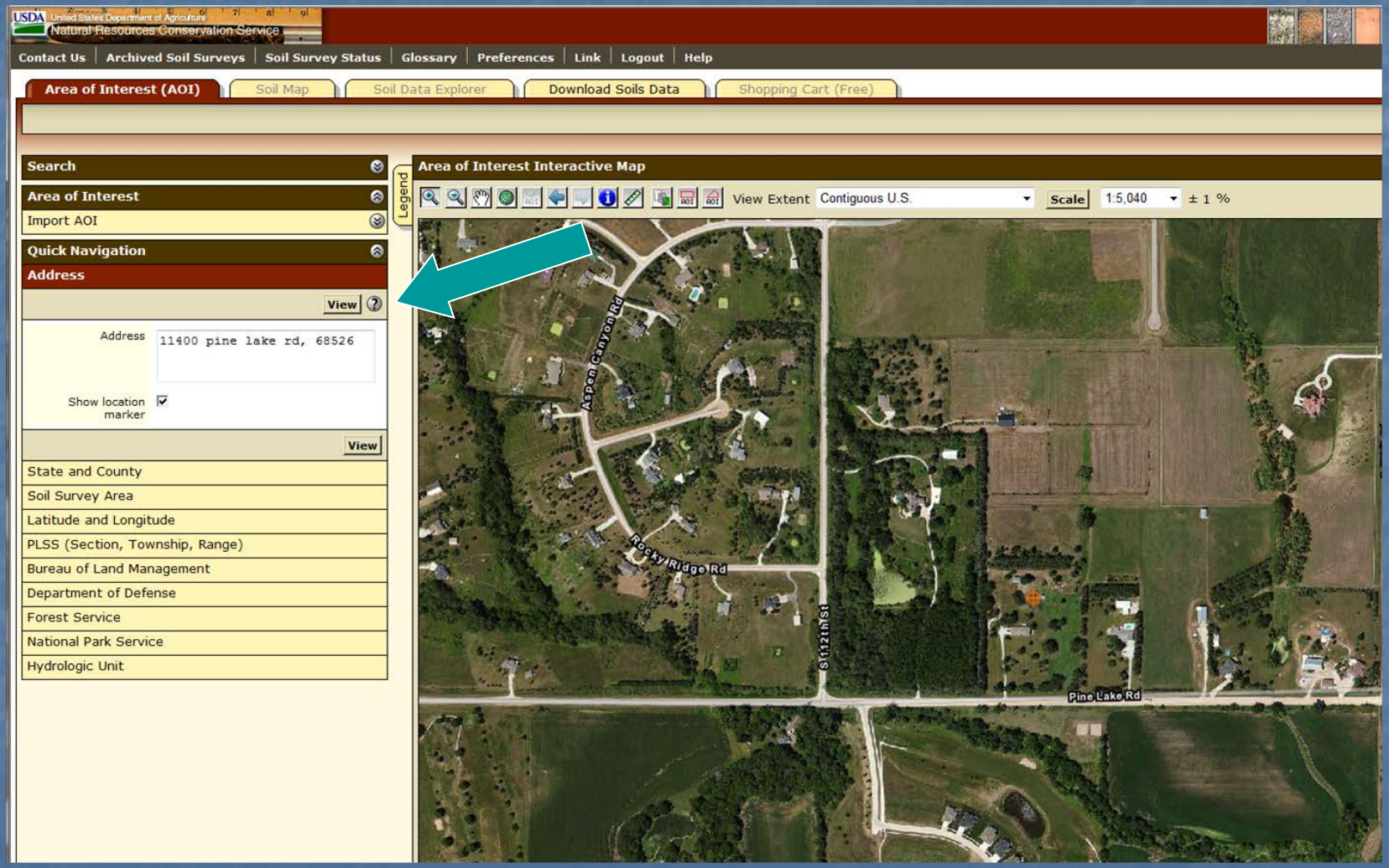
- You can determine what types of data are available for a defined AOI:
  - Tabular soil data and/or
  - Spatial soil data (maps).
- You can name your AOI.
- You can save your AOI for later use by exporting the boundary file to a GIS or by saving a bookmark to it in your browser.
- You can choose to use either standard or national map unit symbols.

II(a2). Navigate to the Area

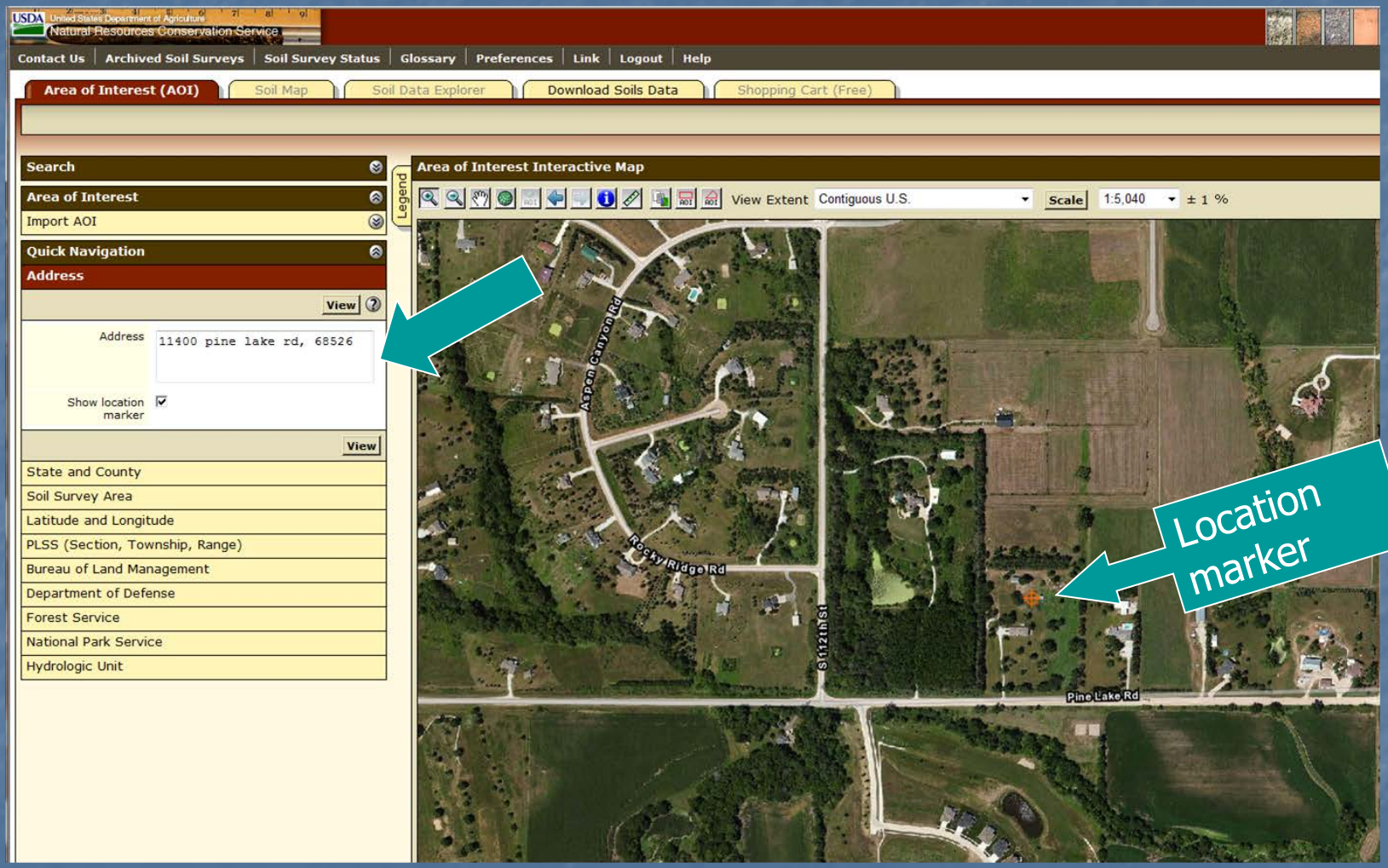


- Use Quick Navigation and the zoom tool to go to the area. Use a polygon tool to select your specific AOI.

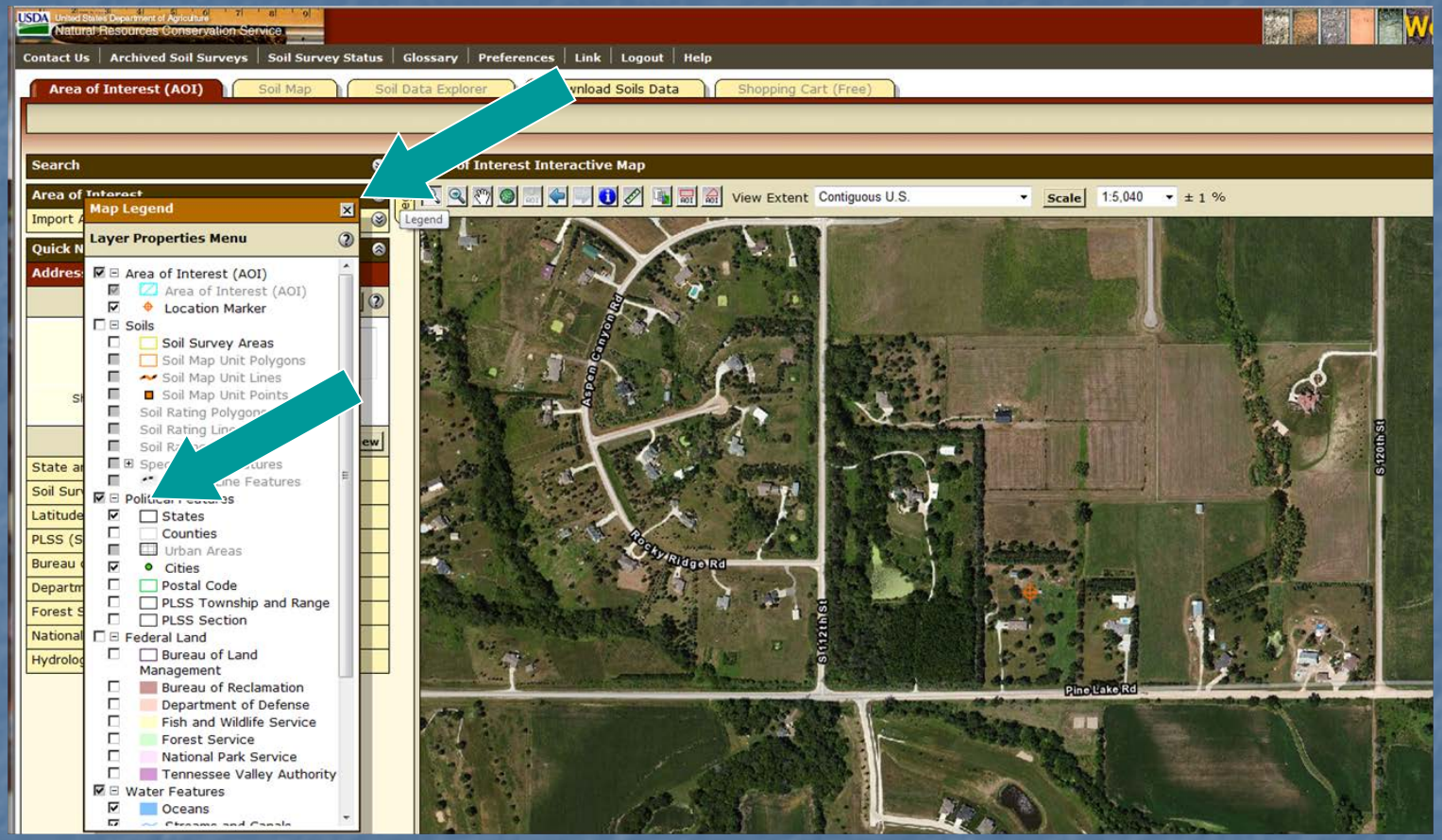
Navigate by Street Address



View by Street Address

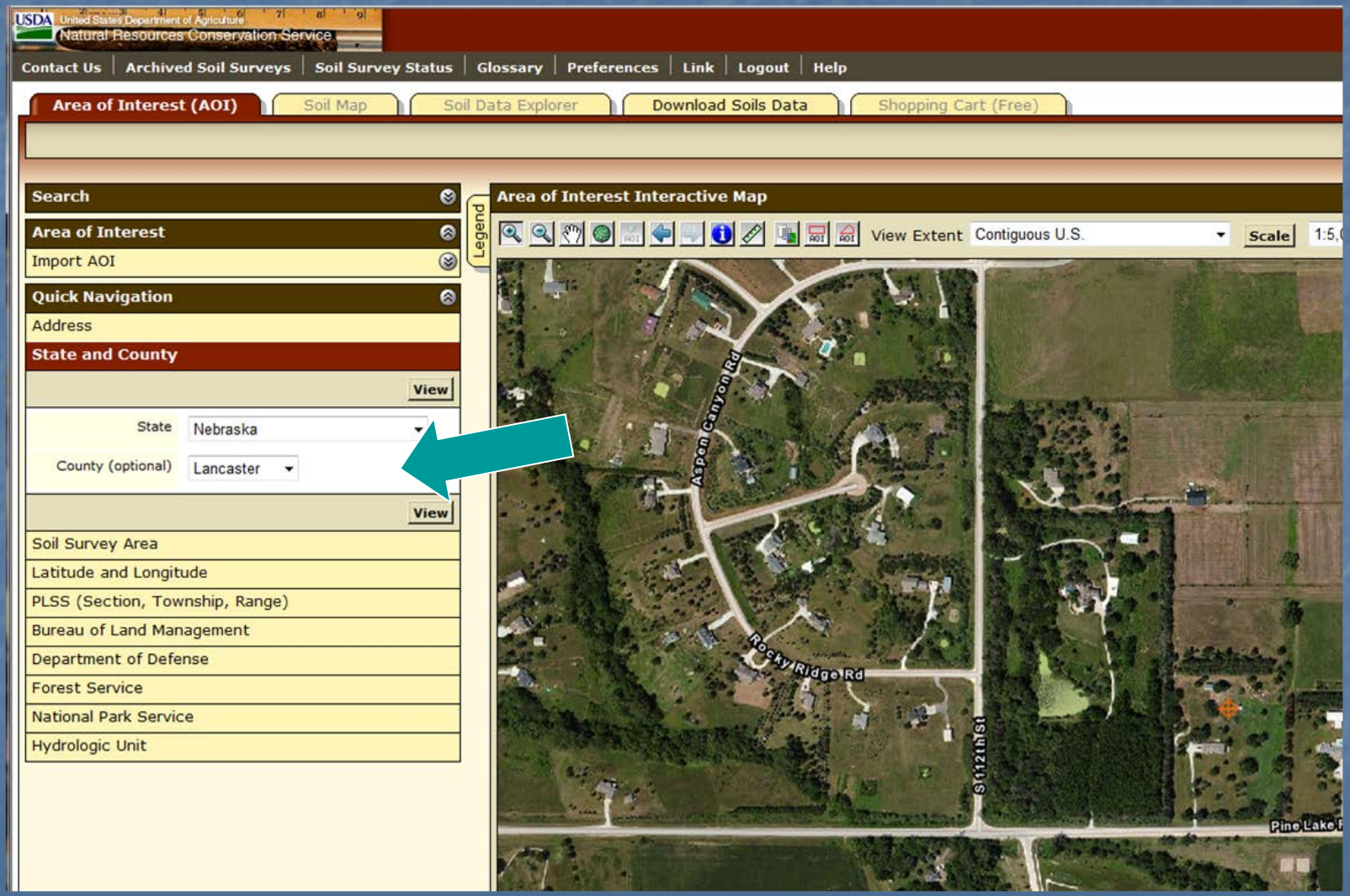


Manage Display of Data Layers

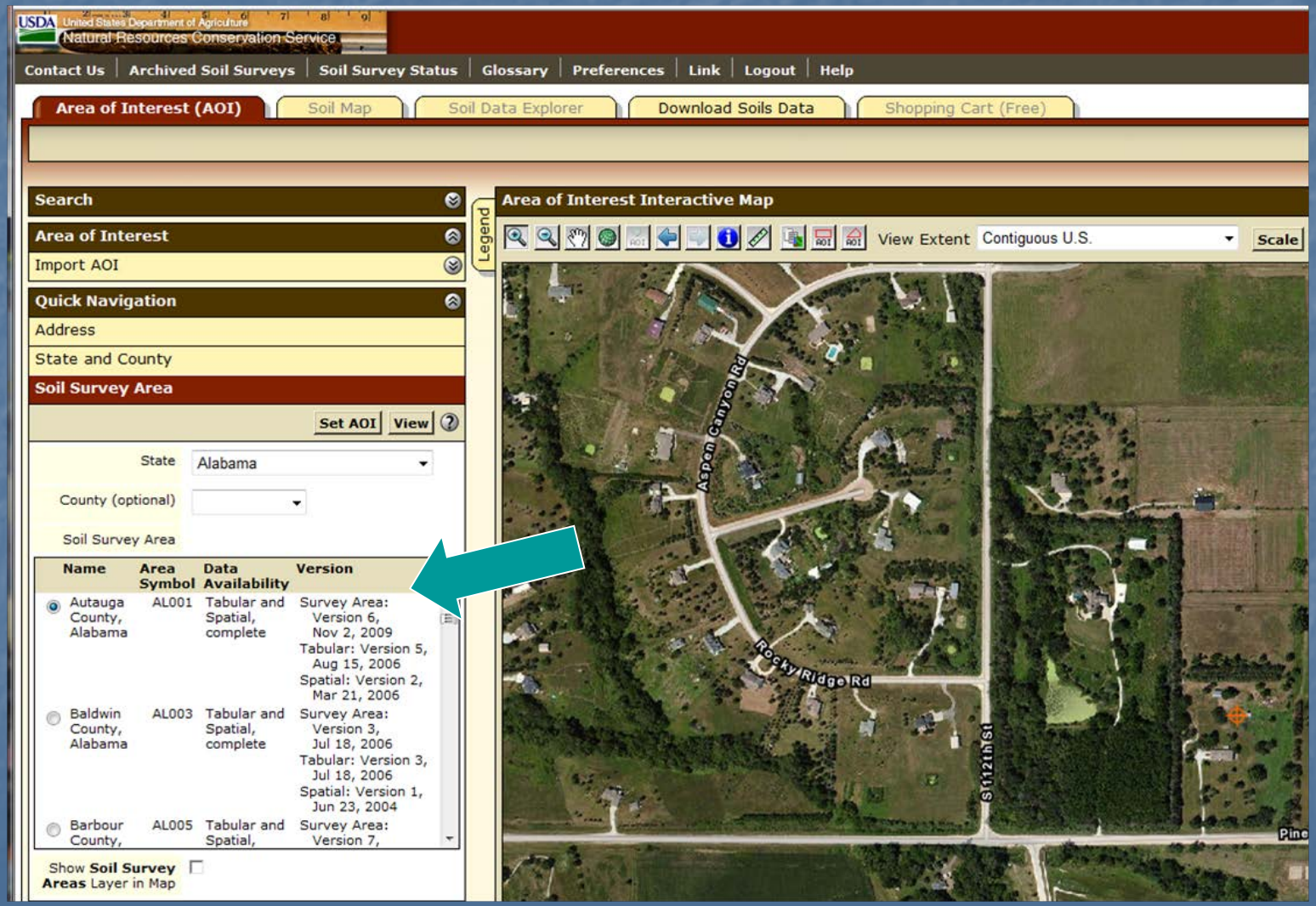


- Click on the “Legend” tab.
- Turn layers on or off by checking or unchecking boxes on the legend.

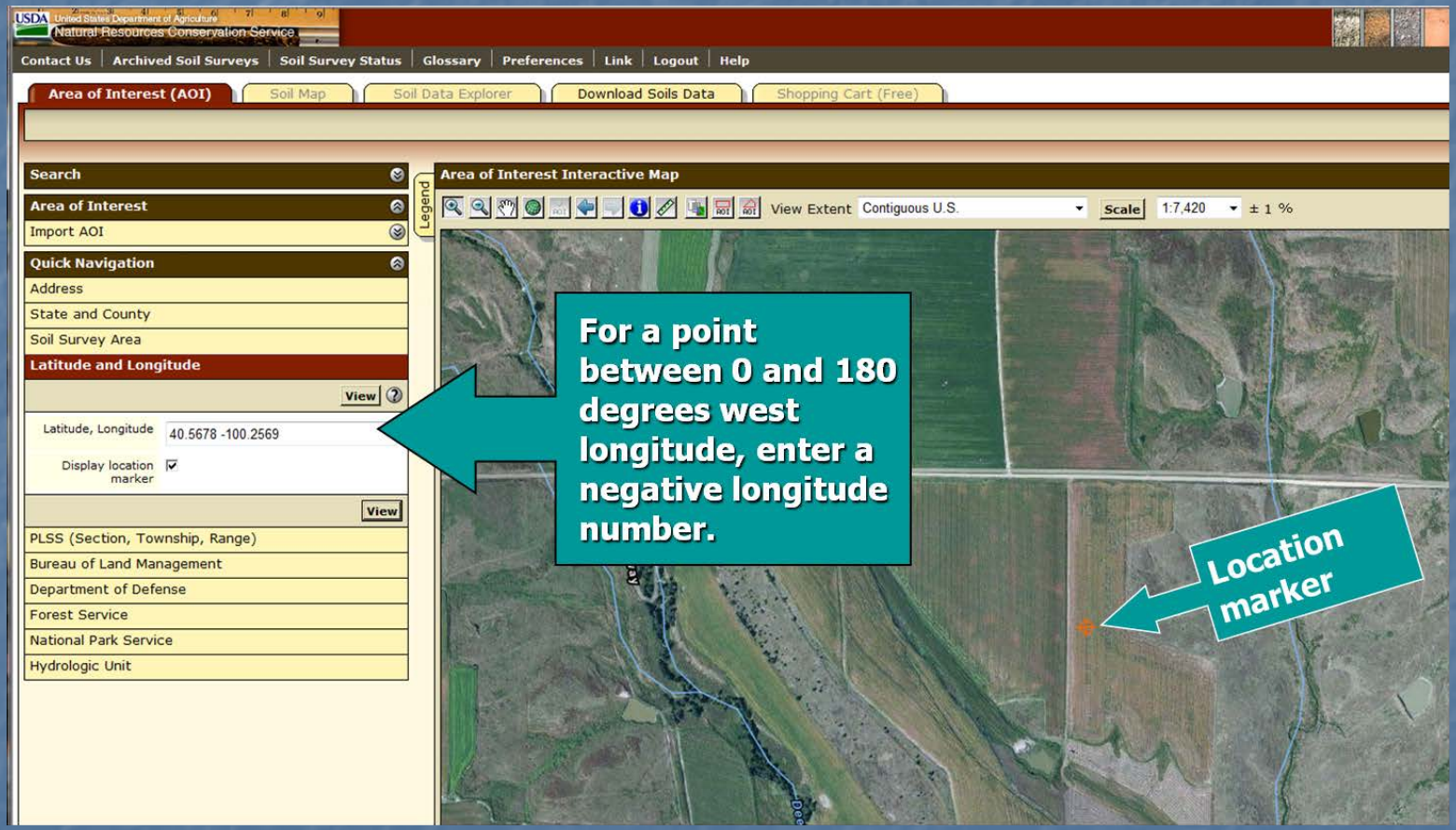
Navigate by County



Navigate by Soil Survey Area



Navigate by Latitude and Longitude

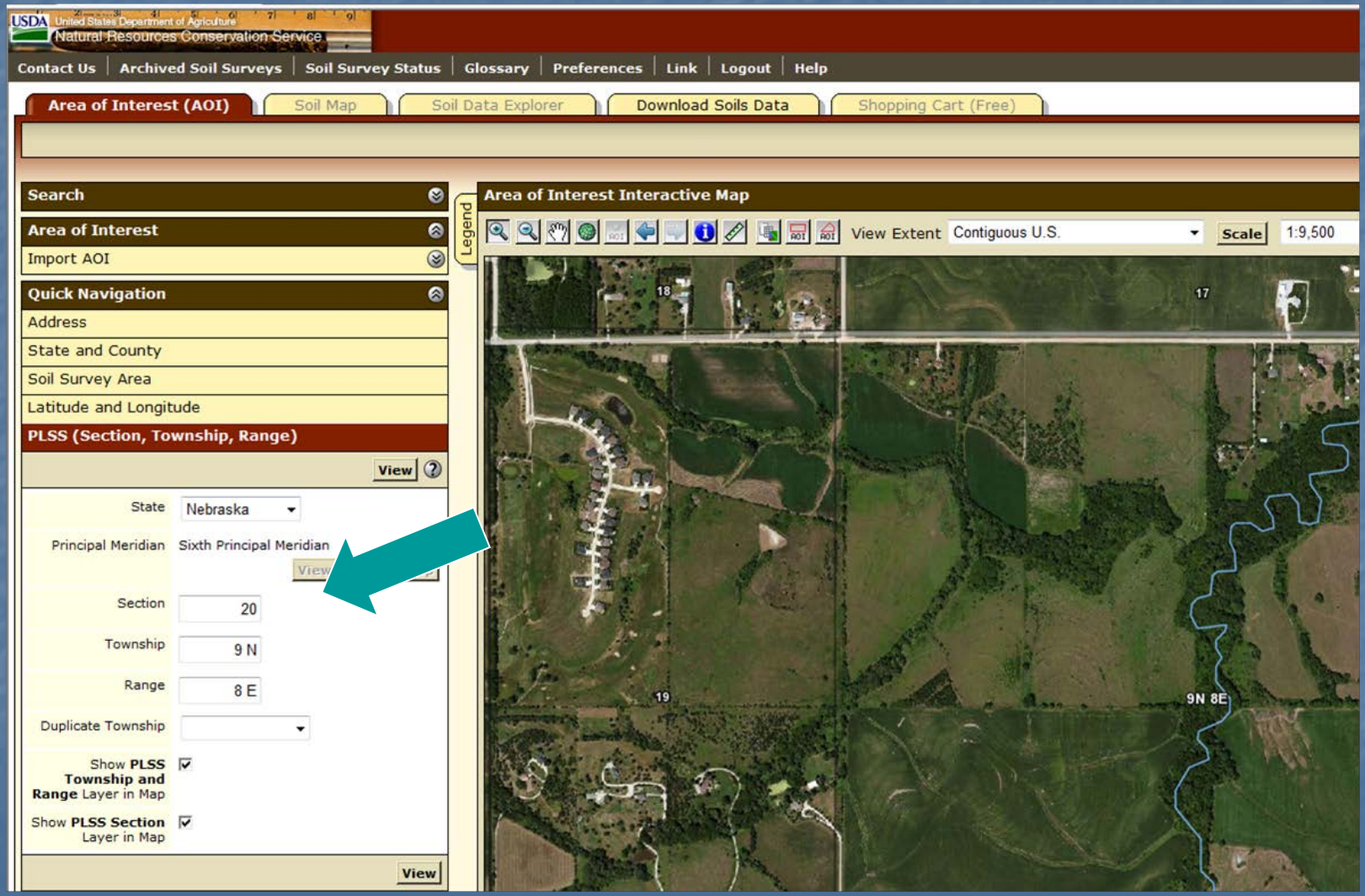


- See next slide for allowable formats.

