



# GEOM121: GIS Fundamentals

## Introduction to ArcGIS

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## Introduction to ArcGIS

- ArcGIS Overview
- ArcGIS Interface
- ArcGIS Help System

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## Introduction to ArcGIS

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## ArcGIS overview

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- Scalability
- Collection of products
- Customization & Programming
- Extensions to Increase Functionality

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## Scalability

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- The ArcGIS suite contains
- Desktop GIS (we will be using this semester)
- Server GIS (Distribute maps, models, and tools to others in your organization in a way that fits well into their workflows.)
- Online GIS (Online GIS provides a common platform for ArcGIS users to discover, share, and build GIS applications, services, and content.)
- Mobile GIS (helps organizations deliver GIS capabilities and data from centralized servers to a range of mobile devices.)

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## ArcGIS License Levels

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- ArcView – Make maps, do queries, some spatial analysis, some editing (shapefiles, personal geodatabases)
- ArcEditor – plus edit multi-user geodatabases; more tools in toolbox
- ArcInfo – full functionality; comes with ArcInfo Workstation (i.e. legacy version ArcInfo v. 7).
- Current ArcGIS = v. 10.4

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## ArcCatalog

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- **ArcCatalog™** allows the user to easily access and manage geographic data.
- Data can be copied, moved, deleted, and quickly viewed before it is added to a map.
- In addition, metadata can be either read or created using this ArcGIS application

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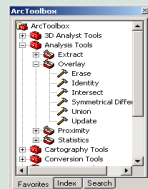


## ArcToolbox

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- **ArcToolbox™** provides an environment for performing geoprocessing operations.
- Tools step the user through the many geoprocessing tasks.
- ArcToolbox is embedded in both ArcCatalog and ArcMap.



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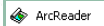
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## ArcPublisher & ArcReader

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- **ArcPublisher** is an extension of ArcMap.
- It can be used to *publish* completed maps as published map files (.pmf).
- you can share these maps with other users who do not have ArcGIS installed.
- **ArcReader** is a free program available from ESRI for viewing published map files (.pmf)
- ArcReader allows some basic functions However, maps cannot be edited in this program.

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## ArcScene

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- **ArcScene** allows you to view data in 3D.
- This is used for visualization and communication purposes.
- In addition to 3D viewing, there are a number of analytical methods in the 3D Analyst Toolbar that act upon 3D and surface data.

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## ArcGlobe

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- **ArcGlobe** is similar to the ArcScene, but it provides very quick and easy 3D modeling of very large landscapes for analysis of views

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## Customization & Programming

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- Many functions are not available from the GUI.
- Custom functions and operations can be created with various programming languages.
- Repetitive tasks can be automated.
- New functions and operations can be added to the GUI menus, buttons, and tools.
- Entire new applications can be developed

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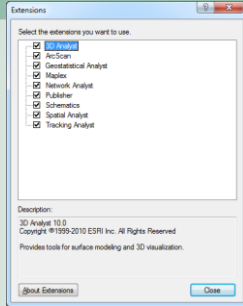
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## Extensions to Increase Functionality

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- Functionality not included in the core ArcGIS product can increase productivity.
- Some extensions are built-in, but just need to be enabled.
- Other extensions are available for free; some are available for sale.
- We will be using several extensions during the course.



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## Introduction to ArcGIS

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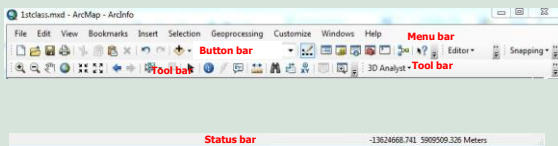
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## The ArcGIS Interface

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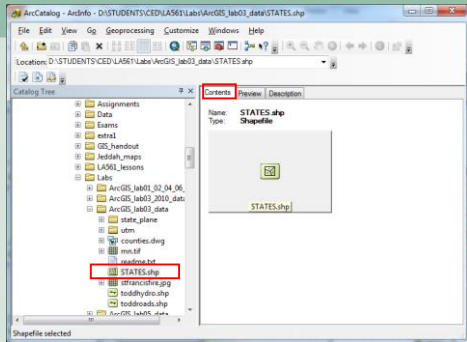




## The ArcCatalog Interface

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Contents mode



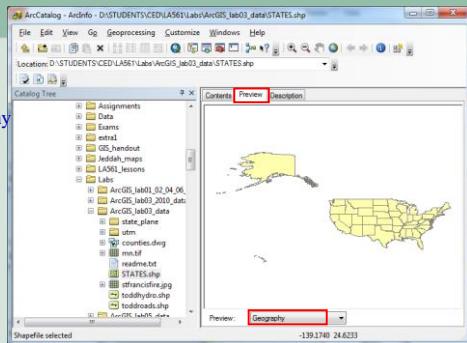
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## The ArcCatalog Interface

