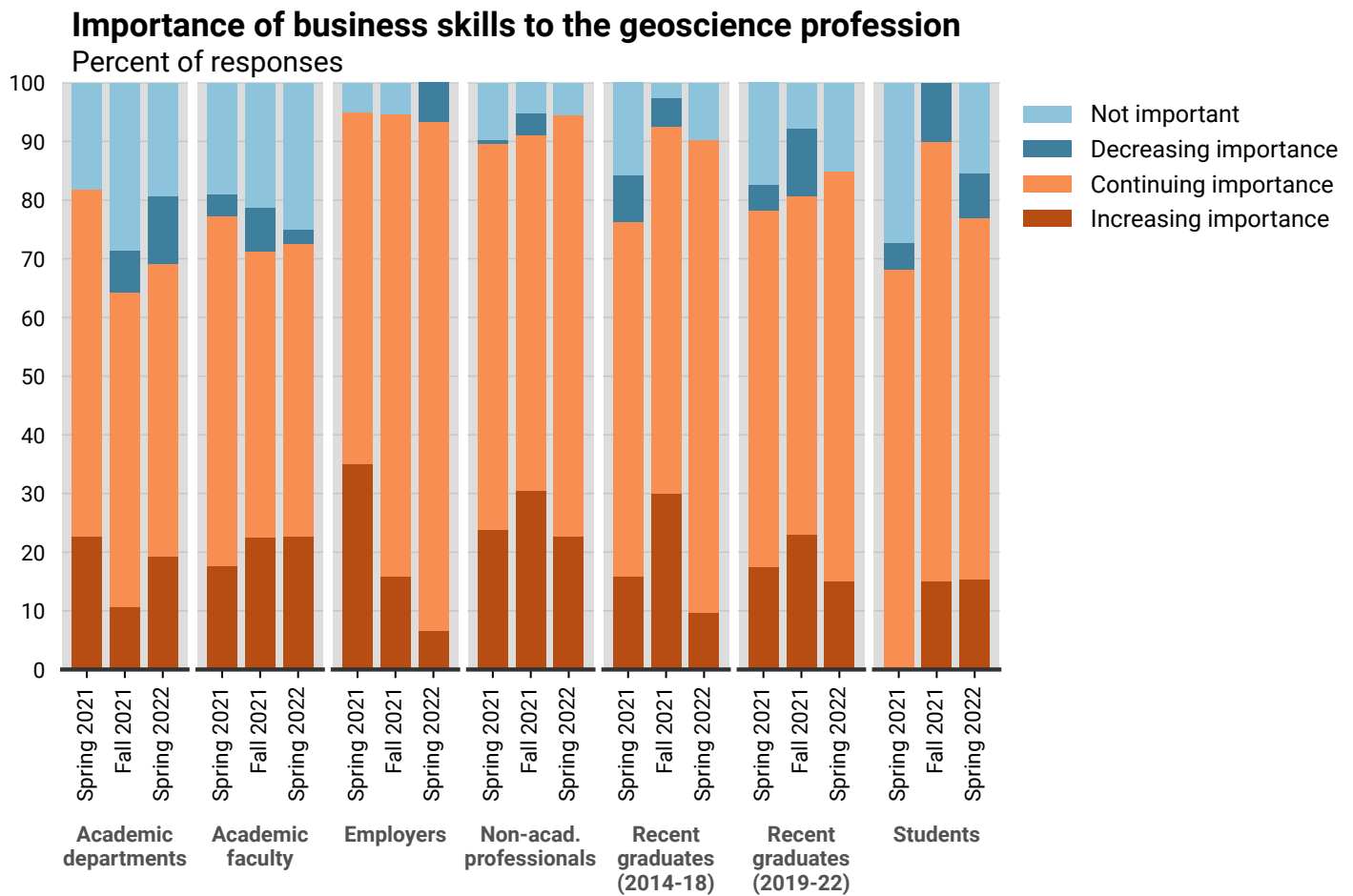




## Changes in perceived importance of select technical skills to the geoscience profession

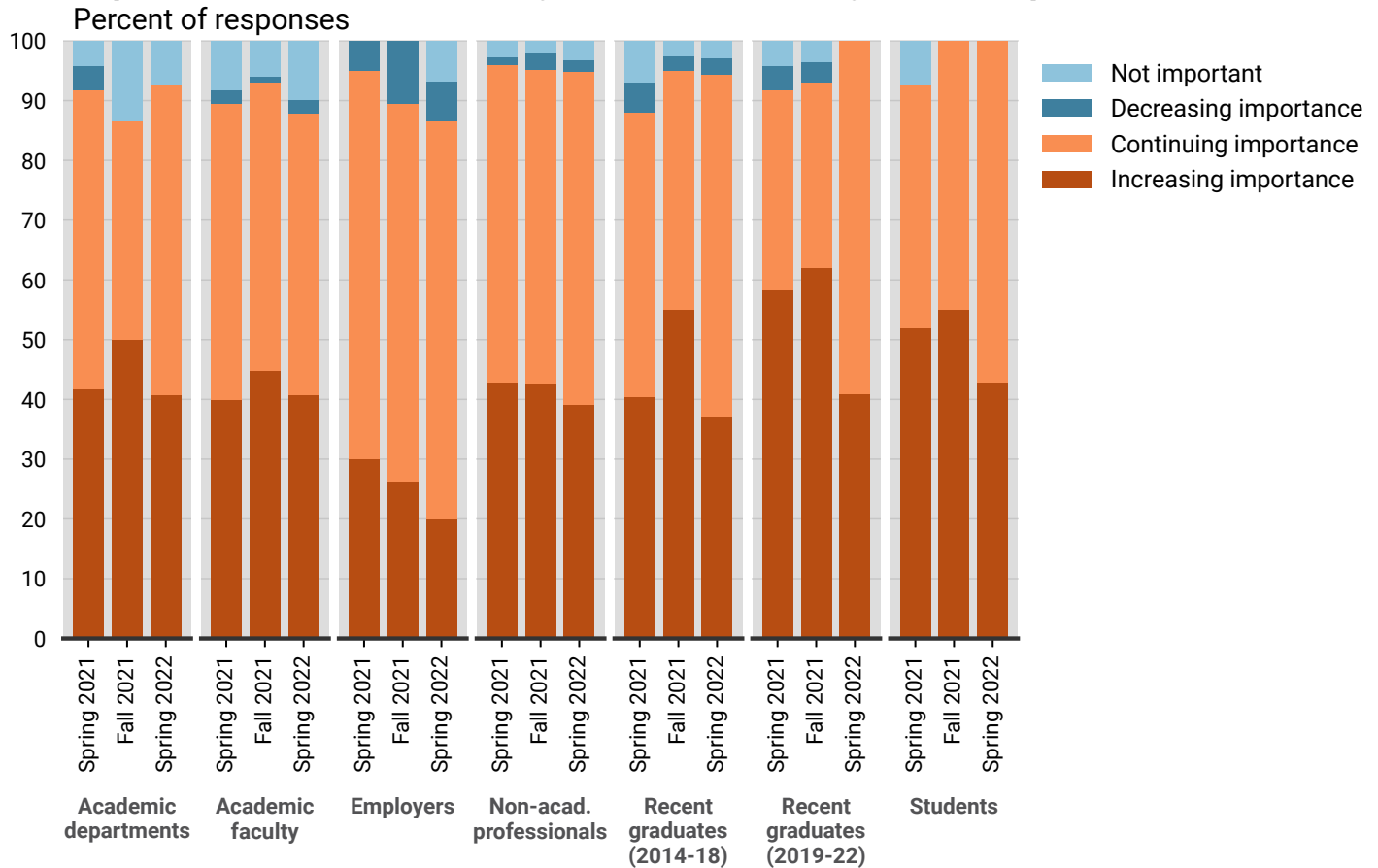


Credit: AGI; data from AGI's Geoscience COVID-19 Impacts Study

In 2021 and 2022, we surveyed participants in the Geoscience COVID-19 Survey about their views on the importance of select technical skills to working in the geoscience profession. Across participant cohorts, the skills rated most important to working in the geoscience profession were data visualization and mapping software skills, followed by database development and management and graphic design. An overwhelming majority of geoscience employers rated business skills, including program management, as

continuing or increasing in importance. While over half of respondents in all study cohorts reported this skillset as important, geoscience academic departments and geoscience academic faculty cohorts were least likely to view this skillset as important to the profession. The cohort with the largest increase in their view of importance of business skills were recent geoscience graduates (Classes 2014-2018), moving from 76% to 90% between Spring 2021 and 2022.

### Importance of database management skills to the geoscience profession



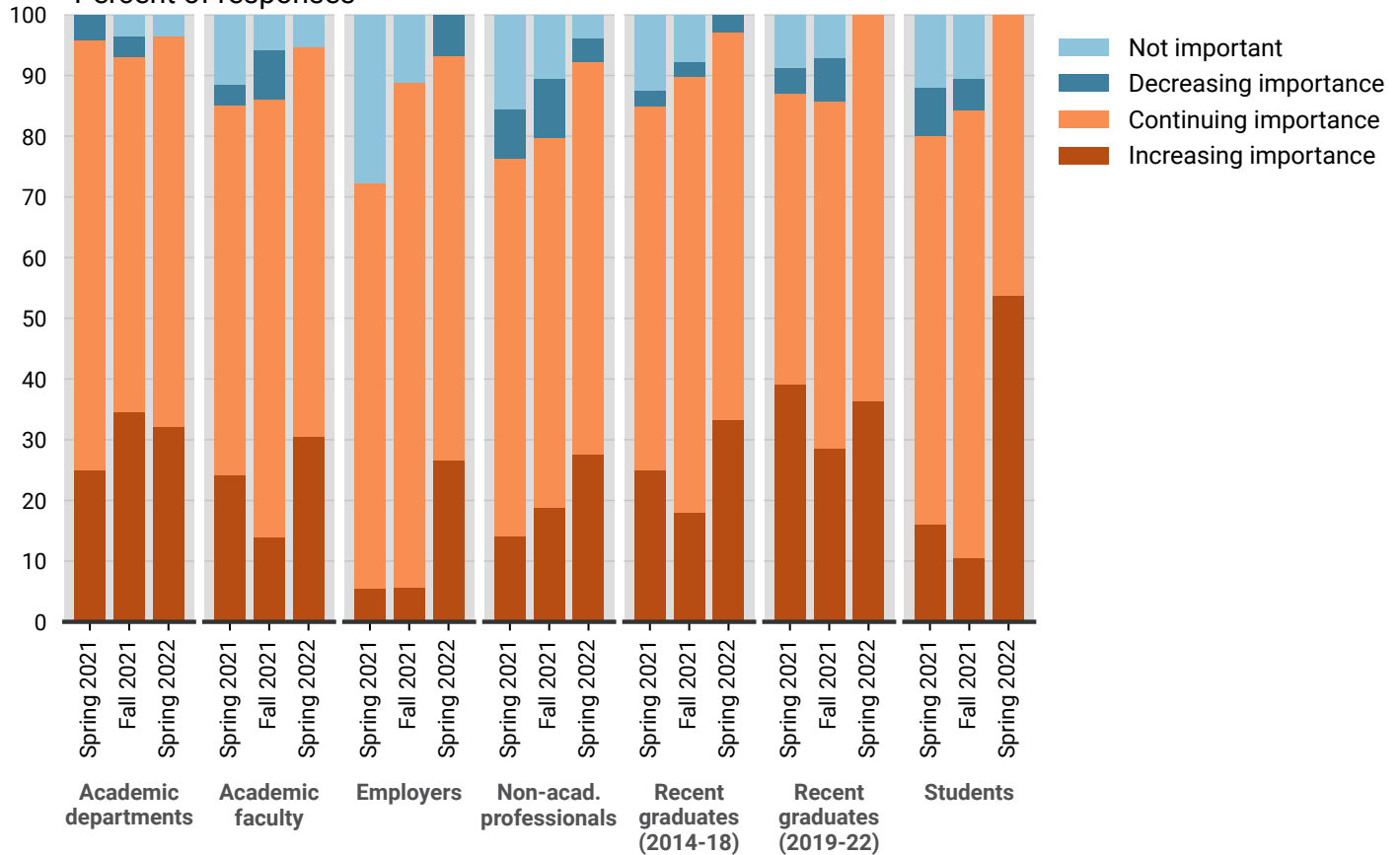
Credit: AGI, data from AGI's Geoscience COVID-19 Impacts Study

