

# SRITB Updates

Document created on: 6/27/2007

Slide 1

## SRITB Updates

April 16, 2007

The objectives of this training are:

1. Provide updates to the April 3<sup>rd</sup> 2006 training (Provided via video)
1. Provide train the trainer type of instruction to identify common help desk type questions
1. Assist users in deciding which tools are most appropriate for particular applications
1. Provide explanations for "mutually exclusive" requirements and possibly provide some alternatives
1. Provide a forum for input into future developments

- Objectives
- Identify updates in the SRITB since April 2006
- Help participants choose and customize field tools
  - NASIS (restricted to office use at this time)
  - Geodatabase Setup
  - PedonPC
  - PedonCE
  - Autopopulation
  - Digital Editing Tools
- At the end of this presentation participants should be able to assist field soil scientists in choosing the appropriate tools and provide support in their use.

# Geodatabase Setup Models will be moving

National Geospatial Development Center | Products - Windows Internet Explorer

http://www.ngdc.wvu.edu/~hferguson/training/dssm/index.html

File Edit View Favorites Tools Help

National Geospatial Developm... Page Tools

## Digital Soil Survey Mapping and Updating Course

This is a development site. Please do not link to this page. These materials will be moved to an NRCS site in the near future.

Documents require Adobe Acrobat, Powerpoint or Microsoft Word.

[Introduction to Digital Soil Survey Mapping and Updating \(1.4 MB\)](#)

ArcGIS 9.1 Materials - Last Updated November 2006. Materials were provided earlier, but I do not have a roadmap for integrating them with the sections below. I am sorry, but you will have to sift through them based upon your experience with the course.

- ArcGIS 9.1
  - [Quality Control Toolbox including "Find common soil lines" model for ArcGIS 9.1 \(137 KB\) - \(August 2006\)](#)
  - [Newest course materials downloaded from Ft. Worth August 18th 2006. I did not integrate these materials with the materials in sections 2 to 7 below because I did not know of the interactions between pieces. I will post a few of the files with newer dates here in section 1." \(403 files - 62 folders\) - \(August 2006\)](#)
  - [Geodatabase Setup \(3 MB\) - \(May 2006\)](#)
  - [It looks like the sample data was updated to work with 9.1 \(Multiple files\) - \(Sept 2006\)](#)
  - [It looks like this acre calculation tool is new as of August 06. I am not sure how it relates to the acreage calculation tool below in the 8.3 materials \(Multiple files\) - \(September 2006\)](#)
- ArcGIS 9.0 Materials - Last Updated August 18, 2005
  - [ArcToolbox Setup \(654 KB\) - \(August 2005\)](#)
  - [Geodatabase Setup \(2.9 MB\) - \(August 2005\)](#)
  - [ArcMap Setup \(3.0 MB\) - \(April 2005 - image file size reduced\)](#)
  - [Editing Part 1 \(13.9 MB\) - \(April - 2005\)](#)

Do they belong with Training Materials, NASIS Downloads, or GIS Materials?

- <http://www.ngdc.wvu.edu/~hferguson/training/dssm/index.html>

The Current System is too confusing. Even this page has three versions of the Geodatabase Setup instructions.

**Digital Soil Survey Mapping and Updating Course**

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  - [Geodatabase Setup \(3 MB\) - \(May 2006\)](#)
  - [It looks like the sample data was updated to work with 9.1 \(Multiple files\) - \(Sept 2006\)](#)
  - [It looks like the user selection tool is new as of August 06. I am not sure how it relates to the average calculation tool below in the 8.3 materials. \(Multiple files\) - \(September 2006\)](#)
- ArcGIS 9.0 Materials - Last Updated August 18, 2005**
  - [ArcToolbox Setup \(854 KB\) - \(August 2005\)](#)
  - [Geodatabase Setup \(2.9 MB\) - \(August 2005\)](#)
  - [ArcMap Setup \(3.0 MB\) - \(April 2005 - image file size reduced\)](#)

- ArcGIS 8.3**
  - [Digital Soil Survey Mapping and Updating \(1.4 MB\)](#)
  - [Analog to Digital Soil Mapping Process \(493 KB\)](#)
  - [Geodatabase Setup \(7.4 MB\)](#)
  - [Map Setup \(16 MB\)](#)
  - [ArcGIS Editing Part I \(12 MB\)](#)
  - [ArcGIS Editing Part II \(19.8 MB\)](#)
  - [Topology Setup \(5.7 MB\)](#)
  - [Printing Maps \(6.7 MB\)](#)
  - [Metadata \(1.2 MB\)](#)
  - [Quality Control \(8.4 MB\)](#)
  - [Spatial Data Management \(6.6 MB\)](#)
- Background**
  - [Introduction to Computers and Software Tools \(153 KB\)](#)
  - [Data Acquisition Issues \(11.5 MB\)](#)
  - [Geodatabase Setup \(1.1 MB\)](#)
  - [Geodatabase Topology Concepts \(2.9 MB\)](#)

The current instructors for the Digital Mapping and Updating Course are Whityn Owen and Drew Kinney. Users of the models should feel comfortable calling upon these individuals for advice.

There will be setup models for Personal Geodatabases as well as File Based Geodatabases. All this is going to get confusing. That is why we need to move to a central location with clear instructions.

Whityn and Drew will be working with Marc Crouch to clear this up. Hopefully this will be completed sometime in May of 2007.

# Models ensure consistency in the setup of the Soil Survey Geodatabase

## Three Types of Setup

- Initial polygon survey
  - For new surveys with no existing digital data
  - Digitize features as polygons
  - All features must close, no dangling lines
  - Requires a survey boundary polygon file
- Initial lines survey
  - For new surveys with no existing digital data
  - Digitize features as lines, convert to polygons
  - Allows dangles, smoothing, and generalizing
- Update survey
  - Requires existing digital soils data
  - Designed for SSURGO shapefiles downloaded from the Soil Data Mart

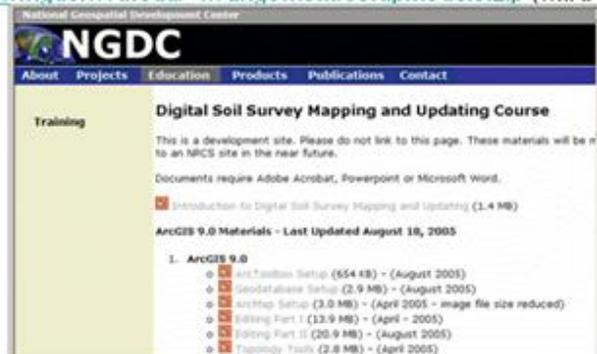


**There is a model for everyone. Initials and updates.**

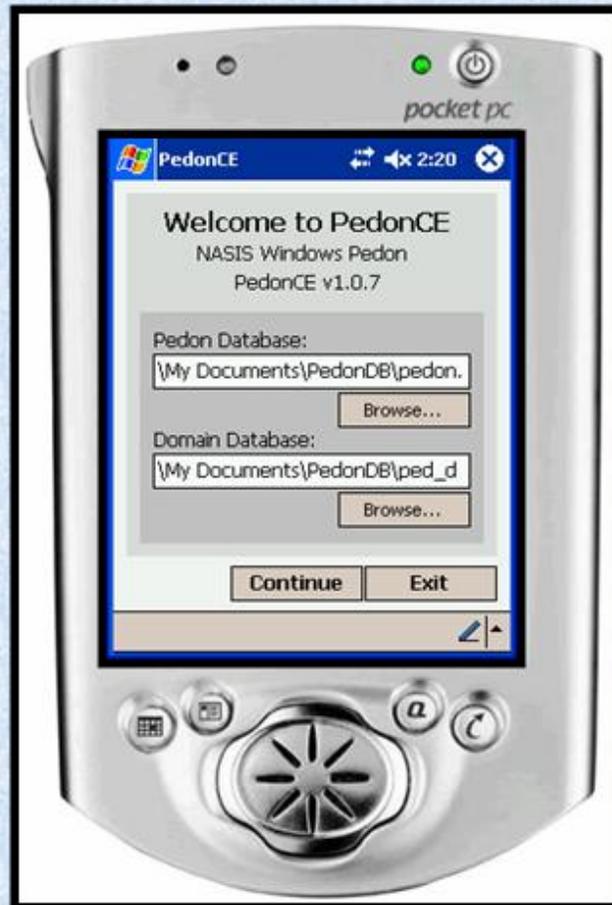
# Geodatabase Setup Models will be moving

Download `setuptoolbox.zip`

- From Digital Soil Survey Course CD
- From Digital Soil Survey Course Website
  - <http://www.ngdc.wvu.edu/~hferguson/training/dssm/>
  - <http://www.ngdc.wvu.edu/~kvanqorkom/setupModels.zip> (will be moved to soils pages)



# Pedon CE



- Currently has some support issues. Can not get the databases off PDA's with Mobile 5.0 operating system.

People that are using Pedon CE like it. People that have stopped using Pedon CE believe that it is too slow. The performance of Pedon CE can be improved by limiting the size of the choice lists. Particularly the taxonomic classification.

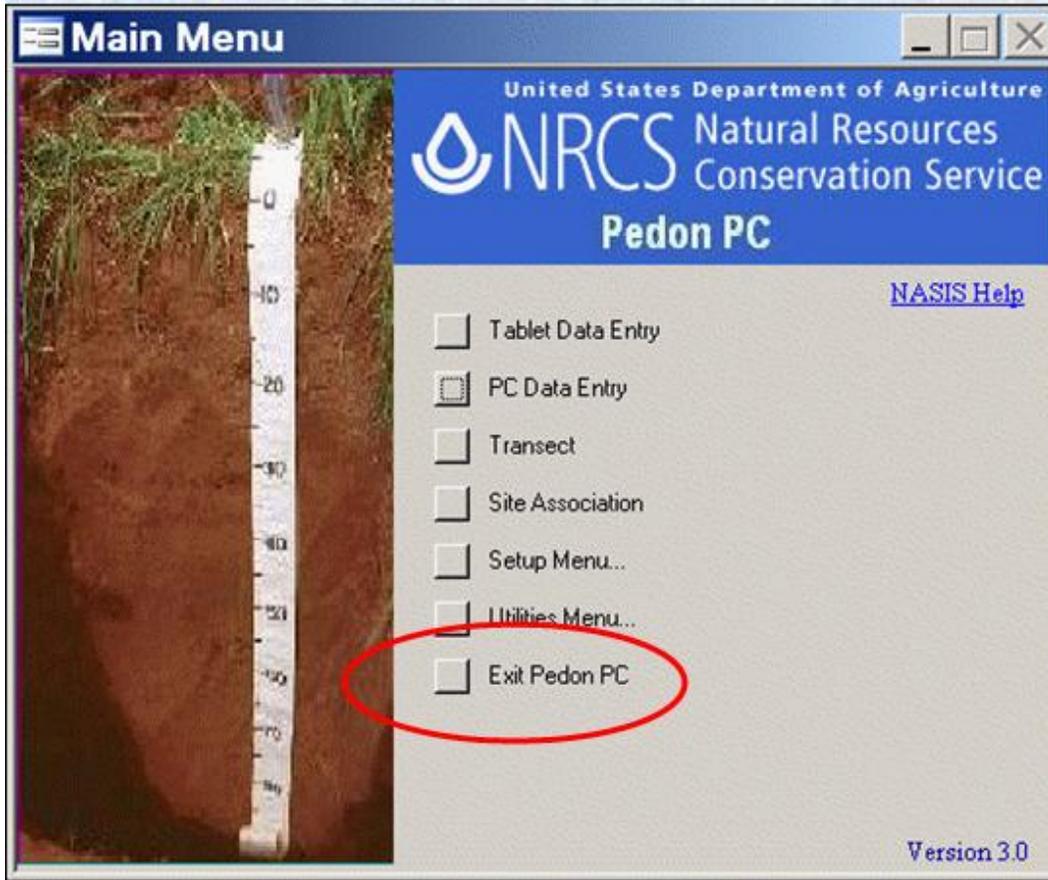
The three driving forces behind Pedon CE are the size of the PDA's (small and lightweight), battery life, and the cost. The cost of the units do not outweigh the cost of developing the software for them. If units operating regular Windows get smaller the advantage of the PDA's will go out the window.

