The Clinton County GIS Program consists of several unique means of disseminating GIS and related data.

Bringing Data to the Masses

Giving Power to the People!
Introductions:

JEFF LINKOUS
P.E., P.S., Engineer Elect

COOKIES
RESTROOMS
WE’LL GO ABOUT 45 MINUTES
For the last couple of years at the Ohio GIS Conference, we have done presentations on using LiDAR data, and the importance of 3-D GIS. At these presentations we mentioned how we have some unique means of searching for and viewing or downloading Clinton County GIS Data, including using Google Earth. This continued interest has resulted in having the OGRIP Outreach meeting here in Wilmington, Ohio.

The topic of this meeting is on using Google Earth with GIS Data.

This is really a proof of concept, and should not be considered final or authoritative on this or any other topic. The time spent is to encourage interest in GIS, encourage the GIS community of users and professionals to think "out of the box", and to simply demonstrate some of the things we have been able to accomplish with GIS here in Clinton County, Ohio.
Goal of this Presentation

Applications such as Google Earth have Value with Users of Geographic Information Systems

My Career has been Spent in Getting Power to the People, and spans almost 20 years of work in 3 states 4 cities.

I have been a grade school teacher, an ArcView certified Instructor, GIS Project Manager, Regional Sales Manager, map-printer, Department Manager, Software Support manager, etc.

I am all about getting people in a position where they can help themselves.

Clever Uses of GIS and Related Applications bring a ton of value to a GIS Program

People want what's easy to use and what looks good!
Clinton Counties Efforts

To Put Power in the Hands of the People

Over 100 installations of ArcReader
Auditors Office Web Page for Property research
GIS Department Web Page
Hundreds of maps printed monthly
More than 13 thousand surveys online
Aerial Photography back to 1951 available online
The Never Ending Quest

Create a portal to data that makes GIS attractive and user friendly.

MAKE IT COST EFFECTIVE
One Application to Rule Them All?

NO SUCH THING!
Today's Presentation:

First

I would be remiss if I didn’t mention some of the things that we are the most proud of in our GIS Program before getting to the root of our presentation…

- People
- Data
- Tools
- Web Pages

Second

CLEVER use of applications and data dissemination

INCLUDING:

ArcReader

ArcGIS Explorer

Google Earth
People

- Wanda Armstrong, County Auditor
- Bill Temple, County Engineer
- Jeff Linkous, County Engineer Elect

- Melodee Hilderbrant, Map Department Manager
- Vanessa Haag, Map Department
- Peggy Watters, Map Department
- Elizabeth Oxley, Map Department

- David Krazl, Engineers Office
- Adam Fricke, Engineers Office
- Tom Hodson, Engineers Office
- Gary Smith, Engineers Office

THANKS To the City of Wilmington for the use of this room.
DATA

We are very proud of the way that data is handled here in Clinton County GIS Department coordinates GIS data.

Cooperative Effort

BETWEEN DEPARTMENTS

Practically everything is available online in one form or another.
Tools

Some of Them Include:

- Large Format Color Scanner
- Touch-Screen Toshiba Tablet PC
- ESRI Software
One of the most useful and unique features is a link to property surveys.
Property Card Screenshot
GIS Department Web Page

- Surveys
- PDF Maps
- Links to Web pages
- Download TONS of Data
- Many years worth of Aerial Photography
- Map Books
- Flood Plain Data and Information
- Soils Data and Information
- Monumentation Data and Maps
- OLD Tax Maps
- CURRENT Tax Maps
- LIDAR section of its own!
- Publications from the GIS Dept.
- Wetlands
- Zoning
- Census

Constantly Updated and Tweaked

VERY Inexpensive – Primarily just Hard Drive Space on a Server!
Brief Comment on ArcReader

- 100 plus installations
- Farmers, Bankers, County Staff, Realtors, City of Wilmington, Village of Blanchester
- Easy avenue by which people can update their data from our web page
- It’s free, the printing is fantastic
- Simply a drastically scaled back ArcMap

Users can’t add their own data

No Editing Allowed!

Must Have One license of ArcPublisher to create the “Templates”, the PMF file.

Refer to Web Page to see how data for the Published ArcReader “template” file is shared.
Brief Comment on ArcGIS Explorer

These are not criticisms, they are simply personal observations.

I’ve spent most of my career with ESRI...
No limit to the amount that the terrain elevation can be exaggerated.
ArcGIS Explorer Built-In Imagery

Looks like NAIP Imagery?

Caesar Creek 1971 Imagery Overlay!
Accessing Data for...

Download
Viewing
And
Simple Mapping
PERFECT example of using GIS to make maps to help people find this address.

Map One Show's most of SW Ohio
Map Two Show's just Clinton County
Map Three shows block-level of Wilmington and this address

Let's go to the CC GIS Web page and see what I mean...
What Have We Learned..

IT TOOK THREE MAPS TO CONVEY DETAILS TO GET TO ONE LOCATION

Or we could use one file, a KML file, that can show anyone with Google Earth how to find this address.

All the levels of interest and detail we need in one place.
Why Not Conventional GIS?

- **Program**
  - Who has ArcView
  - Who has ArcReader
  - Who has ArcGIS Explorer
  - Who has any type of data reader?

