

Preparing America's Graduates for Careers

There is an enormous—and increasing—demand in the public and private sectors for individuals who have the ability to analyze and interpret geographic information. The number of jobs for such analysts is growing rapidly, while the supply of Americans with these skills is not.

The area of greatest need for geo-literate workers will be in the geotechnology field. To meet future demands, high school graduates need to have knowledge of geographic information systems and remote sensing (Mondello *et al.* 2004).

Consider these geospatial technology industry facts:

- **There are approximately 850,000 workers in America's geospatial technology industry today and that number is expected to reach 1.2 million by 2018** (DiBiase *et al.* 2010).
- **Along with nanotechnology and biotechnology, geotechnology was named as one of the three most important emerging fields** (Gewin 2004).
- **The geospatial technology industry has a worldwide market of \$5 billion and is growing by more than 10% each year** (DiBiase *et al.* 2010).

Geography skills are utilized in a wide range of fields, including business, emergency response, utilities, mineral extraction, agriculture, and real estate. Employers in government, for-profit companies, and non-profit companies reported that they were experiencing some difficulty or that they were failing to meet their hiring needs in a variety of geographic skills areas such as:

- spatial thinking
- interdisciplinary thinking
- spatial statistics
- global perspective
- geographic information systems
- economic geography
- field methods
- cartography

An employer explained that “we are looking for people who are able to think across local and global scales as well as long temporal resolutions. Geographers are used to being able to think across multiple scales and nest spatial scales together” (Solem *et al.* 2008).

Continues on reverse



Education Foundation



“Understanding geography can help governments and businesses make better decisions...People who can think spatially—think about where things are in relation to other things—are in great demand.”

—Michael Phoenix
Occupational Outlook Quarterly



Education Foundation



“More and more of our business is abroad and as a result we are looking for graduates with cultural expertise, cultural understandings, and language skills.”

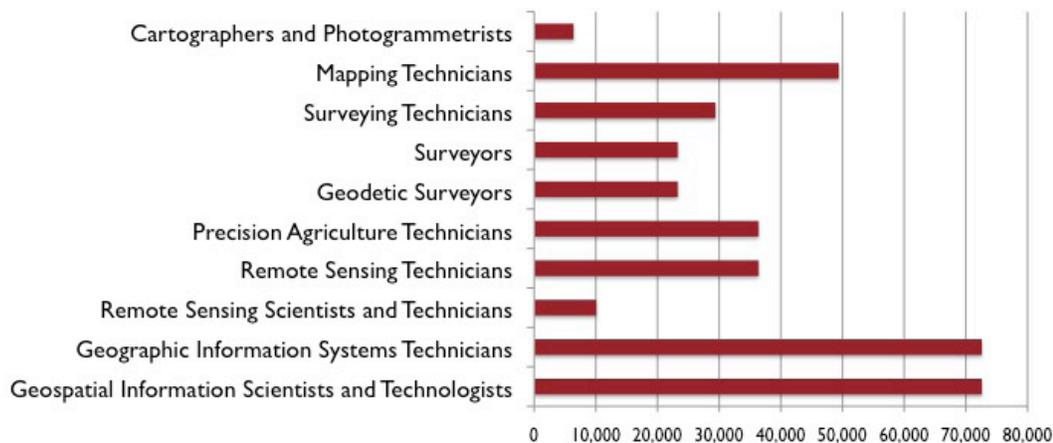
—Matthew Chiller
CH2M HILL,
Fortune 500 Global
Engineering Firm
headquartered in
Englewood, Colorado

About the Geospatial Technology Industry

The geospatial technology industry is defined as “an information technology field of practice that acquires, manages, interprets, integrates, displays, analyzes, or otherwise uses data focusing on the geographic, temporal, and spatial context” (Geospatial Workforce Development Center, University of Southern Mississippi). The Employment and Training Administration of the U.S. Department of Labor reported that industry stakeholders had several key workforce issues, including the need to expand the pipeline for workers to build skills needed for the growing industry and the need for job candidates for both technical and soft skills.

In 2010, the U.S. Department of Labor Employment and Training Administration projected geospatial occupations to grow from 7% to more than 20% from 2008 to 2018.

Projected Growth of Geospatial Occupations (2008-2018)



Cultural Competence and Geography Education

In addition to in-demand geotechnology skills, employers in various industries are also looking for graduates who have cultural diplomacy skills in order to communicate and work with people across cultures. Cultural geography teaches understanding and exploration of languages, religions, and cultures worldwide, and examines cultural conflict and cooperation over time and how that plays out in current events.

Sources: Mondello et al. (2004) 10-Year Industry Forecast, www.asprs.org; Gewin (2004) *Nature*; DiBiase et al. (2010) *URISA Journal*; Solem et al. (2008) *The Professional Geographer*; Top 25 Fastest-Growing Occupations, U.S. Department of Labor, www.dol.gov