The fate of Pedon CE will be discussed during the SBAAG meeting in May of 2007. There is a very strong desire to please the soil scientists in the field that want small mobile devices. However, I believe that the intital thought is to obtain the new tablets, have individuals that currently are using PDA's to try out the new tablets, and then make a decision based upon their performance and whether they are adopted by individuals that currently are using PDA's.

# Pedon PC 3.0

The latest version of Pedon PC software is Pedon PC 3.0. It is currently posted on the NASIS Download page and can be identified based upon the "Exit Pedon PC" text on the Main Menu.

If you happen to have a version that says Exit this Database, then you are not using the latest version of Pedon PC.



Version 3.0

# NASIS

- 22 horizon tables
- 9 Pedon tables
- 6 Site Observation Tables
- 8 Site Tables
- 2 Transect Tables
- 4 Site Associate Tables
- 51 Point Tables

## Pedon PC 8 Tabs

- 3 pedon tabs
- 3 site tabs
- 1 Transect Tab
- 1 Site Association Tab

The whole point behind Pedon PC is to make it easier to access the 51 point tables in NASIS. The user can customize the user interface for the region of the country that the application will be used in. For example, choice lists can be modified and tables can be moved, resized, or even removed from the interface.

# Available off the NASIS Downloads Page

- <http://nasis.nrcs.usda.gov/downloads/>



Pedon PC 3.0 is available.

Contains Domains from September 2006.

Currently Pedon PC 3.0 is available from the NASIS download page. Pedon PC 3.0 should be available shortly.

Beta test software and pre-release software is available to team members via the developer's page at <http://www.ngdc.wvu.edu/~smagnotta/>.

Team members that obtain this software understand that it is not "final" and they recognize that they are responsible for backing up their data and providing feedback to the developers in terms of enhancement suggestions or bug fixes.

# Pedon PC requires the New/Empty Windows Pedon Database

- That is where the data is stored

**Windows Pedon**

- [Subscribe to WINDOWS PEDON NEWS](#)  
Please subscribe if you wish to receive news about events and things related to the Windows Pedon application. This includes such things as new versions, documentation updates, known bugs, helpful hints, etc.
- [Download Windows Pedon 1.1.2 Install Package](#) (Approximately 32,131K bytes)  
Last Updated: 12/20/02  
Download and run this executable to install Windows Pedon. See the Windows Pedon 1.1 Installation Guide for details.  
If you have a slow connection to the internet and don't want to download 32MB, please request a CD from the Soils Hotline:  
Tammy Cheever: (402) 437-5379  
Steve Speidel: (402) 437-5378  
e-mail: [hotline@lin.usda.gov](mailto:hotline@lin.usda.gov)
- [Download New/Empty Windows Pedon Database](#) (Approximately 2500K bytes)  
Last Updated: 09/08/06  
Download a new/empty Windows Pedon database to replace a database that you have submitted for uploading to NASIS.  
This new database does contain basic geographic area and geomorphic feature lookup data, but you will have to reload whatever plant lookup data you were using into this new/empty Windows Pedon database.

The Pedon.mdb file which is available from the NASIS web site includes domain changes made last September (09/2006). The basic structure of the pedon.mdb file has not changed for several years, and does not include all of the fields available in NASIS.

PedonPC depends upon the pedon.mdb file and therefore does not include all of the fields that are in NASIS. The reason for this is that the upload script does not support all of the fields and we did not want the field to input data into an input application that would be lost upon upload.

(See Field Measured Properties page for a discussion of proposed additions to NASIS)

[http://www.ngdc.wvu.edu/~hferguson/Field\\_Measured\\_Properties/index.htm](http://www.ngdc.wvu.edu/~hferguson/Field_Measured_Properties/index.htm)

# The minimum setup

- Default directory is C:/Pedon
- Files required are  
pedon\_pc.mdb  
pedon.mdb



User's Guide Page 2-4

The minimum setup includes the pedon.mdb file for storing data and the pedon PC.mdb file which acts as the user interface.

The default location for PedonPC 3.0 and Pedon PC 2.0 is the c:/pedon directory.

There are no other options for the pedon.mdb file for Pedon PC 2.0. However, PedonPC 3.0 includes options for other file names and locations.

# With just two files you can enter most site and horizon data

All that is needed is the blank pedon database and the Pedon PC application to input most data.

The Pedon.mdb file is a Windows Pedon file so the two applications can be used interchangeably.

Microsoft Access - [Pedon Tablet Form]

File Edit View Insert Format Records Tools Window Help

User Site ID: **PEDON DESCRIPTION** [Customize Choice Lists](#)  
[Metric-English Calculator](#)  
[Copy a Pedon](#)

505-WW037-3  Check to Search by Pedon

Site 1 Site 2 Site 3 Pedon Horizon 1 Horizon 2

**Pedon Horizon:** Note: No horizon child tables may be populated without data in a corresponding horizon parent record. ? - StrSize

Seq	ObsMthd	Disc	Mstr	M	Pr	P	Suffix	VertSu	UpDep	LoDep	DH	Dry	DVal	DChr	MstHue	MstVal
			A				p	1	0	10					10YF	4
			A				p,p	2	10	18					7.5Y	4
			B				t	1	18	41					5YR	4
			B				t	2	41	61					2.5Y	4
			B				t	3	61	127					2.5Y	4

**Designation Suffix:**

Seq	Suf	Suffix
	1	p

**Matrix Color:**

% - Color	Hue - Color Hue	Val - Colq	Chr - Colo	Moist - Mois	PhySt - Color
	10YR	4	2	M	

**Texture:**

TexCl - Texture C	InLieu	Structure Grade	Sz - Structur	Type - St	ID - Struc	Parts - Par
+ sil			CO	PL		

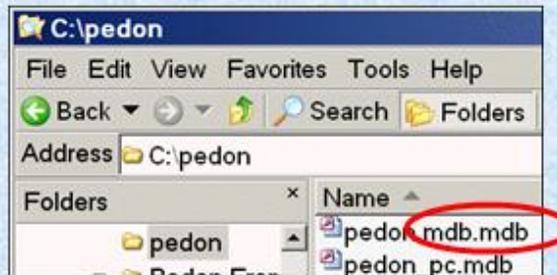
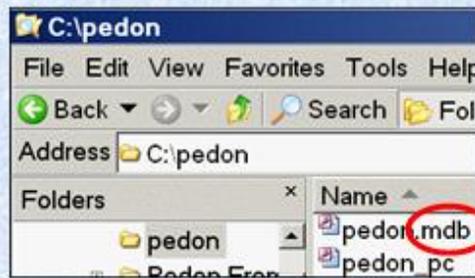
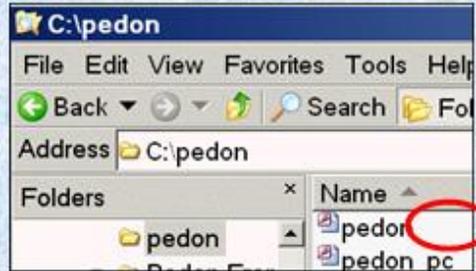
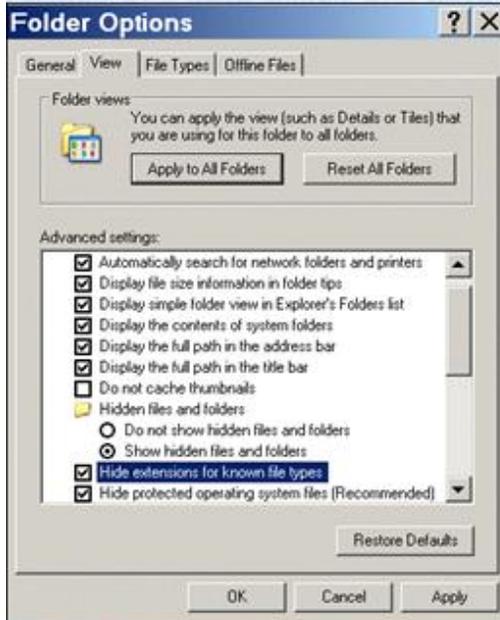
**Fragments:**

Seq	%	Kind	SzL	SzR	SzH	Shp	Rnd - Roundnes	Hrd - Hardnes
	1							
	5							
	5							
	1							

Record: 1 of 1

Form View

# Beware to view extensions



- If the extensions are hidden and you add one, you will end up with two .mdb's
- .mdb.mdb

One advantage to Pedon PC is that it is an application that does not have to be CCE certified. Access is the software which is CCE certified and Pedon PC is an Access Application.

One disadvantage to Pedon PC is that it does not have to be CCE certified. That means that no install is required. This leaves it up to the user to understand the software.

Some users that are not familiar with computers at all might read the instructions and try to rename the pedon.mdb and the pedon\_pc.mdb files to pedon.mdb.mdb and pedon\_pc.mdb.mdb if they are not familiar with Windows explorer options.

# New: From the setup form choose databases and their locations

It is very easy for users to skip directions. If a user skips the relink step and saves and exits, no changes are actually made to the setup.

**f\_setup : Form**

**Setup**

Step 1: The current location and name for the pedon database is shown below. Press the "Browse..." button and select a different database location and name, if necessary. The default location and name is C:\pedon\pedon.mdb. This database is required for Pedon PC to run.

Browse... c:\pedon\pedon.mdb

Step 2: The current location and name for the SSURGO database is shown below. Press the "Browse..." button and select a different database location and name, if necessary. The default location and name is C:\pedon\templatedb.mdb. This database is not required but is recommended.

Browse... c:\pedon\templatedb.mdb

Step 3: If you have changed the location of the pedon database in Step 1 or the location of the SSURGO database in step 2, press the "Relink Manager" button to update the links to the tables.

**Relink Manager**

Step 4: The current location and name for the ArcMap application is shown below. Press the "Browse..." button to change the location and name of ArcMap, if necessary. This is used on the Analysis Form. The default location and name is C:\Program Files\ARCGIS\bin\ArcMap.exe:

Browse... C:\Program Files\ARCGIS\bin\ArcMap.exe

Step 5: The current location and name of your Internet Browser is shown below. Press the "Browse..." button to change the location and name of your Internet Browser, if necessary. This is used on the Pedon Description Report Form. The default location and name is C:\Program Files\Internet Explorer\iexplore.exe:

Browse... C:\Program Files\Internet Explorer\iexplore.exe

Step 6: Press the "Save and Exit" button to save your changes or press the "Discard and Exit" button to cancel your path changes.

Save and Exit:

Discard and Exit:

The Relink Manager must be chosen before you Save and Exit!!

The Setup Screen can be used to point Pedon PC to a different database on shared drive, but the data from the first database does not move.

The Setup Screen can be used to point Pedon PC to a different database on shared drive, but the data from the first database does not move.

The only way to combine data from multiple databases is by uploading to NASIS.

