

EDUCATION EVENT REPORT AND RECOMMENDATIONS

Purpose of Event:

Colorado Science Olympiad
Northern and Southern Regional
Finals

Attendee and Report Writer's Name:

Joseph Kerski, Geographer

Locations: University of Colorado -
Colorado Springs and Fort Collins High
School, Colorado

Other USGS Participants:

Pete Modreski – USGS CR Communications
Rusty Grout – Cartographer, USGS

Other Participants:

Tina Charnecki (education intern from
the University of Colorado,
Boulder)
Jane Dianich – Science Teacher

Dates: 1 and 8 March 2003

Background:

The Science Olympiad is a national educational event, where junior and senior-high school students compete in geology, cartography, hydrology, physics, chemistry, mechanical engineering, and other subjects. Students compete in each state, making it analogous to the National Spelling Bee and the National Geography Bee. The USGS Rocky Mountain Mapping Center has participated in the Science Olympiad since its inception—over 12 years, making it one of our oldest educational activities. The USGS RMMC has been a long-time leader in the Road Scholar (mapping) event, the Remote Sensing event, and the Dynamic Planet (earth processes—geology, geomorphology, physical geography) event.



This shirt says it all: Be kind to science nerds—you might work for one someday!



Joseph Kerski helps students in the remote sensing event.



Pete Modreski (Geologist-Communications Specialist) (with paper) and Jane Dianich (science teacher, at door) work with students in the Earth Processes event.



USGS Education Intern Tina Charnecki assists students in the Road Scholar event. Rusty Grout wrote the test based on a fictitious band called "Mercator and the Projections" who is on tour in Colorado.

Responsibilities include creating these "events", which are tests for competition, administering these events, and grading them. In a competition day, approximately 45 high school teams and 45 junior high school teams will compete in each event. These events are based on USGS products: topographic and thematic maps, professional papers, bulletins, posters, and circulars. This year, the Dynamic Planet event featured USGS brochures, professional papers, and maps. The Road Scholar event featured USGS 100K and 24K topographic maps of Colorado along with a state of Colorado DOT map. The remote sensing test featured a Denver Landsat image and the excellent Historical Landsat Images book from the USGS EROS Data Center.

I would like to submit a proposal to add a GIS event to the national competition!



Remote Sensing Event. Students were asked questions about how and why the landscape has changed from the 1970s to the 1980s and 1990s based on examining Landsat imagery.



Dynamic Earth Event. This event this year emphasized rivers and lakes. In prior years, it has focused on earthquakes, landslides, volcanoes, impact craters, erosion, glaciation, and other earth processes. This event is another perfect one for the USGS since our visual identity is: Science for a Changing World.



Dynamic Earth Event.



Road Scholar Event. Students performed tasks such as map interpretation, measuring, scale adjustments, and other cartographic tasks.



Remote Sensing Event. Students began with a 1999 Landsat image of Denver that we had created for the open house.



Remote Sensing Event.

Reasons for Participating:

1) As the nation's largest scientific organization, the USGS can and does provide much input to publications, data sets, software, and other items related to education in geography, earth science, history, and other fields. The benefit in teachers using USGS data could be enormous, particularly with the amount of media on the need for geographic and science knowledge by students in the America. "Train the Trainer" (in this case, teachers) is the emphasis of the "lifelong learning" aspect of outreach. Events such as this one distribute information about USGS products and services to some of the most active teachers in America. They will spread the word about these resources through their professional societies (such as the National Education Association, National Council for the Social Studies, National Science Teachers Association), school districts, and by other means. Familiarity with USGS information will enable the USGS name and activities to be spread throughout society through thousands of school districts and educators throughout the nation.

2) To produce educational materials valuable and relevant to the educational community, the USGS needs to regularly interact with

teachers. Furthermore, teachers will be shown through tangible modules through these events how USGS resources can be used for education. The USGS outreach program needs to contribute *value-added* information--it is not enough to tell people about our data, but *demonstrate how* the data can be used. We create Science Olympiad events entirely based upon USGS resources, and therefore, it is a concrete demonstration of how our resources can be used for education.

Furthermore, teachers purchase USGS products after seeing how they are used. One teacher from Woodland Park, Colorado, told me that he has purchased 3,000 maps over the past 6 years for the Science Olympiad.

Acknowledgments:

I wish to acknowledge the excellent skills of those who once again supported the Science Olympiad: Rusty Grout, Tina Charnecki, Jane Dianich, and Pete Modreski.

We will also participate to a limited extent in the state finals, 19 April 2003 at the Colorado School of Mines.



Pikes Peak from UCCS Campus, before the snowstorm, 1 March 2003.

*** End of 2003 Science Olympiad
Report ***