- **Please note:**
  - This presentation was used as speaker's notes for the 2008 Petroleum User Group Conference on Feb. 27, 2008 in Houston, TX. This material is not intended as course material nor reference material, but simply as speaker's notes. This presentation may be used by an individual, but not posted on any website nor used in a public setting nor for profit. The .PDF version of this document does not display any of the animations that were in the original talk, so some of the slides may not display well. For permission/access to the entire power point presentation in its complete form, please contact info@TeachMeGIS.com.

ArcGIS Resources You Already Own (or can get for free)

That You Might Not Know About

Introduction

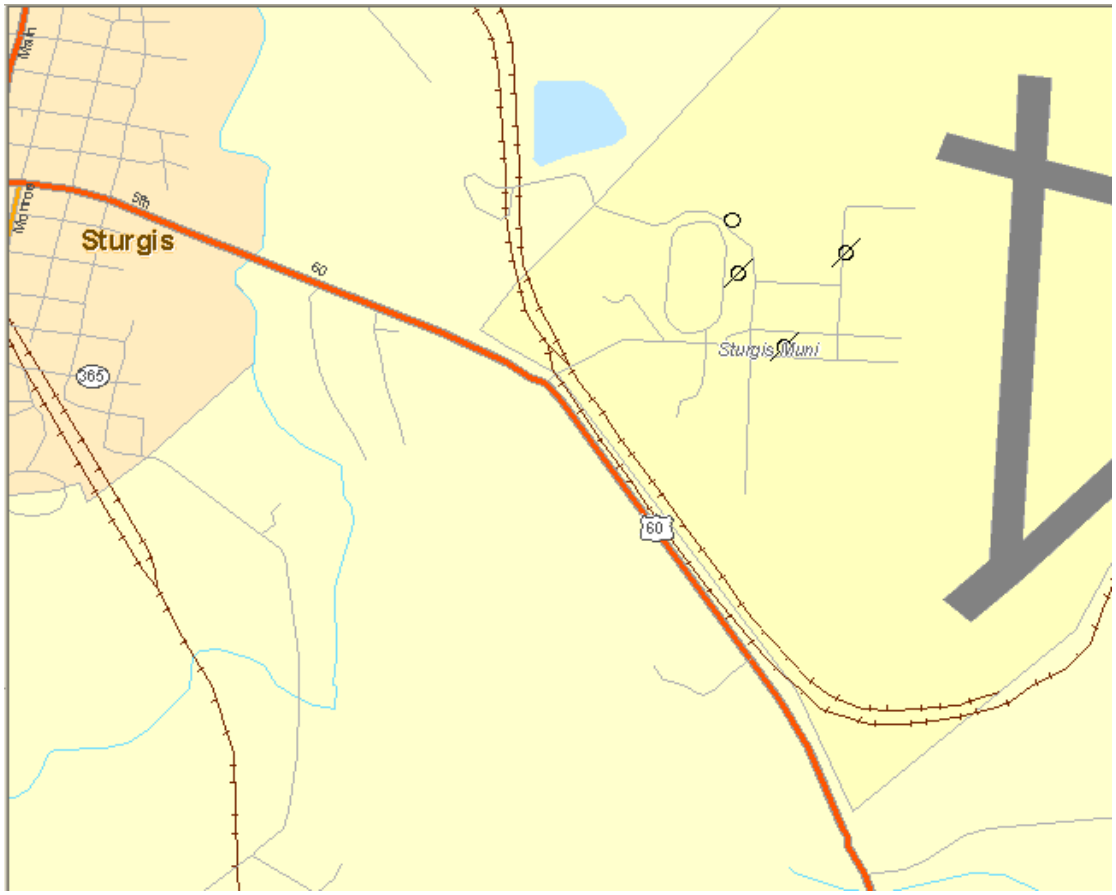
- A seminar for the “regular guy”

Table Of Contents

ArcMap Tools

Basic Tools

- Basic Tools
  - Find
  - ESRI Streetmap

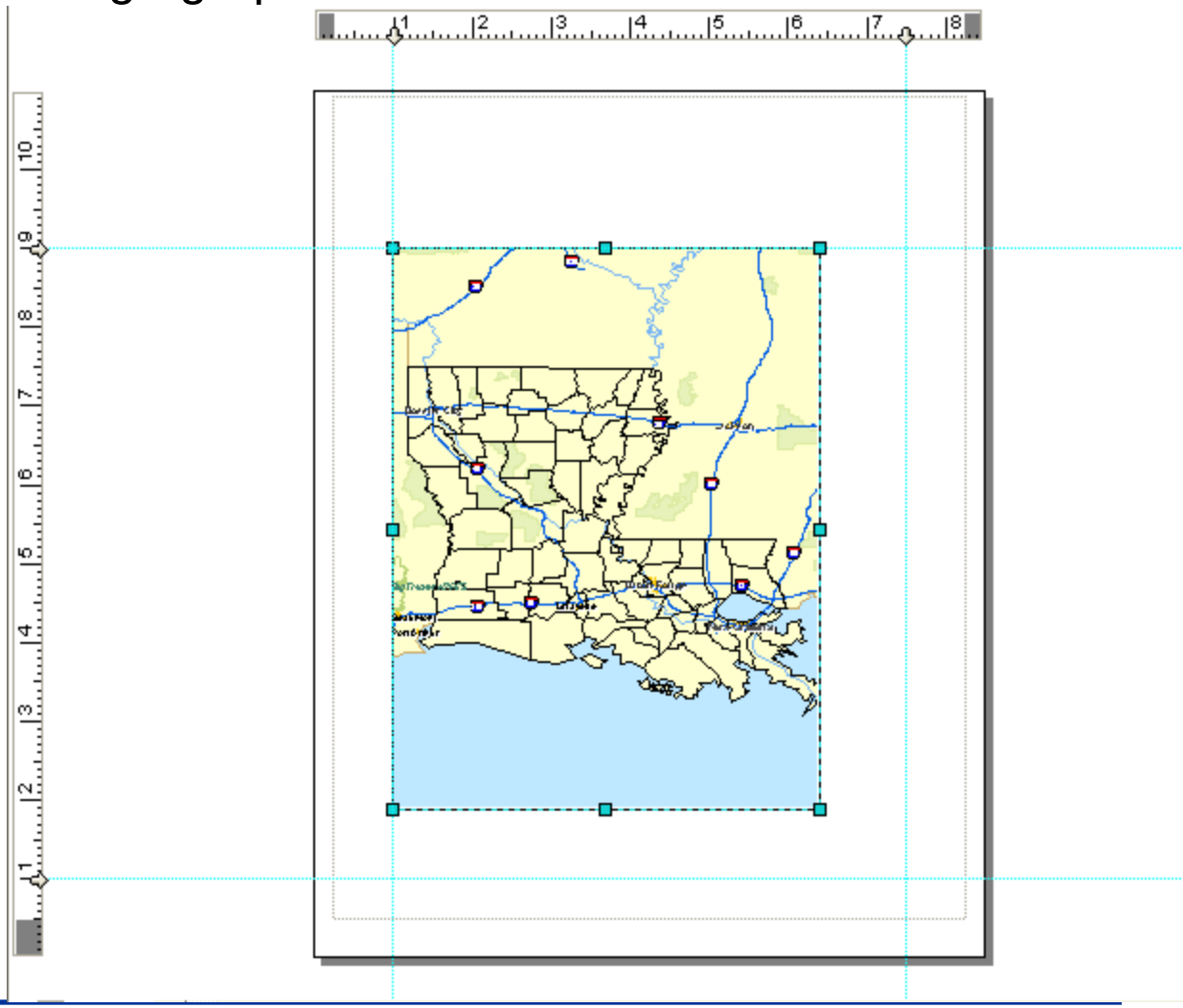


Graphics/Layouts Tools

- Graphics/Layouts
  - Using guides
  - Aligning graphics to the page
  - Adding an inset map
  - Clipping a data frame

Guides

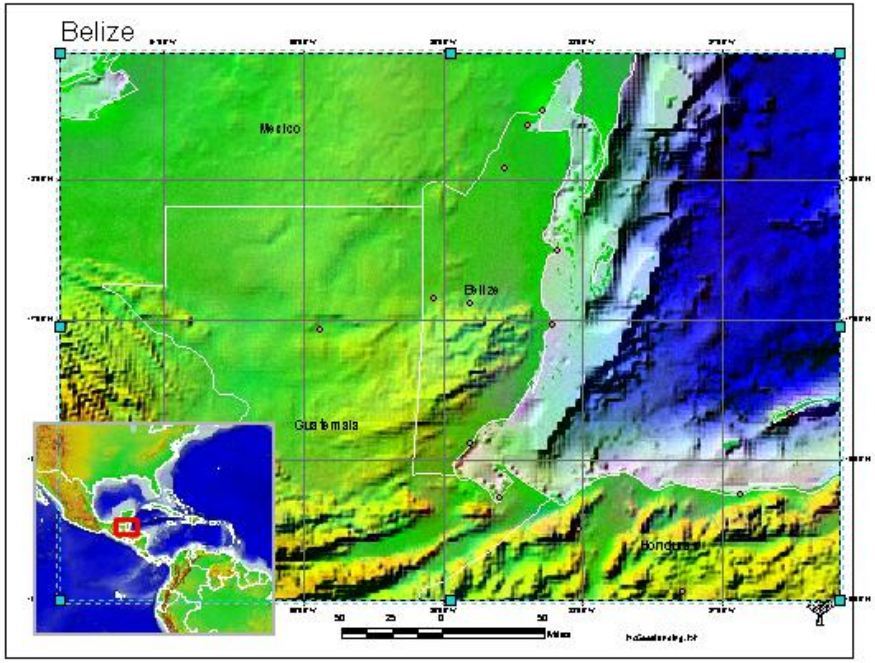
- Use guides to help you align graphics

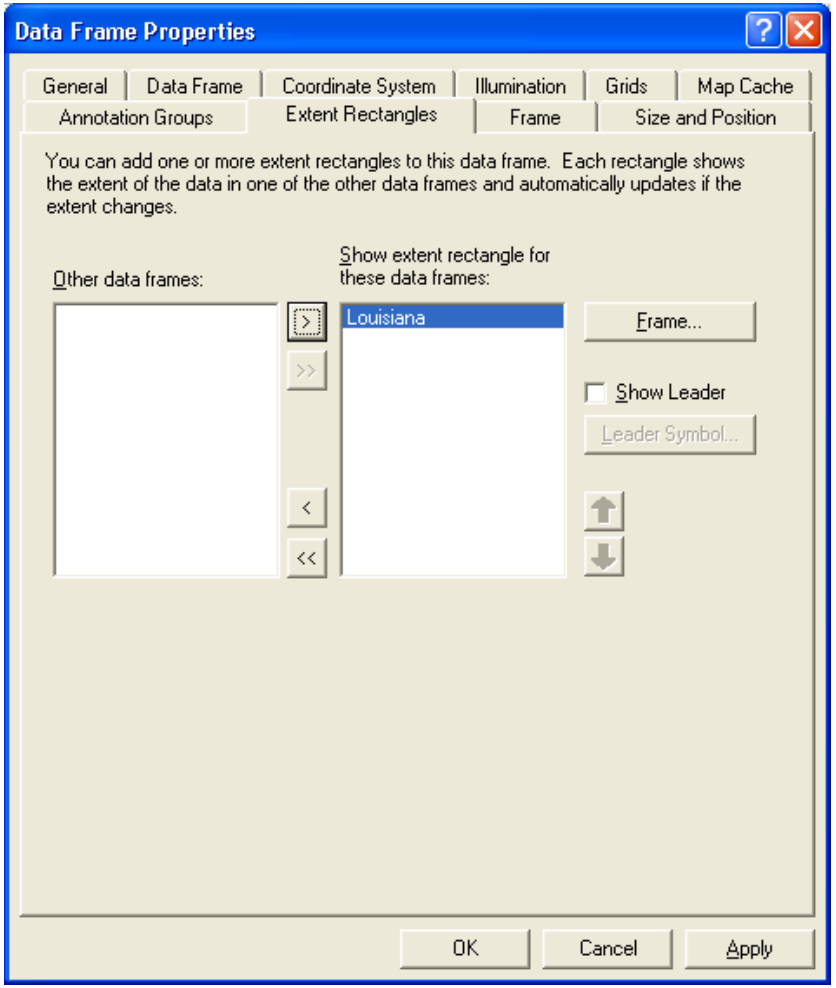


Graphics Toolbar

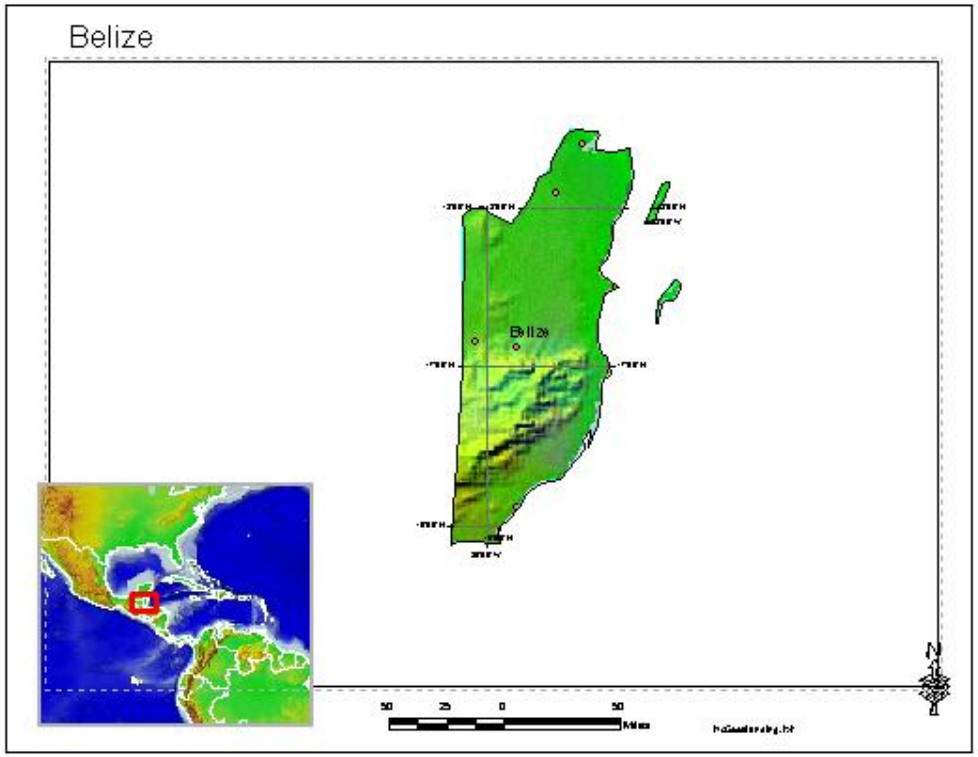
- Use the Graphics Toolbar to align graphics to the page