Microsoft Access - [Pedon Tablet Form]

User Site ID: PEDON DESCRIPTION  
 505-WW037-3 Check to Search by Pedon

Site 1 Site 2 Site 3 Pedon Horizon 1 Horizon 2

**Pedon Horizon:** Note: No horizon child tables may be populated without data in a corresponding horizon parent record. ? - StrSize

Seq	ObsMthd	Disc	Mstr - M	Pr - P	Suffix	VertSu	UpDep -	LoDep - l	DH - Dry	DVal - D	DChr	MstHue	MstVal
			A		p	1	0	10				10YF	4
			A		p,p	2	10	18				7.5Y	4
			B		t	1	18	41				5YR	4
			B		t	2	41	61				2.5Y	4
			B		t	3	61	127				2.5Y	4

**Designation Suffix:**

Seq	Suf - Suffi
1	p

**Matrix Color:**

% - Color	Hue - Color Hue	Val - Colo	Chr - Colo	Moist - Mois	PhySt - Color
10YR	4	2	M		
10YR					
2.5Y					
2.5YR					
5B					
5BG					
5G					
5GY					
5PB					

**Texture:**

Seq	TexCl - Texture C	InLieu
1	sil	

**Fragments:**

Seq	%	Kind	SzL - SzR	SzH	Shp	Rnd - Roundnes	Hrd - Hardnes
1							
5							
5							
1							

Record: 1 of 1

Form View

# SRITB Extensions for ArcGIS 9.1 and 9.2

- ArcGIS 9.1 Conditionally certified Feb 22, 2007  
Requires the Tablet PC extensions

Installation file sent to IOL for posting to Team Services Website Feb 22, 2007

Arc GIS 9.2 extension has been certified and sent to the IO Lab for posting to the Team Services page as of April 29, 2007

I have a request in regarding the USDA Service Center Common Computing Environment Website

For more information on the editing tools:  
[http://www.ngdc.wvu.edu/~hferguson/Editing\\_tools/index.htm](http://www.ngdc.wvu.edu/~hferguson/Editing_tools/index.htm)

The Autopopulation and GPS tools are included in the SRITB ArcGIS extension.

This extension will be deployed with the new tablets and can be turned on and off.

It is up to the user to decide which tools are helpful and as a result, which will be used.

Be aware that the ArcGIS 9.1 and ArcGIS 9.2 installation files are not interchangeable . Both are certified, but the correct one must be installed  
1.1.10 – ArcGIS 9.1  
1.1.13 – ArcGIS 9.2

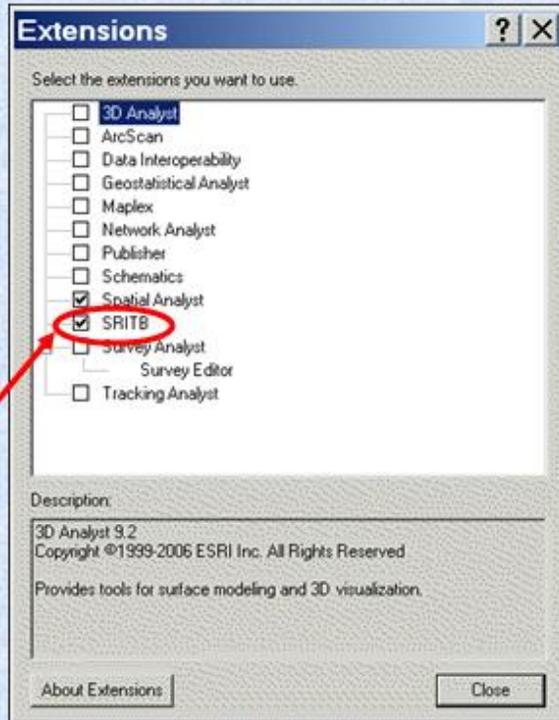
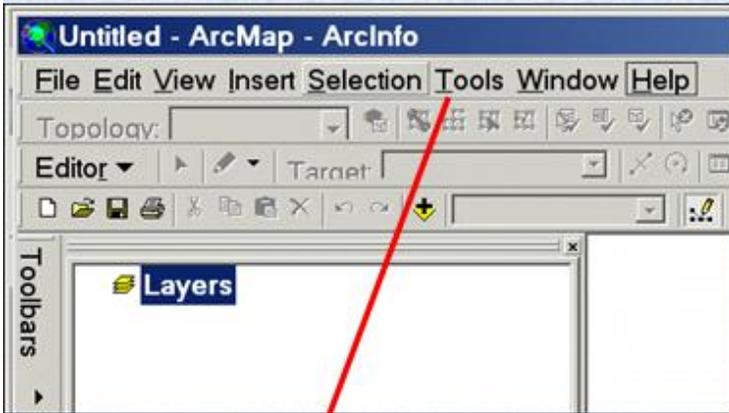
# Tablet Configuration

- ITS will be provided with instructions for imaging the tablets
- ArcGIS probably will not be part of the image – I am hoping that this can be changed in light of the problems during the 8400 installs.
- If ArcGIS is not part of the image, additional instructions will be provided for installation of ArcGIS 9.2 and associated extensions

One reason that I am showing you this toolbar is so that you have an idea as to which tools are on it.

There is always the possibility that it may not get loaded since it may will not be part of the image. User awareness is the only way to ensure that this extension is utilized.

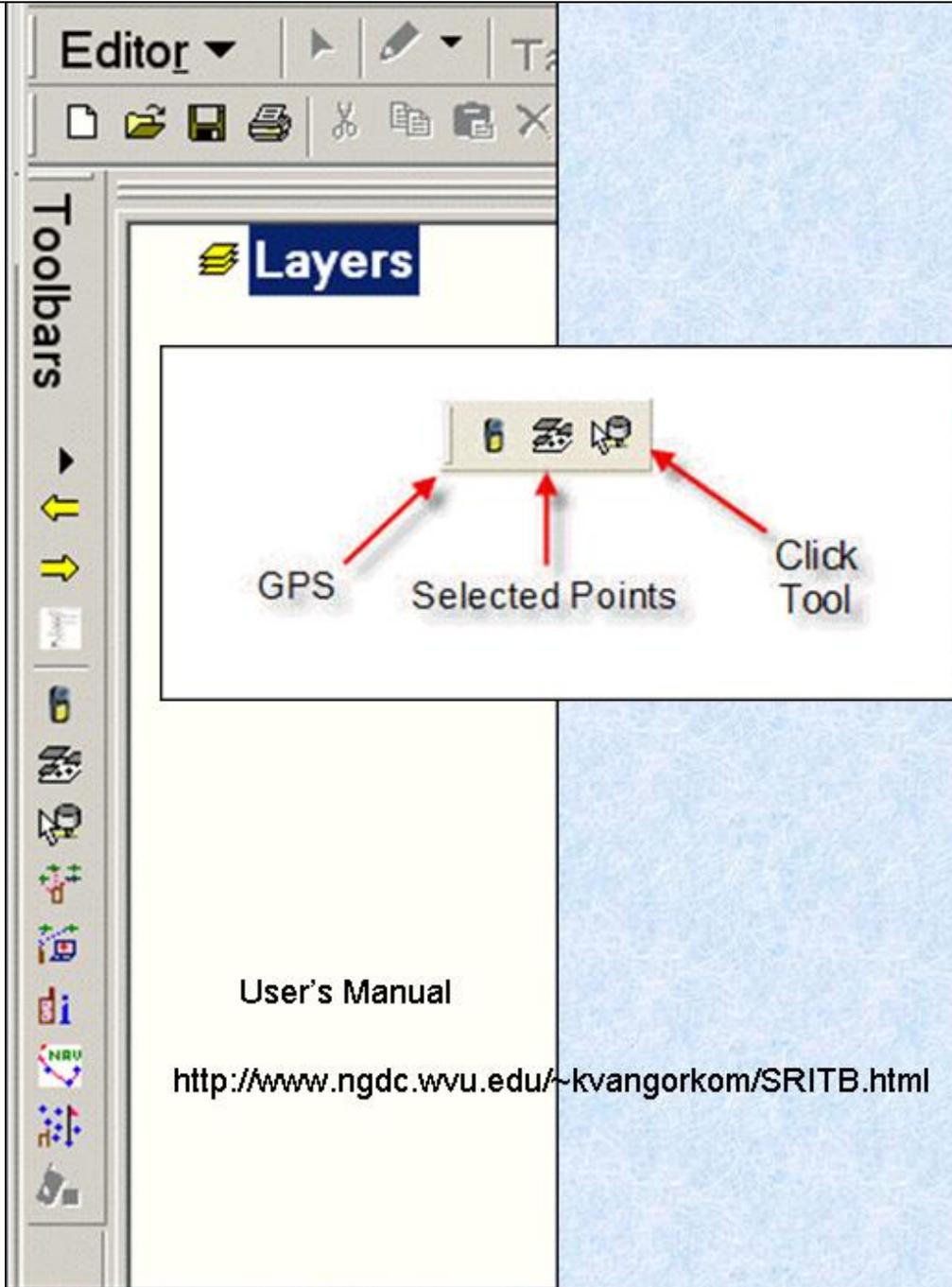
## Accessing the SRITB (Soil Resource Inventory Toolbox) Extension for ArcMap



The extension will be located in the extensions which are accessed through the tools menu. The SRITB extension must be turned on or it will not show up on your toolbar.

It is important to note that this toolbar was just CCE certified Feb 22<sup>nd</sup> 2007. Any previous versions should be removed prior to installation. Any previous versions are Beta versions.

Note that only one version of the 9.2 extension has been certified. That is the 1.1.13 version and it should be available shortly if it is not already available.



User's Manual

<http://www.ngdc.wvu.edu/~kvangorkom/SRITB.html>

The autopopulation tools consist of three buttons.

At this time, some of their functions rely on the existence of standard layers in the ArcMap session.

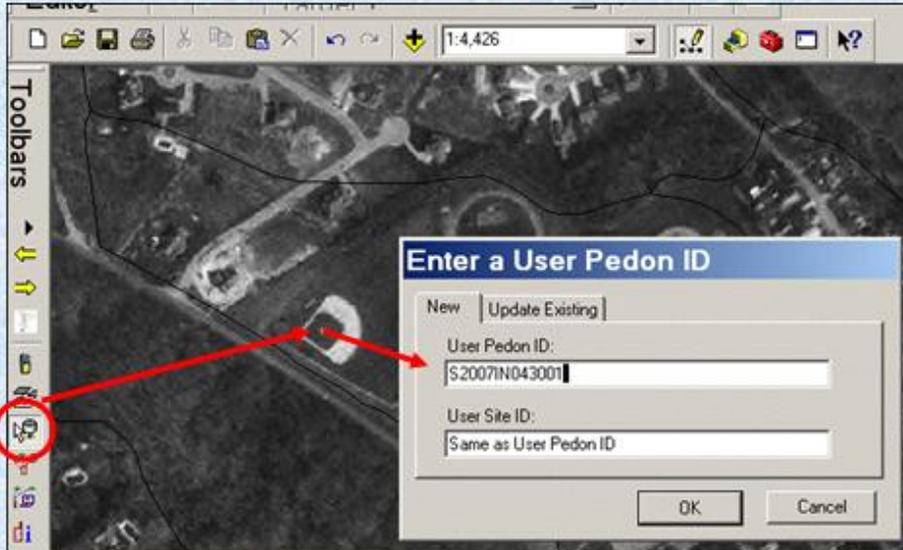
One button is for use with a GPS.

One button is for completing the population of existing point data.

