

## EDUCATION REPORT AND RECOMMENDATIONS

Attendee's Name: Joseph Kerski Title: Cartographer, PM

Location: Indiana University of Pennsylvania

Event Date(s): 10 July 2000

Purpose of Event: Conduct 3 workshops [Geography of Pennsylvania, GIS in the Curriculum, and Map Mysteries] for Beginning and Advanced Summer Institute Teachers, Pennsylvania Geographic Alliance, with Executive Director of National Council for Geographic Education (NCGE).



### Background:

After decades of the "doldrums," the field of geographic education has been experiencing a tremendous renaissance since 1985. It began with extensive media coverage of the lack of geographic knowledge by not only K-12 and college students in American schools, but by the American public. The most recent events in this renaissance include the creation of National Geography Standards, published in a document entitled *Geography for Life*. It has continued with the inclusion of geography as one of the five core subjects in the President's "Goals 2000: National Education Act" and state and school district geography standards. Fueling this resurgence is the reality of actually bringing GIS technology and data into the classroom, due to lower prices and easier-to-use packages.

The NCGE has been promoting and improving the effectiveness of education in geography since 1915. The Council currently has over 6,000 members, including K-12 teachers, university faculty, students, government employees, representatives from private companies, and others interested in geographic education. The NCGE publishes the monthly *Journal of Geography*, and a newsletter entitled *Perspective*. Their WWW site is [www.ncge.org](http://www.ncge.org) and their headquarters are here, at the Indiana University of Pennsylvania, in the west central part of the state. After 1930, geography was largely taught in American schools as cultural geography. There is a re-awakening of the instruction of physical geography, and this in particular is one area in which the USGS can provide strong leadership. We also have good human-environment connections in our USGS research and therefore, we can show how to bridge cultural and physical geography, and how to bridge geography

and science.

### **Reasons for attending:**

1) As the nation's largest scientific organization, the USGS can and has provided great input to publications, data sets, software, and other items related to geographic education. This is particularly true in the area of bringing GIS to the classroom: the USGS could be a leader in generating data sets that teachers can easily use at all grade levels. In so doing, the publicity generated from teachers and students across the country for the USGS could be enormous, particularly with the amount of media on the need for geographic knowledge.

2) The value-added in our involvement with the lifelong learning focus area of educational outreach is that we work with educators to demonstrate *how* our products can be used in conjunction with national science and geography standards. It is not enough to tell which products are available. Teachers already know how to find resources and they have a great deal of material. When we get involved with teachers--getting their input and working with them--we can understand how to best meet their needs.

3) The Executive Director of the NCGE, Dr Ruth Shirey, invited me to conduct these workshops. [It should be noted that the NCGE/IUP funded this trip, not the USGS.](#) The USGS outreach program suffers from a chronic lack of funds and partnerships to expand our efforts. I believe the NCGE holds tremendous untapped potential for partnership opportunities with the USGS.

4) The NCGE is a member of the GENIP with the Association of American Geographers, the American Geographical Society, and National Geographic Society. Other affiliations include the North American Association for Environmental Education and 55 state geographical alliances. The alliances and the NCGE conduct workshops such as these for teachers to learn more geography content and also about teaching methods.

### **My Activities at the Conference:**

I conducted three workshops to the 45 teachers present at the beginning and advanced summer institute:

1) *Teaching the Geography of Pennsylvania using USGS resources.* This presentation required research on my part for materials suitable, and also to learn the physical and cultural landscape of the state. I used landslide, flood, seismicity, hydrologic, and geologic maps of the state in this section.

2) *Map Mysteries.* I developed this set of lessons to show how USGS topographic and thematic maps can be used to explore the cultural and physical environment. I used maps of Central Region earthquakes, Bay Area earthquakes, digital landforms map of the USA, Earthquake Lake MT, New Orleans West LA, South Pass LA, Callaway NW NE, Ocean City MD, Point Reyes CA, and the Coasts in Crisis Circular.

3) *Using Geographic Information Systems in the Curriculum.* I used a PowerPoint presentation that indicated the types of USGS data that could be used with GIS tools, why and how teachers are using GIS in the USA, and some of the lessons that I and others have developed that use spatial data and GIS. The second half of this demonstration went "live" to ArcView GIS, where I explored tornado, earthquake, world demographic characteristics, and USA demographic statistics, using the

teachers' questions as a guideline. I directed the attendees' attention to the Pennsylvania Explorer CD, produced by Penn State University, which includes USGS DLGs and Landsat data.

I shipped materials for the teachers to use as a resource, including digital data fact sheets, the new USGS GeoData GIP, Aerial Photographs and Satellite Images, Landsat 7 information, USGS web information, EarthExplorer, topo map symbols sheets, teachers packets, PA state fact sheet, PA map indexes, the "best of the USGS maps list" that I compiled, and other information.



Teachers at the Pennsylvania Geographic Alliance Summer Institute.

### **Recommendations:**

1) These are exciting times for geographic education, with the resurgence of public interest in the subject, and the new national K-12 standards in geography. I believe that the USGS could play a role in this expansion of geographic education, by producing a modular CD-ROM that includes base and thematic spatial data sets, with one module for each of the national geography standards, and for different grade levels (primary, middle, and high school). Teachers lack the time to find sites for spatial data, and reformat that data to use in a GIS. They need easy-to-use data that can be imported into a GIS such as Idrisi or ArcView.

2) I recommend we pursue finding partners for reprinting the teachers packets discussed above.

3) I recommend we increase involvement with the NCGE. This is an organization that is coming to us, telling us how appreciated we are, and wanting to increase its involvement with us. Their goals share important similarities with ours. I might be on the NCGE board in 2001. In 1998 the NCGE initiated an educational project with NASA that is bringing publicity to both organizations. I believe the USGS is equally suited for such collaboration. If NASA, why not the USGS?

### **Acknowledgements:**

I appreciated the USGS' support of the time for my attendance at this event. I know that the attendees were appreciative of USGS support as well. I also appreciated the invitation to conduct these workshops from the faculty of the Indiana University of Pennsylvania and the NCGE.



Campus of the Indiana University of Pennsylvania.

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