Introduction to GIS

Geographic Information Systems

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We have about 45 Minutes

- Introduction
- Clients of a GIS
- What are the components of a GIS
  - Hardware
  - Software
    - ESRI ArcProducts
    - ArcReader!
- GIS In Agriculture
- Question and Answer
Introduction

• Degree in Elementary Education
• Degree in Business Administration
• I’ve been doing GIS work for more than 30 years, since before there was such a thing as a “GIS” as we know it today.
• I’ve worked as a “contractor” for the Federal Government and for several GIS Consulting services.
• I worked for the City of Indianapolis for 5 year on the IMAGIS Program.
• I have worked for Clinton County for 18 years this Spring.
Clients of GIS

- Engineers Office
- Highway Department
- Auditors Office
- Recorders Office
- Board of Elections
- Building & Zoning Department
- Soil and Water Conservation District
- Tax Map Department
- Emergency Management
- Sheriff’s Department
- Regional Planning

Clinton County Web Site
http://co.clinton.oh.us/

Many Many More!!
Components of a GIS

Hardware

Data

Software
The Tools We Have in Clinton County

- Plotters
- Printers
- Scanners
- Computers
- Smart Phones
- iPads
GIS Data Distribution Network

IN-HOUSE WEB PAGE

GIS Data Distribution Network

ArcReader

ArcMap

PC

GIS SERVER

EOS

AOS

SWOS

Printers
Plotters
Scanners

3 Terabyte Drive

GIS DATA LIBRARY

Ability to launch a layer into ArcMap

Accessible to everyone on the GiSDDN

GIS WEB PAGE

Data Downloads

Web Links

Interactive Mapping

Communication & Education

Metadata

IQ PDF Maps

Detailed information on Data Layers

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ESRI Products

ArcGIS Platform
ArcGIS for Telecommunications
ArcGIS for Water Utilities
ArcGIS for Windows Mobile
ArcGIS GeoEvent Extension for Server
ArcGIS Geostatistical Analyst
ArcGIS Image Extension for Server
ArcGIS Maps for Adobe Creative Cloud
ArcGIS Maps for Office
ArcGIS Maps for Power BI
ArcGIS Network Analyst
ArcGIS Online
ArcGIS Pro
ArcGIS Publisher
ArcGIS Runtime SDKs
ArcGIS Schematics
ArcGIS Spatial Analyst
ArcGIS Tracking Analyst
ArcGIS Workflow Manager
ArcPad
ArcReader
CityEngine
Collector for ArcGIS
Community Maps Program
Configurable Apps
Content
Data Appliance for ArcGIS
Districting for ArcGIS
Drone2Map for ArcGIS
Esri Business Analyst
Esri Community Analyst
Esri Defense Mapping
Esri Demographics
Esri Developer Network (EDN)
Esri Geoportal Server
Esri Maps for IBM Cognos
Esri Maps for MicroStrategy
Esri Maps for SharePoint
Esri Production Mapping
Esri Redistricting
Esri Reports
Esri Roads and Highways
Esri S-57 Viewer
Explorer for ArcGIS
Full Motion Video
GeoCollector
GeoPlanner for ArcGIS
Insights for ArcGIS
Living Atlas of the World
Navigator for ArcGIS
Open Data
Operations Dashboard for ArcGIS
Portal for ArcGIS
Story Maps
StreetMap Premium for ArcGIS
Survey123 for ArcGIS
Tapestry Segmentation
Web AppBuilder for ArcGIS
WMC Client for ArcGIS
Workforce for ArcGIS
World Geocoder
ArcReader

Free Viewer that allows users to view, explore and print map data.

Key Capabilities are:

• Zooming in/out
• Panning
• Going to previous/next extent
• Viewing spatial bookmarks
• Viewing and printing previously authored map layouts
• Searching with the Find tool
• Identifying features
• Using the hyperlink tool
• Measuring features
Key Points to Keep in Mind

1. Cannot make data edits

2. Restricted to data that is part of the Project File

3. Cannot add anything that is not part of the project

4. It is a canned data viewer.
Most Used Feature of ArcReader

Address Node Labeled
Search for Property Address

There's a DBF file associated with each data layer; the one associated with Property Lines has a field “Property A” that contains the properties addresses.
Aerial Photography Group

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Aerial Photography Year 2000
Aerial Photography Year 2005
Aerial Photography Year 2010
Aerial Photography Year 2015
Aerial Photography Year 2019
National Agriculture Imagery Program 2010
National Agriculture Imagery Program 2015
National Agriculture Imagery Program 2019
Aerial Photography 2011
Aerial Photography 2014
Aerial Photography 2016
Aerial Photography 2017
Aerial Photography 2018
Aerial Photography 2019
Aerial Photography 2020
Aerial Photography 2021
Aerial Photography 2022
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Aerial Photography 2034
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Aerial Photography 2036
Aerial Photography 2037
Aerial Photography 2038
Aerial Photography 2039
Aerial Photography 2040
One of the cool things to do

Compare different years of Aerial Photography

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Grouped Data
Use the Swipe Tool

2011 AP

2016 AP

Swipe Boundary
Aerial Photography Downtown - 2011
Measuring an Area and Using Pen

5.3 Acres
Pen Options and Measuring

Pen and Highlighting Tool

Users can measure a line distance, an area, or a feature (data layer feature).

Measuring Tool
GIS In Agriculture
Maps & Map Applications

Use of Drones
Data Collection

Soil Types

Precise GPS Devices in Heavy Equipment

Precise Elevation Measurements in Crops Fields

NAIP
National Agriculture Imagery Program
Soils Data
Soils Data
Precise Elevation Measurements

Sometimes the terrain is so flat you can’t see any elevation changes even while standing on location.
Flatland

Add some color to the terrain
NAIP Availability

- Flown in September, or earlier, with crops still in fields.
National Agriculture Imagery Program

30 centimeters
1 Foot Pixel Resolution

https://gdg.sc.egov.usda.gov/GDGOrder.aspx
Conclusion

ArcReader is one tool in a host of tools available to navigate GIS Data; be careful of using the wrong tool for the job you wish to accomplish.

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CLINTON COUNTY GIS DEPARTMENT

www.clintoncountyohgis.org