United States Department of Agriculture
Natural Resources Conservation Service

USDA NRCS

Soil Resource Inventory Tool Box (SRITB)

National Geospatial Development Center
May 2009

What is SRITB?

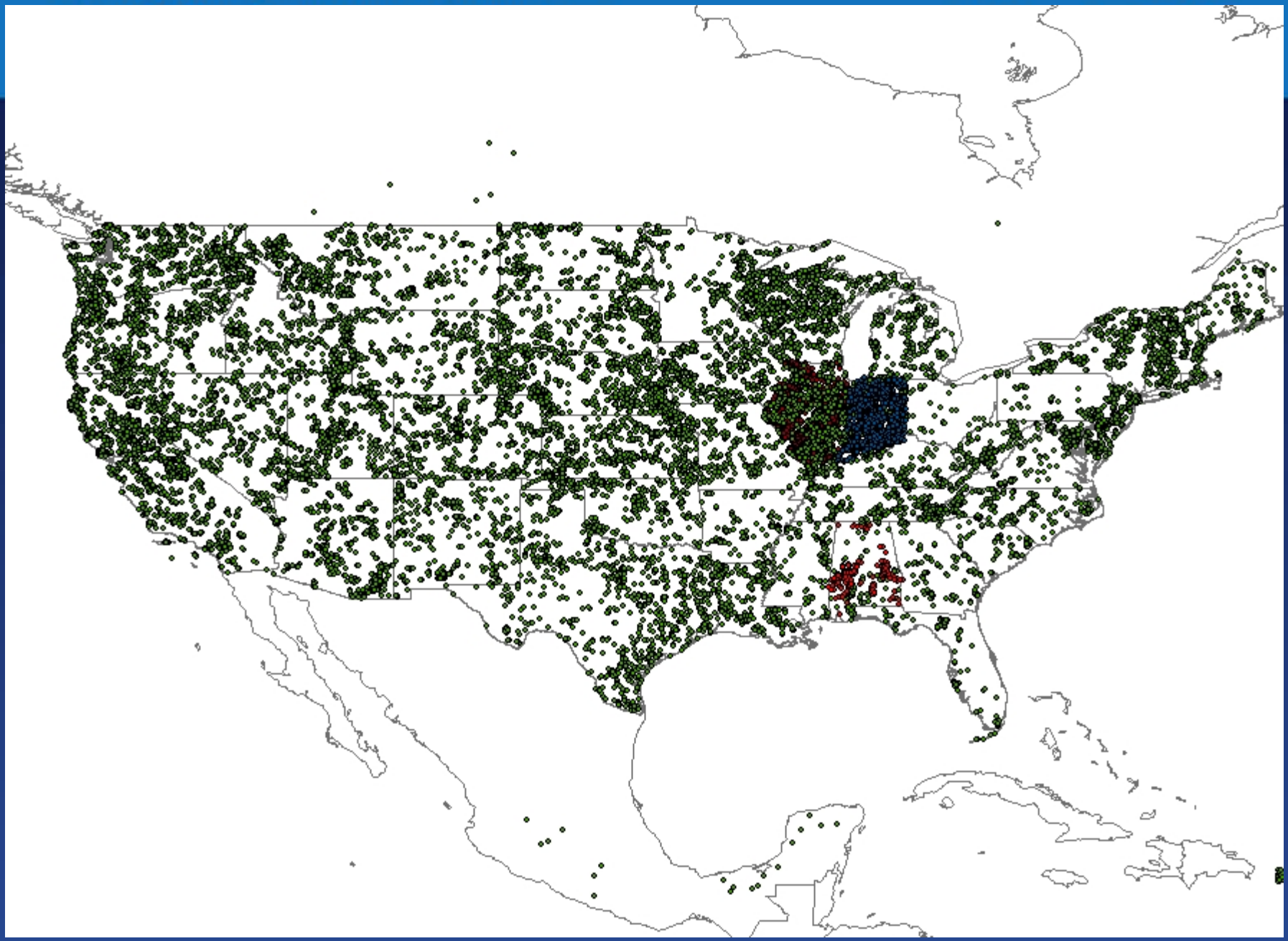
- Soil Resource Inventory Toolbox
- Initiative by Soil Survey Division to provide automated field tools for soil scientists

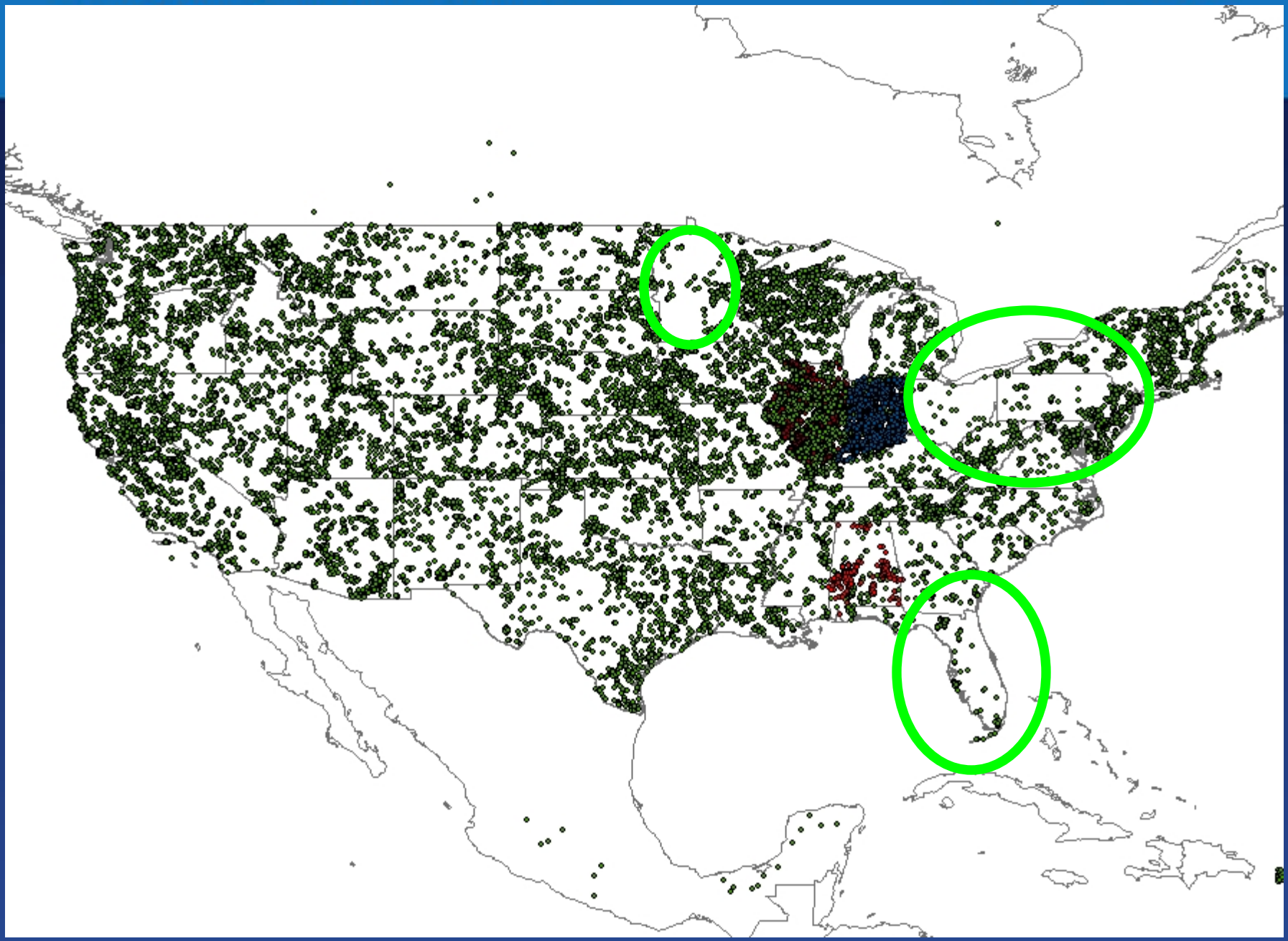
NGDC develped SRITB components:

