ArcGIS: An Introduction
Introduction to ArcGIS for Desktop

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Outline

• Understand Geography and Data
• Basic GIS concepts
• ArcGIS Core Applications
• ArcCatalog
• ArcMap
• Build a map in ArcMap
UNDERSTAND GEOGRAPHY AND DATA
Understand Geography and Data

- GIS is a tool for both analyzing and displaying data
- Can connect various data sources in the analysis
  - Demographic
  - Health care indicators
  - Health care infrastructure
- Need to consider:
  - Level of geography
    - Too large
    - Too small
  - Data sources

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BASIC CONCEPTS

Data Models
Feature Classes
Data Storage
Data Models

- **Vector Models** are a representation of features that can be points, lines, and polygons
- **Raster Models** are images that do not contain features

**Features**

- (x,y)
  - single point (node)
- nodes connect to form line
- lines connect and close to form a polygon

**Vector Model**

**Raster Model**

Source: Google Earth
Feature Classes

- Feature Classes are groups of features that share a common geometric representation
- Formats of Feature Classes:
  - “Shapefile” - An older format that stores several files in a folder
  - “Geodatabase Feature Class” - Stored in a Geodatabase File

Point feature class

Polygon feature Class
Storage

- Geodatabases file (GDB) is the primary data format used for spatial and non-spatial data management in ArcGIS

Source: http://gisgeography.com/
ARCGIS FOR DESKTOP

ArcGIS Core Applications
ArcGIS Core Applications

ArcGIS Desktop includes 2 core applications:

- ArcCatalog – data management
- ArcMap – developing maps
ARCCATALOG

Introduction
ArcCatalog - Introduction

- Catalog Tree
- Connect to Folder
- Review Data
- Import Feature Classes into Geodatabase File
- Import Table into Geodatabase File

More information:
ARCMAP

Introduction
Map Production
Additional Information
ArcMap Introduction

• ArcMap is the primary mapping component of ArcGIS for Desktop software from ESRI
  o User Interface
  o Toolbar
  o ArcCatalog View
  o Layers order and display
  o BaseMaps
  o Review attribute data

More Information:
Map Production

- Join spatial and non-spatial data
- Export files
- Symbolize Features Layers
- Working in Layout View
- Add Legend and map elements
- Export map
- Save Layers’ Symbol style
Questions?

• For more information, please email me at: nharun@albany.edu

• Visit us on: