

Geoscience Employment Begins to Rebound in 2021

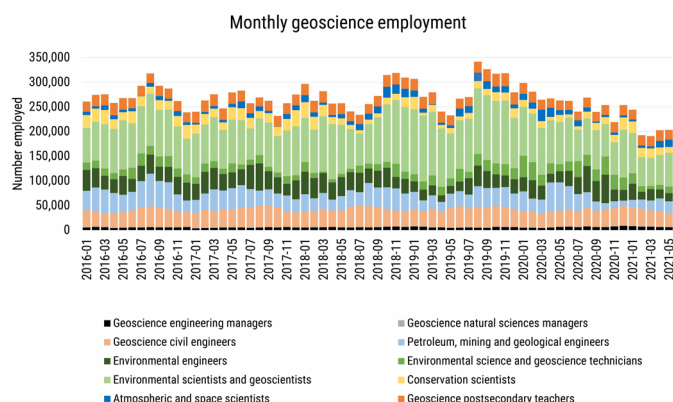
This data brief provides an update on monthly employment trends for geoscience occupations as well as industry-level employment trends for the sectors in which geoscientists work. Data from the U.S. Census Bureau's Current Population Survey provides monthly occupational employment data, while data from the U.S. Bureau of Labor Statistics' Current Employment Statistics dataset enables the examination of changes in monthly employment across industry sectors (but does not provide industry-occupational specificity).

Employment trends by occupational category

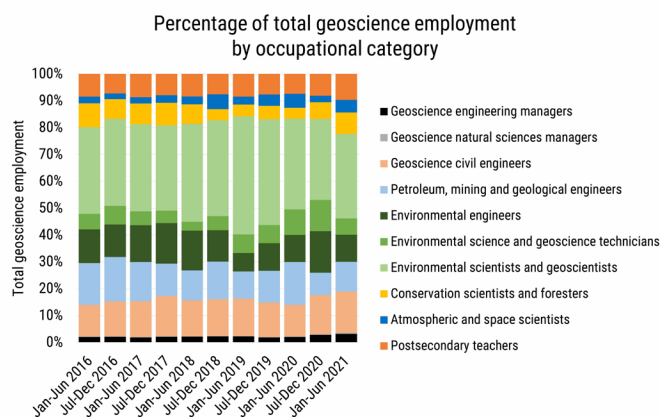
According to data from the U.S. Census Bureau's Current Population Survey (CPS), total geoscience employment ranged between 231,500 and 341,800 from 2016 through 2019 with a peak in August 2019. From August 2019 to March 2021, geoscience employment steadily declined to 190,700, and then rebounded to 243,500 by June 2021. Geoscientist and environmental scientist occupations (defined as *environmental scientists and geoscientists* by CPS) had the largest total decline in employment between August 2019 and March 2021, shedding just over 76,500 jobs. Over the same period, petroleum, mining, and geological engineering occupations shed just over 21,200 jobs, and environmental engineering occupations shed just over 19,300 jobs.

Between March and June 2021, geoscience employment began to rebound, with strong growth in geoscientist and environmental scientist occupations (+19,700 jobs), petroleum, mining, and geological engineering (+16,800 jobs), atmospheric and space science (+14,800 jobs), environmental science and geoscience technician occupations (+10,200 jobs), and environmental engineering (+1,700 jobs). A few occupations contracted during this time period, including conservation science (-6,800 jobs), geoscience civil engineering (-2,000 jobs), geoscience post-secondary teaching

(-1,100 jobs), and geoscience-related management occupations (-500 jobs).



Credit: AGI, data derived from the U.S. Census Bureau, Current Population Survey



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Geoscientist and environmental scientist occupations comprise the largest percentage of total geoscience employment. In 2016 and 2017, they comprised 32% of total geoscience employment, and this percentage increased to 44% in the first half of 2019, thereafter declining to 31% in the first half

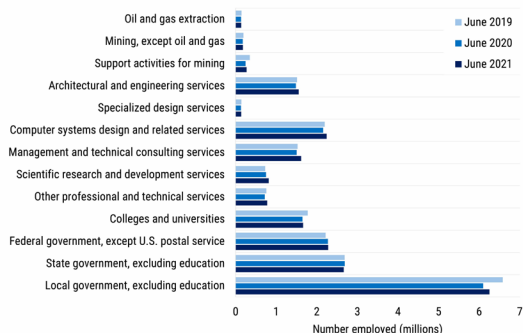
of 2021. Petroleum, mining, and geological engineers and environmental engineers, which comprised 28% of total geoscience employment in 2016-2017, declined to 21% of total geoscience employment in the first half of 2021.

