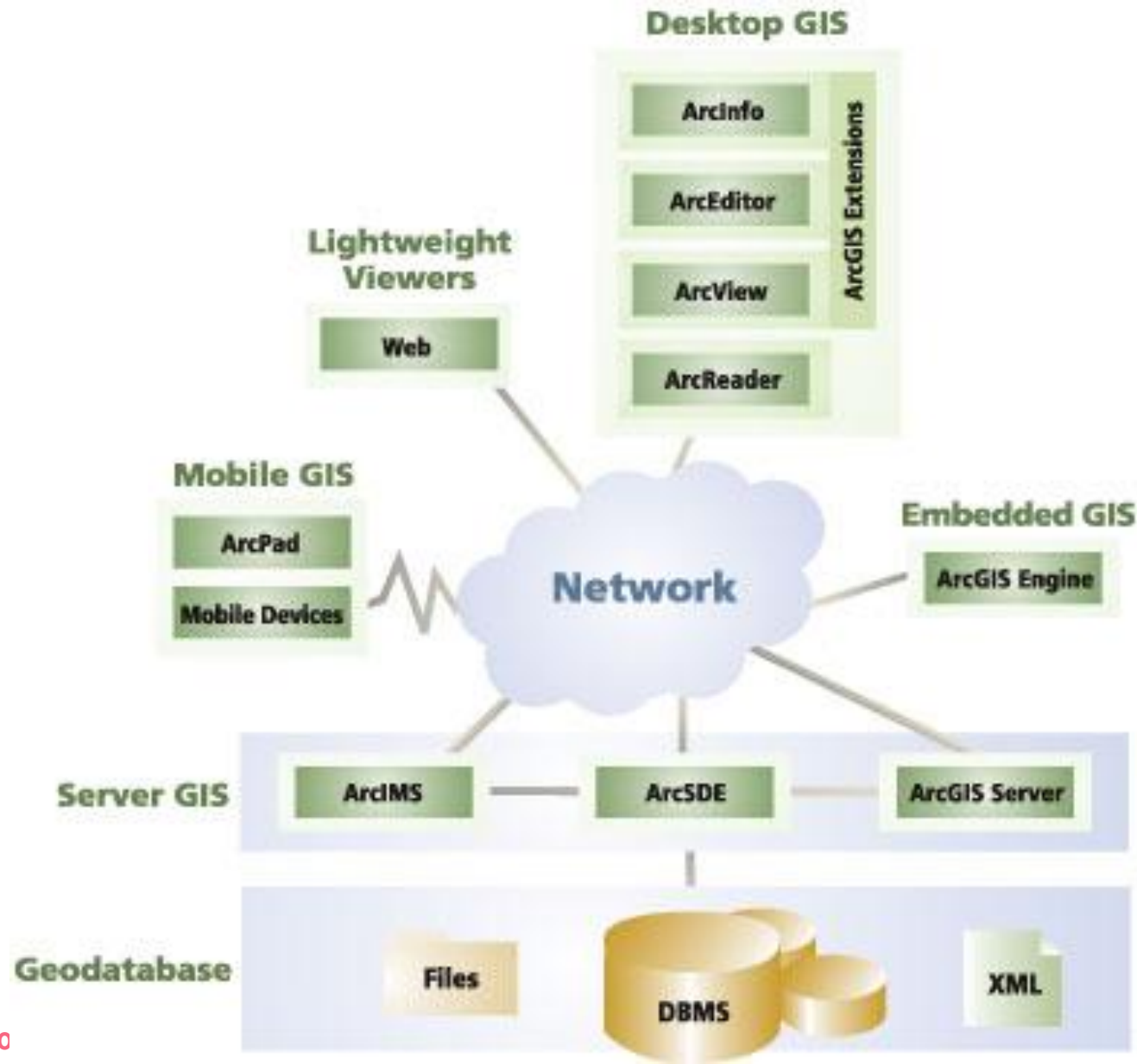# Week 3

# INTRODUCTION TO ARCGIS
## Version 10.*

# topics of the week

❑ **Overview of ArcGIS**

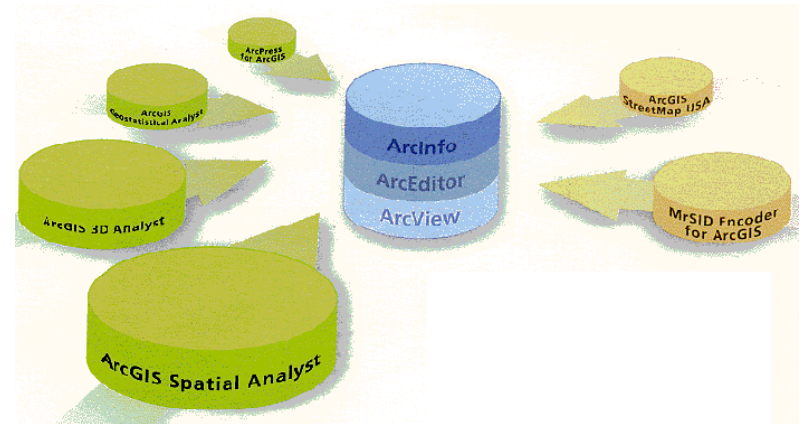❑ **Using ArcCatalog**

# Overview of ArcGIS

# Desktop ArcGIS Overview

❑ **Scalable  desktop  applications**

   ❑ ArcView

   ❑ ArcEditor

   ❑ ArcInfo

   ❑ ArcGIS extensions



❑ **All support data creation, management,  analysis, storage**

❑ **All can work with the same  data formats**

❑ **All  share  a common interface / same look and feel**

❑ **The higher the  functionality,  the higher the buying price**

# Desktop ArcGIS Functionality

**ArcView**

- ❑ ArcMap
- ❑ ArcCatalog
- ❑ ArcToolbox

**ArcEditor = ArcView +**

- ❑ Editing, coverage and ArcSDE Geodatabase
- ❑ Create and edit features  with behavior
  - ❑ Geometric networks
  - ❑ Feature  linked annotation
  - ❑ Subtypes
  - ❑ Relationship classes

**ArcInfo = ArcEditor +**

- ❑ Advanced ArcToolbox
- ❑ Advanced Geoprocessing
- ❑ Workstation ArcInfo:

   Arc, ArcEdit, ArcPlot,  Grid, TIN

# Use ArcView if you need to…

- Create, edit personal geodatabases and shapefiles

- Create high  quality maps, graphs, and reports

- Perform advanced geographic query and analysis

- Perform network tracing analysis

- Create, apply attribute domains

- Create, edit simple  annotation

- Geocode addresses

# Use ArcEditor if you need to …

- Create, edit and manage coverages and ArcSDE geodatabases

- Create,  edit subtypes and relationship classes

- Build  the geodatabase  from CASE diagrams

- Create,  edit geometric networks

- Create and edit feature-linked annotation

- Create and edit custom features

# Use ArcInfo if you need to…

- Create, edit, and analyze coverages using ArcInfo Workstation

- Run AML programs from ArcToolbox

- Convert from multiple GIS data formats into coverage format

- Use Geoprocessing Server to perform ArcToolbox operations on a designated computer

