

EDUCATION EVENT REPORT AND RECOMMENDATIONS

Event: Annual Conference, National Council for Geographic Education (NCGE)

Location: Philadelphia, Pennsylvania

Dates: 15-19 October 2002

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

Other USGS Attendee: Lawrence Handley, USGS National Wetlands Research Center

Highlight

I wrote the following highlight, which made the final cut to DOI headquarters and the White House, 14-18 October 2002:

USGS Supports Geography Education at National Conference:

The USGS distributed maps and books and conducted workshops at the National Council for Geographic Education (NCGE) conference in Philadelphia, Pa., Oct. 15-19. USGS geographers Larry Handley and Joseph Kerski serve on the NCGE advisory board. During the conference, Kerski conducted workshops on using USGS maps with Global Positioning Systems and using geographic information systems. The annual conference attracted more than 700 K-12 and university educators. (Joseph Kerski, Denver, CO, 303-202-4315)

Acknowledgements

It is a great privilege to be working with these excellent geography educators and researchers who attend the NCGE

conferences and I thank them for all they have given me over the years. I thank the NCGE Board members for their good nature and participation in this year's board meetings.

I consider NCGE to be the single most important event to my role as educational geographer of any of the typical 20 conferences I attend during each year. If I had to choose three most valuable conferences to me, I would choose: NCGE, the ESRI EdUC and UC, and the AAG.

I thank Charlie Fitzpatrick and ESRI for their generous allotment of 10 feet of exhibit space for the USGS exhibit. Without their generosity, the USGS would not have hosted an exhibit at the conference this year due to a shortage of exhibit funds.

I thank Jack Fordham for supporting my attendance at this event and Mary Wadding for coordinating the materials shipment.



William Penn's statue atop the Philadelphia City Hall on 18 October 2002.

The Status of Geographic Education

The field of geographic education in the United States experienced a tremendous renaissance beginning in 1984 and ending around 1999. Some would argue that the renaissance has not ended, but recent developments have made me realize that we are now in a "reassess and regroup" phase.

The renaissance 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. During the 1980s, geography was included in one of the five core subjects in the President's "Goals 2000: National Education Act."

In 1994, the National Geography Standards were published in a document entitled *Geography for Life*. The most recent advancement in geography education was the addition of geography as one of the secondary subjects in which students may take "Advanced Placement" or A.P. courses. The development of the A.P. curriculum and the national standards is one of the major accomplishments of the NCGE and its members.

Recently, geography has been cut from some secondary programs due to increased emphasis on standardized testing in math, reading, and science in different states. Subjects that are not rigorously tested tend to be crowded out of the curriculum as schools seek to demonstrate their test scores as required by their state boards of education.

Another disappointing recent development has been the reduction of National Geographic Society's funding of the state Geographic Society's alliances. The alliances have

trained thousands of teachers since their inception in 1986, and the USGS has participated in numerous institutes, conferences, and in other ways in alliance-sponsored events. I have participated in the alliance activities in Iowa, Colorado, Tennessee, New York, Wyoming, New York, Arizona, and Nebraska, and I am sure that there are other examples. This funding reduction means that the alliances will need to seek other means of getting geography teachers trained in the discipline--a critical need for geography teachers, as they often have less discipline training than teachers of math or science. The reason is that geography, anchored in the social studies, tends to get crowded out by other social sciences such as history and economics. Here in Colorado, we have an excellent program coordinator, Sophia Linn, and the Colorado alliance is active in pursuing partnerships and funding. For example, we are planning for GeoTech Colorado in April 2003 and the Technology in Education conference in June 2003.

The National Council for Geographic Education (NCGE)

Since 1915, the NCGE has been promoting and improving the effectiveness of education in geography. NCGE currently has over 3,500 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 web site is www.ncge.org and their headquarters are at the Jacksonville State University in Alabama. They moved to this location in early 2002 from the Indiana University of Pennsylvania.

The Five Themes of Geography

To specifically serve the teacher population, a publication entitled *Guidelines for Geographic Education* was published by NCGE in 1984 and its contents became known popularly as the "Five Themes of Geography." These include:

1. Location
 - Relative Location
 - Absolute Location
2. Place
 - Human Characteristics
 - Physical Characteristics
3. Human-Environmental Interactions
 - Humans adapt to the environment
 - Humans modify the environment
 - Humans depend on the environment.
4. Movement
 - People
 - Goods
 - Ideas
5. Regions
 - Formal
 - Functional
 - Vernacular (perceptual)

The five themes served as a framework upon which the content of geography can be taught and served the K-12 population until the national geography standards were published in 1994. Since the six elements of the national standards embrace the five themes, they remain a valuable tool for students to use in developing a "geographic perspective," while the standards strengthen instructional planning.

