

Executive Summary

The faculty of the Department of Geological Sciences feel we are currently at a crossroads where we have an opportunity to improve recognition of our programs and activities. We have maintained a stable enrollment of 30-40 majors over the last several years, but are concerned that with declining enrollments that this trend may not continue. At the same time, careers in geology are changing to reflect 21st century issues such as environmental justice and climate change.

In order to improve recruitment and recognition of the career potential of our degree programs, we propose changing our department name to **Earth and Space Sciences**.

This new name:

- Aligns better with our degree programs
- Will be more familiar to incoming students
- Better reflects faculty expertise
- Reflects recent changes in the profession and at other universities
- Follows a recommendation from our recent 5-year external review

Our rationale for this change and an explanation for how this name change might benefit our programs is included on the following pages.

Introduction

The Department of Geological Sciences was formed in 2014 after a split of the former Physics and Earth Sciences department. At that time, we had two degree programs: an Earth Sciences BS with a specialization in Earth Science and an Earth Sciences BS with a Geology specialization. We were proposing to change these specializations to an Earth Sciences BS and a Geology BS respectively, and to name our new department Geosciences to reflect the breadth of disciplines represented by our faculty. Unfortunately, however, the degree program name changes were not approved, as it was felt this might cause competition for the newly reinstated programs at UConn, and other departments at CCSU objected to our use of “Geoscience” as potentially causing confusion with their programs. At that time, we elected “Geological Sciences” to differentiate from our previous department and focused on expanding our Earth Sciences BS program to include additional specializations to help students focus their course selection towards the career path they prefer.

We currently offer 5 specializations: Environmental Earth Science, Environmental Geology, General Earth Science, Geology, and Planetary Geology (see Figure 1 for historical enrollments in these programs). In addition, we offer minors in Astrobiology, Astronomy, Earth Science, and Geology.