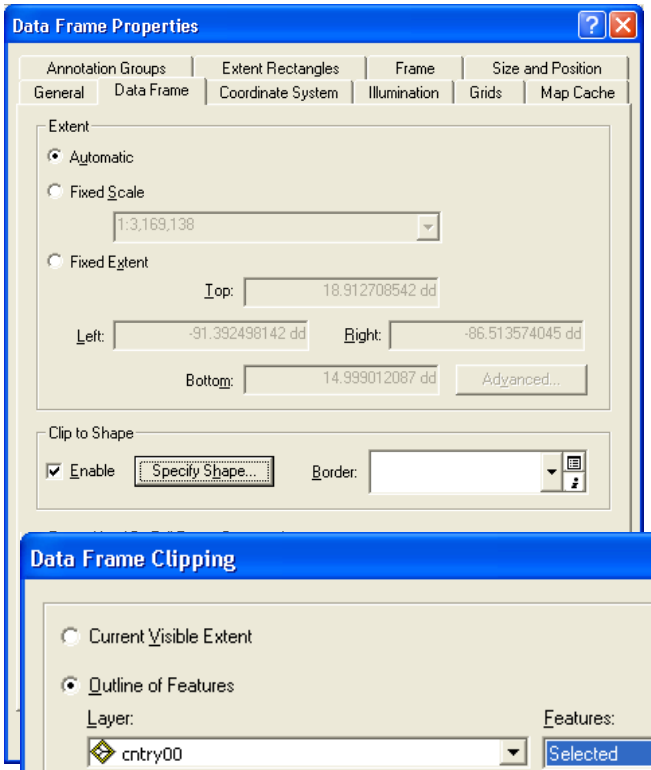
Inset Map


Belize
Mexico
Belize
Guatemala
Honduras


Data Frame Properties
General
Data Frame
Coordinate System
Illumination
Grids
Map Cache
Annotation Groups
Extent Rectangles
Frame
Size and Position
You can add one or more extent rectangles to this data frame. Each rectangle shows the extent of the data in one of the other data frames and automatically updates if the extent changes.
Other data frames:
Show extent rectangle for these data frames:
Louisiana
Frame...
Show Leader
Leader Symbol...
OK
Cancel
Apply

Clipping the Data Frame





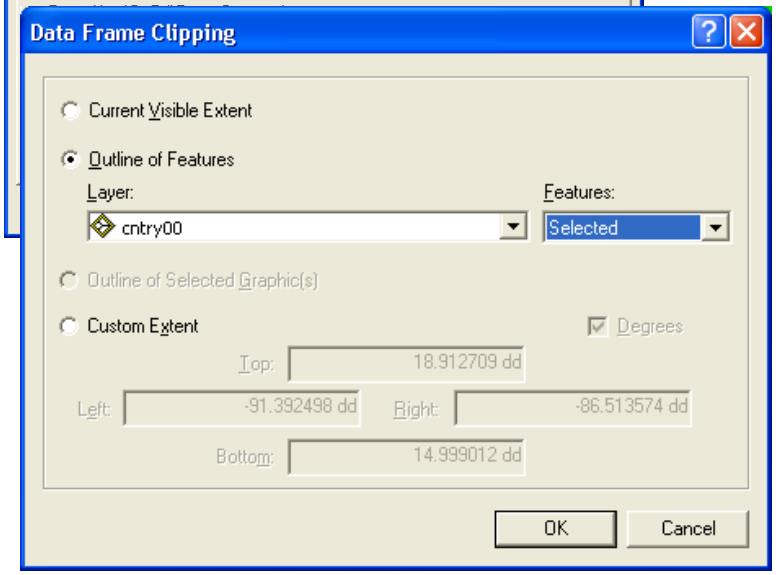
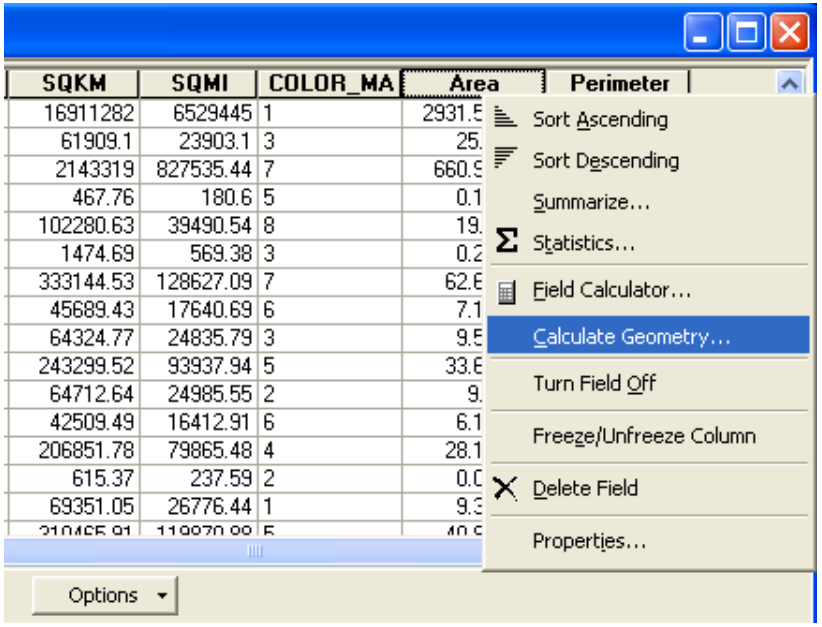


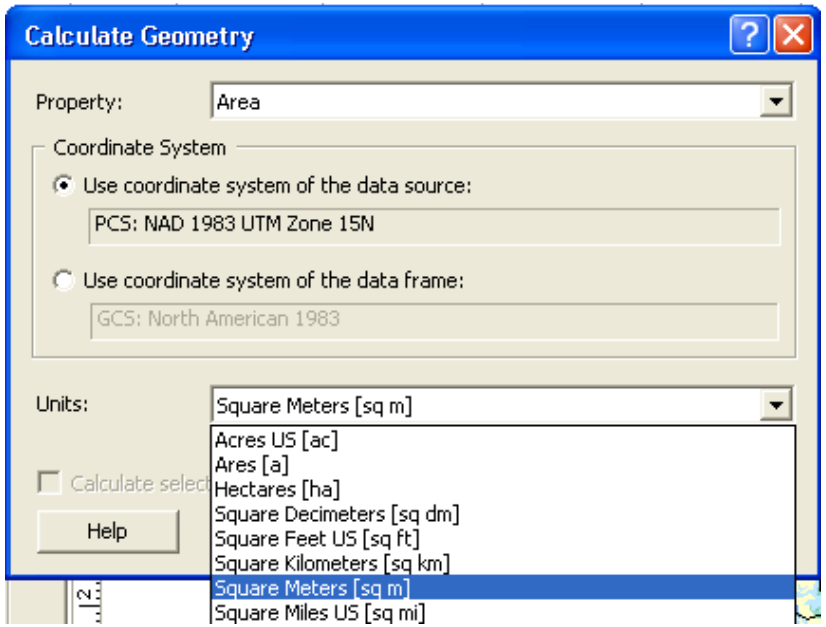
Table Tools

- Tables
  - Calculate Geometry
  - VBA Functions in the Calculator
  - Summarize
  - Spatial Join
  - Extract values to Points
  - Domains

Calculate Geometry

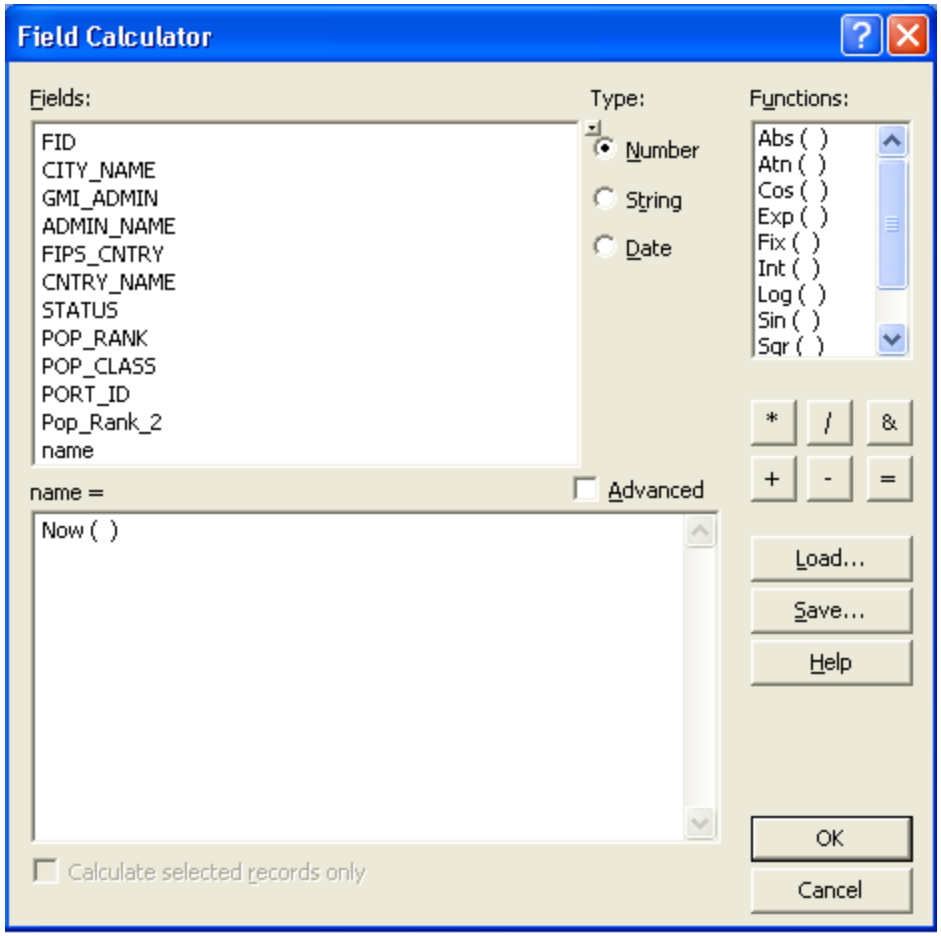
- New with ArcGIS 9.2
- For Shapefiles, or for calculating area/lengths in other units





