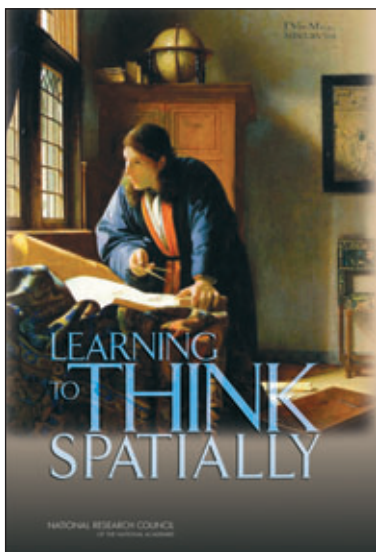


# A Call to Action

## Geography and GIS Matter in Education and Life

Our interactions with the world around us and the decisions we make as we move through it constantly involve geography, geographical thinking, and geospatial processes that mirror GIS. Unfortunately for many, geography and geographic decision making are unseen and performed unconsciously. In consequence, the relevance and importance of geographical thinking is missed or diminished. Our mission must be to actively change this situation.

By George Dailey



*Learning to Think Spatially*, new report on spatial literacy,  
[www.nap.edu/catalog/111019.html](http://www.nap.edu/catalog/111019.html).

### Geography Invisible to Many

Our personal geographic interactions are of such simple and systemic quality that they can go unnoticed, making geography invisible for many. For example:

- Choosing a walking path through the neighborhood;
- Selecting appropriate outdoor apparel to match the weather forecast;
- Determining how to avoid a traffic problem and arriving at the destination on time
- Exploring the local and global news.

On the other hand, we are presented regularly with geography that is conspicuous.

Natural and human spawned events bring geography and geographic decision making into sharp focus for participants and observers:

- Thousands living in the shadow of a smoldering Indonesian volcano find themselves faced with the moment they have feared;
- Ethnic and resource conflict in Sudan has propelled hundreds of thousands of refugees into neighboring countries;
- Hurricanes Katrina and Rita devastated the Gulf Coast of the United States pushing more than one million people across the country, and creating vast social, economic, and environmental consequences.

We know that lurking inside each event is the knowledge that they are not isolated local happenings but rather have connections, relationships, and effects that can ripple across countries and the globe. However, when these kinds of geographic manifestations fall from view, here too, it is easy for geography to become invisible again.

### New Report and Literacy Campaign

The critical nature of geographical thinking and the evidence of its lack in education have come forth in the form of a new report from the U.S. National Research Council (NRC), 'Learning to Think Spatially: GIS as a Support System in the K-12 Curriculum', and a new literacy campaign led by the National Geographic Society (NGS), 'My Wonderful World'. Both are a call to action.

The NRC research project brought together a committee active in geography education and educational psychology to investigate the importance of spatial literacy to academic pursuits and everyday life. In the process, scores of geography, GIS, and other educators provided testimony. The resulting report, 'Learning to Think Spatially', provides a rich discussion and resonant imprimatur that spatial thinking represents an essential skill set for everyone: it is a problem solving integrator, it is best embodied across subject areas, and GIS can play a significant role in its escalation.

While this report is U.S.-centric in its focus, its message and content reach easily to other parts of the world where geographic inquiry, problem-based learning, GIS education, and similar inquiry-focused educational approaches are spreading and being debated. Print and electronic versions of the report are available from the National Academies Press at [www.nap.edu/catalog/111019.html](http://www.nap.edu/catalog/111019.html) with other information available at [www.esri.com/spatialthinking](http://www.esri.com/spatialthinking).

### Increase and Diffusion

Working to expand geographic literacy is nothing new to the National Geographic Society. Part of its mission since 1888 has been the 'increase and diffusion of geographical knowledge.' Since the 1980s, NGS has birthed and supported a long-standing effort in geography education. In May 2006, NGS launched, with the help of a coalition of public, non-profit, and private organizations, My Wonderful World—a 5-year campaign aimed at more rapidly and dramatically altering the continued lack of geographic skills witnessed among young people.

This campaign, too, has a strong American bent but its messages are global in context: Geography is important and it is pervasive. The primary conduit for information about the effort is at [www.mywonderfulworld.org](http://www.mywonderfulworld.org). Besides campaign background, the site has direct and practical suggestions for youth, educators, and parents to engage with geography and geographic inquiry in their neighborhood and around the world.

### Make Geography Relevant to Others

The NRC report and the My Wonderful World campaign point to simple messages: that

spatial thinking is important, that geography is relevant. However, while more vital than ever, breaking down unconscious barriers and mindsets that stifle the spread of geographic literacy remain daunting. As geographic professionals and educators of many stripes, we have a responsibility to help communicate and invigorate a message about the importance of geography, geographical thinking, and GIS to colleagues, the public, and most especially young people. In stressing these ideas, we need to communicate that these skills and approaches are relevant to *classroom, community, and workplace*.