Database management and development skills were reported to have continuing or increasing importance to over two-thirds of study participants in all major cohorts, with the students having the largest percentage of respondents reporting this skillset as important to the profession, followed by non-academic professionals.

There was a slight decrease in the percentage (-8%) of employers reporting this skillset as important to the profession between 2021 and 2022, and a slight uptick in students and newly minted geoscience graduates (Classes 2019-2022) over the same period (+7% and +8%, respectively).

**Importance of graphic design skills to the geoscience profession**

Percent of responses

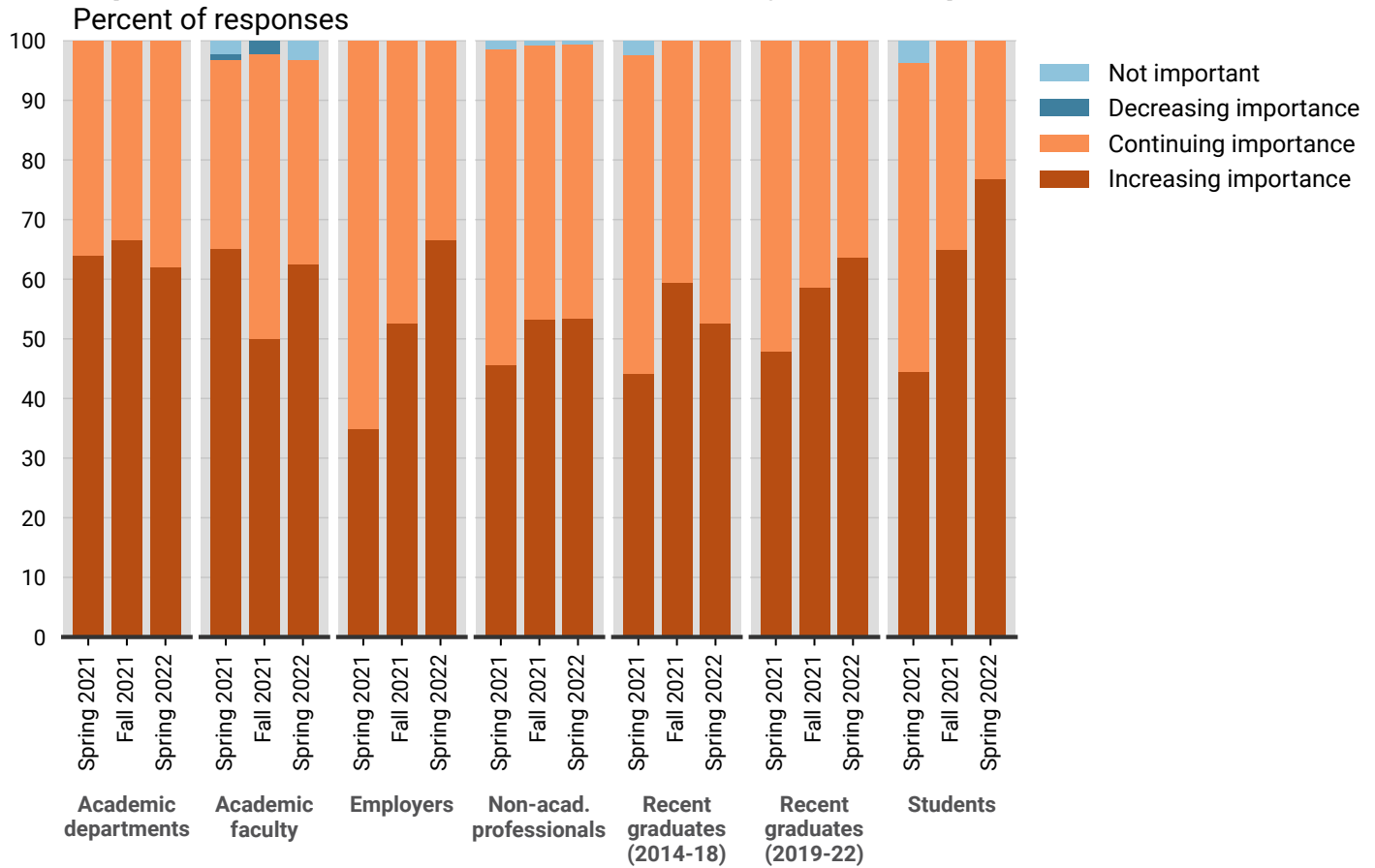


Credit: AGI, data from AGI's Geoscience COVID-19 Impacts Study

Across all study cohorts, respondents reported that graphic design skills were continuing or increasing in importance increased between 2021 and 2022, with the largest increases occurring among geoscience

employers (+21%), geoscience students (+20%), and non-academic professionals (+16%). By Spring 2022, over 90% of respondents in all cohorts reported this skillset as continuing or increasing in importance.

