

Healthy Departments Webpage: ‘Making the Case for Geography’

Victoria Lawson, University of Washington
Alexander Murphy, University of Oregon

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This page presents a series of points that ‘Make the Case for Geography’ as you communicate with various audiences (students and their families, university administrators, employers, lawmakers). Each subheading is a particular talking point that provides one element of a larger argument for geography. These talking points are accompanied by links to helpful data, reports and articles that you can download and distribute or incorporate into reports. Users of this page may use this information in self-study reports, annual reports, discussions with administrators, parents and students, in advocacy letters to administrators, lawmakers and so on.

Geography is an established integrative discipline, spanning social and environmental sciences

- Geography has a long history as a field of inquiry, and universities around the world include geography among the core arts and sciences disciplines. The modern university emerged in the late nineteenth and early twentieth centuries, when faculties were divided into disciplines. Most disciplines emerged in response to the perceived need for coherent intellectual communities that could address particular physical or social phenomena (botany, economics, etc.). The importance of looking at the ways in which phenomena interrelate in time and space led to the inclusion of history and geography in the disciplinary mix.

Geography continues to occupy a central position in institutions of higher education in most countries, and there is a robust international community of geography researchers and educators. A major international organization—the International Geographical Union—facilitates interactions among geographers all over the world. (Their web site < <http://www.igu-net.org/> > provides links to scores of geography departments in seventy four different countries.) In addition, the presence of strong geographical societies in many individual countries testifies to the discipline’s strength in various parts of the world. (See, for example, this [list of organizations](#)).

- Geographers address some of the core questions of our times that require an integrated approach, combining both human and natural sciences. These include questions about spatial variations in food security; the potential for sustainable cities; the nature of flood and drought dynamics and greenhouse gas emissions; human dimensions of climate change; social exclusion, health and health care; ecological processes of land use and land cover change, climate change; and

social and environmental justice. Geographers employ geo-spatial technologies for conservation, community mapping, hazards/disasters management and response; we analyze the links between globalization and inequality; as well as examining the human impacts of hurricanes, earthquakes and tornadoes. For example, the Hurricane Katrina disaster last year focused attention on the ongoing risks posed by natural disasters. Geographers are in demand for their ability not only to predict and diagnose the meteorological risks, but also to explain the social conditions that impact communities affected by natural disasters.

- As one high-profile example, geographers are playing a prominent role in interdisciplinary teams funded under the National Science Foundation '[Dynamics of Coupled Natural and Human Systems](#)' competition that "... promotes quantitative, interdisciplinary analyses of relevant human and natural system processes and complex interactions among human and natural systems at diverse scales."
- See another discussion of the integrative and central role of a geographic approach in '[Mapping Opportunities](#)' *Nature* Vol. 427(22) January 2004.

Geography as Key Component of Liberal Arts Education (K-12)

- Many think of geography as little more than place-name memorization, but place names are to geography what dates are to history: referents that allow people to situate circumstances and things in time and space. Nonetheless, surveys showing that many Americans cannot locate the world's oceans or major countries on a map suggest that a large number of people do not have even a simple understanding of how the world is organized, much less an appreciation of how geographical understandings and perspectives can enrich their lives and shed light on matters of critical importance.

Geography provides students with an ability to situate the places they live within a larger context. It offers insights into the character of individual places and the interactions among phenomena in different places. It encourages students to appreciate the nature and variety of differences that make up the world, as well as the reasons those differences exist. It gives students the kinds of local and global understandings that are necessary if we are to participate meaningfully in a democratic society. In short, geography is a key component of critical and ethical citizenship.

The case for geography's centrality to a liberal education is made in a "back-page" essay in the *Chronicle of Higher Education* (Murphy 1998), and in numerous opinion pieces written for broad distribution (see, *e.g.*, Murphy 2006; Dobson 2004; Keeling 2004). Non-geographers are recognizing the value of geography education as well. Geography is at the heart of the new [Global Studies](#)

[Foundation](#) initiative to promote the internationalization of the curriculum, and it is mentioned frequently in dialogs about the value and future of a liberal education.

- One indicator of geography's status as core component of a modern liberal education is its inclusion in the College Board's Advanced Placement (AP) program. (See Murphy 2000, for an essay in the widely circulated *College Board Review* explaining the importance of geography's addition to the AP Program.) The AP program was launched a half century ago in an effort to facilitate the transition from high school to college. AP courses are rigorous introductory college courses taught in high schools. They cover subject areas usually thought to be at the core of the college curriculum. They tend to attract the most academically oriented students. A significant number of students who are exposed to an AP course in high school go on to major in the subject of the course when they go to college.