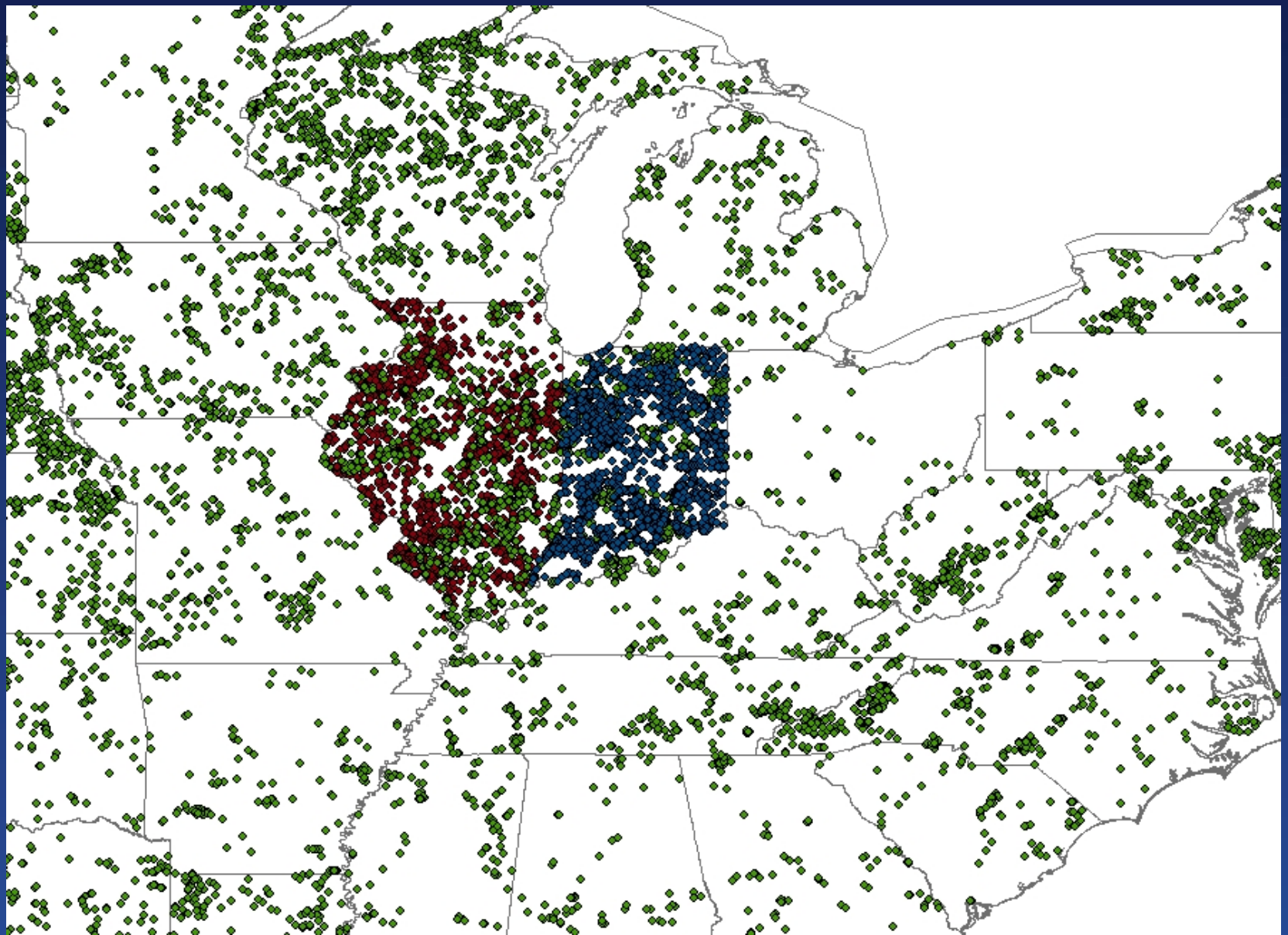
- Microsoft Access Applications
  - Pedon PC
  - Analysis PC
  - Lab Database Entry Program
- One Arc GIS Extension
  - SRITB Digital Editing Toolbar

Lab Database Entry Program

- Detailed laboratory data for soils are stored in the NRCS Lab Information Management System (LIMS)
- Numerous universities, states, and other entities also collect and store soil data
- Lab Database Entry Program is an attempt to centralize this external data into our system



