

# **Web Soil Survey (WSS) 2.1**

## **How to Use It**

# Web Soil Survey -- purpose

- 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 & management decisions

# Web Soil Survey -- purpose

- Provides alternative to traditional hardcopy publication
- Provides means for quicker delivery of information
- Provides access to most current data

# Web Soil Survey -- purpose

- Allows customer to get just information they want/select
  - Map units for their geographic area of interest (AOI)
  - Information relevant to their land use concerns – e.g. rangeland or cropland

# WSS Products

- Soil Map on color imagery or topographic map backdrop for the AOI from SSURGO data (where available)
- Soil Data Mart tables by AOI
- Custom Soil Resource Report
- Download of SSURGO data clipped to the limit of the defined AOI

# WSS Products

- Custom Soil Resource Report (PDF) via the free Shopping Cart
  - By AOI
  - Soil map, map unit legend, map unit descriptions
  - Content specifically chosen by user
    - Thematic Maps (with tables and text)
    - Tabular data tables
    - Introductory material

# Pathway through WSS

- Define area of interest – you must specifically set the AOI before you can view any maps or reports
- View Soil Map – if available for AOI
- Browse/Explore soil data and related information
  - Generate thematic maps
  - Access Soil Data Mart data tables
- Build custom soil resource report in Shopping Cart
- Print/download the selected map or report

# WSS 2.1 Homepage



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

### Search

All NRCS Sites

### Browse by Subject

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

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



### Want To...

- Start Web Soil Survey (WSS)
- Know the requirements for running Web Soil Survey
- Know whether Web Soil Survey works in my web browser
- Know the Web Soil Survey hours of operation
- Find what areas of the U.S. have soil data

### 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.

### Three Basic Steps

- 1 Define.

### Announcements/Events

- Web Soil Survey 2.1 has been released! View description of new features.

# View List of New Features



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](#) / [Web Soil Survey 2.1 New Features](#)

## Web Soil Survey 2.1 – New Features

### Search

Web Soil Survey now enables you to search for the answers to your soil questions — and locate soil ratings and reports that you are interested in.

- Enter one or more search terms.
- If desired, choose Advanced Search Options.
- Click the **Search** button.
- Search Results are displayed as [links](#).
- Click a link to navigate to where the desired Result is found in the application.

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

View Soil Information By Use:

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

**Search** **Soil Map**

← → Clear Search ?

Scale 1:14,900

# New Features in WSS 2.1

- Search function
- Downloadable SSURGO data now clipped to AOI extent
- Improved navigational data layers
- Maps can be tiled to multiple pages for printing
- Descriptions added to tabs and folders
- Forest color scheme added
- Linear map measurement tool
- Glossary of soil terms added
- Ecological Site Assessment tab visible for all land uses
- Print individual map unit descriptions

# WSS Opening Screen

USDA United States Department of Agriculture  
Natural Resources Conservation Service

Web Soil Survey

Contact Us | Download Soils Data | Archived Soil Surveys | Glossary | Preferences | Logout | Help

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

Search

Quick Navigation

Navigate By...

- Address
- State and County
- Soil Survey Area
- Latitude and Longitude
- 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: 1:29,700,000 ± 1 %



The map displays the contiguous United States with state abbreviations labeled in yellow. A network of red lines is overlaid on the map, representing soil survey boundaries or watersheds. The map is part of an interactive interface with various navigation and tool icons at the top.

# Set User Preferences

USDA United States Department of Agriculture  
Natural Resources Conservation Service

Contact Us | Download Soils Data | Archived Soil Surveys | Glossary | **Preferences** | Logout | Help

Shopping Cart (Free)

of Interest Interactive Map

Extent: Contiguous U.S. Scale

**Scope of Preferences**

Remember preferences after the end of this session

**Application Preferences**

Show Maps by Default

Open Links and PDFs in External Windows

Color Scheme

Soil

Windows

Forest

Cancel Reset Defaults Save Preferences

Hydrologic Unit

- View PDFs and links in the same browser window as WSS.
- Choose "Soils," "Windows" or "Forest" color scheme.

# View Other Geographic Areas

The screenshot displays the USDA Web Soil Survey interface. At the top, the USDA logo and text 'United States Department of Agriculture' and 'Natural Resources Conservation Service' are visible. The page title 'Web Soil Survey' is in the top right. A navigation bar includes links for 'Contact Us', 'Download Soils Data', 'Archived Soil Surveys', 'Glossary', 'Preferences', 'Logout', and 'Help'. Below this, a secondary navigation bar features 'Area of Interest (AOI)', 'Soil Map', 'Soil Data Explorer', and 'Shopping Cart (Free)'. The main content area is divided into a left sidebar and a central map area. The sidebar contains a 'Search' field, 'Quick Navigation' options, and a 'Navigate By...' section with a list of search criteria: Address, State and County, Soil Survey Area, Latitude and Longitude, PLSS (Section, Township, Range), Bureau of Land Management, Department of Defense, Forest Service, National Park Service, and Hydrologic Unit. The central map area is titled 'Area of Interest Interactive Map' and includes a toolbar with navigation icons, a 'View Extent' dropdown menu, and a 'Scale' indicator set to 1:29,700,000. The 'View Extent' dropdown menu is open, showing a list of geographic areas: Contiguous U.S., Alaska, Hawaii, Pacific Basin (with sub-items: American Samoa, Federated States of Micronesia, Guam, Marshall Islands, Palau, Northern Mariana Islands), Puerto Rico, and Virgin Islands. A green arrow points from the 'Department of Defense' option in the sidebar to the 'Palau' option in the dropdown menu. The map itself shows the United States with state boundaries and a red network of lines representing soil survey areas.

USDA United States Department of Agriculture  
Natural Resources Conservation Service

Web Soil Survey

Contact Us | Download Soils Data | Archived Soil Surveys | Glossary | Preferences | Logout | Help

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

Search

Quick Navigation

Navigate By...

- Address
- State and County
- Soil Survey Area
- Latitude and Longitude
- PLSS (Section, Township, Range)
- Bureau of Land Management
- Department of Defense
- Forest Service
- National Park Service
- Hydrologic Unit

Area of Interest Interactive Map

View Extent: Contiguous U.S.

- Contiguous U.S.
- Alaska
- Hawaii
- Pacific Basin**
  - American Samoa
  - Federated States of Micronesia
  - Guam
  - Marshall Islands
  - Palau
  - Northern Mariana Islands
- Puerto Rico
- Virgin Islands

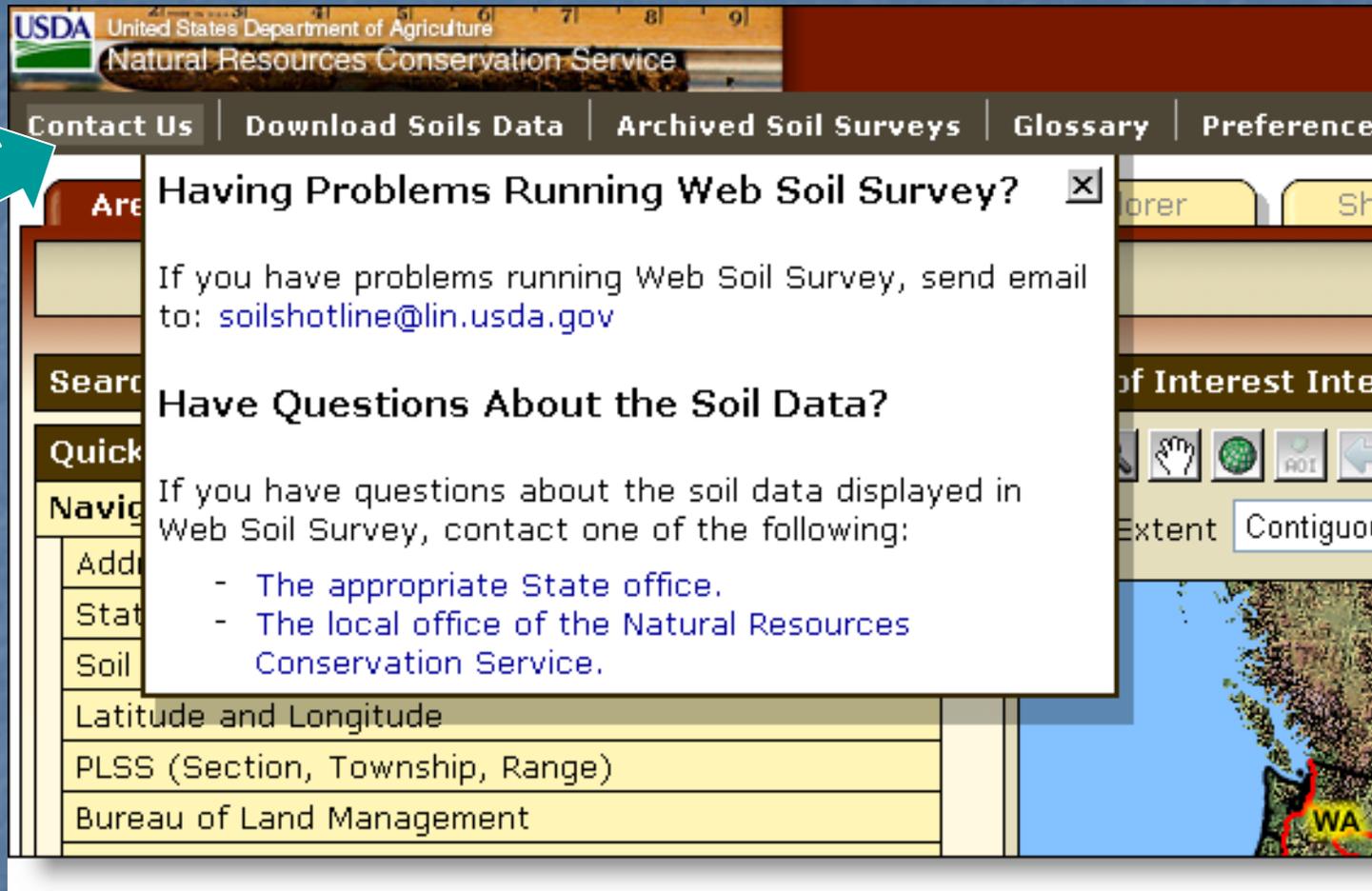
Scale: 1:29,700,000

# Get Online Help

The screenshot shows the USDA Web Soil Survey interface. At the top, the USDA logo and 'United States Department of Agriculture Natural Resources Conservation Service' are on the left, and 'Web Soil Survey' is on the right. Below this is a navigation bar with links: 'Contact Us', 'Download Soils Data', 'Archived Soil Surveys', 'Glossary', 'Preferences', 'Logout', and 'Help'. There are also three zoom icons (A A A) on the far right. Below the navigation bar are tabs for 'Area of Interest (AOI)', 'Soil Map', 'Soil Data Explorer', and 'Shopping Cart (Free)'. The main content area is divided into a left sidebar and a right main panel. The sidebar contains a 'Search' section, a 'Quick Navigation' section, and a 'Navigate By...' section with a 'View' button and a help icon. The main panel is titled 'Area of Interest Interactive Map' and contains a toolbar with various map navigation icons, a 'View Extent' dropdown set to 'Contiguous U.S.', a 'Scale' dropdown set to '1:29,700,000', and a map of the United States with state abbreviations and a red network of lines. Three teal arrows point to help icons: one in the top right corner, one in the 'View' button area of the sidebar, and one in the top right corner of the map panel.

- Click on Help or a “?” for online help.

# More ways to get Help



The screenshot shows the USDA Natural Resources Conservation Service website. The top navigation bar includes links for 'Contact Us', 'Download Soils Data', 'Archived Soil Surveys', 'Glossary', and 'Preference'. A teal arrow points to the 'Contact Us' link. A pop-up window titled 'Having Problems Running Web Soil Survey?' is open, providing contact information for users experiencing issues. Below this, another section titled 'Have Questions About the Soil Data?' offers guidance on how to reach the appropriate state or local office. The background of the website shows a search bar, a map of Washington state, and various navigation options.

USDA United States Department of Agriculture  
Natural Resources Conservation Service

Contact Us | Download Soils Data | Archived Soil Surveys | Glossary | Preference

**Having Problems Running Web Soil Survey?** [X]

If you have problems running Web Soil Survey, send email to: [soilshotline@lin.usda.gov](mailto:soilshotline@lin.usda.gov)

**Have Questions About the Soil Data?**

If you have questions about the soil data displayed in Web Soil Survey, contact one of the following:

- [The appropriate State office.](#)
- [The local office of the Natural Resources Conservation Service.](#)

Search  
Quick  
Navigation  
Add  
State  
Soil  
Latitude and Longitude  
PLSS (Section, Township, Range)  
Bureau of Land Management

Extent Contiguous  
WA

- Click on "Contact Us".

