



ArcGIS Desktop – Working with Data

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Agenda

Part 1: Creating & Editing Data in ArcGIS

(working with lines and polygons in ArcMap) until 9:45

Part 2: Working with GPS data

(Doug Kotnick from Precision Laser with an overview & demo of GPS technology) until 10:45

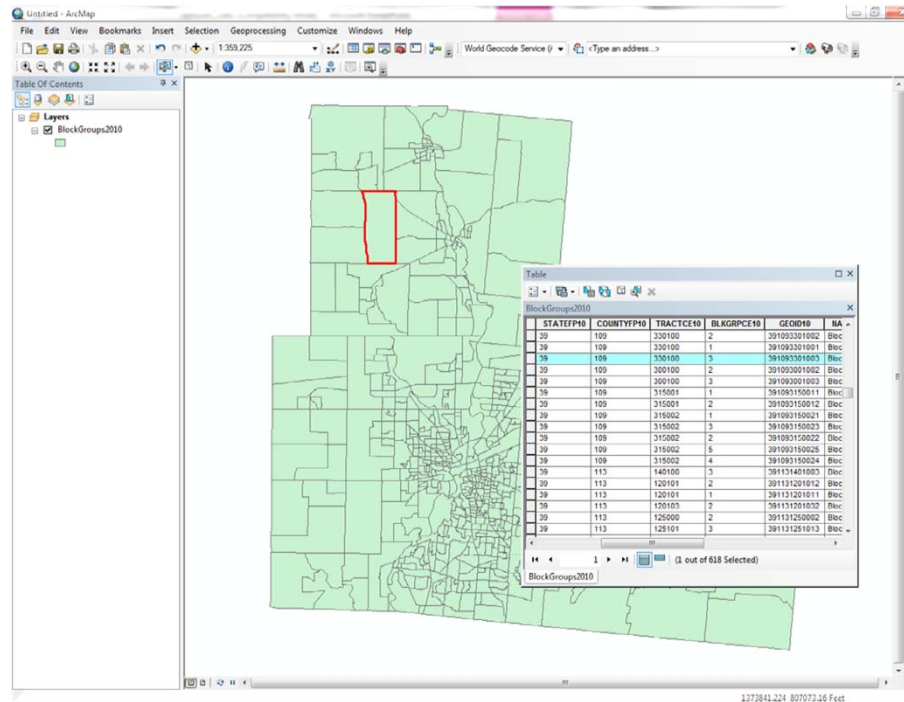
Part 3: Mapping techniques in ArcGIS

(putting it all together into a professional map) until noon



GIS Connects Locational Information to Attribute Data

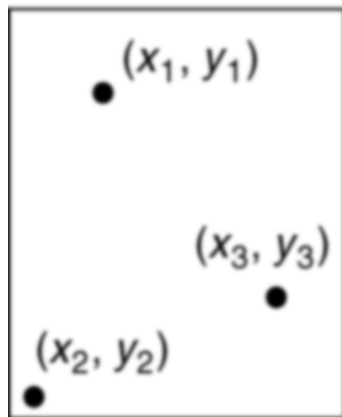
- Location of **features** are shown on the map (spatial data)
- Characteristics of each **feature** is stored in the data table (attribute data)
- Maps and databases are Interactive



GIS Data Type: Vector vs. Raster

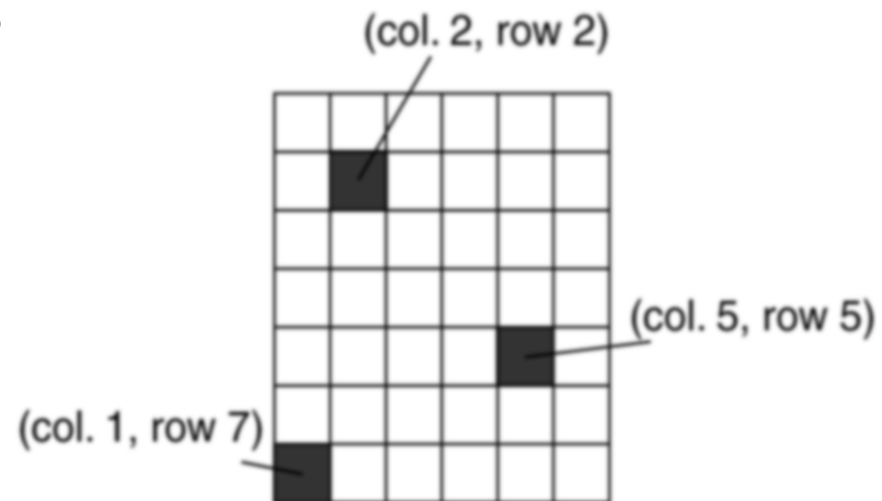
Vector

- Uses points and their x-, y-coordinates
- **Points, Lines and Polygons**
- For discrete features