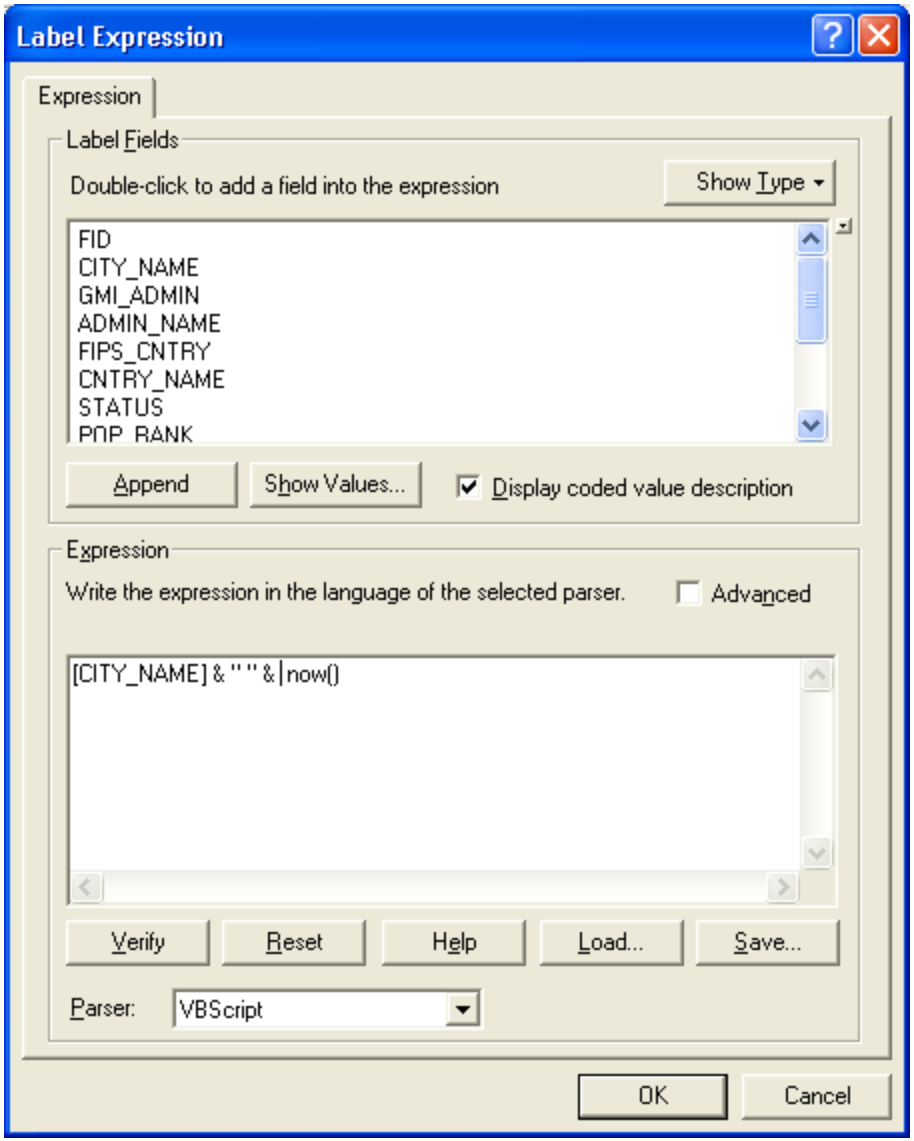
VBA Functions in the Calculator

- [field1] & “ “ & [field2]
- Left ([field1],2)
- Now()



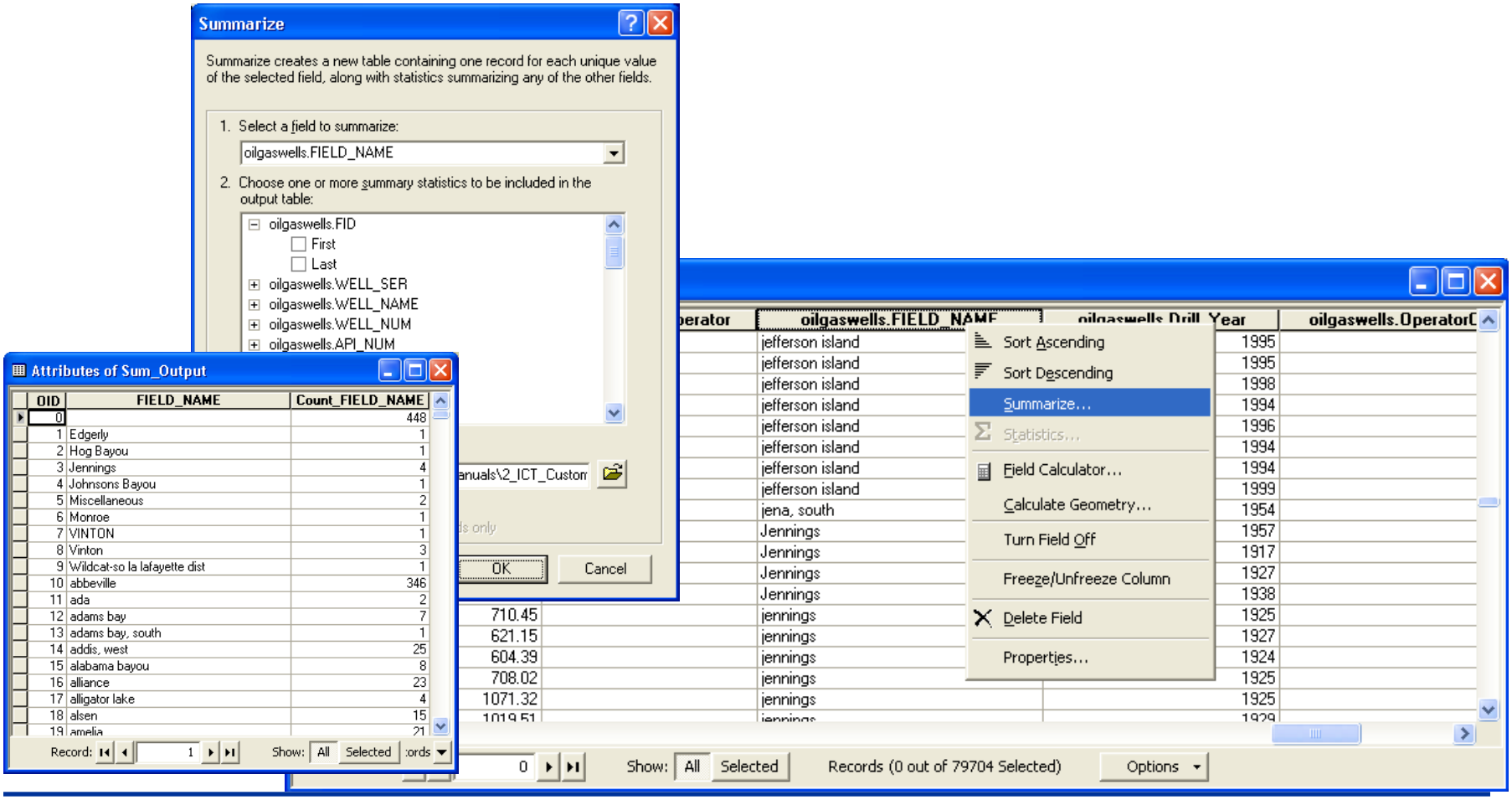
Labeling with a Time Stamp

- [Well_Prod] & “ “ & now()



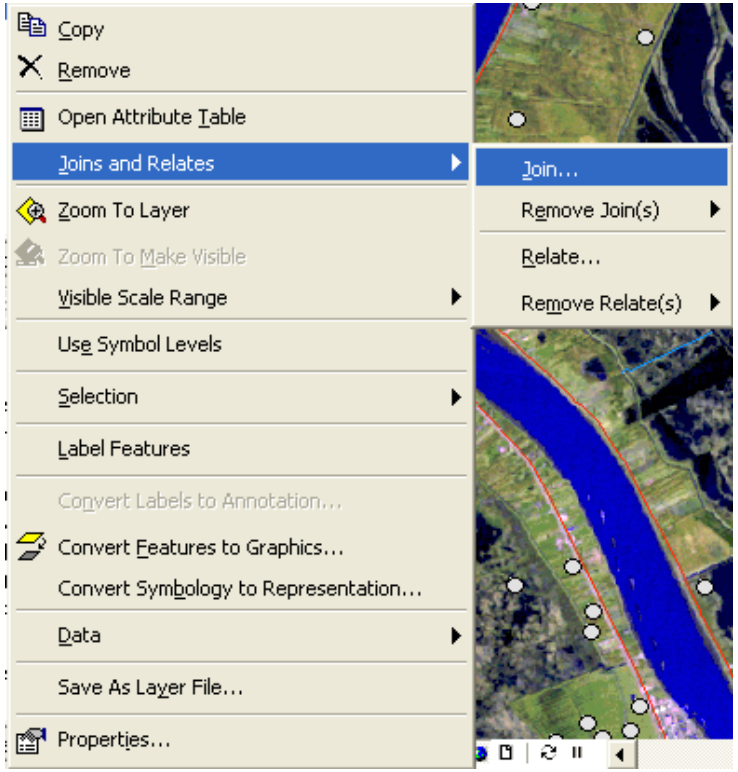
Summarize

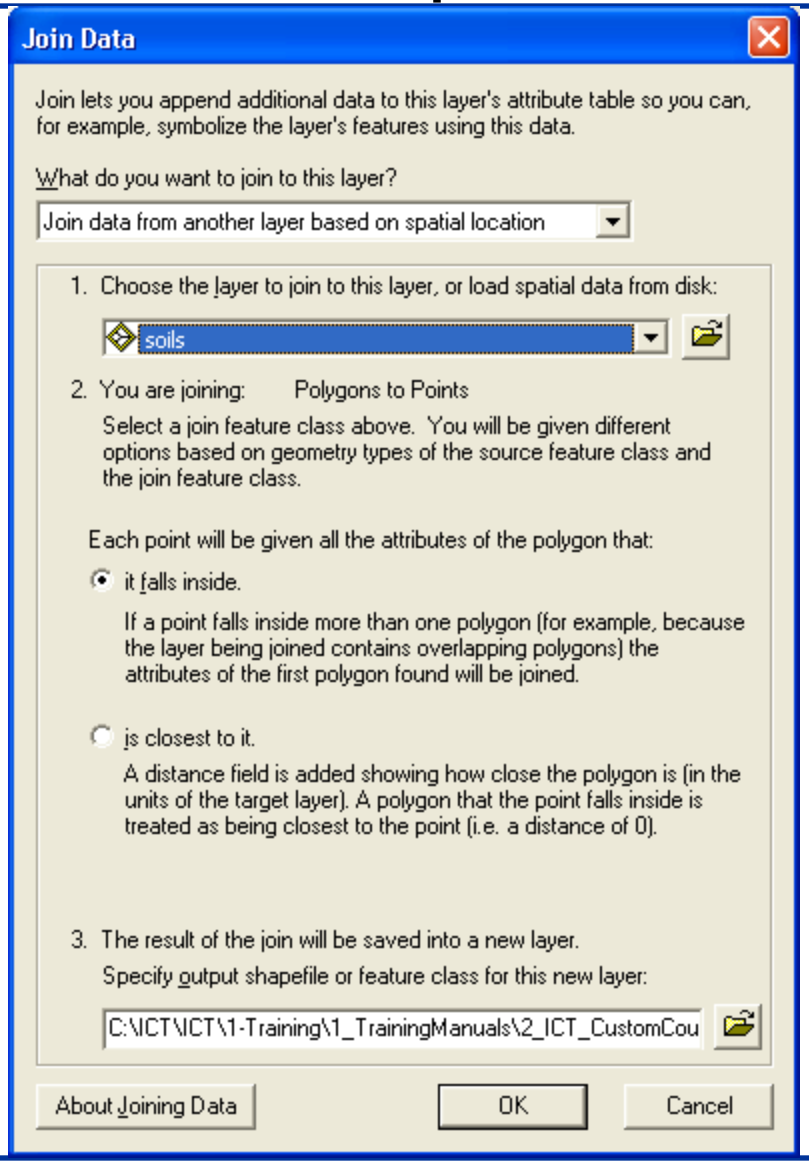
- How many wells are in each field?



Spatial Join

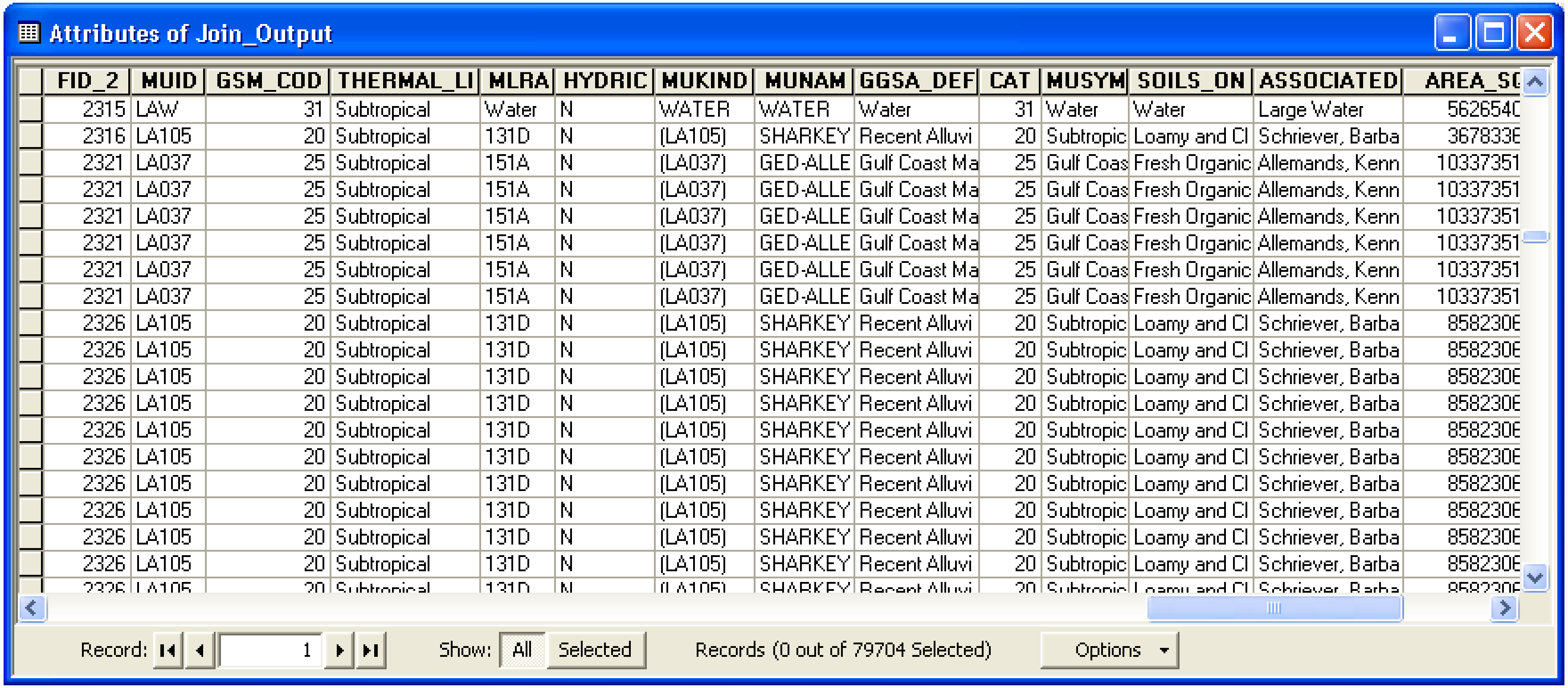
- Which wells are on sandy soil?





