Geoscience Workforce Supply and Demand Trends
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Abstract

The U.S. Bureau of Labor Statistics projects an overall 19 percent increase in all geoscience-related jobs between 2006 and 2016, which is 9 percent faster than the growth rate for all U.S. occupations.

Since 1995, the number of geoscience graduate degrees conferred has averaged approximately 1,700 per year. As such, current and projected trends indicate that there are not enough geoscientists to meet existing and future demands for professionals in geoscience-employing industries.

This presentation takes a close look at the dynamics involved in the low production of new geoscience graduates. We examine the trends in structure of geoscience academic departments over the past decade. We investigate the trajectory of enrollments, degrees conferred and number of faculty in U.S. geoscience departments and explore regional trends in these areas. We also explore new models of industry demand for geoscientists, and investigate the economic linkages between industry production and geoscientist demand over the past decade.

Supply Trends: Trajectories of Geoscience Departments

Total faculty numbers have increased by ~30% since 1990, and the percentage of faculty that are professors has declined by 4% while the percentage of faculty that are emeriti has increased by 6%.

The increase in the ratio of non-tenure track professors to assistant professors is driven strongly by the increase in adjunct professors.

Demand Trends and Models

Projections based on extension of faculty rank percentages of total faculty numbers from 1990 to 2009. Total faculty growth is estimated at 1.7% per year.

New entrants are estimated to be 80% of total geoscience doctoral recipients. New entrant growth rate is estimated at 1.5% per year.

Industry Projections

Projections based on a 3% increase in graduate geoscientists entering the petroleum industry and a 2% growth in annual demand for geoscientists after 2011.

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