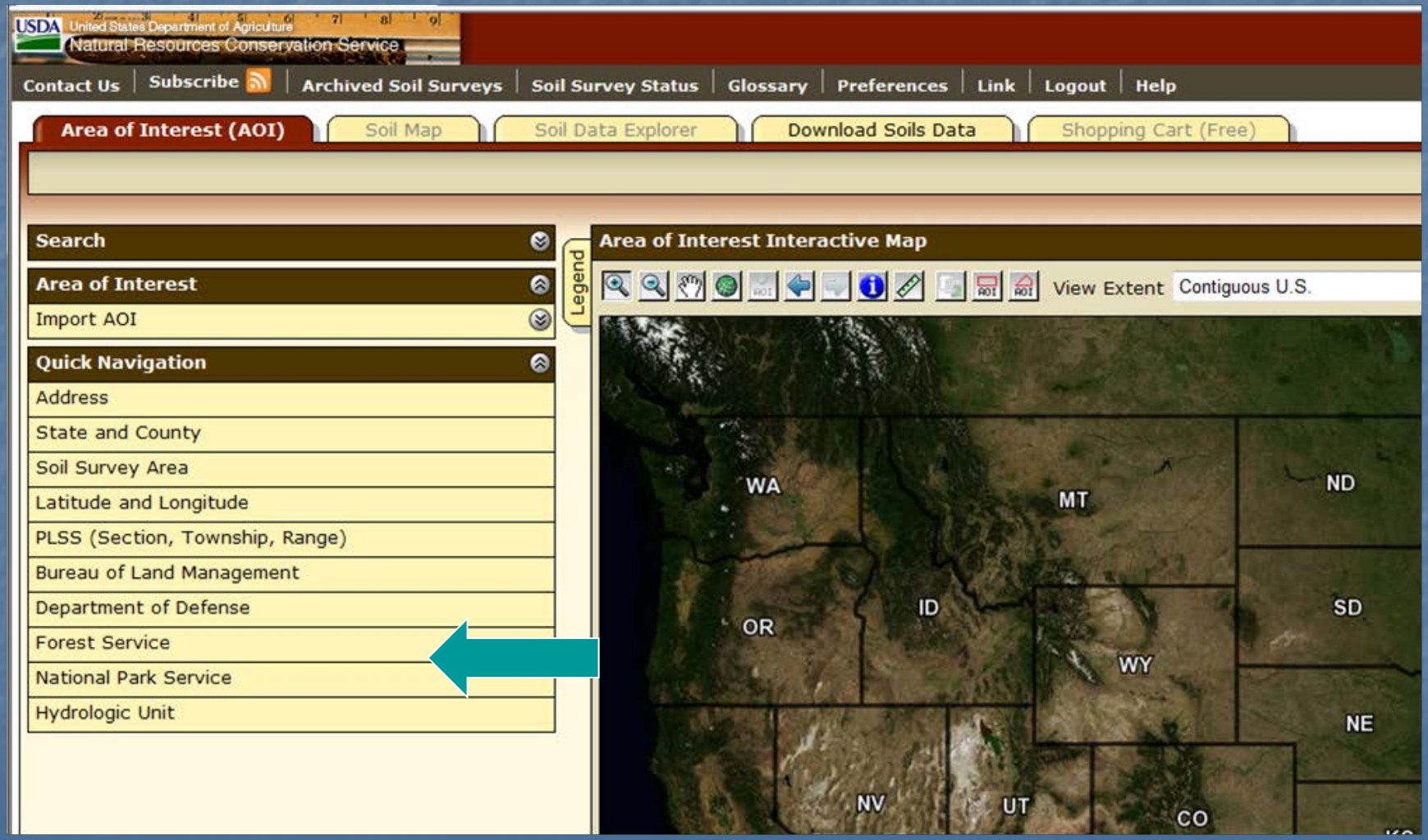
Allowable Coordinates for Latitude and Longitude

- All coordinates are assumed to be specified with reference to the WGS 84 spatial reference. Latitude is specified first, except in the Well-Known Text (WKT) format.
- Decimal Degrees
  - 46.8075,-100.78306
  - 46.80750 N 100.78306 W
  - 46.8075~-100.78306
  - 46.8075° -100.78306°
- Degrees/Minutes/Decimal Seconds
  - 46° 48' 27" N, 100° 46' 59.016" W
  - 46d 48' 27" N 100d 46' 59.016" W
  - 46°48'27"N,100°46'59.016"W
  - 46:48:27N 100:46:59.016W
- Degrees/Decimal Minutes
  - 46° 48.45', -100° 46.9836'
- GPS
  - N 46 48.45 W 100 46.9836
- GNIS
  - 464827N 1004659W
- WKT
  - (-100.78305 46.80749)
  - (-100.78305%2046.80749)

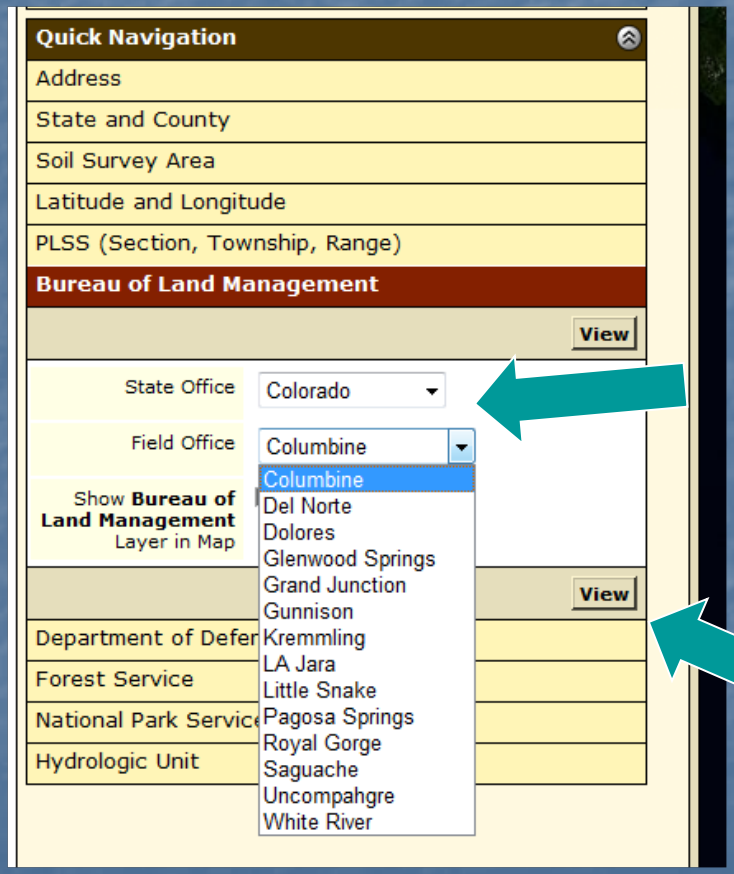
Navigate by Public Land Survey System (Section, Township, and Range)



Navigate by Federal Land Management Agencies



Example: Bureau of Land Management

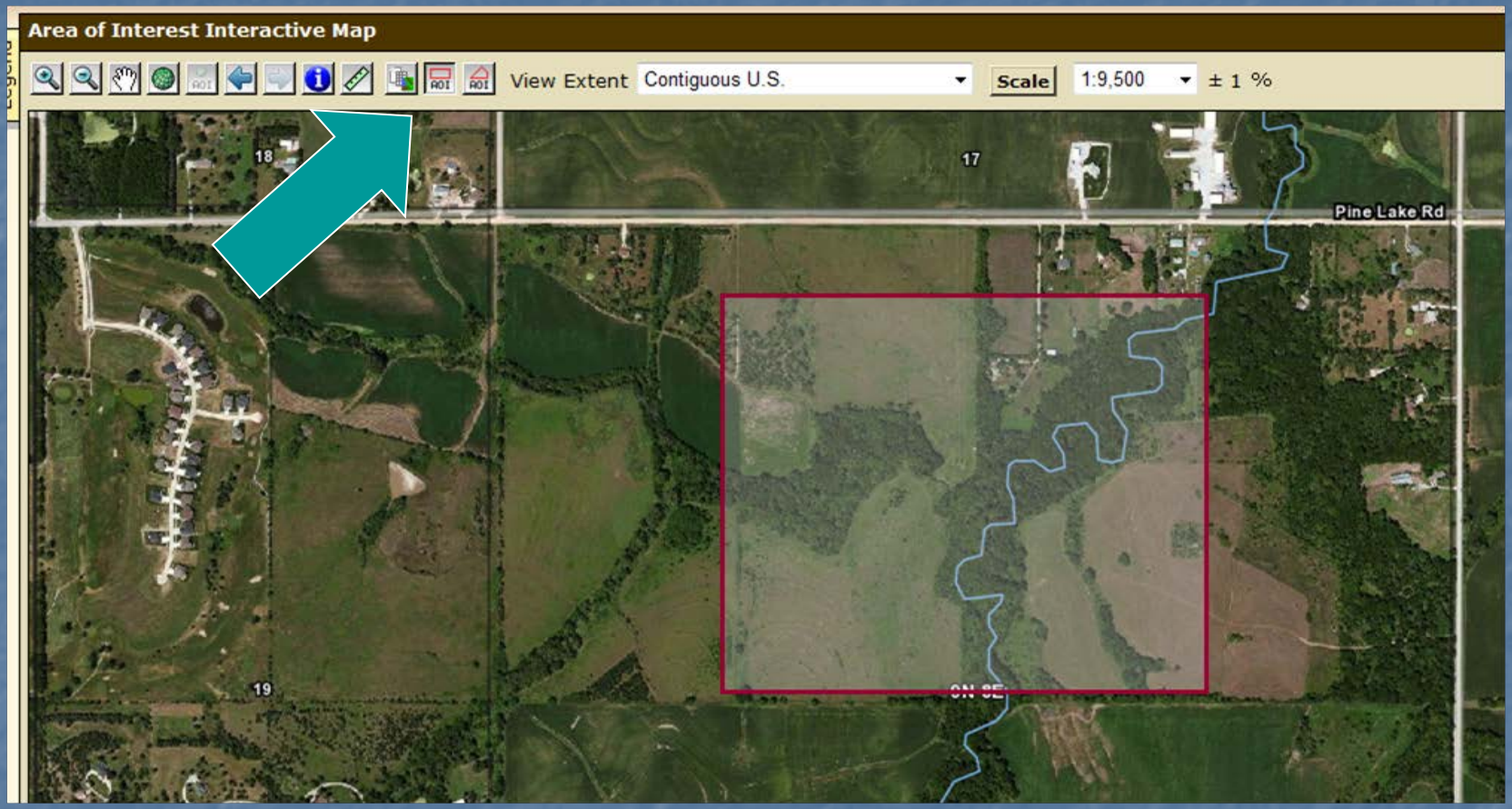


- Select a State office.
- Select a field office.
- Click the "View" button.
- The outline of the selected area is then displayed on the map.
- A similar process is available for the other Federal agencies listed.

II(a3). Define the Specific AOI

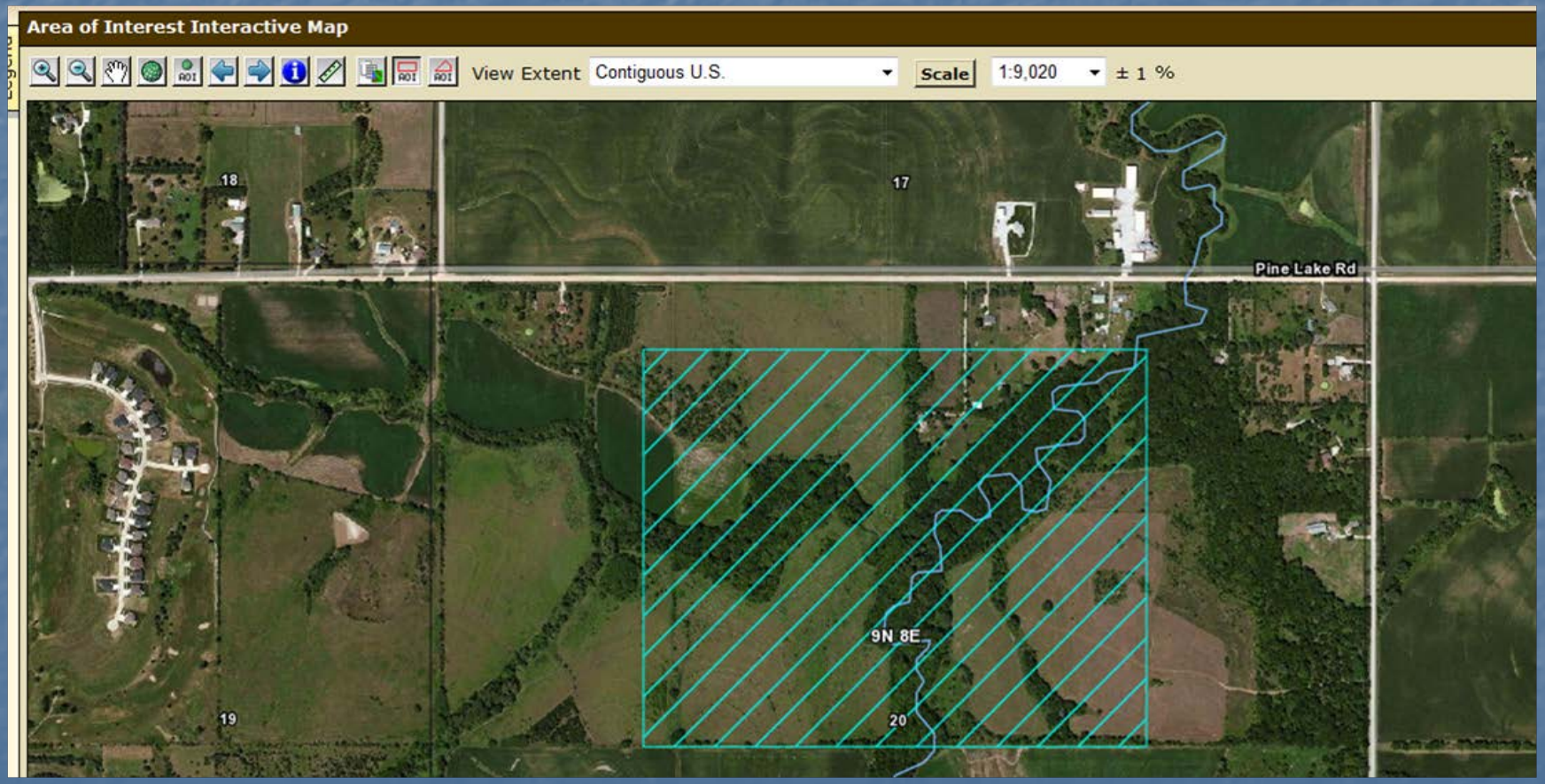
- Remember, you must specifically set the AOI before you can view soil maps or data.
- You can define an AOI by:
  - Drawing a polygon on a map
    - Using the rectangle tool, or
    - Using the multi-sided polygon tool;
  - Selecting a soil survey area;
  - Importing an AOI boundary file;
  - Embedding bounding coordinates in a URL; or
  - Using a previously bookmarked link.

Rectangle Tool

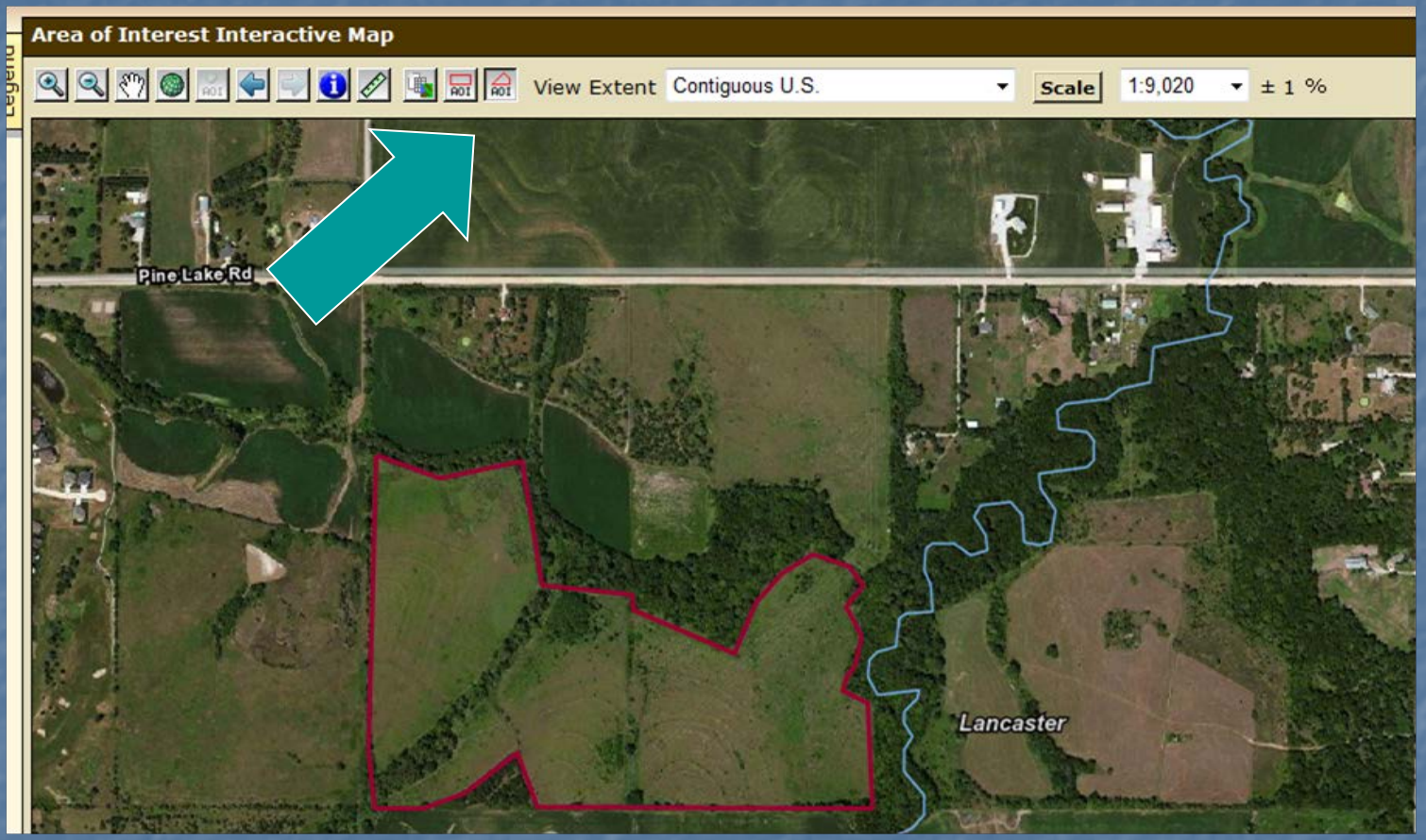


- You can define an AOI by drawing a polygon on a map using the rectangle tool.

