



MIAMI VALLEY
Regional Planning Commission



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

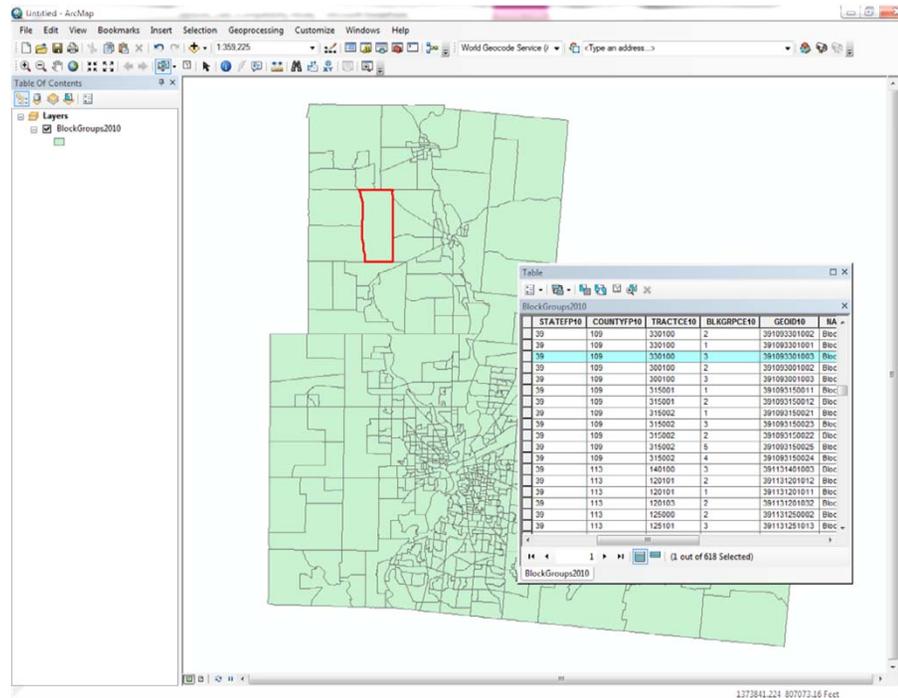
Part 3: Mapping techniques in ArcGIS

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



GIS Connects Locational Information to Attribute Data

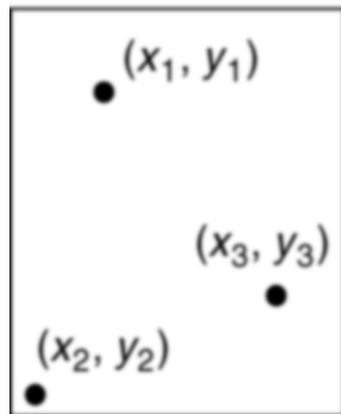
- Location of **features** are shown on the map (spatial data)
- Characteristics of each **feature** is stored in the data table (attribute data)
- Maps and databases are Interactive