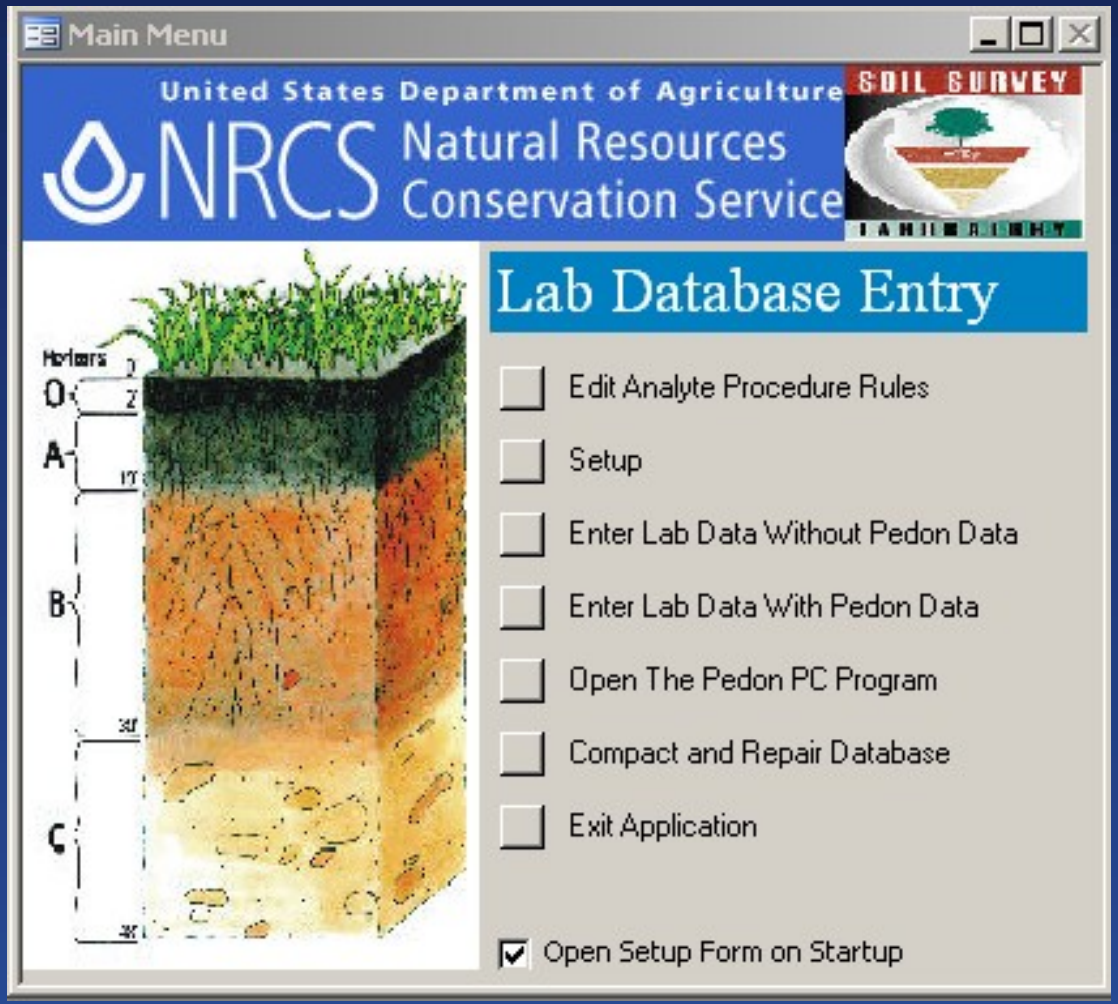




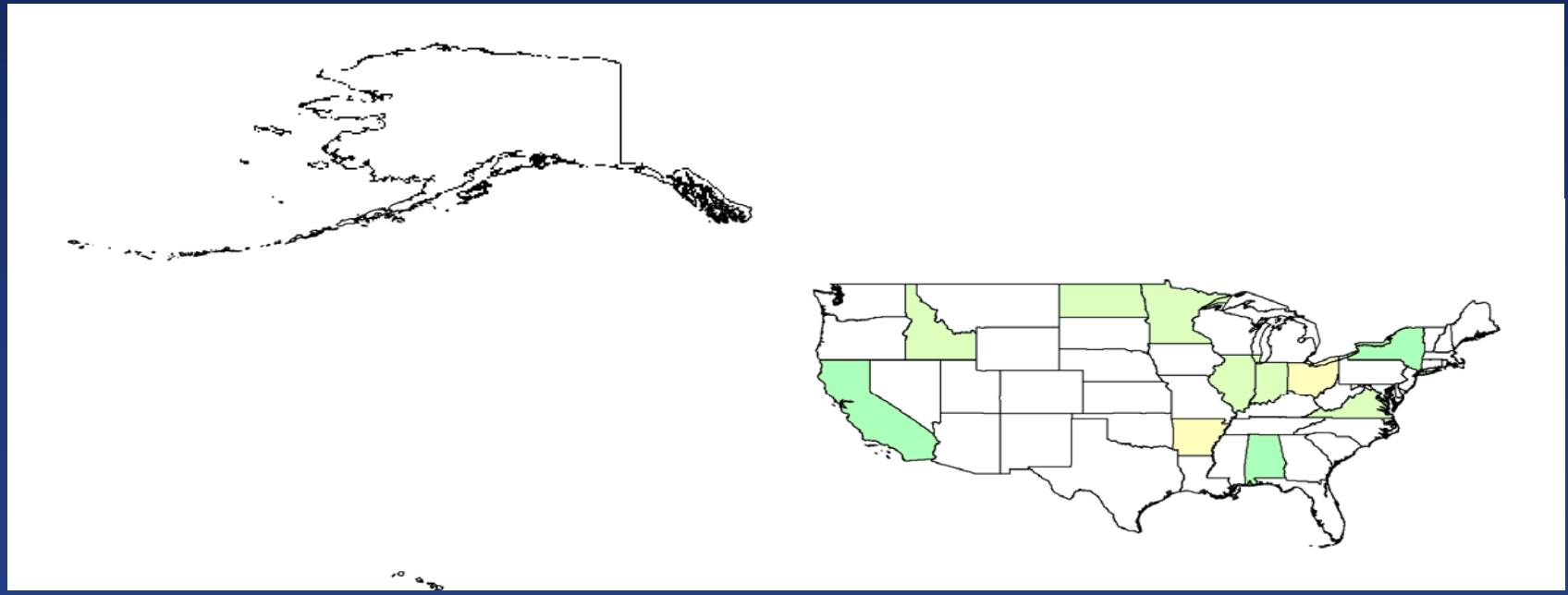
Lab Status

- The lab applicaton collects metadata
- Universities use Pedon PC to get the descriptions in NASIS.

Lab Database Entry Main Menu



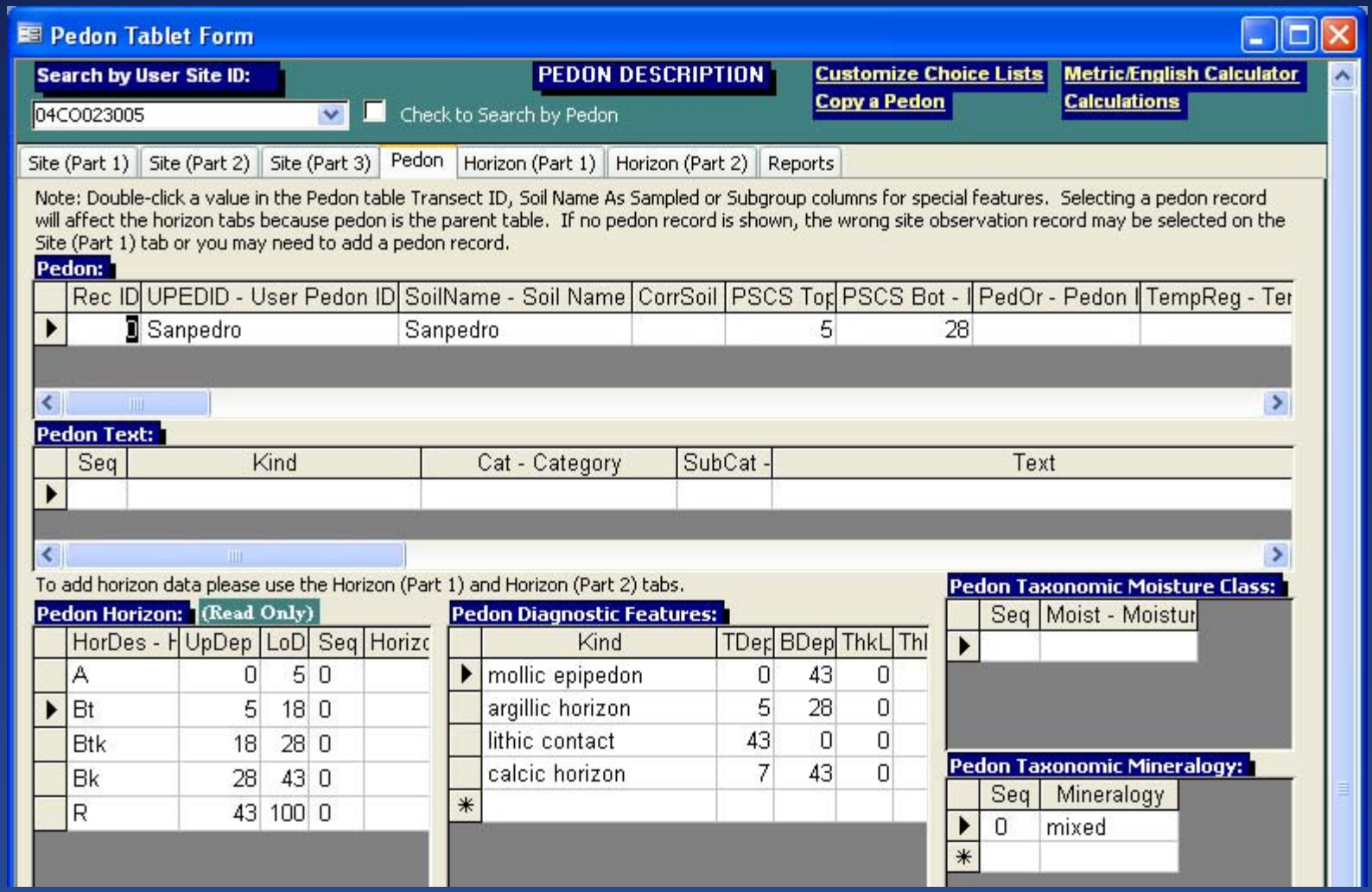
University Laboratory Data Project



Pedon PC

- Field soil scientists were major players in the appearance and functionality
- Montana Migrator was the basis for the application