View Selected AOI

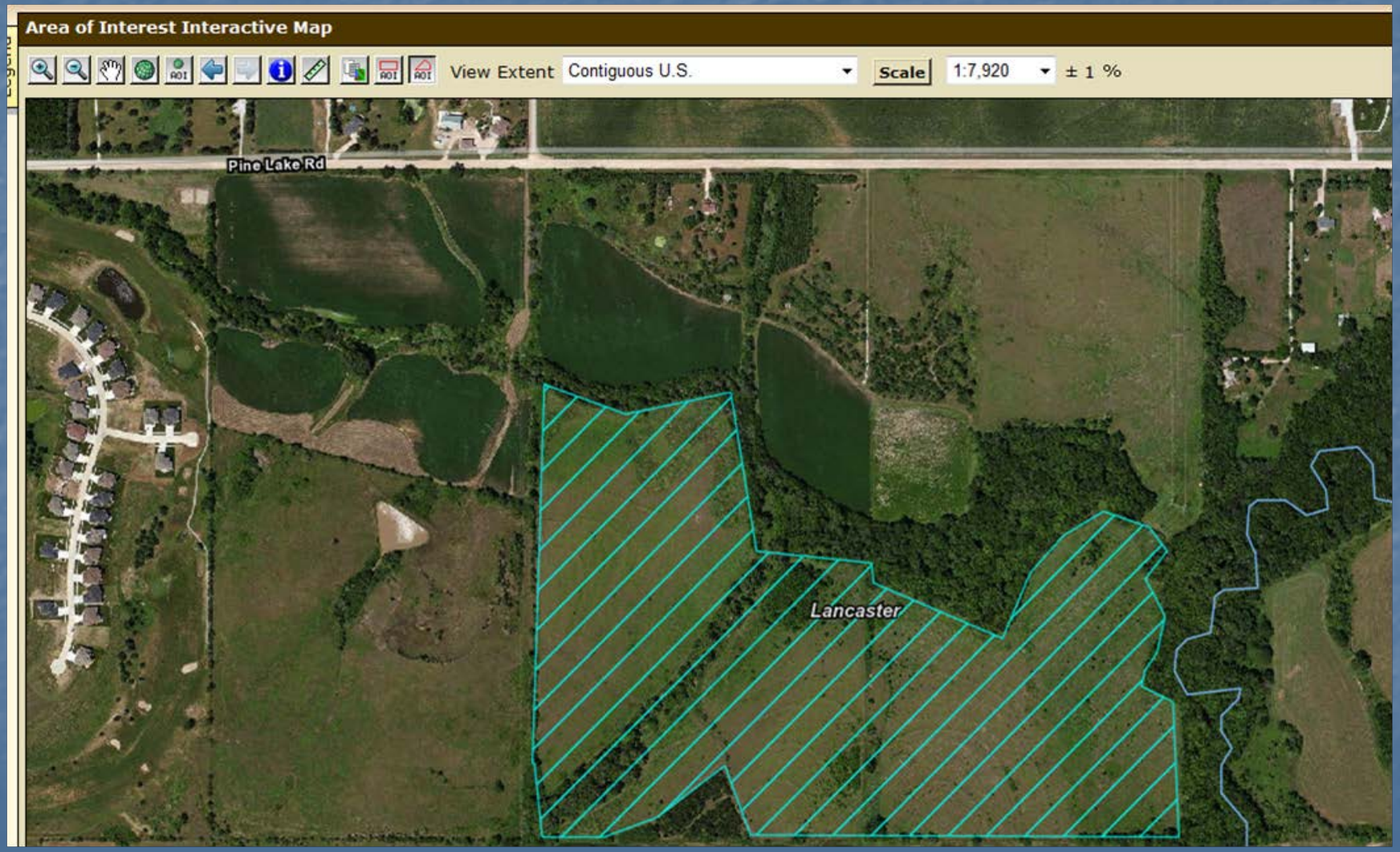


Multi-sided Polygon Tool

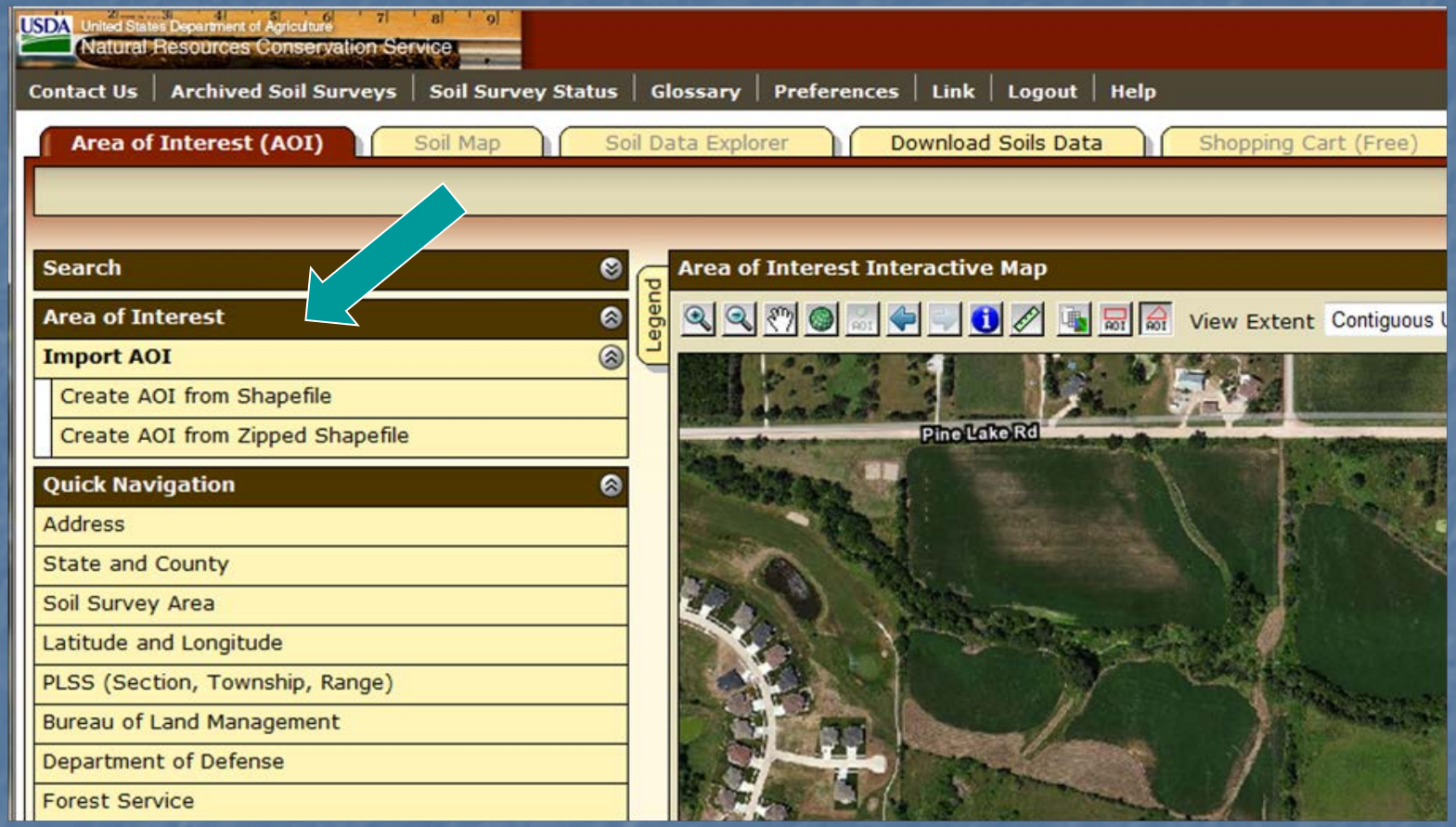


- You can define an AOI by drawing a polygon on a map using the multi-sided polygon tool.

View Selected AOI

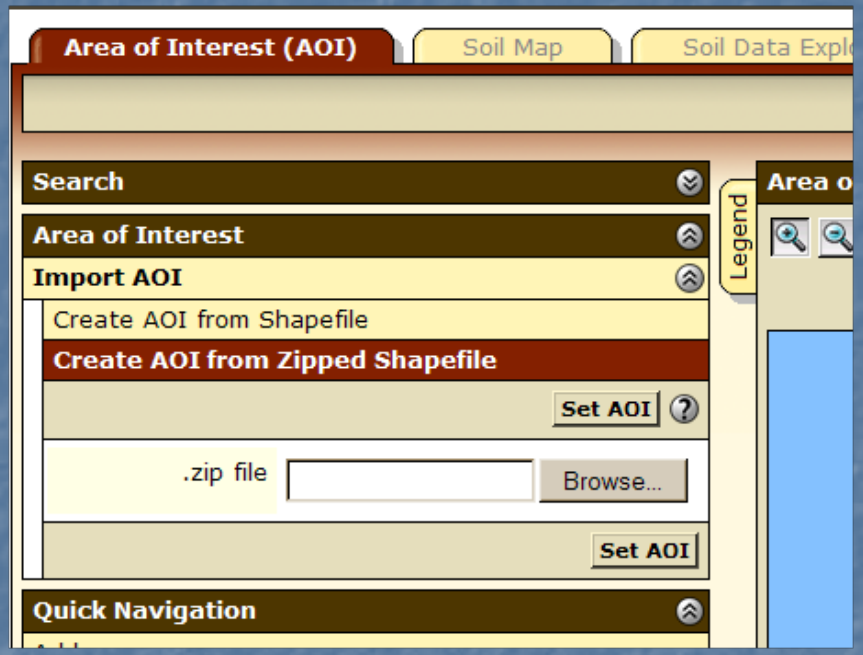


Import Boundary



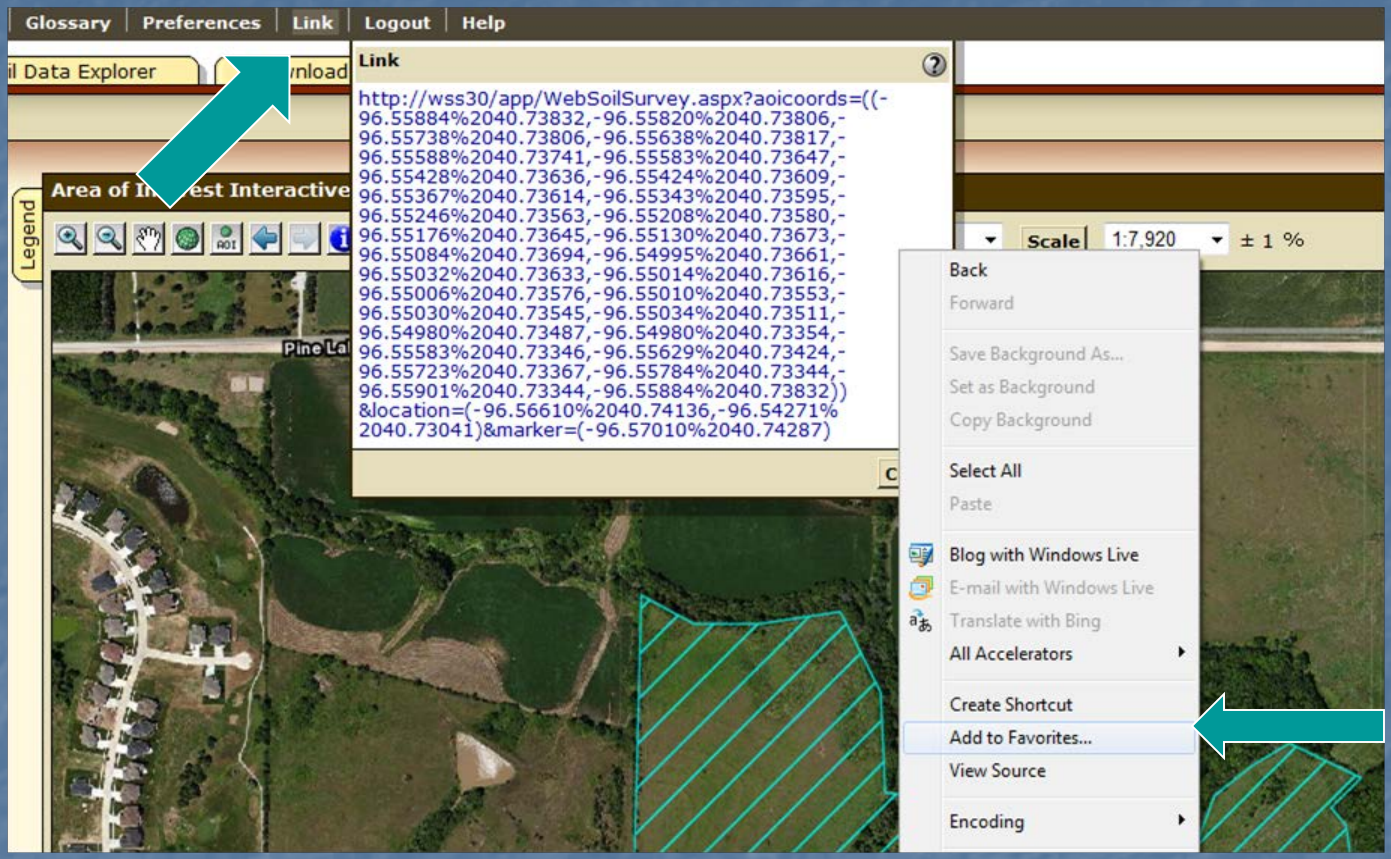
- You can define an AOI by importing a boundary that was previously created for a GIS.

Import Boundary—cont.



- Import the required .shp, .shx, and .prj files from your local computer.
- The files can be imported as zipped or unzipped files.
- Use the “Browse” buttons to find the files.
- After files have been identified, click “Set AOI” button.

Saving the AOI as a Link



- After you have defined an AOI, you can save the URL as a browser link.
- Click the “Link” tab on the top navigation bar. A dialog box opens showing the URL of your WSS session with coordinates of the AOI boundary.
- Right click on the URL displayed and select “Add to Favorites.” Rename as appropriate.

Use Bookmarked Link

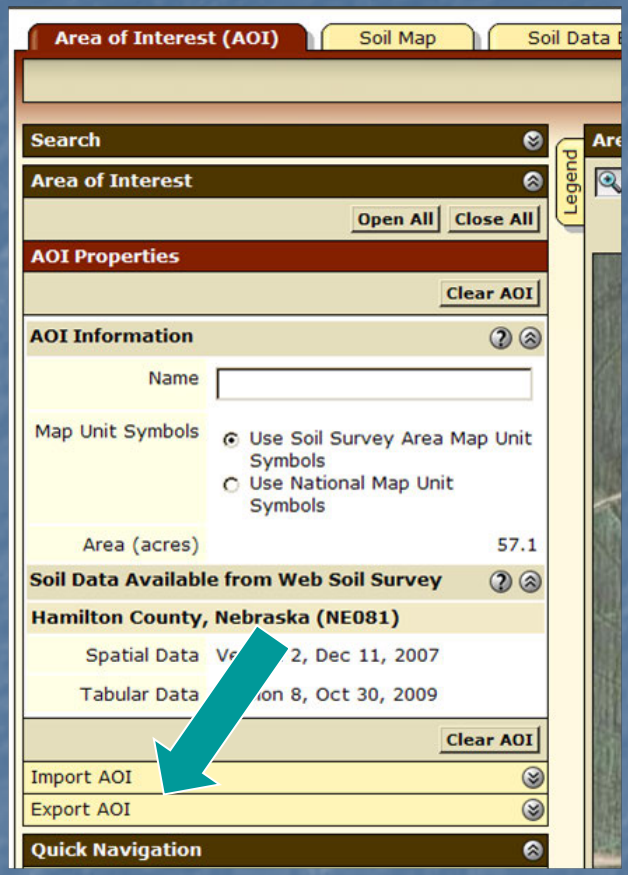
- Find and select a bookmark that you saved from an earlier WSS session. See the previous slide.

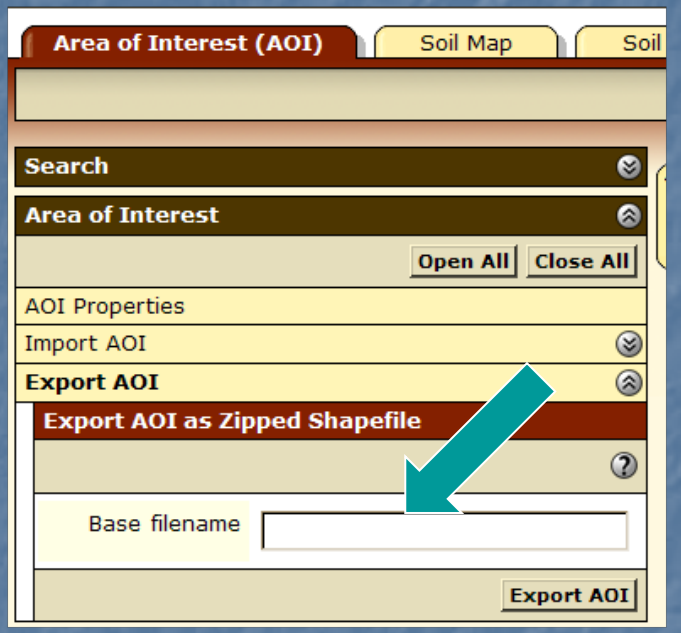
- Web Soil Survey will open in your browser, and the previously defined AOI will be displayed.

Set AOI by URL

- The AOI can also be defined by embedding a set of coordinate points in a URL. See the following example.
  - http://wss30/app/WebSoilSurvey.aspx?aoicoords=((-96.97725%2041.28462,-96.97725%2041.29099,-96.96512%2041.29099,-96.96512%2041.28462,-96.97725%2041.28462))
- Each coordinate pair represents a vertex point along the AOI boundary.

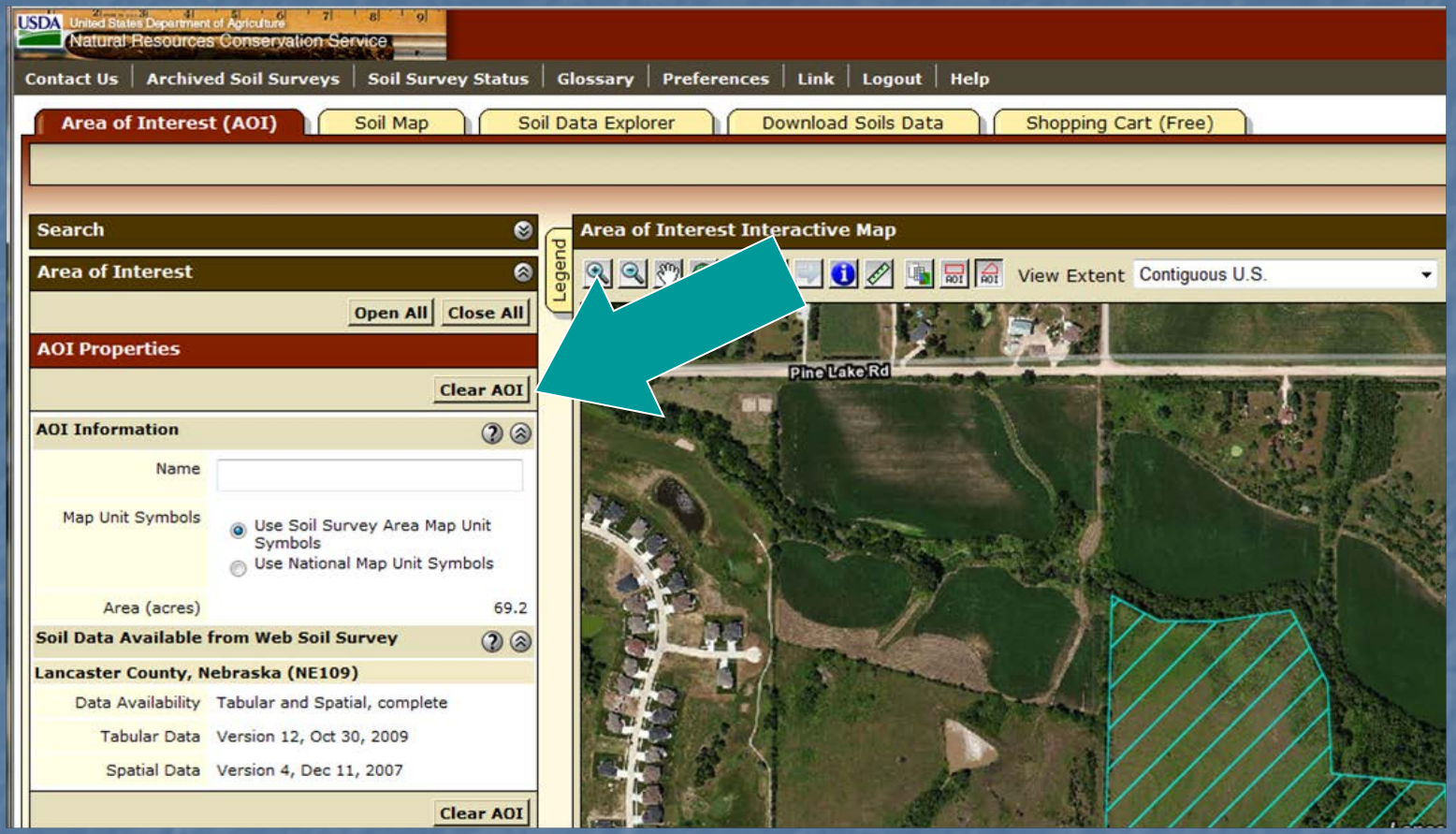
Export AOI boundary





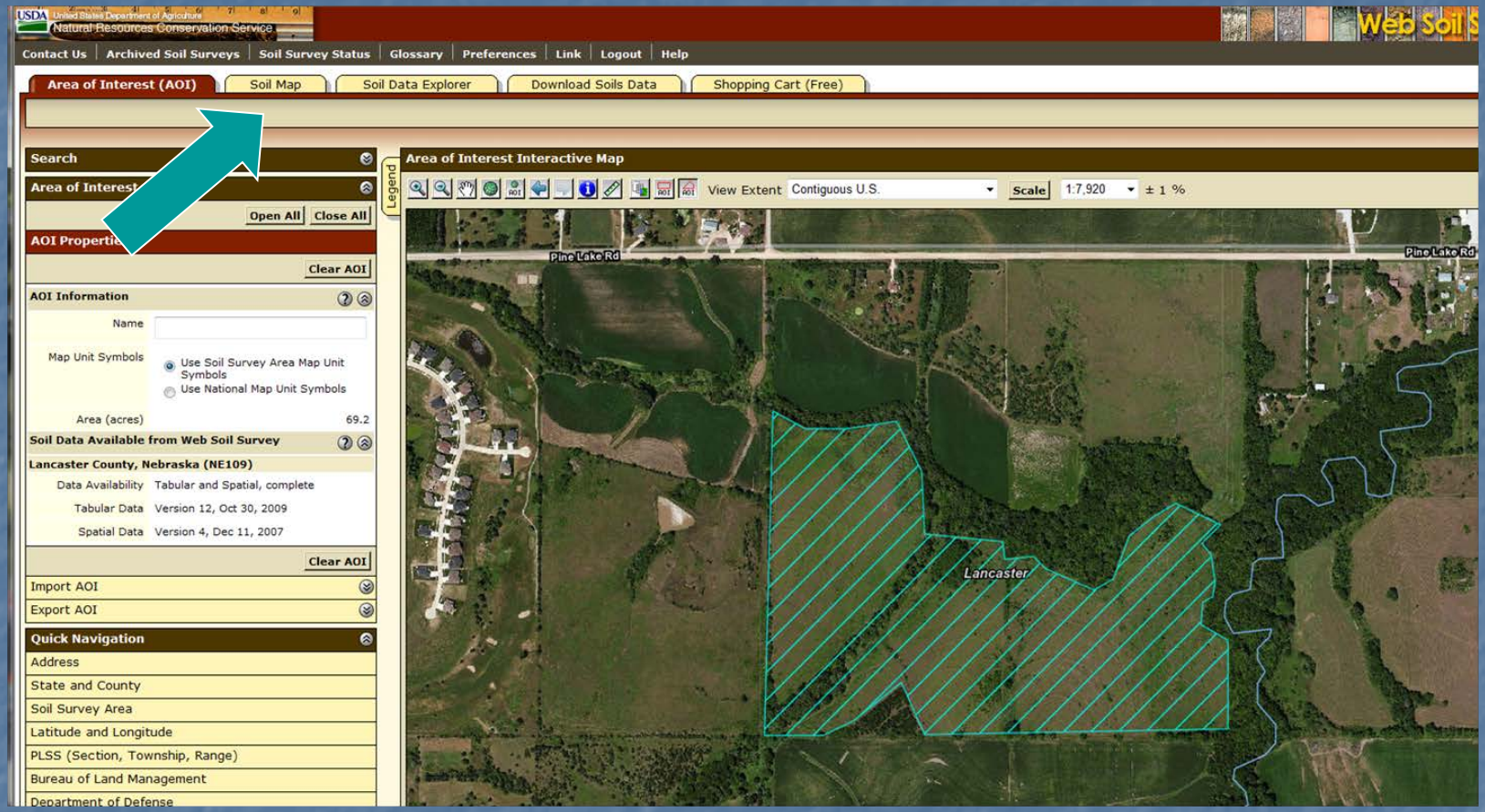
- Once an AOI has been established, you can export the AOI boundary as a shapefile.
- Click “Export AOI” option under the “AOI Properties” section.
- Assign a base filename. The file is saved to your local computer.
- The file can be imported into a future WSS session to return to this same AOI.

Explicitly Clear the AOI



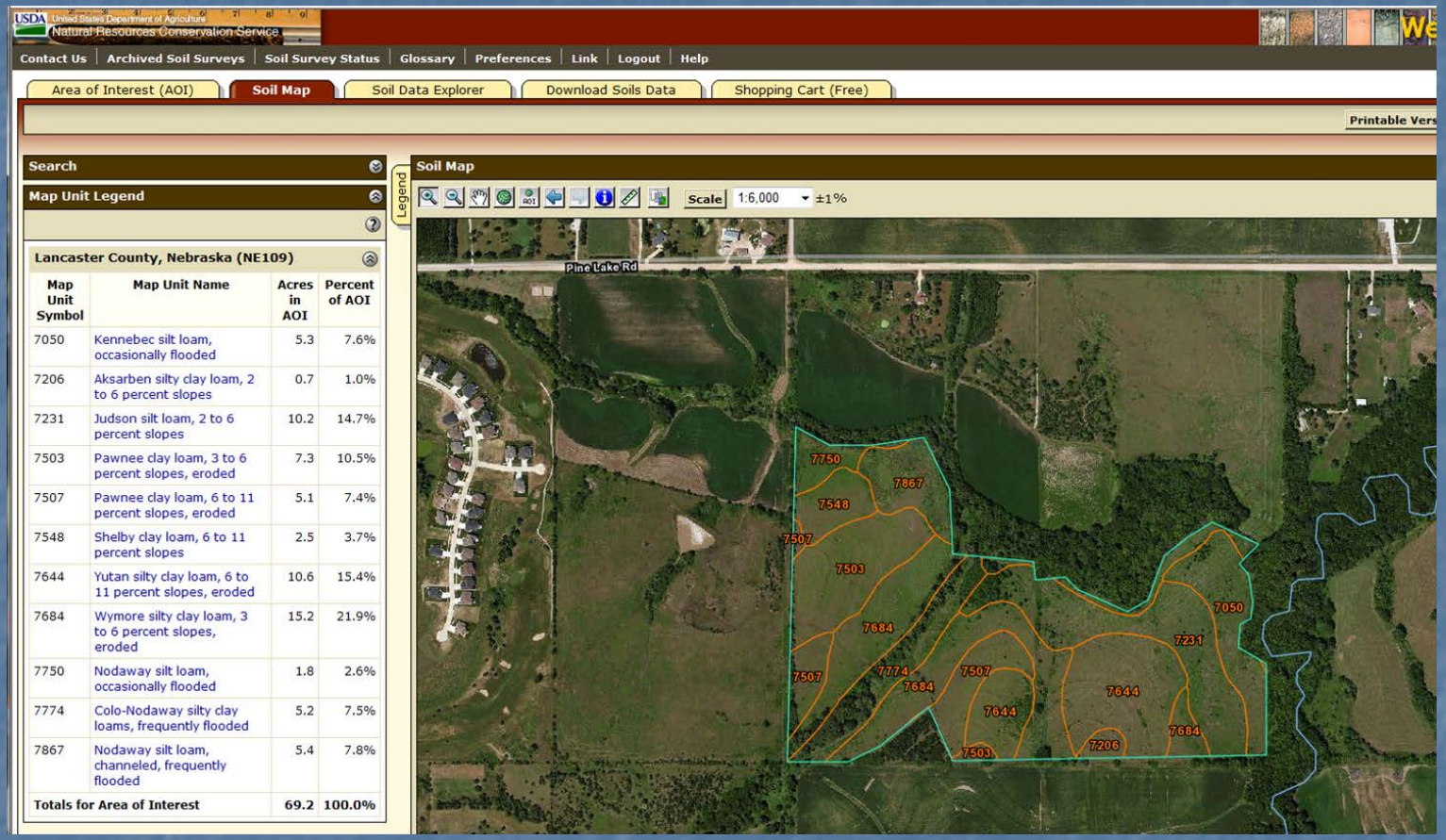
- You can clear the current AOI.