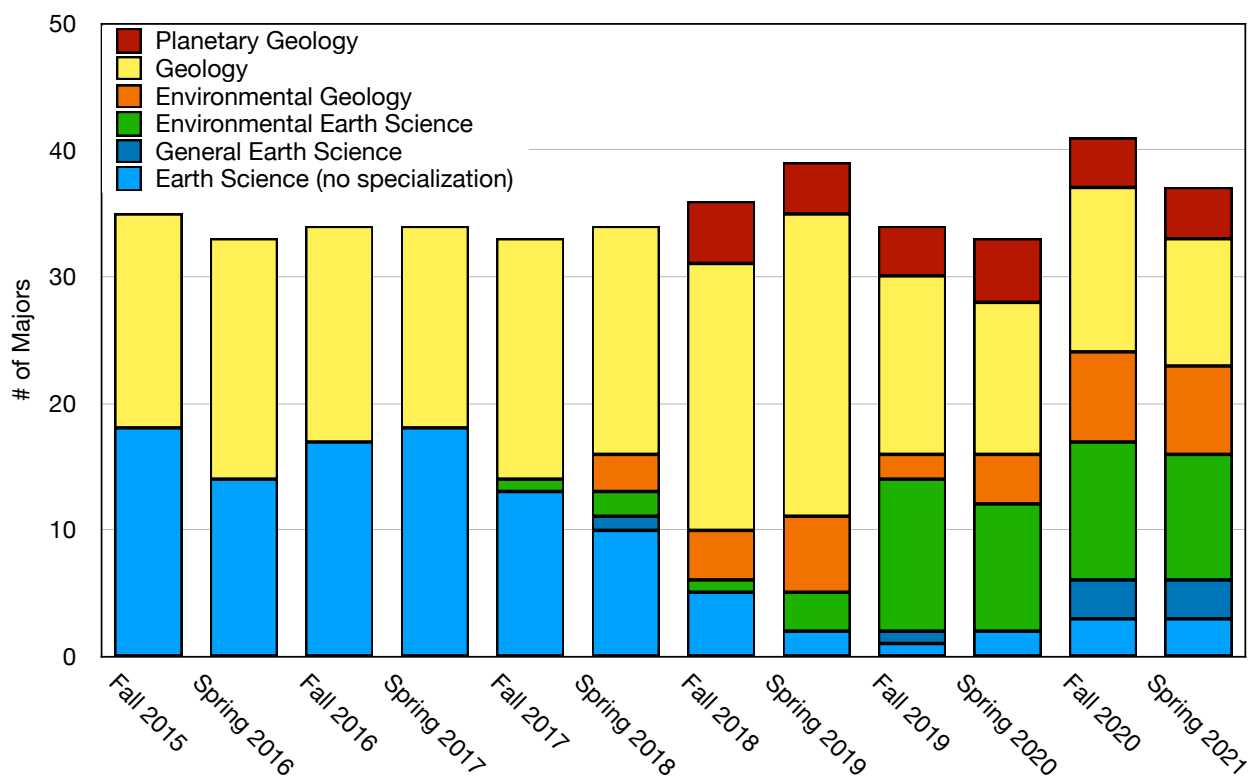


Figure 1: Number of Earth Science B.S. majors, separated by specialization. The current five specializations were approved in 2017. Since then, there has been an increase in the number of majors in “earth science” specializations, specifically “environmental earth science”.

Rationale for Name Change

Following the transitions required for the COVID pandemic and the drafting of our five-year review of the Earth Sciences BS program, we organized a one-day department retreat to discuss issues facing our department, particularly the need to increase our enrollments. The two major outcomes of this retreat were suggestions for potential curriculum revisions to make our courses more attractive to incoming students and a discussion of our department name. While “Geological Sciences” fits many of the courses we teach, it does not include all of the disciplines represented by department faculty and programs, and it does not reflect the breadth of industry positions and graduate school specialities that our alumni have undertaken. We discussed a number of potential new names, and selected “Environmental Earth and Space Sciences” as our top choice, with the caveat that we would need to discuss that change with other departments on campus who offer programs with an “environmental” focus. After discussing this option with others on campus, we elected to propose “Earth and Space Sciences” as this would not cause any confusion with similarly named programs in other departments.

The reasons for our name change proposal are as follows.

- *“Earth and Space Sciences” aligns better with our degree programs*

Our degree programs are an Earth Sciences B.S. (with multiple specializations), an Earth Sciences B.S. certifiable for secondary education, and a specialization in Earth Science for elementary education majors. We also offer minors in Astrobiology and Astronomy as well as Earth Sciences and Geology. While these all technically could be considered part of the “Geological Sciences”, they are instantly recognizable as part of the “Earth and Space Sciences”.

- *“Earth and Space Sciences” will be more familiar to incoming students*

Our incoming students have likely been exposed to science courses that align with the Next Generation Science Standards (NGSS). These standards specifically include objectives in “Earth and Space Sciences”. In addition, relevant courses at the high school level are often called “Earth Science” or “Environmental Science”. While “Earth Science” and “Geological Science” might appear to be similar, the former is more recognizable due to its alignment with elementary and secondary education standards and coursework.

- *“Earth and Space Sciences” reflects a trend in language used by university programs and professional societies.*

Over the last decade, a number of geology programs have elected to switch their department names and degree titles to reflect a broader audience; a survey of departments in the region reflects the preference for “earth science” over “geology” or “geoscience”. (See Table 1). When sufficient enrollment data is available for departments electing a name change, the trends in enrollments are to stabilize or increase after the change (see Figure 2).

Professional societies are also updating their language to reflect a broader concept of “earth science” rather than “geology”. Arguably the largest professional organization for geoscientists, the American Geophysical Union (<https://www.agu.org>) has adopted the motto “Advancing Earth and Space Science” and utilizes “earth and space scientists” in position papers, including those relevant to education topics. Sigma Gamma Epsilon (<https://www.sigmagammaepsilon.org>) refers to itself as “The National Honor Society for the Earth Sciences” and uses earth sciences throughout their literature (students in our department established a chapter of SGE in 2013, which was for several years the only active chapter in Connecticut).

