

20 Minute GIS

for Young Explorers

with Anita Palmer and Barbaree Duke

Because Classroom Teachers...



- Want to add geospatial elements to their classroom.
- May have only one computer in the classroom.
- Have very little time in computer lab.
- Need to augment key concepts.
- Have minimal technology skills.
- Have minimal GIS skills.
- Are not permitted to use Google Earth, but want a virtual globe experience for students.
- Have just 20 minutes to explore new technology.

We created 20 Minute GIS!

GIS Tool



Free Virtual Globe Software from ESRI
<http://edcommunity.esri.com/software/agx/>

Search ArcGIS Online

The image shows a screenshot of the ArcGIS Online interface. At the top, the navigation bar includes 'Resource Center', 'Show: All Content', 'Barbaree Duke', 'Notifications', 'Help', and 'Sign Out'. Below this, there are tabs for 'AP', 'GROUPS', and 'MY CONTENT'. A search bar contains the text '20 minute GIS'. The search results page displays '15 results for "20 minute GIS"'. The results list includes:

- Breakfast**: These thematic representations of breakfast foods sources are created from the agricultural census data available at National Atlas (www.nationalatlas.gov) from USGS. Layer Package by baduke (last modified: April 28, 2010). (0 ratings, 0 comments)
- grid**: Explorer Map by baduke (last modified: February 25, 2010). (0 ratings, 0 comments)
- Joburg**: Explorer Map by baduke (last modified: March 19, 2010). (0 ratings, 0 comments)
- World Time Zones**: This layer presents time zones of the world. The layer

On the left side of the search results, there are sections for 'All Results' (Maps, Applications, Tools), 'Related Searches', and 'Find items published by ESRI related to "20 minute GIS"'. On the right side, there is a 'More Information' section with links like 'What types of items can I find here?', 'Advanced search options', and 'Finding items that work in ArcGIS Desktop'.

<http://www.arcgis.com>

Ready-to-Use Activities

Plus all the
ancillary materials
for successful
implementation!

The image shows two pages from a lesson plan. The left page is titled "Tic-Tac-Toe, Where Can You Go?" and includes an introduction, instructions for using ArcGIS Explorer 900, and a list of seven questions. The right page is a "Student Answer Sheet" for the same activity, with fields for Name, Class, and Date, followed by the same seven questions. A blue box in the foreground lists additional materials provided.

Tic-Tac-Toe, Where Can You Go?
INTRODUCTION
Do you like to play Tic-Tac-Toe? Our planet is one big game board...a system of lines that are carefully numbered so that we can pinpoint where we are on the grid. The earth's grid system is known as latitude and longitude coordinates. Curiously, it's related to something we do in math class called coordinates where each point is assigned a location (x, y). On the globe, y is our latitude (north or south) and x is our longitude (east or west) that we represent as N, S, E, and W. Let's look at the globe and find the connections between math and geography!

INSTRUCTIONS
Launch ArcGIS Explorer 900.

Click the globe button, open grid.mxd. There is a grid system on the globe. The yellow lines help us navigate. Move the globe around to Africa. The two lines cross each other. At that point where they intersect, the coordinates are (0, 0).

Look at the labels and answer Question 1 & 2. Double-click on 30N 90W in the Contents window. Answer Question 3. Double-click on 30S 90W in the Contents window. Answer Question 4. Double-click on 30N 90E in the Contents window. Answer Question 5. Double-click on 30S 90E in the Contents window. Use the measure tool to discover how many miles this spot is from land. Answer Question 6. Change the map to 2D. Double-click "Base Map" in Contents. Answer Question 7.

QUESTIONS

1. What is the line's name that separates North from South?
2. What is the line's name that separates East from West?
3. What city are you nearest at 30N 90W? What feature is labeled near this location?
4. Where are you at 30S 90W? What country are you nearest?
5. What is the geographic feature at 30N 90E? What country are you in?
6. Where are you at 30S 90E? How far is the closest land?
7. What shape do these points form?