The College Board added geography to its AP program in the late 1990s. The first AP Human Geography was given at the end of the 2000-2001 academic year. That year, 3,272 North American students took the AP Human Geography. Growth has been remarkable since then:

2002: 5,285 tests (62 percent increase)
2003: 7,329 tests (39 percent increase)
2004: 10,471 tests (43 percent increase)
2005: 14,139 tests (35 percent increase)
2006: 21,088 tests (49 percent increase)
2007: 28,239 tests (34 percent increase)

Preliminary indications are that the program will continue to experience substantial growth in 2008, and there is discussion of adding AP Physical Geography. The extraordinary success of [AP Human Geography](#) signals a widening awareness of the importance of geography in secondary and higher education. It will also likely fuel the continued growth of enrollments in high school and college geography discussed below.

- Geography's importance is also understood at the grassroots level. [Geography Alliance](#) programs, comprised of professors and teachers at schools and universities, are organized on the state-level across the U.S. This network of state alliances is hosted and funded by the National Geographic Society. Members collaborate to share information about curriculum, programs, funding sources and other resources to enhance the quantity and quality of geographic education in schools. A primary activity of these alliances is professional development of teachers to disseminate a high-quality curriculum. The Alliance network has been very successful in linking professors with teachers and in the process improving geography achievement for students taught by teachers who participate in the

Alliance programs. Indeed, much of the Advanced Placement Human Geography training and support is run through these alliance programs, which as noted above, has increased demand for Geography at the University level.

- Data from the National Center for Educational Statistics shows that undergraduate degrees in geography at U.S. institutions of higher education grew by 58 percent between 1987-1988 and 2003-2004. During that same time period, masters degrees in geography grew by 39 percent and doctoral degrees grew by 53 percent. These rates of growth outpace most other disciplines.

A detailed discussion of the growth in geography degrees in U.S. colleges and universities can be found in the *Journal of Geography in Higher Education* (Murphy 2007). That article highlights a number of reasons for geography's growing numbers, including increased public awareness of geography's relevance in an age of globalization; international instability; accelerating environmental change; the explosion of interest in geospatial technologies and geographic information science; and the expanding job market for geographers (these points are elaborated below).

- Commensurate with the expanding number of students taking degrees in geography, geography programs themselves have expanded. In the five-year period between 1999-2000 and 2004-2005, the average size of the faculty in geography departments offering bachelors degrees increased by 16 percent. During the same time period, the faculty size of departments offering both bachelor and masters degrees grew by 6 percent, and the average faculty size of departments offering degrees up through the Ph.D. increased by 8 percent (Murphy 2007).

Equally striking is the number of new geography programs being formed. The period between 1995 and 2005 saw the founding of no fewer than eleven new Ph.D. programs and three new undergraduate programs in geography. This represents a response to growing student demand for geography at colleges and universities, the expansion of geography in K-12 education, and growing awareness of the importance of geography among faculty in other disciplines and among academic administrators.

- A signal development in geography's expanding role in institutions of higher education in the U.S. is the return of geography to Harvard University in the form of a Center for Geographical Analysis. Opened in May 2006, the Center represents a reversal in direction for an institution that closed its geography department in 1948. Harvard now clearly recognizes that it can no longer do without geography. At the launch of the Center for Geographical Analysis, University President Larry Summers described his pleasure in bringing back to Harvard a discipline that "is increasingly at the center of a very wide range of

intellectual concerns.” A fuller discussion of the event, along with these quotes, can be found [here](#).

Geographical thinking core to development and application of geo-spatial technological innovations

