

## How to Create Your Own Demonstration of “A Day in Your Life with Geography and GIS”

**Concept:** How does geography affect your everyday life? The idea is to teach Camp Internet students how geography plays a role in activities they do every day. The following is an example of how you might walk a Camp Internet Expedition classroom/student through their day to highlight how they are impacted by geography.

**Goal:** Build your own scenario from data available to you. Demonstrate what your Expedition Team does with GIS and how it might impact the students and/or their community.

**Time:** 20-40 minutes, shorter or longer depending on class schedule. The ideas outlined below are from a 40-minute presentation.

**Format:** Virtual field trip, interaction with students, and study of various topics. The topics will be determined by the availability of appropriate data and what is important in your community. The suggested presentation format is a series of short components that illustrate how geography is important to everyone and how geographic information systems are the technology that make all this possible. Each component offers the ability to interact with the students to get their suggestions on what they do throughout the day and how geography plays a role.

**Source Data:** Many of the examples described below include data that will be available on the GIS Day Web site. These examples can be used as is or enhanced with local knowledge and data. For some of the examples to be truly meaningful for students, they should use local information and data.

### ***Classroom Activities:***

#### **Introduce the topic to the classroom**

Why is geography important to you? Geography is important because everything you do is interrelated by geography. I don't think you could spend five minutes in a

day without somehow being affected by geography. You don't believe me? Let's take a virtual field trip through a day in your life and see how geography is important to you.

To start, we need to define:

## ***what is geography?***

Geography is a science that enables us to find answers to questions about the world around us—about where things are and how and why they got there.

## ***What is GIS?***

GIS is an acronym for geographic information system. It is computer software that maps and analyzes geographic data.

Source Data: ArcView® GIS view that includes graphics with these definitions and logos.

## **Why did you wake up when you did?**

What was the first thing you did this morning? Most children will answer they woke up. Why did you wake up when you did? While you will get many answers about "my mom woke me up" or "my alarm clock went off" ultimately you will get to the concept that they woke up because of when the sun came up. You can talk about world geography and show a globe of the world that illustrates how the earth's rotation affects when sunrise occurs. You can also add the artificial boundaries of the time zones so they see how geography affects how they set their watches.

Source Data: ArcView 3D Analyst™ scene with a globe, sun position, and time zone boundaries.

## **What did you have for breakfast?**

What did you do next after you woke up? What did you have for breakfast? Get the students to talk about the types of cereal they ate and then ask where did the corn or wheat come from that was in the cereal they ate? Did you ever stop to

think about where the grain came from?

Look at a map of the United States. Learn how to read a map legend to find where the corn or wheat is grown. Talk about other types of breakfast food, such as orange juice or cranberry juice, and where these products come from.

If anyone had a hot breakfast, talk about where the electricity comes from. Look at more detailed data of power generation plants across the United States and what type of plants the electricity comes from: nuclear, hydroelectric, coal, etc.

Source Data: National map of the United States with major agricultural areas, counties with Ocean Spray cranberry production, and a layer of major electrical power plants.

You may also want to find other sources of local agricultural data.

### **Did you wear a coat to school?**

Is the weather related to geography? Look at how local weather conditions are related to geography. Use the Internet to visit weather sites like [www.intellicast.com](http://www.intellicast.com) to view local Doppler radar summaries for your region.

Source Data: [www.intellicast.com](http://www.intellicast.com) or other weather sites.

### **Where do you go to school?**

Using local data, show where their school is located. Why do you go to school where you do? Display the school boundary of where children come from that attend the particular school. Talk about why these artificial boundaries that you cannot see control our lives. Find an area close to the school but where children may go to a different school to balance the class sizes.

You may want to ask for a volunteer and geocode their home address to see if they are at the right school.

Try showing data at various scales and resolution to explain how geography can apply to the world, nation, or very small areas like your backyard.

Source Data: Check with your local county, city, town, utility organization, etc., to obtain the basemap or framework data for your community. This data will be important for many of the following components. Ask the school for a map of their boundary and sketch this in. You will want to get as much detailed data for the community as possible. Students are particularly interested in digital orthoimages or satellite imagery. Try adding the school building blueprint (scanned) and some hot links of photographs inside the building.

### **Where does the water come from that you drink?**

Talk about the drinking fountains in the hallway and discuss where the water comes from that they drink every day. Have you ever stopped to think about this? Depending upon the community, display water tanks, wells, lakes, etc., and trace the source of the water.

Source Data: Check with your local water provider. For example, if the community has water tanks, talk about how the tanks create pressure and then the water flows downhill. Look at digital elevation models to create profiles of where the water can flow.

### **What types of things are you studying in class?**

For this component, talk to the teachers and find out what types of things the students have been studying. It is very easy to make a correlation to what they are studying and data that you may have or that is available on the Internet.

For example, if they are studying the Erie Canal, show how population density of the cities is clustered along the historical Erie Canal route. If they are studying the Underground Railroad, view a map from the National Geographic Society Web site and then find the closest Underground Railroad stops to the school. If the stops are in your local community, take a picture and hot link the photograph to the map. If they are studying wildlife, look at grizzly bear tracking in Yellowstone. Try to find local or well-known (famous) areas to study that they can relate to.

Source Data: Local data, demonstrations, the Internet, ArcVoyager™, or any other source of data that might be used to illustrate a phenomenon that they are studying.

## **What do you do after school?**

Most children will go home and have a snack. Where did you get your snack? Look at a map of the local grocery stores. Figure out how a grocery store might find a new location to build a store. Look at the existing stores, look at the competition, and look at the population density. Explore how geographic information systems help companies determine where to put stores or restaurants.

Source Data: Geocode the local grocery stores to a street map and then overlay census demographic data for your community.

## **What do you do after your snack?**

Look at the various play activities that students might do after school. If you live in Buffalo, New York, in the winter you might go sledding. What do you need to go sledding? You need snow, a hill, and open space. If you have imagery, you can perform some image analysis to find the open space areas and then use a digital elevation model that will let you calculate where the hills are located.

Find an activity that is relevant and then look at how the students would go through geographic analysis to determine where they want to do their activity. They may have never used a GIS, but they can relate to the analysis that they have done to answer these spatial questions.

Source Data: Depends upon local activity.

**What if there is a fire or accident at your house, how long would it take for the fire truck to arrive? Look at how geography affects travel patterns. Using a street map, estimate the speed limits so you can use ArcView Network Analyst to determine drive times from the fire stations. Determine which neighborhoods are well served and which are harder to get to.**

Source Data: Use local street data to estimate the travel time and geocode local fire stations.

## **If it is Friday night, what do you want to do tonight?**

Get a list of popular places and take photographs of each location. Hot link these

to the map and then let the students choose where they want to go. Then ask them what is the best route or even the order that you should visit these stops. Solve the problem using ArcView Network Analyst to determine the best route.

Source Data: Local knowledge of the popular locations and a local street map.

## **Does geography really matter?**

After going through a day in their life, ask the children if geography matters to them.

Source Data: Closing view with logos.

### Postpresentation Activities

You may want to consider leaving hard-copy maps and other materials that the teacher and students can work with in the following days.

### Other Data Sources

Using local data will greatly enhance the experience for the students. You can also find numerous data sets on various Web sites such as the following:

ArcData Online: [www.esri.com/data/online/index.html](http://www.esri.com/data/online/index.html)

Data Hound:

<http://nt1.esri.com/scripts/production/esri/marketing/datahound/main.cfm>

Check with other users in your community and work together to build localized demonstrations of "A Day in Your Life with Geography and GIS."