# View Map at Full Screen Width

The screenshot shows a web-based interactive map titled "Area of Interest Interactive Map". The interface includes a toolbar with various navigation and map controls, a "View Extent" dropdown menu set to "Continental U.S.", and a "Scale" dropdown menu set to "(not to scale)". The map itself displays the continental United States with state boundaries and a red network overlay. A teal arrow points to the full-screen button in the top right corner of the map area.

**Legend**

**Area of Interest Interactive Map**

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

**Quick Navigation**

Navigate By...

- Address
- State and County
- Soil Survey Area

# Floating Windows

USDA United States Department of Agriculture  
Natural Resources Conservation Service

Web Soil Survey

Contact Us | Download Soils Data | Archived Soil Surveys | Glossary | Preferences | Logout | Help

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

Search

Quick Navigation

Navigate By...

Address

View

Address

City

State

Zip Code

Show Postal Code Layer in Map

State and County

Map Legend

Map Legend

- Area of Interest (AOI)
- Area of Interest (AOI)
- Soils
  - Soil Survey Areas
  - Soil Map Units
  - Soil Ratings
  - Special Point Features
  - Special Line Features
- Political Features

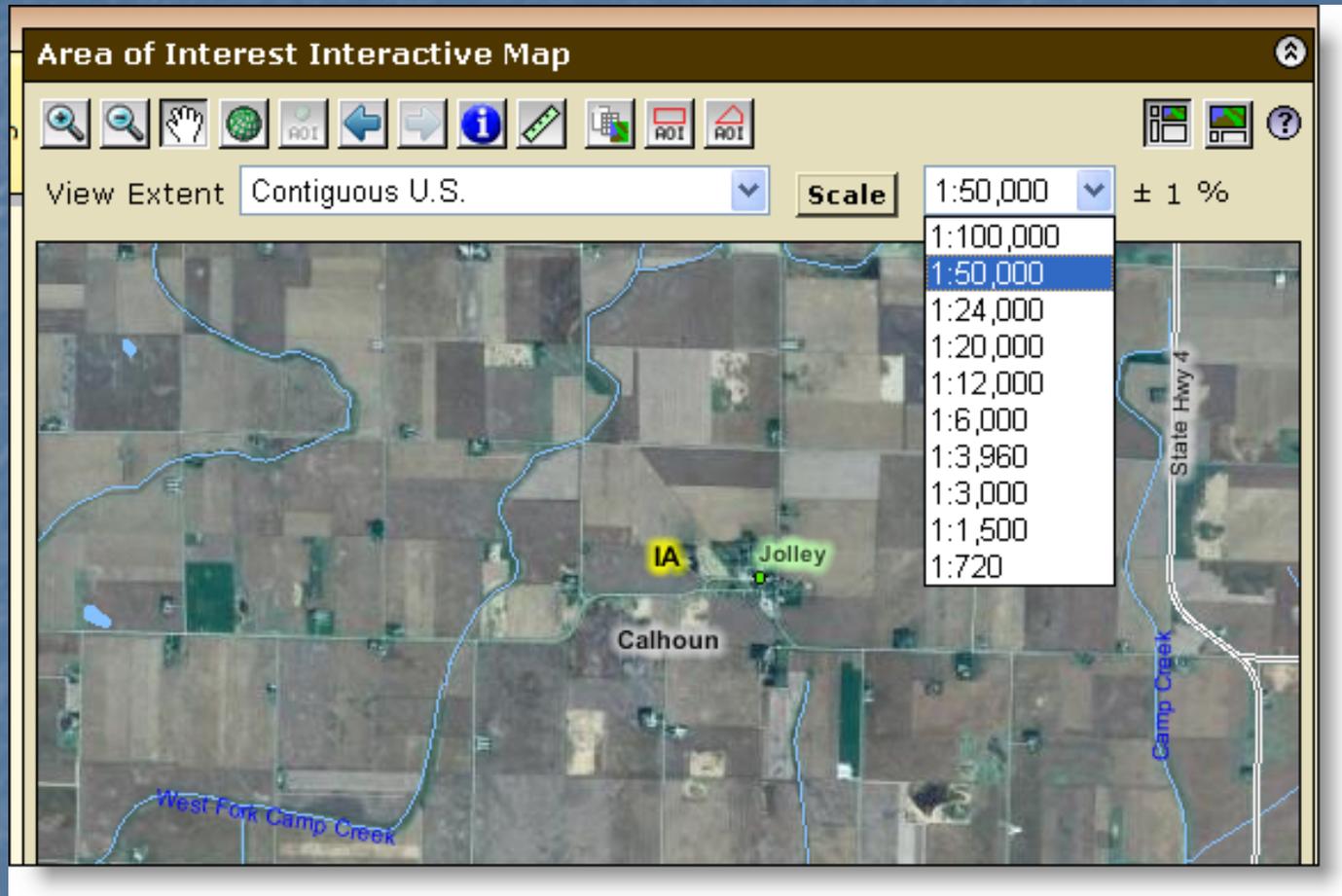
Area of Interest Interactive Map

View: Contiguous U.S. Scale: 1:29,700,000 ± 1 %



- You can click and drag the Map Legend window around wherever you want.

# Set Viewable Map Scale



- First calibrate your monitor by clicking Scale button
- Use the map scale feature to see the scale you've zoomed to and to change to a different map scale.

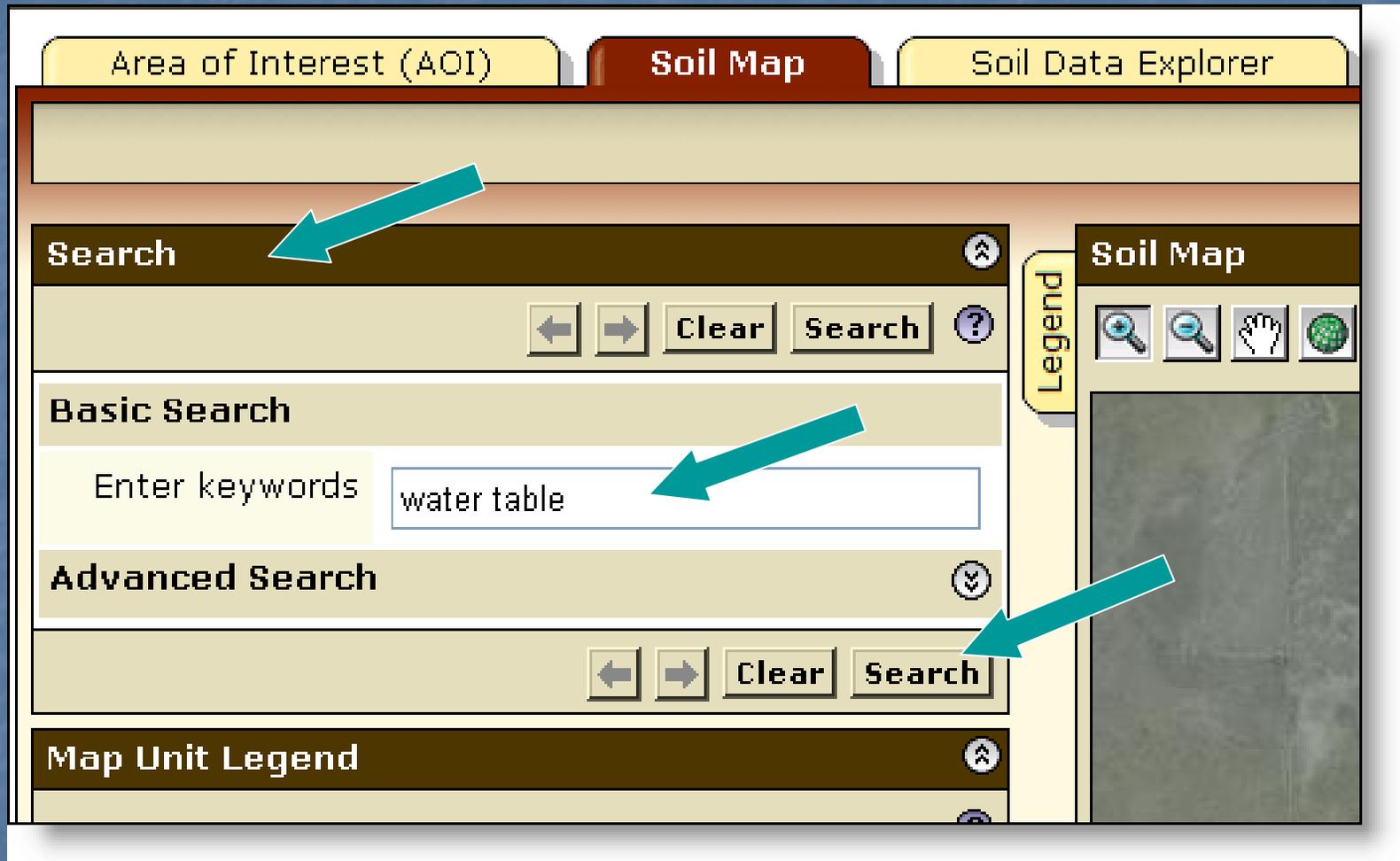
# Identify Tool

The screenshot shows a GIS application window titled "Area of Interest Interactive Map". On the left is a "Map Legend" panel with several categories: National Park Service, Tennessee Valley Authority, Water Features, Transportation, and Background. The "Aerial Photography" layer is selected. The main map area shows a satellite-style aerial photograph of a rural area with roads and water features. A yellow crosshair marker is placed on the map. At the bottom is an "Identify" window showing the "Map Layer - Aerial Photography" and a table of attributes.

Attribute Name	Attribute Value
Date aerial image was photographed	9/25/2006

- 1) Highlight the desired data layer, 2) click the identify tool. 3) Marker identifies the point you clicked on. 4) See the Attribute Value for information on the layer – e.g. date of photography.

# Search Function



- Click Search title bar to open it; enter key word(s); click Search button

# Search Results

The screenshot shows a search interface with a search bar containing 'water table'. Below the search bar, there are sections for 'Basic Search' and 'Advanced Search'. The search results are displayed as a tree view under the heading '"water table": 113 matches.' The tree view includes categories like 'Suitabilities and Limitations for Use' (50 matches), 'Soil Properties and Qualities' (6 matches), and 'Matched Help' (1 match). A teal arrow points to the 'Soil Properties and Qualities' category.

**Search**

← → Clear Search ?

**Basic Search**

Enter keywords

**Advanced Search**

← → Clear Search

**"water table": 113 matches.**

- Suitabilities and Limitations for Use** 50 matches
  - Matched the Rating Description 50 matches
- Soil Properties and Qualities** 6 matches
  - Matched the Folder description 1 match
    - [Water Features](#)
  - Matched the Rating name 1 match
    - [Water Features:Depth to Water Table](#)
  - Matched the Rating Description 3 matches
    - [Soil Qualities and Features:Frost Action](#)
    - [Soil Qualities and Features:Hydrologic Soil Group](#)
    - [Water Features:Depth to Water Table](#)
- Matched Help 1 match

- 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 that section.

# Linear Measuring Tool

The screenshot displays a GIS application window titled "Soil Map". The interface includes a toolbar with various navigation and analysis tools, a scale of 1:25,900, and a "Measure" panel at the bottom. A green line is drawn across the map, representing a linear segment. The "Measure" panel shows the following data:

Segment	Length
Segment 3	1,783 feet
Cumulative	1.28 miles

- Click ruler tool button
- Click to begin and end linear segments
- Segment length and cumulative length displayed
- Choose metric or English

# Area of Interest (AOI) Features

- Navigate to an AOI using basic map navigation themes
  - Transportation
  - Ortho photo
  - Hydrography
  - Political features
- Use available zoom in/out tools

# Area of Interest Features, cont.

- Navigate to an AOI using selection criteria:
  - Street address
  - State and County
  - Soil Survey Area
  - Latitude and Longitude
  - PLSS (Township, Range and Section)
  - Federal Land Boundaries
  - Hydrologic Unit

# Area of Interest Features, cont.

- Define an AOI by
  - drawing a polygon on a map
    - expanding rectangle, or
    - digitize multi-sided polygon
  - selecting a soil survey area
- Clear AOI

# Area of Interest Features, cont.

- Display data available for defined AOI
  - Soil data – from Soil Data Mart
  - Soil maps – from Soil Data Mart
- Name your AOI (optional)
- Choose either standard or national map unit symbols

# Locate Area of Interest (AOI)

USDA United States Department of Agriculture  
Natural Resources Conservation Service

Web Soil Survey

Contact Us | Download Soils Data | Archived Soil Surveys | Glossary | Preferences | Logout | Help

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

Search

Quick Navigation

Navigate By...