### Importance of data visualization skills to the geoscience profession



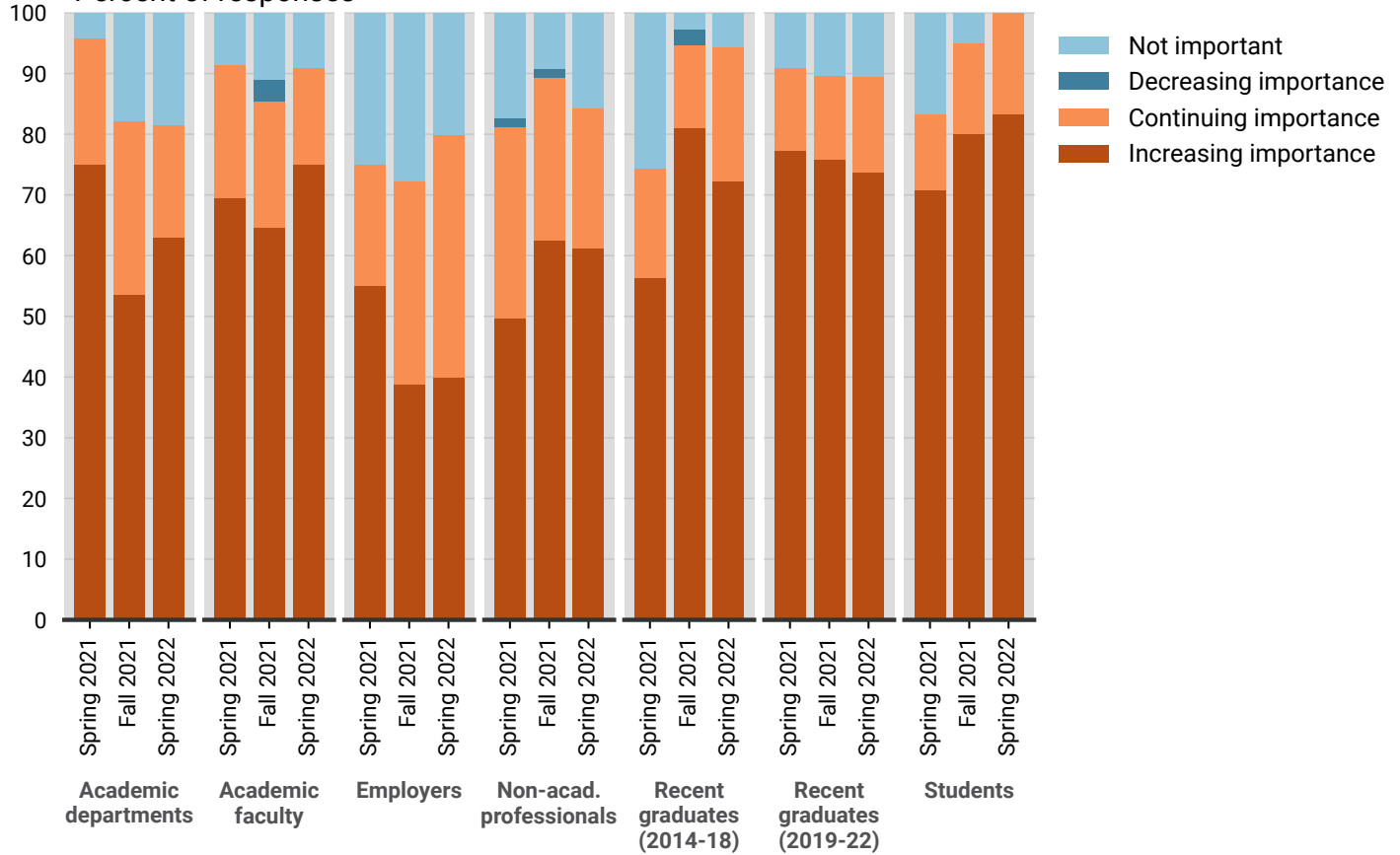
Credit: AGI, data from AGI's Geoscience COVID-19 Impacts Study

Data visualization skills, including mapping software skills had the highest recognition for increasing importance or continuing in importance to the geoscience profession. Between 2021 and 2022, most cohorts had an increasing percentage of respondents reporting that

this skill was increasing in importance, with employers and students having the largest jumps in participants reporting this skillset as increasingly important (+32% for both cohorts).