Other professional societies do retain the “geology” or “geoscience” term: this is in part due to the language of professional licensing (e.g. the American Institute of Professional Geologists (<https://www.aipg.org>), which has separate membership categories for certified geologists and those who have not completed the licensing exam). The Geological Society of America (<https://www.geosociety.org>) refers to “geoscience” rather than “geology” in society webpages and position papers. Finally, the National Association for Geoscience Teachers (<https://www.nagt.org>) also includes “geoscience” in their name, but includes “the Earth” often in their literature alongside “geoscience”, such as their mission statement “NAGT supports a diverse, inclusive, and thriving community of educators and education researchers to improve teaching and learning about the Earth.”

| Institution | Department Name | |
|--------------------------------|--|---|
| Baylor | Geosciences | changed from Geology |
| ECSU | Environmental Earth Science | |
| SCSU | Earth Science | |
| Stanford | School of Earth, Energy, and Environmental Science | changed from School of Earth Sciences |
| Tufts University | Earth and Ocean Sciences | changed from Geology in 2012 |
| UConn | Geoscience | (recently reinstated) |
| UMass Amherst | Geosciences | |
| UMass Lowell | Environmental, Earth, and Atmospheric Sciences | |
| University of Dayton | Geology and Environmental Geosciences | changed from Geology |
| University of Delaware | Earth Sciences | changed from Geological Sciences |
| University of Hawai'i at Manoa | Earth Sciences | changed from Geology and Geophysics degree program changed to Earth and Environmental Science |
| University of Minnesota | Earth Sciences | changed from Geology and Geophysics in 2011 (see also Figure 2) |
| University of Oregon | Earth Sciences | changed from Geological Sciences in 2017 (see also Figure 2) |
| WCSU | Physics, Astronomy, and Meteorology | |
| Wesleyan | Earth and Environmental Sciences | |
| Western Kentucky University | Earth, Environmental, and Atmospheric Sciences | changed from Geography and Geology |
| Yale | Earth and Planetary Sciences | changed from Geology and Geophysics (2020) |

Table 1: List of department names from institutions in the region (Connecticut and Massachusetts) and from departments at other institutions who have recently changed department names (previous names indicated in the last column).