# ArcGIS extensions

**Applications that plug into existing**

- Spatial Analyst
- 3D Analyst
- Geostatistical Analyst
- Others
- Create your own
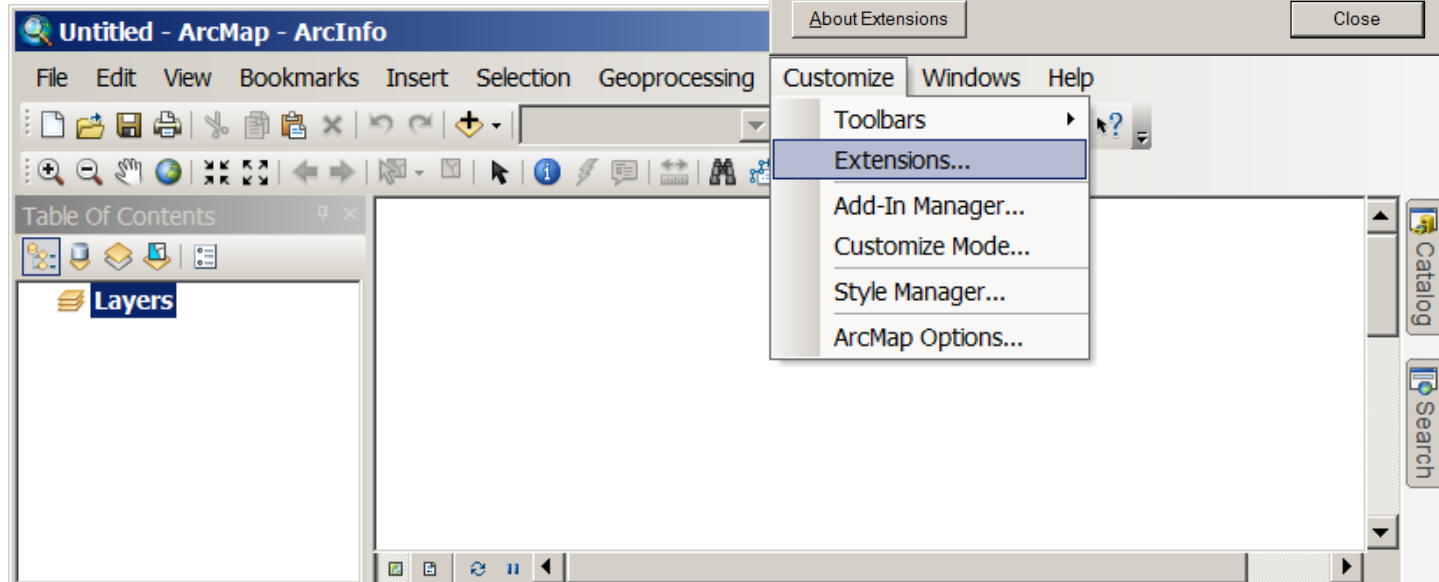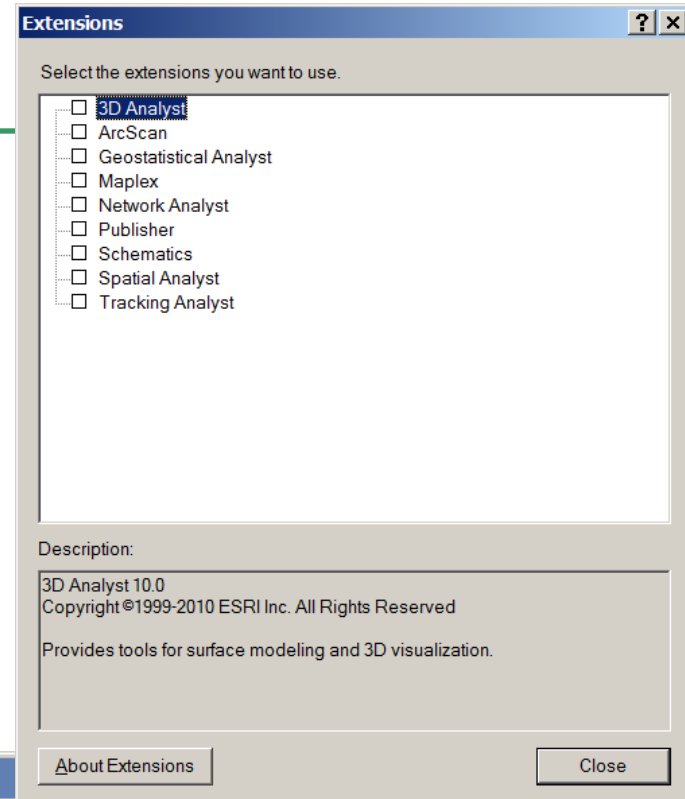
# Integration of the three applications

- **All share common applications**
- **ArcCatalog, ArcMap, ArcToolbox**
- **Each is single or multiuser (what's the difference?)**

# ArcCatalog

- **Explore the data**

- **Browse maps and data**

- **Manage data sources**

- **View and create documentation (metadata)**

- **Search for maps and data**

- **Use data in ArcMap and ArcToolbox**
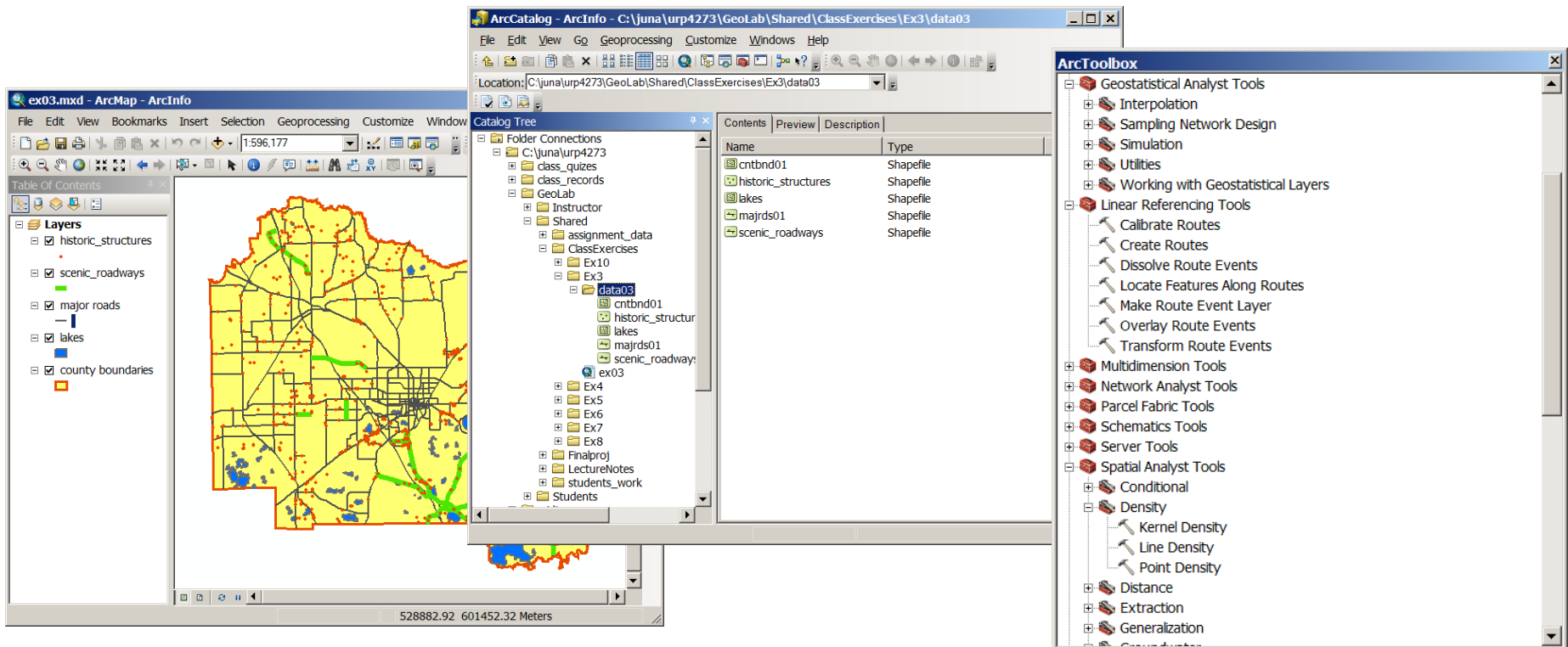
# ArcMap

