

OUTREACH EVENT REPORT AND RECOMMENDATIONS

Attendee and Report Writer's Name:
Joseph Kerski, Geographer:
Education/GIS, Denver, Colorado.

Event:
GeoTech Colorado

Location: Lewis-Palmer High School,
Monument, Colorado.

Other USGS Attendees: 0

Event Dates: 5 May 2001

Department of the Interior Highlight [did not appear in final cut to DOI]:

Empowering Teachers in Geographic Technology at Colorado GeoTech Conference

To better enable Colorado social studies and science teachers to use geographic technology in the curriculum, the USGS is co-sponsoring "GeoTech Colorado Day" on 5 May 2001 at Lewis-Palmer High School in Monument, Colorado. Together with the Colorado Geographic Alliance, the USGS will conduct workshops at the conference that incorporate geographic information systems (GIS), global positioning systems, the Internet, and multimedia into instruction at the primary, secondary, and college levels. These technologies have been effectively used in interdisciplinary teaching of geography, environmental studies, mathematics, history, earth science, and chemistry. USGS education geographer Joseph Kerski will explore the implementation and effectiveness of GIS in exploring human settlement, hazards, and watersheds in the keynote address at the conference. (Joseph Kerski, 303-202-4315, Denver, Colorado).

Summary:



Conference Site for GeoTech Colorado--one of the best high school facilities I have ever worked in. Despite snowy conditions (note the person shoveling May snow!) attendance at the conference exceeded the number preregistered.



USGS Exhibit at GeoTech Conference.

The USGS has had a longstanding

relationship with the Colorado Geographic Alliance (COGA). We have participated in all COGA conferences with both exhibits and workshops since 1995. The state geographic alliances are organizations established during the 1980s. They were originally supported by the National Geographic Society for the furtherance of geographic education. Colorado's alliance is one of the original group begun in 1986 and includes over 6,000 teachers. We have also supported other state geographic alliances, such as with workshops that I have conducted in Nebraska, Texas, Wyoming, Montana, and ones in Tennessee by Roger Barlow.

I have had the pleasure of working with Sophia Linn, COGA Program Manager, since 1996. Ms Linn conducted some of the first experiments to measure the effectiveness of geographic educational technology in her research at the University of Colorado. During 1999, we attended a summer GIS institute together at Southwest Texas State University. This institute brought together a group of educators interested in using GIS in the geography curriculum, most of whom are still considered the trailblazers in this effort.

During 2000, Ms Linn and I co-conducted a ESRI community atlas GIS training at Poudre School District in Fort Collins, and began planning GeoTech Colorado. We sought to model a similar conference in Dallas Texas, held annually, and also called "GeoTech (see my reports on GeoTech Texas). The USGS has presented and exhibited at GeoTech Texas each year since 1997 (Joseph Kerski and Pete Modreski, Geology).

The structure of GeoTech Colorado was to run 4 concurrent workshops during three morning time slots, for a total of 12 workshops, a keynote and networking time at noon, an afternoon with 4 concurrent hands-on workshops, open lab time, and closing and door prizes. The hands-on workshops

included: Working with ArcVoyager, Crime Analysis, GPS, and Worldwatcher's curriculum.

GeoTech was attended by 92 teachers, which was what we had hoped for, remarkable due to the spring blizzard conditions during the day of the conference. It is a pleasure to be working with such a motivated, intelligent group of educators.



GeoTech Organizers and Out-of-State Guest Instructors: Sophia Linn (Colorado Geographic Alliance Program Manager), Al Lewandowski (Michigan), Anita Brooks (North Dakota), Charlie McRorie (Tennessee), and Joseph Kerski (Colorado).

USGS Activities at Conference:

Morning Workshop

I conducted a morning workshop on GIS with Steve Wanner, teacher at Boulder High School. Mr. Wanner has been using GIS since 1986 in a neighborhood analysis lesson, an Africa regional geography lesson, an earthquakes lesson, and we are currently constructing a historical floodplains lesson using historical imagery. We had 25 teachers attend this workshop.