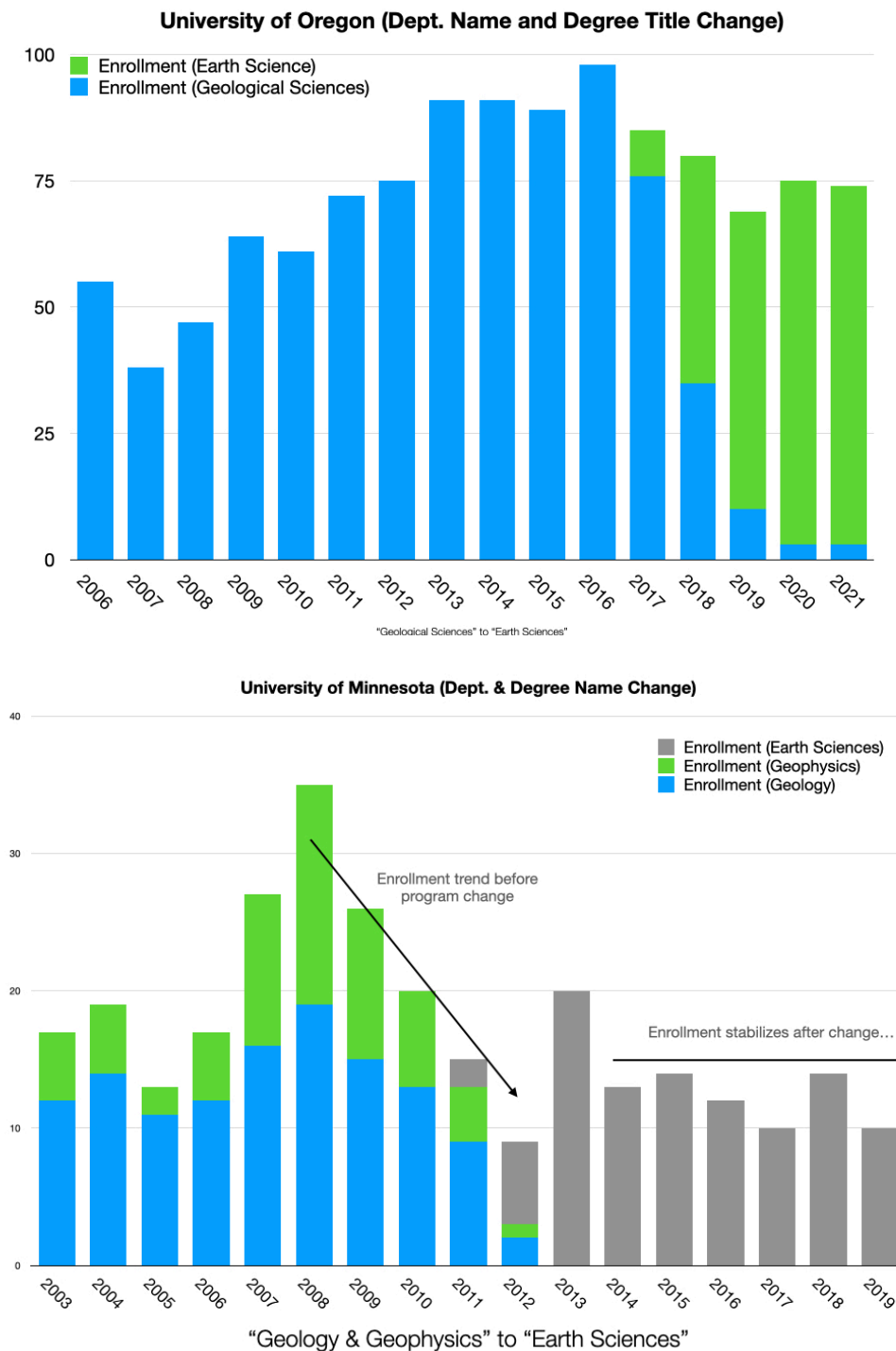


Figure 2: Effects of name changes on program enrollments (examples). In 2017, the University of Oregon changed both their department and degree programs from “Geological Sciences” to “Earth Science, and saw an increase in majors in 2020-2021 (after an initial decrease) despite the trend of decreasing enrollments during the pandemic. The University of Minnesota was on a similar down trend in 2011 when the department and programs changed from “Geology and Geophysics” to “Earth Sciences”, and have had stable enrollments since the change.

- *“Earth and Space Sciences” better represents the diversity of expertise within our department.*

The disciplines in which our department is active in both education and research include: astronomy, astrophysics, environmental geology, hydrogeology, geomorphology meteorology, mineralogy, planetarium outreach, planetary science, remote sensing, science education, and sedimentology. Although technically part of the “geological sciences”, this broad set of disciplines is better represented by “earth science” and “space science”.

- *A name change to “Earth and Space Sciences” was included in recommendations from our recent five-year review.*

In the report from our external reviewer, the first bullet in the section “Recommendations to University Administration” strongly supports the requested change:

“The Department has requested a change in the name of the department to the Department of Earth and Space Sciences as a means to better identify the nature of the department and to present a familiar term to prospective students. This is a no--cost idea that will help the Department and the University recruit students. The requested name change should be approved immediately.” (page 10)

Conclusion

In response to changes in our profession and in the way science is presented in primary and secondary schools, we are currently updating our course descriptions to reflect this trend. In addition, the Department of Geological Sciences feels it is in our best interests to change the most public-facing portion of our department - our name. The title “Earth and Space Sciences”. better reflects the expertise of our faculty and the degree programs we offer and is distinct from names of other departments and programs at CCSU. We look forward to further discussions on how we might best affect this necessary change.