- Address
- State and County
- Soil Survey Area
- Latitude and Longitude
- 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: 1:50,000 ± 1 %

The screenshot displays the USDA Web Soil Survey interface. On the left, a 'Quick Navigation' menu lists various search criteria such as 'Address', 'State and County', and 'Soil Survey Area'. A teal arrow labeled 'Select' points to this menu. The main map area shows the contiguous United States with state boundaries and a red outline representing the Area of Interest (AOI). A teal arrow labeled 'Zoom' points to the map's navigation tools, and another teal arrow labeled 'Draw' points to the red AOI outline. The map includes a legend, a scale of 1:50,000, and a view extent of 'Contiguous U.S.'.

# Navigate to AOI by Street Address

USDA United States Department of Agriculture  
Natural Resources Conservation Service

Web Soil Survey

Contact Us | Download Soils Data | Archived Soil Surveys | Glossary | Preferences | Logout | Help

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

Search

Quick Navigation

Navigate By...

Address

View

Address: 11000 rocky ridge rd

City:

State:

Zip Code: 68526

Show Postal Code Layer in Map

View

State and County

Soil Survey Area

Latitude and Longitude

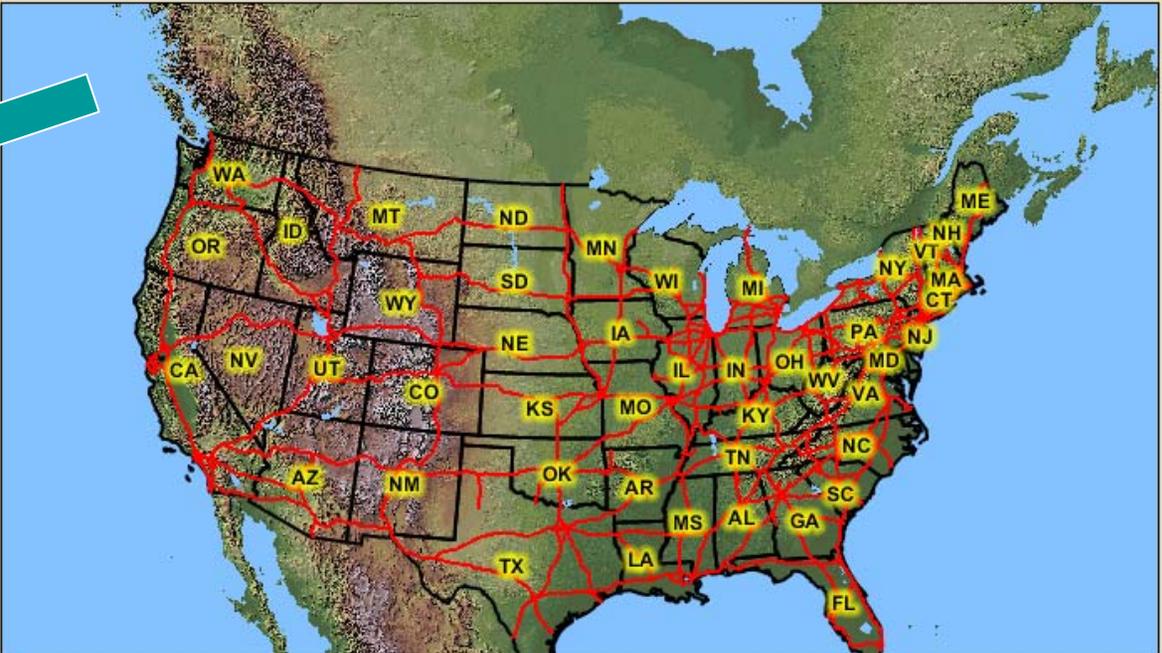
PLSS (Section, Township, Range)

Bureau of Land Management

Area of Interest Interactive Map

Legend

View Extent: Contiguous U.S. | Scale: 1:50,000 ± 1 %



# View by Street Address

USDA United States Department of Agriculture  
Natural Resources Conservation Service

Web Soil Survey

Contact Us | Download Soils Data | Archived Soil Surveys | Glossary | Preferences | Logout | Help

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

Search

Quick Navigation

Navigate By...

Address

View

Address: 11000 rocky ridge rd

City:

State:

Zip Code: 68526

Show Postal Code Layer in Map

View

State and County

Soil Survey Area

Latitude and Longitude

PLSS (Section, Township, Range)

Bureau of Land Management

Area of Interest Interactive Map

Legend

View Extent: Contiguous U.S. | Scale: 1:50,000 ± 1 %

Location marker

# Manage Displayed Data Layers

The screenshot displays a GIS application interface. On the left, a 'Map Legend' window is open, listing various data layers with checkboxes. A red arrow points to the 'States' checkbox. The main map area, titled 'Area of Interest Interactive Map', shows an aerial view of a rural area with roads and a highlighted 'NE' location. The map includes a toolbar with navigation tools, a 'View Extent' dropdown set to 'Contiguous U.S.', and a 'Scale' dropdown set to '1:50,000 ± 1 %'.

**Map Legend**

- Area of Interest (AOI)
- Area of Interest (AOI)
- Soils
  - Soil Survey Areas
  - Soil Map Units
  - Soil Ratings
- Special Point Features
- Special Line Features
- Political Features
  - States
  - Counties
  - Urban Areas
  - Cities
  - Postal Code
  - PLSS Township and Range
  - PLSS Section
- Federal Land

**Area of Interest Interactive Map**

View Extent: Contiguous U.S. | Scale: 1:50,000 ± 1 %

Map labels: Wind River Trl, 107th St, Ellenhdge Rd, 109th St, Aspen Canyon Rd, Rocky Ridge Ct, Lancaster, Rocky Ridge Rd, Deer Valley Ln, Pine Lake Rd, 112th St.

- Turn layers on or off by checking or unchecking box at left

# Navigate to AOI by County

USDA United States Department of Agriculture  
Natural Resources Conservation Service

Web Soil Survey

Contact Us | Download Soils Data | Archived Soil Surveys | Glossary | Preferences | Logout | Help

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

Search

Quick Navigation

Navigate By...

Address

State and County

View

State: Nebraska

County (optional): Lancaster

View

Soil Survey Area

Latitude and Longitude

PLSS (Section, Township, Range)

Bureau of Land Management

Department of Defense

Forest Service

National Park Service

Hydrologic Unit

Area of Interest Interactive Map

View Extent: Contiguous U.S. | Scale: 1:50,000 ± 1 %

# Navigate by Soil Survey Area

USDA United States Department of Agriculture  
Natural Resources Conservation Service

Web Soil Survey

Contact Us | Download Soils Data | Archived Soil Surveys | Glossary | Preferences | Logout | Help

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

Search

Quick Navigation

Navigate By...

Address

State and County

**Soil Survey Area**

Set AOI View ?

State: Nebraska

County (optional)

Soil Survey Area: Lancaster County, Nebraska

Show Soil Survey Areas Layer in Map

Set AOI

Latitude and Longitude

PLSS (Section, Township, Range)

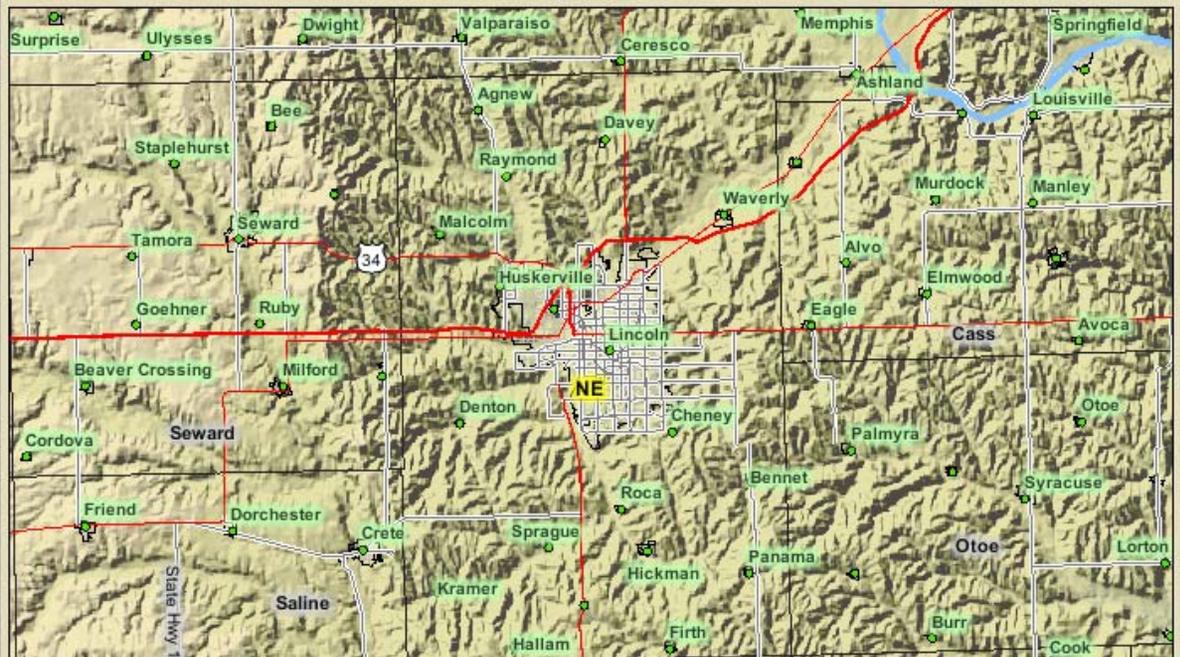
Bureau of Land Management

Department of Defense

Forest Service

Area of Interest Interactive Map

View Extent: Contiguous U.S. Scale: 1:50,000 ± 1 %



The map displays a topographic view of Lancaster County, Nebraska, with various soil survey areas labeled. A red outline highlights the selected area of interest, which includes the city of Lincoln and surrounding areas. The map includes a legend, navigation tools, and a scale of 1:50,000.

# Navigate by Latitude and Longitude

choose decimal degrees, or degrees, minutes and seconds

The screenshot displays the USDA Web Soil Survey interface. At the top, the USDA logo and 'Web Soil Survey' title are visible. Below the header, there are navigation tabs: 'Area of Interest (AOI)', 'Soil Map', 'Soil Data Explorer', and 'Shopping Cart (Free)'. The main content area is divided into a left sidebar and a central map area.

**Left Sidebar:**

- Search**
- Quick Navigation**
- Navigate By...**
  - Address
  - State and County
  - Soil Survey Area
  - Latitude and Longitude**
    - 
    - Latitude**
      - Decimal Degrees:
    - Longitude**
      - Decimal Degrees:
    -
  - PLSS (Section, Township, Range)
  - Bureau of Land Management
  - Department of Defense
  - Forest Service
  - National Park Service
  - Hydrologic Unit

**Central Map Area:**

- Area of Interest Interactive Map**
- Legend
- View Extent:
- Scale:   ± 1 %
- Map showing a satellite view of a rural area with a grid overlay. A yellow location marker labeled 'NE' is placed on the map, with an arrow pointing to it from the text 'Location marker'.

**Annotations:**

- A large teal arrow points from the 'Longitude' input field to the map area.
- A teal box contains the text: 'For an area between 0 and 180 degrees west longitude, enter a negative longitude number.'
- A teal arrow points from the text 'Location marker' to the yellow marker on the map.

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

USDA United States Department of Agriculture  
Natural Resources Conservation Service

Web Soil Survey

Contact Us | Download Soils Data | Archived Soil Surveys | Glossary | Preferences | Logout | Help

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

Search

Quick Navigation

Navigate By ...

