Macroscopic Impact Trends From The Pandemic On Geoscience Programs

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Pandemics and Programs

A tale of shock, evolution, and innovation
Department Budgets

Budget cuts less severe than expected for most departments.

Just over 1/3 of departments reported no budget cuts.

13% of departments reported cuts worse than expected.
Staffing impacts primarily occurred in Summer 2020.

Most impacts centered on reduced hours and furloughs of staff and non-tenured faculty.

Current impacts are mostly centered on hiring freezes and leaving positions unfilled.

Active hiring picked up in May 2021. Departments primarily hiring to fill positions created by layoffs as well as for new positions.
Enrollments generally down at institutions for 2020-2021 AY, but similar to or higher than 2019-2020 AY for geoscience courses.
Decrease in on-campus majors

Primary areas impacted in enrollments overall:

- Petroleum-oriented
- Smaller Liberal Arts Colleges
- Smaller regional universities

Graduate enrollment is breaking long-term trend
Most departments now offering only in-person instruction (primarily with COVID-related restrictions like masking).

Just over 1/3 departments reporting dual-mode delivery with a combination of in-person / online or in-person / hybrid modes.
Instructional Formats

Most departments have returned to in-person instruction for labs.

Most departments offering single-mode instruction, with ~ 1/4 offering multiple modes of instruction for labs.
Integrating New Approaches

Plans for integrating virtual lab and field experiences into the curriculum

- No plans
- Prep materials for in-person activities
- Back-up for those who cannot attend
- Course modules
- Supplemental / optional material
- Follow-on activities for in-person activities
- Course replacements
- Other

Academic departments

- Virtual field activities
- Virtual labs

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Percent of Students Unable to Take a Course

What percentage of geoscience majors in your department were unable to take required courses during the 2020-2021 academic year?

- 0%: Continuing students - 100%, Graduating students - 0%
- Less than 10%: Continuing students - 0%, Graduating students - 0%
- 10% to 25%: Continuing students - 25%, Graduating students - 25%
- 25% to 50%: Continuing students - 10%, Graduating students - 10%
- More than 50%: Continuing students - 0%, Graduating students - 0%

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How Degree Completion Was Handled
As reported by students

How did you handle courses that were required for your degree completion?

- Completed
- Substitutions accepted
- Requirement was waived
- Could not take or complete

Legend:
- Lecture courses
- Labs
- Field courses
- Field components to courses

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COVID-Era Graduates Skills Reflection

Skills and knowledge graduates wished they acquired before graduating

- None: 11%
- Project management: 21%
- Programming skills: 53%
- Database management: 47%
- Field skills: 0%
- Lab skills: 0%
- Data visualization and mapping software: 58%
- Machine learning, AI, data science: 47%
- Proficiency with virtual platforms: 11%

Respondents
Impacts on Faculty Productivity

Change in faculty Nov 2020 to Mar 2021

Respondents:
- Collaboration with colleagues
- Ability to focus on work activities
- Meetings
- Research activities
- Teaching activities

- Increased productivity
- Same productivity
- Decreased productivity

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Impacts on Faculty Productivity

Faculty productivity level with remote work, March 2021

Respondents

- Ability to focus on work
- Research activities
- Teaching activities
- Collaboration with others
- Meetings

Colors:
- Extremely productive
- Somewhat productive
- Moderately productive
- Slightly productive
- Not productive

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Assistance Provided to Faculty & Staff

Work-from-home assistance provided for faculty and staff

- Equipment (computers, printers, monitors, etc.)
- Furniture
- Software
- Office supplies
- Financial assistance to procure equipment, furniture, software and/or supplies
- Training on software, equipment, etc.
- No assistance has been provided
Levels of Effort During COVID

More than 25% of time spent on academic activities by faculty rank and gender

Respondents

Committees
Writing
Research
Teaching

- Tenure-track (M)
- Tenured (M)
- Tenure-track (F)
- Tenured (F)
Home-related Impacts on Productivity

Productivity impacts from caregiving and domestic responsibilities

Respondents

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Any impact, Childcare, Eldercare, Household management.
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