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Preview geography mode



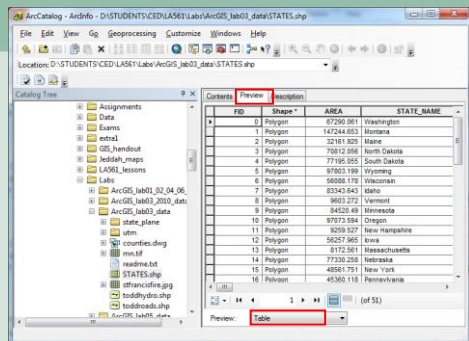
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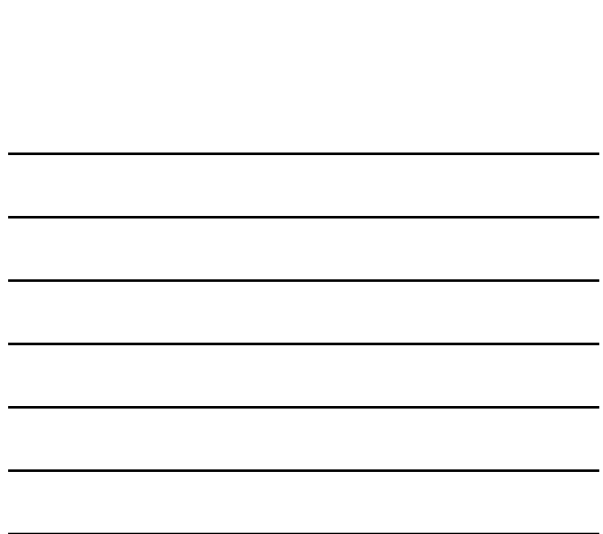
## The ArcCatalog Interface

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Preview table mode



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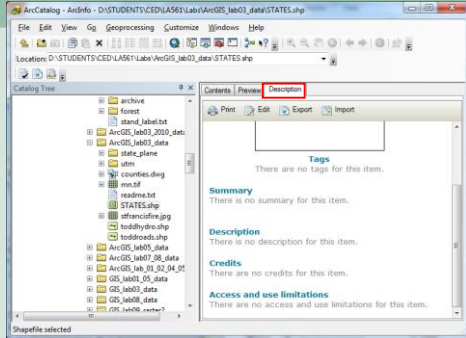




## The ArcCatalog Interface

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### Metadata mode



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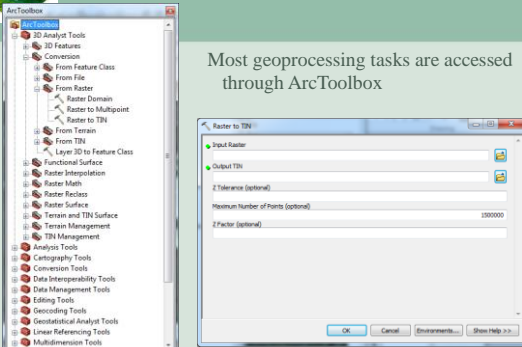
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## ArcToolbox & Geoprocessing

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Most geoprocessing tasks are accessed through ArcToolbox



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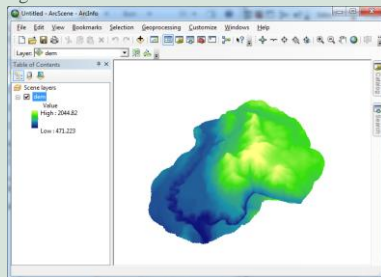
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## ArcScene

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Application for viewing data in 3 dimensions in "real time"



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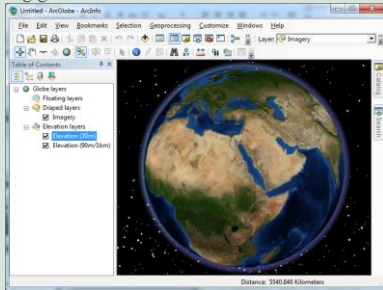
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## ArcGlobe

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Application for viewing global data in 3 dimensions in “real time”



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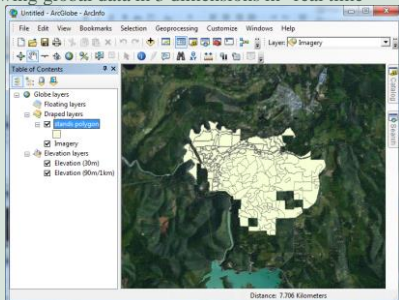
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## ArcGlobe

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Application for viewing global data in 3 dimensions in “real time”



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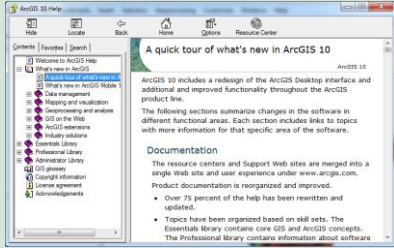
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# ArcGIS Help System

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- Your best friend this semester
- Standard Windows help interface
- Hierarchical contents with sub-topics



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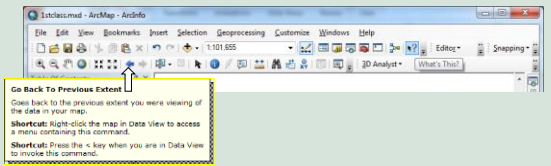


# ArcGIS Help System

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- Your best friend this semester

## Context-sensitive help (What's This?)



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