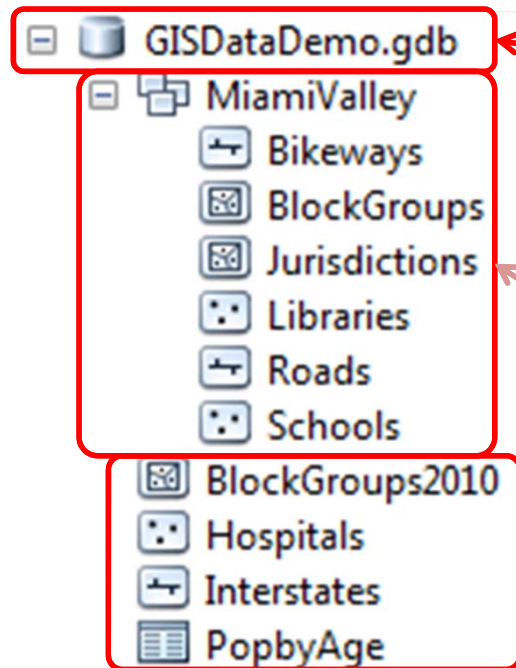


Raster

- Uses grid cells
- For continuous features



Geodatabase, Feature Dataset, and Feature Class



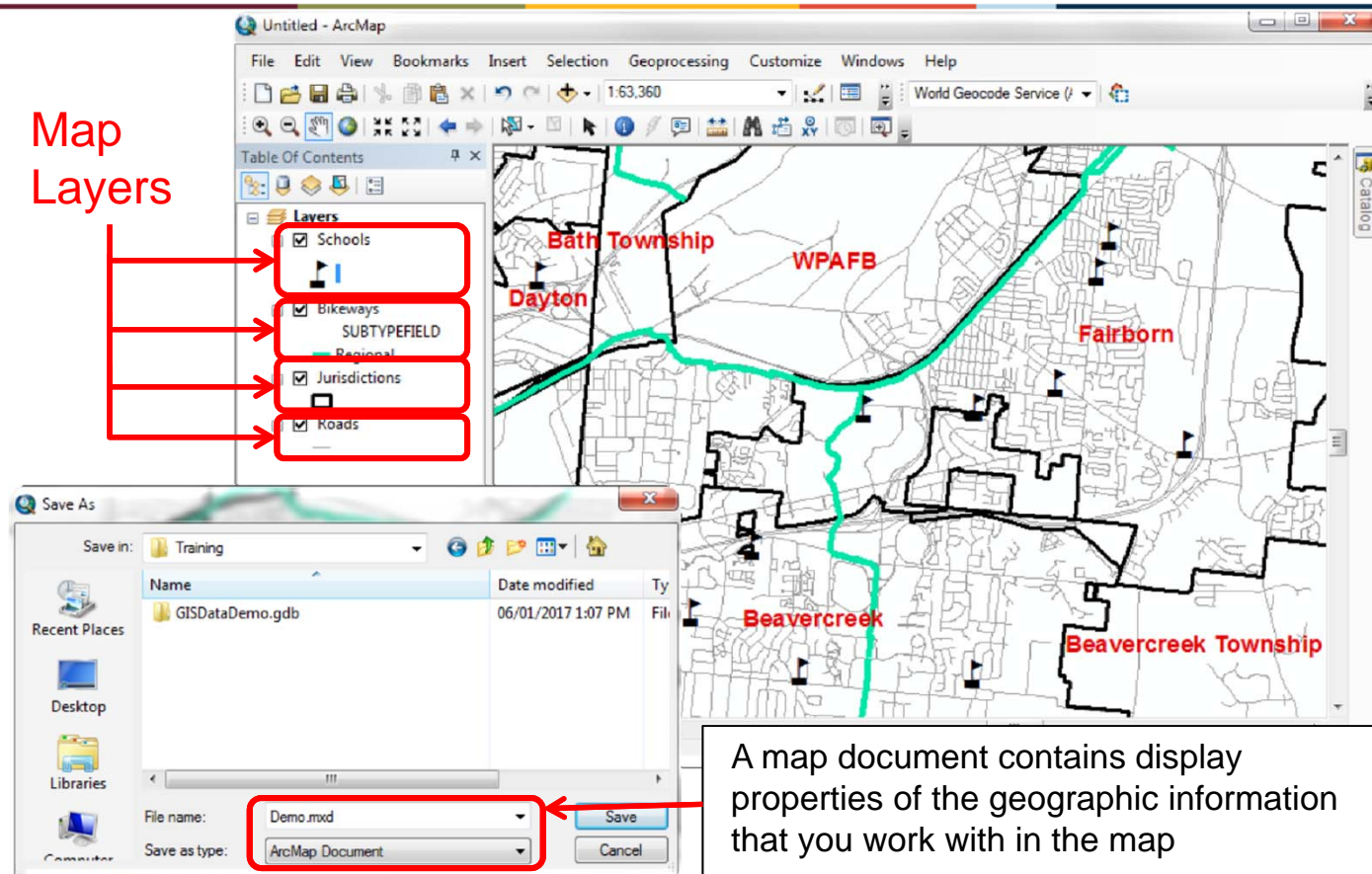
Geodatabase: a collection of geographic *datasets* of various types held in a common file system folder