Keynote

It was a privilege to conduct the keynote presentation at the conference. I focused on successes that educators have had with GIS, the USGS role in science, education, and educational GIS, the effectiveness of GIS, the status of implementation of GIS nationally, benefits of GIS, challenges in using GIS, and future trends in education that hinder and encourage the use of geographic technologies in the curriculum. The venue for the keynote, the new auditorium at the high school with huge screen projection capabilities, was fantastic.

During the conference, I met with the out-of-state educators that COGA flew in to present at GeoTech. I also met with the Colorado ESRI education representative, with those I am working on the Conservation Biology project, and with the VISIT project (Virtual Immersion in Science Inquiry for Teachers) from Eastern Michigan University. The conference provided an excellent opportunity to learn from and meet with these educators who are really making a difference not only in their classrooms, but in the lives of people.



Anita Brooks (North Dakota) highlights some GIS work by her students and explains the Technology Program for Hispanic Females that she instituted in her school district.

Observations and Recommendations:

(1) By participating in this meeting, we sought to:

1] Further our partnerships with educational organizations to increase science and geography literacy on a national and international level.

2] Highlight data, research, and tools for exploring digital data and real-world problems with GIS, GPS, and remote sensing.

The USGS has a wealth of data sets, programs, and research efforts that this audience was interested in, particularly our digital data sets, training that we conduct, and projects with the educational community (such as with the conserving biodiversity along Colorado's Front Range project).

I recommend once again that the USGS pursue education as integral to its mission. Education shows our relevance to Congress and the general public. Education affects future generations of scientists who will support our agency and work for the USGS. Education serves the needs of diversity, recruitment, and retention. Education ties into all six major outreach audiences. Education forms partnerships that are far-reaching. Education is the right thing to do. Working with the geographic alliances and with the educational partnerships described here provide ideas to our own agency and contribute to the geographic and scientific literacy of the nation, helping individuals make sound decisions that affect the future of our society.

USGS Exhibit at the Conference:

The USGS exhibit featured a curved panel display with the theme "GIS In Education." This theme was conveyed with posters that I created: "Why GIS in Education and what is the USGS Role?", plus an advertisement for the Yampa Valley GIS institute in June 2001.

I used three tables, including 2 in the front of the exhibit and a round one (see photograph) in front of those with the publications listed below. The publications were a combination of generated articles and flyers with USGS information for educators. There was also an emphasis on spatial data resources, since most of the attendees were well-grounded or interested in using GIS and other geographic technologies.

The location of the exhibitors in the main foyer of the school was well-positioned for receiving all of the conference attendees. Other exhibitors included ESRI, VISIT, the University of Colorado-Colorado Springs, the Colorado Natural Heritage Program, Cram, and Nystrom.

Publications Displayed at Conference:

GIS: Fits and Starts article

GIS in Everyday Life article

Kerski's "Implementation and Effectiveness of GIS in Education" research article.

Kerski/Wanner's Effectiveness of GIS article.

Natural Hazards Posters (out of stock; these were the last ones I had been saving).

Flyers about Yampa Valley GIS institute, June 2001.

USGS Science, Society, Solutions

Aerial Photographs and Satellite Images

USGS Maps (out of stock; these were ones I have saved)

USGS GeoData

USGS World Wide Web Information from Earth Science Week flyers.

GeoMac fact sheet

How To Get Info from the USGS info sheet

Educational Resources from the USGS

Scientists in Action

Volcanoes

Exploring Maps

What Do Maps Show

Land and People

I donated some USGS maps for the door prizes at the end of the day; the new Northeastern USA earthquake map was a big draw.

Acknowledgements:

I would like to thank the following individuals:

Sophia Linn of COGA for her excellence during the past year in organizing and planning this event.

Our out-of-state presenters for contributing so much of themselves to make this a success.

Lewis-Palmer High School Teacher Mike Radcliffe, students who volunteered, and other faculty for hosting the event and providing such a top-notch facility.

The attendees for braving the May blizzard to Lewis-Palmer High School.

*** End of GeoTech Colorado 2001 report ***