- Address
- State and County
- Soil Survey Area
- Latitude and Longitude
- PLSS (Section, Township, Range)**

View

State: Nebraska

Principal Meridian: Sixth Principal

Section: 20

Township: 9

Range: 8

North

South

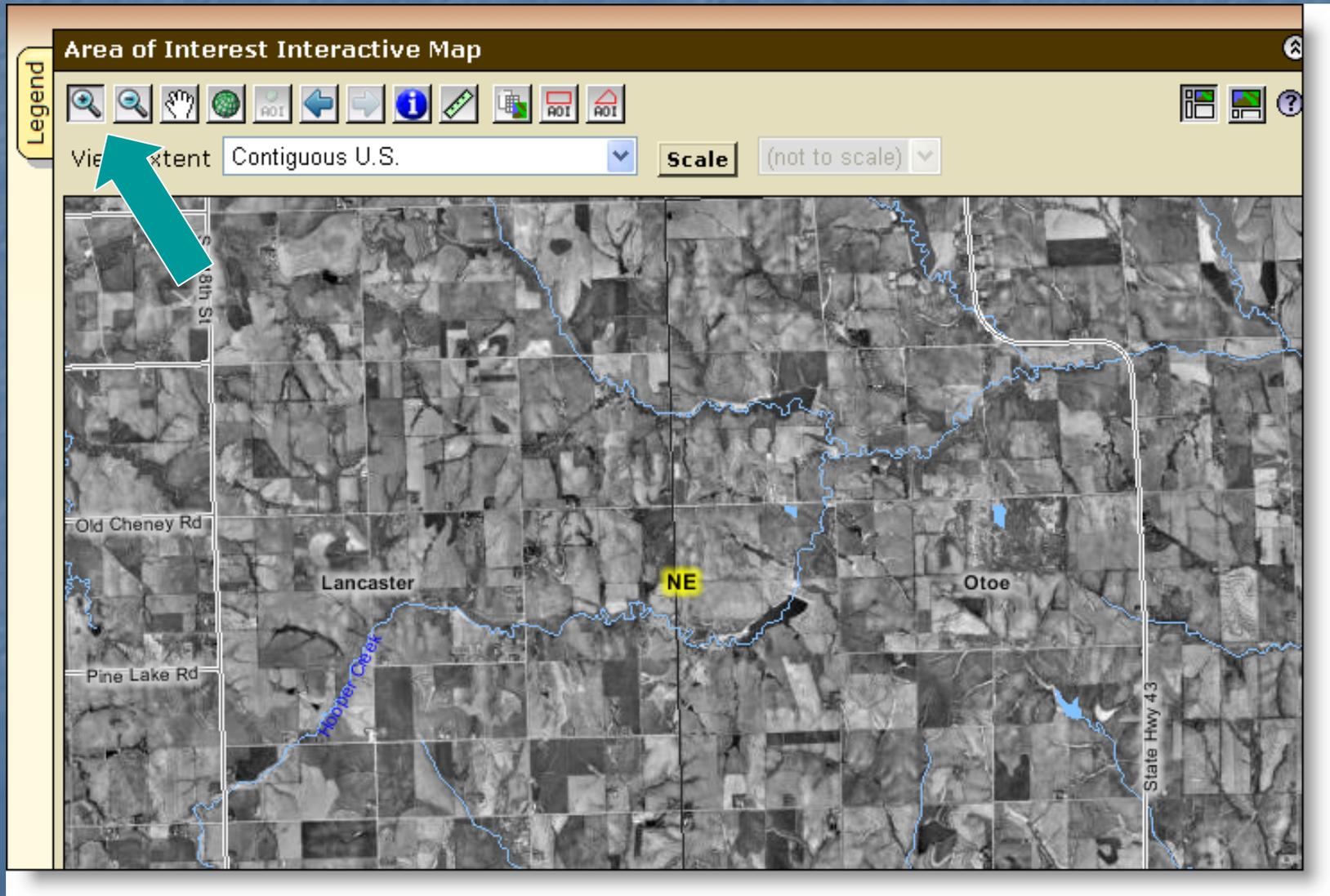
East

West

Area of Interest Interactive Map

View Extent: Contiguous U.S. | Scale: 1:50,000 ± 1 %

# Zoom In Tool – expanding rectangle



# Define AOI

- Remember - you must specifically set the AOI before you can view any maps or data.
  - Use one of the AOI buttons on toolbar
    - Expanding rectangle
    - Multi-sided polygon

or

- Select the area by choosing a Soil Survey Area, then clicking the Set AOI button.

# Define AOI – draw rectangle

The screenshot displays the 'Area of Interest Interactive Map' interface. The title bar at the top reads 'Area of Interest Interactive Map'. Below the title bar is a toolbar with various icons: a magnifying glass, a hand, a globe, two 'AOI' icons (one with a red rectangle), a left arrow, a right arrow, an information icon, a ruler, a grid, and another 'AOI' icon. A teal arrow points to the second 'AOI' icon in the toolbar. Below the toolbar, there are controls for 'View Extent' (set to 'Contiguous U.S.') and 'Scale' (set to '(not to scale)'). The main map area shows a grayscale aerial view of a rural landscape. A red rectangle is drawn over a portion of the map, indicating the defined Area of Interest. The rectangle is positioned over the Lancaster area, with the 'NE' label visible in yellow. Other labels on the map include 'S 148th St', 'Old Cheney Rd', 'Pine Lake Rd', 'Lancaster', 'Otoe', and 'State Hwy 43'. A blue line representing a river or stream is visible on the map.

# Selected AOI

USDA United States Department of Agriculture  
Natural Resources Conservation Service

Web Soil Survey

Contact Us | Download Soils Data | Archived Soil Surveys | Glossary | Preferences | Logout | Help

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

**Search**

**Area of Interest Properties**

**Clear AOI**

**AOI Information**

Name

Map Unit Symbols

- Use Soil Survey Area Map Unit Symbols
- Use National Map Unit Symbols

Area (acres) 3,069.2

**Soil Data Available from Web Soil Survey**

**Lancaster County, Nebraska (NE109)**

Soil Maps	Version 4, Dec 11, 2007
Soil Data	Version 9, Dec 11, 2007

**Clear AOI**

**Quick Navigation**

**Navigate By...**

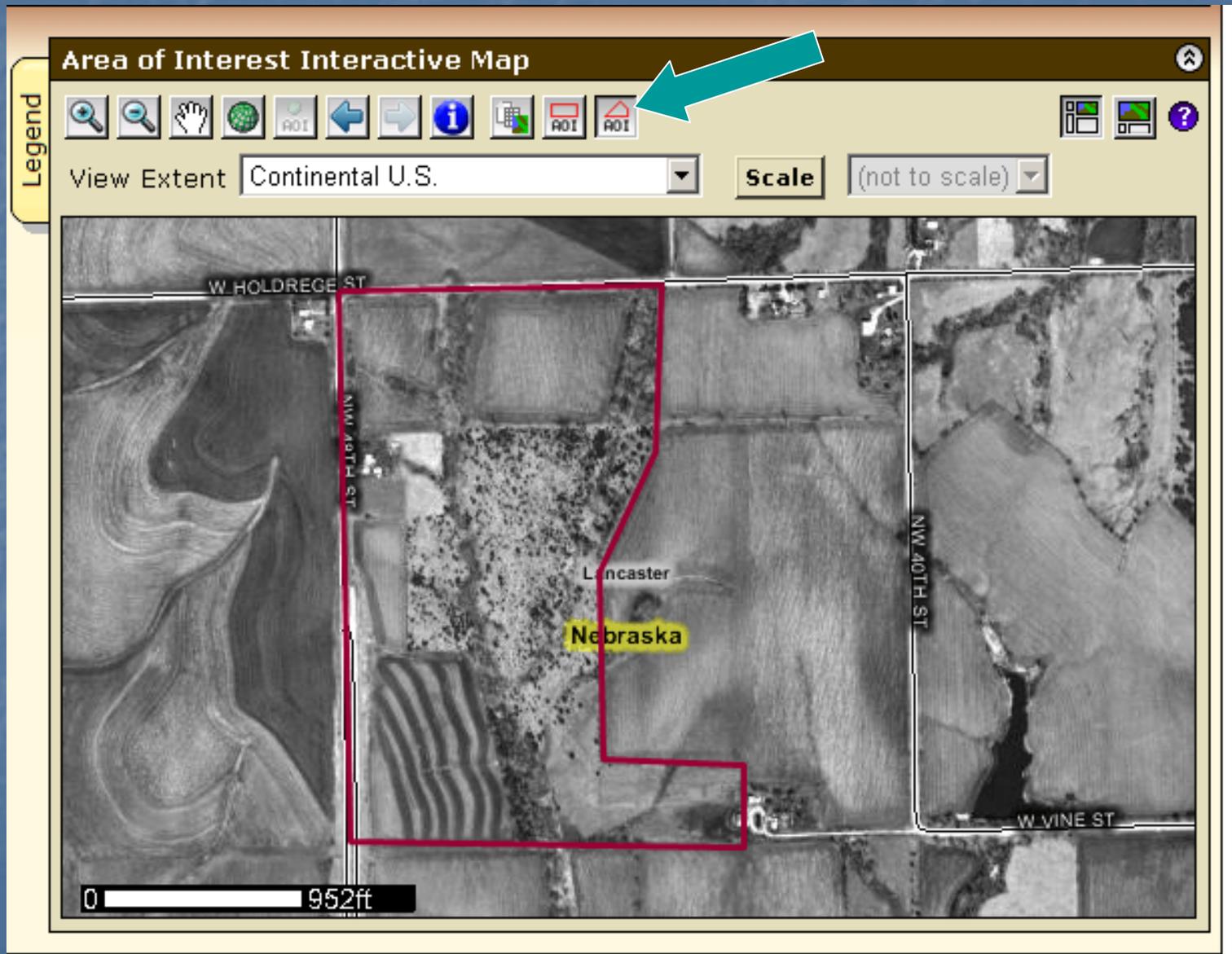
Address

**Area of Interest Interactive Map**

Legend

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

# Define AOI – multi-sided polygon



# Selected AOI

**Area of Interest Interactive Map**

Legend

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

W HOLDREGE ST

NW 48TH ST

Lancaster

Nebraska

NW 40TH ST

W VINE ST

0 939ft

# Explicitly clear the AOI

The screenshot displays the USDA Web Soil Survey interface. At the top, the USDA logo and 'Natural Resources Conservation Service' are visible on the left, and the 'Web Soil Survey' logo is on the right. A navigation bar includes links for 'Contact Us', 'Download Soils Data', 'Archived Soil Surveys', 'Glossary', 'Preferences', 'Logout', and 'Help'. Below this, a secondary navigation bar features buttons for 'Area of Interest (AOI)', 'Soil Map', 'Soil Data Explorer', and 'Shopping Cart (Free)'. The main content area is divided into a left sidebar and a right map area. The sidebar contains a 'Search' field, 'Area of Interest Properties' with a 'Clear AOI' button, 'AOI Information' with a 'Name' field and 'Map Unit Symbols' options, 'Soil Data Available from Web Soil Survey' for 'Lancaster County, Nebraska (NE109)', and 'Quick Navigation' options. The map area shows an aerial view of a rural landscape with a red hatched Area of Interest (AOI) overlaid. A red arrow points to the 'Clear AOI' button in the sidebar. The map includes labels for 'Pioneers Blvd', 'Old Cheney Rd', 'S 148th St', 'Lancaster', 'Hooper Creek', and 'Otoe'. The map controls include 'View Extent' set to 'Contiguous U.S.', a 'Scale' dropdown set to '(not to scale)', and various navigation icons.

# AOI Interactive Map - Help

**Area of Interest Interactive Map**

Legend

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

**Map Tools**

- Zoom In:** Enlarges a selected part of the map to make it easier to see details and to help you find a specific location. Select the *Zoom In* tool, then either click on the map (zooms in to an area 1/2 as large, at 2x the map scale) or drag a box around the area you would like to enlarge (zooms so that the selected area fills the map). Note that some map layers may appear or disappear, depending on map scale.
- Pan:** Moves the map up, down, or sideways so you can view a part of the map not currently visible. Panning does not change the view scale. Select the *Pan* tool, and then click and drag the map to the desired position.
- Zoom to Full Extent:** Zooms to the full geographic extent of the map. The default extent is "Contiguous U.S." You can select a different extent using the *View Extent* control.
- Zoom to AOI Extent:** Zooms to the geographic extent of your area of interest.
- Zoom History Back:** Returns to your last view of the map. Click the *Zoom History Back* button multiple times to view each of the last several map views you visited during your current session.
- Zoom History Forward:** Moves forward through the list of previous map views in your current session. This button is not enabled, of course, until you have used the *Zoom History Back* button.
- Identify:** Identify the features of a particular map layer at a location on the map. Open the **Legend** tab, click the name of a layer to make it the **active layer**, select the *Identify* tool, then click on the map. The layer information for the location you clicked appears in the *Identify* panel below the map. The *Identify* panel remains in the display until you select another map tool that has an output panel, or until you explicitly close it using the **X** button.
- Measure:** Measures the length of a **polyline** on the map. First, select the *Measure*

# View Soil Map

The screenshot displays the USDA Web Soil Survey interface. At the top, the USDA logo and 'Natural Resources Conservation Service' are visible. The main navigation bar includes links for 'Contact Us', 'Download Soils Data', 'Archived Soil Surveys', 'Glossary', 'Preferences', 'Logout', and 'Help'. Below this, a secondary navigation bar features tabs for 'Area of Interest (AOI)', 'Soil Map', 'Soil Data Explorer', and 'Shopping Cart (Free)'. The 'Soil Map' tab is currently selected. On the left side, there is a search bar and a section for 'Area of Interest Properties' with a 'Clear AOI' button. Below that is the 'AOI Information' section, which includes a 'Name' field, 'Map Unit Symbols' options (radio buttons for 'Use Soil Survey Area Map Unit Symbols' and 'Use National Map Unit Symbols'), and an 'Area (acres)' field showing '2,730.7'. Further down, it lists 'Soil Data Available from Web Soil Survey' for 'Lancaster County, Nebraska (NE109)', with 'Soil Maps' version 4 from Dec 11, 2007, and 'Soil Data' version 9 from Dec 11, 2007. A 'Quick Navigation' section is also present. The main map area is titled 'Area of Interest Interactive Map' and shows a satellite-style map of Lancaster, Nebraska. A cyan-colored rectangular area of interest is overlaid on the map, covering a portion of the city and surrounding areas. The map includes labels for 'Pioneers Blvd', 'Old Cheney Rd', 'S 148th St', 'Pine Lake Rd', 'Lancaster', 'Hooper Creek', and 'Otoe'. A legend is visible on the left side of the map area. The map controls include a 'View Extent' dropdown set to 'Contiguous U.S.' and a 'Scale' dropdown set to '(not to scale)'. A teal arrow points from the 'Soil Map' tab to the 'Area of Interest Properties' section.