Spatial Join

- Make sure the two datasets are in the same projection.
- The point layer must be a feature class or a shape file (not an event layer, for example).

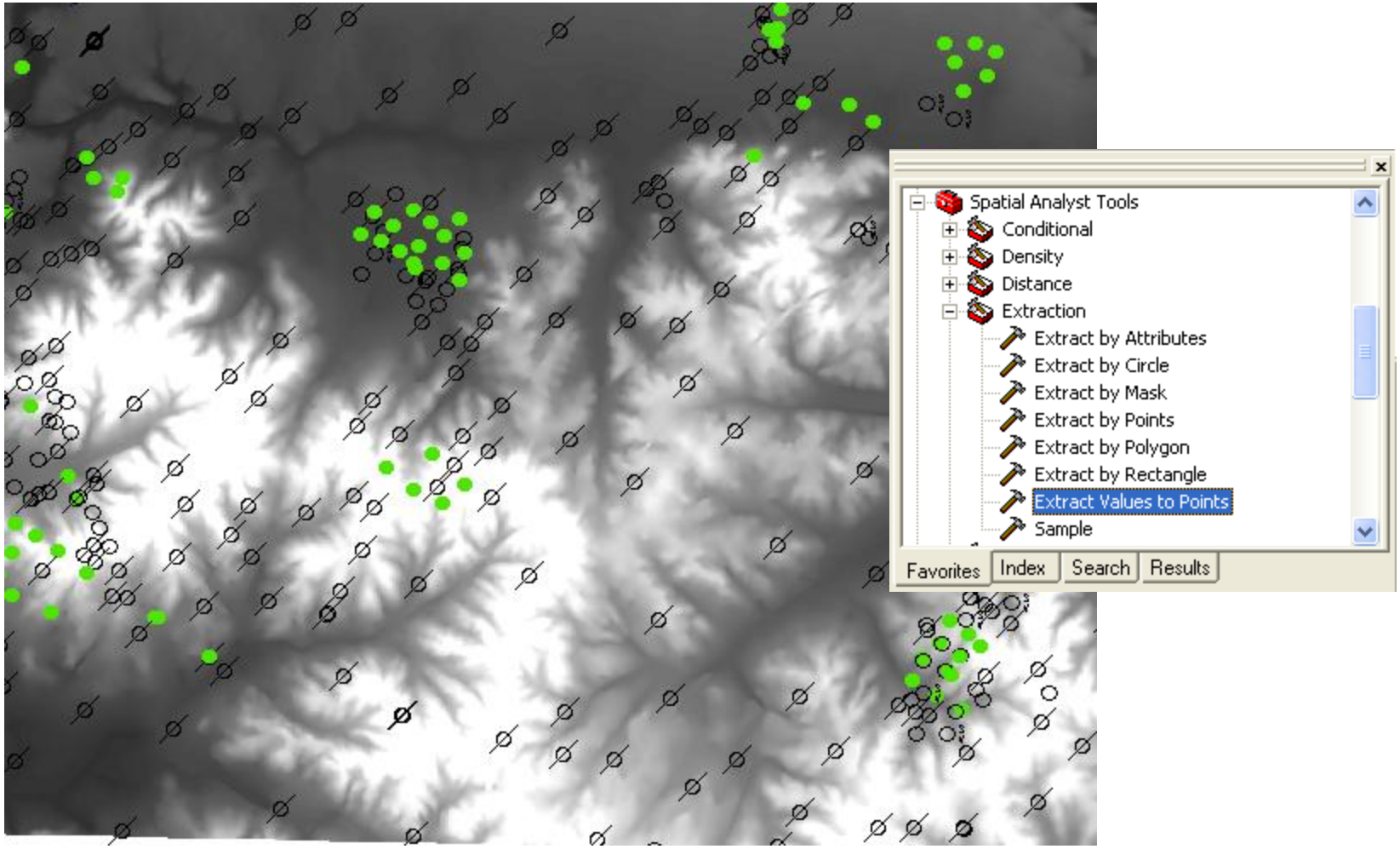


FID_2	MUID	GSM_COD	THERMAL_LI	MLRA	HYDRIC	MUKIND	MUNAM	GGSA_DEF	CAT	MUSYM	SOILS_ON	ASSOCIATED	AREA_S
2315	LAW	31	Subtropical	Water	N	WATER	WATER	Water	31	Water	Water	Large Water	562654
2316	LA105	20	Subtropical	131D	N	(LA105)	SHARKEY	Recent Alluvi	20	Subtropic	Loamy and Cl	Schriever, Barba	367833
2321	LA037	25	Subtropical	151A	N	(LA037)	GED-ALLE	Gulf Coast Ma	25	Gulf Coas	Fresh Organic	Allemands, Kenn	10337351
2321	LA037	25	Subtropical	151A	N	(LA037)	GED-ALLE	Gulf Coast Ma	25	Gulf Coas	Fresh Organic	Allemands, Kenn	10337351
2321	LA037	25	Subtropical	151A	N	(LA037)	GED-ALLE	Gulf Coast Ma	25	Gulf Coas	Fresh Organic	Allemands, Kenn	10337351
2321	LA037	25	Subtropical	151A	N	(LA037)	GED-ALLE	Gulf Coast Ma	25	Gulf Coas	Fresh Organic	Allemands, Kenn	10337351
2321	LA037	25	Subtropical	151A	N	(LA037)	GED-ALLE	Gulf Coast Ma	25	Gulf Coas	Fresh Organic	Allemands, Kenn	10337351
2321	LA037	25	Subtropical	151A	N	(LA037)	GED-ALLE	Gulf Coast Ma	25	Gulf Coas	Fresh Organic	Allemands, Kenn	10337351
2326	LA105	20	Subtropical	131D	N	(LA105)	SHARKEY	Recent Alluvi	20	Subtropic	Loamy and Cl	Schriever, Barba	858230
2326	LA105	20	Subtropical	131D	N	(LA105)	SHARKEY	Recent Alluvi	20	Subtropic	Loamy and Cl	Schriever, Barba	858230
2326	LA105	20	Subtropical	131D	N	(LA105)	SHARKEY	Recent Alluvi	20	Subtropic	Loamy and Cl	Schriever, Barba	858230
2326	LA105	20	Subtropical	131D	N	(LA105)	SHARKEY	Recent Alluvi	20	Subtropic	Loamy and Cl	Schriever, Barba	858230
2326	LA105	20	Subtropical	131D	N	(LA105)	SHARKEY	Recent Alluvi	20	Subtropic	Loamy and Cl	Schriever, Barba	858230
2326	LA105	20	Subtropical	131D	N	(LA105)	SHARKEY	Recent Alluvi	20	Subtropic	Loamy and Cl	Schriever, Barba	858230
2326	LA105	20	Subtropical	131D	N	(LA105)	SHARKEY	Recent Alluvi	20	Subtropic	Loamy and Cl	Schriever, Barba	858230
2326	LA105	20	Subtropical	131D	N	(LA105)	SHARKEY	Recent Alluvi	20	Subtropic	Loamy and Cl	Schriever, Barba	858230
2326	LA105	20	Subtropical	131D	N	(LA105)	SHARKEY	Recent Alluvi	20	Subtropic	Loamy and Cl	Schriever, Barba	858230
2326	LA105	20	Subtropical	131D	N	(LA105)	SHARKEY	Recent Alluvi	20	Subtropic	Loamy and Cl	Schriever, Barba	858230
2326	LA105	20	Subtropical	131D	N	(LA105)	SHARKEY	Recent Alluvi	20	Subtropic	Loamy and Cl	Schriever, Barba	858230

Record: 1 Show: All Selected Records (0 out of 79704 Selected)

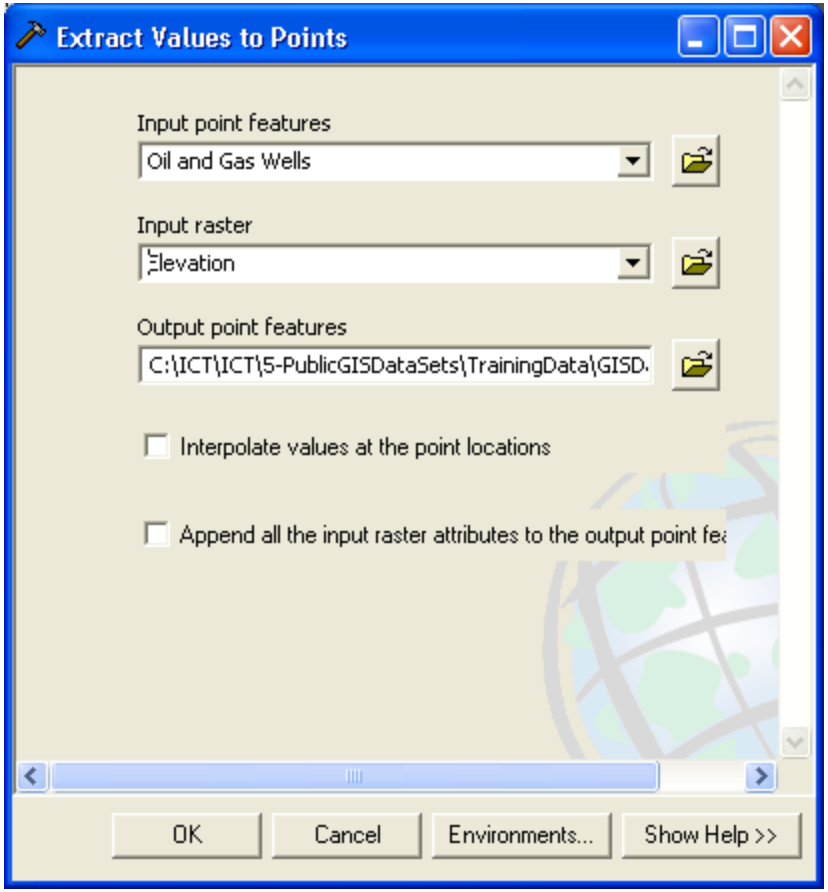
Extract Values to Points

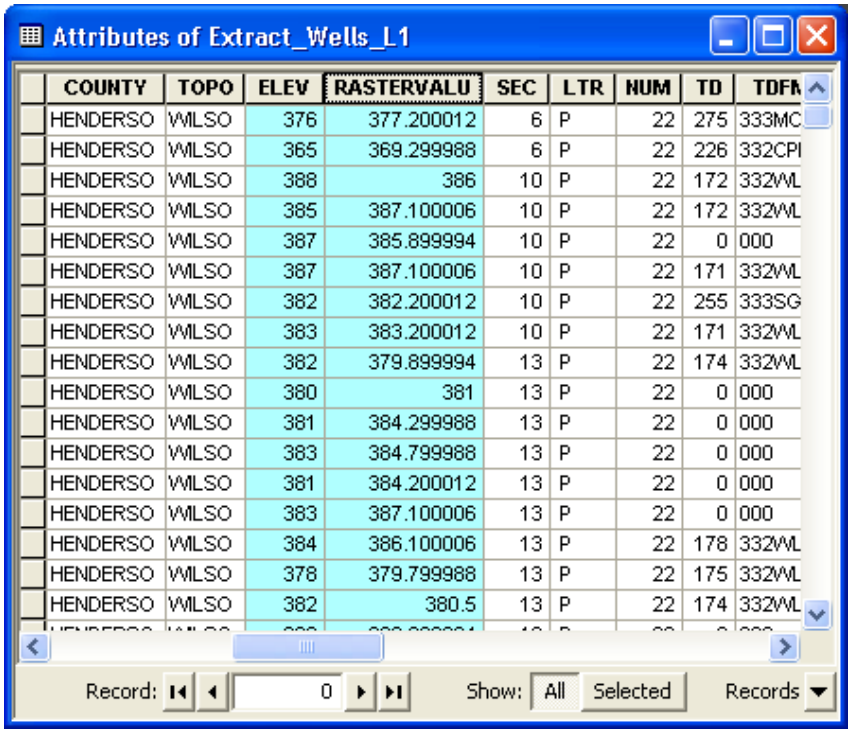
- Is this surface elevation correct?