20 Minute GIS-Tic-Tac-Toe, Where Can You Go?
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Name: _____ Class: _____ Date: _____

Tic Tac Toe, Where Can You Go?
Student Answer Sheet

1. What is the line's name that separates North from South?
2. What is the line's name that separates East from West?
3. What city are you nearest at 30N 90W? What feature is labeled near this location?
4. Where are you at 30S 90W? What country are you nearest?
5. What is the geographic feature at 30N 90E? What country are you in?
6. Where are you at 30S 90E? How far is the closest land?
7. What shape do these points form?

Extras:

- Teacher Instructions
- Answer Keys
- National, Texas and Virginia Standards Correlations
- Got an hour? Activity Extensions included!
- How-to Videos

Coordinate Systems

Time Zones & Inequalities

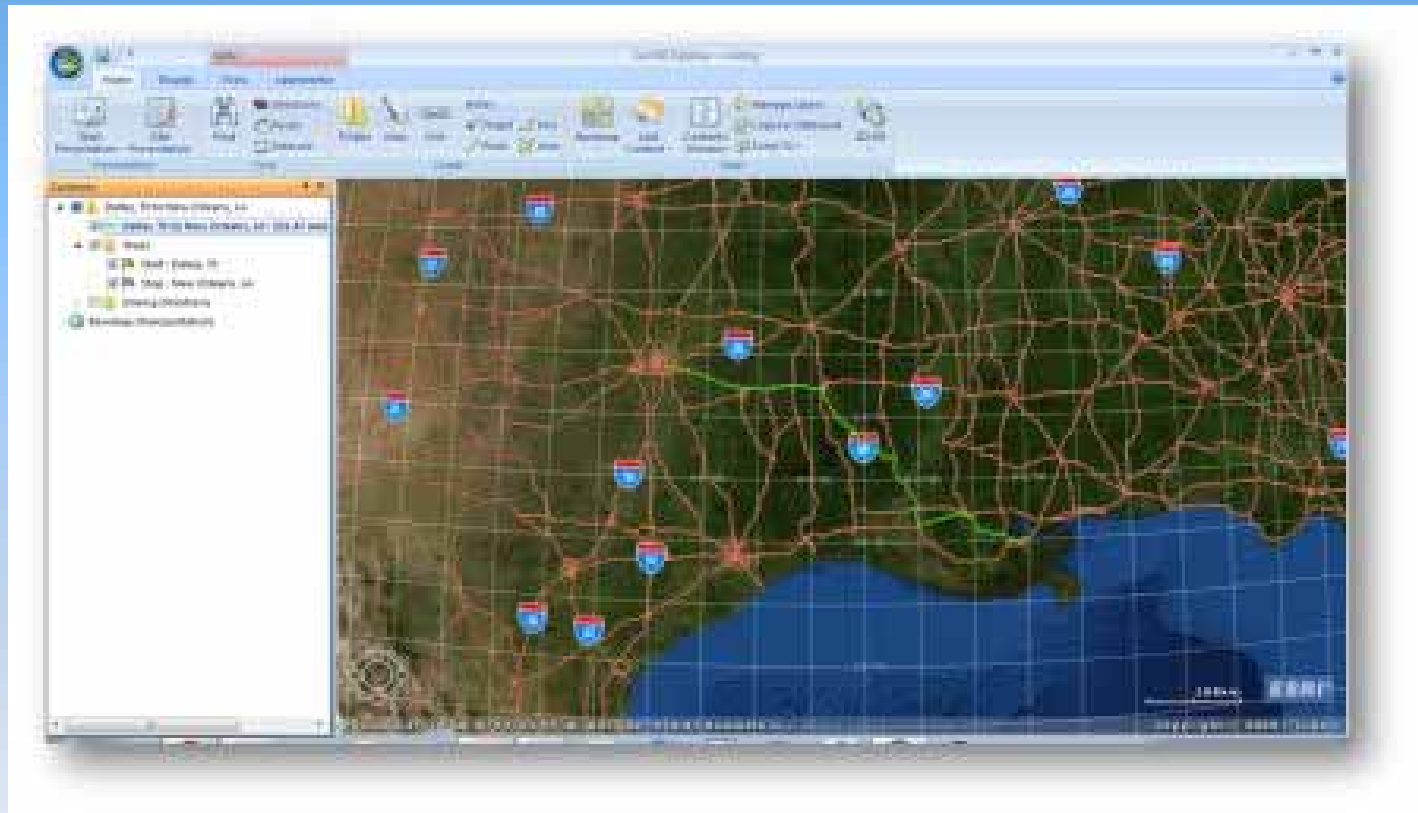
Routing & Measuring

MATH

Tic Tac Toe, Where Can You Go?



