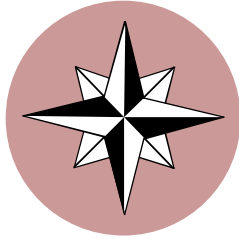


CATALIS News

Welcome



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Special points of interest:

- Progress on our Parcel Pilot Project !
- Satellite Imagery versus Traditional Methods: Our continuing serious on orthophotography.
- Introduction to ArcExplorer

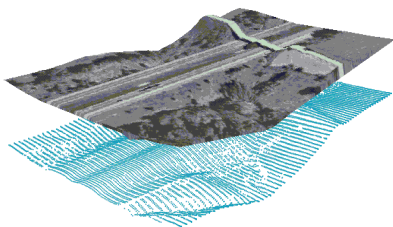
Summer is upon us once again. This month and the next few months will see some exciting things happening in GIS. Our consultants have completed the flyover for the county, and are now working primarily on two sets of deliverables. The first deliverable is our pilot project; the second is the delivery of all the orthophotos for the county. When choosing this "pilot" or "test" area, we wanted a section of the county that included both rural and residential properties. After a careful look and a thorough consideration of several areas, we settled on the south east section of Blanchester for our pilot

area. While this area will include the new orthophotos, it will also include features such as hydrography (anything water related) and accurately placed street centerlines. The *primary* function of the pilot area will be building the foundation for the parcel (property) lines. The Parcel layer of our GIS database will be one of the largest, and hence one of the most complex layers that we will ever develop. At first glance, it would appear that we could just take the tax (parcel) maps from the map office and trace the parcel lines into a GIS layer; this is called trace digitizing. While this

would supply us with a digital replica of the tax maps, it would not give us the accuracy that we want. Any errors that may be inherent within those maps would be duplicated in our digital map. Our consultants will use the paper maps as a reference and, while using the updated digital orthophotos as a background image, place the lines precisely where they belong. In conjunction with the tax maps as a reference, they will be using information gathered from deeds, surveys, and any other information that they may find valuable.



Orthophotography Explained *Part three*



Last time we listed all of the components of digital orthophotography. To re-hash a little, let's list them again; they are: image acquisition, a control network, the relationship between

multiple images (aerial triangulation) and image rectification. Our first item in the list is that of acquiring digital orthophotos. The two options we discussed for image acquisition were that of satellite imagery or through traditional aerial photography. While obtaining photography from satellites may be an option for the future, at this point in time the most accurate images we can derive are from those generated with traditional aerial photography. Even as recently as the last year, there have been launches of satellites that will al-

low for accurate photographs, and there is every possibility that satellite imagery may be used by our GIS program within the next three to five years for updates. But, for now, we'll stick with the tried and tested methods!

The relationship between multiple images is an important one to understand, because, obviously, we could not get a photograph of the entire county in one "take"; it actually took almost one thousand individual photographs to make up a digital image of the county. You may wonder...

how do we keep track of all of them? Part of the process involves aerial triangulation. Triangulation is the process by which you can determine the length of an arc (and degrees) in a triangle if you know the length and angle of two lines in the given triangle. This process is how the locations of each photo is determined, so that they can all be "mosaiced" together upon completion of the flight.

An article in our last newsletter discussed in detail what a Ground Control Network is, and why it's important to have one. Next time we will discuss Ortho Rectification.

Clinton County GIS Department

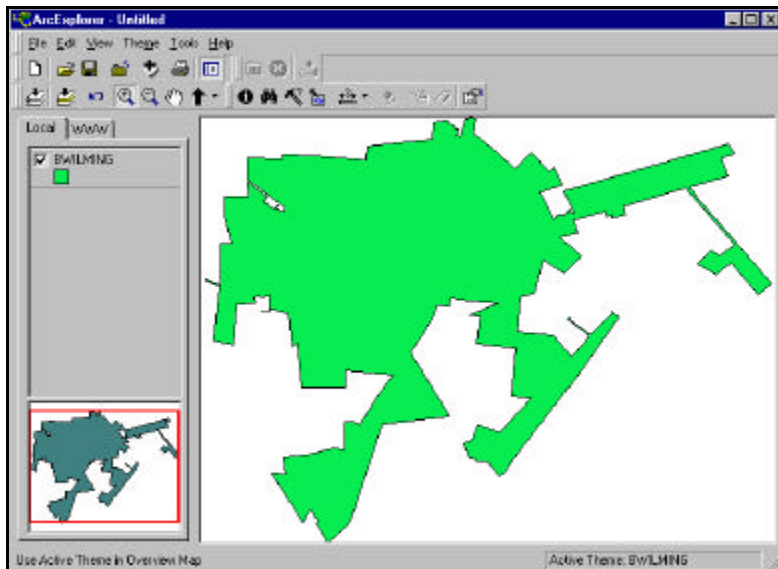
Joe Merritt
Phone: 937-382-2078
Fax: 937-382-5318

**The future is
now!**

**Feel free to
contact us
anytime!**

News About Town

In the photo to the right, Wanda Armstrong, Clinton County Auditor, is seen inspecting the negatives from the aerial photography collected by our consultants, Woolpert LLP, on a recent trip to their office. It was agreed by all of us that the negatives looked great and we are eagerly anticipating the completion of the photographic collection phase of our project.



This is a screen shot of ArcExplorer in action, showing the border of the City of Wilmington in the main view and an overview map of the city in the lower left hand corner.

Introduction to ArcExplorer

Several years ago, the GIS industry saw a remarkable change in the way that applications were distributed. Prior to this time, most users were experimenting with AMFM; Automated Mapping / Facilities Management applications. These were often big, cumbersome, expensive beasts that few could use and fewer still thoroughly understood.

Then, a revolution took place. As computers became faster and smaller, a company called ESRI (Environmental Systems Research Institute) began writing true GIS applications that would run on what was to eventually become the desktop computer systems we have today.

In a brilliant marketing move, ESRI created ArcExplorer, the first free, fully functioning GIS viewer in the

world. It is the intention of the GIS Directors office to take full advantage of this marvelous tool; however, to do so properly requires significant thought when putting together the *data model* for the CATALIS database. Since this is a data viewer free of charge, there are a few functions that are not available within the application itself. However, through a careful database design, we will find that there are very few functions that cannot be carried out.

With ArcExplorer, you can:

- View and query ESRI "Shapefiles"
- Address match (locate street addresses or intersections on a map)
- Measure distances on your map.
- Find features.
- Identify and query geographic and attribute data.
- Create maps using classifications,

symbols, and labeling.

- Pan and zoom through multiple map layers.
- View and download data published on Web sites that are using ESRI's technology to store GIS data.

Future articles within this newsletter will provide our readers with practical information on using ArcExplorer to take full advantage its capabilities.



ArcExplorer