

## **Introduction to ArcGIS**

Michelle Zeiders

### **Basics**

ArcGIS is a comprehensive, integrated, scalable system designed to meet the needs of a wide range of Geographic Information System users. ArcGIS is developed and distributed by the Environmental Systems Research Institute, Inc. in Redlands, California <http://www.esri.com/>.

There are three components of ArcGIS: *ArcView 8.x*, *ArcEditor 8.x* and *ArcInfo 8.x*. Depending on an organization's requirements, a user may employ one or a combination of the ArcGIS software family. Only ArcView 8.x is available as a stand-alone seat. All three ArcGIS software components are built from the same core technology.

ArcGIS core technology is a suite of integrated applications that include: ArcMap, ArcCatalog, and ArcToolbox. Using these three applications cooperatively, a user can create maps, query data, analyze spatial relations, edit feature shapes and attributes and manage data. *Extensions* provide you with additional GIS functionality. Extensions are optional products that are registered or licensed individually.

### **Three Components of Software Family**

*ArcView* includes ArcCatalog, ArcMap, and ArcToolbox, which allow you to browse, manage, analyze, edit, and document your data.

*ArcEditor* has all the functionality of ArcView plus powerful tools for editing coverages and geodatabases.

*ArcInfo* provides the most functionality and includes all the capabilities of ArcEditor plus additional geoprocessing tools and a full version of ArcInfo Workstation (comprised of ARC, ArcEdit™, ArcPlot™, INFO™, and ARC Macro Language or AML™).

### **Applications**

*ArcMap* – The application for viewing data, editing data, map layouts and analysis.

*ArcCatalog* – A new application concept that allows users to explore and manage data.

*ArcToolbox* – A new application concept that extends functionality to perform tasks (through a set of *tools*) such as data conversion and geoprocessing.

### **Recent Publications:**

Booth, Bob, and Andy Mitchell. Getting Started with ArcGIS. Redlands California: ESRI Press, 1999-2001.

Davis, David E. GIS for Everyone. Redlands California: ESRI Press, November 2000.

Minami, Michael. Using ArcMap. Redlands, California: ESRI Press, 2000.

Ormsby, Tim, Eileen Napoleon, Robert Burke, Carolyn Groessl and Laura Feaster. Getting to Know ArcGIS Desktop. Redlands, California: ESRI Press, June 2001.

Shaner, Jeff and Jenniffer Wrightshell. Editing in ArcMap. Redlands, California: ESRI Press, 2000.

Tucker, Corey. Using ArcToolbox. Redlands, California: ESRI Press, 1999-2000.

Vienneau, Aleta. Using ArcCatalog. Redlands, California: ESRI Press, 1999-2001.

What is ArcGIS?. Redlands, California: ESRI Press, 1999-2001.

Zieler, Michael. Modeling Our World. Redlands, California: ESRI Press, March 2002.

### **Penn State Resources**

ArcGIS 8.2 is currently installed on all GIA Core PC's and on the PC's in the PRI Computer Lab.

Copies of all recent publications listed and many others are available in the GIA Library, 8<sup>th</sup> floor of Oswald Tower. Other resources on the University Park Campus include the reference section of the Maps Library, B-Level of Paterno Library and the General Collection of books in the Earth and Mineral Science Library, 105 Deike Building.

Software specific training available at PSU - <http://www.gis.psu.edu/education.html>

- **On-Campus Software Training** - Non-credit GIS training courses that are available at several Penn State locations.
- **Online Certificate Programs** - On-line educational offerings.
- **ESRI Virtual Campus Subscription** - Penn State's Higher Education Site License for ESRI GIS software products now includes a subscription that entitles Penn State faculty members, staff members, and students to free, unlimited access to select online courses offered through ESRI's Virtual Campus.

### **Related GIS Resource Documents**

GIS\_RD\_02-01, GIS\_RD\_02-13, GIS\_RD\_02-14, GIS\_RD\_02-15, GIS\_RD\_02-17,  
GIS\_RD\_02-18, GIS\_RD\_02-19, GIS\_RD\_02-20, GIS\_RD\_02-29.