- Click Soil Map tab

# Soil Map

Area of Interest (AOI)

Soil Map

Soil Data Explorer

Shopping Cart (Free)

Printable Version

Add to Shopping Cart



Search



Map Unit Legend



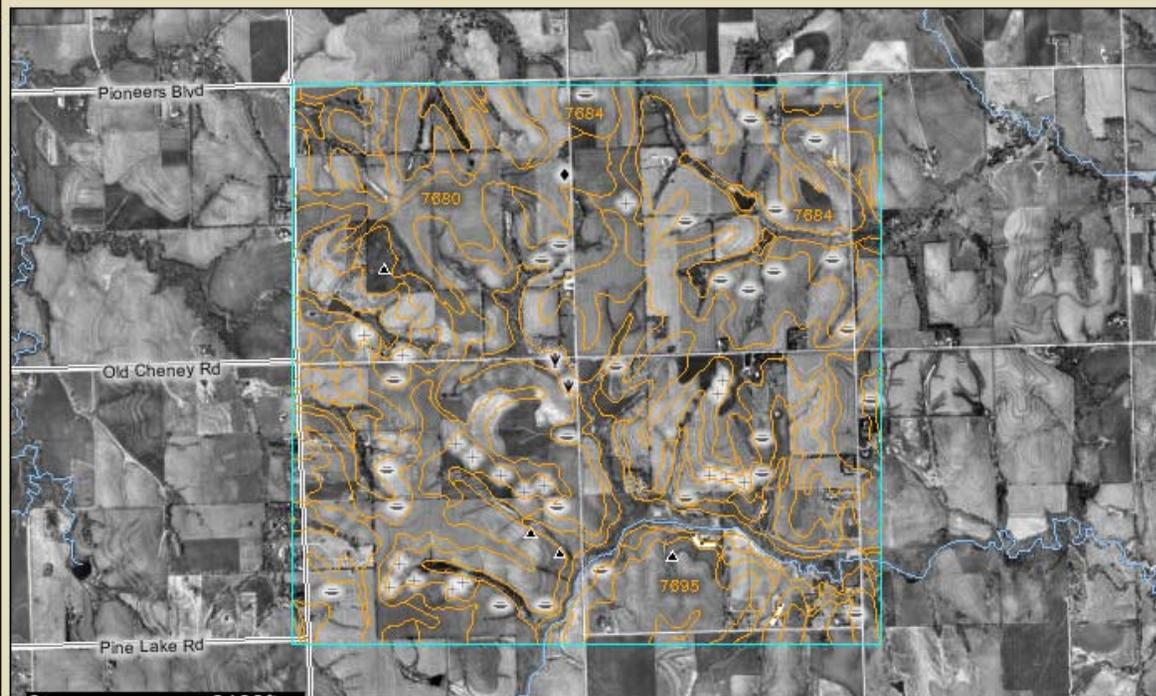
Lancaster County, Nebraska (NE109)



Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
7206	Aksarben silty clay loam, 2 to 6 percent slopes	412.6	15.1%
7207	Aksarben silty clay loam, 6 to 11 percent slopes	56.0	2.1%
7211	Burchard-Nodaway complex, 2 to 30 percent slopes	2.5	0.1%
7227	Burchard clay loam, 6 to 11 percent slopes	4.7	0.2%
7229	Burchard clay loam, 11 to 17 percent slopes	6.5	0.2%
7231	Judson silt loam, 2 to 6 percent	114.5	4.2%

Legend

Soil Map



# View/Print Map Unit Description

USDA United States Department of Agriculture  
Natural Resources Conservation Service

Contact Us Download Soils Data Archive

Area of Interest (AOI) Soil M

Search

Map Unit Legend

Lancaster County, Nebraska (NE109)

Map Unit Symbol	Map Unit Name	Area
7206	Aksarben silty clay loam, 2 to 6 percent slopes	412.6
7207	Aksarben silty clay loam, 6 to 11 percent slopes	56.0
7211	Burchard-Nodaway complex, 2 to 30 percent slopes	2.5
7227	Burchard clay loam, 6 to 11 percent slopes	4.7
7229	Burchard clay loam, 11 to 17 percent slopes	6.5
7231	Judson silt loam, 2 to 6 percent	114.5

Printable Version

Report — Map Unit Description

Lancaster County, Nebraska Version date: 11/2007  
4:00:56 PM

7206—Aksarben silty clay loam, 2 to 6 percent slopes

**Map Unit Setting**

*Elevation:* 1,000 to 1,500 feet  
*Mean annual precipitation:* 30 to 32 inches  
*Mean annual air temperature:* 52 to 55 degrees F  
*Frost-free period:* 160 to 180 days

**Map Unit Composition**

*Aksarben and similar soils:* 100 percent

**Description of Aksarben**

**Setting**

*Landform:* Hillslopes  
*Down-slope shape:* Convex, concave  
*Across-slope shape:* Linear  
*Parent material:* Loess

**Properties and qualities**

*Slope:* 2 to 5 percent  
*Depth to restrictive feature:* More than 80 inches  
*Drainage class:* Well drained  
*Capacity of the most limiting layer to transmit water (Ksat):*  
Moderately low to moderately high (0.06 to 0.20 in/hr)  
*Depth to water table:* More than 80 inches  
*Frequency of flooding:* None  
*Frequency of ponding:* None

Web Soil

le Version Add to

- Click on map unit name at left to view map unit description report
- Click Printable Version to print

# Print Options

oil Data Explorer    Shopping Cart (Free)

Printable Version    Add to Shopping Cart

### Printable Version Options

#### Report Options

Title: Soil Map; Bent County, Colorado

Subtitle (optional):

- Area of Interest Name: (none defined)
- Custom Subtitle:
- None

#### Map Options

Map Scale: 1:12,000

Printed Sheet Size: A (8.5" × 11") — 4 sheets

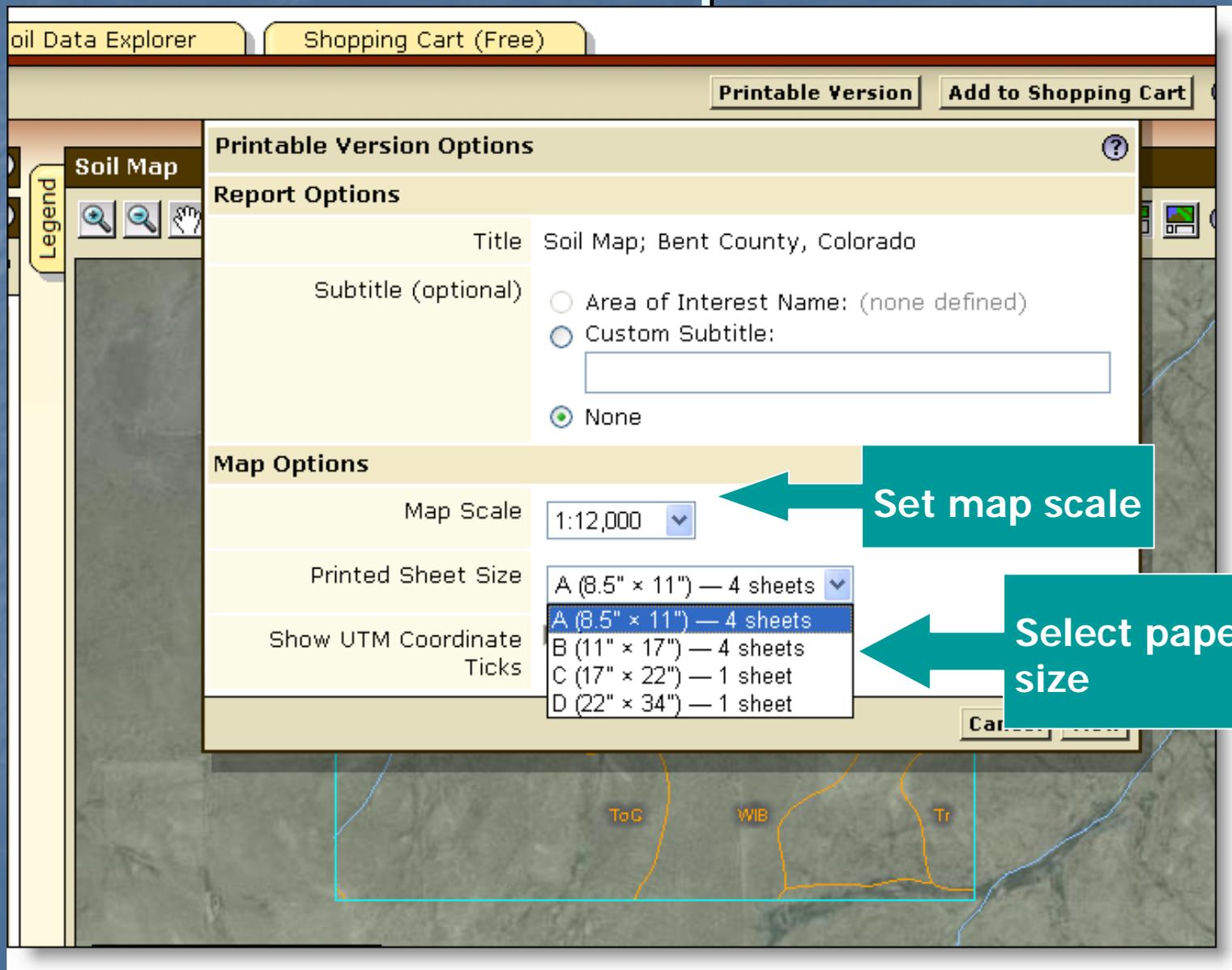
Show UTM Coordinate Ticks:

Call...

Soil Map

Legend

ToC    WIB    Tr



Set map scale

Select paper size

# Explore Soil Information

USDA United States Department of Agriculture  
Natural Resources Conservation Service

Web Soil Survey

Contact Us | Download Soils Data | Archived Soil Surveys | Glossary | **Soil Data Explorer** | Logout | Help

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

Printable Version | Add to Shopping Cart

Search

Map Unit Legend

Lancaster County, Nebraska (NE109)

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
7206	Aksarben silty clay loam, 2 to 6 percent slopes	412.6	15.1%
7207	Aksarben silty clay loam, 6 to 11 percent slopes	56.0	2.1%
7211	Burchard-Nodaway complex, 2 to 30 percent slopes	2.5	0.1%
7227	Burchard clay loam, 6 to 11 percent slopes	4.7	0.2%
7229	Burchard clay loam, 11 to 17 percent slopes	6.5	0.2%
7231	Judson silt loam, 2 to 6 percent	114.5	4.2%

Soil Map

Scale (not to scale)

# Soil Data Explorer Features

- Filter the soil information by land use category
- Learn the terminology and concepts of soils and specific land uses
- View interpretive soil data and soil properties in the form of thematic maps, tables, and text description
- Access ecological site information
- Print individual maps and reports
- Add content to free Shopping Cart

# Soil Data Explorer - Help

The screenshot shows the USDA Web Soil Survey interface. At the top, there is a navigation bar with links for Contact Us, Download Soils Data, Archived Soil Surveys, Glossary, Preferences, Logout, and Help. Below this is a secondary navigation bar with tabs for Area of Interest (AOI), Soil Map, Soil Data Explorer (which is active), and Shopping Cart (Free). The main content area is titled "View Soil Information By Use: All Uses" and includes a "Printable Version" and "Add to Shopping Cart" button. A help overlay is present, titled "2 View/Explore.", which explains the second step in using the Web Soil Survey. The overlay includes a "Soil Data Explorer" window showing a map and a list of soil information categories. A teal arrow points to the "Add to Shopping Cart" button in the main interface.