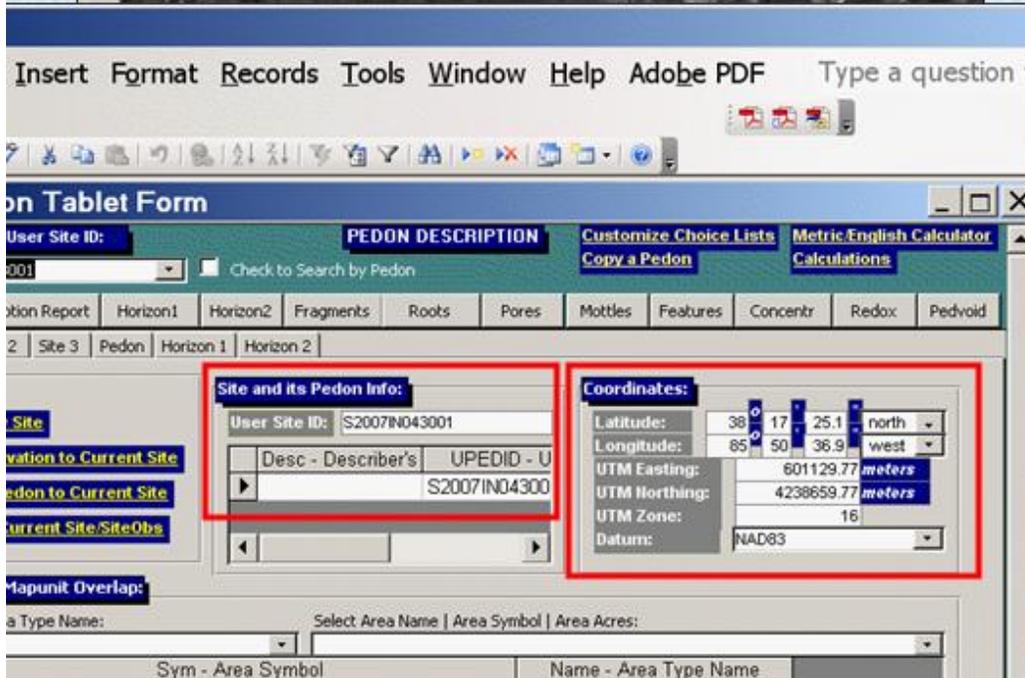
The third button is for autopopulating data for a new point.

# Autopopulate New Pedon From a Clicked Location

With just one mouse click about 50 characters of location text are populated.

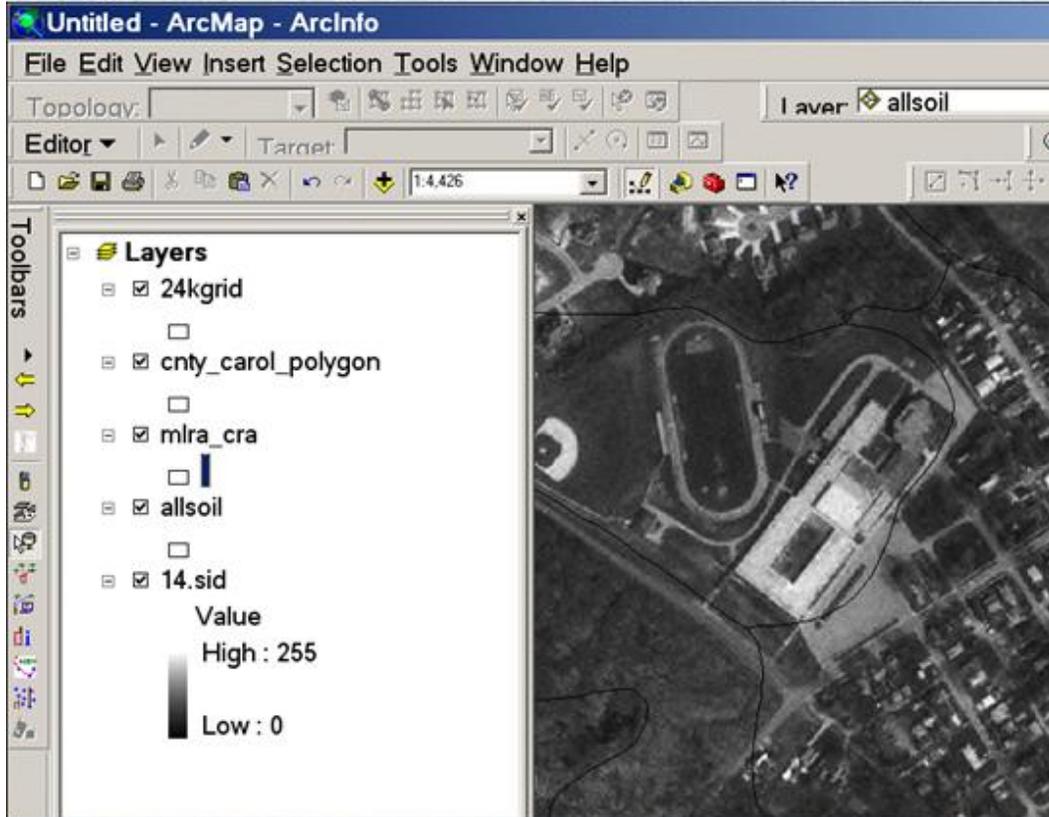


Latitude, degrees, minutes, seconds, direction  
 Longitude, degrees, minutes, seconds, direction  
 UTM Easting  
 UTM Northing  
 UTM Zone  
 Datum



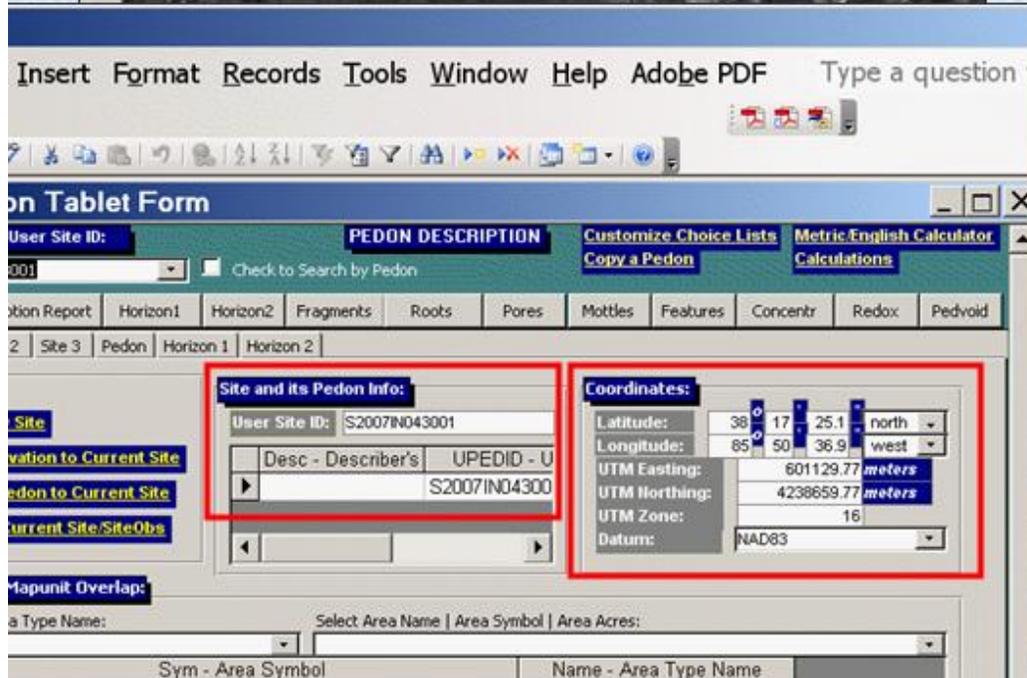
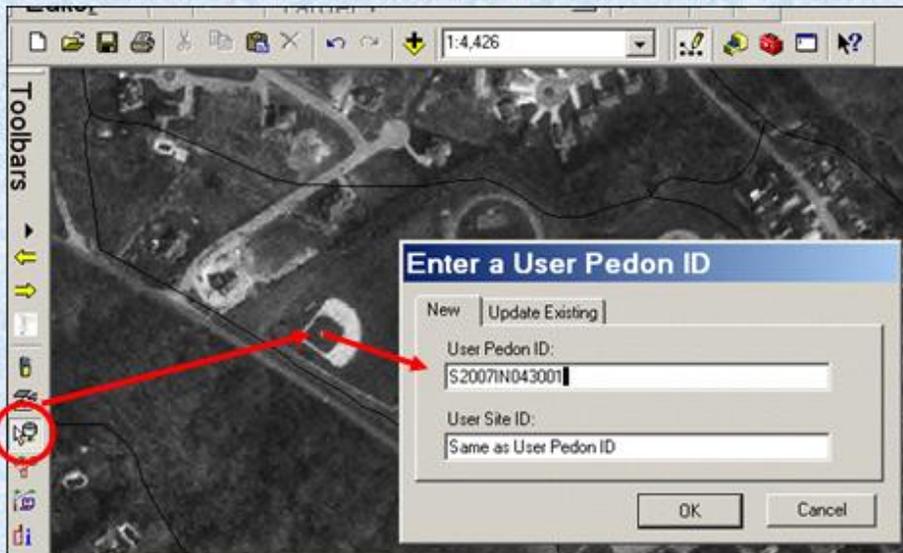
Pedon Field	Layer Name	Attribute Field Name
Area Overlap - Non MLRA SSA	soilsmu_a	areasybol
Area Overlap - State	cnty	ST
Area Overlap - County	cnty	STFIPS
Area Overlap - 7.5 Min Quadrangle	24kgrid	NAME
Area Overlap - MLRA	mlra_cra	MLRA_REG_S

The addition of four standard layers is necessary for Area overlap part of the autopopulation feature to work.



# Autopopulate New Pedon From a Clicked Location

Use any one of the three buttons once the layers are added.



**Pedon Tablet Form**

Search by User Site ID:   Check to Search by Pedon

PEDON DESCRIPTION [Customize Choice Lists](#) [Metric-English Calculator](#)  
[Copy a Pedon](#) [Calculations](#)

Pedon Description Report | Horizon1 | Horizon2 | Fragments | Roots | Pores | Mottles | Features | Concentr | Redox | Pedvoid

Site 1 | Site 2 | Site 3 | Pedon | Horizon 1 | Horizon 2

**Add...**

[Brand New Site](#)  
[Site Observation to Current Site](#)  
[SiteObs, Pedon to Current Site](#)  
[Pedon to Current Site/SiteObs](#)

**Site and its Pedon Info:**

User Site ID: S2007IN041002

Desc - Descriptor's UPEDID - U  
 S2007IN041000

**Coordinates:**

Latitude: 38° 17' 25.1" north  
 Longitude: 85° 50' 36.8" west  
 UTM Easting: 601132.69 meters  
 UTM Northing: 4238659.77 meters  
 UTM Zone: 16  
 Datum: NAD83

**Area and Mapunit Overlap:**

Select Area Type Name:  Select Area Name | Area Symbol | Area Acres:

Sym - Area Symbol	Name - Area Type Name
+	MLRA
+	County or Parish
+	State or Territory
+	USGS 7.5 Minute Quadrangl

- The areas are still blank?
- Why?
- Need to update the support data

The Blank Pedon.mdb file does not contain any area names. This is because it is known that area names change on a regular basis. Instead of posting a new pedon.mdb file on a frequent basis, the area names are updated in a separate text file which is also posted on the NASIS download page.