- **Visualize**
- **Create**
- **Solve**
- **Present**
- **Develop**
- **Edit**
- **Query**
- **Analyze**
- **Chart**
- **Report**
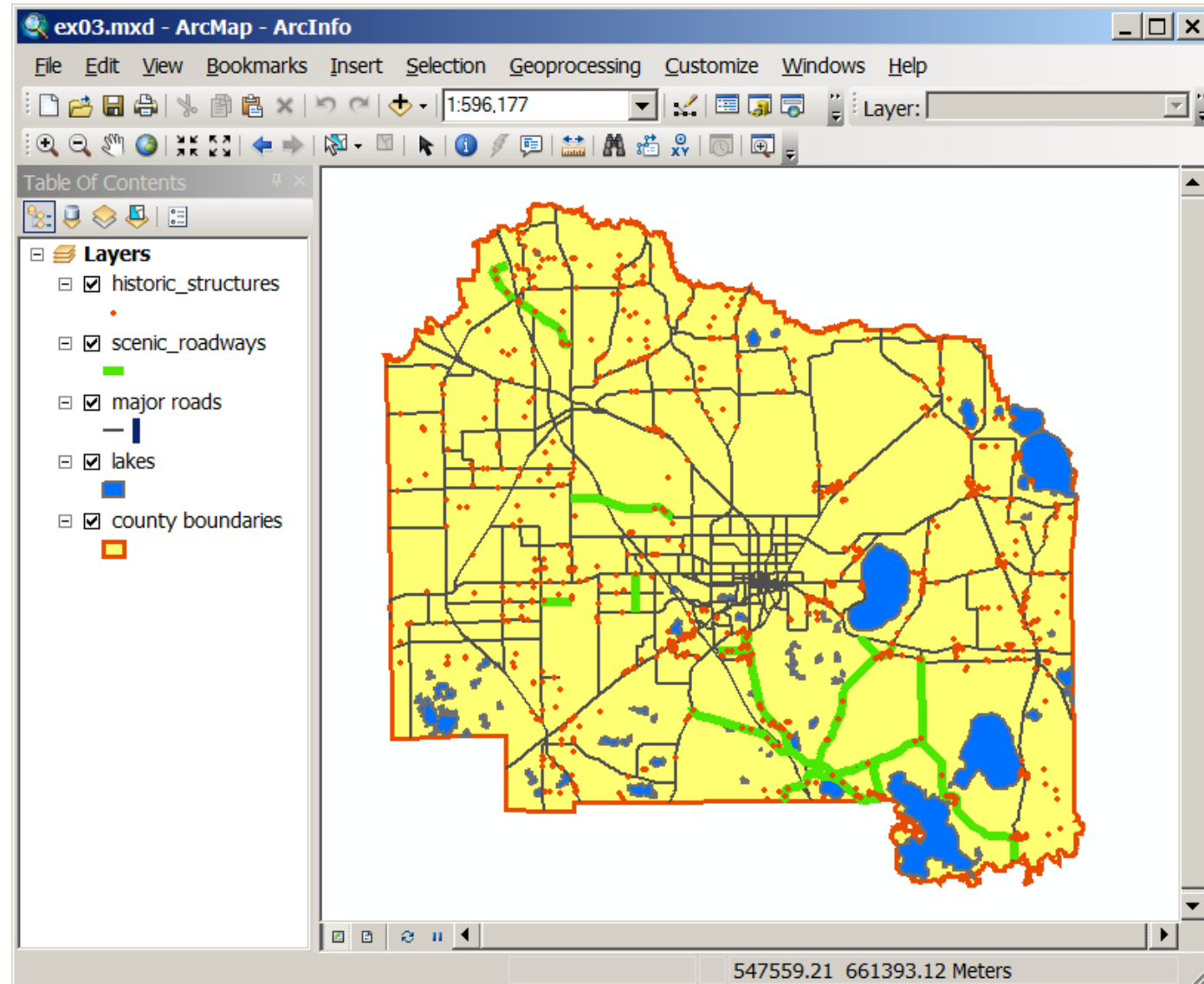
# ArcToolbox