IIb. View Soil Map



- After selecting an AOI, click the “Soil Map” tab.

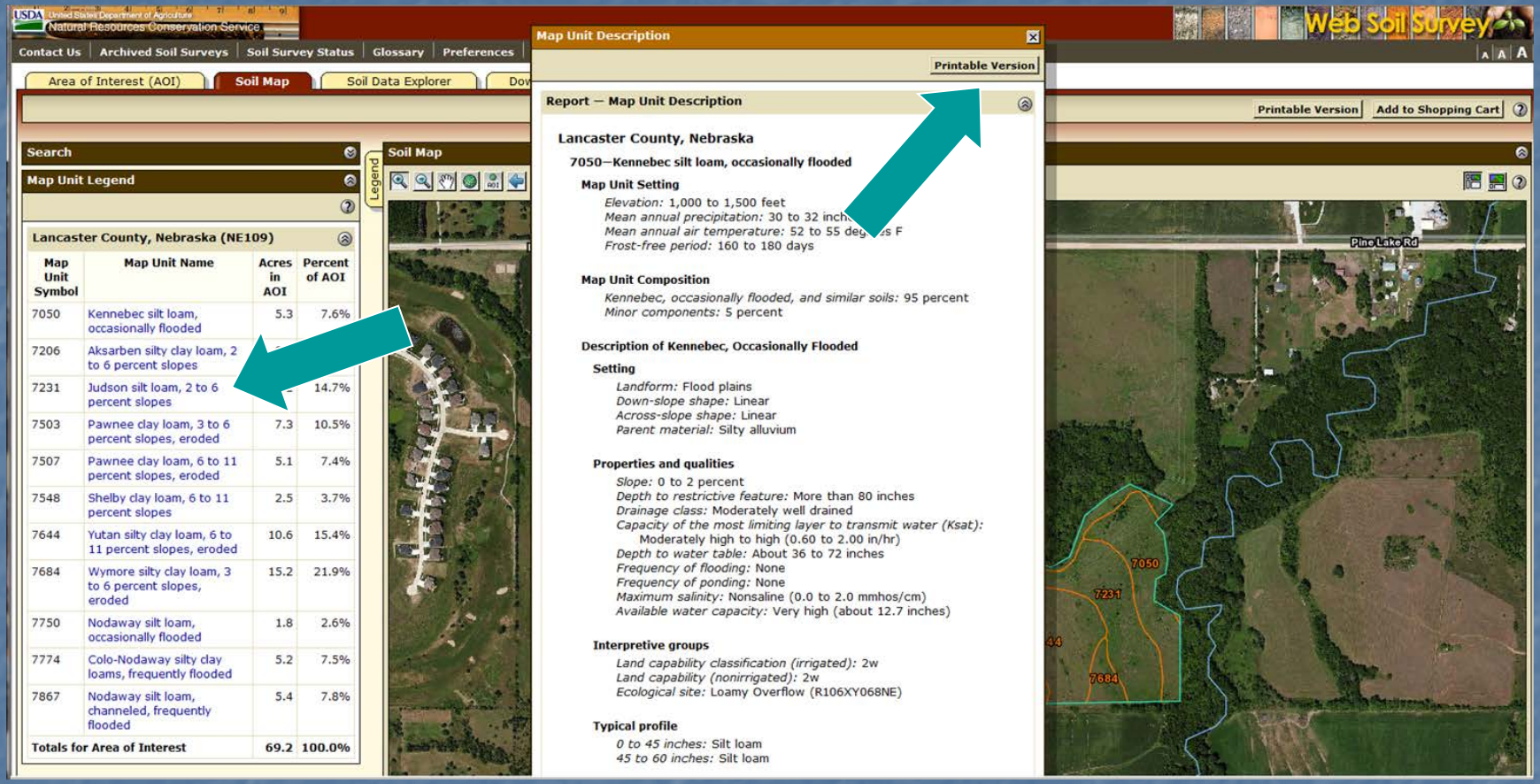
Map Units Displayed



Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
7050	Kennebec silt loam, occasionally flooded	5.3	7.6%
7206	Aksarben silty clay loam, 2 to 6 percent slopes	0.7	1.0%
7231	Judson silt loam, 2 to 6 percent slopes	10.2	14.7%
7503	Pawnee clay loam, 3 to 6 percent slopes, eroded	7.3	10.5%
7507	Pawnee clay loam, 6 to 11 percent slopes, eroded	5.1	7.4%
7548	Shelby clay loam, 6 to 11 percent slopes	2.5	3.7%
7644	Yutan silty clay loam, 6 to 11 percent slopes, eroded	10.6	15.4%
7684	Wymore silty clay loam, 3 to 6 percent slopes, eroded	15.2	21.9%
7750	Nodaway silt loam, occasionally flooded	1.8	2.6%
7774	Colo-Nodaway silty clay loams, frequently flooded	5.2	7.5%
7867	Nodaway silt loam, channeled, frequently flooded	5.4	7.8%
Totals for Area of Interest		69.2	100.0%

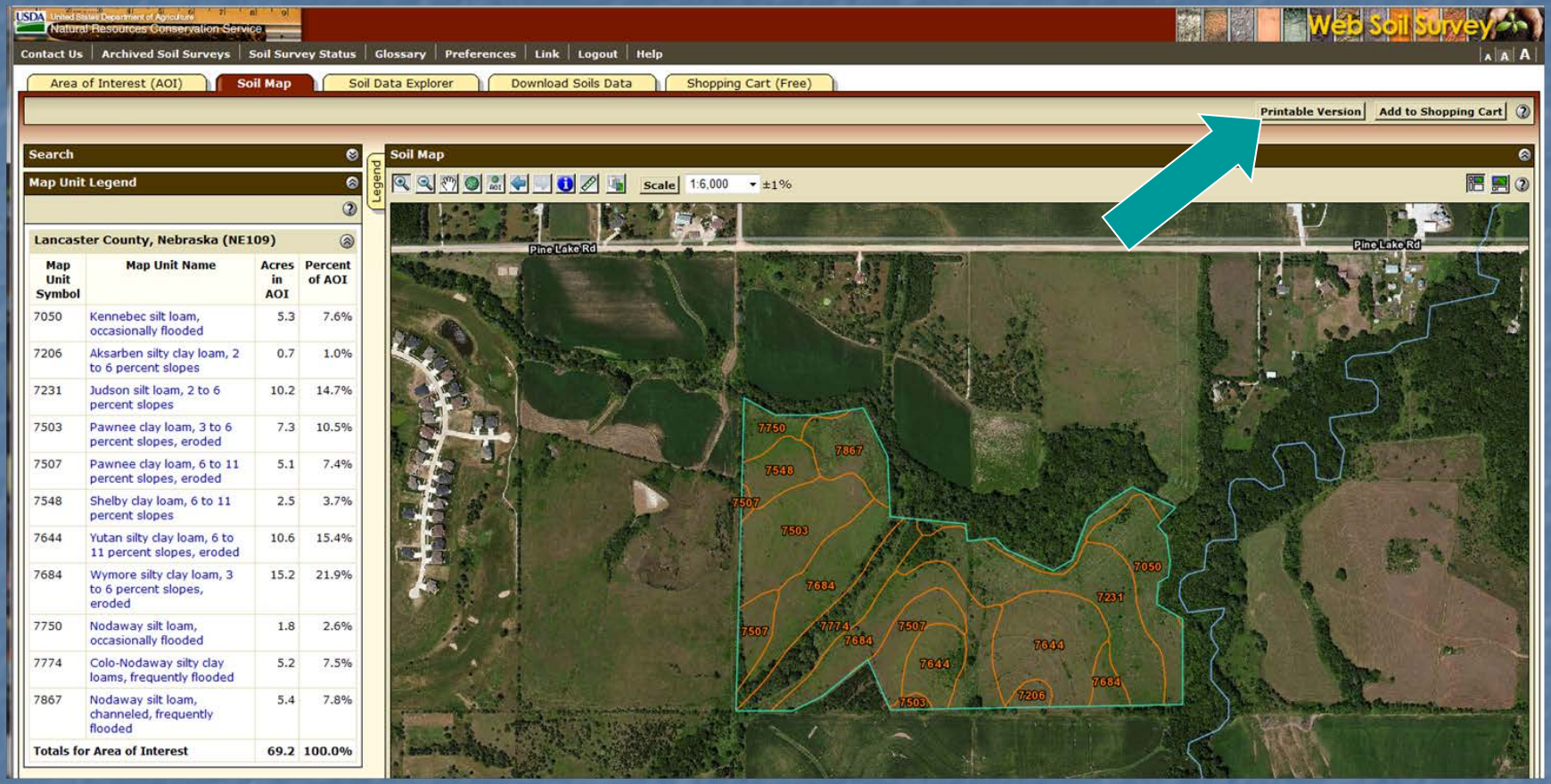
- A soil map for the AOI and a list of soil map units are displayed.

View Printable Map Unit Description



- Click on a map unit name at left to view a map unit description.
- Clicking on the “Printable Version” button produces a PDF file.

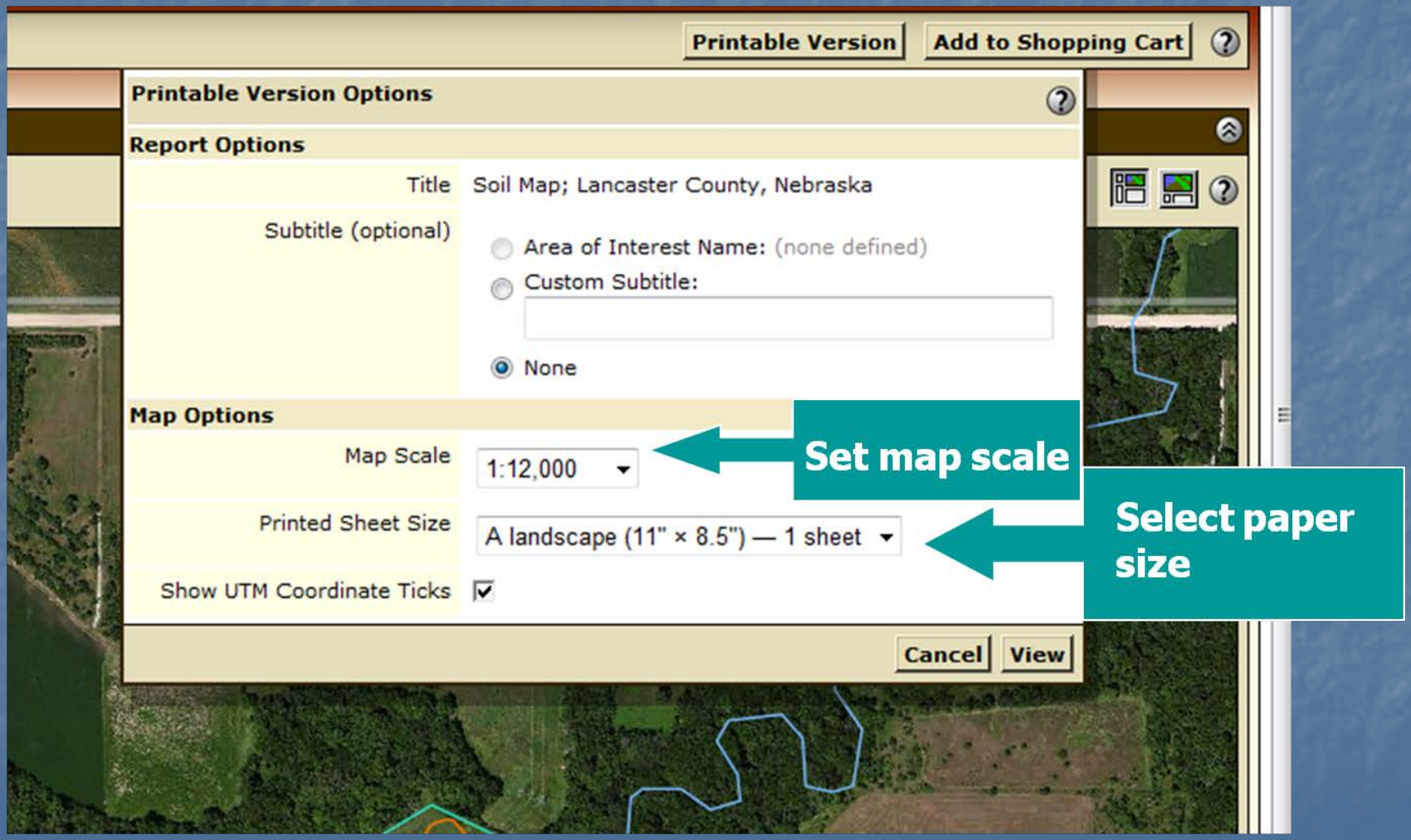
Print Soil Map



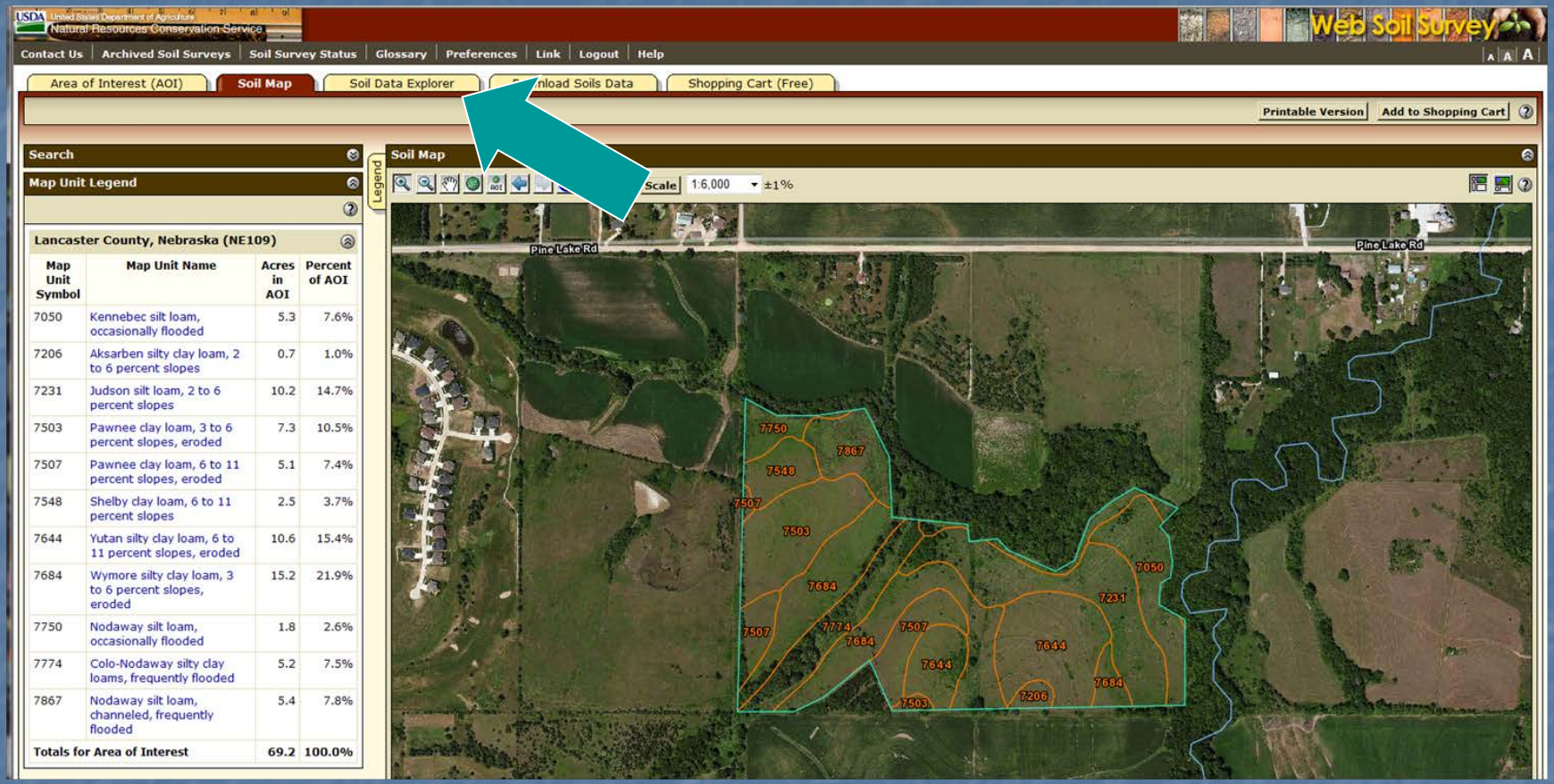
Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
7050	Kennebec silt loam, occasionally flooded	5.3	7.6%
7206	Aksarben silty clay loam, 2 to 6 percent slopes	0.7	1.0%
7231	Judson silt loam, 2 to 6 percent slopes	10.2	14.7%
7503	Pawnee clay loam, 3 to 6 percent slopes, eroded	7.3	10.5%
7507	Pawnee clay loam, 6 to 11 percent slopes, eroded	5.1	7.4%
7548	Shelby clay loam, 6 to 11 percent slopes	2.5	3.7%
7644	Yutan silty clay loam, 6 to 11 percent slopes, eroded	10.6	15.4%
7684	Wymore silty clay loam, 3 to 6 percent slopes, eroded	15.2	21.9%
7750	Nodaway silt loam, occasionally flooded	1.8	2.6%
7774	Colo-Nodaway silty clay loams, frequently flooded	5.2	7.5%
7867	Nodaway silt loam, channeled, frequently flooded	5.4	7.8%
Totals for Area of Interest		69.2	100.0%

- Clicking on the “Printable Version” button produces a PDF file of the soil map and legend.

Print Options



IIc. Explore Additional Soil Information



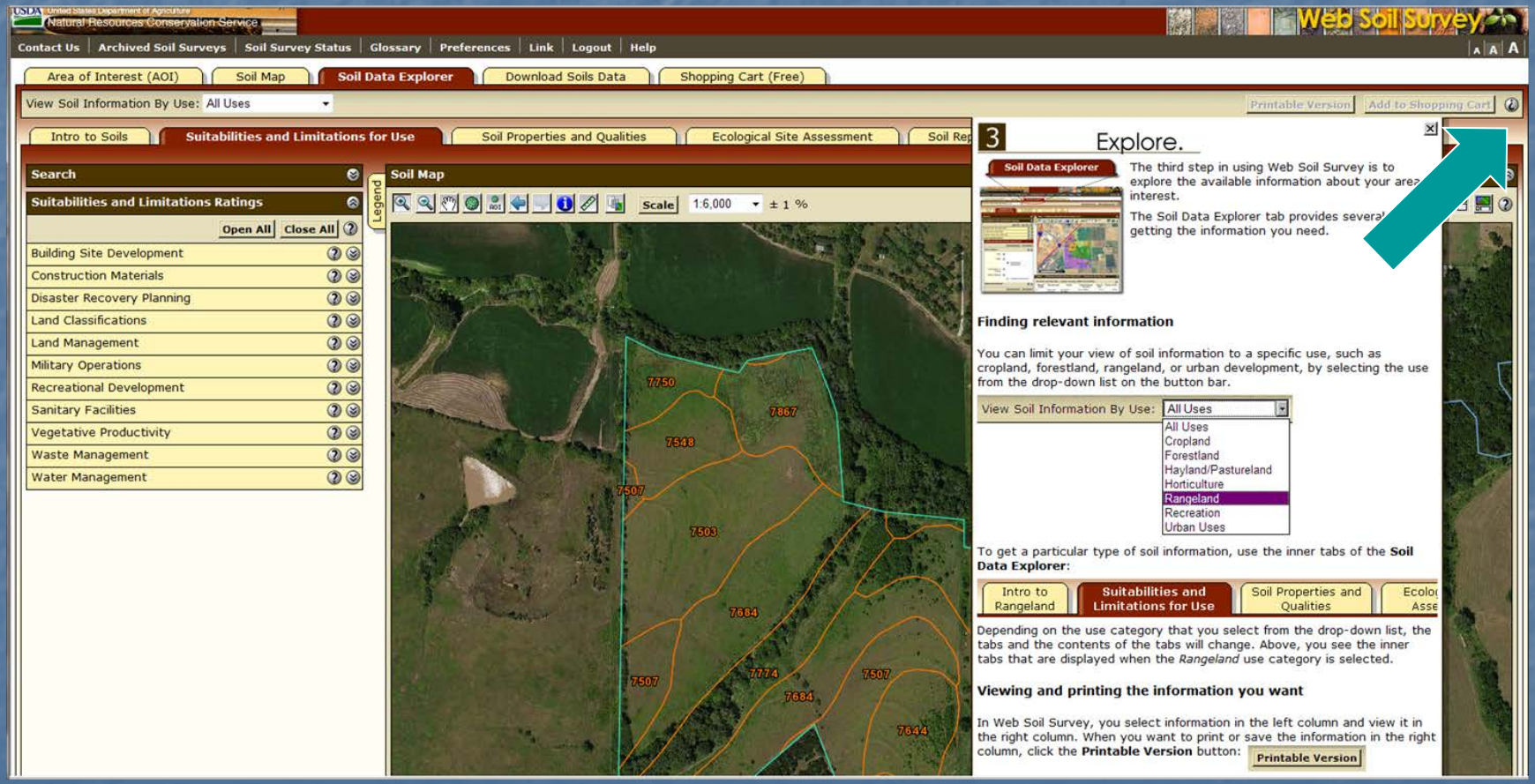
Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
7050	Kennebec silt loam, occasionally flooded	5.3	7.6%
7206	Aksarben silty clay loam, 2 to 6 percent slopes	0.7	1.0%
7231	Judson silt loam, 2 to 6 percent slopes	10.2	14.7%
7503	Pawnee clay loam, 3 to 6 percent slopes, eroded	7.3	10.5%
7507	Pawnee clay loam, 6 to 11 percent slopes, eroded	5.1	7.4%
7548	Shelby clay loam, 6 to 11 percent slopes	2.5	3.7%
7644	Yutan silty clay loam, 6 to 11 percent slopes, eroded	10.6	15.4%
7684	Wymore silty clay loam, 3 to 6 percent slopes, eroded	15.2	21.9%
7750	Nodaway silt loam, occasionally flooded	1.8	2.6%
7774	Colo-Nodaway silty clay loams, frequently flooded	5.2	7.5%
7867	Nodaway silt loam, channeled, frequently flooded	5.4	7.8%
Totals for Area of Interest		69.2	100.0%

- Click “Soil Data Explorer” tab to see further information about the map units in your AOI.