Time Travelling



Are We There Yet?



Biomes

Rivers

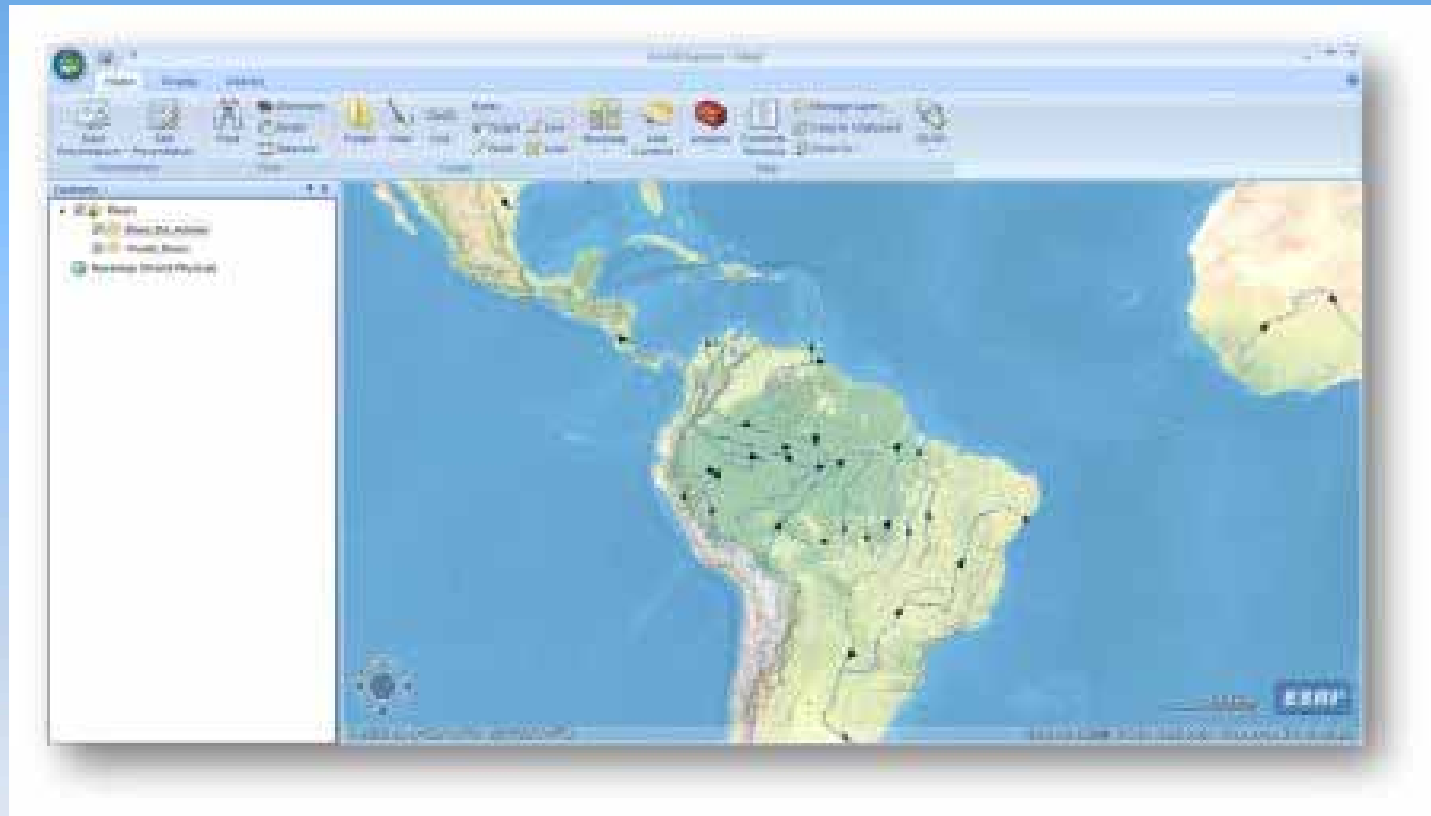
Food web

SCIENCE

Home Sweet Biome



Going with the Flow?