- ❑ **Geoprocessing**
- ❑ **Data management**
- ❑ **Analysis**
- ❑ **Conversion**
- ❑ **Two versions of ArcToolbox**
  - ❑ **For ArcInfo ~150 tools**
  - ❑ **For ArcView ~20 tools**
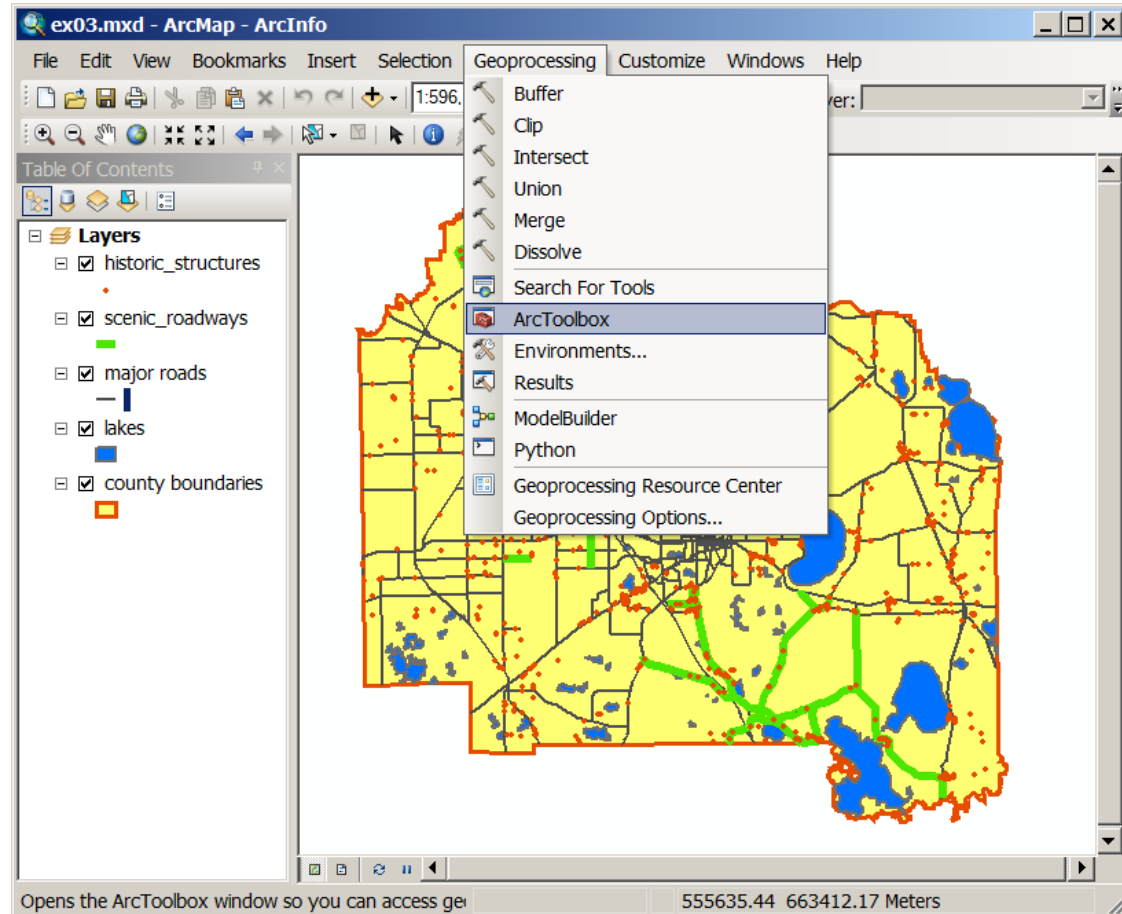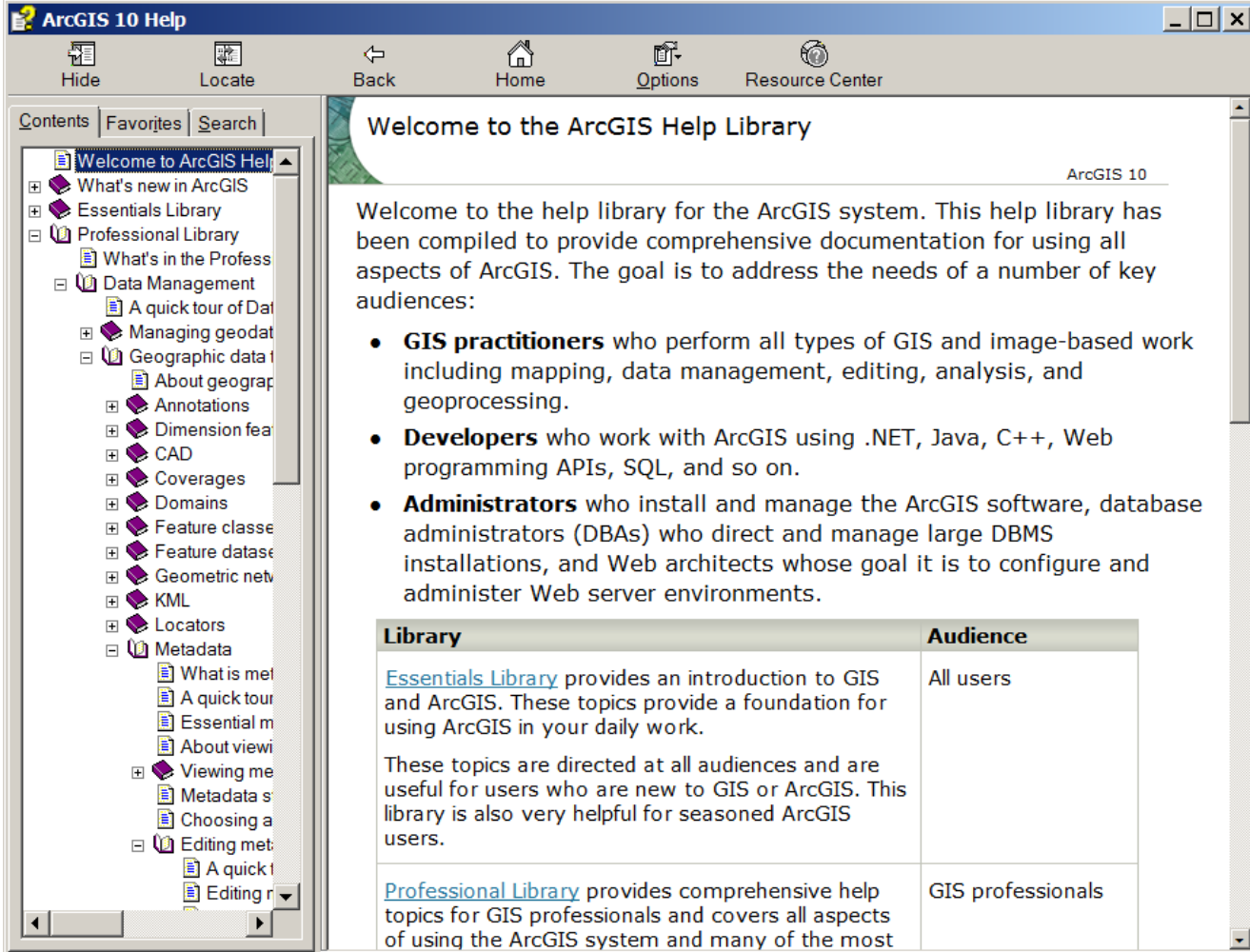
# When you need help

- **Contents tab**
- **Index tab**
- **Search tab**
- **Other**
  - **What's this?**
  - **Tool tips**

# Using ArcCatalog

- **Provides a way to explore your data**

- **Can define or modify table and feature class definitions**

- **Can manage data: copy, rename, delete, convert**
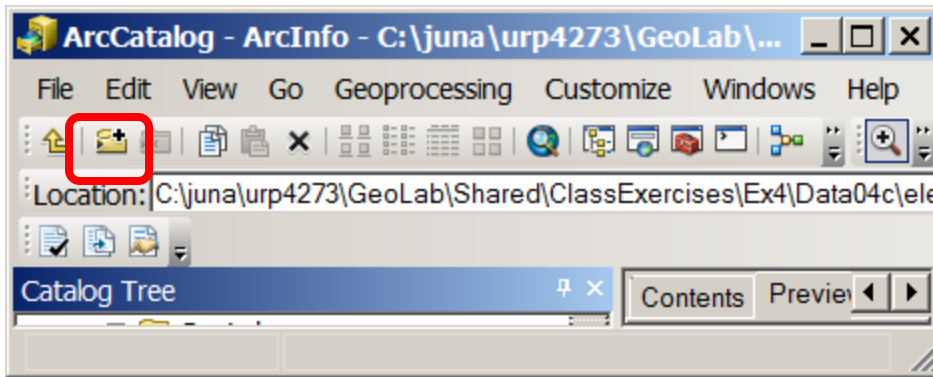


