EDUCATION OUTREACH EVENT
REPORT AND RECOMMENDATIONS

Attendee and Report Writer's Name:
Joseph J. Kerski - USGS - Denver
Geographer

Location: Denver CO

Exploring The World with Maps and Imagery Workshop

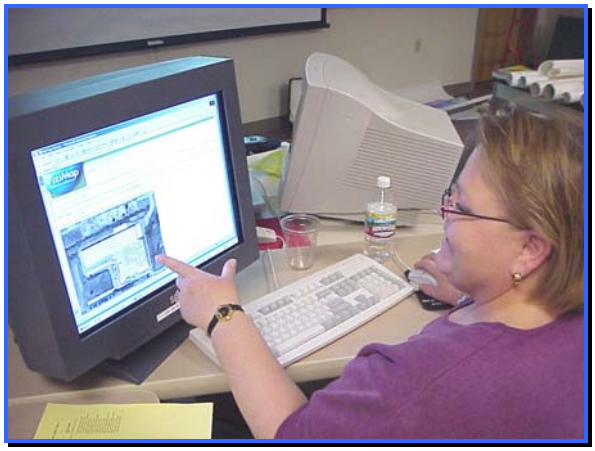
Event Date: 8-9 June 2005

Purpose of Event:
Maps and Imagery Workshop for Educators: Paper and Digital: Webmapping, GPS, and GIS. We showed that the use of these resources and tools, both paper and digital, aligned quite well with social studies, science, mathematics, and geography standards.

Sponsors of Event:
University of Denver Center for Teaching International Relations, Colorado Geographic Alliance, USGS. Participants in the course had the option of earning college credit through the University of Denver.

USGS Rocky Mountain Mapping Center, where the workshop was held, on the Denver Federal Center campus.

Most of the workshop's 20 participants are shown here at the NAD 83 benchmark that marks the boundary between the Fort Logan and Morrison 7.5-minute USGS quadrangles!



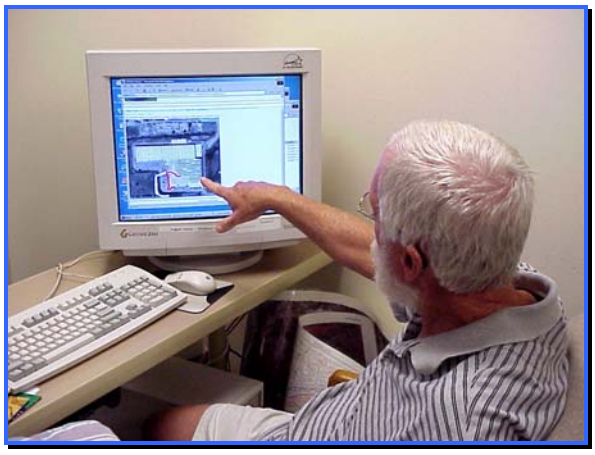
The emphasis of the course was hands-on investigation of patterns, trends, and processes of the Earth, including population, river systems, natural hazards, landforms, biodiversity, land use, and other issues in science, history, and geography using maps, satellite imagery, and aerial photographs. I tried some new applications in the course, including Vizimap, above, which allows a user to link photographs with online maps via ArcWeb Services. It is powerful and easy to use, quite suitable for education and a host of other applications.

Here, participants investigate a 3-D map of Colorado made from a Digital Elevation Model.

The course covered:

Investigating Topographic Maps (Topo Bingo, Map Mysteries, interpolation, datums, coordinate systems, etc)

Map Indexes
USGS Map Store
USGS Education Map Catalog
Google Maps, Google Map Applications
Scale
Topozone, Terraserver
Historical Maps (MapTech, etc).
Terrafly
David Rumsey Maps
Landforms from Space
American Mile Markers
Degree Confluence Project
Geography Network
USGS Earth Explorer
USGS Earthshots
Historical Landsat Comparisons
Global Land Cover Facility
NASA ZULU server
Geospatial One Stop
State GIS Sites
County-Local GIS Servers
National Atlas
The National Map
GPS—Why and How
GPS Collection and Upload
GIS Introduction and Analysis
Vizimap
and others…



Part of the course included hands-on collection of field data with GPS-gathered coordinates, which we then mapped using ArcGIS (above and below).

The course included two tours—one of the map and product distribution facility at the USGS, and the other of the USGS rock core and ice core laboratories. This was a perfect fit to the course that emphasized so many USGS and other map products. Many thanks to Ben Kelley for taking us inside the National Ice Core Lab!

Summary

This course illustrated that free and low-cost options exist for integrating imagery, maps, and geotechnology at all levels of education. These can be used in innovative, inquiry-driven, problem-solving ways. As more teachers become interested in these tools, students will ultimately benefit through increased critical thinking, problem-solving strategies, interdisciplinary thinking, and career opportunities.

Acknowledgements

I greatly appreciated the assistance of Elisabeth Beindorff of the University of Denver for her help in course logistics and marketing. I appreciated Dan Mahar's work in setting up Vizimap accounts that we could use in class. I thank the USGS for their support of the time for my attendance at this event. I thank those who participated in the event, making it so memorable.

Recommendations

We believe in the power of spatial technology and spatial thinking. It empowers students to investigate the world using 3D fly-throughs, maps, images, and databases that are interesting to them. The course emphasized interdisciplinary linkages between geography and science. It also emphasized examining real-world issues in standards-based education. These tenets, I believe, can continue to transform education to help students to be the problem-solvers we need in our 21st Century society.

I believe that the USGS and other federal organizations have a role to play in preparing teachers and students to use our data and products, and spatial data and technologies. I believe that it is also our responsibility to do so as a public service agency. Our relationship with the University of Denver is one of our longest lasting and I will do all I can to ensure that it continues.

We need to remain involved in education as an agency. Education shows our relevance to Congress and the general public. Education serves the needs of diversity, recruitment, and retention.

*** End of Exploring the World with Digital Maps and Imagery Report ***