### Classroom

Besides the strength of the NRC report, there are organizations and programs that are advancing the presence of geography and GIS by performing outreach, creating curricular and other support materials, and offering learning pathways for teachers and students. Some to become familiar with include:

- Association for Geographic Information, [www.agi.org/uk](http://www.agi.org/uk);
- Association of Geographic Information Laboratories Europe, [www.agile-online.org](http://www.agile-online.org);
- Australian Geography Teachers Association, [www.agta.asn.au](http://www.agta.asn.au);
- Canadian Council for Geographic Education, [www.ccge.org](http://www.ccge.org);
- ESRI Education Program, [www.esri.com/schools](http://www.esri.com/schools), [www.esri.com/highered](http://www.esri.com/highered);
- European Network of Geography Teacher's Associations (EUROGEO), [www.eurogeo.org](http://www.eurogeo.org);
- Geografforlaget (DK), [www.geografforlaget.dk](http://www.geografforlaget.dk);
- Geographical Association (UK), [www.geography.org/uk](http://www.geography.org/uk);
- HERODOT, Thematic Network for Geography Teaching and Training (Europe), [www.zgis.at/herodotnet](http://www.zgis.at/herodotnet);
- International Network for Learning and Teaching Geography, [www.geog.canterbury.ac.nz/inlt/](http://www.geog.canterbury.ac.nz/inlt/) ;
- National Council for Geographic Education (US), [www.ncge.org](http://www.ncge.org);
- National Geographic Society Educational Foundation, [www.nationalgeographic.com/education](http://www.nationalgeographic.com/education);
- A growing number of ESRI international distributors are actively working with the education community in their countries. Some key European distributors include: ESRI-BelLux, ESRI-España, ESRI-Finland, ESRI Geoinformatik-Germany and Switzerland, ESRI-Nederland, ESRI-Polska,

ESRI-UK, ESRI-Sweden, GEODATA AS-Norway, Informi GIS-Denmark, [www.esri.com/international](http://www.esri.com/international);

### Community

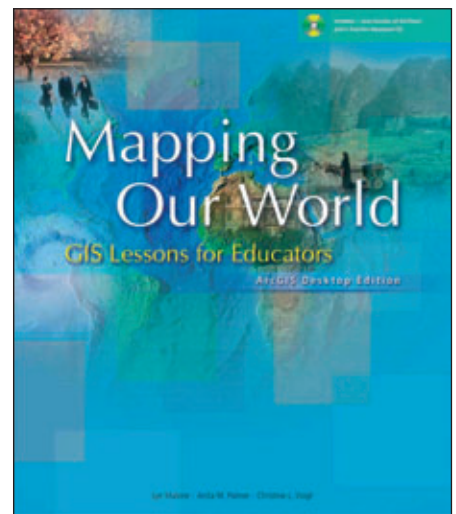
While geography is global in nature, the terrain people relate to immediately is their community, the geography of home. Some of the most successful youth-focused geography and GIS research projects are centered on local geography, real-world issues. Getting involved with activities and programs such as the ones listed below is a great way to help make geography more relevant to youth and others.

- 4-H National GIS/GPS Integration Team, [www.gisgpsintegration.org/index.htm](http://www.gisgpsintegration.org/index.htm);
- Digital Worlds, [www.digitalworlds.co.uk](http://www.digitalworlds.co.uk);
- Earth Science Week (8-14 October, 2006), [www.earthsciweek.org](http://www.earthsciweek.org);
- ESRI Community Mapping, [www.esri.com/industries/k-12/education/community.html](http://www.esri.com/industries/k-12/education/community.html);
- ESRI International Distributors, [www.esri.com/international](http://www.esri.com/international);
- GIS Day (15 November, 2006) [www.gisday.com](http://www.gisday.com);
- My Community, Our Earth, [www.aag.org/sustainable](http://www.aag.org/sustainable);
- Society for Conservation GIS, [www.scgis.org](http://www.scgis.org);
- Geographical Information Systems Applications in Schools (GISAS), [www.edu.fi/gisas](http://www.edu.fi/gisas)

### Workplace

Asking a person on the street what careers are available for someone with a geographic skill set, we might get a handful of occupations with cartographer or mapmaker at the top of the list. The problem is that not enough people, especially students, know what people do with geographic skills and tools. Here are several Web sites that help make this more evident.

- Association of American Geographers, [www.aag.org/careers](http://www.aag.org/careers);
- American Society for Photogrammetry and Remote Sensing, [www.asprs.org/career](http://www.asprs.org/career);
- Career Voyages, [www.careervoyages.gov/geospatialtechnology-main.cfm](http://www.careervoyages.gov/geospatialtechnology-main.cfm);
- ESRI Map Book Gallery (and lesson), [www.esri.com/mapmuseum](http://www.esri.com/mapmuseum) ([http://gis2.esri.com/industries/education/articles/lessons/search\\_results.cfm?id=220](http://gis2.esri.com/industries/education/articles/lessons/search_results.cfm?id=220));
- GIS.com Career Portal, [www.gis.com/careers](http://www.gis.com/careers);
- Geospatial 21, [www.geospatial21.org](http://www.geospatial21.org).



*Mapping Our World, GIS lessons focused on global themes, [www.esri.com/mappingourworld](http://www.esri.com/mappingourworld).*

### Make a Difference

What we do with geography, GIS, and other geospatial tools has a relevance that is missed by many in other walks of life, in other spheres of experience. We have great opportunities through programs and organizations such as those discussed here to help make a difference. Actions can be focused or grand, but action is needed. For instance, create a GIS Day event, mentor a class, share your GIS data with a school, provide an internship, design Web-based GIS educational tools, or find the approach that works best. Inspiring a spatial sense and a geocuriosity among the youth of today is vital for tomorrow.

1. In the mid-1990s the ESRI Education Program in promoting the application of GIS in schools began focusing on the three areas of classroom, community, and workplace. Helpful in centering on these was an April 1996 article by Michael Hartoonian and Richard Van Scotter, 'School-to-Work: A Model for Learning a Living', Phi Delta Kappan Magazine. In the article the authors identify 'three distinct but interrelated attributes or qualities: scholarship, citizenship, and artisanship.' They view these areas of active educational engagement as essential for moving through school and into the world of work but more importantly into everyday life. Dubbed the 'three ships', dropping geographic inquiry and GIS into their frames was a natural.

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