INTRO TO GIS
MAKER CITY
GIS, a Science that involves the geographic space that allows a better understand of the environment, events and relation of cause and effect.
POWER OF MAPPING

Visualize, question, analyze and interpret data to understand relationship, pattern and trends.
ANSWER TO BASIC QUESTIONS

• In this place what are the characteristics?

• Such features, where are they located?
GIS MAP – STATE OF ART

- Hand Made maps
- CAD
- Desktop mapping
- GIS
- WebGIS
- Geodesign Systems
GIS SCIENCE

- Resources to:

  Collect data
  Data processing
  Data presentation
  Analysis
  Simulation of scenarium

Images from the web
GETTING DATA

Images from the web
TYPES OF DATA

TOMLIN 1990:44 “yes, raster is vaster and vector just seems to be more correct.”
WHICH ONE IS BETTER?
COORDINATE SYSTEM
EXAMPLES OF GIS USES IN CITIES

- Businesses—find suitable location for a new store
- Transportation planners—find areas of congestion, future need
- Demography —study population growth/decline
- Police/firefighters—find fastest route to incident
- Managers – Best place to the city growth
- Schools Manager – Is there any overload area/school
TRANSPORTATION OUTREACH PLANNER

- Explore here
SOFTWARES

LibGuide: Open Source Geo tools, Crowd-sourcing geo-spatial data and wiki-style mapping

DATABASE

- FIU GIS CENTER
- MIAMI COUNTY GIS
- CITY DATA
- DATA USA
- CENSUS BUREAU
SOFTWARE

- ArcMAP
  - Arcview
  - ArcEditor
  - ArcInfo
- ArcCATALOG
- ARCTOOLBOX
VECTOR DATA

• Shapefile
  • SHP
  • SHX
  • DBF

• DWG / DXF
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LET’S START!
Catalog and toolbox

Data View

Table of contents
THE TABLE OF CONTENTS

- Viewing mode
- Place layers in data frames
- Change draw order
- Access layer properties
- Turn layers on/off
- Change symbol properties
ARCTOOLBOX
GETTING AND OPENING DATA

LibGuide: Open Source Geo tools, Crowd-sourcing geo-spatial data and wiki-style mapping

ESRI Census Data
STARTING IN ARCGIS
SETTING THE COORDINATE SYSTEM

View data in any coordinate system or projection.

- USA Equidistant Conic
- World Mercator
- Unprojected GCS
CAD File can be added in ArcMAP.
Grab it and push to Data View
OPEN STREET MAP

- Good option for areas you don’t have a lot of data.
ArcGIS Editor for OSM, 10.3.x Desktop

Overview

ArcGIS for Desktop tools that support using OpenStreetMap data in ArcGIS. Load, edit, filter, apply symbology, contribute data back to OSM, and create network datasets from OSM data.

by eeeggs
Last Modified: May 2, 2018

Geoprocessing Sample

Description

Note, there is now a 10.4 release of this toolbox, available here.

The ArcGIS Editor for OpenStreetMap allows you to use ArcGIS tools for working with OpenStreetMap data. This desktop toolset for ArcGIS 10.3 allows you to load data from OpenStreetMap and store it in a geodatabase. You can then use the familiar editing environment of ArcGIS Desktop to create, modify, or network analysis, or update data.

Once you are done editing, you can post back the edit changes to OSM to make them available to all OSM users.

There are two setups in this download. One is compatible with ArcGIS 10.3, the other compatible with ArcGIS 10.3 with the ESRI Background Geoprocessing installed additionally, i.e., it is in the "ArcGIS Editor 10.3_x11" folder. After installing, launch ArcMap and you should see an "OpenStreetMap Toolbox" installed under your system toolbox in the

Details:

Downloads: 31,711
Owner: eeeggs
Tags:
OSM, OpenStreetMap, open source, editor, desktop, 10.3.
Open the basemap of Streetmap
Now we are going to combine attribute data
GEOREFERENCING

DIGITIZING

[Images of georeferencing and digitizing processes]
TYPES OF MAPS AND REPRESENTATION
TWO KINDS OF MAPS

Reference
• Emphasis on location

Thematic
• Emphasis on attribute
TWO TYPES OF THEMATIC MAPS

Qualitative
• Show nominal data
• Shows distribution
• No quantities

Quantitative
• Show numerical data
• Show variation from place-to-place
• Generalized numbers
## Semiology of Graphics

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Map of Population - Florida - USA
Tangible

Virtual

Mental
GIS RESOURCES – FIU GIS CENTER
VIRTUAL CAMPUS

• FREE ACCESS TO OVER 30 ESRI VIRTUAL COURSES.

• E-mail us: gisrs@fiu.edu
HTTPS://WWW.ESRI.COM/TRAINING/CATALOG/SEARCH/
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Graduate Certificate in Geographic Information Systems

Dean Whitman, Director, Earth and Environment

Coordinating Committee Zhaohui Jennifer Fu, Library GIS Center

Jennifer Gebelein, Earth and Environment

Hugh Gladwin, Global and Sociocultural Studies

Assefa Melesse, Earth and Environment

Keqi Zhang, Earth and Environment

Xia Jin, Civil and Environmental Engineering
FREE TRAINING

• 2 workshop per semestre in both campus.
SOFTWARE LICENSES FOR STUDENTS

• Free one year license for student. Academic proposes.

• Send email to gisrs@fiu.edu:
  • ID
  • Name
  • E-mail
  • Course

Receive EVA Code and Instruction,
DATA SEARCH

Duration of User Accounts
User accounts will remain active until the end of a class, certificate, or semester. Inactive activity will be monitored through log-in files. If an account has been inactive for more than 6 months (not including summer), access will be automatically disabled, and the data will be deleted.

User Responsibilities and Rights
A user is solely responsible for all files created and should back up her/his work on removable media, compact disk, DVD, or USB. The GIS Center is not responsible for any lost data. A user cannot give his/her username and password to another person or sign-on anyone with his/her account details. GIS Center employees will unblock a workstation locked for more than half an hour and any unsaved work will be lost. A user cannot engage in any of the following activities:

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2. Watching pornographic content, playing computer games, downloading music, participating in chat rooms or any other activity not related to studying.
4. All FIU and Library computer use rules apply to the GIS Center Accounts. Violations of any of the above will result in the immediate loss of the user account and disciplinary action as outlined in the University Technology Services (UTS) Code of Computing Practice.

Violation of any of the above will result in the immediate loss of the user account, a $200 fine, and possibly a lawsuit, which could lead to jail and/or further financial penalty. "All Services offered by the FIU GIS Center, including fee-based Services, are for support of FIU Educational and Research activities."