USDA United States Department of Agriculture  
Natural Resources Conservation Service

Contact Us | Download Soils Data | Archived Soil Surveys | Glossary | Preferences | Logout | Help

Area of Interest (AOI) | Soil Map | **Soil Data Explorer** | 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 | Economic Aspects

**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	?	▼

**Soil Map**

Legend

**2 View/Explore.**

**Soil Data Explorer**

The second step in using Web Soil Survey is to explore all of 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 view soil information about 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 Soil Data Explorer.

# Soil Data Explorer - Intro

USDA United States Department of Agriculture  
Natural Resources Conservation Service

Contact Us | Download Soils Data | Archived Soil Surveys | Glossary | Preferences | Logout | Help

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

View Soil Information: All Uses Print

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

**Search** ⌵

**Table of Contents** ⌵

**View Selected Topics** ?

- All Uses
  - Introduction to Soils
    - Soils 101
    - Information for Land Users
  - Cropland
    - Land capability classification
    - Soil erosion and crop production
    - Cropland management
  - Forestland
    - Grazed Forestland
    - Forest Canopy
    - Forest Overstory
    - Forest Understory
    - Forest Productivity
    - Forestland Ecological Sites
    - Forestland Management
    - Agroforestry

# Soil Data Explorer - Intro

USDA United States Department of Agriculture  
Natural Resources Conservation Service

Web Soil Survey

Contact Us Download Soils Data Archived Soil Surveys Glossary Preferences Logout Help

Area of Interest (AOI) Soil Map **Soil Data Explorer** 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** **Content**

**Table of Contents** [View Selected Topics](#)

- All Uses
- Introduction to Soils
  - Soils 101
  - Introduction for Land Users
  - Cropland
    - Land capability classification
    - Soil erosion and crop production
    - Cropland management
  - Forestland
    - Grazed Forestland
    - Forest Canopy
    - Forest Overstory
    - Forest Understory
    - Forest Productivity
    - Forestland Ecological Sites
    - Forestland Management
    - Agroforestry

**All Uses**

**Cropland**

Cropland is defined as a land cover or land use category that includes areas used for the production of adapted crops for harvest. Two subcategories of cropland are recognized: cultivated and noncultivated. Cultivated cropland is land that is used for either row crops or close-grown crops. Hayland or pastureland that is in a rotation with row crops or close-grown crops also is considered cultivated cropland. Noncultivated cropland includes permanent hayland and horticultural cropland.

Reference:  
"2001 Annual NRI Glossary of Key Terms," National Resources Inventory, USDA, NRCS

**Land capability classification**

Determinations of land capability involve consideration of the risks of land damage from erosion and other causes and the difficulties in land use resulting from physical land characteristics and from climate. Land capability, as used in the USA, is an expression of the effect of physical land characteristics and climate on the suitability of soils for crops that require regular tillage, for grazing, for woodland, and for wildlife habitat.

Land capability classification shows, in a general way, the suitability of soils for most kinds of field crops. Crops that require special management are excluded. The soils are grouped according to their limitations for field crops, the risk of damage if they are used for crops, and the way they respond to management. The criteria used in grouping the soils do not include major and generally expensive landforming that would change slope, depth, or other

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

# Filter Information by Land Use

The screenshot shows the USDA Web Soil Service interface. The top navigation bar includes links for 'Contact Us', 'Download Soils Data', 'Archived Soil Surveys', 'Glossary', 'Preferences', 'Logout', and 'Help'. Below this, there are tabs for 'Area of Interest (AOI)', 'Soil Map', 'Soil Data Explorer' (which is active), and 'Shopping Cart (Free)'. A dropdown menu is open under 'View Soil Information By Use:', listing various land uses: 'All Uses', 'Cropland', 'Forestland' (highlighted with a blue bar and a teal arrow), 'Hayland/Pastureland', 'Horticulture', 'Rangeland', 'Recreation', and 'Urban Uses'. Below the dropdown is a 'View Selected Topics' link. The main content area shows a search bar and a table of contents with a tree view of topics. The tree view shows a checked box for 'All Uses' and sub-topics like 'Introduction to Soils', 'Cropland', and 'Forestland'. The 'Forestland' sub-section is expanded, showing sub-topics like 'Grazed Forestland', 'Forest Canopy', 'Forest Overstory', 'Forest Understory', 'Forest Productivity', 'Forestland Ecological Sites', 'Forestland Management', and 'Agroforestry'.

- Select a specific land use from drop down list to filter content on the Soil Data Explorer tab.

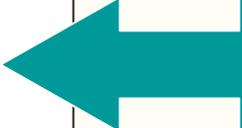
# Forestland Information

View Soil Information By Use:  [Printable Version](#) [Add to Shopping Cart](#) ?

[Intro to Forestland](#) [Suitabilities and Limitations for Use](#) [Soil Properties and Qualities](#) [Ecological Site Assessment](#) [Soil Reports](#)

**Table of Contents** [View Selected Topics](#) ?

- Forestland
  - Grazed Forestland
  - Forest Canopy
  - Forest Overstory
  - Forest Understory
  - Forest Productivity
    - Site Index
  - Forestland Ecological Sites
    - Succession and Retrogression
    - Historic Climax Plant Community
    - Naturalized Plant Community
  - Forestland Management
  - Agroforestry
    - Alley Cropping
    - Forest Farming
    - Riparian Forest Buffers
    - Silvopasture
    - Windbreaks
    - Special Applications
    - Where Does Agroforestry Apply?

 List of topics narrowed to those related to Forestland.

# Shopping Cart

The screenshot displays the USDA Web Soil Survey website. At the top, the USDA logo and "Natural Resources Conservation Service" are visible. The navigation bar includes links for "Contact Us", "Download Soils Data", "Archived Soil Surveys", "Glossary", "Preferences", "Logout", and "Help". Below this, there are tabs for "Area of Interest (AOI)", "Soil Map", "Soil Data Explorer", and "Shopping Cart (Free)". The "Shopping Cart (Free)" tab is highlighted, and a red arrow points to the "Add to Shopping Cart" button in the top right corner of the main content area. The main content area is titled "View Soil Information By Use: All Uses" and includes a "Printable Version" button and the "Add to Shopping Cart" button. Below this, there are several tabs for different soil information categories: "Intro to Soils", "Suitabilities and Limitations for Use", "Soil Properties and Qualities", "Ecological Site Assessment", and "Soil Reports". The "Intro to Soils" tab is selected, showing a "Table of Contents" on the left and "All Uses" content on the right. The "Table of Contents" includes a "View Selected Topics" button and a list of topics with checkboxes. The "All Uses" content includes a section for "Cropland" with a definition, a reference, and a section for "Land capability classification" with a definition.

- Any material displayed in right-hand panel (intro text, maps, tables, etc) can be added to the free Shopping Cart for later retrieval. All added content is bundled into a single PDF file for download or printing.

# Suitabilities and Limitations

The screenshot displays the USDA Web Soil Survey interface. At the top, the USDA logo and 'Web Soil Survey' title are visible. The navigation bar includes 'Contact Us', 'Download Soils Data', 'Archived Soil Surveys', 'Glossary', 'Preferences', 'Logout', and 'Help'. Below this, there are tabs for 'Area of Interest (AOI)', 'Soil Map', 'Soil Data Explorer', and 'Shopping Cart (Free)'. The 'Soil Data Explorer' tab is active, showing a dropdown for 'View Soil Information By Use: All Uses' and buttons for 'Printable Version' and 'Add to Shopping Cart'. The main content area has several tabs: 'Intro to Soils', 'Suitabilities and Limitations for Use' (selected), 'Soil Properties and Qualities', 'Ecological Site Assessment', and 'Soil Reports'. On the left, a 'Search' box is present. Below it, the 'Suitabilities and Limitations Ratings' section is expanded, showing 'Building Site Development' with sub-categories: 'Corrosion of Concrete', 'Corrosion of Steel', and 'Dwellings With Basements' (highlighted in red). A teal arrow points to 'Dwellings With Basements'. Below this, there are 'View Description' and 'View Rating' buttons. The 'View Options' section includes checkboxes for 'Map', 'Table', 'Component Breakdown and Rating Reasons', 'Numeric Values', 'Description of Rating', and 'Rating Options'. On the right, the 'Soil Map' section shows a map with a scale of 1:16,900 and a legend. The map displays a soil map overlay on a satellite image, with a teal box highlighting a specific area. The map includes contour lines and various soil codes like 55, 133, 485, 733, 138B, and 107. A street labeled '540th St' and '5th Ave' is visible at the bottom right of the map.

- Display a variety of interpretations as a thematic map.
- Open a category folder, then select desired interpretation. Click View Rating

# Display Interpretive Map

The screenshot shows the 'Soil Data Explorer' web application. The main map area is titled 'Dwellings With Basements' and displays a soil suitability map overlaid on an aerial view. The map shows various soil units with different colors representing suitability ratings: red for 'Very limited', yellow for 'Somewhat limited', and green for 'Not limited'. A legend on the left side of the map lists the following features and their ratings:

Feature	Rating
Area of Interest (AOI)	Not limited
Soil Survey Areas	Very limited
Soil Map Units	Very limited
Soil Ratings	Very limited
Special Point Features	Very limited
Special Line Features	Very limited
Political Features	Very limited
States	Very limited
Counties	Very limited
Urban Areas	Very limited
Cities	Very limited
Postal Code	Very limited
PLSS Township and Range	Very limited

A teal arrow points to the 'Legend' tab in the map interface, which is currently active. The map also shows a scale of 1:16,900 and a scale bar. The map is overlaid on a grid with coordinates and street names like '540th St' and '15th Ave'.

- Click Legend tab to display map legend. Table below map shows rating and limiting features of each soil in Summary Report.

# Summary Report

Tables — Dwellings With Basements — Summary By Map Unit

Summary by Map Unit — Buena Vista County, Iowa						
Map unit symbol	Map unit name	Rating	Component name (percent)	Rating reasons (numeric values)	Acres in AOI	Percent of AOI
6	Okoboji silty clay loam, 0 to 1 percent slopes	Very limited	Okoboji, ponded (95%)	Depth to saturated zone (1.00)	2.7	0.3%
				Shrink-swell (1.00)		
				Ponding (1.00)		
			Knoke, ponded (5%)	Ponding (1.00)		
				Depth to saturated zone (1.00)		
				Shrink-swell (1.00)		
34B	Estherville sandy loam, 2 to 5 percent slopes	Not limited	Estherville (90%)		1.3	0.2%
55	Nicollet loam, 1 to 3 percent slopes	Very limited	Nicollet (90%)	Depth to saturated zone (1.00)	201.2	25.5%
62C	Storden loam, 5 to 9 percent slopes	Not limited	Storden (85%)		25.3	3.2%
62D	Storden loam, 9 to 14 percent slopes	Somewhat limited	Storden (85%)	Slope (0.63)	10.8	1.4%
62E	Storden loam, 14 to 18 percent slopes	Very limited	Storden (85%)	Slope (1.00)	2.2	0.3%
73C	Salida gravelly	Not limited	Salida (90%)		1.1	0.1%

# Interpretation Description and Rating Options Used

## 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

# Soil Properties and Qualities

Area of Interest (AOI)    Soil Map    **Soil Data Explorer**    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** ?

**Properties and Qualities Ratings** ?

[Open All](#)    [Close All](#) ?

- Soil Chemical Properties ?
- Soil Erosion Factors ?
- Soil Physical Properties ?
- Soil Qualities and Features ?
- Water Features ?

**Soil Map** ?

Scale: 1:16,900 ±1%



540th St  
th Ave

# Select Property or Quality

Area of Interest (AOI)   Soil Map   **Soil Data Explorer**   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** ?

**Properties and Qualities Ratings** ?

[Open All](#)   [Close All](#) ?

Soil Chemical Properties ?

Soil Erosion Factors ?

Soil Physical Properties ?