Extract Values to Points

- Requires a Spatial Analyst Example
- Make sure raster and point layer are in the same projection

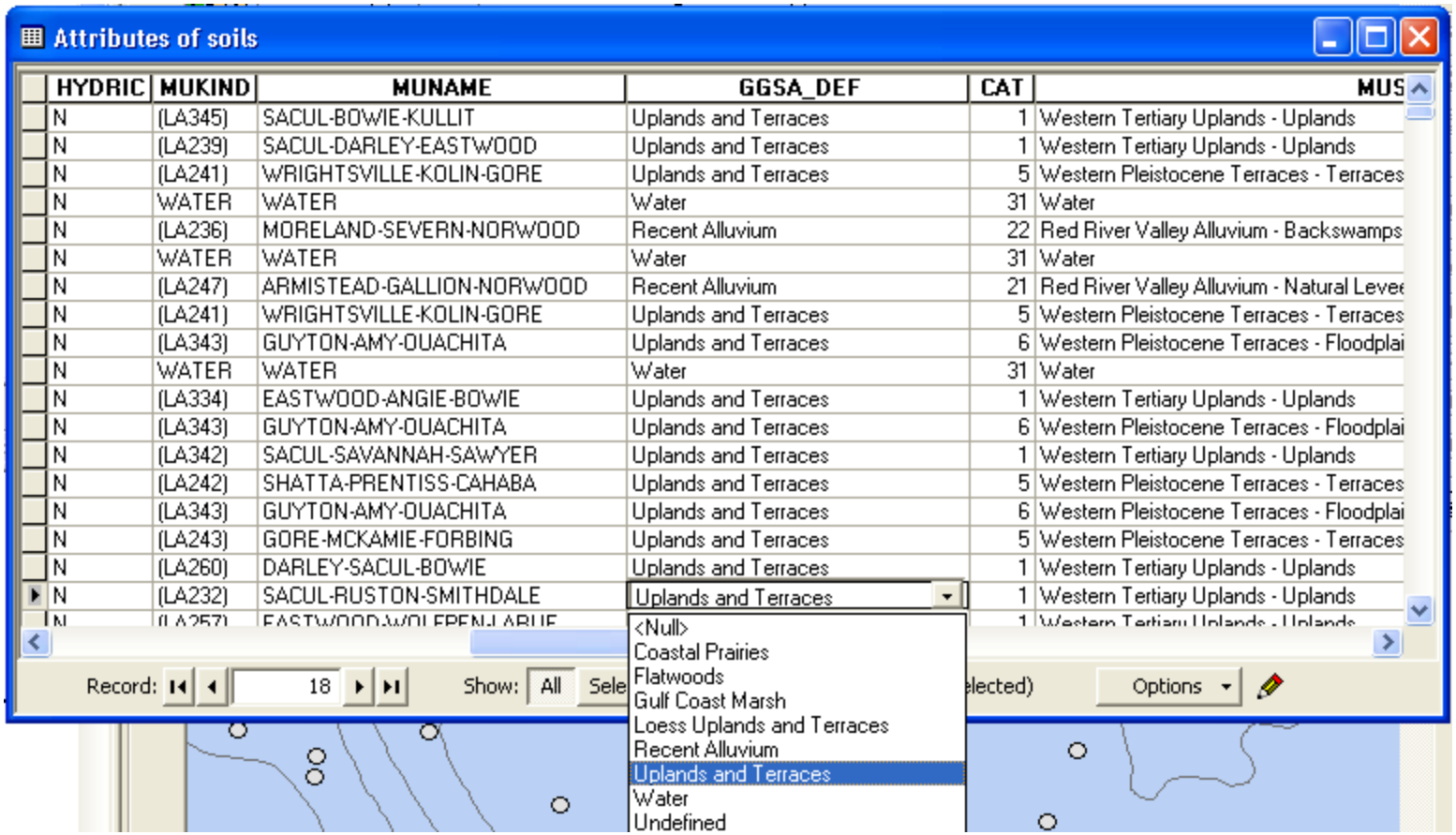




COUNTY	TOPO	ELEV	RASTERVALU	SEC	LTR	NUM	TD	TDFR
HENDERSO	WILSO	376	377.200012	6	P	22	275	333MC
HENDERSO	WILSO	365	369.299988	6	P	22	226	332CPI
HENDERSO	WILSO	388	386	10	P	22	172	332WL
HENDERSO	WILSO	385	387.100006	10	P	22	172	332WL
HENDERSO	WILSO	387	385.899994	10	P	22	0	000
HENDERSO	WILSO	387	387.100006	10	P	22	171	332WL
HENDERSO	WILSO	382	382.200012	10	P	22	255	333SG
HENDERSO	WILSO	383	383.200012	10	P	22	171	332WL
HENDERSO	WILSO	382	379.899994	13	P	22	174	332WL
HENDERSO	WILSO	380	381	13	P	22	0	000
HENDERSO	WILSO	381	384.299988	13	P	22	0	000
HENDERSO	WILSO	383	384.799988	13	P	22	0	000
HENDERSO	WILSO	381	384.200012	13	P	22	0	000
HENDERSO	WILSO	383	387.100006	13	P	22	0	000
HENDERSO	WILSO	384	386.100006	13	P	22	178	332WL
HENDERSO	WILSO	378	379.799988	13	P	22	175	332WL
HENDERSO	WILSO	382	380.5	13	P	22	174	332WL

Domains

- Domains are used to constrain a column in the attribute table.
- Domains can only be created in Geodatabase Feature Classes



HYDRIC	MUKIND	MUNAME	GGSA_DEF	CAT	MUS
N	(LA345)	SACUL-BOWIE-KULLIT	Uplands and Terraces	1	Western Tertiary Uplands - Uplands
N	(LA239)	SACUL-DARLEY-EASTWOOD	Uplands and Terraces	1	Western Tertiary Uplands - Uplands
N	(LA241)	WRIGHTSVILLE-KOLIN-GORE	Uplands and Terraces	5	Western Pleistocene Terraces - Terraces
N	WATER	WATER	Water	31	Water
N	(LA236)	MORELAND-SEVERN-NORWOOD	Recent Alluvium	22	Red River Valley Alluvium - Backswamps
N	WATER	WATER	Water	31	Water
N	(LA247)	ARMISTEAD-GALLION-NORWOOD	Recent Alluvium	21	Red River Valley Alluvium - Natural Leve
N	(LA241)	WRIGHTSVILLE-KOLIN-GORE	Uplands and Terraces	5	Western Pleistocene Terraces - Terraces
N	(LA343)	GUYTON-AMY-OUACHITA	Uplands and Terraces	6	Western Pleistocene Terraces - Floodplai
N	WATER	WATER	Water	31	Water
N	(LA334)	EASTWOOD-ANGIE-BOWIE	Uplands and Terraces	1	Western Tertiary Uplands - Uplands
N	(LA343)	GUYTON-AMY-OUACHITA	Uplands and Terraces	6	Western Pleistocene Terraces - Floodplai
N	(LA342)	SACUL-SAVANNAH-SAWYER	Uplands and Terraces	1	Western Tertiary Uplands - Uplands
N	(LA242)	SHATTA-PRENTISS-CAHABA	Uplands and Terraces	5	Western Pleistocene Terraces - Terraces
N	(LA343)	GUYTON-AMY-OUACHITA	Uplands and Terraces	6	Western Pleistocene Terraces - Floodplai
N	(LA243)	GORE-MCKAMIE-FORBING	Uplands and Terraces	5	Western Pleistocene Terraces - Terraces
N	(LA260)	DARLEY-SACUL-BOWIE	Uplands and Terraces	1	Western Tertiary Uplands - Uplands
N	(LA232)	SACUL-RUSTON-SMITHDALE	Uplands and Terraces	1	Western Tertiary Uplands - Uplands

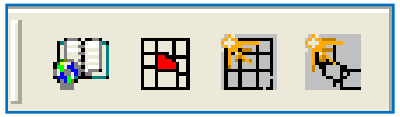
Other Tools

- Editing Tools
- Samples

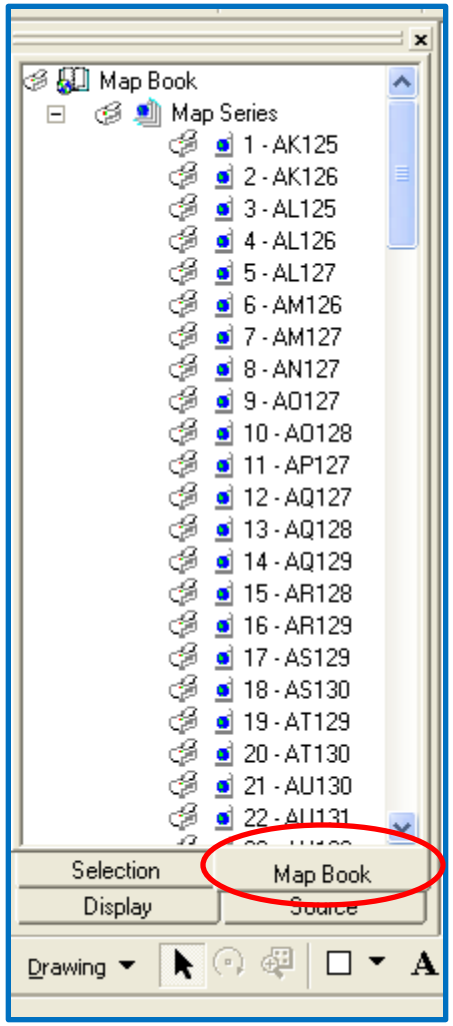
GIS EXTENSIONS / TOOLS

EDN – Map Book

- ESRI's Map Book can create a map series from a single map or aerial image with a point, line, or polygon layer set as an index.
- Downloading this extension adds a Map Series toolbar which has four useful tools in creating a Map Book.

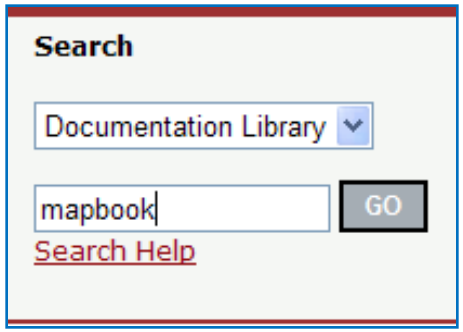


- This extension also creates a "Map Book" tab in ArcMap which displays the Map Series once created.
- From the new tab the user is able to double-click one page to see it individually in layout view, enable and disable map pages, also batch export and print these maps.



EDN – Map Book

- The Map Book extension can be obtained on the ESRI Developer Network at: http://edn.esri.com/
- Using the site's search feature type "mapbook" to find the correct link.



DS Map Book

- Choose the link called DS Map Book, the description "includes the code."
- Download the visual basic files and follow the directions included in the download (Map Book Generation.doc) to launch the extension.

ESRI Mapping Center

- ESRI Mapping center is a free information-based site that gives detailed tips and useful downloads to create functional and great looking maps.
- In the *Blog* tab search articles by category.
- *Ask a Cartographer* gives the option to send an e-mail to receive advice or a suggestion.
- A thematic map library located on the *Maps* tab gives you the chance to see how these new map tips will help you create the desired look.

ESRI Mapping Center

- This resources is located at: http://mappingcenter.esri.com

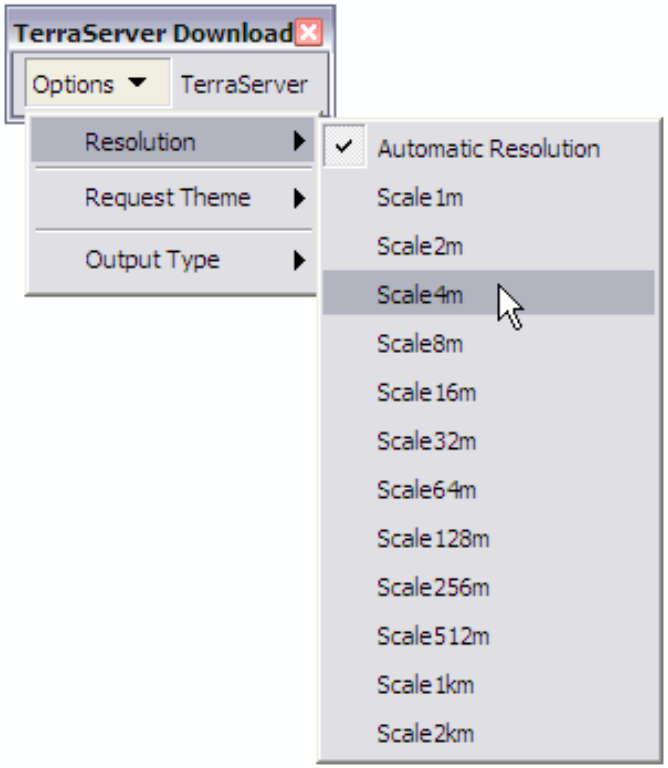
- *ArcGIS Resources* tab offers free downloads for styles, tools, expressions, and data.