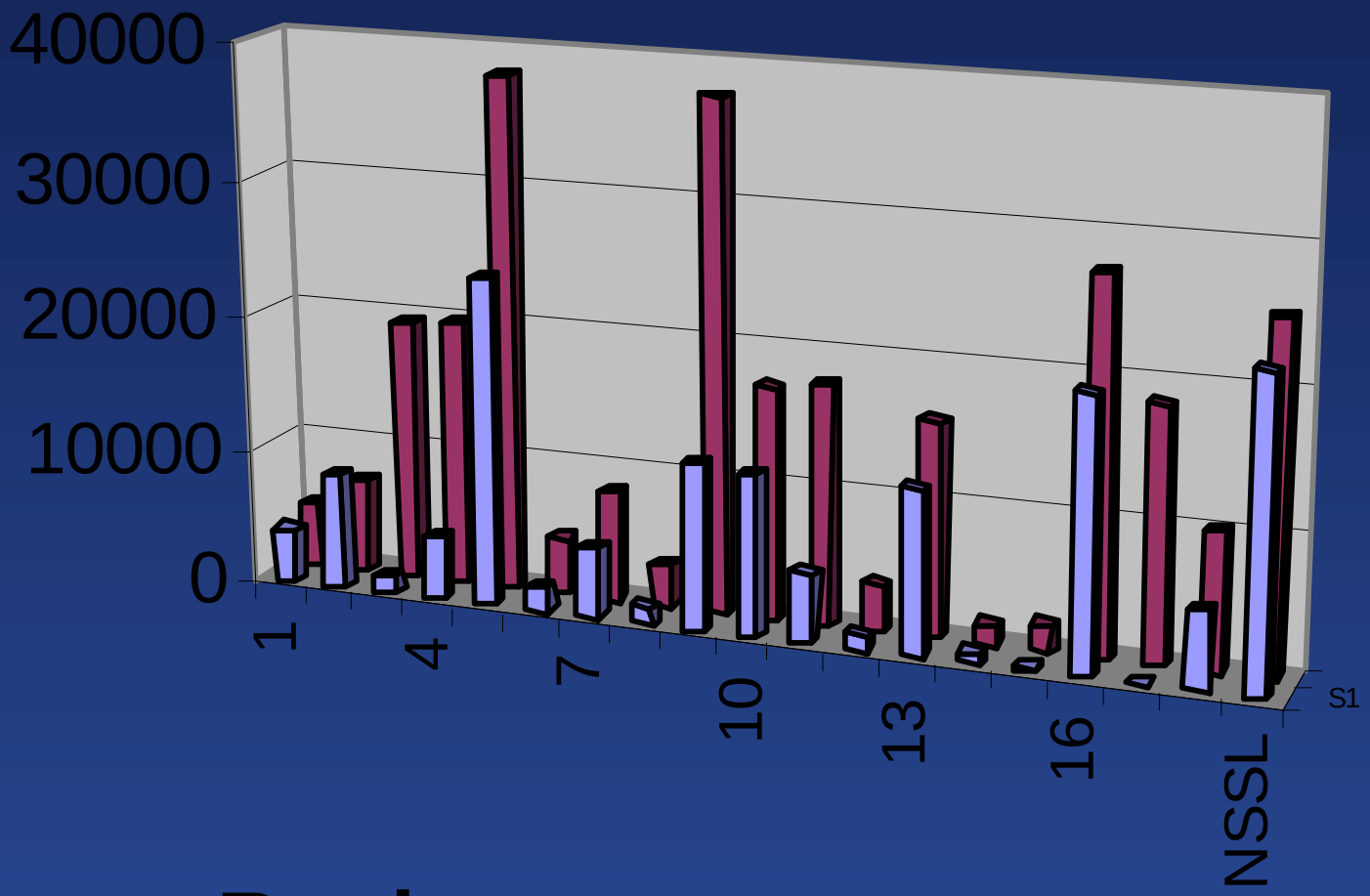
Pedon PC Tablet Forms



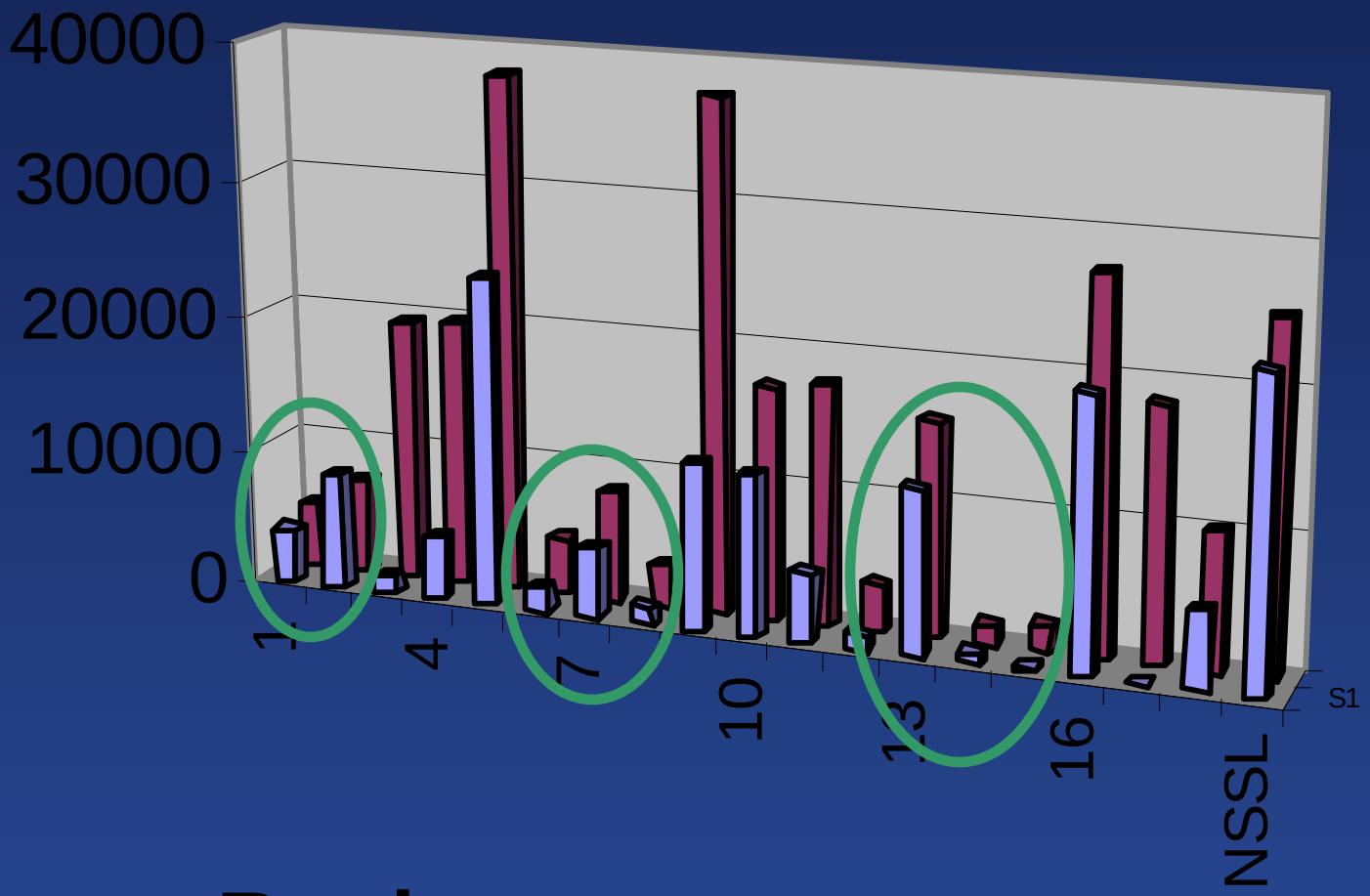
Pedon PC

- Forms are designed for use in Microsoft Access
- Point data in NASIS:
  - 2005 approx 100,000 points
  - 2007 approx 240,000 points
- Difference about 140,000 points