**Connect to Folder**
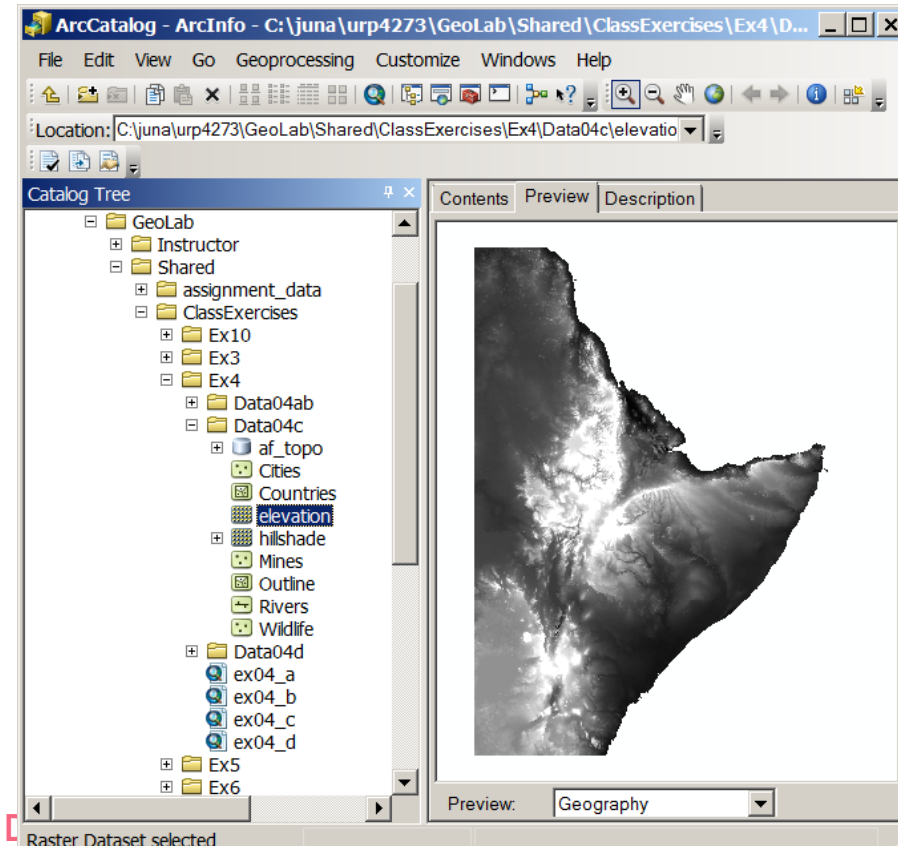


**Catalog tree**

# Creating folder connections

❑ **MUST connect to folders in the network**



❑ **Connections can be saved but can disconnect from folders at any time**

❑ **Can create a catalog of connections by connecting to several different folders in different locations (local or remote)**
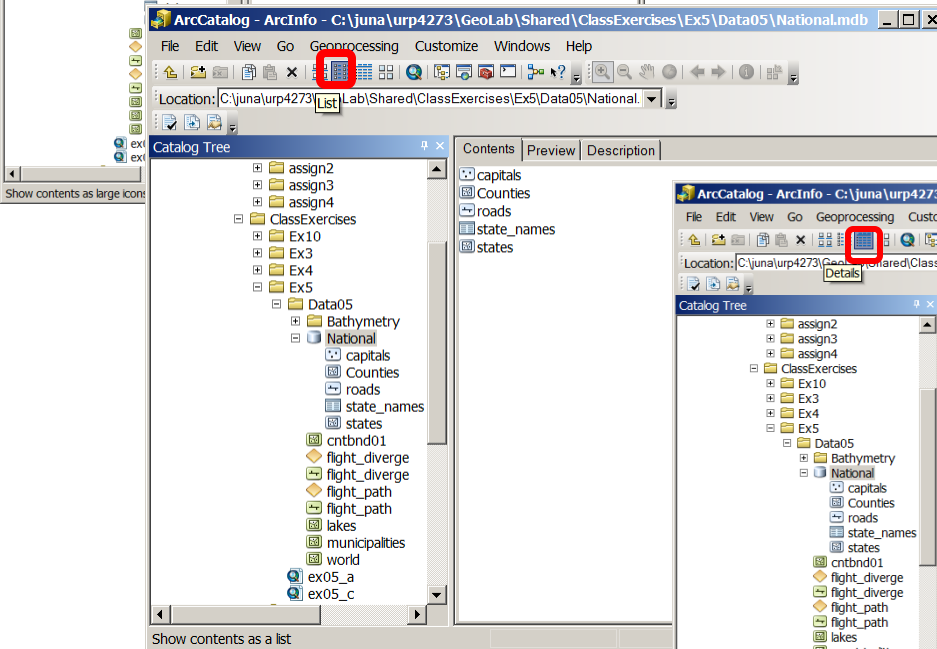
# Three tabs for three ways to view the data