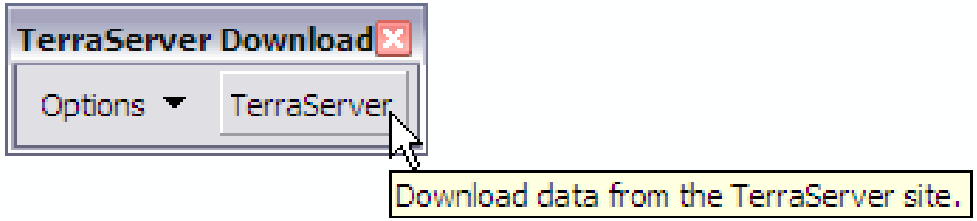
- *Other Resources* has a list of data and presentations available to view from past conferences around the world.

- In order to “Ask A Cartographer” or post on the blog an ESRI global account login is required.

TerraServer Download

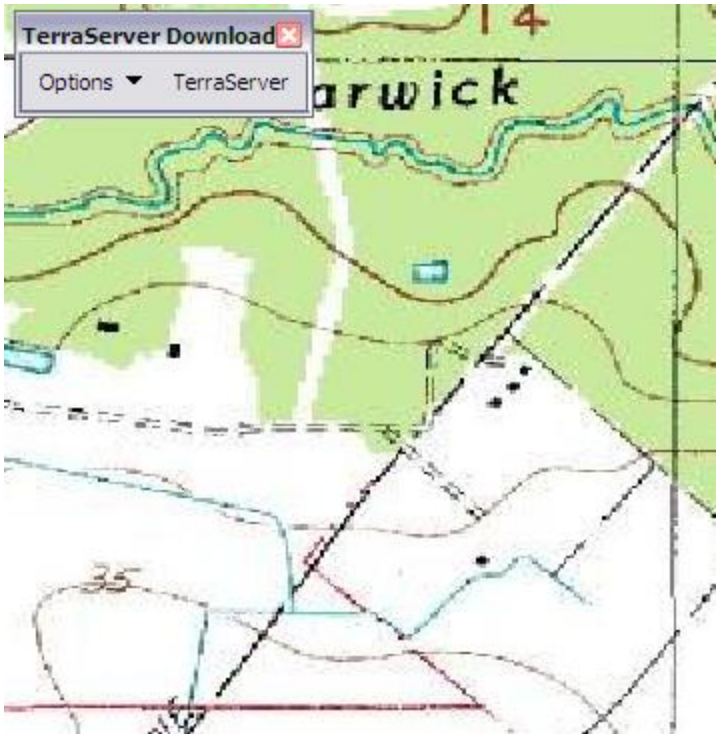
- Acquire DOQQ or DRG images for the visible extent of your map with the click of a button
- Choose image theme and resolution
- Choose output type (Raster Dataset or Raster Catalog)
- Downloads images straight from the TerraServer website!



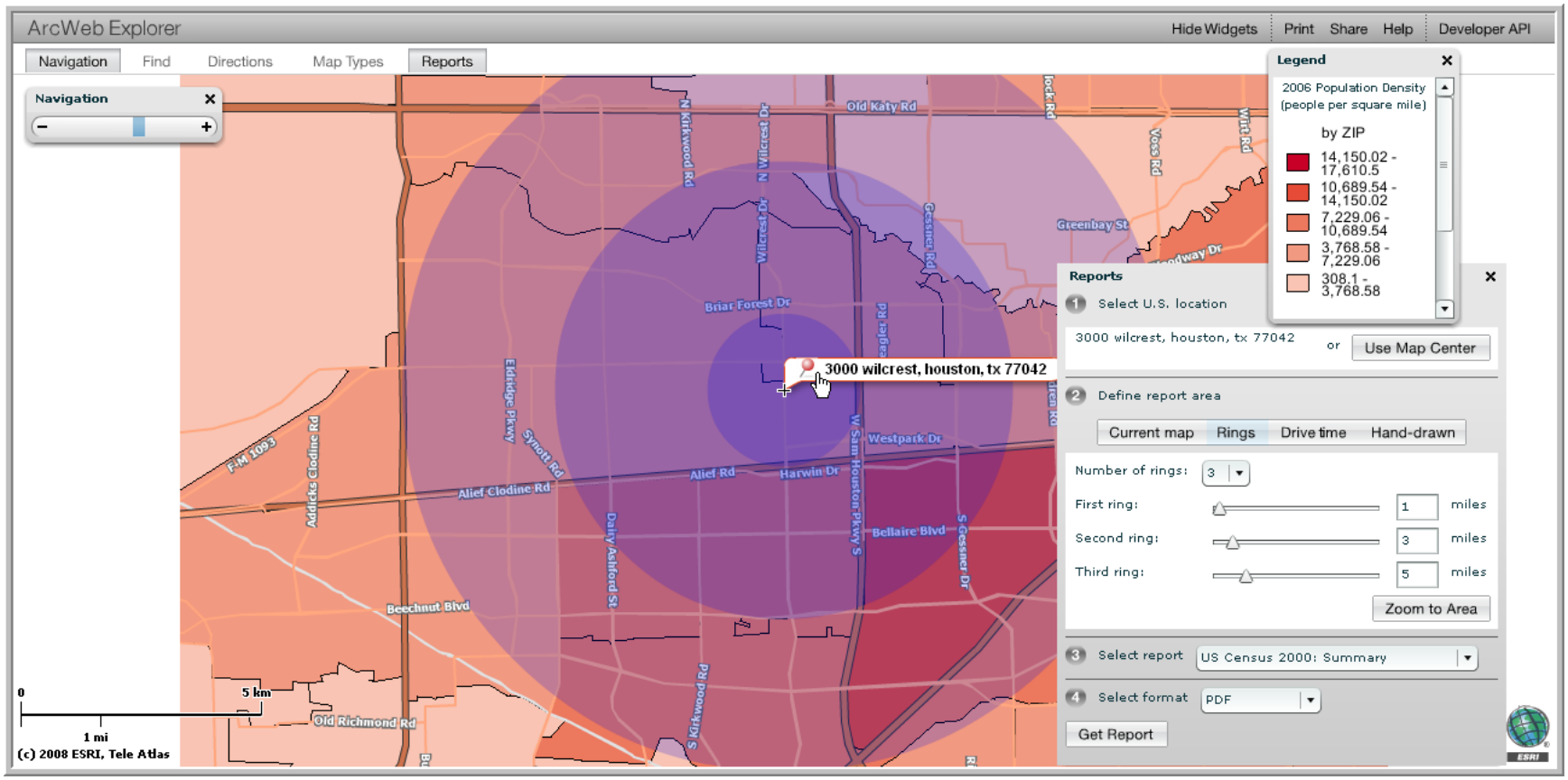


TerraServer Download

- Download the tool from the ESRI ArcScripts section:
- http://arcscripts.esri.com/details.asp?dbid=14816



ArcWeb Explorer

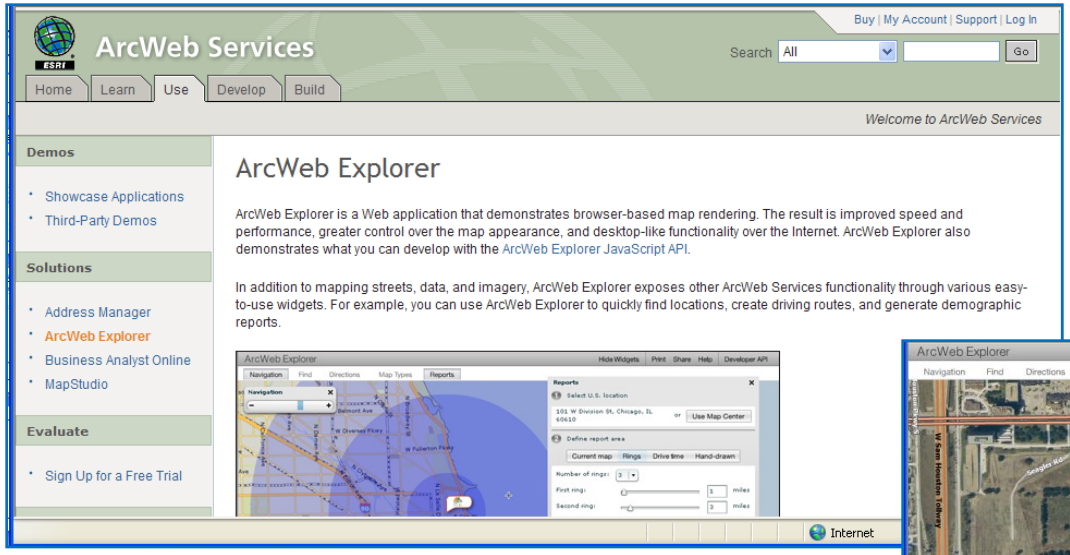


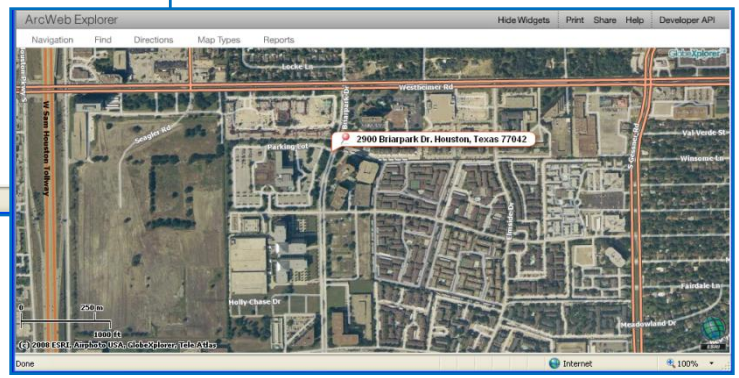
ArcWeb Explorer

- ArcWeb Explorer users can search the world map for places by name, address, city, state, zip, phone number, or URL.
- Able to choose map view type from street, hybrid, satellite, and data view.
- Can perform census analysis on map using data map view and choosing criteria.
- Able to run reports which can include buffer rings and drive time analysis.
- Includes tutorials on uploading shape files and creating map services within the developers guide.

ArcWeb Explorer

- ArcWeb Explorer is accessible free from ArcWeb Services.
- Visit www.arcwebservices.com choose the “Use” tab and launch the explorer





ArcGIS Explorer

- Visit www.esri.com/arcgisexplorer
- Free and freely to distribute
- Download ArcGIS Explorer from www.esri.com/arcgisexplorer to start exploring the world using many of the maps and layers provided by ESRI.
- ArcObject based

ArcGIS Explorer

ArcGIS EXPLORER Resource Center

- Use the ArcGIS Explorer Resource Center to access a variety of maps, layers, tasks, and results listed below.

