Geographic Information Systems (GIS): An Introduction to ArcGIS

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Objectives

- Learn the basics of GIS
  - Data and software
  - Concepts and applications
  - Hands-on exercises
Map and Data Library

Services in the Map and Data Library, University of Toronto:
• Provide help finding geospatial data and maps
• Purchase geospatial data and maps
• GIS software: Esri ArcGIS and open source options
• Lead the Esri geospatial consortium on campus
• Assistance with GIS software
• Hardware: computer lab and scanners

mdl.library.utoronto.ca
gis.maps@utoronto.ca
(416) 978-5589
Introductions

• Who are you?
• Have you ever used GIS software?
• What do you hope to get out of this workshop?
What is GIS?
Vector and raster data
Vector Data: Points
Vector Data: Lines
Vector Data: Polygons
Raster Data
Raster Data: Air Photos
Coordinate Systems, Projections, and Datum

- All help spatially locate data
- Different spatial data sets may have been created with different projections
- ArcGIS software can transform vector data on the fly so that they appear to be in the same projection
- But, raster data **cannot** be transformed on the fly
  - Example in Module 3
Manipulation of Data
### Attributes of parks

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*Record 1 of 250 Selected*
Population Density
Population Density of Greater Toronto Area
Hands-on Practice – Let’s Get Started!

Following the instructions at the beginning of module 1:

1) Download the data onto your computer
   • Use arcdata_10_1.zip because ArcGIS 10.1 has just been installed on these machines

2) Unzip the data
Additional Resources

• Additional GIS Training & Workshops
  • Map and Data Library Workshops – QGIS and Google Earth Pro
  • Virtual Campus Courses
  • Credit courses, see the Geography Department Web pages
  • Self-help GIS tutorials
ArcGIS for U of T Students

• Send an email to: gis.maps@utoronto.ca
  Your name
  Student number
  Your department/course for which GIS is required

• Can take a few hours!
• Requires a powerful computer
• Designed for PCs (but can be installed on a Mac with the help of some additional software)
• One license per student, good for one year
Thank you!

• Workshop feedback form: http://uoft.me/gis

• Contact us: gis.maps@utoronto.ca

• **Upcoming workshops on:** QGIS and Google Earth Pro