**Soil Qualities and Features** ?

AASHTO Group Classification (Surface)

Depth to a Selected Soil Restrictive Layer

Depth to Any Soil Restrictive Layer

**Drainage Class**

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

**View Options** ?

Map

Table

Description of Rating

Rating Options

Detailed Description

**Advanced Options** ?

**Soil Map** ?

Legend

Scale 1:16,900 ±1%

0 1862ft

540th St

115th Ave

# Display Results

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

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

Intro to Soils | **Map Legend** | Properties Qualities | Ecological Site Assessment | Soil Reports

**Search**

**Properties**

Soil Chemicals

Soil Erosion

Soil Physical

**Soil Quality**

AASHTO G

Depth to a

Depth to A

**Drainage**

**View Options**

Description

Rating Options

Detailed Description

**Advanced Options**

**Map Legend**

- Area of Interest (AOI)
  - Area of Interest (AOI)
- Soils
  - Soil Survey Areas
  - Soil Map Units
  - Soil Ratings
    - Excessively drained
    - Somewhat excessively drained
    - Well drained
    - Moderately well drained
    - Somewhat poorly drained
    - Poorly drained
    - Very poorly drained
    - Not rated or not available
  - Special Point Features
  - Special Line Features
- Political Features
  - States

**Map - Drainage Class**

Scale: 1:16,900 ±1%

0 1862ft

540th St

T15th Ave

**Tables - Drainage Class - Summary By Map Unit**

**Tables — Drainage Class — Summary By Map Unit**

**Summary by Map Unit — Buena Vista County, Iowa**

<b>Map unit symbol</b>	<b>Map unit name</b>	<b>Rating</b>	<b>Acres in AOI</b>	<b>Percent of AOI</b>
6	Okoboji silty clay loam, 0 to 1 percent slopes	Very poorly drained	2.7	0.3%
34B	Estherville sandy loam, 2 to 5 percent slopes	Somewhat excessively drained	1.3	0.2%
55	Nicollet loam, 1 to 3 percent slopes	Somewhat poorly drained	201.2	25.5%
62C	Storden loam, 5 to 9 percent slopes	Well drained	25.3	3.2%
62D	Storden loam, 9 to 14 percent slopes	Well drained	10.8	1.4%
62E	Storden loam, 14 to 18 percent slopes	Well drained	2.2	0.3%
73C	Salida gravelly sandy loam, 5 to 9 percent slopes	Excessively drained	1.1	0.1%
107	Webster silty clay loam, 0 to 2 percent slopes	Poorly drained	93.3	11.8%
133	Colo silty clay loam, 0 to 2 percent slopes	Poorly drained	14.2	1.8%
138B	Clarion loam, 2 to 5 percent slopes	Well drained	277.7	35.2%
138C2	Clarion loam, 5 to 9 percent slopes, moderately eroded	Well drained	54.5	6.9%
203	Cylinder loam, deep, 0 to 2 percent slopes	Somewhat poorly drained	3.2	0.4%

# Change Land Uses

Area of Interest (AOI) | Soil Map | **Soil Properties and Qualities** | Ecological Site Assessment | Shopping Cart (Free)

View Soil Information By Use: **Cropland** | Printable Version | Add to Shopping Cart

Intro to Cropland | **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
- Disaster Recovery Planning
- Land Classifications
- Vegetative Productivity
- Waste Management
- Water Management

**Soil Map**

Scale: 1:16,900 ±1%

List changes according to land use

# Ecological Site Name Map

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

View Soil Information By Use:     [Printable Version](#)    [Add to Shopping Cart](#)

[Intro to Rangeland](#)    **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

Disaster Recovery Planning

**Land Classifications**

Ecological Site ID

**Ecological Site Name**

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

**View Options**

Map

Table

Description of Rating

Rating Options

Detailed Description

**Basic Options**

**Map — Ecological Site Name: NRCS Rangeland Site**

**Scale** 1:21,300 ±1%   

Legend

# Ecological Site Assessment

Area of Interest (AOI) | Soil Map | **Soil Data Explorer** | Shopping Cart (Fr...

View Soil Information By Use: Rangeland Printable Version Add to Shopping Cart ?

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

**Search** ⌵

**Ecological Sites** ⌵

Open All Close All ?

**All Ecological Sites**

View All Ecological Sites Info ?

**View Options** ⌵

Dominant Ecological Site Map

Ecological Sites by Map Unit Component Table

**Basic Options** ⌵

Ecological Site Rangeland Type

View All Ecological Sites Info

R067BY047CO — Alkaline Plains ⌵

R069XY006CO — Loamy Plains ⌵

R069XY026CO — Sandy Plains ⌵

R069XY053CO — Sandstone Breaks ⌵

**Map — Dominant Ecological Site — Rangeland** ⌵

Legend Scale 1:21,300 ±1%

0 2319ft

**Table — Ecological Sites by Map Unit Component — Rangeland** ⌵

# View Soil Data Reports

The screenshot displays the USDA Web Soil Survey interface. At the top, the USDA logo and 'Web Soil Survey' title are visible. The navigation bar includes links for 'Contact Us', 'Download Soils Data', 'Archived Soil Surveys', 'Glossary', 'Preferences', 'Logout', and 'Help'. The main content area is divided into several tabs: 'Area of Interest (AOI)', 'Soil Map', 'Soil Data Explorer' (which is the active tab), and 'Shopping Cart (Free)'. Below the tabs, there are buttons for 'View Soil Information By Use: All Uses', 'Printable Version', and 'Add to Cart'. A teal arrow points to the 'Add to Cart' button. The 'Soil Data Explorer' tab is further divided into sub-sections: 'Intro to Soils', 'Suitabilities and Limitations for Use', 'Soil Properties and Qualities', 'Ecological Site Assessment', and 'Soil Reports'. A teal arrow points to the 'Soil Reports' sub-section. On the left side, there is a 'Search' panel with a 'Soil Reports' section. This section contains a list of reports with expand/collapse icons. A teal arrow points to the 'View Soil Report' button for the 'Chemical Soil Properties' section. Below this, there are 'Options' for 'Include Minor Soils' and another 'View Soil Report' button. The main area of the 'Soil Data Explorer' is a 'Soil Map' showing a topographic map with soil boundaries and labels (e.g., VcD, Va, Ve). The map includes a scale of 1:24,600 and a scale bar for 2470ft.

# Chemical Soil Properties Report

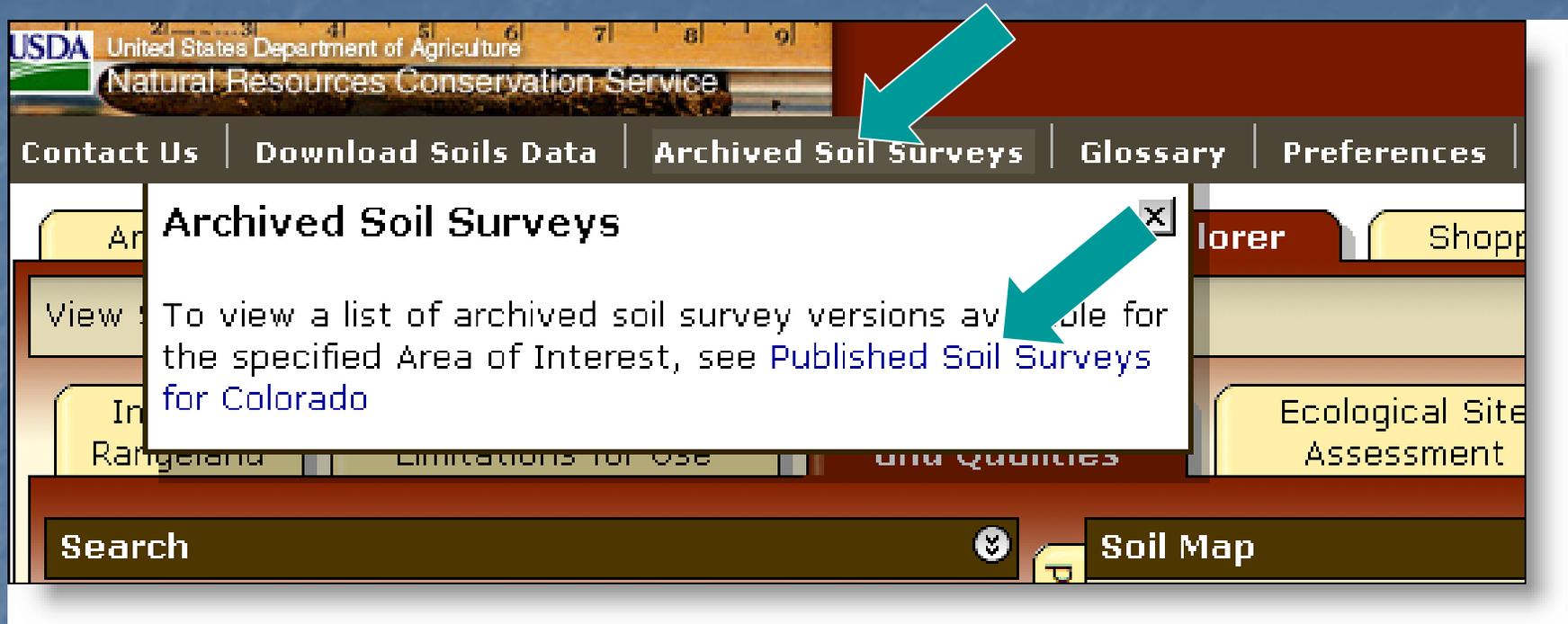
## Report — Chemical Soil Properties

### Bent County, Colorado

Map symbol and soil name	Depth	Cation-exchange capacity	Effective cation-exchange capacity	Soil reaction	Calcium carbonate	Gypsum	Salinity	Sodium adsorption ratio
	<i>In</i>	<i>meq/100g</i>	<i>meq/100g</i>	<i>pH</i>	<i>Pct</i>	<i>Pct</i>	<i>mmhos/cm</i>	
BaA—Baca silt loam, 0 to 3 percent slopes								
Baca	0-2	5.0-20	—	6.6-7.8	0	0	0	0
	2-18	20-40	—	7.4-8.4	0-5	0	0.0-2.0	0
	18-60	5.0-20	—	7.9-9.0	1-15	0-3	0.0-2.0	0
BaC—Baca silt loam, 3 to 5 percent slopes								
Baca	0-2	5.0-20	—	6.6-7.8	0	0	0	0
	2-18	20-40	—	7.4-8.4	0-5	0	0.0-2.0	0
	18-60	5.0-20	—	7.9-9.0	1-15	0-3	0.0-2.0	0
DeB—Deertrail clay loam, 0 to 5 percent slopes								
Deertrail	0-6	10-25	—	7.4-8.4	0-5	0	0	0-5
	6-13	20-40	—	7.4-8.4	1-5	0-2	0.0-4.0	0-5
	13-20	20-40	—	8.5-9.0	0-2	0-2	0.0-4.0	5-18
	20-60	15-30	—	7.9-9.0	5-15	0-2	4.0-8.0	13-15
Du—Dune land								

- Report is displayed below the soil map.

# Access Archived Soil Survey Publications



USDA United States Department of Agriculture  
Natural Resources Conservation Service

Contact Us | Download Soils Data | **Archived Soil Surveys** | Glossary | Preferences

**Archived Soil Surveys**

To view a list of archived soil survey versions available for the specified Area of Interest, see [Published Soil Surveys for Colorado](#)

Search [ ] Soil Map

- A listing of previous soil survey report publications for the Area of Interest is stored on an external web site. Click the highlighted link to go there.



**Search**

Soils

**Soil Survey**

- ▶ Web Soil Survey
- ▶ Soil Data Mart
- ▶ Listing Of Soil Surveys by State
- ▶ Status Maps
- ▶ Soil Survey Schedule
- ▶ Global Climate Change
- ▶ National Soil Characterization Data
- ▶ Soil Climate Research Stations
- ▶ Soil Geochemistry Spatial Database
- ▶ Soil Research Results
- ▶ Soil Geography
- ▶ eFOTG (county technical guides)

