Tracking the Health of the Geoscience Workforce

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Abstract
Increased demands for resources and environmental activities, relative declines in college students entering technical fields, and expectations of growth commensurate with society as a whole challenge the competitiveness of the U.S. geoscience workforce. Because of prior business cycles, more than 50% of the workforce needed in natural resource industries in 10 years is currently not in the workforce. This issue is even more acute in government at all levels and in academic institutions. Here, we present a snapshot of the current status of the geoscience profession that spans geoscientists in training to geoscience professionals in government, industry, and academia to understand the disparity between the supply of and demand for geoscientists.

Since 1996, only 1% of high school SAT test takers plan to major in geosciences at college. Although the total number of geoscience degrees granted at community colleges has increased by 8% since 1996, the number of geoscience undergraduate degrees has decreased by 7%. The number of geoscience master’s and doctoral degrees has increased by 4% and 14% respectively in the same time period. However, by 2005, 68 geoscience departments were consolidated or closed in U.S. universities.

Students who graduate with geoscience degrees command competitive salaries. Recent bachelor’s geoscience graduates earned an average salary of $31,306, whereas recent master’s recipients earned an average of $81,300. New geosciences doctorates commanded an average salary of $72,800.

Federal funding for geoscience research has increased steadily from $485 million in 1970 to $3.5 billion in 2005. Economic indicators suggest continued growth in geoscience commodity output and in market capitalization of geoscience industries. Additionally, the Bureau of Labor Statistics projects a 19% increase in the number of geoscience jobs from 2008 to 2018.

Despite the increased demand for geoscientists and increase in federal funding of geoscience research, lagging numbers of graduates from geoscience degree programs and the consolidation and closing of geoscience academic departments presents a strong challenge for the future of the geoscience profession. Measurement, analysis, and reporting of all aspects of the geoscience workforce system are central to successful decisions that support the improvement of geosciences in the U.S. students.

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