Maps

- Imagery
- Streets
- Shaded Relief
- Political Boundaries
- Protected Areas
- Historical

Layers

- All above
- Transportation
- Physical Features
- Streets
- Political Names
- Boundaries
- Boundaries and Places
- Billboarded Place Labels

Tasks

- Wikipedia Search
- Weather Finder
- Find Nearby
- Business Reports

Results

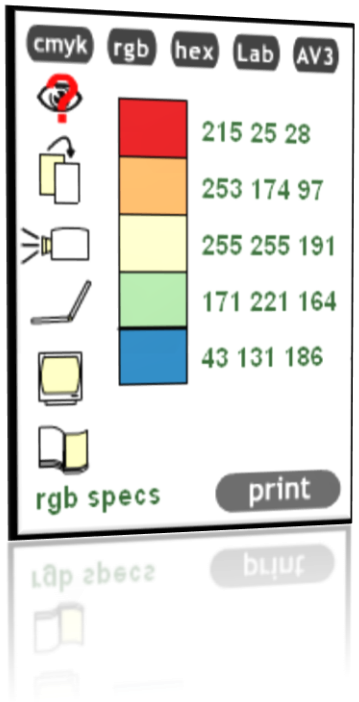
- US State High Points
- US Highest and Lowest Points
- US National Parks
- US State Capitals and Facts
- 2008 ESRI UC Hotels

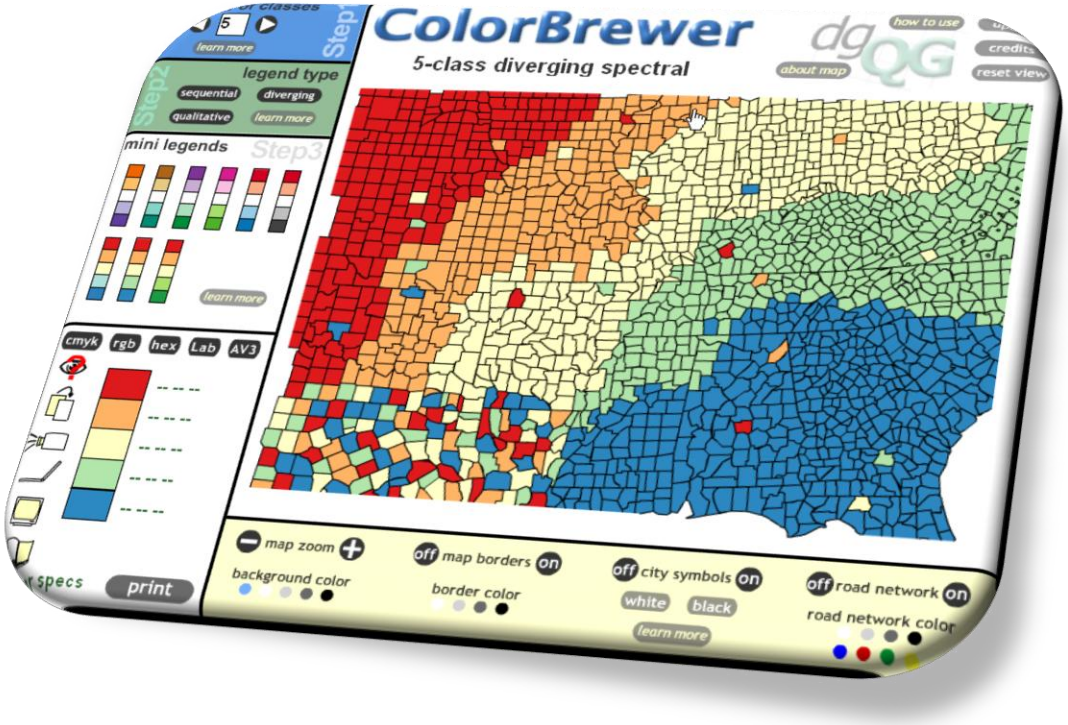
GIS REFERENCE TOOLS

Color Brewer

ColorBrewer

A web tool for selecting colors for maps





Color Brewer

- Visit www.colorbrewer.org
- Use Color Brewer to help select good color schemes for your maps.
- 35 basic schemes with over 250 different versions
- Color Diagnostic tool only, you cannot load your own data
- Developed by Cindy Brewer and Mark Harrower at Penn State and funded by the NSF Digital Government Program.

Color Brewer

- There are 3 steps to selecting your color schemes.

1. Pick the number of classes 

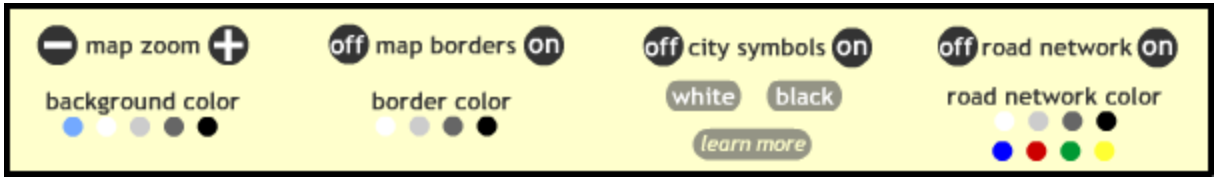
2. Choose you legend type 

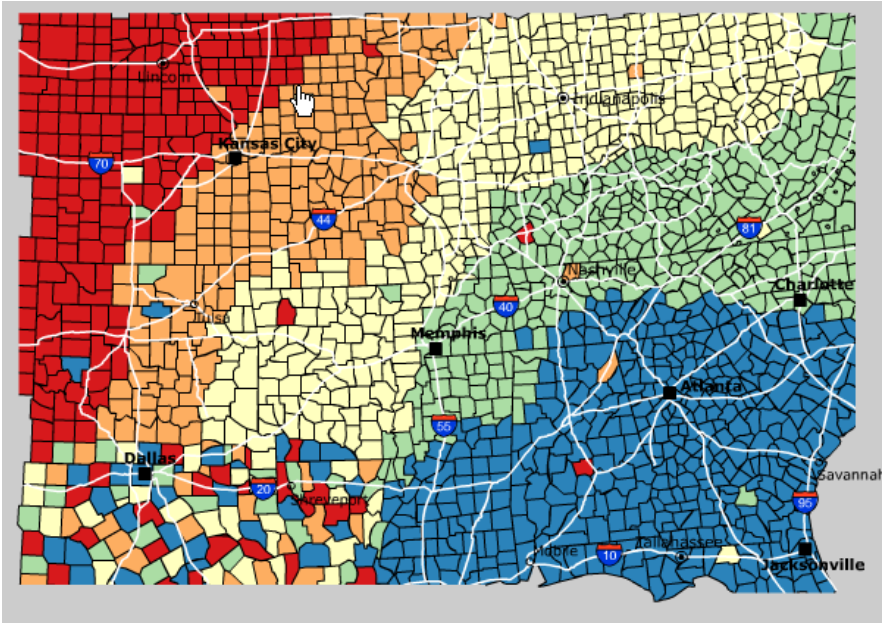
3. Choose one the recommended color schemes. 

- Informs you whether the color scheme you chose is:
  - Color blind friendly
  - Photocopy friendly
  - LCD projector friendly
  - Laptop friendly
  - CRT friendly
  - Color printing friendly

Color Brewer

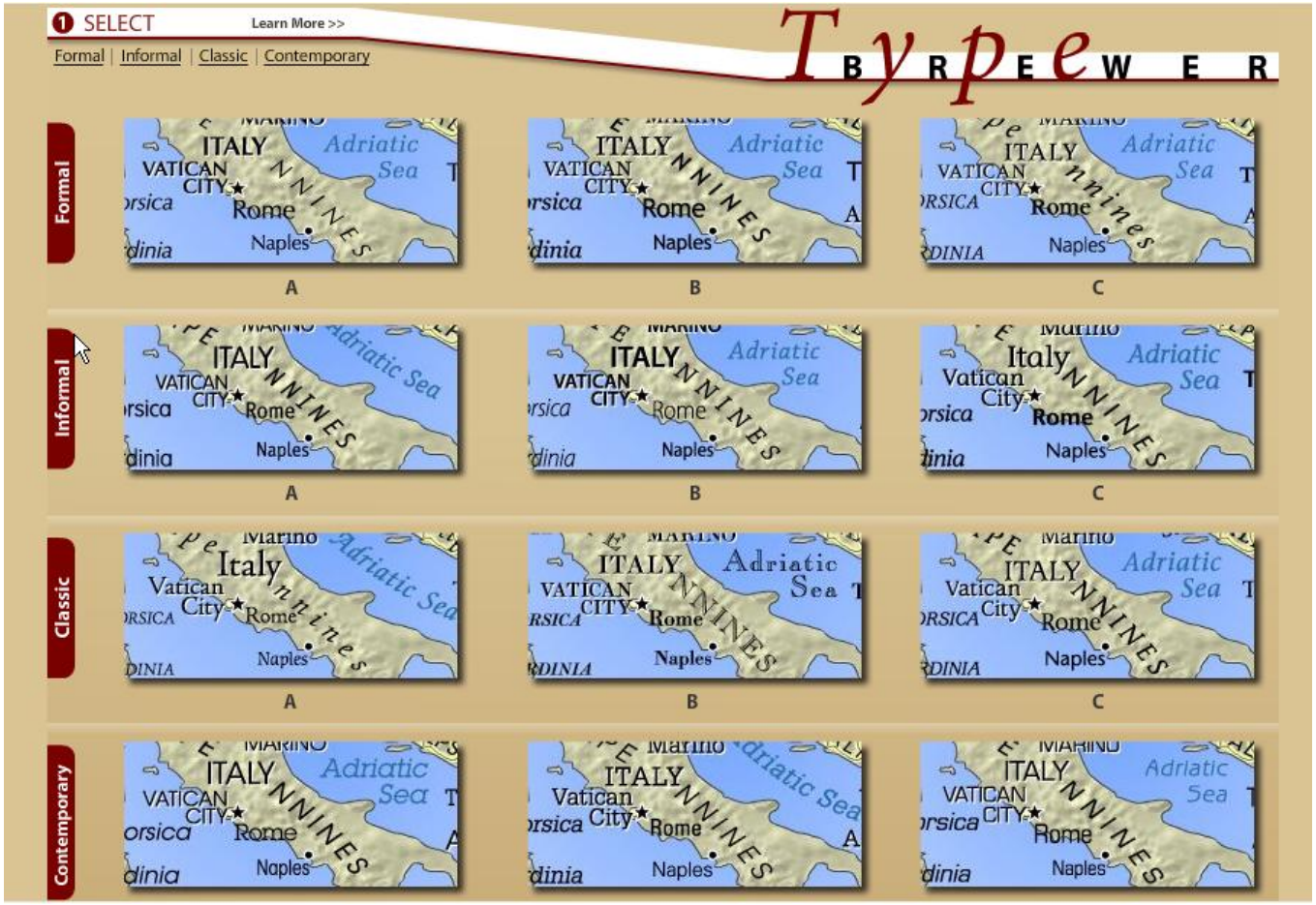
- With Color Brewer you can also change other map elements such as background color, border color, cit symbols, and road network color to enhance your color scheme.





Type Brewer

- www.TypeBrewer.org



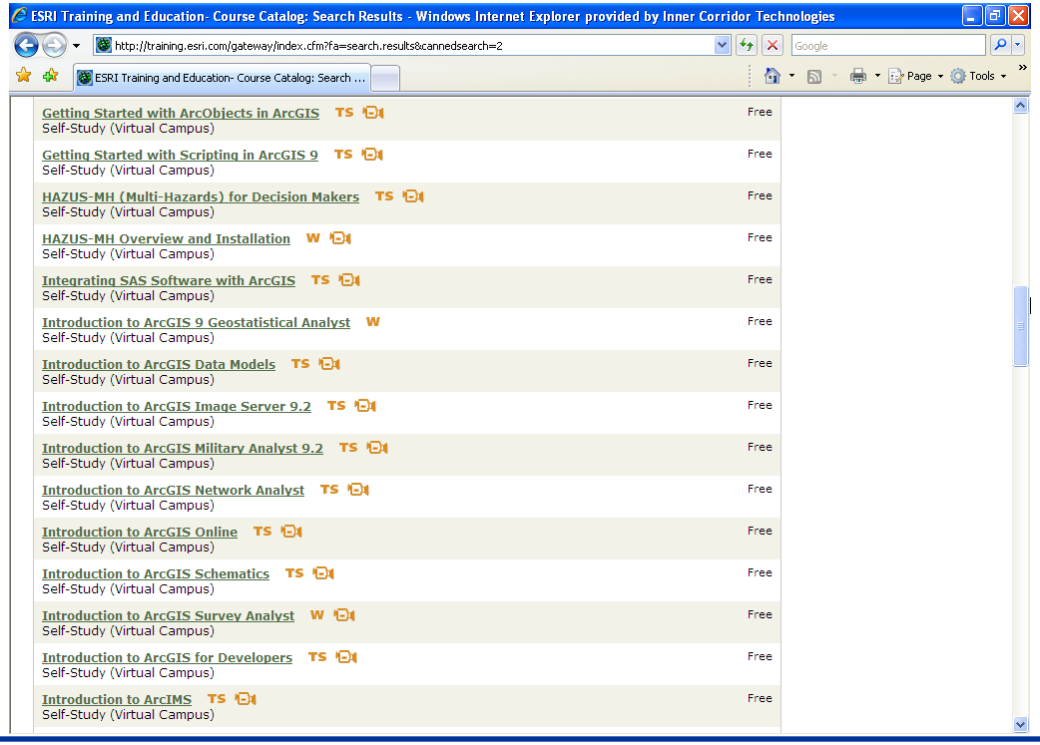
Free Online Courses

- ESRI provides access to over 50 free online (Training Seminars) courses. All you have to do is create a ESRI Global Account.
- Go to http://training.esri.com/gateway/index.cfm?fa=catalog.gateway and use the popular searches for free training.
- These training courses are also available at
  - www.esri.com > Training > Course Catalog > Free Training (under Popular Searches).

Free Online Courses

- Most are 1 hour training seminars, with a recorded lecture and software demonstrations.

- There are several Web Courses available which provide a presentation, exercises and an exam.