Don't Eat Me!

The image shows a computer desktop with a presentation slide titled "A Food Web in the Desert B" displayed in the center. The desktop background is a globe. The presentation slide is divided into two sections: "Larger Predators" and "Small Predators".

Larger Predators: Includes a hawk.

Small Predators: Includes a snake, a lizard, and a scorpion.

Prey: Includes a rabbit, a mouse, and a grasshopper.

Arrows indicate the flow of energy from the prey to the predators. The hawk is shown eating the snake, and the snake is shown eating the rabbit. The lizard is shown eating the grasshopper, and the scorpion is shown eating the mouse.

The presentation window is titled "A Food Web in the Desert B" and has a red border. The desktop has a taskbar at the bottom with various icons and a system tray on the right. The desktop background is a globe showing the Americas.

Adventures in the Red Book

The Red Book

Earth: Poetry in Motion

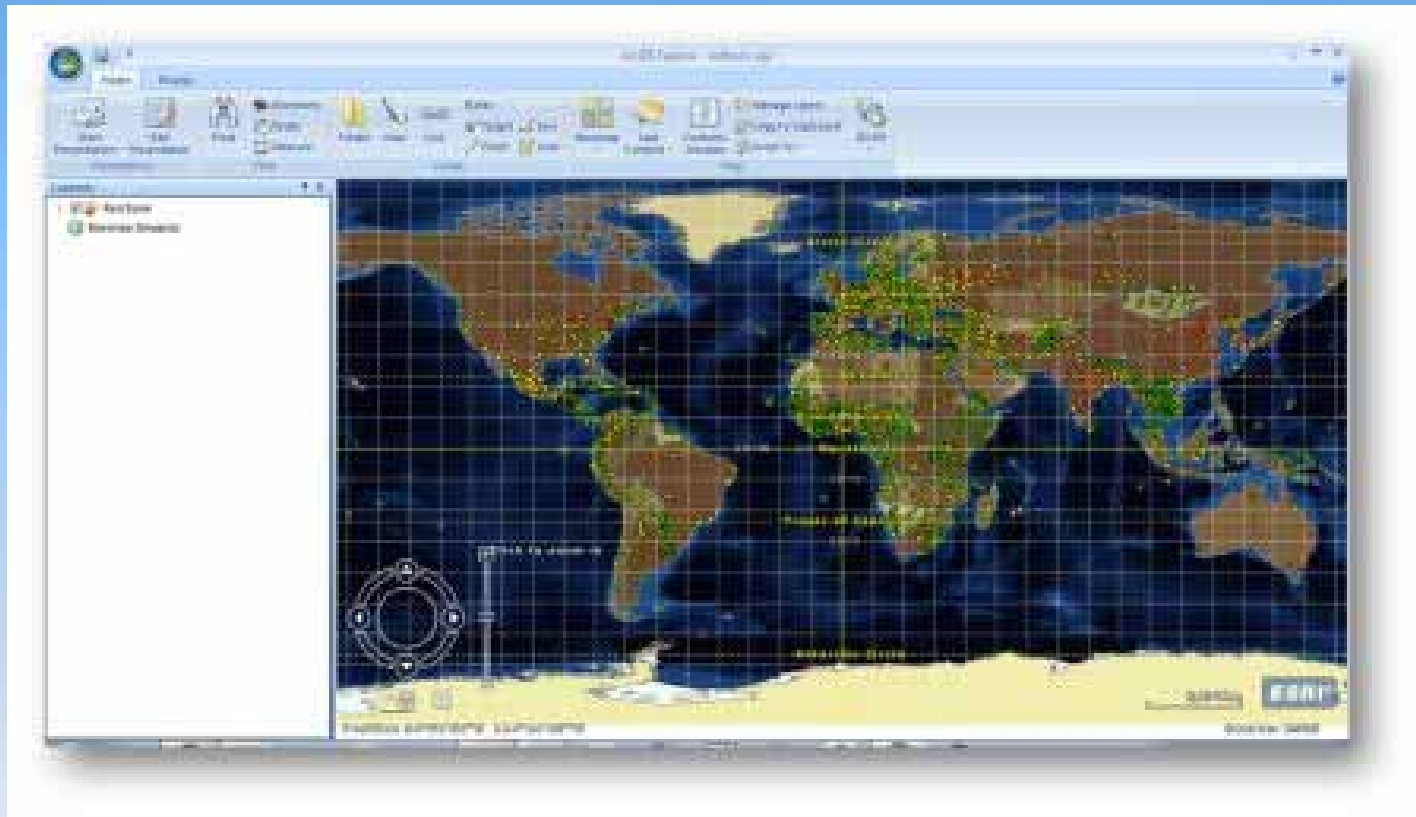
"Awesome Forces"