The 18 National Geography Standards

These were published in 1994:

The World in Spatial Terms

Geography studies the relationships

between people, places and environments by mapping information about them into a spatial context. The geographically informed person knows and understands:

1. How to use maps and other geographic representations, tools, and technologies to acquire, process, and report information.
2. How to use mental maps (a person's internalized picture of a part of Earth's surface) to organize information about people places, and environments.
3. How to analyze the spatial organization of people places, and environments on Earth's surface.

Places and Regions

The identities and lives of individuals and peoples are rooted in particular places and in those human constructs called regions. The geographically informed person knows and understands:

4. The physical and human characteristics of places.
5. That people create regions to interpret Earth's complexity.
6. How culture and experience influence people's perceptions of places and regions.

Physical Systems

Physical processes shape Earth's surface and interact with plant and animal life to create, sustain, and modify the ecosystems. The geographically informed person knows and understands:

7. The physical processes that shape the patterns of Earth's surface.
8. The characteristics and distribution of ecosystems on Earth's surface.

Human Systems

People are central to geography in that

human activities help shape Earth's surface, human settlements and structures are part of Earth's surface, and humans compete for control of Earth's surface. The geographically informed person knows and understands:

9. The characteristics, distribution and migration of human populations.
10. The characteristics, distribution and complexity of Earth's cultural mosaics.
11. The patterns and networks of economic interdependence.
12. The processes, patterns, and functions of human settlement.
13. How the forces of cooperation and conflict among people influence the division and control of Earth's surface.

Environment and Society

The physical environment is modified by human activities largely as a consequence of the ways in which human societies value and use Earth's natural resources and human activities are also influenced by Earth's physical features and processes. The geographically informed person knows and understands:

14. How human actions modify the physical environment.
15. How physical systems affect human systems.
16. The changes that occur in the meaning, use, distribution, and importance of resources.

The Uses of Geography

Knowing geography enables people to understand the relationships between people, places, and environments over time. The geographically informed person knows and understands:

17. How to apply geography to interpret the

past.

18. How to apply geography to interpret the present and plan for the future.

Recommendations

1) This is the 8th year in a row that I have attended the annual NCGE conference, and I have been a member of NCGE since 1995. 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 and should 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.

The NCGE conference is, as Leslie Gordon aptly put it in 2001, our bridge to the social studies. Because of geography's entrenchment for decades in the social studies, this conference (and that of the National Council for the Social Studies (NCSS)) is the primary means by which social studies teachers learn about the USGS. Very few of them attend the much larger NSTA (National Science Teachers Association) conference. The relative size of the NCGE conference compared to the NSTA shows how far that geography needs to go to have equal foothold in the foothold as the sciences. Still, it has made much progress since 1985. We need to be at NCGE each year!

I was very disappointed that the USGS could not afford a staffperson to operate our exhibit this year. It seems ironic that we have 2 USGS staffpersons on the NCGE

Board, yet we cannot afford to adequately staff an exhibit at the premier geography education event of the year. Still, I discovered that the Bureau of Census was in the same situation. We do the best we can with the resources we have...

2) The value-added in our involvement with the education focus area of 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. We have talked extensively about this over the past year in the Director's Education Team.

3) I recommend we increase involvement with the NCGE. This is an organization that regularly seeks guidance from us, and also tells us how appreciated we are, and wants to increase its involvement with us. In 1998, NCGE initiated an educational project with NASA, which is bringing publicity to both the NCGE and NASA, called "Mission Geography." I believe the USGS is equally suited for such collaboration.

The USGS outreach program suffers from a chronic lack of funds and partnerships to assist us in our efforts. Professional societies are not large reservoirs of funds, but I believe the NCGE holds tremendous untapped potential for partnership opportunities with the USGS and I think we need to build on what Roger Barlow started to formalize this agreement with an MOA.

The NCGE has worked closely with the

Association of American Geographers (AAG), the American Geographical Society, and the National Geographic Society. The USGS should not miss the opportunity to be another link in the cooperative efforts that have already been successful.

4) Despite the concerns I mentioned earlier, these are exciting times for geographic education. I believe that the USGS could play a role in this expansion of geographic education, by producing a modular CD-ROM and an expanded web presence 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, Maptitude, Geomedia, or ArcView.