- The dramatic rise of geo-spatial technologies in recent years has increased demand for a geographically literate work force and citizenry. This range of technologies includes Geographic Information Systems, Global Positioning Systems, satellite imaging, and rapidly expanding satellite and photographic technologies for acquiring and analyzing spatially referenced data. These technologies are proving increasingly central to a range of crucial arenas including homeland security, agricultural development, land use decision-making, environmental protection, navigation on land, sea and in the air, marketing analysis, disaster management, understanding the spread of disease, among many other applications.
- Use of these technologies requires not only specific technical skills, but also a deep understanding of underlying geographical concepts. Geography clearly focuses on the acquisition, analysis, and display of spatial information or data. Any layer in a GIS (for example) involves decisions about data prioritization and spatial representation that are rooted in geographical principles and concepts. Without an understanding of these principles and concepts, the nature and import of the decisions being made can easily be ignored (Murphy, 2007). Spatially literate citizens combine knowledge about our world at a range of spatial scales, with a range of analytical skills that bring concepts of space, scale, relative location, pattern and spatial change to bear on key questions (see the [ESRI education page](#)). Also, the University Consortium of Geographic Information Science (UCGIS) has produced a [‘Body of Knowledge Statement’](#) (2006) for educators that explains the interdisciplinary field of Geographic Information Science and the centrality of geographical theory and analysis to this emerging field.
- Geographical literacy is also crucial in our contemporary world where digital geography is teaming up with wireless technology and the internet. Mapping is exploding in public consciousness in part because of its ubiquity on the internet, in new cars, in cellphones, handheld GPS units and so on. For example, internet sites such as ‘google earth’ and ‘mapquest’ combine digital mapping and satellite imagery to allow users to zoom down from space to their own address or to navigate to and from precise locations. An article titled [‘Making the Ultimate Map’](#) published in Newsweek by Stephen Levy discusses the implications of these technologies and the enormous importance of geographical literacy for their ethical use.

- The Department of Labor points to the emergence of geospatial technology as a field in high demand with enormous employment growth. Geospatial professionals work in all levels of government, as well as both private and non-profit sectors. The DOL website describes the [geospatial industry](#) as one which ‘... acquires, integrates, manages, analyzes, maps, distributes, and uses geographic, temporal and spatial information and knowledge. The industry includes basic and applied research, technology development, education, and applications to address the planning, decision-making, and operational needs of people and organizations of all types’. Geospatial technologies have a wide range of applications across fields as diverse as ‘...agriculture and soils; archeology; biology; cartography; ecology; environmental sciences; forestry and range; geodesy; geography; geology; hydrology and water resources; land appraisal and real estate; medicine; transportation; urban planning and development, and more’.
- Geography is in a different position from a number of other disciplines because the demand for trained geographers exceeds the supply. Awareness of the potential supply-demand imbalance was one of the impetuses behind the National Research Council’s 1997 *Rediscovering Geography* report (National Research Council 1997). Three years later Dr. Philip Suckling showed that, just within academia, there were more open positions than new geography Ph.D.s (Suckling 2000). As the revolution in geospatial technologies gains momentum, the demand for geographic expertise continues to grow. Investment in geographical training and research is clearly critical if the possibilities of the geospatial technology revolution are to be realized.

The Growing Influence of Geographical Work

- Geographical concepts have influenced social theory across a broad range of disciplines over several decades. Extra-disciplinary recognition accelerated in the mid-to-late 1980s, as geographical scholarship achieved greater prominence as other disciplines drew more explicitly on geography in their work. These include sociology where Anthony Giddens (1984) looked to the work of Torsten Hagerstrand to ground his formulations of structuration theory. Anthropologists draw on geographical work such as Arturo Escobar 's reliance on concepts of place in his analysis of social movement activism and Timothy Mitchell’s use of Gibson-Graham’s work for deconstructing notions of an Egyptian economy. In English and literary theory, Priscilla Wald draws on theorizations of scale and the ghetto in her effort to develop metaphors of contagion and Susan Jeffords theorizes the narrative construction of rural places. Political scientist, Nancy Hartsock's work draws on David Harvey and Neil Smith to theorize the globalized spaces of political-economy and Neil Smith’s ideas about scale have been picked up by the Ford Foundation in their initiatives to rethink Area Studies. Feminist theorists have drawn extensively on the work of Doreen Massey, Gerry Pratt, Linda McDowell, Gil Valentine, and Liz Bondi. Historians also draw on geographical thinking and research as evidenced by David Hollinger’s work on

post-ethnic America, which is influenced by David Harvey's work on time-space compression. Also the strong support of historians such as Peter Bol have been pivotal in bringing geographical inquiry back to Harvard (noted above). Geographical thinking has also reached into economics with Paul Krugman's (1991) arguments for geographical economics and with globalization researchers drawing on geographer Peter Dicken's (2007) seminal book *Global Shift*.