Employment trends by industry

The U.S. Bureau of Labor Statistics' Current Employment Statistics dataset provides insight into monthly changes in total employment across industry sectors; however, the data does not provide the granularity to examine occupational employment trends within industry sectors.

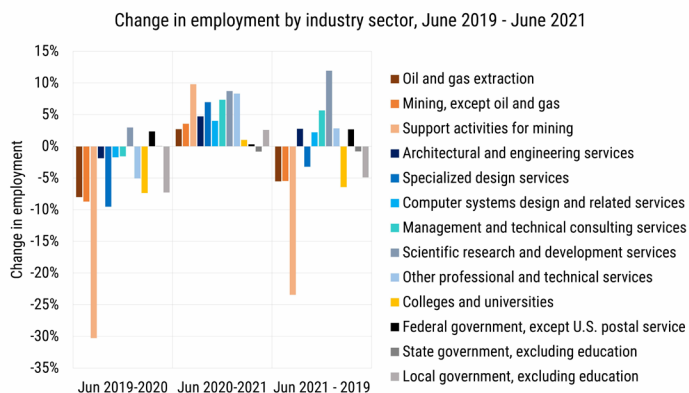
Between June 2020 and 2021, most industry sectors in which geoscientists work saw employment gains, except for state government which lost 22,100 jobs. The industry sectors of importance to geoscientists with the largest gains over this period included local government (+157,100 jobs), technical consulting and management services (+110,600 jobs), computer systems design and related services (+86,400 jobs), architectural and engineering services (+70,000 jobs), scientific research and development services (+65,400 jobs), and other professional and technical services (+59,500 jobs).

Employment by industry sector, 2019 - 2021



Credit: AGI, data derived from the U.S. Bureau of Labor Statistics, Current Employment Statistics

While most sectors saw employment growth between June 2020 and June 2021, only those sectors related to professional, scientific and technical consulting, architectural and engineering services, and the federal government showed growth above June 2019 employment, with most showing less than 3% growth over this period. Two sectors, technical consulting and management services and scientific research and development services, grew by 12% and 6% respectively over this same period.

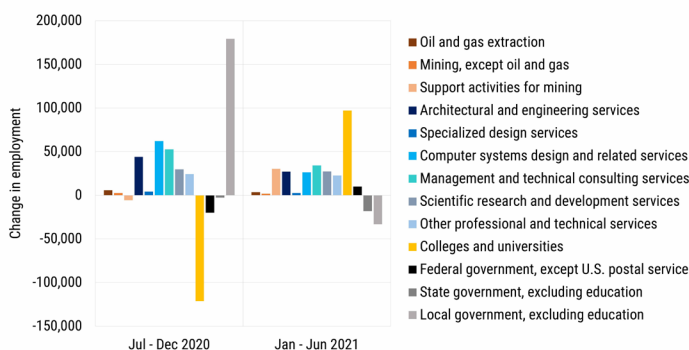


Credit: AGI, data derived from the U.S. Bureau of Labor Statistics, Current Employment Statistics

During the second half of 2020, employment rebounded across all sectors, except for higher education and the support activities for mining sector (which includes oil and gas support activities) where job losses were still occurring, albeit at a much slower pace than the first half of 2020.

Employment increased across most sectors during the first half of 2021, with the exceptions being local government and state government, where employment contracted by 33,200 jobs and 18,200 jobs respectively. While the support activities for mining sector had the largest percentage change in employment in 2021 (+13%), the largest absolute employment increases in 2021 were in higher education (+97,000 jobs) and in the management and technical consulting services sector (+34,100 jobs).

Change in employment by industry sector, 2020-2021



Credit: AGI, data derived from the U.S. Bureau of Labor Statistics, Current Employment Statistics

According to the U.S. Bureau of Labor Statistics, the volatility in higher education employment trends was due to pandemic-related impacts that disrupted normal seasonal

employment variations in the sector. Campus closures and declining enrollments resulted in institutions resorting to layoffs to cut expenses, and this was compounded by slower than usual hiring during Fall 2020. January 2021 employment gains were likely influenced by the pandemic-related disruptions during 2020, and employment gains in March 2020 reflect the resumption of in-person learning and opening of campuses across the nation.

The large fluctuations in local government employment is also likely related to impacts from the pandemic as well as to the availability of federal aid, but to date, insight into the drivers in these employment trends has not been provided in the U.S. Bureau of Labor Statistics' reports.