EPSG

- European Petroleum Survey Group (1986 - 2005)
- Consisted of specialists in geodesy, surveying, and cartography as they applied to oil exploration.
- The EPSG created the EPSG Geodetic Parameter Data Set – a database of ellipsoids, datums, and coordinate systems.
- In 2005, the EPSG was absorbed by the International Association of Oil and Gas Producers (OGP).
- The dataset is now maintained by the OGP Surveying and Positioning Committee which meets twice yearly.
- http://www.epsg.org

Browse Geodetic Datums form - Microsoft Access

Home | Create | External Data | Database Tools | Add-Ins

International Association of Oil and Gas Producers

Datum

Version: 6.12
Released: 08-Feb-07

Browse records

Name and code	Arc 1960	6210	
Datum Type	geodetic		
Remarks			
Information Source			
Data Source	EPSG	Revision Date	02-Jun-95
Change ID			
Area of Use	Kenya; Tanzania; Uganda.		
Origin Description	Fundamental point: Buffelsfontein. Latitude: 33 deg 59 min 32.000 sec S; Longitude: 25 deg 30 min 44.622 sec E (of Greenwich).		
Scope	Topographic mapping, geodetic survey.		
Realization epoch	1960		
Ellipsoid	Clarke 1880 (RGS)	7012	Show ellipsoid detail
Prime Meridian	Greenwich	8901	Show prime meridian detail

Alias Record Navigation

Record: No Filter nigeria

Close form

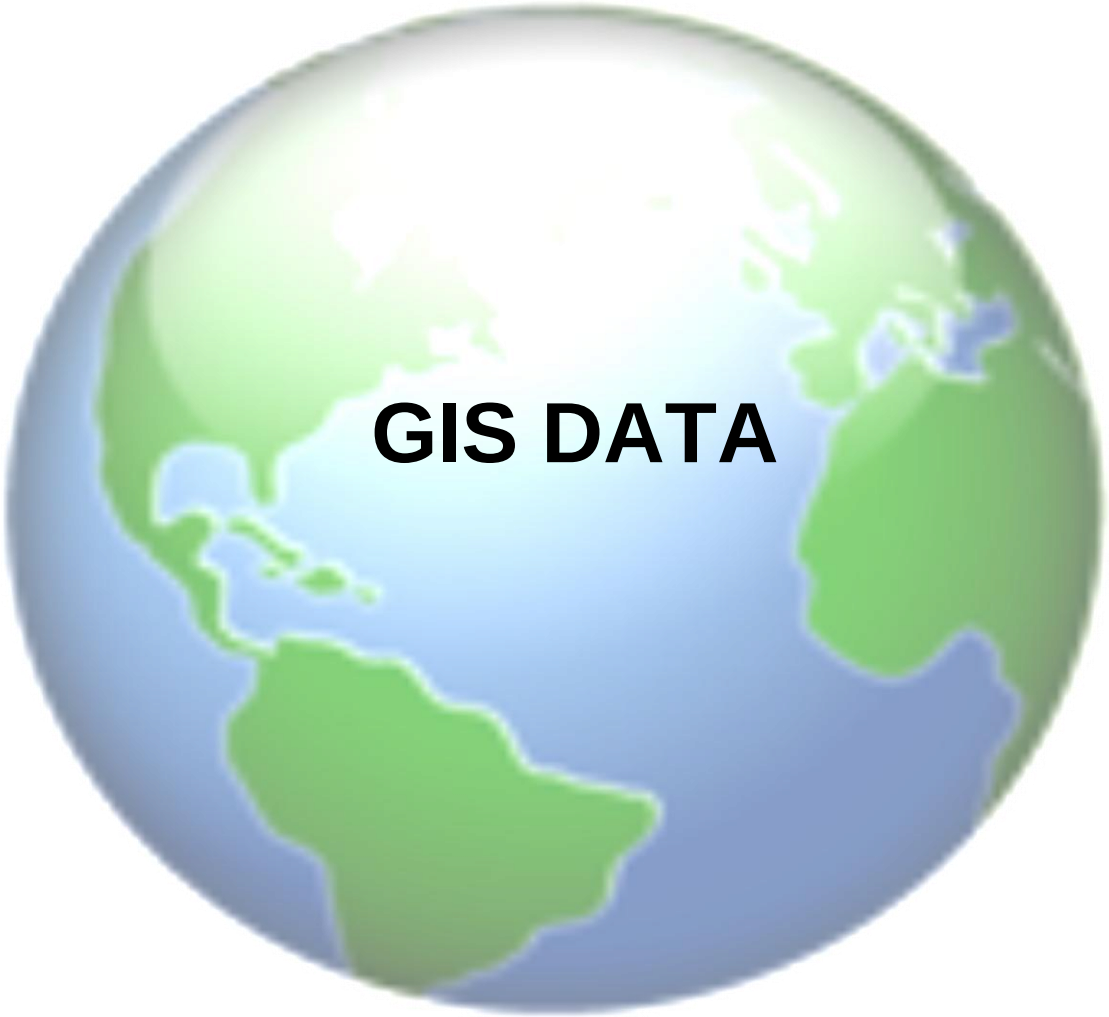
Edit or add a Datum

Record Navigation

Record: 19 of 518 No Filter tanz

The area(s) in which this datum can be validly used

Navigation Pane



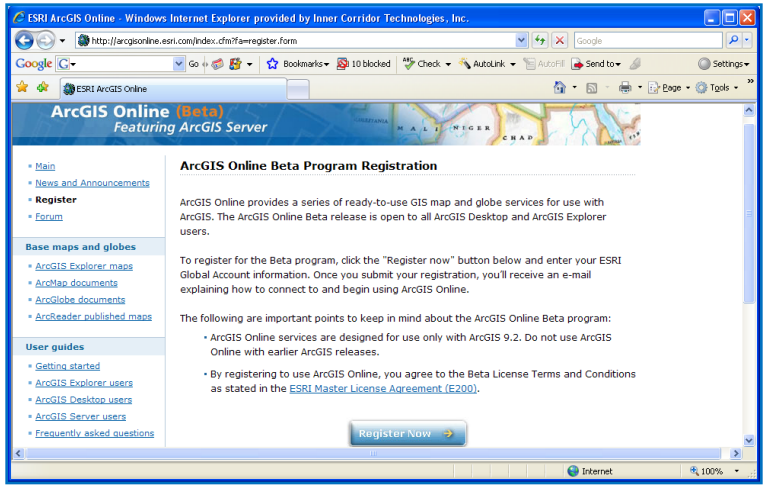
GIS DATA

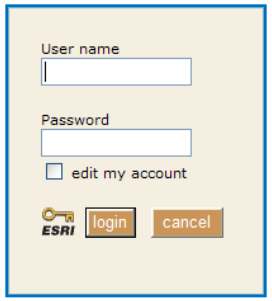
ArcGIS Online Beta

- The ArcGIS Online Beta subscription is currently free to all users.
- Within ArcGIS Online 2D and 3D versions of shaded relief, geographically themed, aerial imagery, and many other types of maps can be found and utilized in your project.
- With ArcGIS Online you will always have recent data, as ESRI updates it twice a year.
- Easily add your own data to these maps and share them across an internet connection.
- Visit www.arcgisonline.esri.com

ArcGIS Online Beta

- Registration is easy with ESRI's ArcGIS Online. A member can access the site by logging in with an ESRI Global Account or by creating a Global Account if one does not already exist.





- After registering to become a free subscriber the next step is to connect with the ESRI server. Instruction can be found on the ESRI website, and will be e-mailed to you following the registration process.

Geography Network

- The Geography Network brings organized access to geographic information and is managed and supported by ESRI.
- It brings together users and providers to create a community of shared geographic information and services.

- Web services including: ArcWeb, Map Studio
- Static Maps, Map Files, Dynamic Data
- Downloadable data, offline data, clearinghouse data
- Publishing Participation

Geography Network

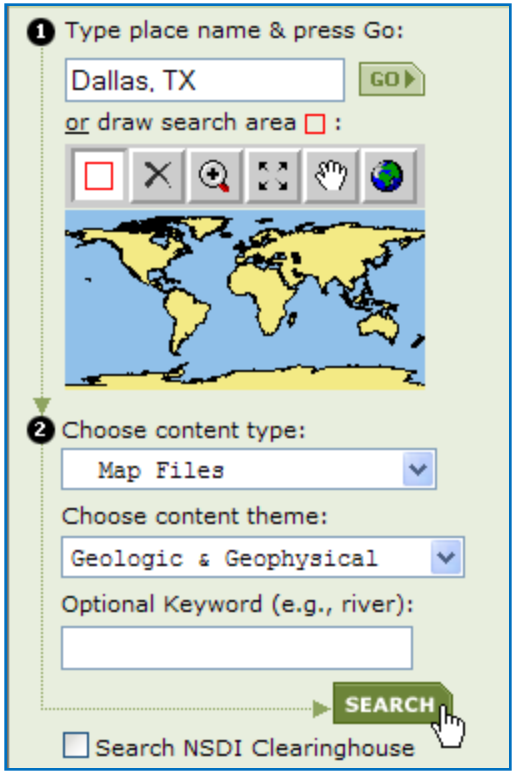
Free Resources:

- Geography Network Explorer : allows user to specify location and search additional criteria for data.

Also:

- USGS National Elevation Dataset shaded relief
- Census 2000 TIGER/ Line data
- Various Dynamic data
- Mapping applications

- Access is easy at : http://www.geographynetwork.com/



SONRIS

- Strategic Online Natural Resources Information System
- SONIS is a no-cost data provider for the state of Louisiana.
- Select from either SONRIS "Classic", which has a form-based query capability, or SONRIS "Lite", an HTML-based capability designed for low-bandwidth users.
- Visit sonris-www.dnr.state.la.us

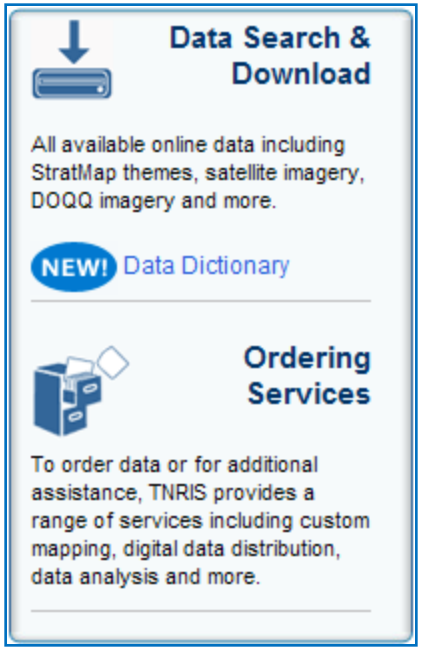
SONRIS

- Database Access: lease data, mineral reports, well history and reports, oil and gas production data, and much more.

- Document Access to Electronic Images: access to scanned images and documents in electronic format.

- GIS Access to Interactive Maps:
  - select layers and backgrounds to be placed on the geographically referenced map.
  - Some of these include townships, oil and gas fields, wells, active leases, and coastal permits.
  - The map can then be saved, extracted, or printed.

TNRIS

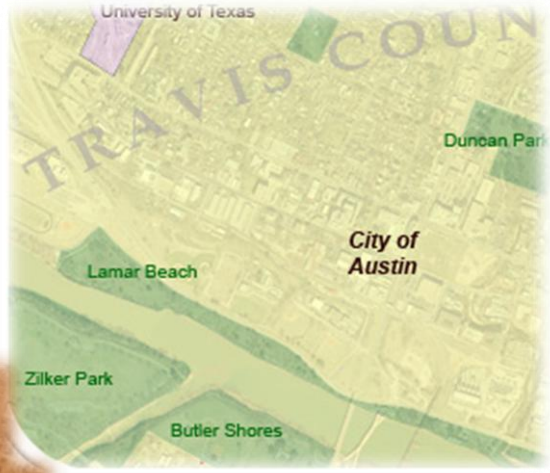


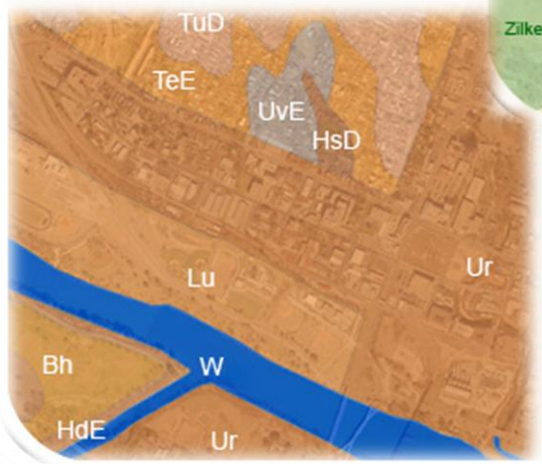
- www.tnris.org
- Texas Natural Resources Information Systems
- Data Catalog has a search/download feature that is able to get aerial images by county quadrangle.
- Download statewide datasets including: natural regions, bathymetry, LandSat, StratMap, and many more.

TNRIS

- Strategic Mapping Program (StratMap)

- Download Texas data for
  - Transportation
  - Political Boundaries
  - Hydrography
  - Elevation
  - Soil Surveys
  - Digital Imagery





Other useful data sites

- Geoscience Australia
- Alaska State Geospatial Data Clearinghouse
- KYGIS
- BLM.gov
- Colorado Oil and Gas Conservation Commission

Thank You

- **Please note:**
  - This presentation was used as speaker's notes for the 2008 Petroleum User Group Conference on Feb. 27, 2008 in Houston, TX. This material is not intended as course material nor reference material, but simply as speaker's notes. This presentation may be used by an individual, but not posted on any website nor used in a public setting nor for profit. The .PDF version of this document does not display any of the animations that were in the original talk, so some of the slides may not display well. For permission/access to the entire power point presentation in its complete form, please contact info@TeachMeGIS.com.