- The turn toward postmodernism in the humanities and parts of the social sciences led to a wave of interest in the role of context—cultural and geographical—in the production of ideas and meaning. Michel Foucault's (1980, p. 67) call for an archeology of geographical knowledge stood as just one—albeit high profile—example of extra-disciplinary engagement with geography as a fundamental element of human perception and understanding. Yi-Fu Tuan's humanistic writings about space and place have also diffused throughout the humanities (Murphy 2007).
- Geographers have been visible, influential contributors to environmental change research initiatives, including large-scale, multidisciplinary projects. Geographers have played a leading role in initiatives such as the Cooperative Holocene Mapping Project and the Paleoclimate Modeling Intercomparison Project, which have significantly advanced understanding of long-term climate change (see, e.g., Wright, H. E., Jr. *et al.* 1993; Joussaume, S., *et al.* 1999). They were also instrumental in bringing a human dimension to international research efforts focused on environmental change, most notably through their leadership role in creating and steering the Land-Use/Cover Change (LUCC) initiative. As Turner (2005a, 175) explains, prior chairs of the LUCC Science Committee have been geographers, Dave Skole (Michigan State University) and Eric Lambin (University of Louvain). The work of the LUCC has influenced research all over the world.
- Geographers are playing an increasingly influential role in non-governmental and quasi-governmental organizations. This is particularly the case with regard to the U.S. National Academy of Sciences, National Research Council (NRC). Between 1992 and 2003, “geographers have served on thirty-eight boards, commissions, and standing committees (of the NRC), seven as chairs or co-chairs, and 133 ad hoc committees, eighteen as chairs” (Turner 2005b, 464). In addition, geographers have helped to shape initiatives launched by organizations such as the Center for International Forestry Research, the Nature Conservancy, and the Yosemite Institute (to name just a few).
- Geographers are making growing contributions to public debate through the publication of broad-ranging books. Examples include Harm de Blij's (2005) *Why Geography Matters*, Derek Gregory's (2004) *The Colonial Present: Afghanistan, Palestine, Iraq*; Neil Smith's (2003) *American Empire*; Mark Monmonier's (2002) *Spying With Maps: Surveillance Technologies and the Future of Privacy*; Peter Hall's (1998) *Cities in Civilization*; and Donald Meinig's

(1986-2004) *The Shaping of America* series. Two books by UCLA Geography Professor Jared Diamond (2005; 1997), *Collapse* and *Guns Germs and Steel*, have topped the best seller lists.

The ideas of geographers are also appearing with increasing frequency on the commentary pages of major newspapers. A sampling of these can be found at the [American Geographical Society](#) and selected items at the [Association of American Geographers](#).

National and Employer Demand for Geographers

- There is robust and growing demand for geographers across academic, governmental, private and non-profit sectors. Contemporary geographical training involves a set of critical thinking, writing, and presentation skills which, when combined with substantive knowledge of particular places or geographic phenomena, are very appealing to employers. Geography majors find their way to positions ranging from foreign policy analyst to travel agent, from forest conservation monitor to weather broadcaster, from map maker to planner, and from elementary school teacher to surveyor and many more as well (Murphy 2007). The [AAG careers website](#) is a valuable resource. It provides a searchable careers database for students and graduates, providing information on the broad range of careers calling for geographical skills. This site also provides information on employment and salary trends for geographers, as well as information on the kinds of employment available by state, and a series of resources to assist students in finding employment using their geographical skills.
- The [Department of Labor website](#) identifies the geo-spatial technology field as one of the three hottest emerging industries in terms of employment growth. Within the geo-spatial field, 10-20 percent growth is projected in demand for employees in transportation and distribution, surveying, planning, mapping and environmental work.
- The Bureau of Labor Statistics published an article titled '[Geography Jobs](#)' by Olivia Crosby in 2005 that demonstrates the growth in the geography job market. This article provides data on employment trends and also median incomes for jobs involving manipulation and representation of geographic information (i.e. cartography, GIS, location analysis, etc.). The article is particularly useful for those with expertise and interest in geographic data and geospatial technology analyses.
- The U.S. Geological Survey has launched a new GIS initiative that is having significant research and personnel impacts (US Geological Survey 2000). USGS recently created the Chief Scientist for Geography position within the Geography Division of USGS. The National Aeronautics and Space Administration and the National Imagery and Mapping Agency foresee a significant expansion in their

use of geographic technologies in the coming years (Gewin 2004) Furthermore, the Census Bureau's new American Community Survey, a program replacing the long form that is designed to provide geographically-detailed year-by-year social and economic data on communities of all sizes, is generating increasing demand for demographic/geographic analysis of communities nationwide.

- The [Geospatial Industry Workforce Information System \(GIWIS\)](#) website also provides a searchable database on career opportunities. This tool highlights the breadth and spatial extent of career opportunities in geospatial analysis, since it allows for searches by zip code and so can provide a picture of career opportunities that can be tailored to specific audiences.

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