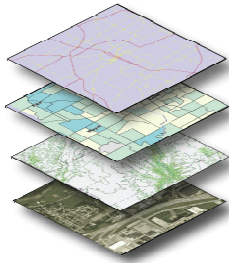
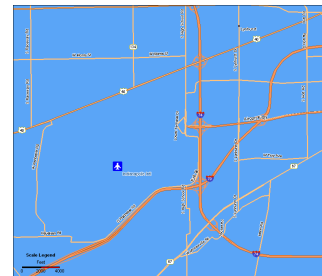


What is GIS?

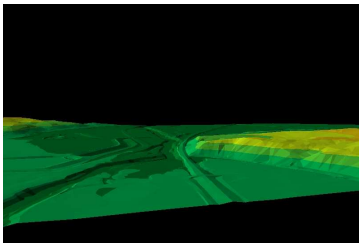
GIS is an acronym for **Geographic Information System**. **GIS** encompasses many different technologies and uses software and data to perform “geospatial” analysis. Think of “IS” or your “IT” department that deals with many different aspects of computers and systems but GIS specializes in geographic content as it pertains to computers and data. You may already be familiar with many examples of GIS. That popular internet site that gives you turn by turn driving instructions, the GPS system in your car, the 911 system for your local emergency response, maps on TV (just try watching the news sometime without seeing a map), and many other applications that you may not even be aware of. All of these technologies use GIS.



GIS is a form of computer mapping but goes much deeper than just a map on your computer. The real power of GIS comes from the ability to assign information to map features. We know that everything represented on a map is either a point, line, or area. With a GIS, utilizing database technology, we can assign information to these

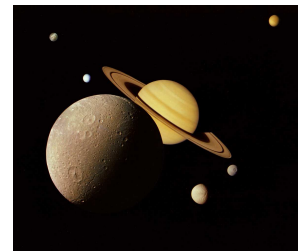


points, lines, or areas. An example would be a road name assigned to a road (line) or population assigned to a State (area). There are no limits to the amount or type of information that can be assigned. The other cool thing about data used in GIS is that it is



“georeferenced” which basically means that it’s in its correct geographic position. If you use your GPS (a GIS data collection system) to obtain a latitude, longitude coordinate and compared that to your GIS data, you would find that the coordinates would be a pretty close match. It will never be an exact match and depends greatly on how the GIS data was created but is usually good enough to do

what you want to do. The advantage of being georeferenced is that many different data layers can be added to your GIS and they’ll correctly overlay each other. And to take that concept a step further, these layers can be compared and analyzed in relation to each other. And to go even farther, the data can be 3-Dimensional, like you would see in a 3-Dimensional surface model of terrain. And even further yet, GIS can go subterranean or even into the cosmos!



Cool, but how does all that pertain to the real world? Here are some examples of how GIS is used every day.

- ✈ Flood plain maps are compared to parcel maps to determine if your property is in a flood plain.
- ✈ A retailer wants to open a new store but needs to determine the best area to do it.
- ✈ The 9-1-1 call center needs to know how to get to your house. Quickly!
- ✈ Migratory habits of endangered species need to be monitored.
- ✈ A sales manager is creating/tracking territories to monitor sales activities
- ✈ Fault lines need to be mapped to better understand when the next earthquake may occur.
- ✈ A delivery company has 20 trucks and 200 items to deliver tomorrow. What are the most gas saving routes?
- ✈ The Center for Disease Control needs to map and monitor patterns of influenza outbreaks to help isolate causes and work on prevention education.
- ✈ A politician needs to know where their political support is, or more importantly is not, to determine areas to campaign.
- ✈ If a pollutant is introduced into an aquifer system, where does it go and who is affected?
- ✈ How many fast food restaurants are within 2 miles of I-69 between Indianapolis and Ft. Wayne?
- ✈ A tornado goes through a small town and every address needs to be inventoried and people accounted for.
- ✈ A farmer knows how and where to disperse fertilizer on his fields to save money and help the environment.
- ✈ Compare socio-economic characteristics of my current customers to where potential customers might be.
- ✈ A large company wants to locate a production facility and needs to know if there are ample sources of electricity, water, sewer, and a potential labor force.
- ✈ The DOT needs to monitor and plan where our highways need repair or replacement.
- ✈ The water lines coming into our house need to be constantly monitored and designed to maintain constant pressure.
- ✈ I have 10 places to go tomorrow, what's the most efficient way of getting around so I don't spend a lot of time and gas.
- ✈ etc, etc, etc.....