## Download Support Data From NASIS Downloads Page

**Windows Pedon Support Data**

- [Download Windows Pedon Domains](#)  
Last Updated: 09/08/06
- [Download National \(Panqaea\) Geographic Area Lookup Data](#)  
Last Updated: 07/06/05
- [Download Geomorphic Feature Lookup Data](#)  
Last Updated: 07/06/05
- [Download MO01 \(Oregon\) Local Plant Lookup Data](#)  
Last Updated: 01/05/04
- [Download MO02 \(California\) Local Plant Lookup Data](#)  
Last Updated: 01/05/04

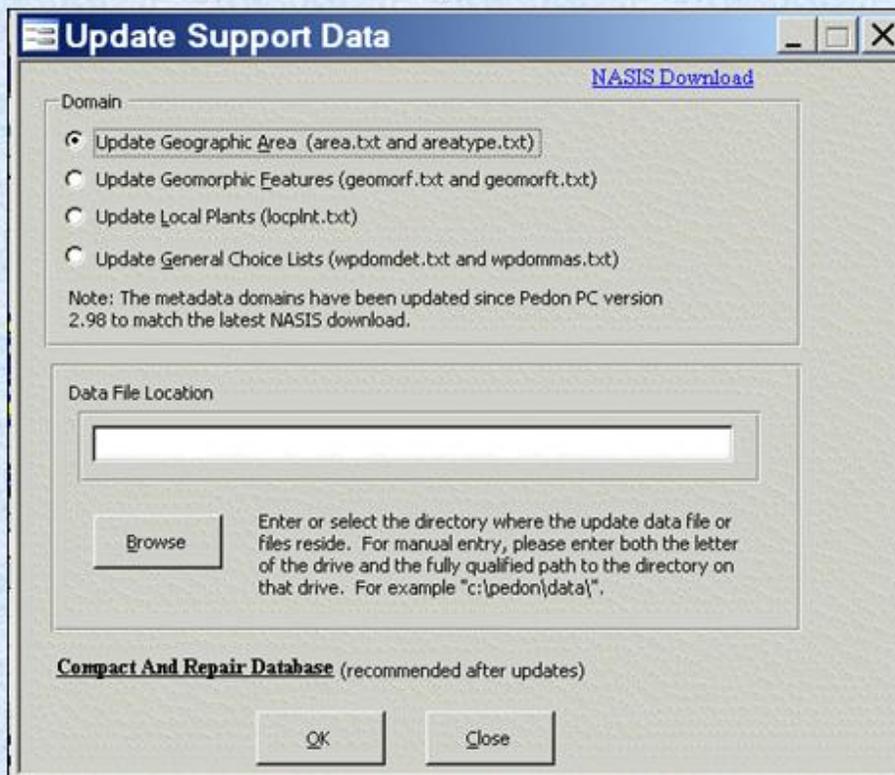
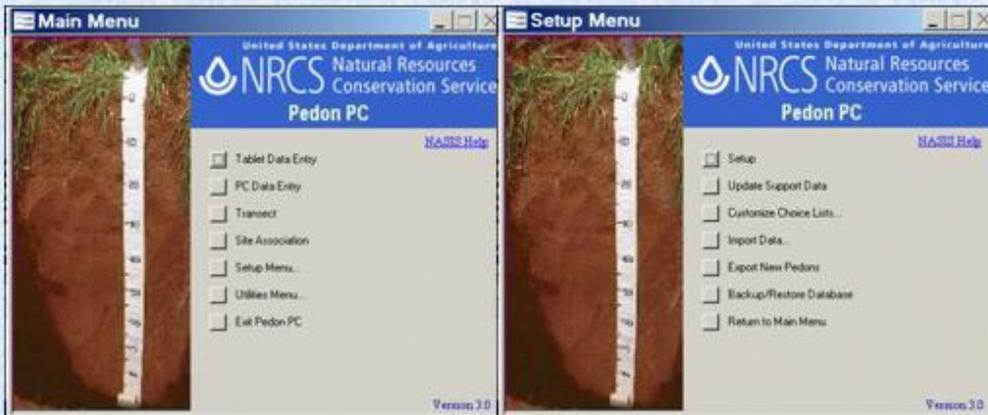
Name	Size	Type
GeomorphicFeatures.zip	68 KB	WinZip
locplnt.zip	13 KB	WinZip
NationalGeographicAreas.zip	747 KB	WinZip
<b>WindowsPedonDomains.zip</b>	110 KB	WinZip
geomorf.txt	221 KB	Text D
geomorft.txt	2 KB	Text D
locplnt.txt	41 KB	Text D
area.txt	3,136 KB	Text D
areatype.txt	2 KB	Text D
wpdomdet.txt	435 KB	Text D
wpdommas.txt	4 KB	Text D
wpmdver.txt	1 KB	Text D

Geomorphic features, Geographic areas, and Local Plant Names all are distributed as zip files from the NASIS download page.

Even the Windows Pedon Domains can be updated from this page.

Remember that there are about 44 tables in NASIS pedon. That means that Pedon PC can be used to populate about 40 of them using the blank pedon.mdb file. The choice lists for the additional tables come from these text files.

## Choose Setup Menu – Update Support Data – Browse and OK four times – I ignore warnings and errors



If you download the support data to a single location, you only have to browse to the location once.

# Choice lists from "Support Data"

The support data supplies choice lists for the Area names, Plant names, and Geomorphic descriptions.

**Area and Mapunit Overlap:**

Select Area Type Name:  Select Area Name | Area Symbol | Area Acres:

Sym - Area Symbol	Name - Area Type Name
▶ Volcanic Islands of Central and Eastern Micronesia	MLRA
MUSym - Mapunit Symbol	Mapunit Name

Site 1 | Site 2 | Site 3 | Pedon | Horizon 1 | Horizon 2

**Plant Association Name:**

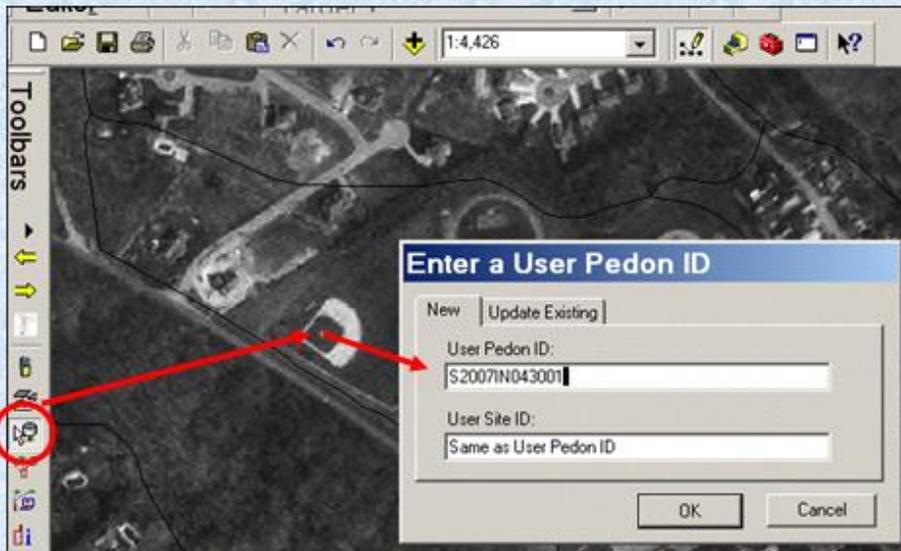
**Site Existing Vegetation:**

Symbol - Lc	Common - Local Plant Co	Scientific - Local Plant Scientific Name
▶		

**Site Geomorphic Description - Choice List from Setup >> Update Support Data:**

Mod	GeoFeat - Geomo	FType - Feature Type	FeatID - Feature ID	ExistsOn -
▶	island	LS		
*				

# Autopopulate New Pedon From a Clicked Location



Insert Format Records Tools Window Help Adobe PDF Type a question f

on Tablet Form

User Site ID: PEDON DESCRIPTION Customize Choice Lists Metric English Calculator  
 Copy a Pedon Calculations

Horizon Report Horizon1 Horizon2 Fragments Roots Pores Mottles Features Concentr Redox Pedvoid

2 Site 3 Pedon Horizon 1 Horizon 2

Site and its Pedon Info:		Coordinates:	
User Site ID:	S2007IN043001	Latitude:	38 17 25.1 north
Desc - Descriptor's	UPEDID - U	Longitude:	85 50 36.9 west
	S2007IN04300	UTM Easting:	601129.77 meters
		UTM Northing:	4238659.77 meters
		UTM Zone:	16
		Datum:	NAD83

Mapunit Overlap:

Area Type Name: Select Area Name | Area Symbol | Area Acres:

Sym - Area Symbol	Name - Area Type Name

Now when you use the Autopopulation tool there are choices to pick from for the areas.

In Pedon CE the user really should limit the choices for the area types. That is to help speed up the input process. In the case of Pedon PC, it is not necessary to edit the area names if the autopopulation feature is used.

(Except for the fact that ACCESS has a 6500 row limit so if some of the areas that you need are at the end of the text file, you will want to delete some in the middle so that all of the areas that you need are loaded.) There is a good discussion concerning this on the April 3 2006 video for Pedon PC training.

# Once support data is updated, the Area Names are Populated

- The map unit symbols still do not show up.

Geodatabase setup tools are also available for setting up the geodatabase. These tools are available from the Digital Mapping and Updating Course materials.

This was a clear cut issue until recently. Currently geodatabase setup tools are being developed for ArcGIS 9.2 personal geodatabase and file based geodatabase. Additional geodatabase setup tools are also being tested for use with ArcSDE and some check out/check in features.

Most soil scientists should continue to use the ArcGIS 9.1 Geodatabase Setup Models.

# More choice lists for Pedon PC (Optional)

Soil Name as Sampled

From the component name

Remember that even the use of Pedon PC is optional. The goal is to input point data into NASIS. However, if you do use Pedon PC, you may decide to download some SSURGO data and link it to pedon PC to create a component name pick list.

# Go to the Soil DataMart and get your county's data

More optional choice lists for Pedon PC. The component name can come from the SSURGO downloads.

Soil Data Mart - Select County or Parish. - Windows Internet Explorer

http://soildatamart.nrcs.usda.gov/County.aspx?State=IN

File Edit View Favorites Tools Help

Soil Data Mart - Select County ...

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

Home Select State State Contacts Template Databases SSURGO Metadata Status Map US

Please select a county or parish with at least one survey area:

County Code	County Name
IN037	Chenaweb
IN039	Dubois
IN041	Elkhart
IN043	Floyd
IN045	Fountain
IN047	Franklin

Soil Data Mart - Download Soil Survey Area Data. - Windows Internet Explorer

http://soildatamart.nrcs.usda.gov/Download.aspx?Survey=IN043&UseState=IN

File Edit View Favorites Tools Help

Soil Data Mart - Download Soil...

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

IN043 - Floyd County, Indiana  
 Floyd County  
 Indiana

Soil Data Mart

Please select the class of data you wish to download: ( Survey Area Version 4 , Tabular Version 4 , Spatial Version 2 )

Tabular Data Only
  Tabular and Spatial Data
  Spatial Data Only
  Template Database Only

Please select a spatial format:

Please select a coordinate system:

Reset Default

Please select a template database (optional):

State	NS Access Version	Template DB Version	Template DB Name	Size
ID	Access 2002	32.9	soildb_ID_2002	2.0M
ID	Access 2000	32.9	soildb_ID_2000	2.0M
ID	Access 97	32.9	soildb_ID_97	2.7M
IN	Access 2002	32.9	soildb_IN_2002	2.0M

Clear Selection

Description:

- Several reports not applicable to Indiana have been disabled in the template report list.
- This template contains a customized sand and gravel source interpretation for use in Indiana (Sand and Gravel Source report - Indiana).

Please enter your e-mail address:

If the e-mail account entered above is protected by spam blocking software, you will need to authorize e-mail from soildatamart@nrcs.usda.gov in order to receive e-mail notification once your request has been processed.

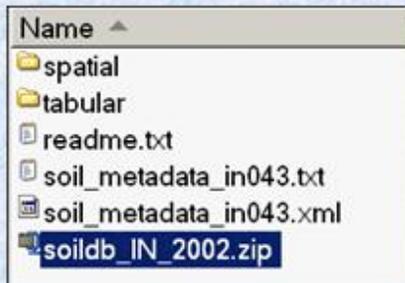
# The Zip file contains a template, spatial data, and tabular data

These are all of the files in a complete SSURGO zip file.

