

**Teaching GIS:
Success through Simplicity**

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With the kind assistance of Brad Baker

- ✧ Student-based
- ✧ Inquiry
- ✧ Mapping
- ✧ Place-based
- ✧ Learning
- ✧ Engage



Overview

- ✧ Data sources
- ✧ Finding Data
- ✧ Queries
- ✧ Query Builder
- ✧ Normalization of Data
- ✧ Classifications
- ✧ Visual Analysis



Finding Data

- * Data Types
 - * Shapefile (.shp)
 - * Layer file (.lyr)
 - * Geodatabase (.gdb)
 - * Databases (dbf, csv, xls)*
 - * Image files (geotiff, sid, jpeg*)
 - * may require a little extra massaging

Data Overview

- * Searching for Data
- * Bringing in Internet Data
- * Finding World, National and Local Data




Searching for Data

- * Simplicity can yield results
- * Search terms:
 - * gis data gisdata
 - * gis data + your topic
 - * file type (i.e. .shp .eoo dem txt xls)




The BIG GIs Data Locations

- * Geography Network (<http://geographynetwork.com>)
- * GIS Data Depot (<http://data.geocomm.com/>)
- * Geospatial OneStop (US Govt data) <http://gos2.geodata.gov/wps/portal/gos>
- * National Atlas (<http://www.nationalatlas.gov/>)



Add ArcIMS Data

- * [ArcIMS Data \(Internet Mapping Services\)](http://edcommunity.esri.com/data/arcims/) <http://edcommunity.esri.com/data/arcims/>
- * [Adding an IMS to AEJEE](http://edcommunity.esri.com/data/arcims/tutorial/) <http://edcommunity.esri.com/data/arcims/tutorial/>



Movie above will open to http://geospatial.missouri.edu/media/AEJEE_ArcIMS.swf

Add SDE Data

- * SDE Data (Spatial Database Engines)
- * Adding SDE data to AEJEE <http://www.mapteach.org/tutorials/AddArcSDE.php>



Movie above will open to http://geospatial.missouri.edu/media/AEJEE_ArcSDE.swf

Add Data from ArcGIS ONLINE

- * <http://arcgisonline.com>
- * Data Sharing
<http://www.esri.com/software/arcgis/arcgisonline/online-sharing.html>
- * Map Services (Standard/Premium)
<http://www.esri.com/software/arcgis/arcgisonline/map-services.html>


Cool Tools Online

- * Google Spreadsheets
<http://docs.google.com>
- * BatchGeocode
<http://batchgeocode.com>
- * ArcWeb Explorer
<http://www.arcwebservices.com/awx/>
- * DNR Garmin
<http://www.dnr.state.mn.us/mis/gis/tools/arcview/extensions/DNRGarmin/DNRGarmin.html>
- * Finding Lat/Long
(Maporama, Google Maps, ESRI Ed Geocode)




Queries

- * Asking questions of your data
- * Boolean in nature (= < > or and)
- * Select by
 - * Attribute
 - * Location



Queries

- * Method
- * create a new
- * add to current selection
- * remove from current selection
- * select from current selection




Normalizing Data

* How do we classify data to make it understandable?

Normalization

- * Used to design ratio maps
- * Examining proportion/percentage

As a percent of total, consider the following:



Attribute value for feature x
----- = Proportion (%) of total contained in feature x

Sum of attribute values in all features

As one attribute normalized by another, consider this

Attribute value for feature x
----- = Proportion (%) of universe that is the attribute

Universe value for feature x

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