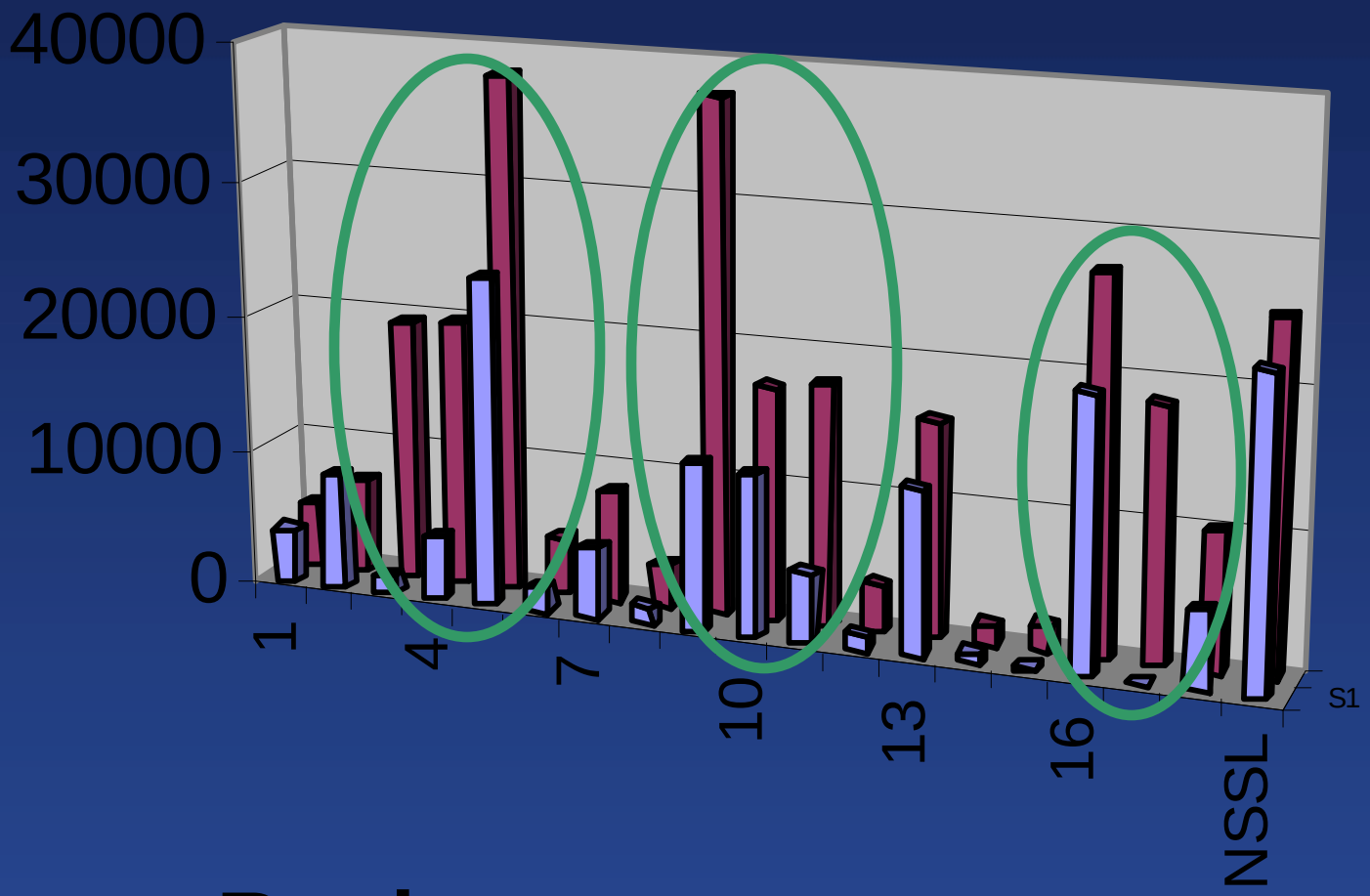
Points by Region



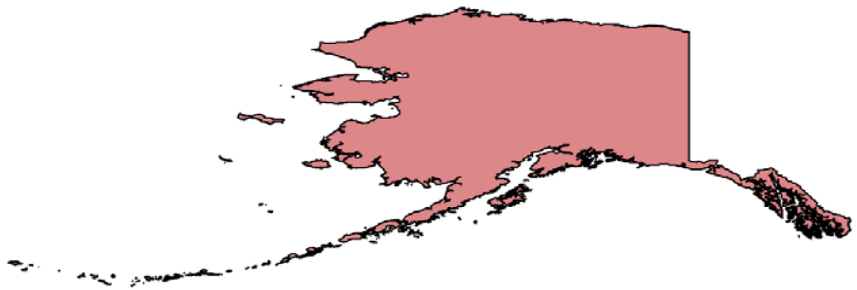
Points by Region

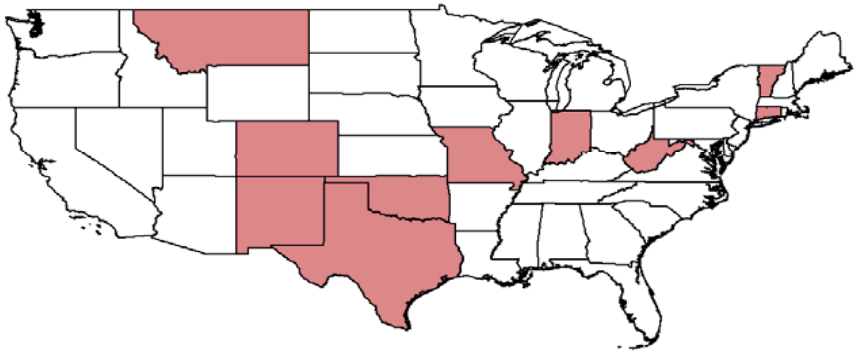


Points by Region



Point Data Collection Team





658	1102
85	624
613	209
167	8
-304	168
190	151
8	1261
-2178	147
5311	1
648	

April 2009 #'s of Points added to NASIS in One Month

2917	160
1119	105
775	102
428	80
420	46
406	15
373	0
206	-62
204	
199	

Pedons in NASIS April 2009

37604

36581

27213

25216

19568

18970

18528

17595

16790

15799

10138

8187

6787

4453

4429

3500

2823

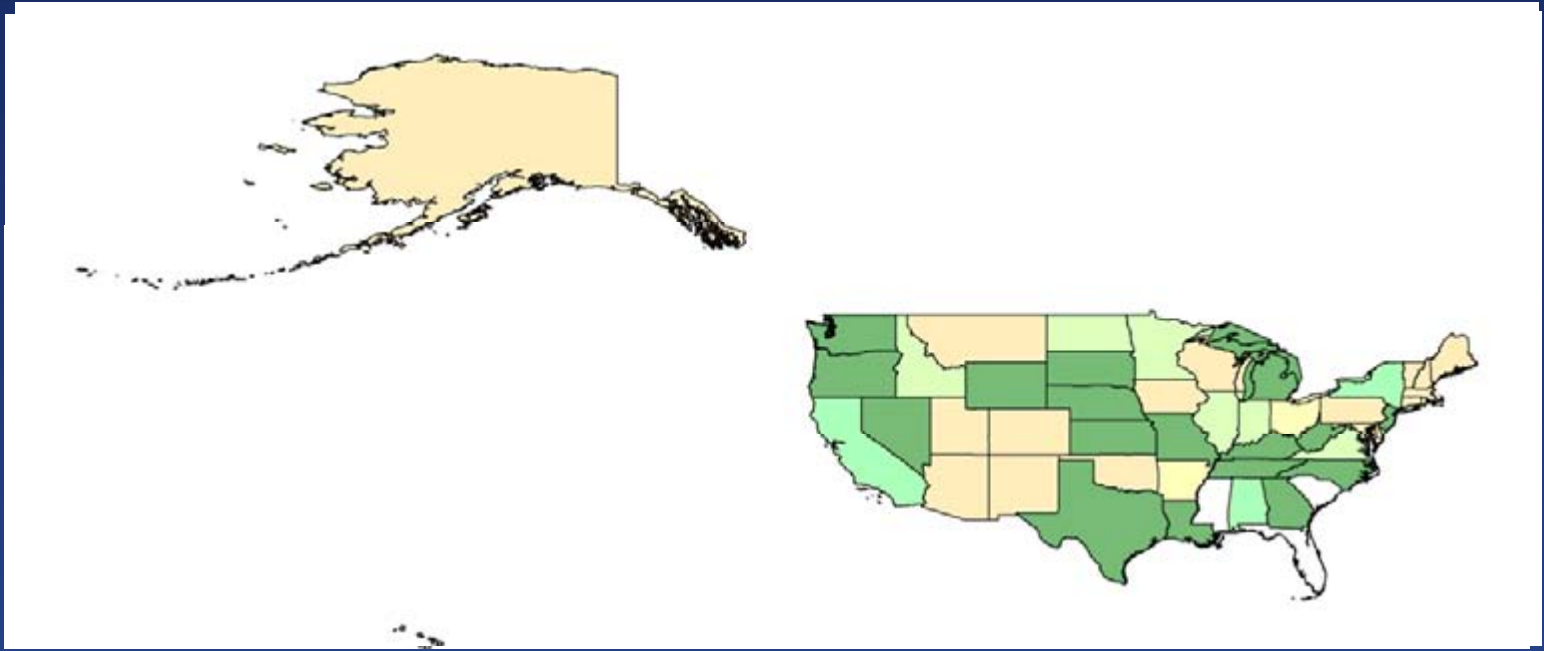
1956

1425

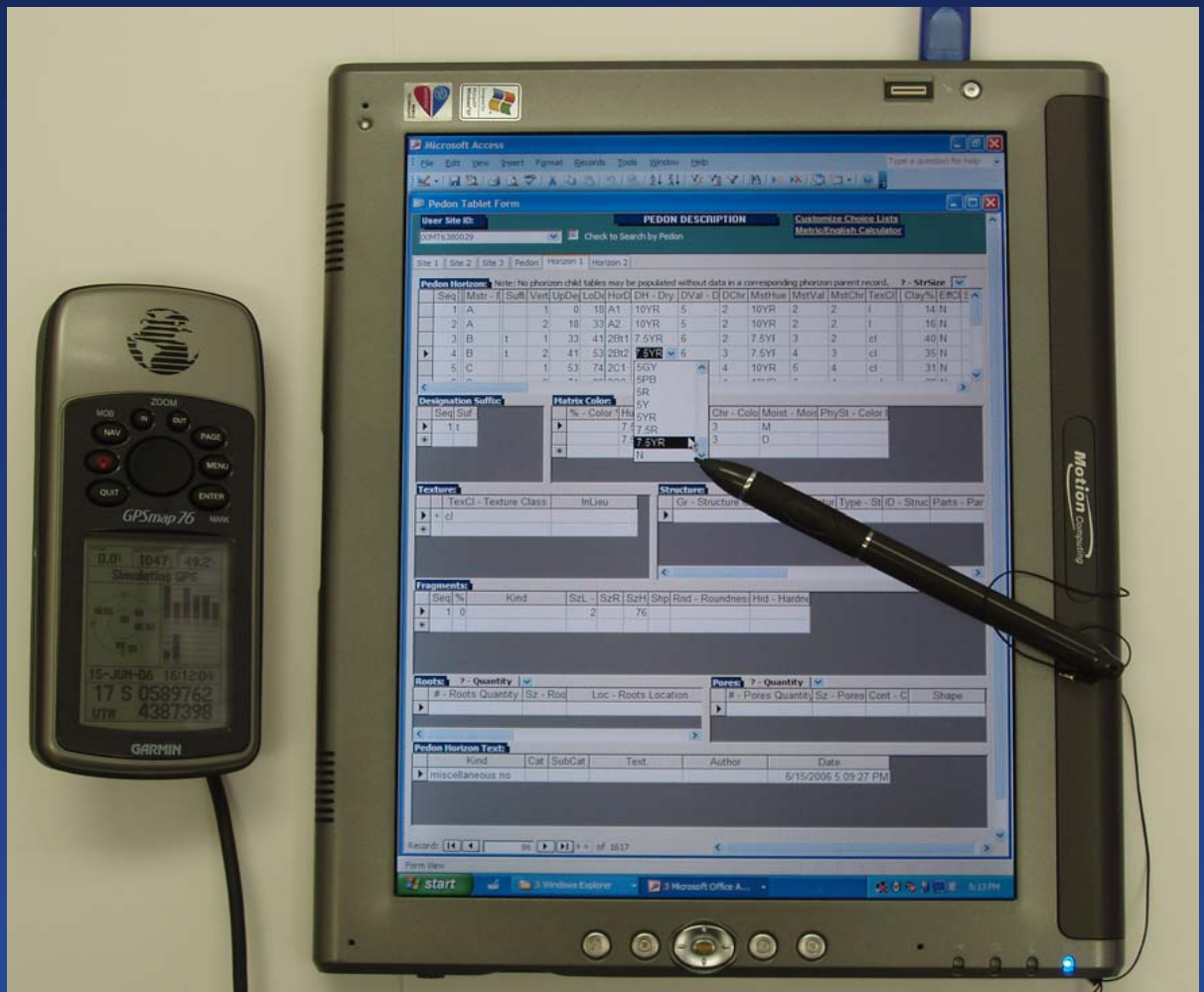
SRITB

- Communication
- Education