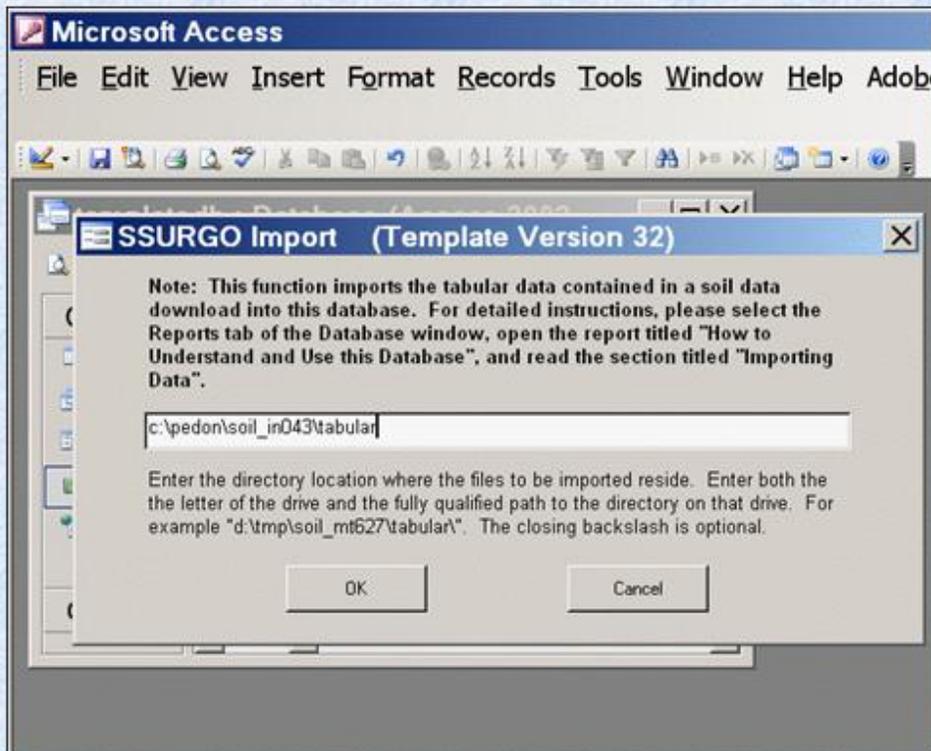
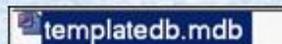
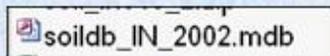
Name	Type	Modified	Size	Ratio	Packe
readme.txt	Readme Document	4/13/2007 6:21 PM	5,409	62%	2,05
soildb_IN_2002.zip	WinZip File	4/13/2007 6:21 PM	1,702,888	0%	1,702,...
soil_metadata_in043...	Text Document	4/13/2007 6:21 PM	53,169	78%	11,84
soil_metadata_in043...	XML Document	4/13/2007 6:21 PM	44,125	74%	11,27
soilmu_a_in043.dbf	DBF File	11/4/2006 12:56 AM	223,004	97%	6,84
soilmu_a_in043.prj	HTML Document	11/4/2006 12:56 AM	424	37%	26
soilmu_a_in043.sbn	SBN File	11/4/2006 12:56 AM	33,164	33%	22,18
soilmu_a_in043.sbx	Adobe Illustrator Tsume File	11/4/2006 12:56 AM	2,684	54%	1,24
soilmu_a_in043.shp	SHP File	11/4/2006 12:56 AM	7,986,848	30%	5,595,...
soilmu_a_in043.shx	SHX File	11/4/2006 12:56 AM	26,708	35%	17,25
soilmu_l_in043.dbf	DBF File	11/4/2006 12:56 AM	162	57%	7
soilmu_l_in043.prj	HTML Document	11/4/2006 12:56 AM	424	37%	26
soilmu_l_in043.shp	SHP File	11/4/2006 12:56 AM	100	76%	2
soilmu_l_in043.shx	SHX File	11/4/2006 12:56 AM	100	76%	2
soilmu_p_in043.dbf	DBF File	11/4/2006 12:56 AM	162	57%	7
soilmu_p_in043.prj	HTML Document	11/4/2006 12:56 AM	424	37%	26
soilmu_p_in043.shp	SHP File	11/4/2006 12:56 AM	100	76%	2
soilmu_p_in043.shx	SHX File	11/4/2006 12:56 AM	100	76%	2
soilsa_a_in043.dbf	DBF File	11/4/2006 12:56 AM	191	57%	8
soilsa_a_in043.prj	HTML Document	11/4/2006 12:56 AM	424	37%	26
soilsa_a_in043.sbn	SBN File	11/4/2006 12:56 AM	132	48%	6
soilsa_a_in043.sbx	Adobe Illustrator Tsume File	11/4/2006 12:56 AM	116	47%	6
soilsa_a_in043.shp	SHP File	11/4/2006 12:56 AM	16,892	23%	12,93
soilsa_a_in043.shx	SHX File	11/4/2006 12:56 AM	108	45%	5
soilsf_l_in043.dbf	DBF File	11/4/2006 12:56 AM	11,170	98%	26
soilsf_l_in043.prj	HTML Document	11/4/2006 12:56 AM	424	37%	26
soilsf_l_in043.sbn	SBN File	11/4/2006 12:56 AM	1,892	32%	1,29
soilsf_l_in043.shx	Adobe Illustrator Tsume File	11/4/2006 12:56 AM	284	46%	15

Selected 0 files, 0 bytes      Total 106 files, 20,051KB

## To add component names to drop down lists, add the templatedb.mdb



- Rename the template to templatedb.mdb



If you wish to use the default settings you can rename the SSURGO file to templatedb.mdb. If you wish to retain the name of the ssurgo template or name it something else, you can use the setup menu to point to it.

# New: From the setup form choose databases and their locations

If you do not run the Relink Manager, none of your changes will take effect. You will be right back where you started from and have to run the setup again.

**f\_setup : Form**

**Setup**

Step 1: The current location and name for the pedon database is shown below. Press the "Browse..." button and select a different database location and name, if necessary. The default location and name is C:\pedon\pedon.mdb. This database is required for Pedon PC to run.

Browse... c:\pedon\pedon.mdb

Step 2: The current location and name for the SSURGO database is shown below. Press the "Browse..." button and select a different database location and name, if necessary. The default location and name is C:\pedon\templatedb.mdb. This database is not required but is recommended.

Browse... c:\pedon\templatedb.mdb

Step 3: If you have changed the location of the pedon database in Step 1 or the location of the SSURGO database in step 2, press the "Relink Manager" button to update the links to the tables.

**Relink Manager**

Step 4: The current location and name for the ArcMap application is shown below. Press the "Browse..." button to change the location and name of ArcMap, if necessary. This is used on the Analysis Form. The default location and name is C:\Program Files\ARCGIS\bin\ArcMap.exe:

Browse... C:\Program Files\ARCGIS\bin\ArcMap.exe

Step 5: The current location and name of your Internet Browser is shown below. Press the "Browse..." button to change the location and name of your Internet Browser, if necessary. This is used on the Pedon Description Report Form. The default location and name is C:\Program Files\Internet Explorer\iexplore.exe:

Browse... C:\Program Files\Internet Explorer\iexplore.exe

Step 6: Press the "Save and Exit" button to save your changes or press the "Discard and Exit" button to cancel your path changes.

Save and Exit:

Discard and Exit:

The Relink Manager must be chosen before you Save and Exit!!

# The Templatedb.mdb adds the choice list for the Soil Name as Sampled Field

File View Insert Format Records Tools Window Help Adobe PDF Type a question

**Pedon Tablet Form**

Search by User Site ID: PEDON DESCRIPTION Customize Choice Lists Metric English Calculator  
 71N043004 Check to Search by Pedon Copy a Pedon Calculations

Description Report: Horizon1 Horizon2 Fragments Roots Pores Mottles Features Concentr Redox Pedvoid

Site 2 Site 3 Pedon Horizon 1 Horizon 2

Note: Double-click a value in the Transect ID, Soil Name As Sampled or Subgroup columns for special features.

LabSrcID	Desc	PedType - Ped	PedPurp - P	EroC	SoilName	CorrSoil	PedSz - Particle S	PS Mod - Partic	PSCS Top
					<div style="border: 1px solid black; padding: 5px;">           Beanblossom            Bedford            Birds            Blocher            Bromer            Brownstown            Caneyville            Cincinnati         </div>				

Kind Cat - Category SubC Author

Pedon Taxonomic Moisture Class: Pedon Taxonomic Family Mineralogy: Pedon Taxonomic Family Other Criteria:

Seq Moist - Moisture C Sec Mineralogy Sec FamOther - Family Other

Pedon Horizon: Reference Table (Read Only) To add horizon data please use the Horizon1 and Horizon2 tabs.

Seq ObsMthd - O Disc - Dis Mstr - M Pr - Prim Suffix VertSubD HorDes - Hor UpDep LoD

Pedon Diagnostic Features:

Kind TDep - BDep - Bottom Dept ThkL - T ThkR - Thick ThkH - Thickness Hig

Pedon Restrictions:

rd: 31 of 31

NUM

At this time all the template.mdb does is to add a component name choice list. Some suggestions have been made to add a mapunit lookup table as well. There is still controversy over the best way to do this. Mapunit symbol and mapunit name lookups have not been added to pedon PC 3.0.

A double click on  
Soil Name as  
Sampled brings up  
the OSD (Internet  
Necessary)

**Pedon PC**  
File Edit View Insert Format Record

**Pedon Tablet Form**  
Search by User Site ID: PEDO  
S2007IN043004 Check to Search by Ped  
Pedon Description Report Horizon1 Horizon2 Fragments  
Site 1 Site 2 Site 3 Pedon Horizon 1 Horizon 2  
Pedon: Note: Double-click a value in the Transect ID, Soil Name  
EroC SoilName - Soil Name As Sampled CorrSoil  
Winfall

**Official Series Description - WINFALL Series**  
http://ortho.ftw.nrcs.usda.gov/osd/dat/W/WINFALL Google

File Edit View Favorites Tools Help

Official Series Description - WI... Page Tools

LOCATION WINFALL MT

Established Series  
Rev. GLS-JAL  
08/1999

## WINFALL SERIES

The Winfall series consists of very deep, well drained soils that formed in loamy glacial till. These soils are on mountains and moraines. Slopes are 2 to 50 percent. Mean annual precipitation is about 30 inches, and mean annual temperature is about 42 degrees F.

**TAXONOMIC CLASS:** Loamy-skeletal, mixed, superactive, frigid Lamellic Eutrudepts

**TYPICAL PEDON:** Winfall gravelly loam, in coniferous forest. (Colors are for dry soil unless otherwise noted.)

Oi--0 to 2 inches; undecomposed and slightly decomposed forest litter. (1 to 3 inches thick)

E--2 to 20 inches; pinkish gray (7.5YR 7/2) gravelly loam, brown (7.5YR 5/2) moist; weak fine and medium subangular blocky structure; slightly hard, friable, slightly sticky and slightly plastic; many very fine, fine, and medium roots and few coarse roots; many very fine and fine pores; 25 percent pebbles; strongly acid (pH 5.5); gradual smooth boundary. (12 to 27 inches thick)

E and Bt--20 to 60 inches; E part (80 percent) is pinkish gray (7.5YR 7/2) very gravelly loam, brown (7.5YR 5/2) moist; B part (20 percent) is brown (7.5YR 5/2) very fine sandy loam lamellae 1/8- to 3/8-inch thick, brown (7.5YR 4/4) moist; texture mixed is very gravelly loam, moderate medium subangular blocky structure; hard, friable, nonsticky and nonplastic; few fine and medium roots; few fine pores; 35 percent pebbles and 10 percent cobbles; moderately acid (pH 6.0).

**TYPE LOCATION:** Missoula County, Montana; 1,000 feet north and 1,000 feet west of the SE corner of sec. 21, T. 19 N., R. 16 W.

**RANGE IN CHARACTERISTICS:**

## Other User Defined Choice Lists

- Soil Survey Personnel
- Note Type
- Fieldsheet
- Geologic Formation
- Site Observation Text Category
- Local Physiographic Name
- Text Category
- Pedon Horizon Field Measured Properties Name (phfmp\_name)
- Pedon Horizon Field Measured Properties Unit of Measure (phfmp\_uom)

User defined choice lists are simply for the convenience of the user. These allow the user to input a phrase or word once and then pick from a list instead of having to spell the word out again and again in the field using the stylus.