- ❑ **Contents; Preview (*Geography & Attributes*); Description**

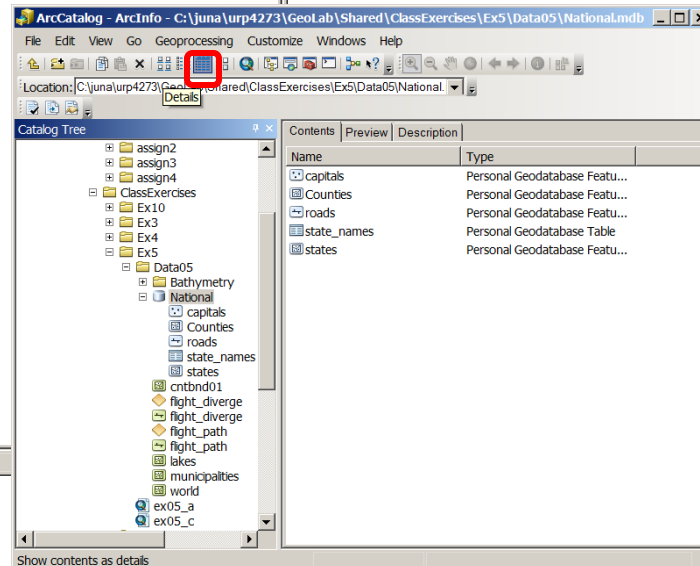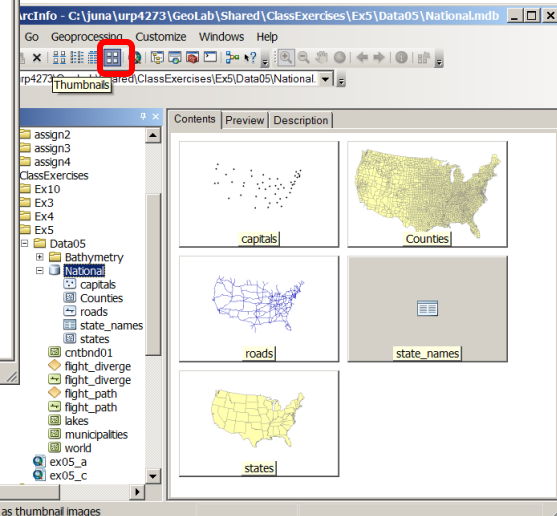- ❑ **Can view data and .mxd projects**
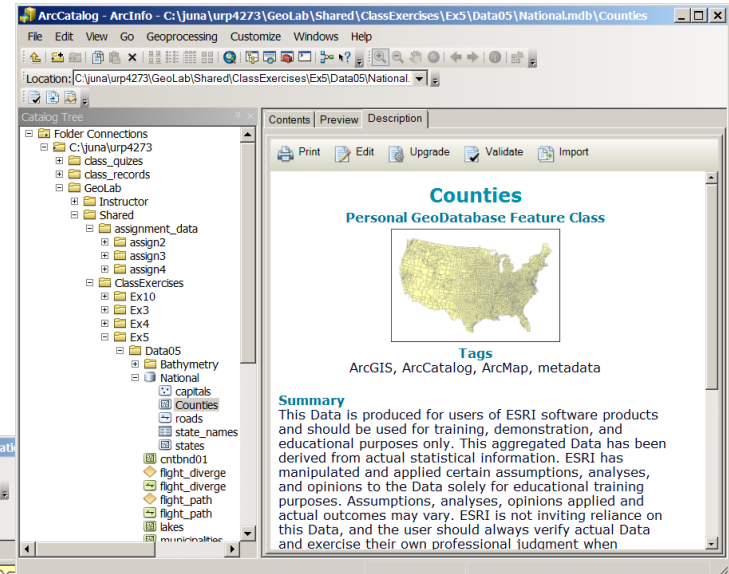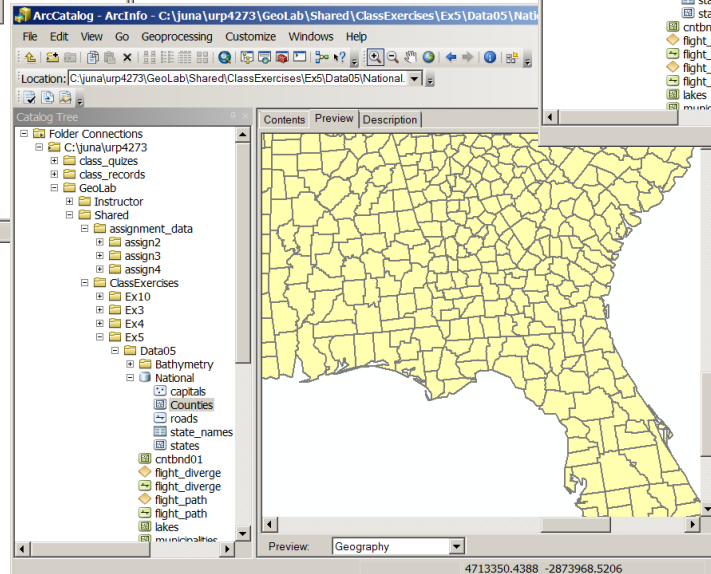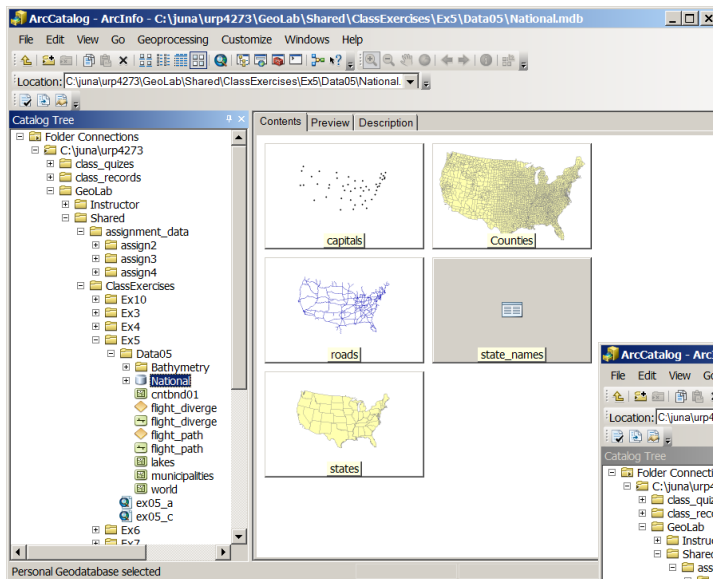
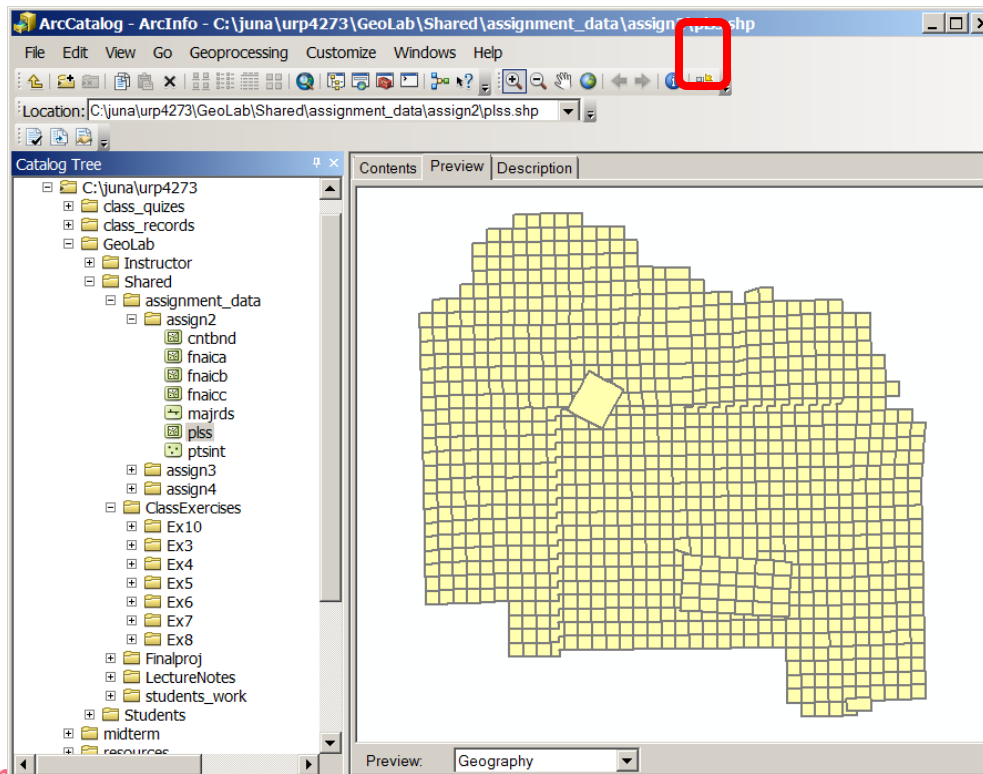# The Contents tab – window's ways to view files
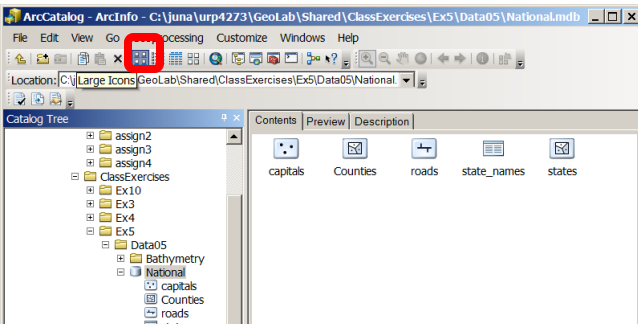