**Importance of data science and ML/AI skills to the geoscience profession**

Percent of responses



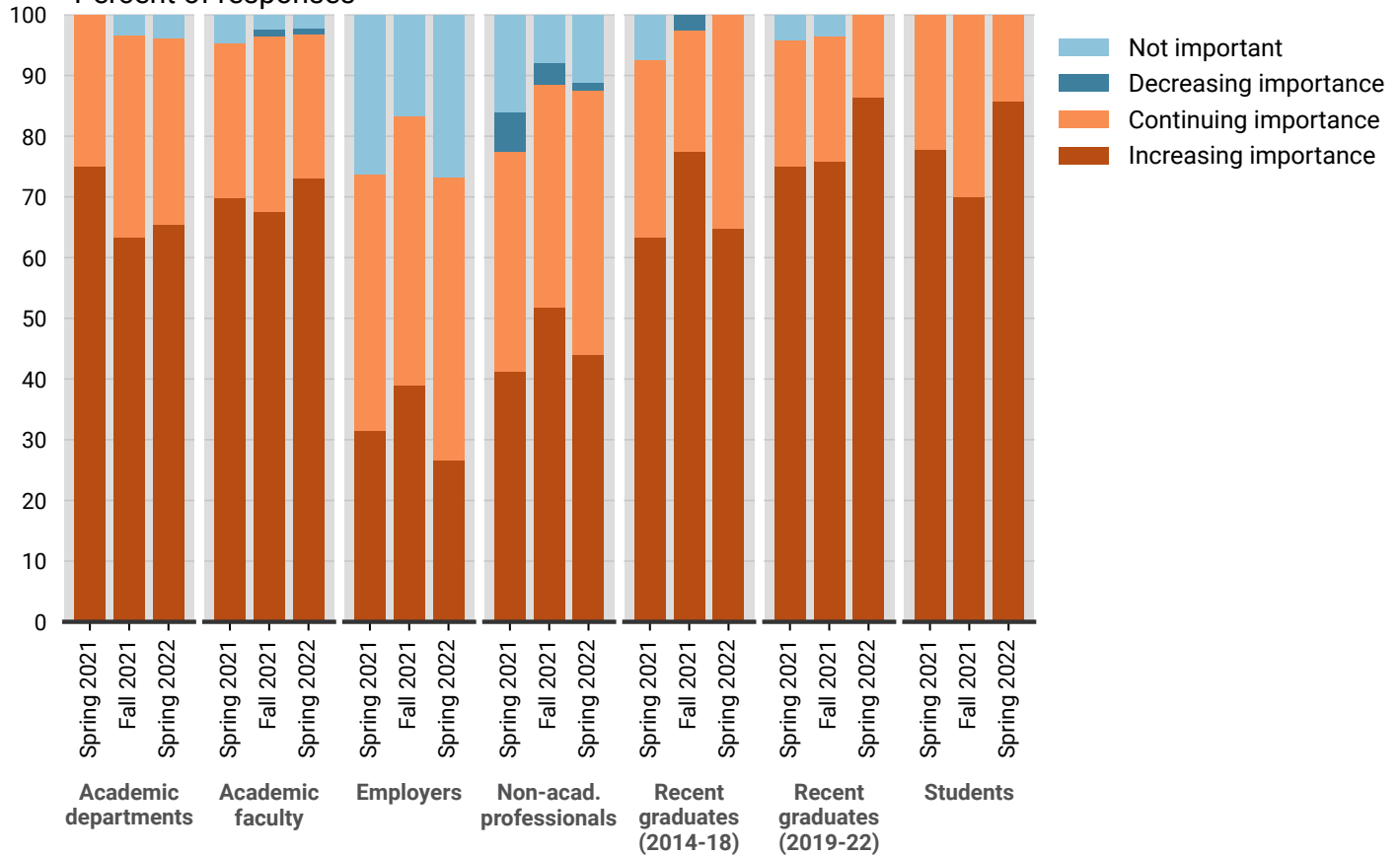
Credit: AGI, data from AGI's Geoscience COVID-19 Impacts Study

By Spring 2022, data science skills, including machine learning (ML) and artificial intelligence (AI) was reported to be continuing or increasing in importance for the geoscience profession by at least three-quarters of participants across all cohorts. Recent geoscience

graduates from the Classes of 2014-2018 had the largest increase in noting the importance of this skill-set (+20%), while geoscience academic departments had the largest decline (-14%) between Spring 2021 and 2022.

### Importance of programming skills to the geoscience profession

Percent of responses



Credit: AGI, data from AGI's Geoscience COVID-19 Impacts Study

Students overwhelmingly viewed programming skills an important or increasingly important to the profession between 2021 and 2022. Likewise, all cohorts except for academic departments had an increasing percentage of respondents noting the importance of this skillset.

We will continue to provide current snapshots on the impacts of COVID-19 on the geoscience

enterprise throughout the year. For more information, and to participate in the study, please visit: [www.americangeosciences.org/workforce/covid19](http://www.americangeosciences.org/workforce/covid19)

Funding for this project is provided by the National Science Foundation (Award #2029570). The results and interpretation of the survey are the views of the American Geosciences Institute and not those of the National Science Foundation.