- ▶ Find a Service Center
- ▶ States and Regions

## Published Soil Surveys for Colorado

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.**

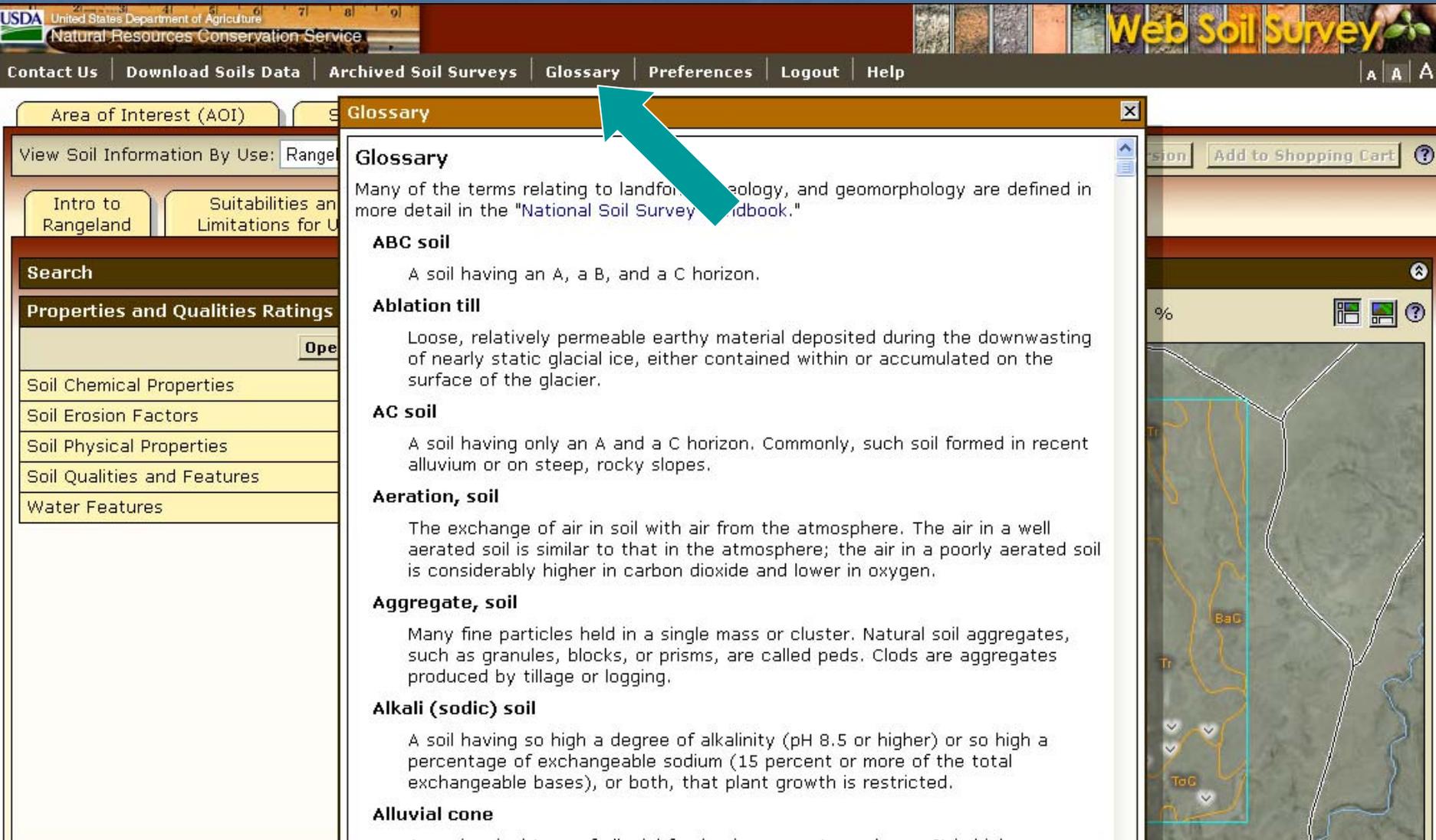
[How to Save an Archived Soil Survey Publication to Your Local Machine](#) (PDF; 2.8 MB)

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  
 655 Parfet Street  
 Room E200C  
 Lakewood, CO 80215-5521  
 Phone: 720-544-2810  
 FAX: 720-544-2965

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)
<a href="#">Adams Area, Parts of Adams and Denver Counties</a>	Current	No	No	No	Yes
<a href="#">Adams County</a>	1974	No	Yes	Yes	No

# Access Glossary of Terms



USDA United States Department of Agriculture  
Natural Resources Conservation Service

Web Soil Survey

Contact Us | Download Soils Data | Archived Soil Surveys | **Glossary** | Preferences | Logout | Help

Area of Interest (AOI) | **Glossary**

View Soil Information By Use: Range

Intro to Rangeland | Suitabilities and Limitations for U

**Search**

**Properties and Qualities Ratings**

Open

Soil Chemical Properties

Soil Erosion Factors

Soil Physical Properties

Soil Qualities and Features

Water Features

## Glossary

Many of the terms relating to landform, geology, and geomorphology are defined in more detail in the "National Soil Survey Handbook."

**ABC soil**

A soil having an A, a B, and a C horizon.

**Ablation till**

Loose, relatively permeable earthy material deposited during the downwasting of nearly static glacial ice, either contained within or accumulated on the surface of the glacier.

**AC soil**

A soil having only an A and a C horizon. Commonly, such soil formed in recent alluvium or on steep, rocky slopes.

**Aeration, soil**

The exchange of air in soil with air from the atmosphere. The air in a well aerated soil is similar to that in the atmosphere; the air in a poorly aerated soil is considerably higher in carbon dioxide and lower in oxygen.

**Aggregate, soil**

Many fine particles held in a single mass or cluster. Natural soil aggregates, such as granules, blocks, or prisms, are called peds. Clods are aggregates produced by tillage or logging.

**Alkali (sodic) soil**

A soil having so high a degree of alkalinity (pH 8.5 or higher) or so high a percentage of exchangeable sodium (15 percent or more of the total exchangeable bases), or both, that plant growth is restricted.

**Alluvial cone**

A conical deposit of alluvial fan debris on a steep slope. It is higher

Add to Shopping Cart

%



# Access the Free Shopping Cart

The screenshot shows a web application interface with a top navigation bar containing four tabs: "Area of Interest (AOI)", "Soil Map", "Soil Data Explorer", and "Shopping Cart (Free)". A teal arrow points to the "Shopping Cart (Free)" tab. In the top right corner, there is a "Check Out" button and a help icon. The main content area is divided into several sections:

- Search**: A dropdown menu.
- Report Properties**: A section with a help icon.
- Title**: A section with a "Title" field containing "Custom Soil Resource Report for Bent County, Colorado". Below it, the "Subtitle" section has three radio button options: "Area of Interest Name: (none defined)", "Custom Subtitle:" (with an empty text input field), and "None". A teal arrow points to the "Custom Subtitle" input field with the text "Enter Subtitle if desired."
- Size**: A section with a "Total Size" field showing "984 KB (1.0 MB)".
- Map Options**: A section with a "Map Scale" dropdown set to "Automatic", a "Printed Sheet Size" dropdown set to "A (8.5\" x 11\") — 1 sheet", and a checked "Show UTM Coordinate Ticks" checkbox. A teal arrow points to the "Map Scale" dropdown with the text "Choose map scale and paper size."
- Table of Contents**: A section with a help icon. A teal arrow points to it with the text "Table of Contents shows content of Shopping Cart".

At the bottom left, a table of contents entry is partially visible: "Custom Soil Resource Report for Bent" with a size of "984 KB".

# Table of Contents

Table of Contents	
<input checked="" type="checkbox"/> <input type="checkbox"/> Custom Soil Resource Report for Lancaster County, Nebraska: Knox Place	2,081 KB
<input checked="" type="checkbox"/> <input type="checkbox"/> Cover	518 KB
<input checked="" type="checkbox"/> <input type="checkbox"/> Preface	3 KB
<input checked="" type="checkbox"/> <input type="checkbox"/> Contents	1 KB
<input checked="" type="checkbox"/> <input type="checkbox"/> How Soil Surveys Are Made	5 KB
<input checked="" type="checkbox"/> <input type="checkbox"/> Soil Map	411 KB
<input checked="" type="checkbox"/> <input checked="" type="checkbox"/> Soil Map	381 KB
<input checked="" type="checkbox"/> <input type="checkbox"/> Map Unit Legend	4 KB
<input checked="" type="checkbox"/> <input type="checkbox"/> Map Unit Description	27 KB
<input checked="" type="checkbox"/> <input type="checkbox"/> Soil Data Explorer	1,140 KB
<input type="checkbox"/> <input type="checkbox"/> All Uses	
<input type="checkbox"/> <input type="checkbox"/> Cropland	
<input type="checkbox"/> <input type="checkbox"/> Forestland	
<input type="checkbox"/> <input type="checkbox"/> Hayland/Pastureland	
<input type="checkbox"/> <input type="checkbox"/> Horticulture	
<input checked="" type="checkbox"/> <input type="checkbox"/> Rangeland	1,140 KB
<input type="checkbox"/> <input type="checkbox"/> Intro to Rangeland	
<input checked="" type="checkbox"/> <input type="checkbox"/> Suitabilities and Limitations for Use	762 KB
<input checked="" type="checkbox"/> <input type="checkbox"/> Building Site Development	383 KB
<input checked="" type="checkbox"/> <input checked="" type="checkbox"/> Dwellings without Basements	383 KB
<input checked="" type="checkbox"/> <input type="checkbox"/> Land Classifications	379 KB
<input checked="" type="checkbox"/> <input checked="" type="checkbox"/> Ecological Site Name: NRCS Rangeland Site	379 KB
<input checked="" type="checkbox"/> <input type="checkbox"/> Ecological Site Assessment	378 KB
<input checked="" type="checkbox"/> <input checked="" type="checkbox"/> All Ecological Sites	378 KB
<input type="checkbox"/> <input type="checkbox"/> Recreation	
<input type="checkbox"/> <input type="checkbox"/> Urban Uses	
<input checked="" type="checkbox"/> <input type="checkbox"/> References	3 KB
<input type="checkbox"/> <input type="checkbox"/> Glossary	113 KB

Soil map, map unit legend, and map unit descriptions are automatically added.

Items can be deselected by unchecking them on the list if you decide you do not want to get them. Additional items must be added in previous screens.

# Preview an Item

Area of Interest (AOI)    Soil Map    Soil Data Explorer    **Shopping Cart (Free)**    [Check Out](#)

**Search**

**Report Properties**

**Table of Contents**

<input checked="" type="checkbox"/> Custom Soil Resource Report for Bent County, Colorado	971 KB
<input checked="" type="checkbox"/> Cover	518 KB
<input checked="" type="checkbox"/> Preface	3 KB
<input checked="" type="checkbox"/> Contents	0 KB
<input checked="" type="checkbox"/> How Soil Surveys Are Made	5 KB
<input checked="" type="checkbox"/> Soil Map	416 KB
<input checked="" type="checkbox"/> Soil Map	379 KB
<input checked="" type="checkbox"/> Map Unit Legend	3 KB
<input checked="" type="checkbox"/> Map Unit Description	33 KB
<input checked="" type="checkbox"/> Soil Data Explorer	24 KB
<input checked="" type="checkbox"/> All Uses	24 KB
<input checked="" type="checkbox"/> Soil Properties and Qualities	24 KB
<input checked="" type="checkbox"/> Soil Qualities and Features	24 KB
<input checked="" type="checkbox"/> Map Unit Name	12 KB
<input checked="" type="checkbox"/> Hydrologic Soil Group	13 KB
<input checked="" type="checkbox"/> References	3 KB
<input type="checkbox"/> Glossary	113 KB

**Soil Map**

**Click on an item to preview it.**

# Check Out

The screenshot displays a web application interface with a top navigation bar containing tabs for 'Area of Interest (AOI)', 'Soil Map', 'Soil Data Explorer', and 'Shopping Cart (Free)'. A 'Check Out' button is located in the top right corner, highlighted by a red arrow. A 'Checkout Options' dialog box is open, showing 'Delivery Options' with two radio buttons: 'Get now' (selected) and 'Download later'. The dialog also includes 'Cancel' and 'OK' buttons. The background features a soil map with various soil types labeled (MeC, Tr, ToC, WIB, Tr) and a scale bar (0 to 2720ft). The left sidebar contains sections for Search, Report Properties, Title, Subtitle, Size, Map Options, and Table of Contents.

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

**Check Out** ?

**Checkout Options** ?

**Delivery Options**

Select a Delivery Method

Get now

Download later

Cancel   OK

**Search** ?

**Report Properties** ?

**Title**

Title Custom Soil Resource Report for Bent County, Colorado

Subtitle

Area of Interest Name: (none defined)

Custom Subtitle:

None

**Size**

Total Size 971 KB (0.9 MB)

**Map Options**

Map Scale Automatic

Printed Sheet Size A (8.5" × 11") — 1 sheet

Show UTM Coordinate Ticks

**Table of Contents** ?

0 2720ft

- During Check Out you can elect to get the file now or later.
- Then click OK.

# Custom Soil Resource Report being generated

Area of Interest (AOI)   Soil Map   Soil Data Explorer   **Shopping Cart (Free)**   [Check Out](#) ?

**Search**   **Report Properties**   **Soil Map**

**Title**

Title: Custom Soil Resource Report for Bent County, Colorado

Subtitle:  Area of Interest Name: (none defined)    Custom Subtitle:     None

**Size**

Total Size: 971 KB (0.9 MB)

**Map Options**

Map Scale:   Printed Sheet Size:   Show UTM Coordinate Ticks:

**Table of Contents**

**Soil Map**

Generating custom soil resource report...

# Custom Soil Resource Report

1 / 28 47.5% Find

**Bookmarks** Options

- Cover
- Preface
- Contents
- How Soil Surveys Are Made
- Soil Map
  - Soil Map
  - Legend
  - Map Unit Legend
- Map Unit Descriptions
  - Bent County, Colorado
    - Version date: 1/17/2008 2:11:34 PM
      - DeB—Deertr  
ail clay loam,  
0 to 5  
percent  
slopes
      - KmB—Kim  
loam, 0 to 5  
percent  
slopes
      - MaC—Minna

**USDA** United States Department of Agriculture  
**NRCS** Natural Resources Conservation Service

A product of the National Cooperative Soil Survey, a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local participants

## Custom Soil Resource Report for Bent County, Colorado