- **Data**
  - Shapefile
  - Coverage
  - Dwg
  - Dxf
  - Geodatabase
A necessary pain to take a brief look at:


1. USE OF SOFTWARE; RESTRICTIONS
Use of Software. For an individual end user, the Software is made available to and may be used by you only for your personal, non-commercial use according to these Terms of Service and the Software documentation. For a business entity user, the Software may be used by you and your employees for internal use according to these Terms of Service and the Software documentation (individual end users and business end users are collectively referred to as “You” herein).
Restrictions. You agree not to use the Software in connection with or in conjunction with a system in a vehicle that offers real-time route guidance or turn-by-turn maneuvers. You agree not to use the Software for any bulk printing or downloading of imagery, data or other content.
More on Licensing...


...Google Earth Free finally becomes a proper universal browser of georeferenced data. You no longer need Pro to do geoweb surfing at work, or to search and view KML files, even for doing business-related research or intelligence gathering, much as you would use an ordinary web browser to gather information from the ordinary web. Nevertheless, I suspect this new license does preclude businesses from using the Free application to produce commercial geospatial products. That would result in an "external" application of Google Earth. But, again, IANAL. Google Earth's "Software documentation" is given as a source for further explication, but the online legal FAQs are currently still the old ones.

CHANGES LESS THAN A MONTH AGO!!
ArcScripts is intended for the free exchange of scripts and tools related to ESRI software products. Please alert the moderator if this script is a demo, trial-version, or an advertisement for a retail product.

Summary

> SUMMARY:
Export to KML is an extension developed for ArcGIS 9.x by the City of Portland, Bureau of Planning. The extension allows ArcGIS users to export GIS data in "keyhole markup language" (KML) format for viewing in Google Earth. Any point, polyline, or polygon dataset, in any defined projection, can be exported. Features can be exported as either 2-dimensional features, or 3D features "extruded" upwards by an attribute or z-value.
Uses of Google Earth to the GIS Community

- Disseminating Data
- Offload Dissemination
- Viewing other Viewing
- Latitude and Longitude
- Viewing Existing Imagery

Just a Handful – There are More Uses!!!
Disseminating Data for Download

Definition: Users must have an application installed on their computer to manipulate the data that is downloaded…it is data you will be unable to access with the free version of Google Earth.

- LiDAR Data
- AutoCAD drawing files
- GIS Data sets, such as shapefiles, etc.
- MrSID imagery
- Image files in general; jpg, tif, etc.
Examples:

- Find the area you want
- Click on the tile name
- Hyperlink to a folder online
- Copy the drawing file to your computer's hard drive

**DWG FILES - CONTOUR DATA**
Screenshot:

ACAD Drawing File

Google Earth Same Location
“Finding the Area you Want”

It is sometimes very difficult to interpret what someone is describing to you over the phone….particularly when it comes to describing a location!

I say..
Let the users find what they need themselves!!

With GE at least they can see an aerial photograph, road names, etc., and while the GE data itself might not be the most accurate stuff in the world it does enable people to find the area they want information for.
Disseminating Data for Viewing

Scanned items such as:

- Surveys
- Drawings
- Pictures
- Documents of ANY kind

Google Earth provides an interesting way of viewing archived aerial photography alongside relatively recent photography.
Examples

**Hyperlinks**...

**FIRST**
Lets look at the surveys page on the web…

**NOW**
Lets look at a few of the surveys in a grid using Google Earth:

*Sometimes there just isn’t a good easy way to get this kind of data to the people!*

Google Earth might provide a viable solution
One of the questions that strikes fear into the heart of a good employee….

Who Used to Own This Property?

Old Tax Maps Rectified in Google Earth

GREAT for genealogical research or any kind of historical research on property information
Examples:

Right of Way Scans Linked to a Location Index Accessible in Google Earth

Click the Line = View the Drawing
For the Latest Upload Date:

Upload History

Property Surveys in PDF File Format:
Click on the book to see that book's surveys.

<table>
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Click on a book, get a list of those surveys.
Index of Rectified Surveys
Rectified Survey Sample
Use Google Earth to see an Intelligent Map Index of the ROW Surveys!
Lines linked to Scans
Use Google Earth to view Rectified Old Tax Maps

Old Tax Maps

List of Maps Available in PDF File Format
Imagery

Rectified Cowan Lake & Caesar Creek

OLD - Archived

Non Rectified MrSID FILES

Grid in ArcMap

FROM

Exported to a KML File

TO

Attribute that’s is a hyperlink

USE
Cowan Lake Property Map circa 1950
Caesar Creek Reservoir
Could more be done with GE & GIS?

SURE, but you’d have to ask yourself why when…

parcels?
surveys?
road centerlines?
addresses?

There are other, better tools specifically designed to access some types of data.
Google Earth Parcels and Surveys
Parcels & Surveys

Link to PDF map, Parcel Data, and Surveys

Map Book - Survey Reference & Property Information Books

Links to surveys, map page in PDF format, and links to surveys in PDF.
1951 Scanned Aerial Photography
Launch GE

Centerlines Translated
Conclusion

Google Earth is the Coolest of 3D viewers, but buried under that awesome of exteriors it is at it’s core a presentation tool.

It has a lot in common with Adobe Acrobat Reader, the universally accepted document viewer.

KML files can be created pretty easily but they are not exactly a suitable format for large amounts of spatial data storage or transfer.

**ArcMap 9.3 will provide many new ways of exporting data to KML file format!**
Thanks for Coming!

We hope this presentation has provided food for thought!