5) My presentations worked well in tandem with the exhibit, where I could answer additional questions following the presentations as well as direct attendees toward the presentations from the exhibit. I recommend at least one USGS presentation at this and all other conferences that we attend. We have so much to contribute!

The next conference of NCGE is during FY 04 in Salt Lake City, October 2003.

6) The USGS and NCGE should do more with our remote sensing, geographic, scientific, cartographic, and educational counterparts in Canada and the UK:

The Canadian counterpart to the NCGE is the Canadian Council for Geographic Education:

<http://www.ccge.org/geosources/English.htm>

The Royal Canadian Geographic Society is

Canada's counterpart to the USA's National Geographic Society, at:
<http://www.rcgs.org/English/English.htm>.

Canadian Geographic is at :
<http://www.cangeo.ca/>.

The Canadian Cartographic Association:
<http://www.geog.ubc.ca/cca/> .

The NRC Centre for Topographic Information is at maps.nrcan.gc.ca. The National Air Photo Library is at <http://airphotos.nrcan.gc.ca>. The GeoNames are on <http://geonames.nrcan.gc.ca>.

We should also be working with the Canadian Association of Geographers: <http://venus.uwindsor.ca/cag/cagindex.html> and the Canada Centre for Remote Sensing: <http://www.ccrs.nrcan.gc.ca>

The Geographical Association is the world's largest educational geography association: <http://www.geography.org.uk>

My Participation at the Conference

(1) I participated in geography education research "EMBARC" project. This stands for "Encouraging Our Members to Belong to a Research Community". I worked with the group who gave me valuable input to my planned research in educational GIS and standards.

This group grew out of a special interest network (SI-Net) of the NCGE in which I have been a member since 1998, and we share ideas for current and future research in the field.

(2) I conducted a workshop entitled "Examining the Landscape with Topographic Maps and GPS." In this

workshop, I emphasized the interpretation of cultural and physical geography based on USGS maps, and the integration of GPS technology into such teaching.



Geography teacher gathering USGS materials following my topographic maps and GPS workshop.

(3) I conducted a workshop on "Investigating the Titanic Using GIS, Geography, and History." This lesson, which can be found online on: <http://www.esri.com/arclessons>, focuses on the voyage, sinking, warnings, rescue, and discovery of the ocean liner Titanic using reading, math, and GIS technology. Many thanks to Ned Swanberg of the Orton Foundation for the use of his computer projector for this workshop!

(4) I have been working on a project to map the Colorado Standardized Achievement Program (CSAP) test results with several excellent educators in Colorado for the past two months. Sophia Linn of the Colorado Geographic Alliance and Rick Gindele of Smoky Hill High School presented this research at the NCGE conference. We are mapping these scores at a school, school district, and state level.

(5) I set up and operated a USGS exhibit at

the conference, which was popular with the attendees. I was not able to staff it during the entire conference due to my own and other presentations and meetings, but I was able to be there for quite awhile. An exhibit provides a great opportunity to talk with the attendees about their own projects. Again, this space was because of the generosity of space from ESRI.

(6) I spoke with the American Geographical Society's editor of Focus magazine about a new article that I want to write.

(7) I spoke with Dr Bob Coulter about future GIS and mathematics projects and opportunities for us to work together.

Discoveries at Conference

Cobblestone Publications

I found out more about an excellent resource entitled *Handbook of Research on Teacher Education, 2nd Edition*. This 1996 resource came from a project of the Association of teacher Educators. John Sikula, Thomas Buttery, and Edith Guyton.

Another good resource is the *Handbook on Research on Social Studies Teaching and Learning*. Macmillan, NY. 1991. Dr Joseph Stoltman, a geographer long active in education, wrote chapter 36 in the book. Editor is James P Shaver.

The World 21 resources have been published, including 10 world geography videos, 4 US geography videos, 4 physical geography videos, student worksheets, ArcView software, teacher materials, and more. Publishers are BBC Worldwide, Public Media Inc., and ESRI. I played a small role in this effort and was thrilled to see the final product.

The University of Oregon's CD set entitled "Atlas of Oregon" has been published and is a wealth of data. Thanks to Dr Hardwick for this resource!

I was made aware of the organization Population Connection, which offers population education resources.

Annenberg's new video series has been published, "The Power of Place." One of the stars of the video was my conference roommate, teacher Rick Gindele, from Colorado!

I found a great quote at the conference: "Education is not filling a bucket, but lighting a fire." -- WB Yeates.

Other Sessions Attended

I attended a workshop that featured the use of the Goode's World Atlas and associated teaching materials from one of the preeminent geography educators in the country, Dr Joseph Stoltman from Western Michigan University.