Microsoft Access

File Edit View Insert Format Records Tools Window Help

Type a question for help

**Pedon Tablet Form**

User Site ID:  **PEDON DESCRIPTION** [Customize Choice Lists](#)  
[Metric English Calculator](#)  
[Copy a Pedon](#)

Site 1 | Site 2 | Site 3 | Pedon | Horizon 1 | Horizon 2

**Geologic:**

Local Physiographic Name (Optional Local List):  (Add records to mddl table)  
 Geologic Formation (Optional Local List):  (Add records to mddl table)

**Bedrock:**

Bedrock Depth:  **cm**  
 Bedrock Kind:   
 Bedrock Hardness:   
 Bedrock Fracture Interval:   
 Bedrock Weathering:   
 Bedrock Strike (0-360):  **degrees**

**Bedrock Dip (0-90):**

Low:  **degrees**  
 High:  **degrees**

**Elevation/Slope:**

Elevation:  **meters**  
 Slope Aspect (0-360):  **degrees**  
 Slope Gradient:  %  
 Slope Length USLE:  **meters**  
 Upslope Length:  **meters**

Hillslope Profile:   
 Slope Position:   
 Slope Shape Across:   
 Slope Shape Up/Down:   
 Slope Complexity:

**Geomorphic Component:**

Geo Comp - Hills:   
 Geo Comp - Mountains:   
 Geo Comp - Terraces:   
 Geo Comp - Flats:

**Hydrology:**

Runoff Class:   
 Drainage Class:   
 Site Permeability Class:

**Site Geomorphic Description - Choice List from Setup >> Update Support Data:**

Mod	GeoFeat	FType	Feature Type	FeatID	Feature ID	ExistsOn

Record:  of 1

User must enter records in the metadata\_domain\_detail\_local table.

The interface indicates some of these custom choice list locations.

# From the Setup Menu Customize Choice Lists Edit Choice Lists

In NASIS a lot of the choice ID's are actually the codes that are stored in the database. For the custom pick lists for text fields, the choice ID is just a required number, but is not actually stored anywhere. Any unique number will do in this case.

**Domain Show Hide Form**

**Choice List Setup**

Click the + sign to show/edit corresponding choices; click the checkbox to show/hide list items; checked = Show

[NASIS Download](#)  
[Return to Data Entry F](#)

Local Standard Geomorphic Features Local Plant List Area Overlap

Check/UnCheck and then choose from dropdown:  Check/UnCheck All

domain_name	domain_id
+ soil_survey_personnel	100
+ note_type	200
+ fieldsheet	300
+ geologic_formation	400
+ siteobs_text_category	500
+ local_physiographic_name	600
+ textcat	700
+ phfmp_name	800
- phfmp_uom	900

Domain ID	Show/Hide	Choice Sequence	Choice ID	Choice	Choice Label	Choice Obsolete
900	<input checked="" type="checkbox"/>	1	1	Percent		No
900	<input checked="" type="checkbox"/>	1	2	petrochemical		No
900	<input checked="" type="checkbox"/>	1	3	sulfurous		No
900	<input checked="" type="checkbox"/>	1	4	grams per cc		No
900	<input checked="" type="checkbox"/>	1	5	none		No
*	<input checked="" type="checkbox"/>					

Choice ID is a made up number for this particular table. Choice ID's are fixed for all but the local tab.

**Domain Show Hide Form**

**Choice List Setup**

Click the + sign to show/edit corresponding choices; click the checkbox to show/hide list items; checked = Show

Local Standard Geomorphic Features Local Plant List Area Overlap

Check/UnCheck and then choose from dropdown:  Check/UnCheck all

Domain ID	Show/Hide	Choice	Choice Label	Choice Obsolete
155	<input checked="" type="checkbox"/>	o	o	No
155	<input checked="" type="checkbox"/>	n	n	No
155	<input checked="" type="checkbox"/>	m	m	No
155	<input checked="" type="checkbox"/>	a	a	No
155	<input checked="" type="checkbox"/>	i	i	No
155	<input checked="" type="checkbox"/>	ss	ss	No
155	<input checked="" type="checkbox"/>	g	g	No
155	<input checked="" type="checkbox"/>	f	f	No
155	<input checked="" type="checkbox"/>	e	e	No
155	<input checked="" type="checkbox"/>	d	d	No
155	<input checked="" type="checkbox"/>	c	c	No
155	<input checked="" type="checkbox"/>	b	b	No
155	<input checked="" type="checkbox"/>	k	k	No
155	<input checked="" type="checkbox"/>	z	z	No
155	<input checked="" type="checkbox"/>	kk	kk	No
155	<input checked="" type="checkbox"/>	di	di	No
155	<input checked="" type="checkbox"/>	ma	ma	No
155	<input checked="" type="checkbox"/>	co	co	No
155	<input type="checkbox"/>	ca*	ca	Yes
155	<input checked="" type="checkbox"/>	ff	ff	No
155	<input checked="" type="checkbox"/>	r	r	No
155	<input checked="" type="checkbox"/>	j	j	No

- Domain Choice Lists
  - Obsolete are un checked and marked as “Yes”

Obsolete choices are designated both with an “\*” and the word “yes” in the Choice obsolete column. This is to discourage individuals from using the obsolete choices when inputting new pedons.

Why are they included in Pedon PC 3.0? NASIS allows obsolete choices for recording information from older descriptions. It is possible for a user to change the “yes” to a “no” to get the obsolete choices to show up. That will allow the user to record older information.

# Digital Editing Tools Presentation Courtesy of James Gordon, Soil Scientist, Abilene Soil Survey Office, Texas



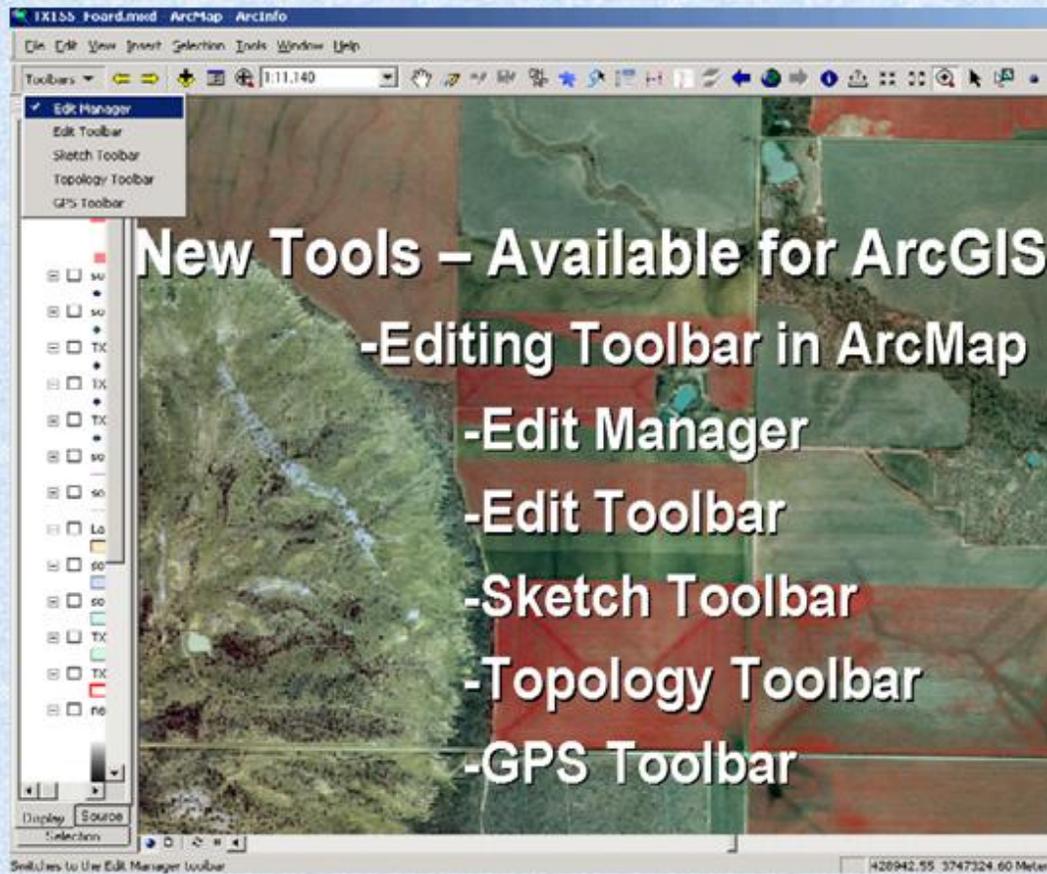
## New Tools in Soil Survey

By James Gordon  
Abilene Soil  
Survey Office

The U.S. Department of Agriculture (USDA) prohibits discrimination in all its programs and activities on the basis of race, color, national origin, age, disability, and where applicable, sex, marital status, familial status, parental status, religion, sexual orientation, genetic information, political beliefs, reprisal, or because all or a part of an individual's income is derived from any public assistance program.



I took a couple of slides from James Gordon. In addition, the Texas Soil Scientists had a training session on April 12<sup>th</sup> which was video recorded. I am making this video available since it provides the basics for the Digital Editing Toolbar. No sense in replication.