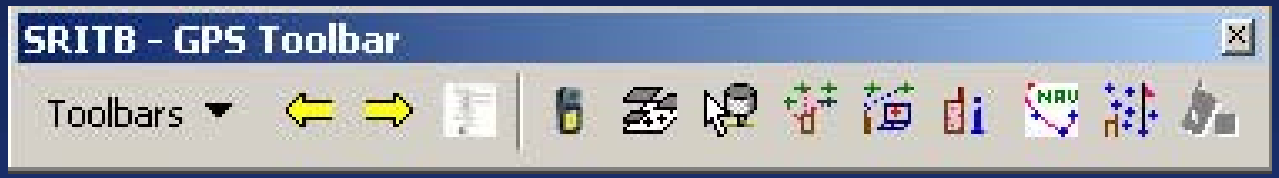
SRITB Awareness and Use



Auto-pop interaction with Pedon PC and a GPS unit



GPS Toolbar in ArcMap



Pedon PC Applications

Auto-Populate From Current GPS Position

Auto-Populate From Selected points

Auto-Populate From Clicked location

Connects GPS to Application

Displays GPS Position On Screen

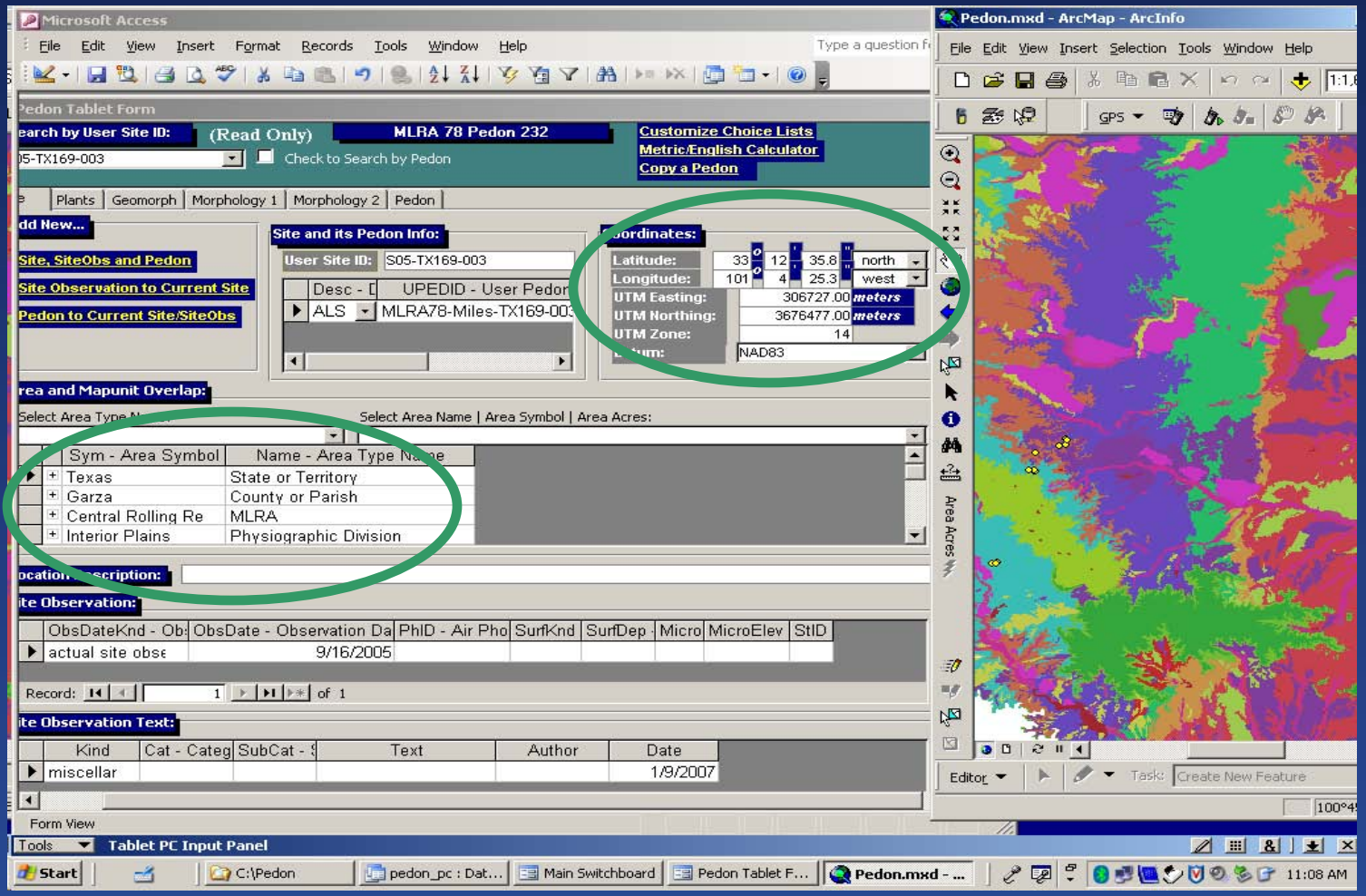
Information On GPS Receiver

Navigation Using GPS

Collect Point

Close Connection

Auto-population



Pedon PC

Application used to:

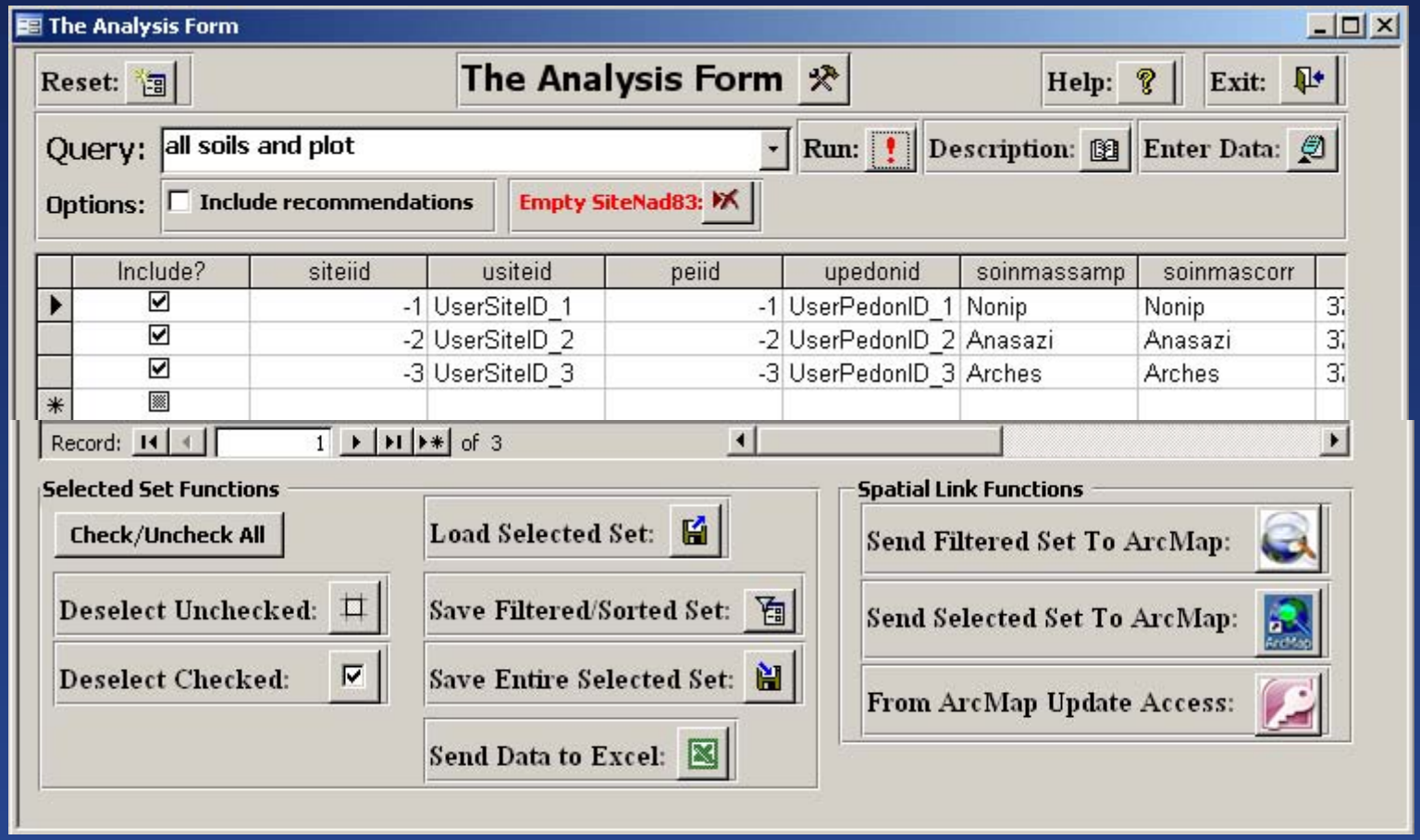
- Collect point data for upload to NASIS (National Soil Information System)
- Run reports for quality control and completeness of descriptions