I learned more about the free GIS package called MapViewer from Paul Baumann from SUNY Oneonta.

I was pleased to see so much interest in GIS in education at this year's conference. I spent a large part of one afternoon at presentations that featured GIS in education initiatives from Salem State College, Eastern Kentucky University, the Orton Foundation, Shippensburg University, and Southwest Texas State University.

A session that featured the new book "Seeing Through Maps—The Power of Images to Shape Our World View" was quite interesting. One of the co-authors, Denis Wood, also wrote "The Power of

Maps.”

Highlights From Conference

This conference was held in conjunction with the Pennsylvania Geographical Society. I do not know the exact attendance, but I believe it passed 500. I made excellent new contacts and renewed existing ones.

Student Participation

One of the highlights for me at the conference was to read the book “Philly Styles,” written by Grade 7 students in Amy Cohen’s students in Philadelphia. This book featured photographs and text about the physical and cultural geography of the city from a student’s perspective. Ms Cohen was one of the participants in a GIS segment that I co-taught in a geography technology institute in Pennsylvania in 2001, and it was excellent to see what her students have been doing.



One of Amy Cohen’s students, speaking about her role in the book. Each student who presented was eloquent and a joy to listen to. These students participated in one day of the conference, as well. We need to increase student participation!

Keynote Address



Dr Peirce Lewis from Pennsylvania State University delivers the keynote address on interpreting the landscape of Pennsylvania. To me, this is the essence of geography—understanding the landscape. I was able to meet Dr Lewis and talk with him on several occasions during the conference—a real privilege, as he has long been one of my “geographic heroes.”

Meeting of NCGE Board

Larry Handley and I from the USGS are both on the Research and External Relations Committee of the USGS. I was thrilled to have been elected to this post for the term 2002-2004. In our committee, we discussed research projects, the EMBARC project, participating in the AAG’s Geography Timeline Project, the online geography education bibliography, collaboration with the Geographical Association, attracting new teachers to the NCGE, and other topics.



Jody Smothers-Marcello, 2002 NCGE President.

Dr Susan Hardwick from the University of Oregon, head of our Research and External Relations Committee, and incoming 2003 NCGE President. To her right is Madeleine Gregg and Lawrence Handley (USGS).



Part of the NCGE Board during our 16 October 2002 meeting. The committees include administrative, finance, research and external relations, and curriculum and instruction. It is a true privilege to be serving with these excellent individuals.



NCGE Executive Director, Dr. Michael LeVasseur, of Jacksonville State University in Alabama.



Ruth Shirey, left, was congratulated during a ceremony for her 14 years of service as NCGE Director, here by Jody Smothers-Marcello, 2002 NCGE President.



Exhibits

USGS Exhibit



Joseph Kerski holds up a Chesapeake Bay satellite image map at the USGS exhibit. I have been saving these maps for 2 years for this conference, and they were extremely popular. I also distributed surplus copies of the surface water – watershed map of the USA. Other items included guidelines I have written about teaching with topographic maps, GIS, and Terraserver, as well as USGS posters and leaflets on map projections, Leslie Gordon's topo bingo lesson, land use, map indexes, interpreting maps, geography and science careers, and how to get information from the USGS.

Other Exhibitors

Approximately 30 exhibitors were at the conference in a location near the workshops, which was excellent and much preferred over off-site locations. Other exhibitors included nonprofits (such as WETMAAP, Michigan Geographic Alliance, Population Connection), software companies (ESRI), publishers (Brooks-Cole, Educare, Wiley, and others), map companies (Rand McNally), and other organizations (NASA).

Field Trips

Unfortunately, I was not able to attend any of the excellent NCGE-sponsored field trips to explore the local cultural and physical geography.

However, I am pleased to report that I was able to visit a latitude-longitude confluence immediately before departing for the airport.



Geography Educator Mary Braccili and Joseph Kerski made a pilgrimage to the confluence of 40 North Latitude and 75 West Longitude.



The confluence was located on the fourth fairway of the Riverton Country Club in Cinnaminson, New Jersey. The GPS unit on the ground marks the spot.



Although I was not able to participate in any conference field trips, I did walk to the incredible 30th Street railway station in Philadelphia with Dr Bob Coulter of the Missouri Botanical Garden. Dr Coulter and I have collaborated on several projects and training events during 2001 and 2002.



View from the conference site of downtown Philadelphia. Next year's conference will be in Salt Lake City.

****end of report****