## New Tools – Available for ArcGIS

-Editing Toolbar in ArcMap

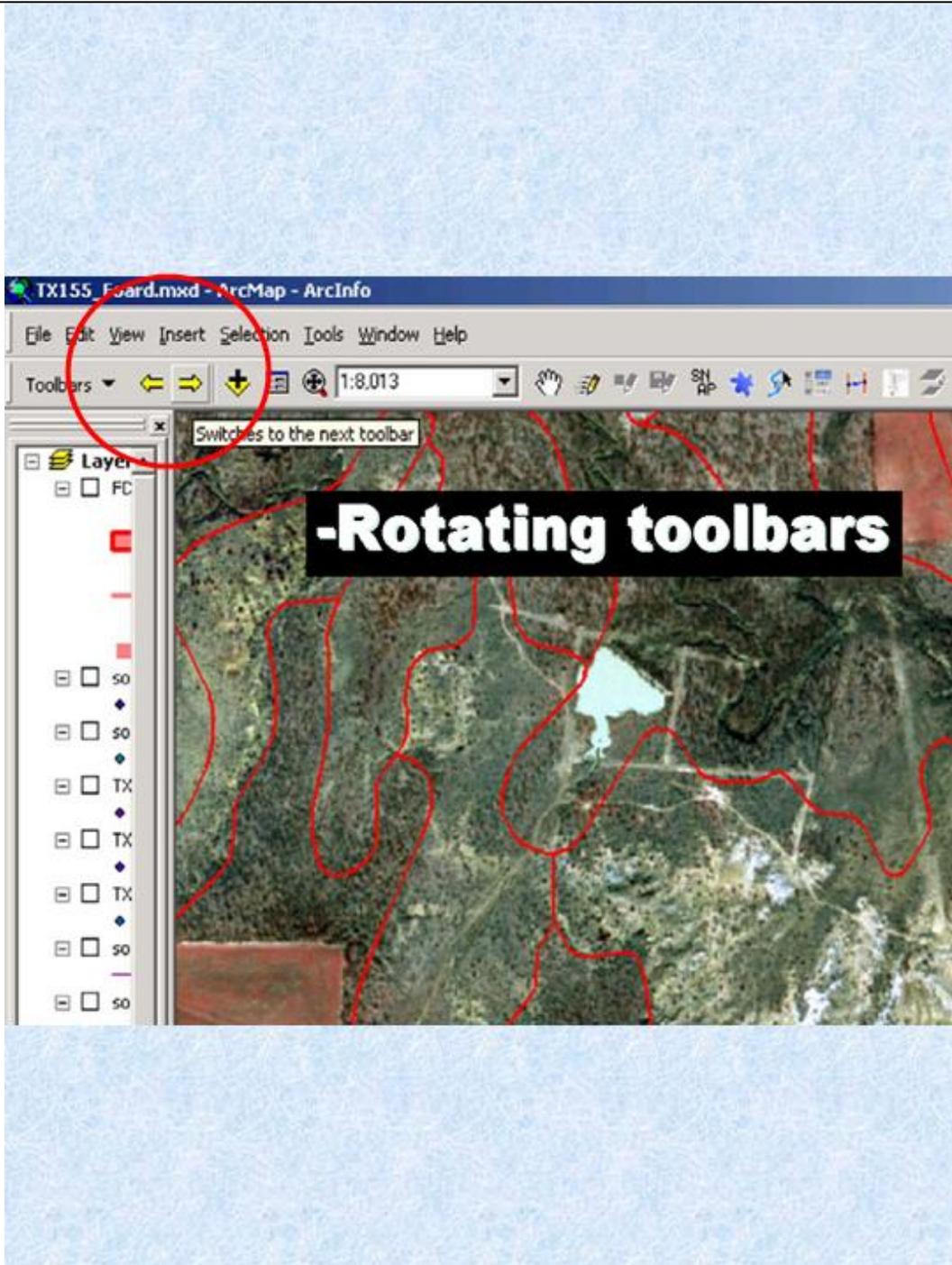
-Edit Manager

-Edit Toolbar

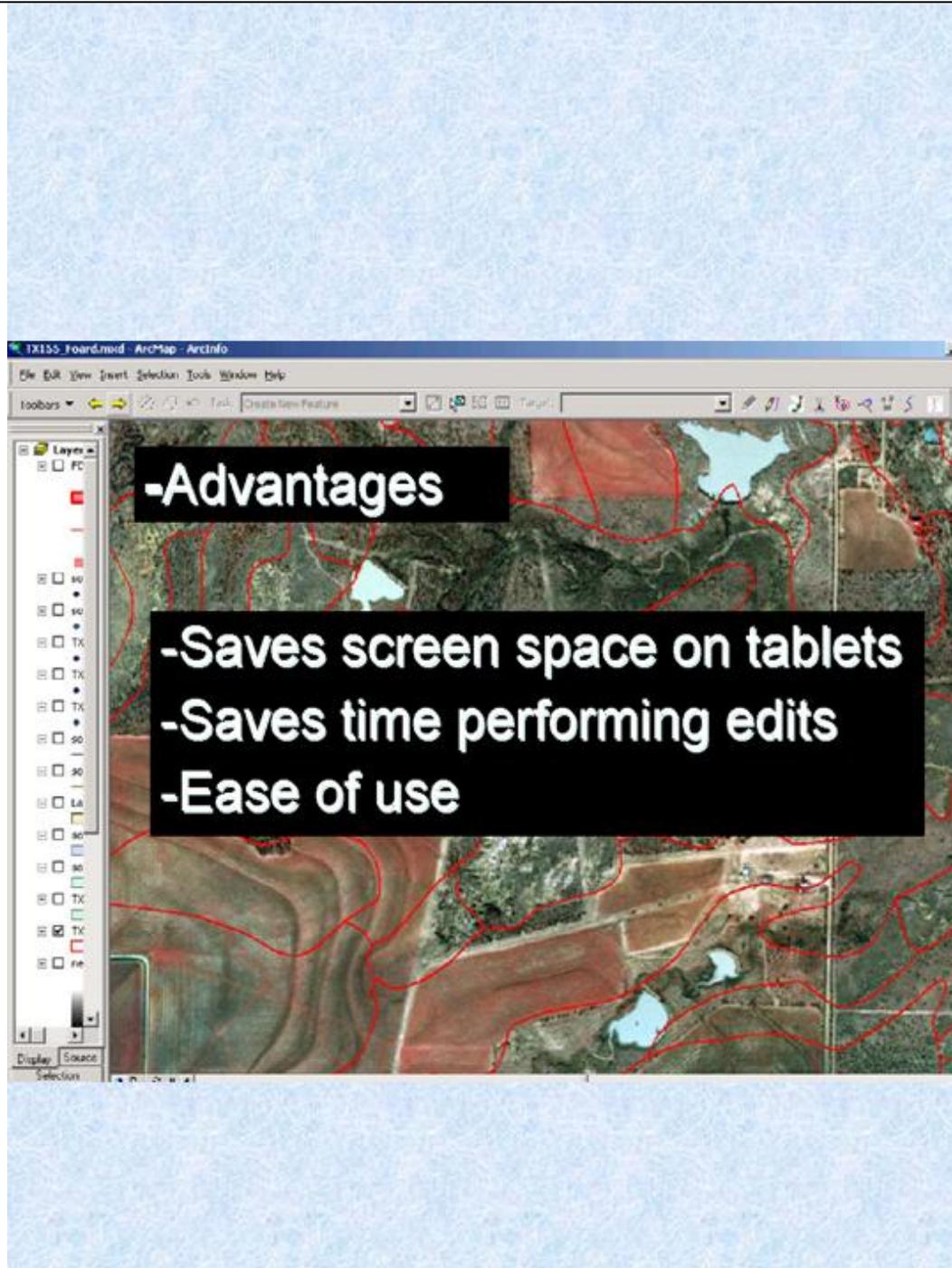
-Sketch Toolbar

-Topology Toolbar

-GPS Toolbar



Five toolbars rotate so that only one is showing at a time. If your editing style fits the standard toolbar configuration, then you are good to go by just turning the toolbar on.



# Digital Editing Toolbar

- Saves Screen Real Estate



Former Desktop

This is a picture of a standard desktop configuration. Note all of the toolbars and icons to choose from. On a large monitor this is not a big deal, but in the field on a tablet it takes up too much space, and time looking for the correct icon.

## Digital Editing Toolbars Installed

This is a screen showing the tools turned on. Notice how much more screen real estate is available.







## Digital Editing Toolbar

Decreases searching and (clicks)

Allows the user to concentrate on the science rather than technology.

### Clicks

Tool	From - To
Reshape edge	6 - 3
Modify edge	5 - 3
Cut polygon	7 - 3
Island polygon	18 - 3

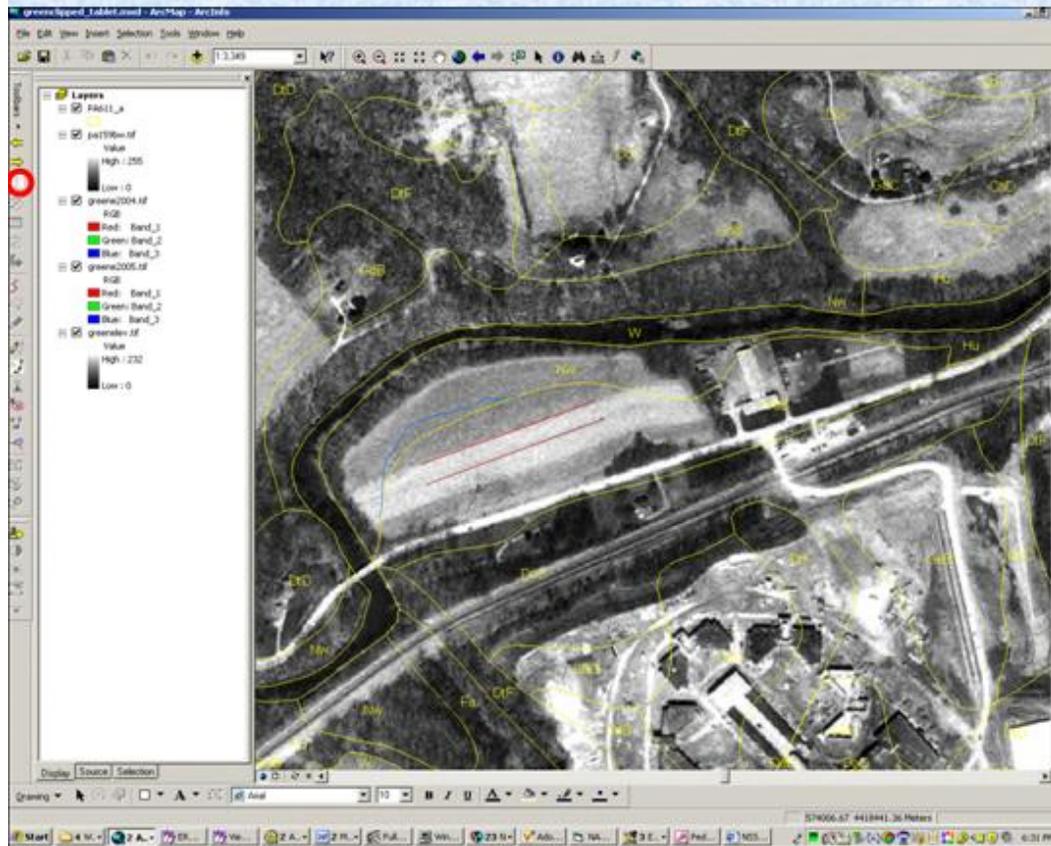
Number of steps (Give or take depending upon skill of user and knowledge of default settings)

These are some of the custom digital editing tools. Note that defaults have been chosen so that the user does not have to make as many choices while editing.

## In Summary

- The tools developed to date include “finished” products and prototypes
- The ultimate goal for point data collection is a disconnected NASIS that can be taken to the field. (With a field designed user interface)
- Arc users want the flexibility of using the native software and the convenience of custom buttons.

Same scale



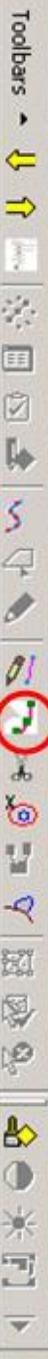


# Edit Toolbar

- Starts edit session automatically
- Tools walk you through the steps of each operation



- NEW – Choose reshape edge button - To reshape edge click on line and draw sketch  
(three steps)
- OLD – Start Edit Session - Editor toolbar and Topology toolbar
- Set edit task
- Use Topology select tool (select and then choose line)
- Back to edit toolbar and pick sketch tool
- Draw the sketch  
(six steps)



- Modify edge
  - Choose button – Choose node
  - move node (three steps)

Old way – Start edit session -  
Set edit task – click on  
topology edit tool – choose  
node – move node (five steps)



- Cut polygon

Choose button – Choose polygon – draw cut line (three steps)

Old way – Start edit session –

Set the edit task – click on select tool – select polygon – click on sketch tool – draw cut line - click the attribution editor (seven steps)

The attribution editor is on by default but can be turned off.



- Island polygon

Choose button – Choose polygon – draw polygon (three steps)

Old way – Start edit session –

Set the edit task – set snapping properties - click on select tool – select polygon – click on sketch tool – draw polygon - explode command - click the attribution editor (nine steps)

The attribution editor is on by default but can be turned off.

# Possible Enhancement Component Names from NASIS

The image shows two windows from the NASIS (6080) software. The top window is the 'Report Manager' and the bottom is the 'Report Viewer'.

**NASIS (6080) Report Manager**

NASIS Site: MLRA11\_Office | Local | National | Ready for Use Only

Report Name: Check Cec to Clay Ratio, Check Cec to Clay Ratio (using ECEC when CEC is null), **Check Component names (list)**, Check Component names and drainage class listed alph (list), Check Corrosion, Check DMU Ownership, Check Db 15 bar calculated (OH), Check Depth (no column headings) (MI), Check Drainage class (mapunit names listed alphabetic), Check Drainage class (series), Check ECEC, Check Forest productivity data

Report Description: this report lists components in s...

Buttons: Preview, Print, Save Ascii, Cancel, Help

**NASIS (6080) Report Viewer**

Report Name: Check Component names (list) | Page 1 of 12

Component Name

Abscota
Ackerman
Ade
Adeland
Adrian
Adrian variant
Adyeville
Alford
Algansee
Algansee variant
Algiers
Alida
Allison
Alvin
Ambraw
Andres
Angatoka
Antung
Apalona
Aptakisic
Aquents