Somewhere in the World

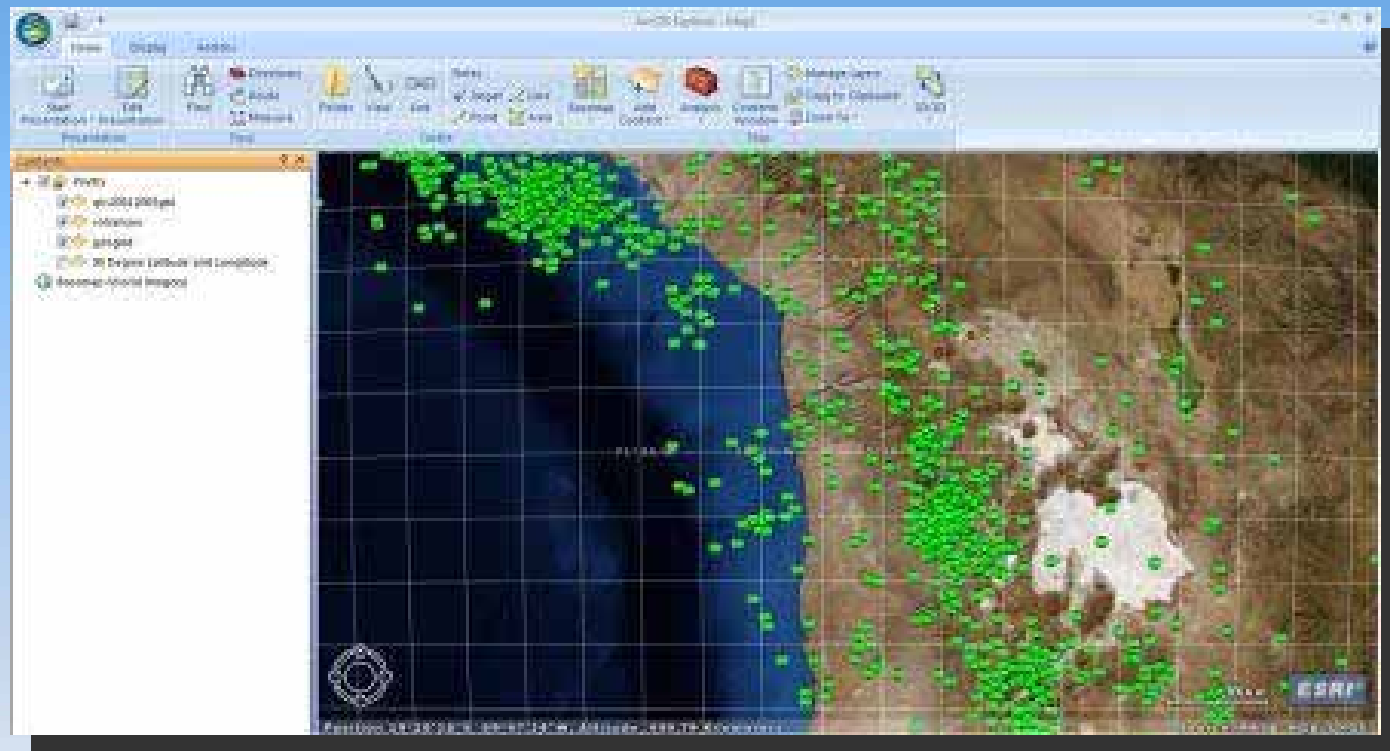
Somewhere in the World Right Now

ENGLISH LANGUAGE ARTS

Adventures in the Red Book



Earth: Poetry in Motion