Analysis PC

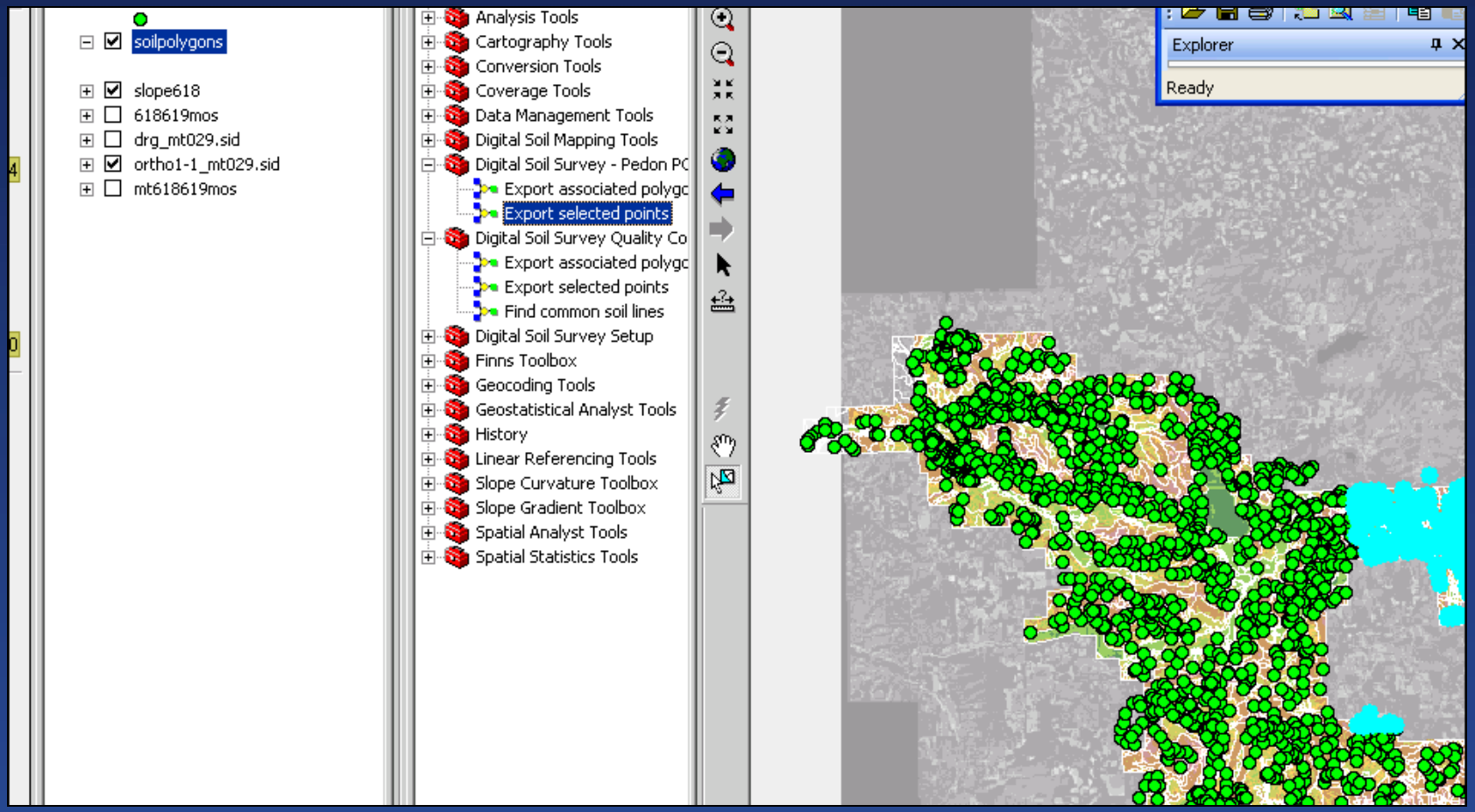
- Analysis PC is an analysis program for point data.
- The Analysis Tools interact with Microsoft Access, ESRI ArcMap and Microsoft Excel.

