



Rocky Mountain Mapping Center

Isn't That Spatial? # 4: Teaching Geography with Ground Photographs

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Author:

Dr. Joseph J. Kerski

USGS

Geographer

Box 25046 - MS 507

Denver CO 80225-0046 USA

jjkerski@usgs.gov

Tel 303 202 4315

My last column explained how to use the Lewis and Clark expedition to teach about the historical and current cultural and physical geography of the United States. My first column explained how to use aerial photographs from Terraserver in the curriculum. While aerial photographs are essential resources to use, this column will focus on two wonderful sources of GROUND photographs to help teach about landforms, climate, vegetation, land use, population amount and distribution, housing, water resources, and more. These sites are the American Mile Markers and the Degree Confluence Project.

American Mile Markers

Matt Frondorf drove from the Statue of Liberty to the Golden Gate Bridge, and as he did so, his camera clicked every mile:

www.kodak.com/US/en/corp/features/onTheRoad/home/index.shtml

Use this site to compare what housing types people live in, what the characteristics of the vegetation are, the landforms, and the population density for different areas of the United States. What can you determine about the region from these roadside photographs and movies? The site allows the user to move along at resolutions of every mile, every 25 miles, and every 100 miles. Compare how much the landscape changes every mile in different sections of the country, and repeat for the 25 and 100 mile resolutions.

Have students examine USGS or other maps of terrain, population, land use, and climate. Predict what the landscape will look like in different locations based on these maps, and then examine a photograph taken in that location. Read Matt's story. Why did he choose to make the journey he did? What roads did he follow? What is the closest he came to your community? How would the terrain be different if he took a different route further north or south?



Photograph of Utah landscape by Matt Frondorf in American Mile Markers at Mile 2475.

The Degree Confluence Project

Imagine having tens of thousands of photographs tied to specific locations on the Earth's surface. Use the Degree Confluence Project to bring this photographic library to the classroom:

www.confluence.org

Educational activities based on the confluence project:

rockyweb.cr.usgs.gov/outreach/confluences.html

The confluence project represents an organized sampling of the world according to geographic location--latitude and longitude. The goal of the project is to visit each of the latitude and longitude integer degree intersections in the world using a GPS receiver, to take photographs at each location, and to write a story about the experience.

As of December 2003, 2,680 successful primary confluences and 248 secondary confluences have been found by a total of 4,018 visitors. These visitors have taken 25,605 photographs in 132 countries. Although confluences in the oceans and some near the poles have been

excluded, there are still 13,471 yet to be found. The map of the locations where the confluences have been found thus far is in itself a good geography lesson: Why have the locations in some countries all been located, while other regions have very few found points? What terrain and conditions prevent someone from visiting a confluence? What is the closest confluence to your school?

Sample questions to pose to your students as you use this resource include a comparison of the amount of change different locations. Is this an area undergoing rapid population change? Why or why not? Are more people moving into this area than are moving out of this area, or vice versa? How have humans modified the land here? For what reasons have they done so? Teachers can also pose questions about the climate, vegetation, landforms, water resources, and other characteristics for students to answer based on their observations. Follow a line of latitude or longitude in one direction, observing how the land use and terrain changes. The site is also useful if you need a quick, non-objectionable, people-free photograph of, say, glacial terrain in North Dakota, or the Bolivian highlands. Use USGS or other regional and world maps of population, landforms, or climate, and ask the students to predict what the Earth will look like for specific locations. Did a check of the confluence site match your prediction? Why or why not?



New Zealand terrain at 40 degrees south latitude, 176 degrees east longitude, photographed by Joseph Kerski. [Click to enlarge.](#)

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URL: http://rockyweb.cr.usgs.gov/outreach/isntthatspatial_confluence_americanmilemarkers.html

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