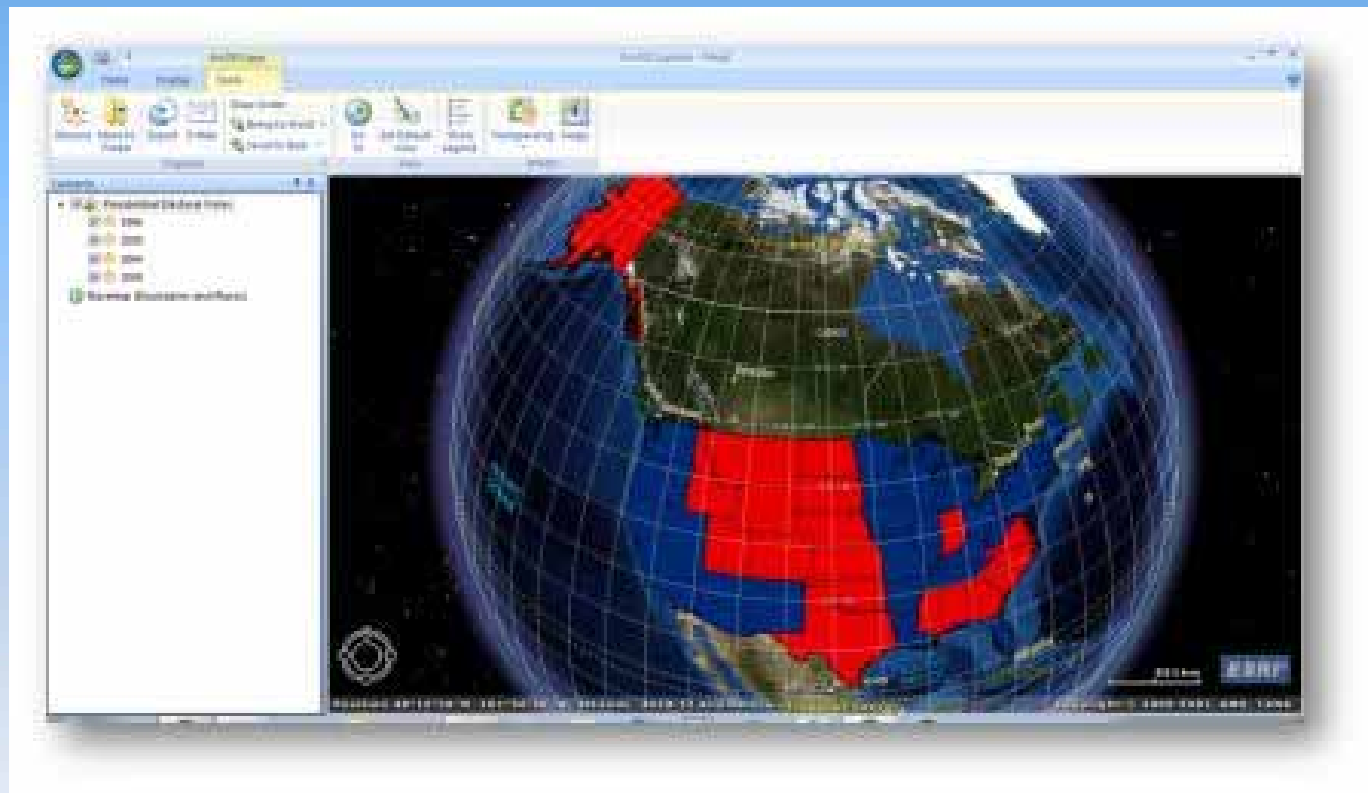
Voting Trends

Pirates' Havens

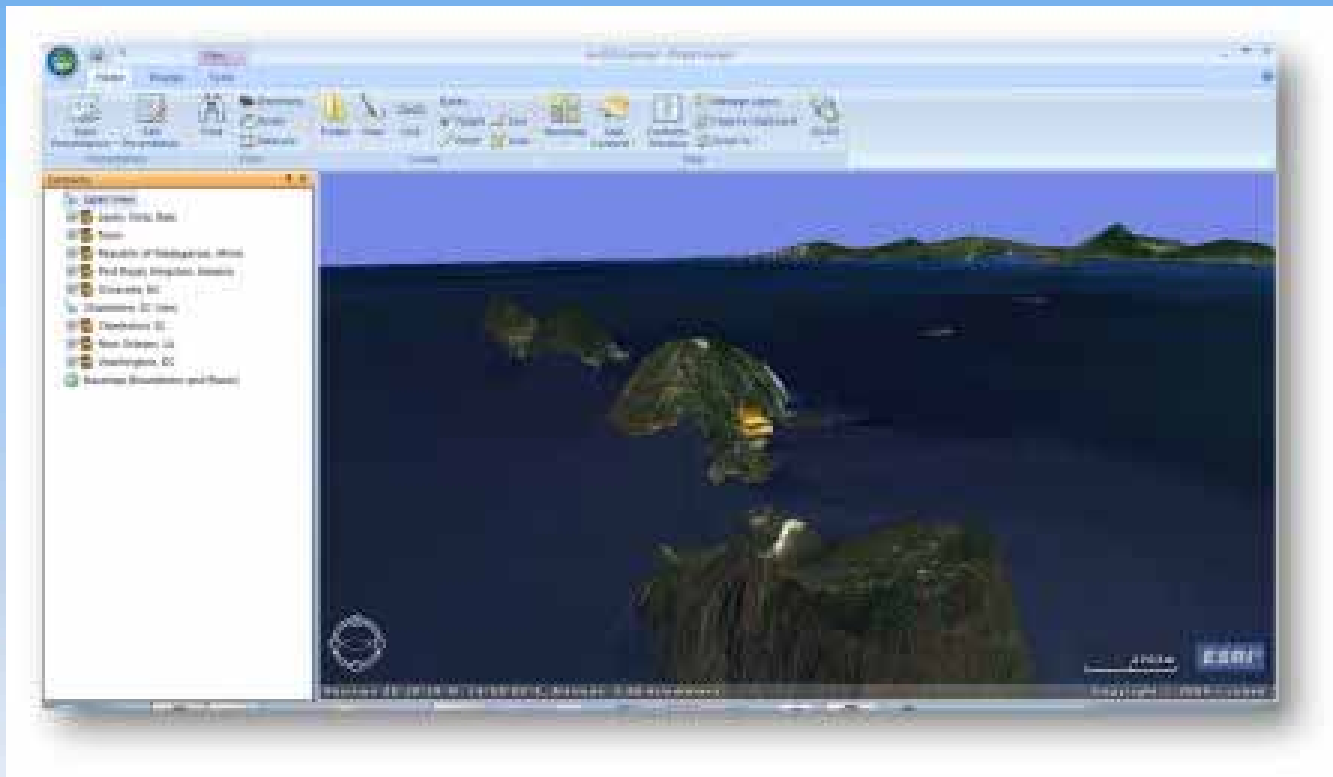
Agriculture

SOCIAL STUDIES

We the People: Does your vote count?



Pirate's Treasure: there's no place like home



Where Did Your Breakfast Come from?



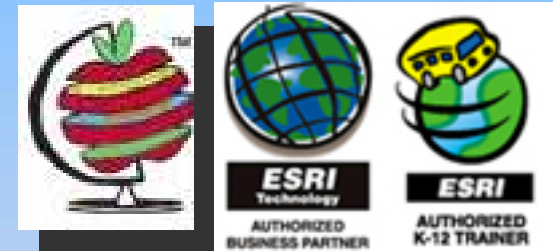
Want to know more?



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