

Grant Final Report Form

Principal Investigators (PIs) are required to submit final reports within **60 days** of their EIA grant end date. A delinquent report may jeopardize or delay future Network funding. The information you provide helps us improve and justify the continuation of this grant program. The Network may also contact PIs for longer-term impact reporting and may request permission to use elements of these reports in Network activities (Conference sessions, Academy sessions, etc.) and communication both within the CSU system and to external stake-holders.

Summary Grant Information	
Grant Title:	Unlearning Racism in the Geosciences Professional Learning Community
PI Name:	Mara Brady
PI Campus:	California State University, Fresno
Grant Start Date (month/YYYY):	June 2022
Grant End Date (month/YYYY):	December 2023
Final Report Submission Date:	September 13, 2024

Major Outcomes

1. Summarize your project's outcomes against the original goals proposed for advancing equitable student learning, engagement, progression, and completion.

We proposed to leverage the momentum of previous department-wide efforts to integrate (1) societally-relevant issues, (2) community-based research projects, and (3) career-relevant exploration and development throughout the curriculum. We proposed to provide all faculty opportunities to learn about these topics from the same framework and literature base; and to carefully plan how these experiences and topics are sequenced and scaffolded.

Project Progress:

- Summer: In June 2022, we hosted a week-long summer institute. Five Fresno State faculty participated along with three local community college faculty and five Fresno State students (Note: this workshop was partially supported by another external grant). In total, seven different course offerings were collaboratively re-designed across three institutions. During the workshop we developed a shared understanding of drawing on cultural strengths in the classroom and strategies for implementing inquiry-based projects in the classroom. We hosted guest experts on these topics and met with community-based organizations to discuss potential collaboration on local environmental issues. Two of the re-designed courses at Fresno State (EESI02S, EESI15S) were recently approved for service-learning designation.
- Fall 2022: Our department hosted six Unlearning Racism in the Geoscience (URGE) discussion and action planning sessions, with ten faculty participating in at least 3 out of 6 sessions. Students from our department and the Dean of College of Science and Mathematics joined for our last discussion of the semester. Topics for the six sessions included: Review & Action Planning (from previous discussion); four URGE (www.urgeoscience.org) sessions: Racism & Inclusivity, Racism & Self Care, Racism & Accountability; "Examining and Dismantling Systemic Racism in Academic Publishing (Guest lecture)"; "The not so great outdoors? Questioning how we recruit students from historically marginalized communities into the geosciences" (AGI webinar and discussion).
- Spring 2023: Our department hosted six action planning sessions that covered the following topics: recruitment strategies (for increasing the number and racial diversity of incoming students), creating safety & belonging during field experiences (outdoor excursions and class exercises that are common to our courses), Environmental Science B.S. 5 Year Action Plan (in response to program review and incorporating aspects of our ongoing discussions), Internship Course Expectations and Assessment (as a way of integrating career-relevant experiences into major requirements), goal & priority setting in preparation for our Fall 2023 retreat.

2. Comment on additional outcomes not directly associated with the project (partnerships formed, additional funding support gained)
 - Several EES faculty attended a training in Fall 2023 “Improving workplace climate: empowering individuals to become active bystanders”
 - We are in the process of submitting a revised M.S. program that will accommodate new students interested in interdisciplinary Environmental Science. Our current program is M.S. in Geology and we have many more students interested in applied environmental research.
 - Expanded courses that incorporate community-based research projects: EESI02S, EESI15S, EES31, EESI14, EESI17, EESI08.
 - Formalized an internship course (EESI99I) as one option to fulfill a culminating experience.
 - We recruited donor funding (2 X \$5000 donations) to support a field gear closet to loan out to students as well as to award one time stipends to students in field-based courses who need to purchase field and camping supplies. This donor is in the process of setting up an established fund for this use each year. This funding supports equity and belonging in field experiences which we identified as a barrier to student success (lack of funding, lack of supplies/gear).
 - With the EIA grant plus other initiatives (NSF Grant, URGE), our enrollment and demographic diversity numbers appear to be trending in a positive direction for our department. This is difficult to track after a short amount of time (we recruited our first cohort of incoming students after NSF-sponsored course-redesign in Fall 2022, when we also started our discussion and action planning meetings as part of EIA). See tables below. In particular, since Fall 2021, we’ve increased the number of students enrolling in our department from community colleges (which we have more strategically partnered with) and we have increased the representation of Hispanic students and female students in our program to more closely reflect campus demographics (58.5% Hispanic, 40.7% female).