Soil Data Explorer Features

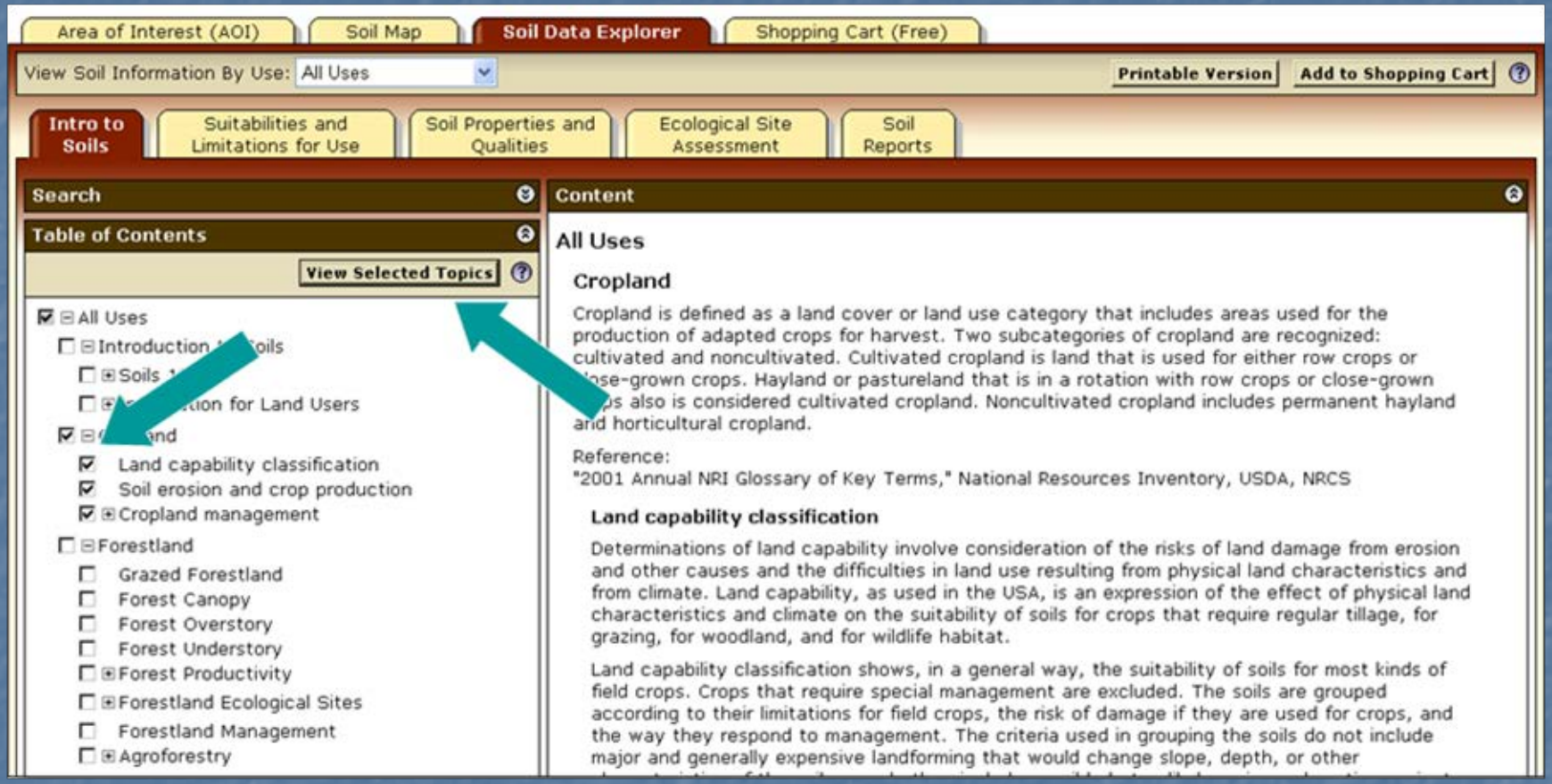
- You can filter the soil information by land use category.
- You can view an introduction to the terminology and concepts of soils and specific land uses.
- You can view interpretive soil data and soil properties in the form of thematic maps, tables, and text.
- You can access information regarding ecological sites.
- You can print maps and reports about individual soil properties and interpretations.
- You can add content to the free shopping cart for inclusion in a custom report.

Help


Natural Resources Conservation Service
Web Soil Survey
Contact Us | 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)
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
Search
Suitabilities and Limitations Ratings
Open All | Close All
Building Site Development
Construction Materials
Disaster Recovery Planning
Land Classifications
Land Management
Military Operations
Recreational Development
Sanitary Facilities
Vegetative Productivity
Waste Management
Water Management
Legend
Soil Map
Scale 1:6,000 ± 1 %
7750
7867
7548
7507
7503
7684
7507
7774
7507
7684
7644
3 Explore.
Soil Data Explorer
The third step in using Web Soil Survey is to explore the available information about your area of interest.
The Soil Data Explorer tab provides several ways of getting the information you need.
Finding relevant information
You can limit your view of soil information to a specific use, such as cropland, forestland, rangeland, or urban development, by selecting the use from the drop-down list on the button bar.
View Soil Information By Use: All Uses
All Uses
Cropland
Forestland
Hayland/Pastureland
Horticulture
Rangeland
Recreation
Urban Uses
To get a particular type of soil information, use the inner tabs of the Soil Data Explorer:
Intro to Rangeland | Suitabilities and Limitations for Use | Soil Properties and Qualities
Depending on the use category that you select from the drop-down list, the tabs and the contents of the tabs will change. Above, you see the inner tabs that are displayed when the Rangeland use category is selected.
Viewing and printing the information you want
In Web Soil Survey, you select information in the left column and view it in the right column. When you want to print or save the information in the right column, click the Printable Version button:
Printable Version

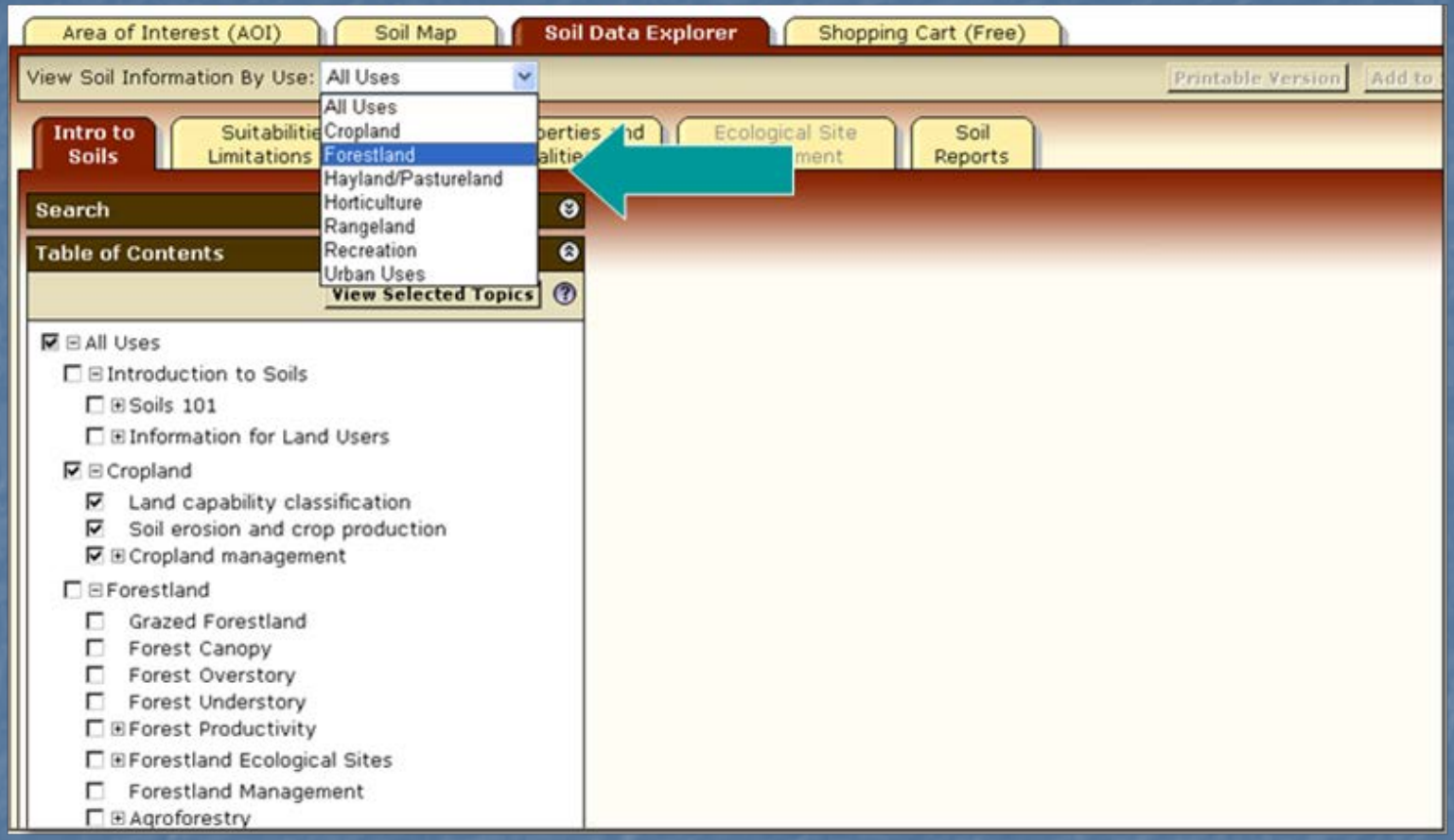
Introduction to Soils

Introduction to Soils—cont.



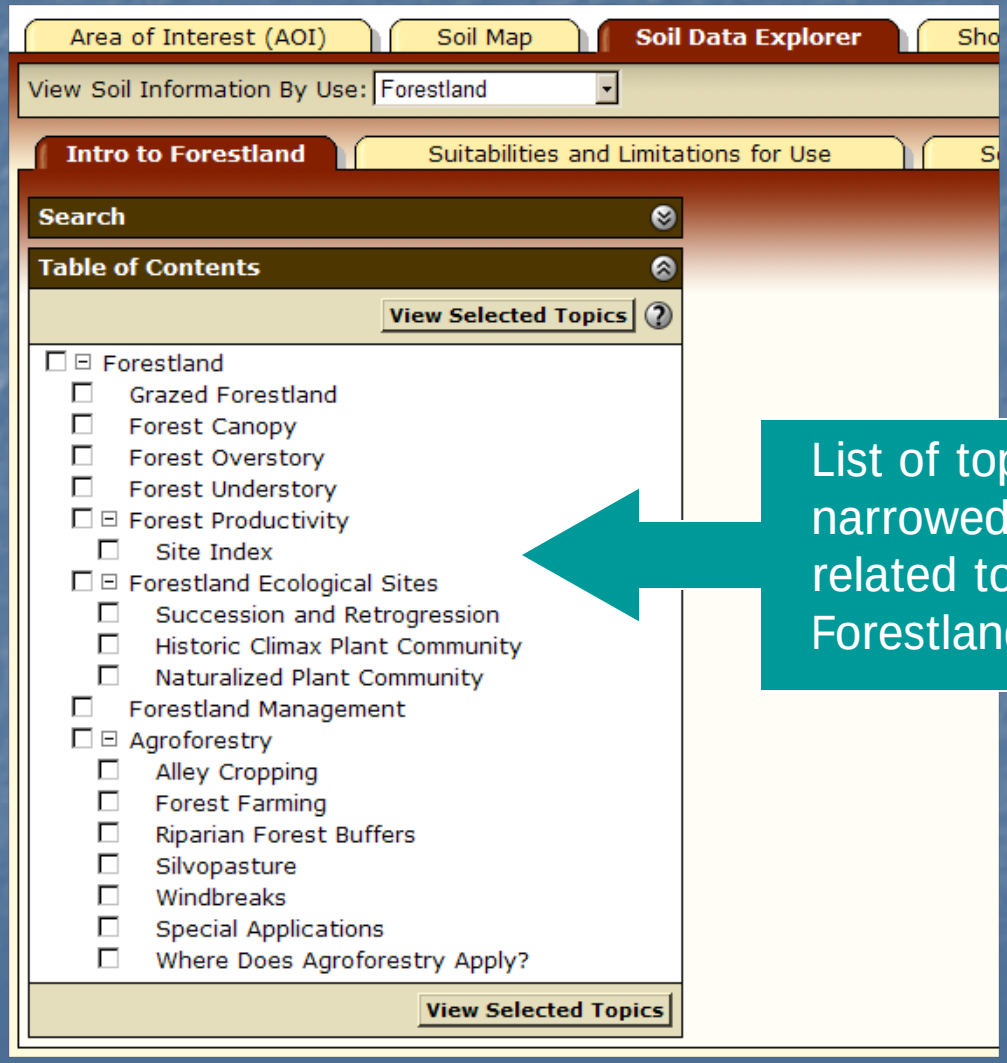
- Check item(s) in list, then click “View Selected Topics” to display text.

Filter Information by Land Use



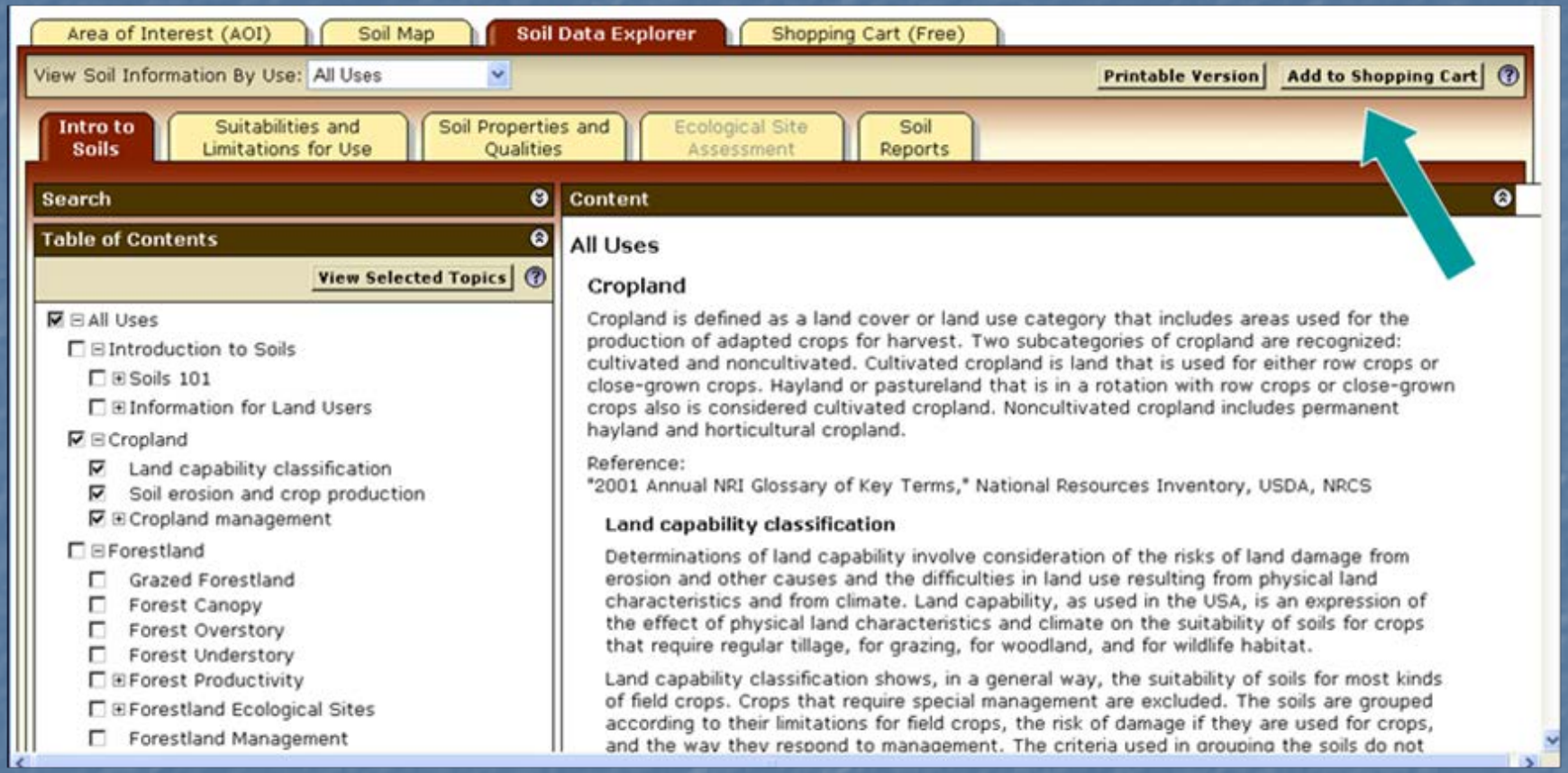
- Selecting a specific land use from the drop-down list filters the content on the “Soil Data Explorer” tab.

Example: Forestland Information



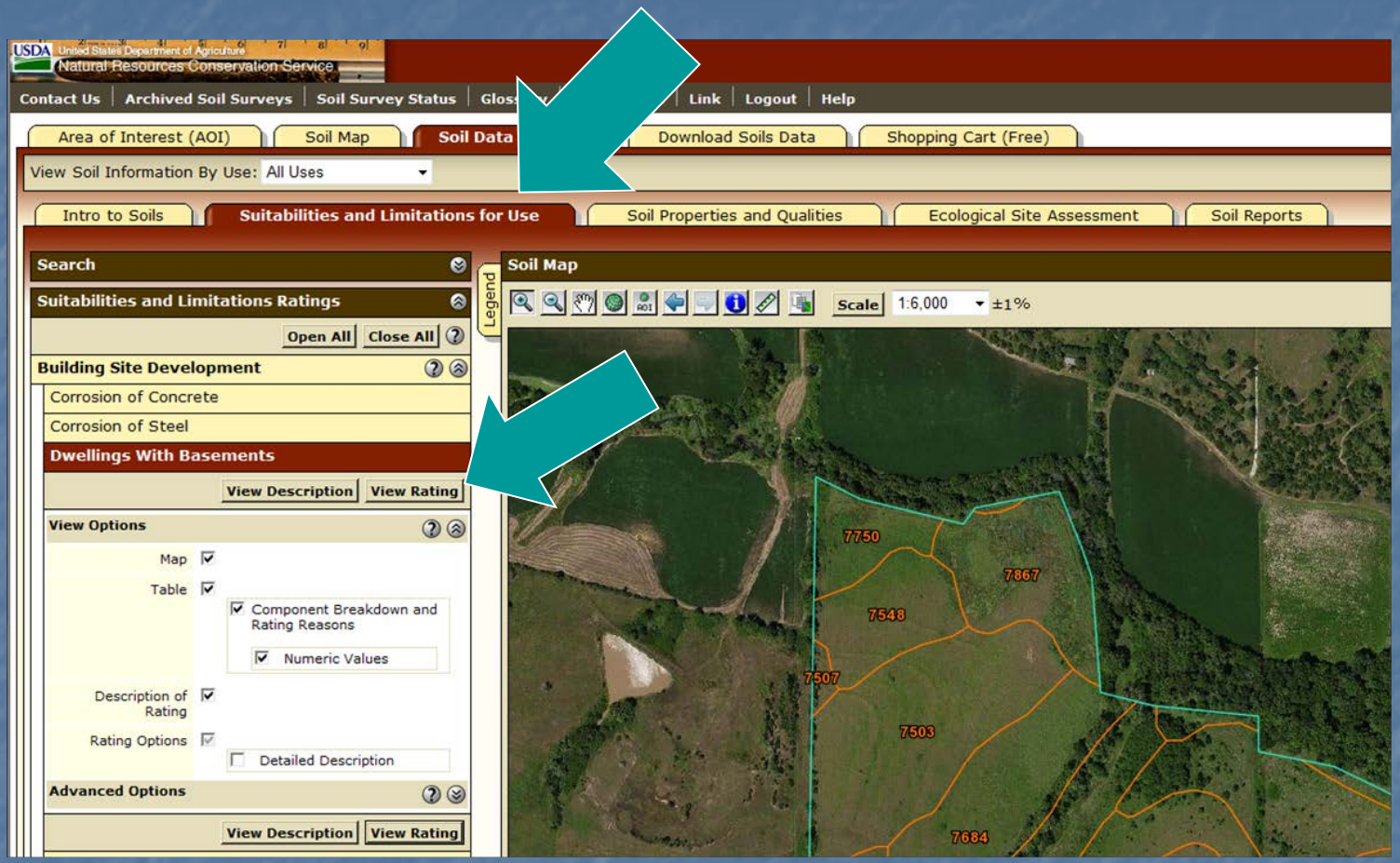
List of topics narrowed to those related to Forestland.

Adding to Shopping Cart



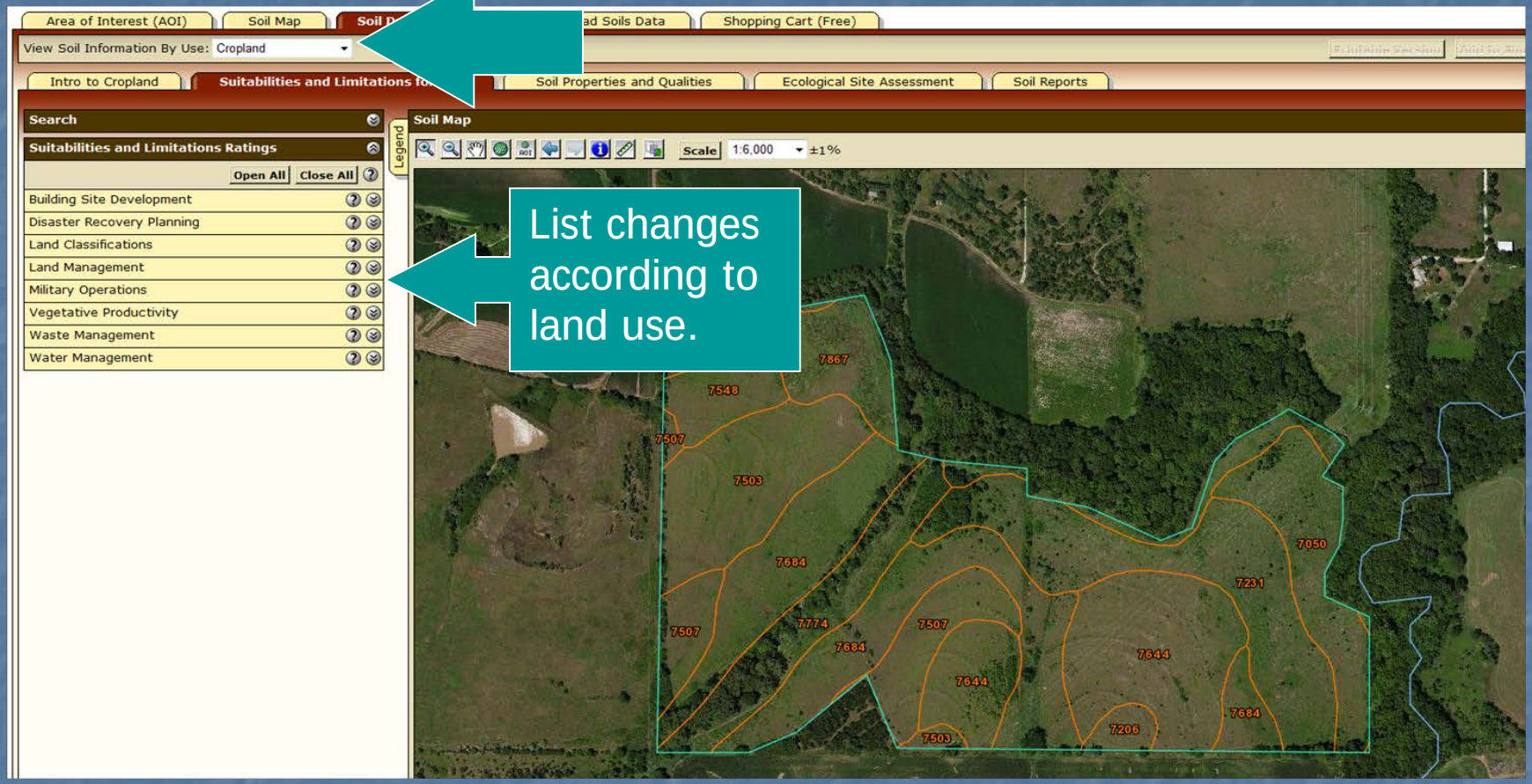
- Material displayed in right-hand panel (text, maps, tables, etc.) can be added to the shopping cart. The content is bundled in the shopping cart as a single PDF file for download or printing.

