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"Functionally, there's no unemployment of geoscientists right now." Cindy Martinez, American Geological Institute

In the Geosciences, Business Is Booming

Carolyn Gramling
United States
8 August 2008

Geologist Amy Simonson loves her work. She spends her days in the countryside around Charlottesville, Virginia, measuring stream flow and groundwater levels for the state's [Department of Environmental Quality](#). The job, she says, is exactly what she wanted.

Simonson, 25, began her job hunt in 2007 after getting a master's degree in geology from the [University of Delaware](#), Newark. She had one condition: She wanted to spend as much time as possible in the field, not in front of a microscope or a computer. Taking a scattershot approach, she applied for jobs in geophysics, engineering, environmental consulting, and geographic information system mapping. She didn't have to wait long. "I got offered a lot of stuff," she says.

Simonson's experience isn't rare. For many young geoscientists now embarking on careers, the job outlook is very good. The current federal research funding situation means it's less rosy for those on an academic research track. But for those in industry, the number of geoscience jobs will grow by 22% from 2006 to 2016, much faster than the projected total of a 10% increase for all occupations, according to the U.S. [Bureau of Labor Statistics](#).

"In general, the market is hot," says Cindy Martinez, who analyzes geoscience workforce issues at the [American Geological Institute](#) (AGI) in Alexandria, Virginia. "Functionally, there's no unemployment of geoscientists right now."

In the petroleum, mining, and environmental consulting industries, a desperate quest for new talent has sent companies scrambling to hire new graduates. Traditionally, a master's has been the professional degree of choice for industry employers. But the need for new hires within these fields is such that even graduates with bachelor's degrees are

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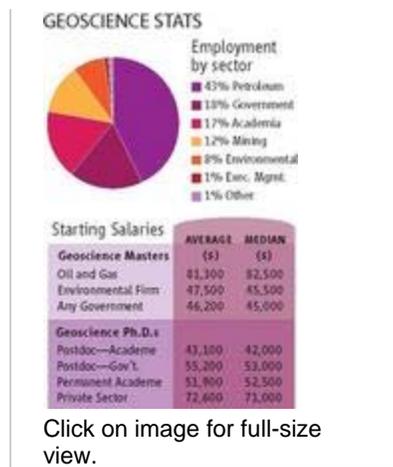
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finding jobs, particularly in environmental consulting--although a master's is generally needed to move up the ladder from fieldwork to the office.

That intense competition for new hires has raised starting salaries in these industries, especially oil: Graduates now entering the petroleum industry earn \$82,500 a year, on average, according to AGI.

Geoscience salaries generally have also been increasing, AGI data show. In 2005, the average starting salary for a geoscientist in an industry, academic, or government position was \$74,000, a 9.7% increase over 2004. For later career scientists with more than 20 years of experience, the average salary was \$139,000 in 2005, an increase of more than 23% over the previous year.



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The current hiring boom in the petroleum industry is a welcome change from the layoffs of the 1980s and 1990s; unemployment among geoscientists reached 11% in 1985. Those layoffs left a distinct gap in the oil industry workforce between new hires and senior managers, a 2007 [National Petroleum Council](#) report noted. And with many senior managers likely to retire within the next decade, there aren't enough midlevel managers ready to take the helm. This hiring and firing pattern is "totally cyclical," Martinez says. "The industry needs to work on fixing that."

Although industry jobs are readily available, the job market is tougher for students seeking careers in academia. One problem is a research-funding shortage, as primary funding sources such as the [National Science Foundation](#) have suffered from essentially flat research budgets for the past few years. That lack of research money contributes to another trend: When a venerated geology professor retires, some universities are choosing not to hire a replacement, filling the position with a scientist in a different, often environmental, field, or not at all. As of January 2008, the number of geoscience faculty members in U.S. colleges and universities was 12,354, down from 13,554 in 1999, according to a June 2008 report released by AGI.

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The lack of available academic positions has left geoscientists who aspire to faculty jobs in limbo, often stringing together several postdoc positions as they wait for openings, Martinez says. The percentage of geoscience postdocs "has really gone through the roof," with about 58% of Ph.D. graduates pursuing postdocs in 2005 compared with 40% in 1999. That trend may soon slow if a combination of strong industry salaries and weak academic opportunities pushes some students to leave graduate school early. "We're seeing geoscientists in droves going into industry with master's degrees and not staying on for Ph.D.s," Martinez says.

"My perception is indeed that there are many more applicants for jobs than there are positions," says Joseph Colgan, a [Mendenhall Postdoctoral Research Fellow](#) at the [U.S. Geological Survey](#) (USGS) in

Menlo Park, California. Colgan, who studies the geologic setting of mineral deposits in the western United States, has considered academic jobs but would like to stay in a more permanent job at USGS. However, the agency, like many universities, has tightened its belt after years of flat or declining budgets, which means fewer hires.

Geoscience graduates will have training that qualifies them for jobs outside of their home field. Scientists with training in multidisciplinary specialties such as isotopic tracers, mineral commodities, and geotechnology are successfully venturing into fields that aren't considered geologic, including medicine, law, and finance. In fact, only 50% of people with geoscience degrees currently work in the geosciences, according to AGI.

Ultimately, for geoscientists who want to work in industry, job opportunities abound. "The earth

sciences are in a somewhat unique situation at the moment because we're in one of the biggest commodity booms ever," Colgan says. So if he doesn't get a permanent position with USGS, he adds, "I'll come up with something else."

Carolyn Gramling is a geosciences writer in Washington, D.C.	Comments, suggestions? Please send your feedback to our editor .
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