Large icons

List

Details

Thumbnails

# Creating thumbnail images

❏ **Both maps (.mxd) and data can have thumbnails**

❏ **A thumbnail is a snapshot of the source file at one point in time**

❏ **A thumbnail is an image, therefore it needs to be updated**

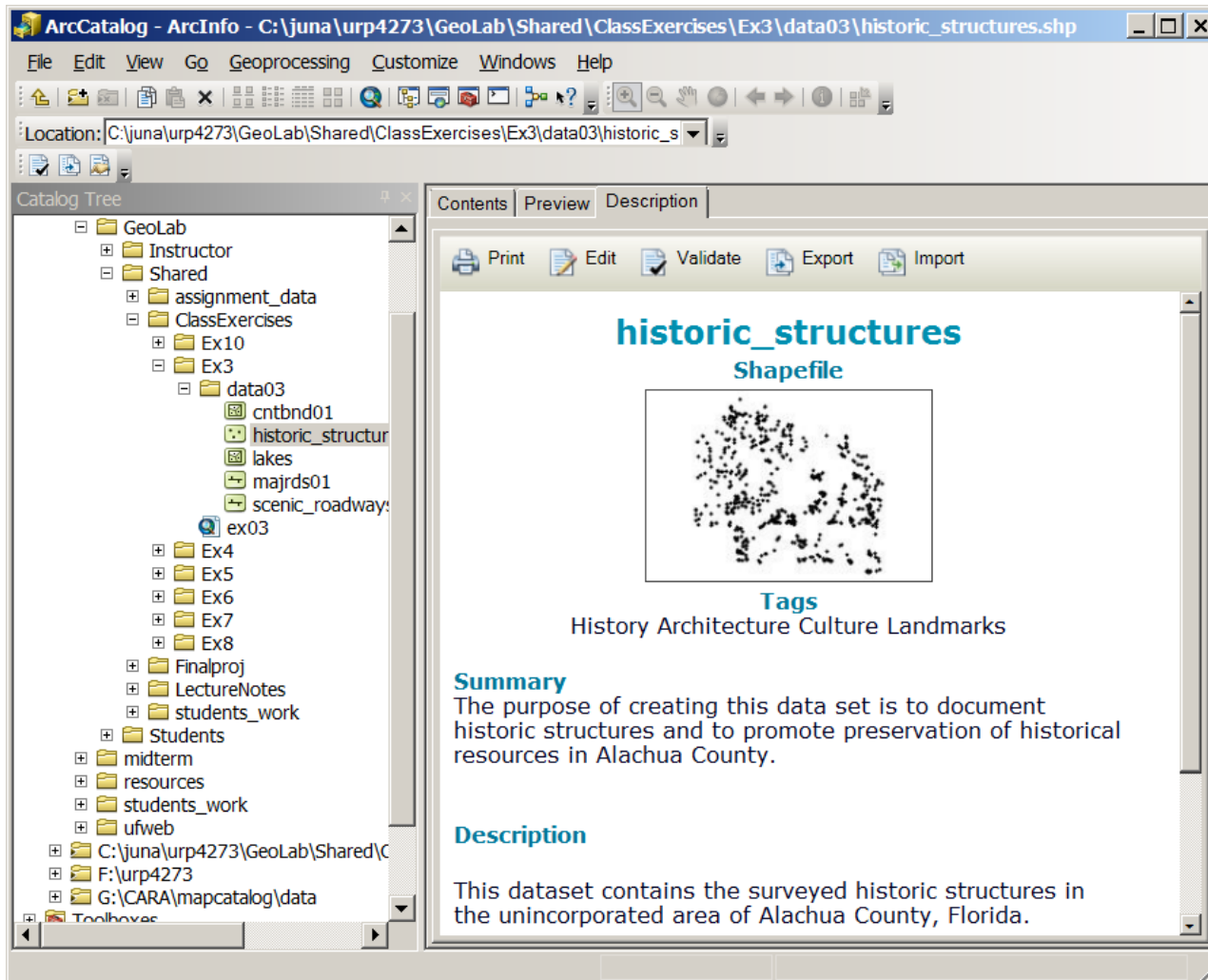❏ **When an (.mxd) is saved, a thumbnail is generated automatically**