Suitabilities and Limitations



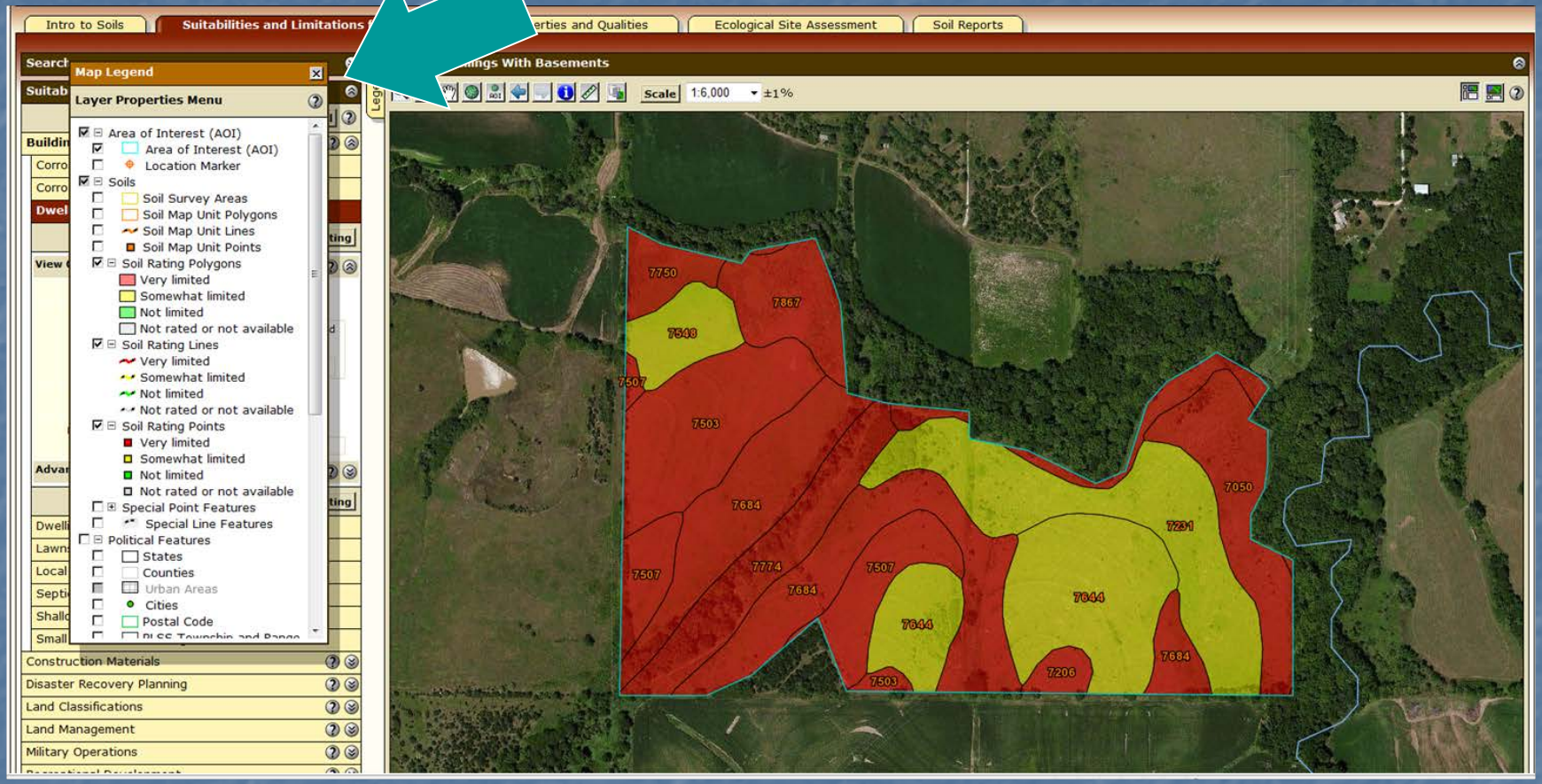
- You can display a variety of interpretations as thematic maps.
- Open a category folder, then select an interpretation. Click “View Rating” button to display interpretive map.
- For further information regarding the options for an interpretation, click the “View Description” button.

Filter Choices by Land Use



- The list of suitabilities and limitations changes based on the land use selected.

Display an Interpretive Map



- After selecting an interpretation, click the “Legend” tab to display the map legend. A table is displayed below the map. The table shows ratings and limiting features of each soil in a summary report.

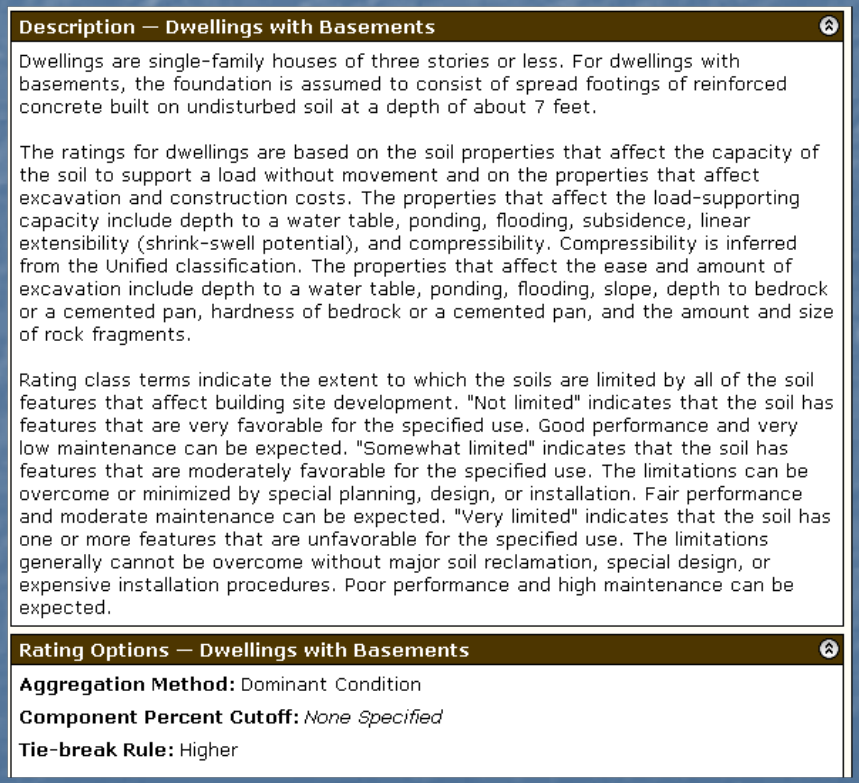
Sample Summary Report

Tables — Dwellings With Basements — Summary By Map Unit

Summary by Map Unit — Lancaster County, Nebraska (NE109)

Map unit symbol	Map unit name	Rating	Component name (percent)	Rating reasons (numeric values)	Acres in AOI	Percent of AOI
7050	Kennebec silt loam, occasionally flooded	Very limited	Kennebec, occasionally flooded (95%)	Flooding (1.00)	5.5	7.8%
				Depth to saturated zone (0.35)		
			Colo, occasionally flooded (5%)	Flooding (1.00)		
				Depth to saturated zone (1.00)		
				Shrink-swell (0.50)		
7206	Aksarben silty clay loam, 2 to 6 percent slopes	Very limited	Aksarben (100%)	Shrink-swell (1.00)	0.8	1.2%
7231	Judson silt loam, 2 to 6 percent slopes	Somewhat limited	Judson (99%)	Shrink-swell (0.50)	10.3	14.6%
7503	Pawnee clay loam, 3 to 6 percent slopes, eroded	Very limited	Pawnee (100%)	Depth to saturated zone (1.00)	7.3	10.4%
				Shrink-swell (1.00)		
7507	Pawnee clay loam, 6 to 11 percent slopes, eroded	Very limited	Pawnee (100%)	Depth to saturated zone (1.00)	5.2	7.4%
				Shrink-swell (1.00)		
				Slope (0.04)		
7548	Shelby clay loam, 6 to 11 percent slopes	Somewhat limited	Shelby (100%)	Shrink-swell (0.50)	2.6	3.6%
				Slope (0.04)		
7644	Yutan silty clay loam, 6 to 11 percent slopes, eroded	Somewhat limited	Yutan, Eroded (100%)	Shrink-swell (0.50)	10.8	15.3%
7684	Wymore silty clay loam, 3 to 6 percent slopes, eroded	Very limited	Wymore (100%)	Depth to saturated zone (1.00)	15.6	22.1%
				Shrink-swell (1.00)		
7750	Nodaway silt loam, occasionally flooded	Very limited	Nodaway, occasionally flooded (95%)	Flooding (1.00)	1.7	2.5%
				Depth to saturated zone (0.35)		
			Colo, occasionally flooded (5%)	Flooding (1.00)		
				Depth to saturated zone (1.00)		
				Shrink-swell (0.50)		
7774	Colo-Nodaway silty clay loams, frequently flooded	Very limited	Colo, occasionally flooded (60%)	Flooding (1.00)	5.2	7.4%
				Depth to saturated zone (1.00)		
				Shrink-swell (0.50)		
			Nodaway, frequently flooded (40%)	Flooding (1.00)		
				Depth to saturated zone (0.35)		
7867	Nodaway silt loam, channeled, frequently flooded	Very limited	Nodaway, channeled, frequently flooded	Flooding (1.00)	5.4	7.7%

Interpretation Description and Selected Rating Options



Description — Dwellings with Basements

Dwellings are single-family houses of three stories or less. For dwellings with basements, the foundation is assumed to consist of spread footings of reinforced concrete built on undisturbed soil at a depth of about 7 feet.

The ratings for dwellings are based on the soil properties that affect the capacity of the soil to support a load without movement and on the properties that affect excavation and construction costs. The properties that affect the load-supporting capacity include depth to a water table, ponding, flooding, subsidence, linear extensibility (shrink-swell potential), and compressibility. Compressibility is inferred from the Unified classification. The properties that affect the ease and amount of excavation include depth to a water table, ponding, flooding, slope, depth to bedrock or a cemented pan, hardness of bedrock or a cemented pan, and the amount and size of rock fragments.

Rating class terms indicate the extent to which the soils are limited by all of the soil features that affect building site development. "Not limited" indicates that the soil has features that are very favorable for the specified use. Good performance and very low maintenance can be expected. "Somewhat limited" indicates that the soil has features that are moderately favorable for the specified use. The limitations can be overcome or minimized by special planning, design, or installation. Fair performance and moderate maintenance can be expected. "Very limited" indicates that the soil has one or more features that are unfavorable for the specified use. The limitations generally cannot be overcome without major soil reclamation, special design, or expensive installation procedures. Poor performance and high maintenance can be expected.

Rating Options — Dwellings with Basements

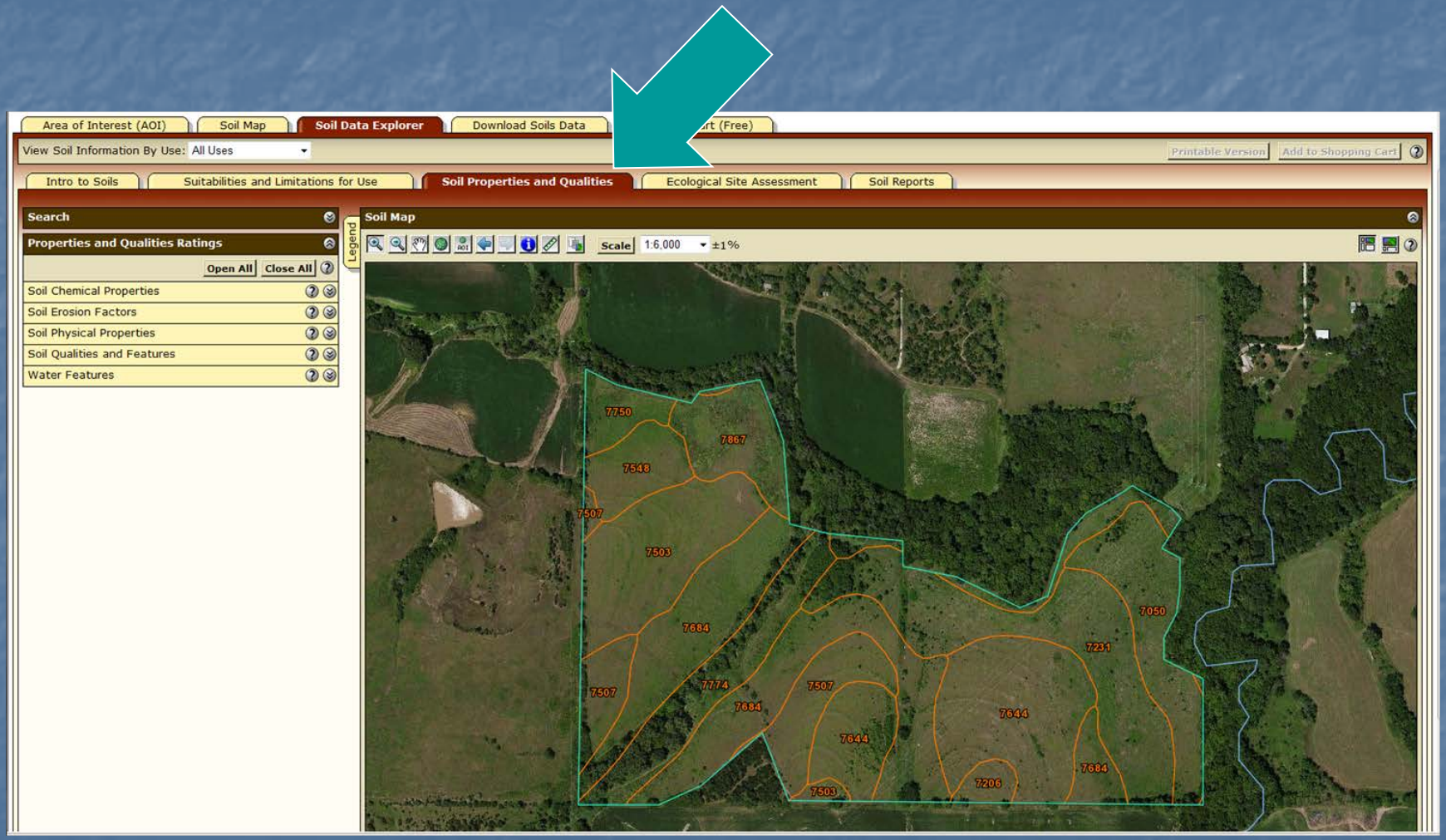
Aggregation Method: Dominant Condition

Component Percent Cutoff: *None Specified*

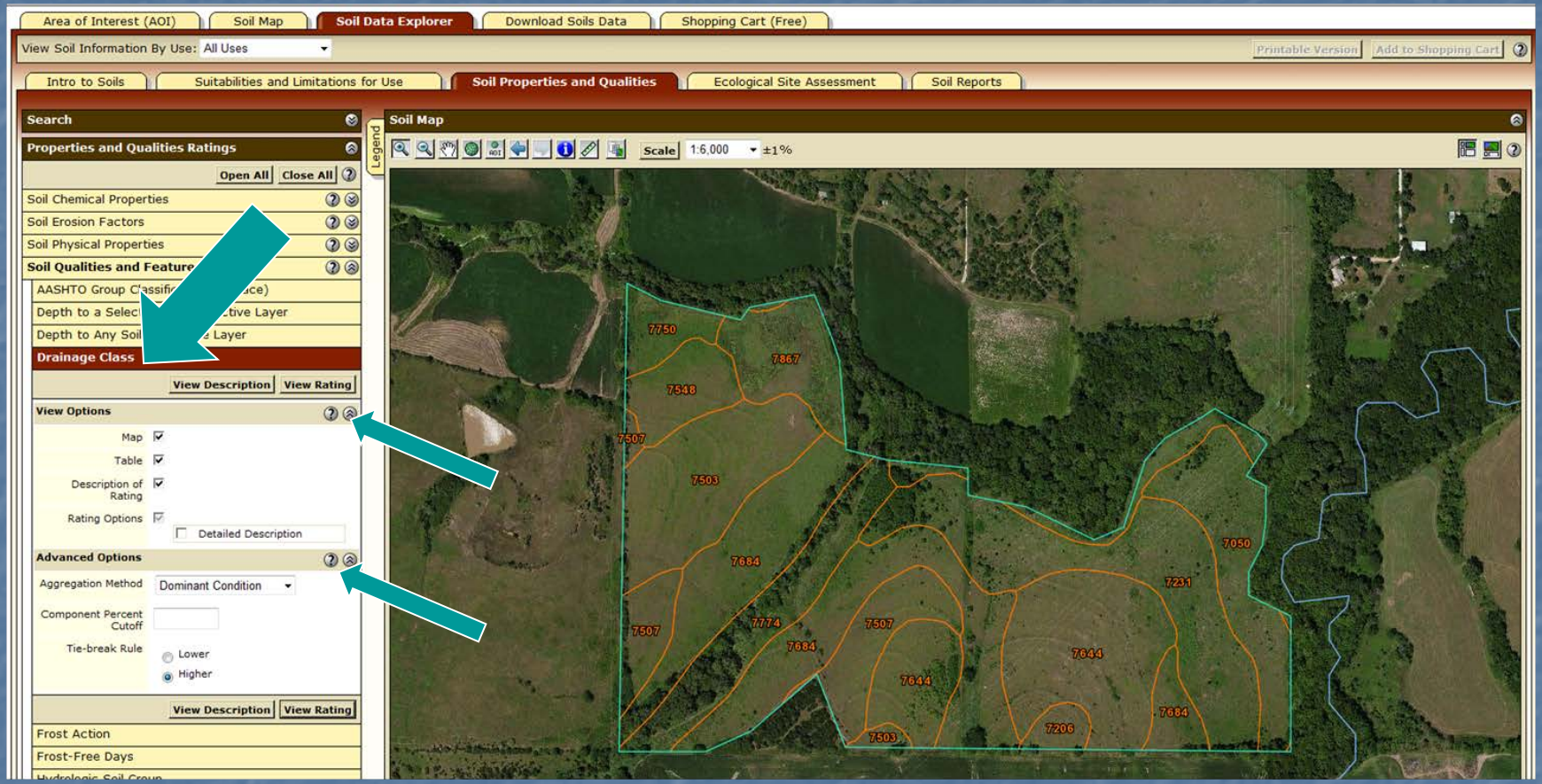
Tie-break Rule: Higher

- **Further information regarding the selected interpretation is listed below the “Summary Report” table.**

Soil Properties and Qualities

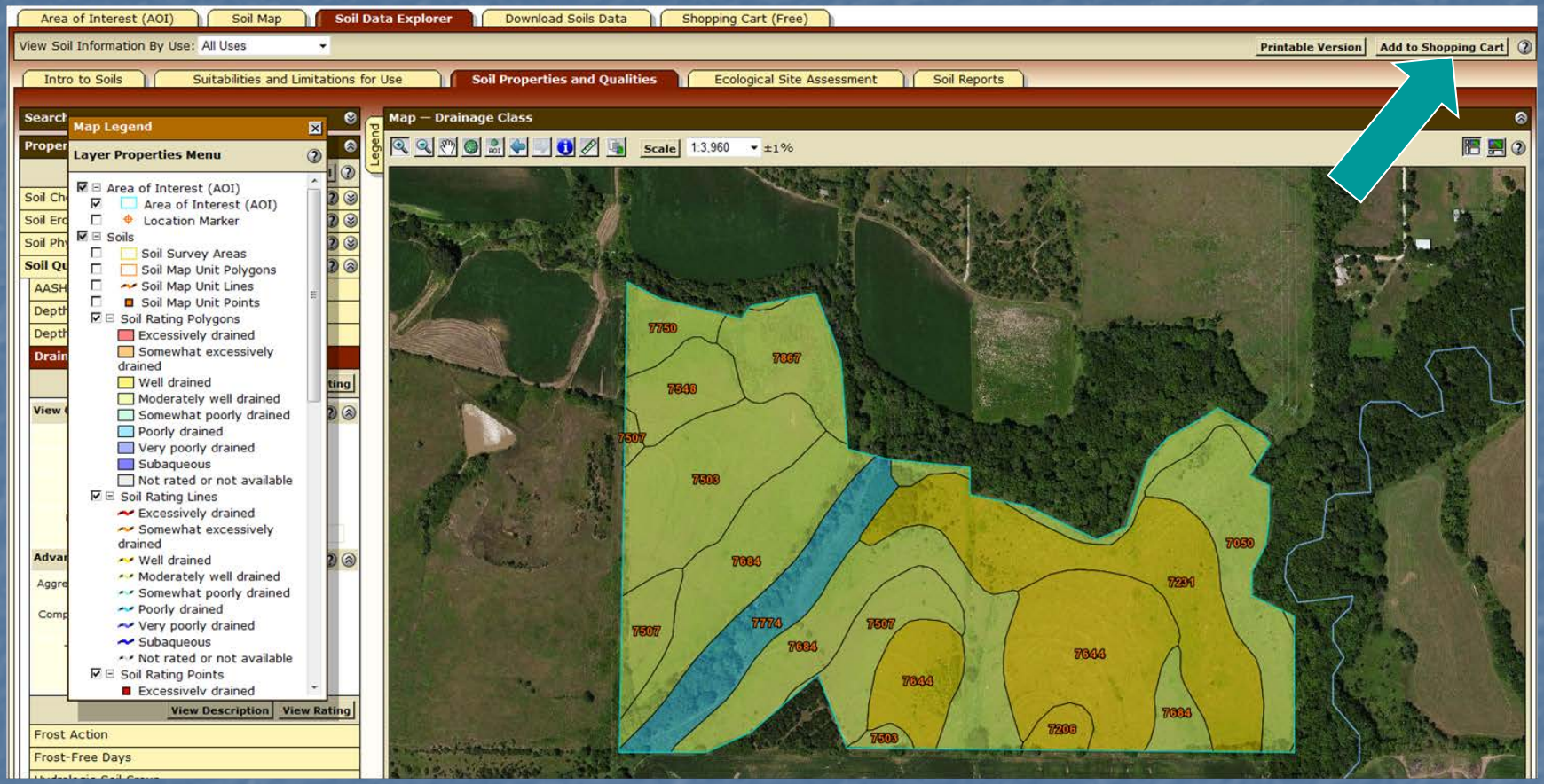


Select a Soil Property or Quality



- Note: Additional help is available for view options and advanced options. Click the respective "?" symbol.

Display Results



- Individual thematic maps and summary reports can be printed and/or added to the shopping cart. Information added to the cart will be available for creating a custom report.

Sample Summary Results and Description

Tables — Drainage Class — Summary By Map Unit

Summary by Map Unit — Lancaster County, Nebraska (NE109)

Map unit symbol	Map unit name	Rating	Acres in AOI	Percent of AOI
7050	Kennebec silt loam, occasionally flooded	Moderately well drained	5.5	7.8%
7206	Aksarben silty clay loam, 2 to 6 percent slopes	Well drained	0.8	1.2%
7231	Judson silt loam, 2 to 6 percent slopes	Well drained	10.3	14.6%
7503	Pawnee clay loam, 3 to 6 percent slopes, eroded	Moderately well drained	7.3	10.4%
7507	Pawnee clay loam, 6 to 11 percent slopes, eroded	Moderately well drained	5.2	7.4%
7548	Shelby clay loam, 6 to 11 percent slopes	Moderately well drained	2.6	3.6%
7644	Yutan silty clay loam, 6 to 11 percent slopes, eroded	Well drained	10.8	15.3%
7684	Wymore silty clay loam, 3 to 6 percent slopes, eroded	Moderately well drained	15.6	22.1%
7750	Nodaway silt loam, occasionally flooded	Moderately well drained	1.7	2.5%
7774	Colo-Nodaway silty clay loams, frequently flooded	Poorly drained	5.2	7.4%
7867	Nodaway silt loam, channeled, frequently flooded	Moderately well drained	5.4	7.7%
Totals for Area of Interest			**70.4**	**100.0%**

Description — Drainage Class

"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. These classes are defined in the "Soil Survey Manual."