Feature Dataset: a collection of feature *classes* that share the same coordinate system and area extent

Feature Class: a collection of geographic *objects* of the same geometry type in a tabular format.



Map Layer - Each layer represents geographic data in ArcMap
Map Document (.mxd) - A map stored as a file on disk



Reminders

Save **edits** often

Saving **Edits** does not affect your MXD; saving your MXD doesn't affect your **Edits**

There is an **Undo** button

Don't be afraid to use it; there is also a **Redo** button if can't make up your mind

There's more than one way to do about everything in ArcMap

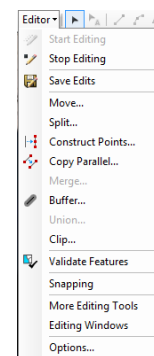
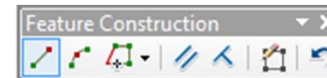
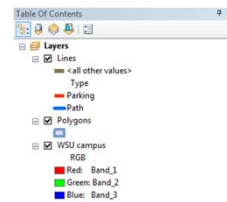
Right-clicking usually reveals new options or options that you forgot about





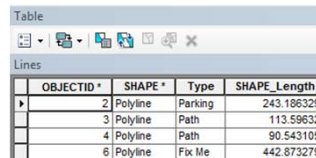
Examples/Demos: 1A

- The Table of Contents (ToC)
- The Editor Toolbar
- The Create Features window
- The Feature Construction toolbar
- Right-clicking your way to additional tools



Examples/Demos: 1B

- The Attribute Table

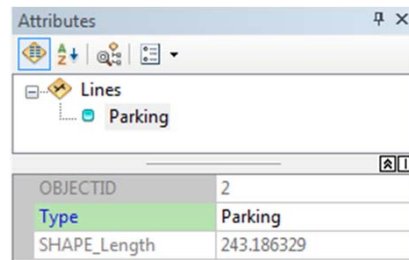
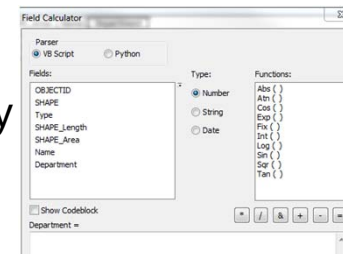


OBJECTID	SHAPE	Type	SHAPE_Length
2	Polyline	Parking	243.186329
3	Polyline	Path	113.59632
4	Polyline	Path	90.543105
6	Polyline	Fix Me	442.873279

- Selecting: on the map, from the table, with attributes




- The Field Calculator / Calculate Geometry
- The Edit Attributes window



OBJECTID	Type	SHAPE_Length
2	Parking	243.186329




Examples/Demos: 1C

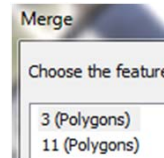
- The Edit Vertices toolbar
- The Split tool 



Examples/Demos: 1D

- Construction using polygons & rectangles
- Merging and inheritance
- The Cut Polygon tool 
- Doughnuts!

- *Select the inner polygon*
- *Click Editor > Clip*
- *In the Clip dialog box, select the Discard the Area that Intersects option*
- *Click OK*
- *Delete the inner polygon if necessary*



The Editor Toolbar