Analysis PC Main Menu

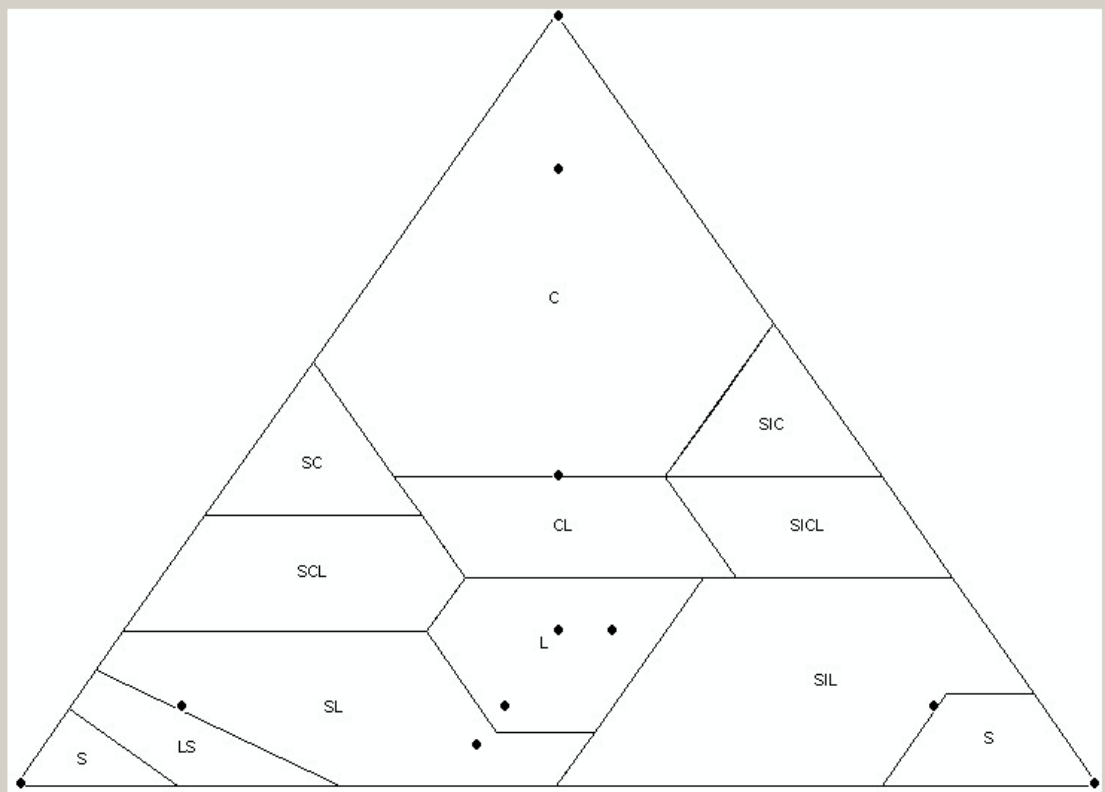
The Analysis Form



Interaction with ArcMap



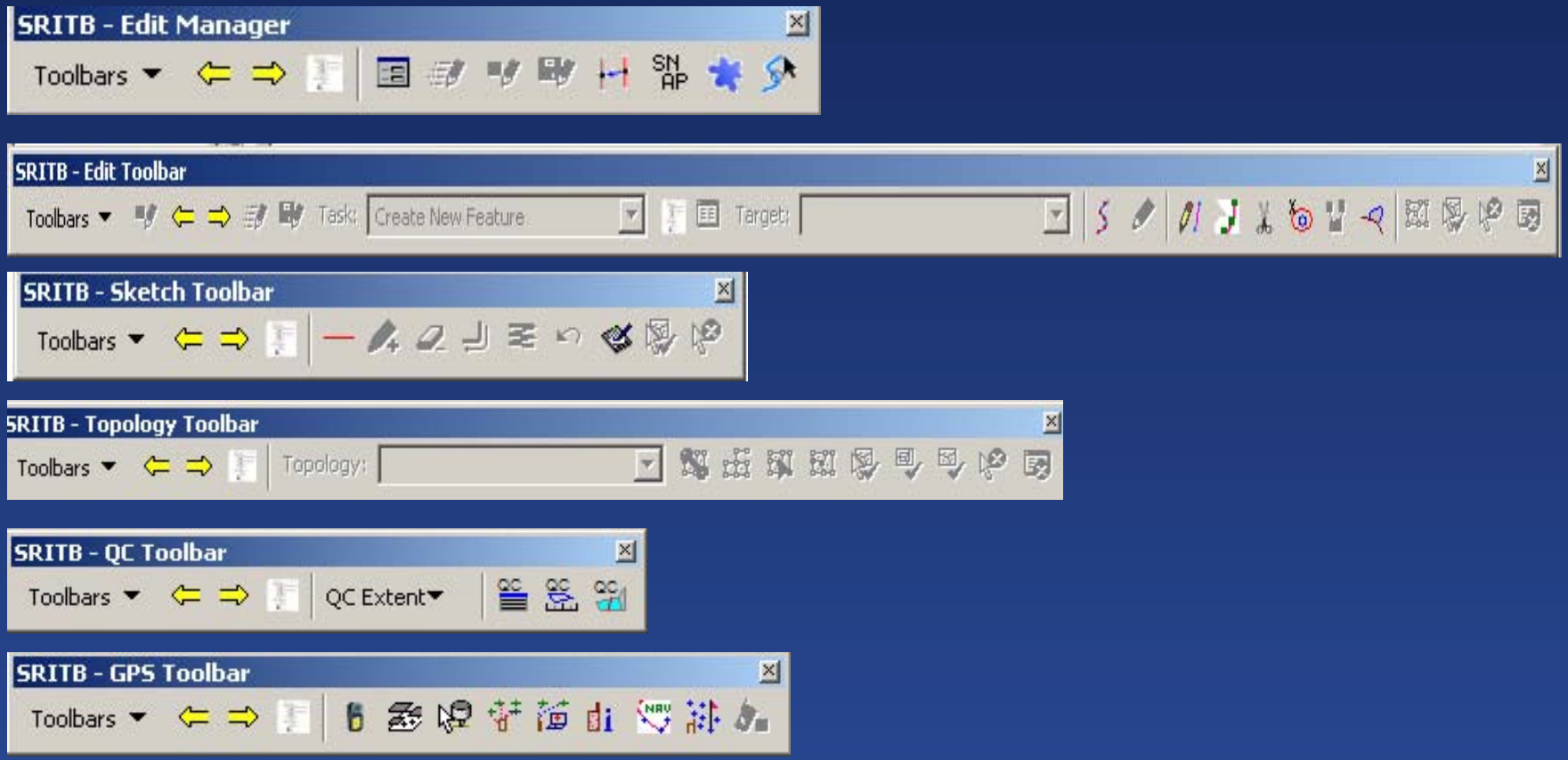
Textural Triangle Form



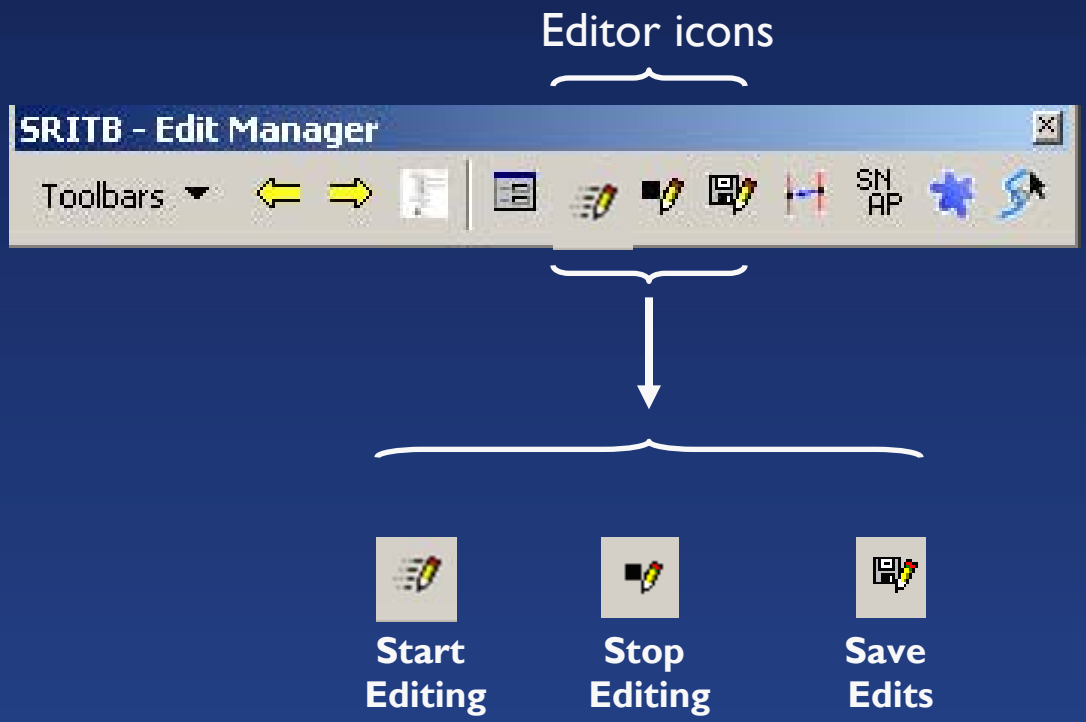
Editing Toolbar

- Adds a suite of toolbars to ArcMap (loads as an extension)
- Programmed to simplify GIS digitizing procedures and data capture.

Six toolbars in one:



Edit Manager



Edit Manager

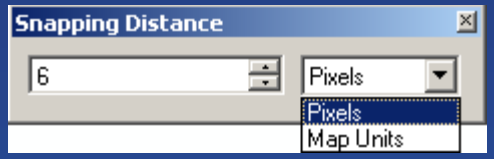
Tolerance Settings icons

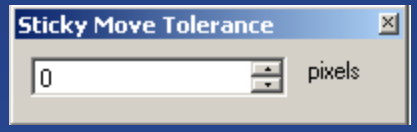
Snapping environment

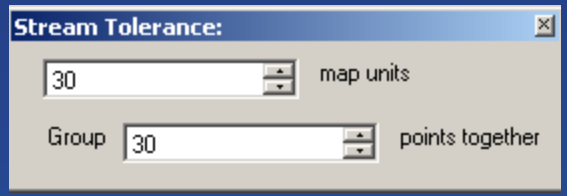
Set Snapping Distance

Set Sticky Move Tolerance

Set Stream Tolerance







Edit Toolbar

Editing Tools

Streaming Sketch

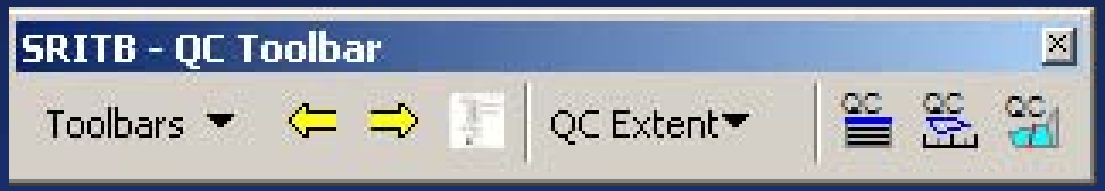
Topology Editing Tools

Reshape Edge Modify Edge

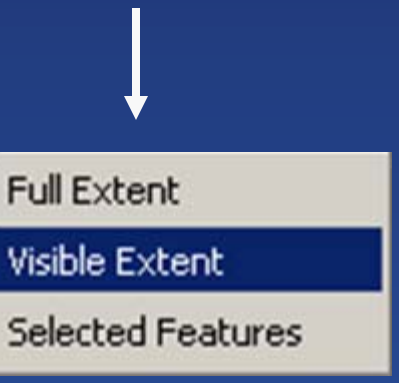
Editing Tools

Cut Polygon | Create Island Polygon | Merge | Auto Complete Polygon

QC Toolbar



Extent Selection



Find And Fix Inspector

Finds Minimum Sized Polygons

Finds Common Lines