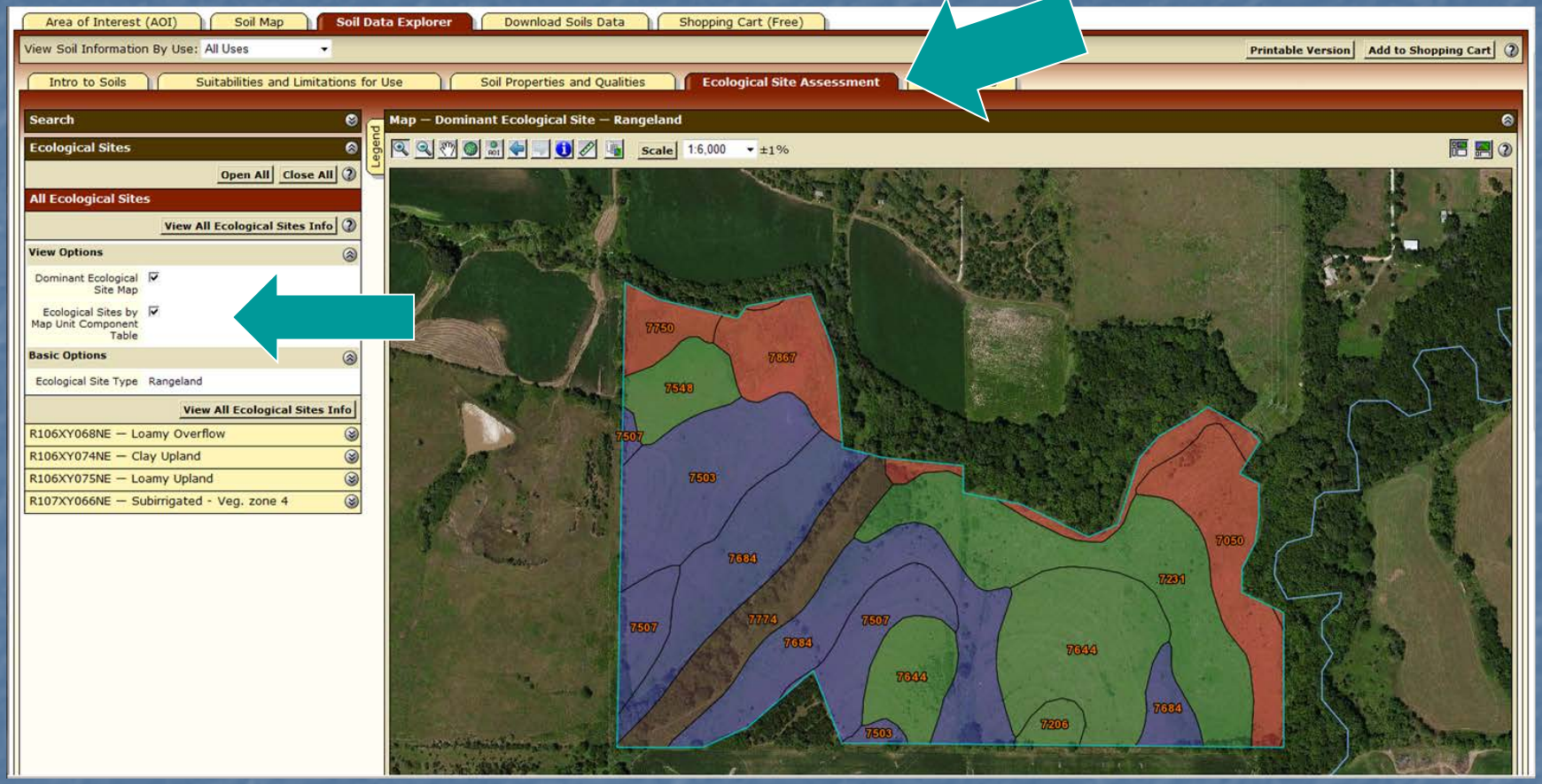
Rating Options — Drainage Class

Aggregation Method: Dominant Condition

Component Percent Cutoff: *None Specified*

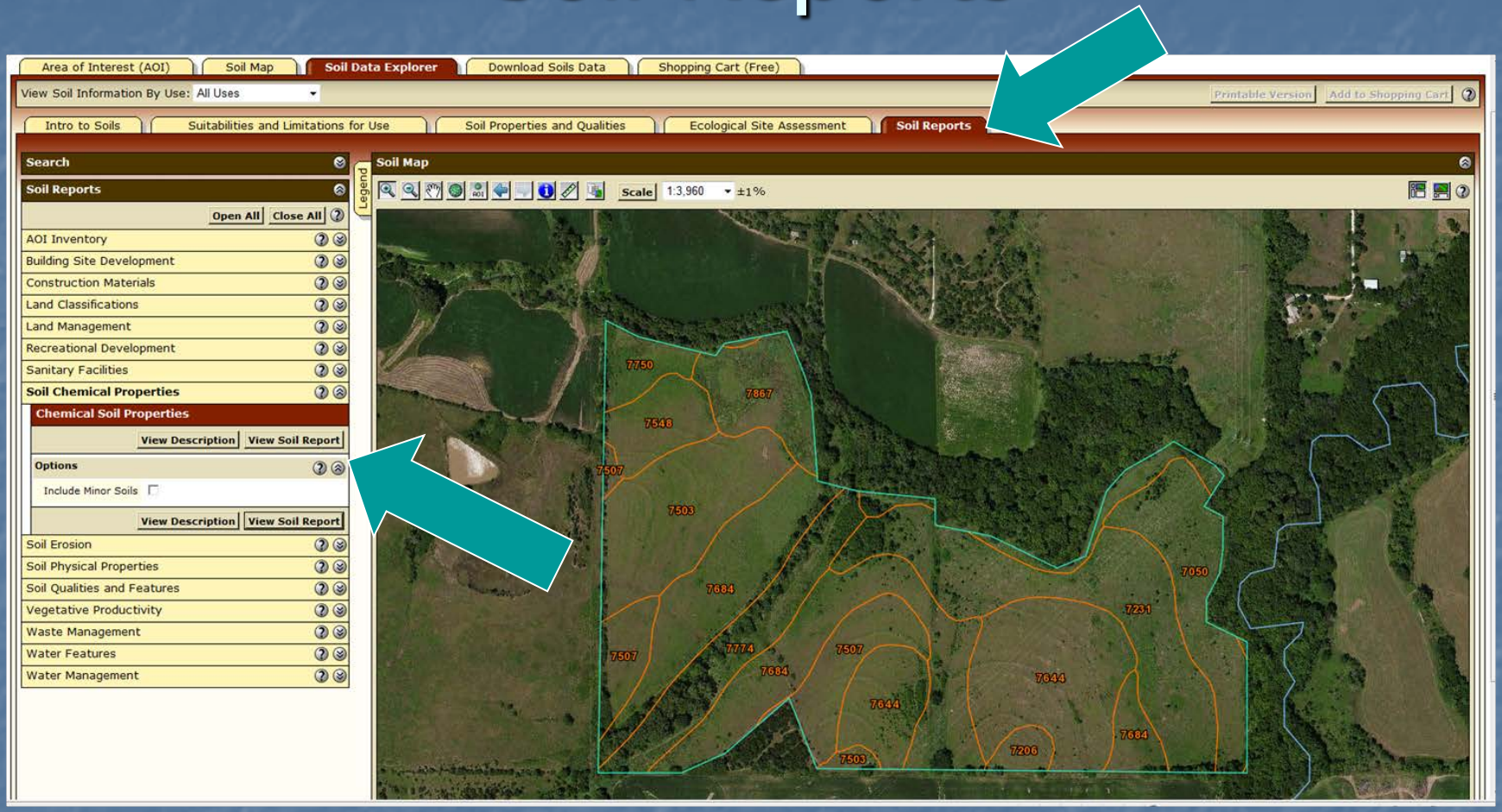
Tie-break Rule: Higher

Ecological Site Assessment



- View information about ecological sites linked to soil map unit components.

Soil Reports



- A broad selection of soil information relevant to specific topics is available in predetermined formats. Select a topic and click on the "View Soil Report" button to generate a report for your AOI.

Sample Soil Report: Chemical Soil Properties

Report — Chemical Soil Properties

Lancaster County, Nebraska

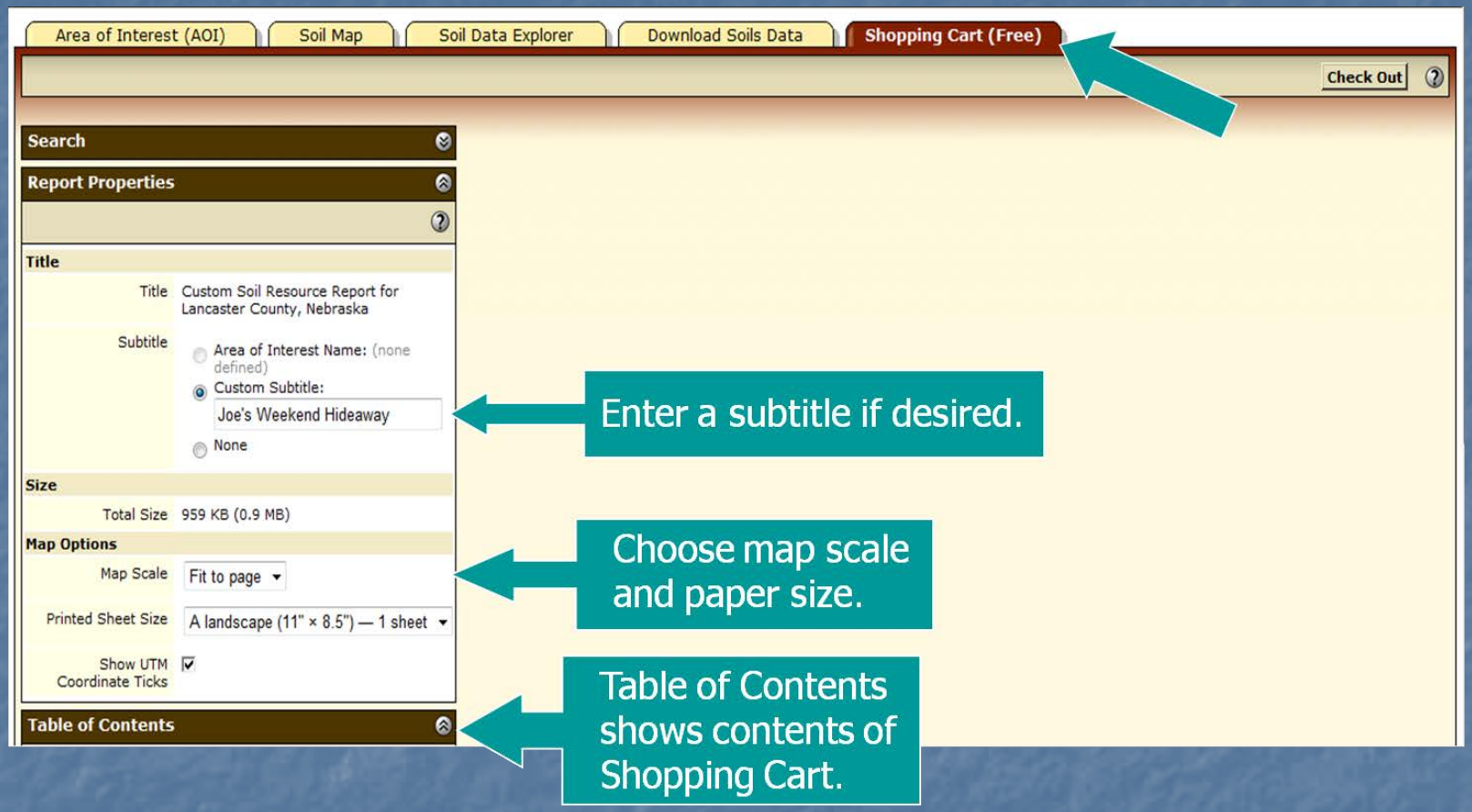
Map symbol and soil name	Depth	Cation-exchange capacity	Effective cation-exchange capacity	Soil reaction	Calcium carbonate	Gypsum	Salinity	Sodium adsorption ratio
	In	*meq/100g*	*meq/100g*	*pH*	*Pct*	*Pct*	*mmhos/cm*	
7050—Kennebec silt loam, occasionally flooded								
Kennebec, occasionally flooded	0-45	30-36	—	5.6-7.3	0	0	0.0-2.0	0
	45-60	30-36	—	5.6-7.3	0	0	0.0-2.0	0
7206—Aksarben silty clay loam, 2 to 6 percent slopes								
Aksarben	0-7	25-35	—	5.1-6.5	0	0	0	0
	7-44	25-35	—	5.1-6.5	0	0	0	0
	44-60	25-35	—	5.6-6.5	0	0	0	0
7231—Judson silt loam, 2 to 6 percent slopes								
Judson	0-29	25-30	—	5.0-7.3	0	0	0	0
	29-60	25-30	—	5.6-7.3	0	0	0	0
7503—Pawnee clay loam, 3 to 6 percent slopes, eroded								
Pawnee	0-7	20-30	—	5.6-7.3	0	0	0	0
	7-38	30-40	—	6.1-7.8	0	0	0	0
	38-60	20-25	—	7.4-8.4	1-10	0	0	0
7507—Pawnee clay loam, 6 to 11 percent slopes, eroded								
Pawnee	0-7	20-30	—	5.6-7.3	0	0	0	0
	7-38	30-40	—	6.1-7.8	0	0	0	0

- **The report is displayed below the soil map.**

IId. Shopping Cart for Selected Information

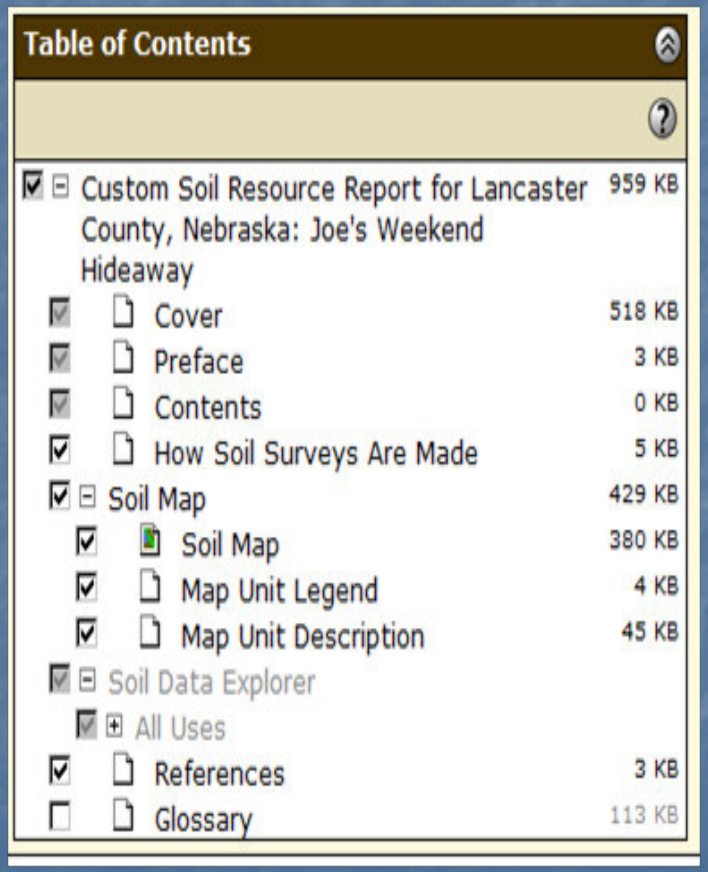
- WSS allows you to generate a custom soil resource report (in PDF) by adding selections to the free shopping cart.
  - The report is customized for your AOI.
  - The soil map, map unit legend, and map unit descriptions are included by default.
  - The other content is specifically chosen by you:
    - Thematic maps (including summary tables and text),
    - Ecological site description map and information,
    - Tabular data tables, and
    - Introductory material.

The Shopping Cart



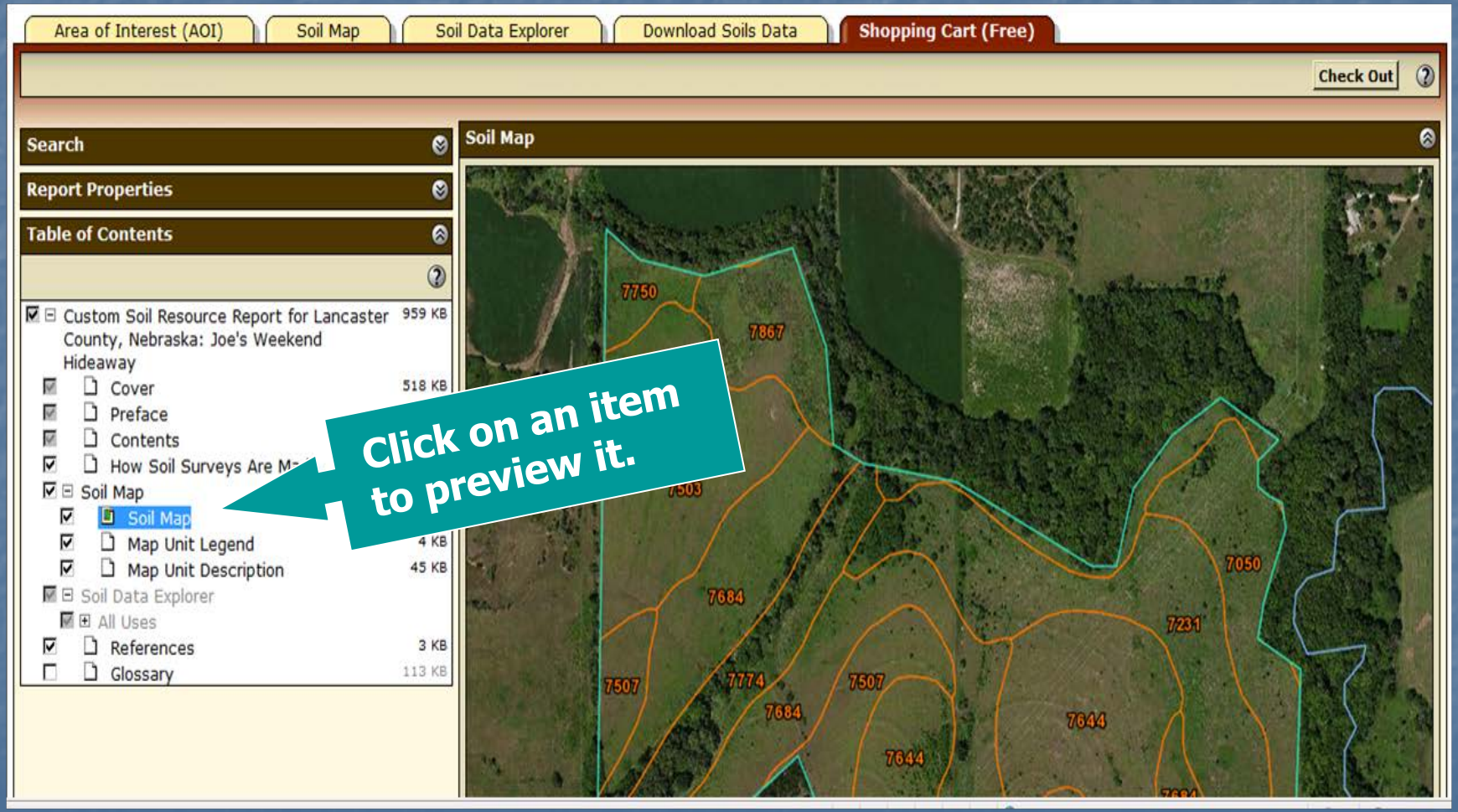
- The shopping cart provides you with options for building a report based on your selections from the other tabs.

Table of Contents

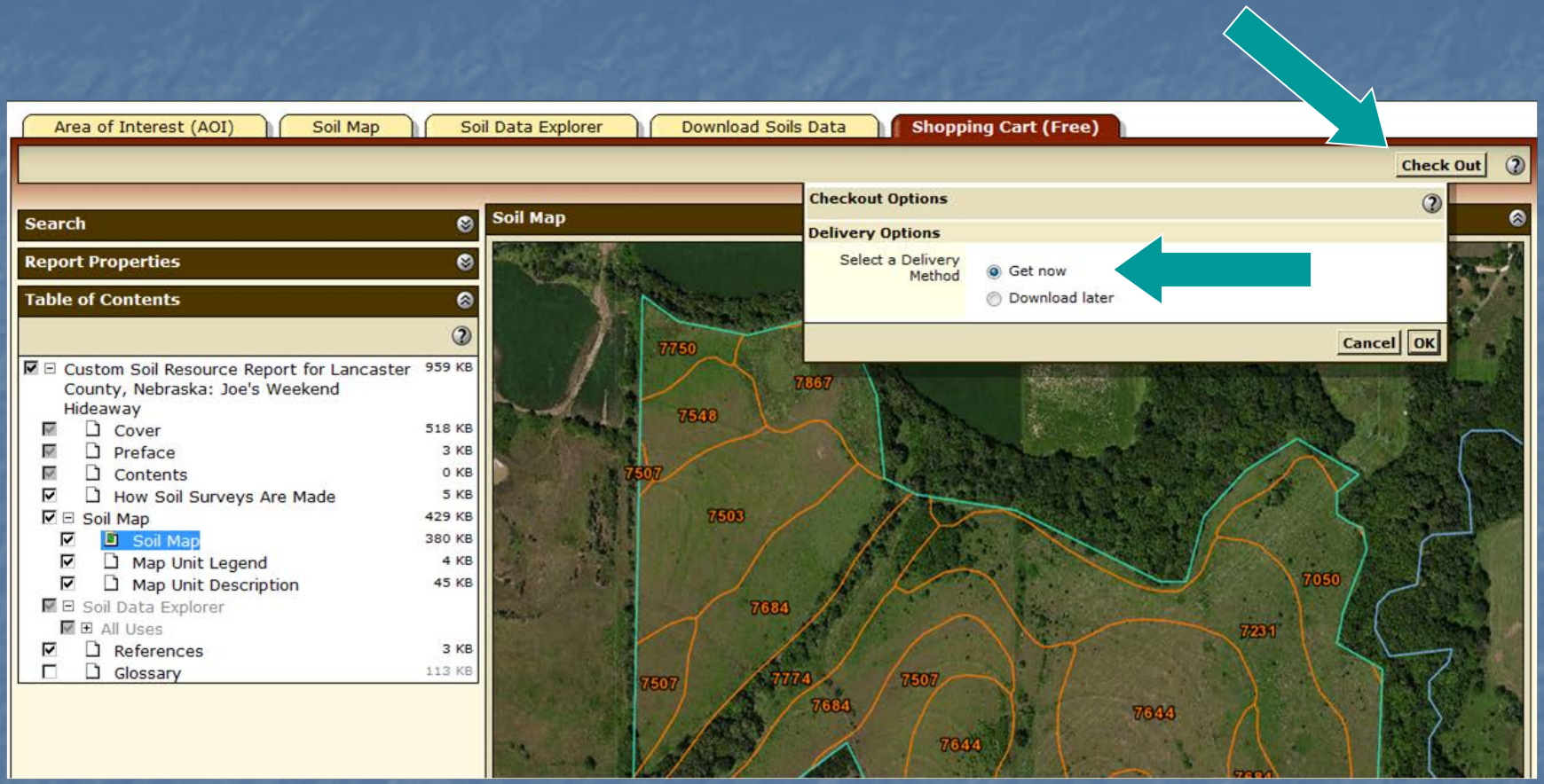


- Soil map, map unit legend, and map unit descriptions are included by default.
- Items can be deselected by unchecking them on the list if you decide you do not want them in your report. Additional items must be added in previous screens.