GIS Data Type: Vector vs. Raster

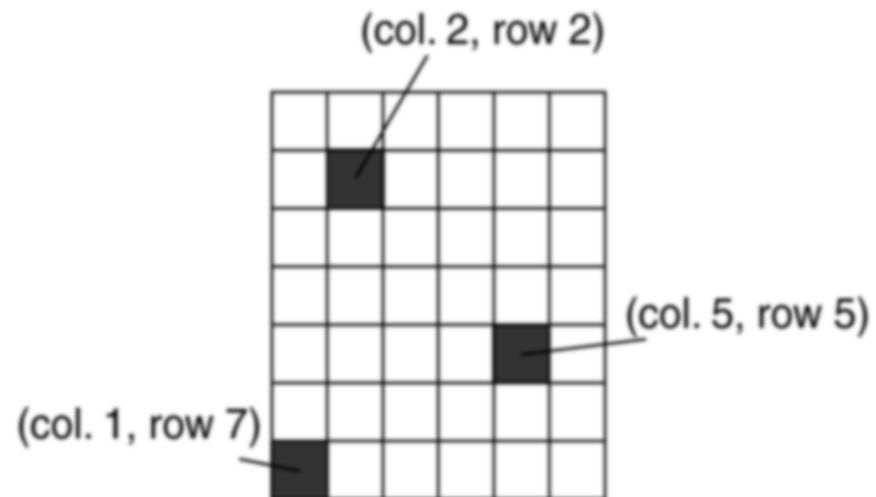
Vector

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

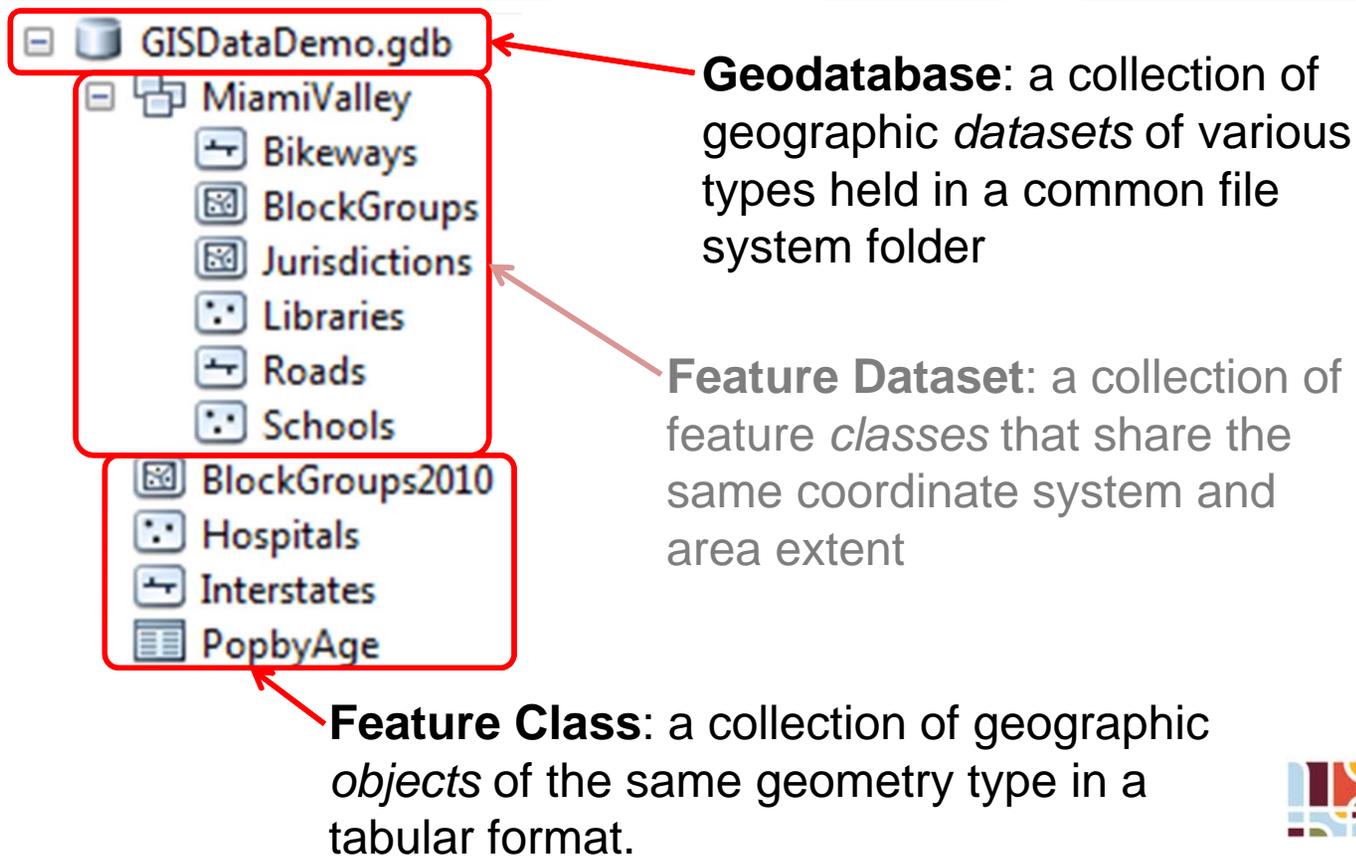


Raster

- Uses grid cells
- For continuous features



Geodatabase, Feature Dataset, and Feature Class



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

The image shows the ArcMap interface with a map of Dayton, Ohio, and its surrounding areas. The map displays various geographic features, including roads, water bodies, and administrative boundaries. The Table of Contents (TOC) on the left side of the map shows a list of layers: Schools, Bikeways, SUBTYPEFIELD, Regional, Jurisdictions, and Roads. The 'Layers' panel is highlighted with a red box, and red arrows point to the 'Schools', 'Bikeways', 'Jurisdictions', and 'Roads' layers. A 'Save As' dialog box is open in the foreground, showing the file name 'Demo.mxd' and the file type 'ArcMap Document'. The 'Save' button is highlighted with a red box, and a red arrow points to it. A text box at the bottom right of the image contains the following text:

A map document contains display properties of the geographic information that you work with in the map

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

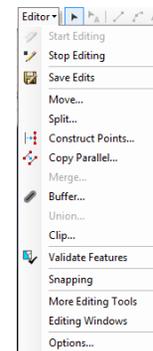
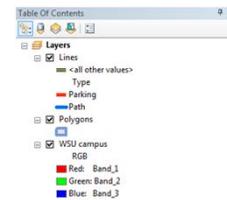
Right-clicking usually reveals new options or options that you forgot about





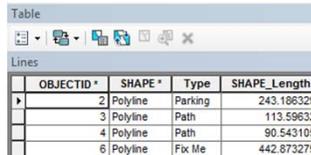
Examples/Demos: 1A

- 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

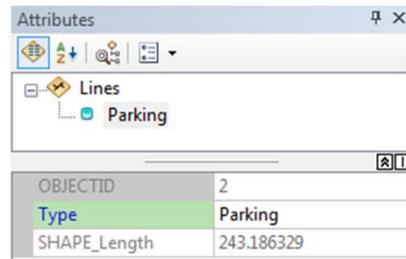
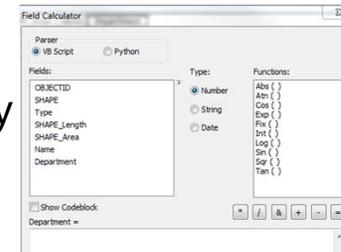


OBJECTID	SHAPE	Type	SHAPE_Length
2	Polyline	Parking	243.186329
3	Polyline	Path	113.59632
4	Polyline	Path	90.543105
6	Polyline	Fix Me	442.873279

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



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



OBJECTID	Value
2	2
Type	Parking
SHAPE_Length	243.186329



Examples/Demos: 1C

- The Edit Vertices toolbar
- The Split tool 

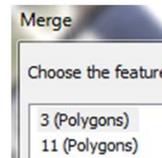


Examples/Demos: 1D

- 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