New Students

	Fall 2019	Fall 2020	Fall 2021	Fall 2022	Fall 2023
First-Time Freshman	16	29	14	12	17
Transfer Undergraduate	11	12	6	8	16

Demographics

	Fall 2019	Fall 2020	Fall 2021	Fall 2022	Fall 2023
Male	49.4%	50.5%	49.4%	46.8%	40.8%
Local	89.7%	83.2%	80.9%	83.8%	80.6%
African American	2.3%	3.7%	1.1%	0.0%	1.0%
American Indian	2.3%	0.9%	1.1%	1.3%	0.0%
Asian	12.6%	13.1%	15.7%	13.8%	10.2%
Hispanic	42.5%	44.9%	32.6%	41.3%	52.0%
Non-Resident Alien	2.3%	4.7%	4.5%	6.3%	3.1%
Pacific Islander	0.0%	0.0%	0.0%	0.0%	0.0%
Two or More	3.4%	4.7%	7.9%	6.3%	7.1%
Unknown	2.3%	1.9%	1.1%	0.0%	1.0%
White	32.2%	26.2%	36.0%	31.3%	25.5%

3. Specify any unanticipated project developments (i.e. unanticipated barriers or unexpected wins)

The main barrier we face is making progress on our action plans. The discussions have been really important for developing a shared understanding of the evidence base, historical context of our discipline, and opportunities where we can improve student learning and belonging. With one-hour meetings, it is difficult to make progress on action plans, but we have tried to focus on key strategies and issues that we can make progress on such as recruiting and field experiences. We have used our retreats to further identify major opportunities for curricular/program changes, and it has been difficult to follow through on these changes given the time commitment needed and the slow process to implement curriculum changes on campus, in addition to other statewide mandates and budget shortfalls.

For example, we have submitted a service-learning / outreach class to provide earth science activities to local K-6 students and it has been moving through the curriculum process on campus for over two years. To meet the needs of our growing interest in Environmental Science (especially as applied to local issues), we also proposed a new M.S. in Environmental Science, and at the end of a year-long process, it was denied at the university level. So now we will begin the process again of submitting a re-revised proposal. We had planned to hire a new tenure track faculty in Environmental Science to start Fall 2024, who could help with incorporating more locally-relevant environmental science topics and training in our classes. However, that hire was delayed due to budget cuts. With potential changes to our major to address statewide GE changes coming, we have waited on making significant changes to our major requirements to avoid having to duplicate efforts.

4. If applicable comment on any longer-term outcomes, you anticipate from your Equity in Action Grant funded project. Also, please estimate anticipated achievement dates (month and year.)

Assessment and Communication

5. Describe efforts to communicate and disseminate project outcomes with your campus.

Communication & Dissemination: I have reported out on our activities and progress in our department annual report the last two academic years. I have shared info with our College of Science and Mathematics Dean and shared info with our College of Science and Mathematics Diversity, Equity, and Inclusion committee of examples of how to engage faculty in this kind of discussion and action planning.

6. Provide a summary of your assessment activities and results, where available.

We've launched an incoming EES student survey and a course re-design survey. These surveys will help us learn more about our students and their motivations as well as track changes over time as we make program changes. We are working with a graduate psychology course to analyze the data. We will complete the assessment by August 2025.

In addition to assessing the impacts of course-redesign efforts on student attitudes, we also used this surveys to better understand the motivations and interests of students in our introductory and major courses.

Below is a summary of the key takeaways from our re-designed course pre-post surveys from our assessment team:

- Interest in EES-related careers increased significantly from pre- to post-survey, suggesting the courses positively impacted students' interest.
- Most students indicated they could envision using knowledge from the course to help society overcome environmental issues, mainly by communicating knowledge to others.
- First-generation students rated the importance of helping people/society and working in an office higher than non-first-generation students, suggesting these aspects may appeal more to them.
- Many students expressed a lack of knowledge about specific EES careers, indicating a need for more career information and guidance.
- Qualitative themes revealed that hands-on, field-based learning opportunities and a smaller, close-knit community were attractive aspects of the EES major.

From an open-ended survey to introductory geology students (general education course):

Students were 57 non-EES majors, ranging in age from 18 to 61 ($M=21.53$, $SD=6.76$), and were split evenly between men and women, plus one student who preferred not to identify their gender.

- 86% of students said they plan to stay in their major and reasons include: practical/career options, not interested in EES, lack EES information, and existing progress in their major and toward graduation.
- 14% of students said they are considering switching to EES and reasons include: the smaller, more close-knit community, enjoyment of the subject matter, and the hands-on, field-based learning opportunities.

Lesson Learned

7. As you reflect on the strategies and activities implemented during this grant, which were successful?
- Watching videos and reading papers from outside experts before meetings. This helped us develop a shared understanding of key terms and ideas and was a great springboard for discussions.
 - Using our regular faculty meeting time to host discussion and action plan meetings. This strategy helped to ensure everyone could participate.
 - Using retreats to make progress on larger goals and ideas, especially curricular and program changes.
8. By comparison, what strategies did you find were unsuccessful?

The discussions led to a lot of great ideas of possible things we could do. However, the one hour meetings also limited our ability to make progress on those ideas. I think moving forward we need to narrow our focus so that we can more realistically accomplish our goals in the time we have allotted.

Professional development funds were a nice incentive to offer faculty who participated. However, I think that having assigned time for one or more faculty would allow us to make more meaningful and intentional progress on our goals.

9. Given your experience with the Equity in Action Grant Program, what changes would you recommend to better support you toward your goals?

As I mentioned above, it would be nice to approve the use of assigned time for major projects. Adding a project on top of existing work is difficult even if professional development funds are offered.

10. What can the CSU Student Success Network do to help our campus in its efforts to identify, understand and disrupt inequities in our system?

Help campuses and individual departments or colleges/schools do climate surveys to identify major need areas. I think the hardest thing to do is prioritize and focus our efforts. If we had more support from administrators do to this work and to give us guidance on priorities that align with campus goals, I think that would help.