Preview an Item

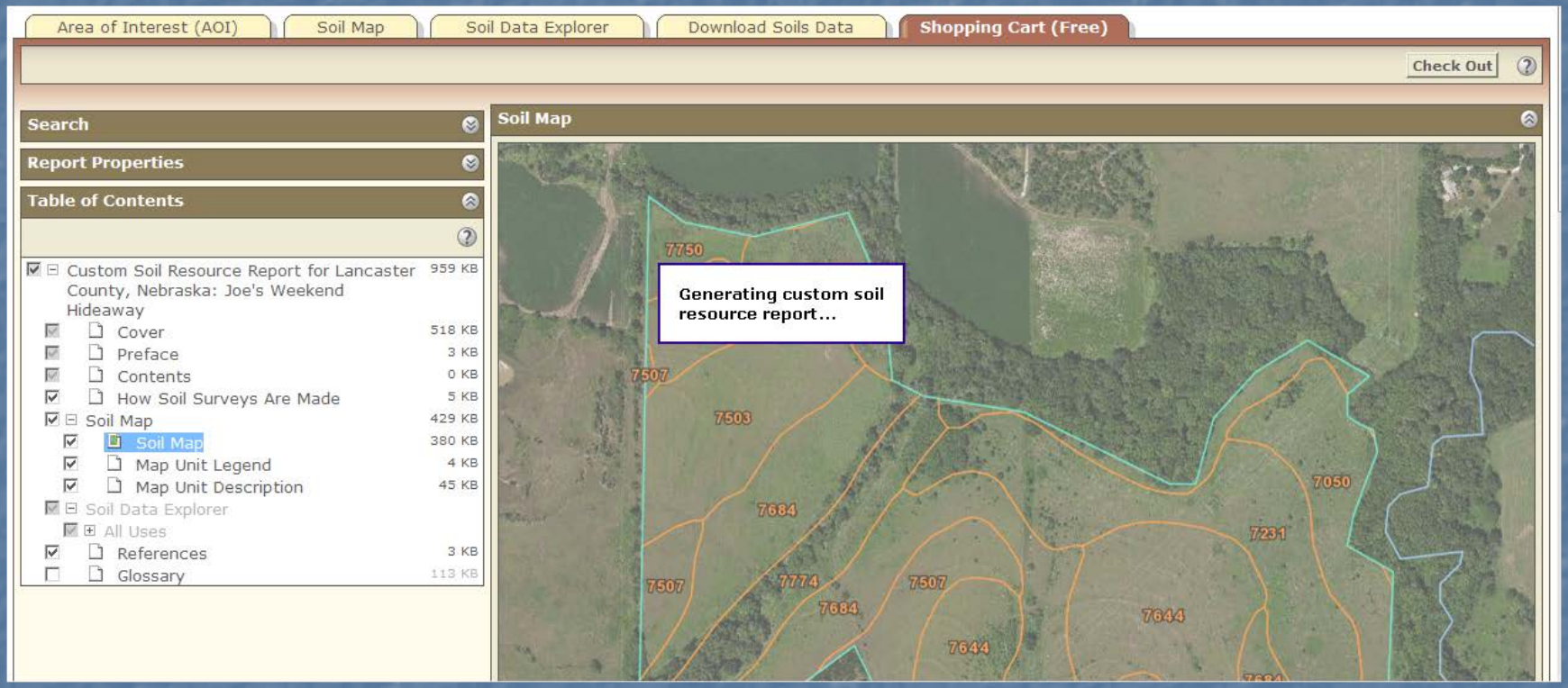


Check Out



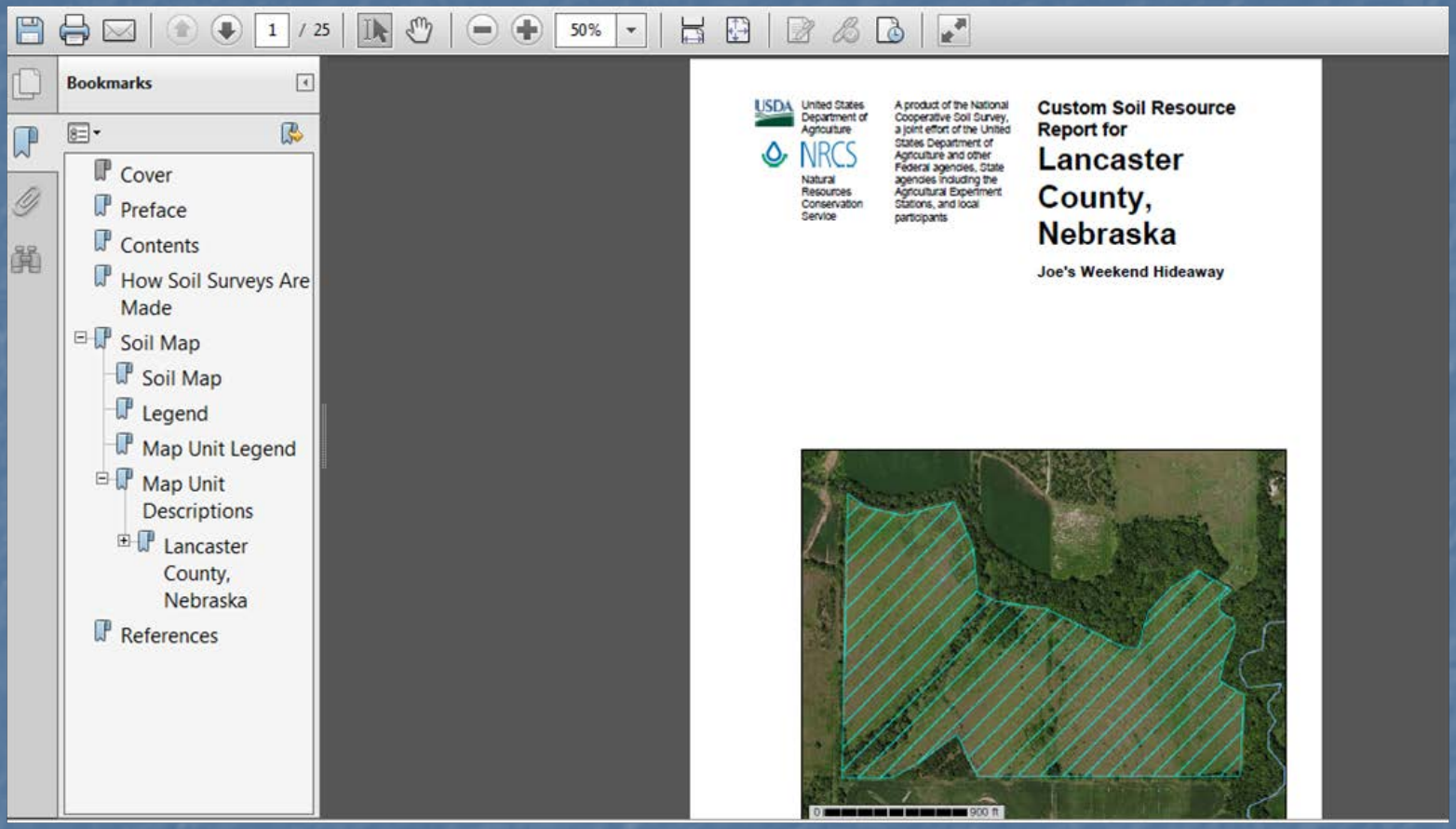
- During check out, you can elect to get the file now or later. The "Download later" option can be beneficial if the file is large.
- Click the "OK" button to initiate checkout.

Generation of Custom Soil Resource Report



- The time required to generate the report depends on the size and complexity of the items included and on the current traffic on the system.

Custom Soil Resource Report



- The report is generated as a PDF file that can be opened directly or saved to your local computer.

Part III: Download Data for GIS

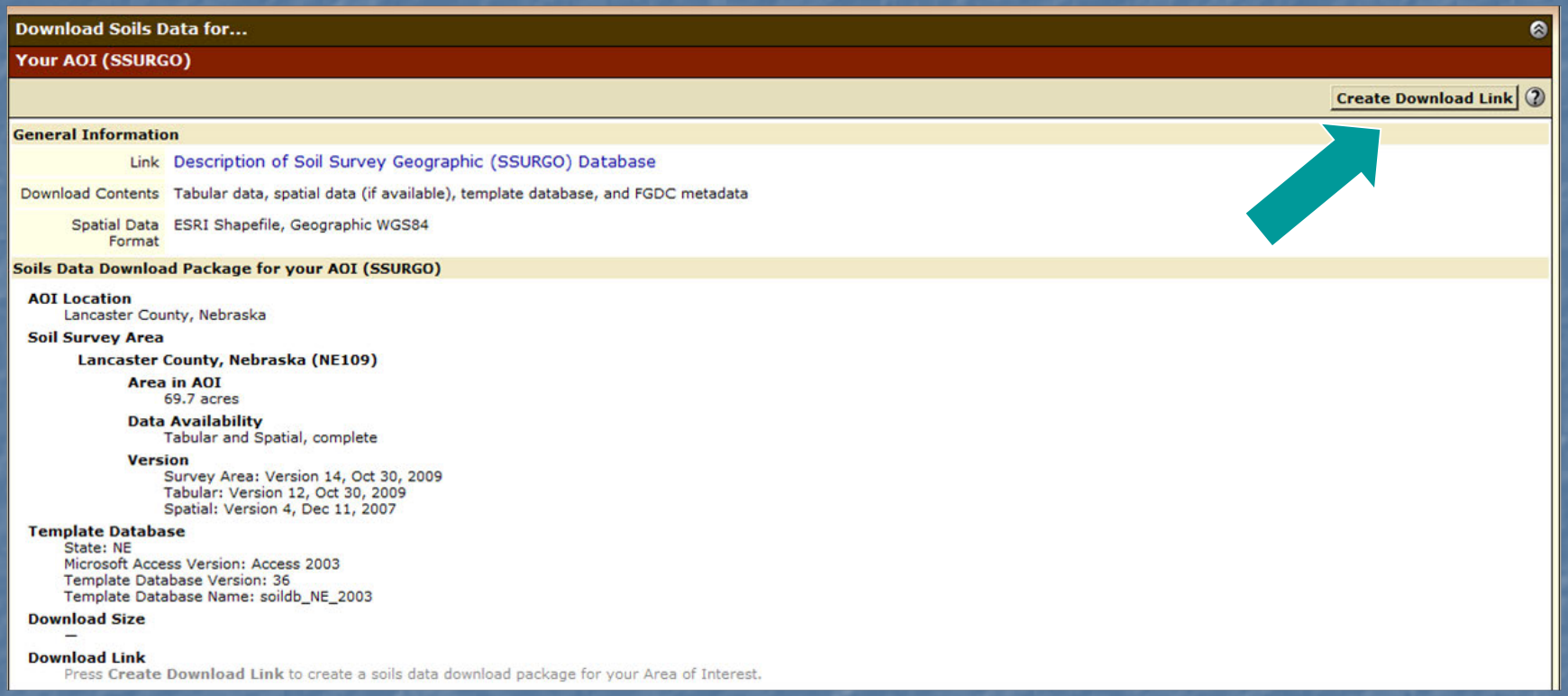
- Overview
- Download
  - SSURGO Data for an Area of Interest (AOI)
  - SSURGO Data for a Survey Area
  - STATSGO2 data

Overview

- WSS 3.0 allows you to download raw soil data for use in a local GIS.
- This feature replaces the data download functionality formerly in the Soil Data Mart. You can download:
  - SSURGO data clipped to the AOI boundary,
  - SSURGO data for entire soil survey areas,
  - STATSGO2 data by state or for the entire U.S.
- Links to SSURGO metadata reports are available.

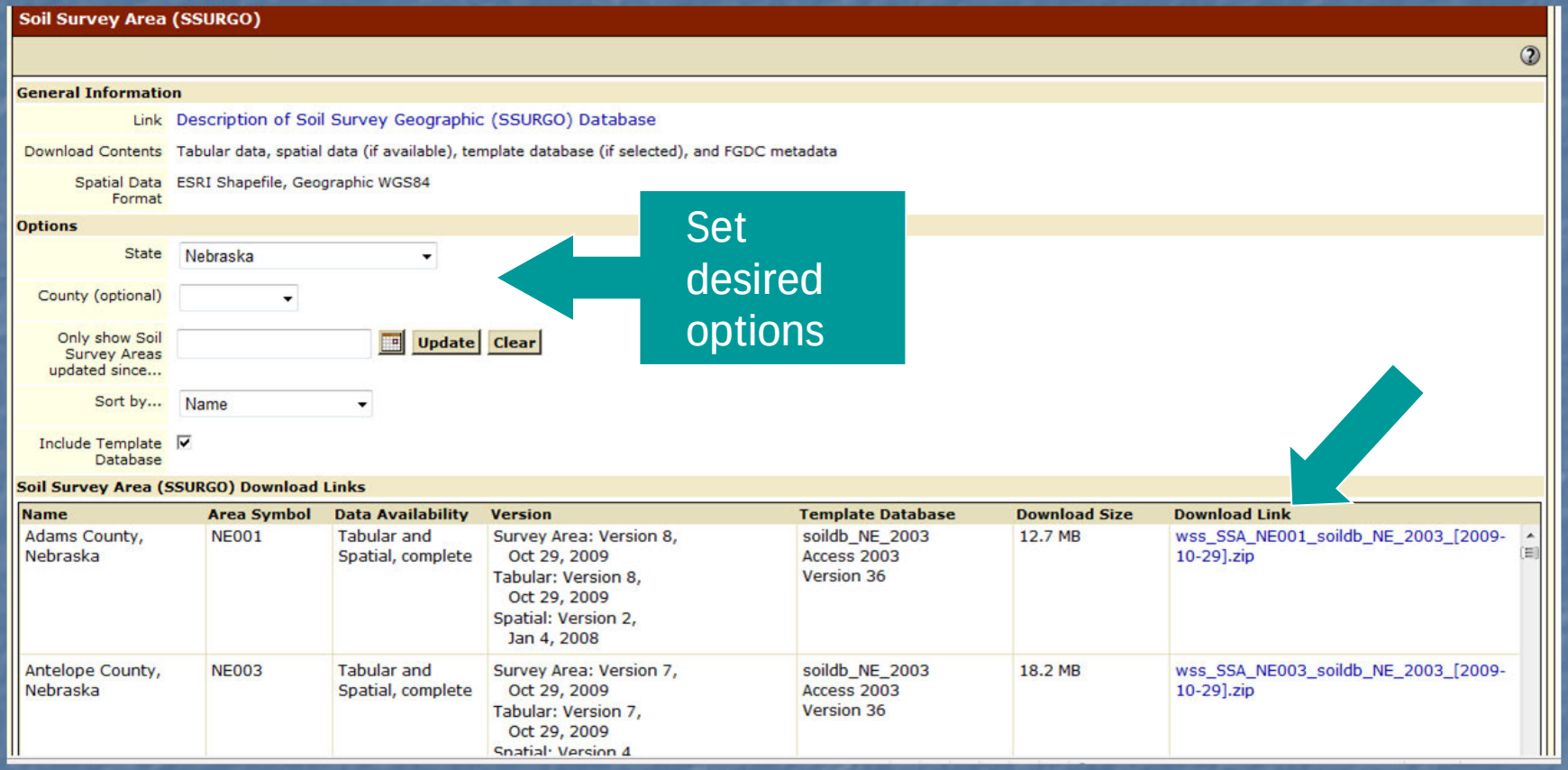
Download Soils Data

SSURGO Data for Your AOI



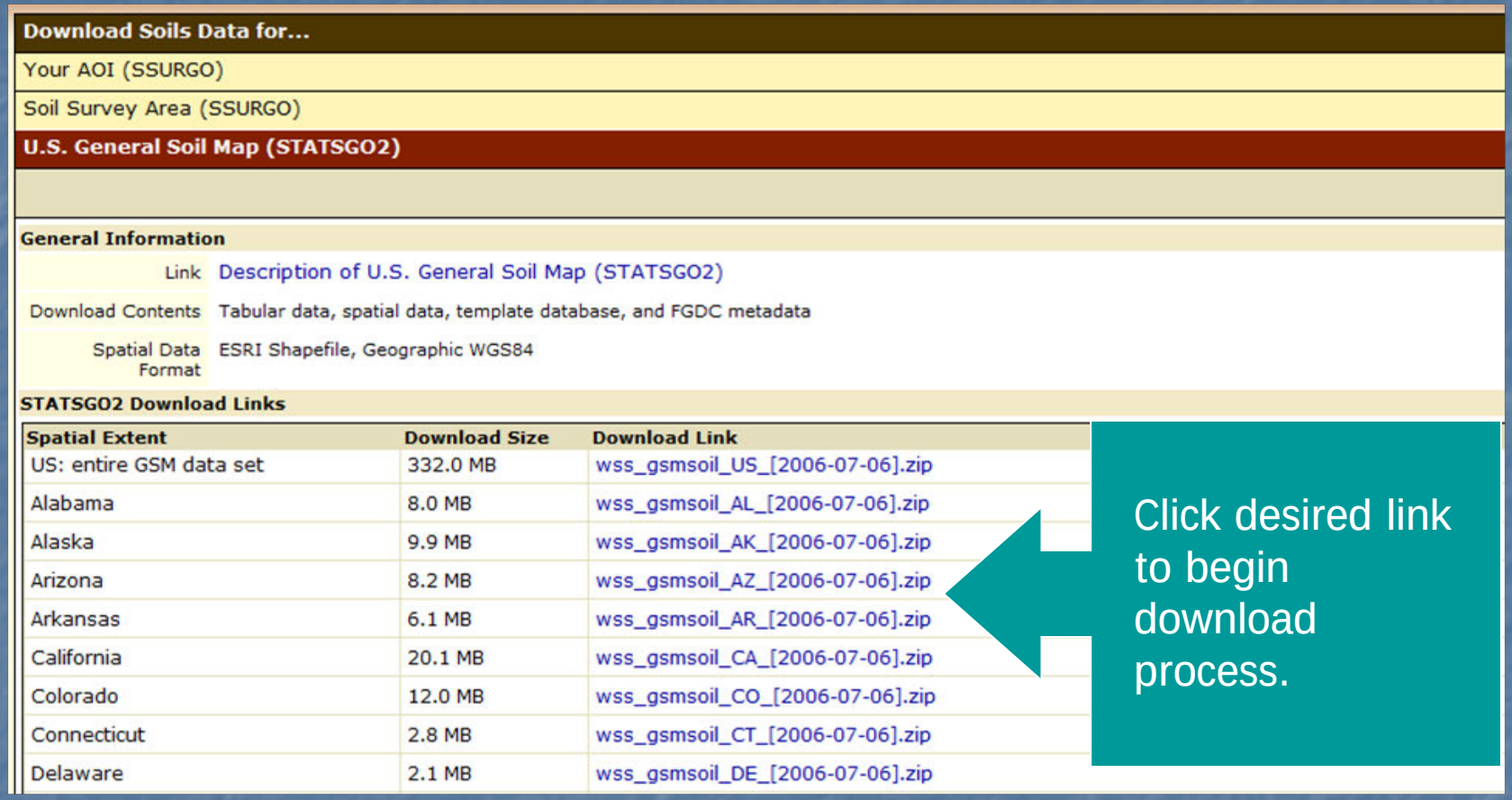
- If you have already designated a specific area of interest (see Part II above), you can download the GIS data for the area.

SSURGO Data for a Survey Area



- You can download the GIS data for an entire soil survey area. Such areas are commonly entire counties. Scroll through the list of available soil survey areas by state, then click the Download Link.

STATSGO2 Data



Download Soils Data for...

Your AOI (SSURGO)

Soil Survey Area (SSURGO)

U.S. General Soil Map (STATSGO2)

General Information

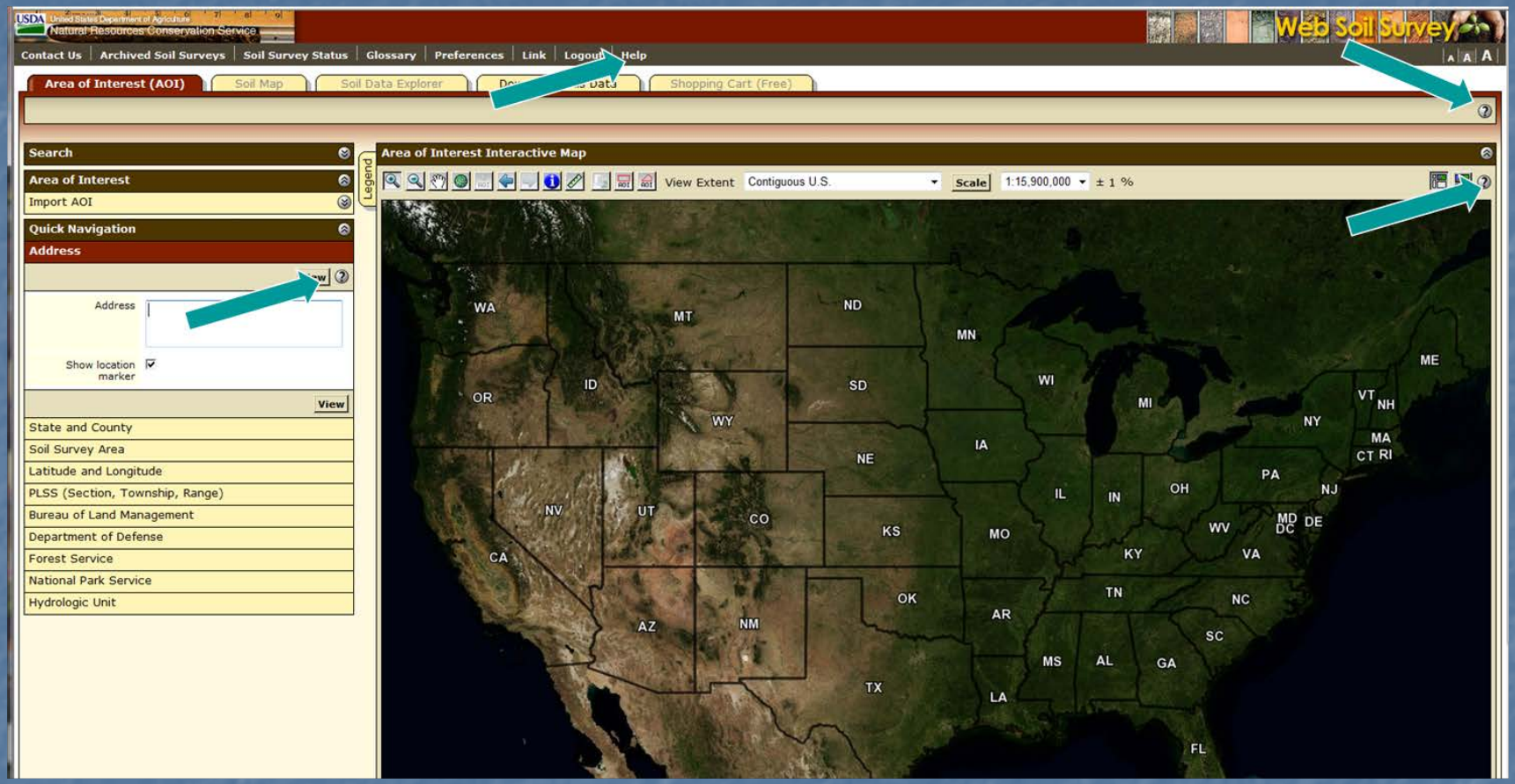
Link	Description of U.S. General Soil Map (STATSGO2)
Download Contents	Tabular data, spatial data, template database, and FGDC metadata
Spatial Data Format	ESRI Shapefile, Geographic WGS84

STATSGO2 Download Links

Spatial Extent	Download Size	Download Link
US: entire GSM data set	332.0 MB	wss_gsmsoil_US_[2006-07-06].zip
Alabama	8.0 MB	wss_gsmsoil_AL_[2006-07-06].zip
Alaska	9.9 MB	wss_gsmsoil_AK_[2006-07-06].zip
Arizona	8.2 MB	wss_gsmsoil_AZ_[2006-07-06].zip
Arkansas	6.1 MB	wss_gsmsoil_AR_[2006-07-06].zip
California	20.1 MB	wss_gsmsoil_CA_[2006-07-06].zip
Colorado	12.0 MB	wss_gsmsoil_CO_[2006-07-06].zip
Connecticut	2.8 MB	wss_gsmsoil_CT_[2006-07-06].zip
Delaware	2.1 MB	wss_gsmsoil_DE_[2006-07-06].zip

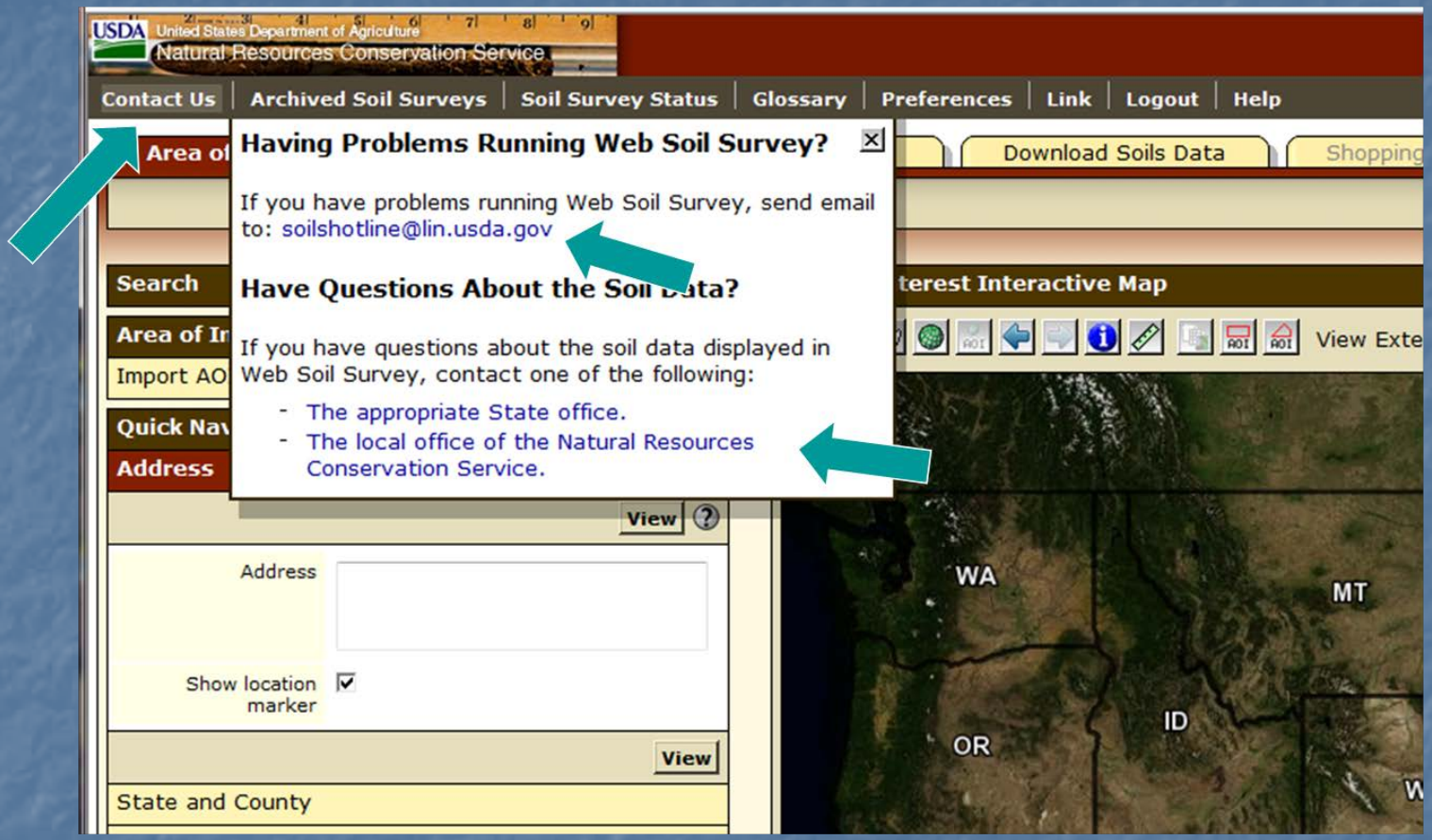
- You can download STATSGO2 data for the entire U.S. or for individual states.

Questions?



- You can get general help from the top navigation bar or context-specific help from the “?” symbols.

More Ways to Get Help



- You can get help via email by clicking on “Contact Us” and then clicking on one of the links.