# The Preview tab

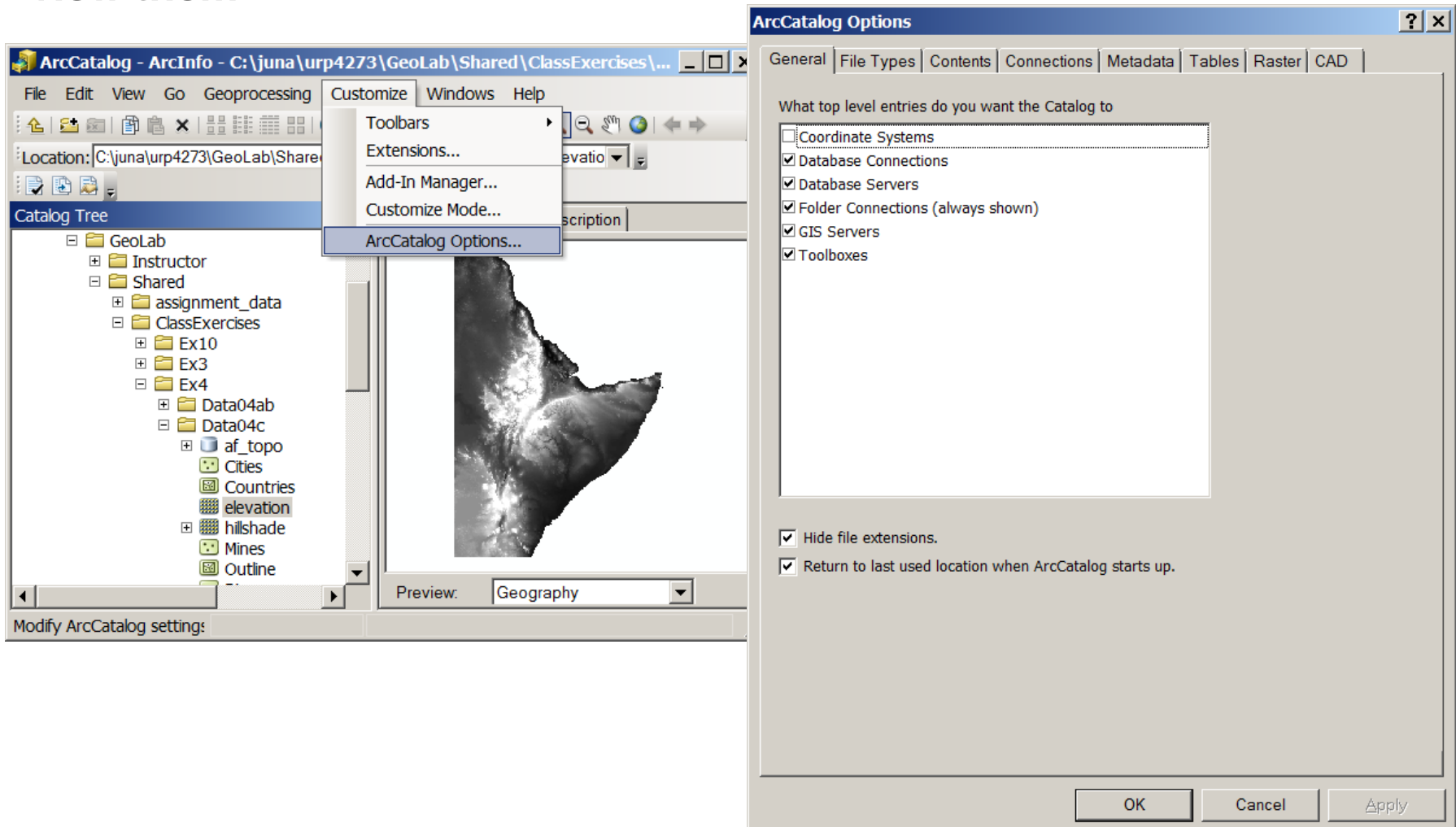❑ **Can preview a map or geography and attributes for data sources**
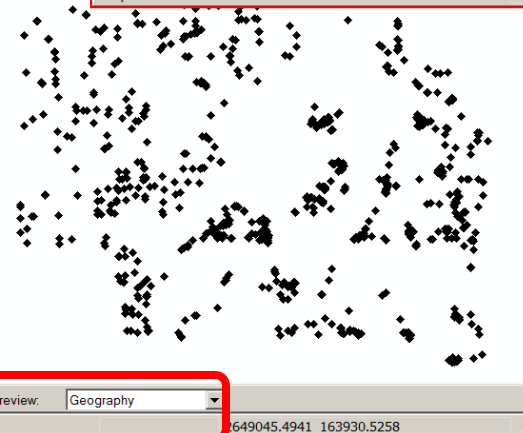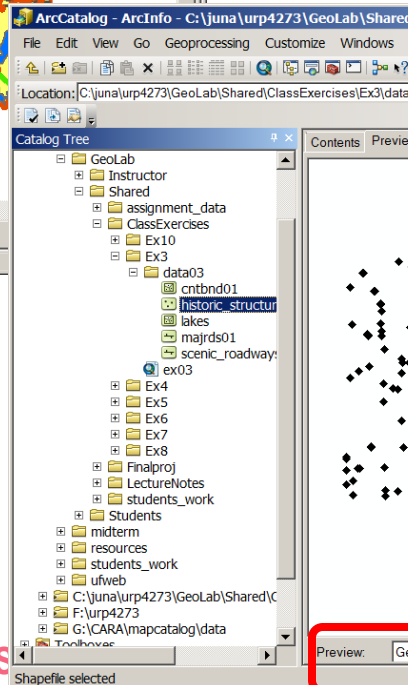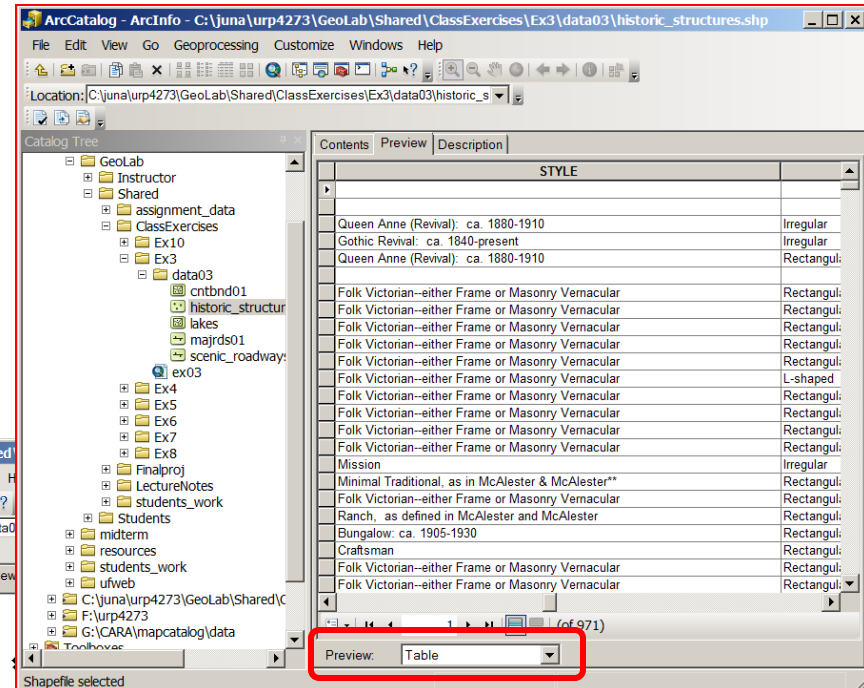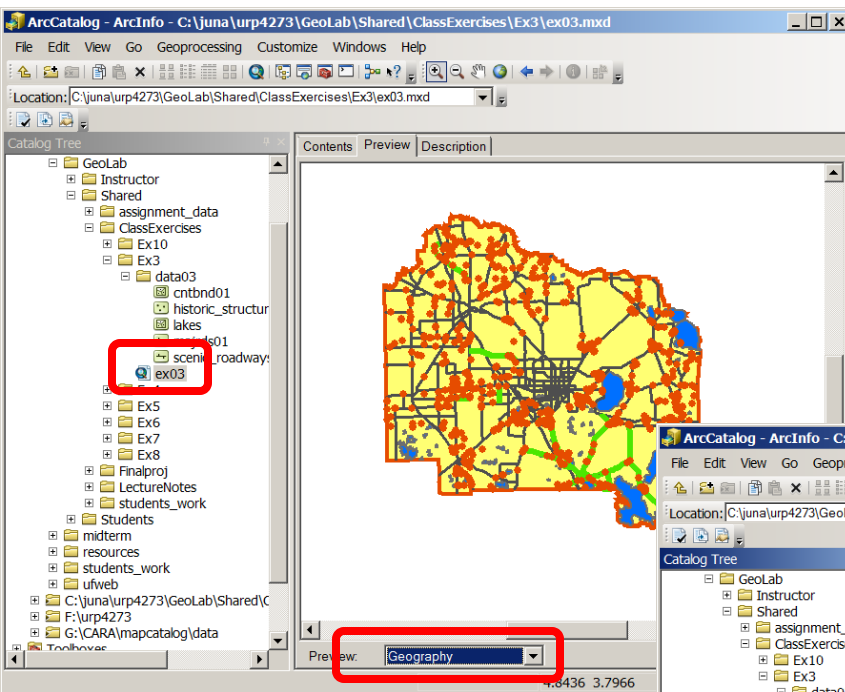
# The Description tab

❑ **Displays metadata**

# Setting viewable data types

❑ **In ArcCatalog you can filter out certain file types so that you don't view them**

# Data on the net – Internet GIS

❑ **GIS services or Geoservices are automated geographic information services that are published and accessed over the Web.**

❑ **Types of Geoservices i.e. Internet GIS**

  ❑ **Map Services (Live data layers) – most common**

  ❑ **Image Services (Integrated Images from many sources)**

  ❑ **Geoprocessing Services (Layer with functionality such as with a tools interface)**

  ❑ **Search Services (searchable content in GIS files/folders)**

# Connecting to GIS Services

❑ **ArcGIS and ArcIMS services (two types based on publishing technology)**

❑ **In ArcCatalog: GIS Servers: double click over service type and enter URL of service (web address to the service)**

❑ **In ArcMap: File>Add Data>Look in>GIS Servers**

# Connecting to ArcGIS online

❏ **ArcGIS online offers many ways to connect to either user created data or ESRI's data.**

❏ **Accessibility from Add Data drop menu (prior to clicking)**