CALIFORNIA STATE UNIVERSITY, FULLERTON
COLLEGE OF HUMANITIES AND SOCIAL SCIENCES

Department of Geography & the Environment
Program Performance Review (PPR)
Self-Study Report 2023

FINAL REPORT_01.25.23_MD

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I Mission, Goals, and Environment

I.A. Mission and Goals

Briefly describe the mission and goals of the unit and identify any changes since the last program review. Review the goals in relation to the University mission, goals, and strategies.

Mission Statement

Geography is a broad discipline concerned with understanding the human and physical diversity of our planet Earth. The Department of Geography & the Environment provides students with a well-rounded education that incorporates the social sciences, natural sciences, and humanities, and provides geotechnical training. The Department is committed to providing students with a high-quality learning environment that draws out their intellectual curiosity, develops their skills, and prepares them to be responsible community members, global citizens, and environmental stewards.

Learning Goals for Undergraduate Students

Personal, civic, educational, and career

- Students' interests reflect the diversity of the discipline
- Students are prepared to thrive in a world of shrinking distances and global economies
- Students have access to courses that prepare them for graduate school and careers in planning, environmental analysis, education, and geospatial technologies

Intellectual inquiry and effective communication

- Understand the patterns and processes of human and physical geography, including the interaction between humanity and the earth's environments
- Appreciate the value of intellectual inquiry involving both synthesis and analysis
- Develop skills of observation and measurement needed for geographic inquiry
- Communicate with maps as well as text and graphics

Technology

- Solve problems using advanced Geographic Information Systems and remote sensing technology
- Understand the role of the Internet for accessing geographic information

Multi-cultural environments

- Develop a strong global perspective
- Understand the diversity of the earth's peoples and environments

Collaborative experiences

- Experience substantial involvement with small group learning
- Interact with faculty outside of the classroom

Learning Goals for Graduate Students

The M.A. degree in Geography will:

- Enable students to achieve advanced competency in human geography, physical geography and geographic research techniques.
- Provide students with access to advanced geotechniques.
- Enable students to achieve excellence in research, writing and presentation skills.
- Provide students with an opportunity to work in multicultural, international and collaborative environments.
- Provide students with the opportunity to:
  -- Prepare for careers in planning, environmental analysis, GIS and mapping.
  -- Prepare for careers in education including community college teaching.
  -- Prepare for advanced study in Ph.D. programs.

Relationship between Department and University Mission and Goals

The University's mission and goals are stated in its 2018-2023 Strategic Plan: (http://www.fullerton.edu/data/assessment/missionstrategicplan.php).

The Department reinforces the University's mission statement, which "inspires [students] to thrive in a global environment", promotes "critical and creative thinking, dynamic inclusivity, and social responsibility", and strives to create "leaders who shape the future".

The Department also promotes the University's four strategic goals, as outlined in Table 1.

Table 1
Department Support for University Strategic Goals

University Strategic Goal	How the Department Supports University Strategic Goals
1 – Provide a transformative educational experience and environment for all students.	--Providing a diverse curriculum that engages students and prepares them for different career paths (see Section II). --Providing opportunities for student research, field trips and field classes, and other examples of high-impact and experiential learning (see Section V).
2 – Strengthen opportunities for student completion and graduation.	--Improving one-on-one advising for new and continuing Geography majors (see Section V).
3 – Recruit and retain a high-quality and diverse faculty and staff.	--Hiring a new physical geographer in 2017, Dr. Matheus, who has strengthened our physical and environmental course offerings and created the Cal-Dendro Lab, the CSU's only dendrochronological research laboratory (see Section IV).
4 – Expand and strengthen our financial and physical capacity.	--Increasing the value of scholarship funds and the Geography Excellence Fund, which support student research and conference participation, and provide funds to improve Department facilities and equipment and enhance student learning (see Section VI). --Faculty earning external grants, which support their research and publication, and increase research collaboration between faculty and students (see Section IV).

I.B. Changes and Trends in Geography

Briefly describe changes and trends in the discipline and the response of the unit to such changes. Identify the external factors that impact the program.

Geography has much to offer students. It provides them with a well-rounded major, covering topics in human and physical geography as well as geospatial techniques. Geography is a pragmatic discipline that addresses pressing challenges of the 21st century, including climate change, energy transition, and sustainable development. Students are prepared for an array of job opportunities in business, education, government, and environmental fields.

Despite this, Geography departments in the United States face a perennial challenge of recruiting new majors. With little exposure to geography in grade school, few students plan to major in Geography when they enter college. Like other 'discovery' majors, Geography relies on upper-division transfers and existing students who are attracted to Geography by taking our classes, through word-of-mouth from other students, as well as Department recruitment activities and promotion.

A steady decline in Geography majors in the United States since 2012 has been reinforced by impacts of the COVID-19 pandemic (Revell and Benfield 2022). Our own experience suggests a couple of reasons for this trend. In March 2020, we converted all existing in-person classes to an online format, and continued to teach a fully online schedule until Fall 2021. Our full-time faculty, lecturers, and staff are to be commended for running a virtual department for almost two years. However, this took a toll on our department's enrollment (see Section II.D). An asynchronous or zoom class cannot compete with the dynamic in-person classroom environment for engaging students and attracting them to Geography. Nor are potential students able to drop in on professors to learn more about the department, meet Geography students in the student lounge, or join us at our annual conference. In addition, the tight labor market, rising wages, and increased financial and emotional burdens on many people during the pandemic both encouraged and forced potential students to defer or forego college for work.

There are reasons for optimism. Nationwide, Geography "held its own" during the period of overall decline in humanities and social sciences majors since 2012 (Revell and Benfield 2022). Contrary to the nationwide decline in Geography majors, our Department experienced rapid growth in majors between 2017 and 2020 (see Section II.D below). Our subsequent decline coincides with the effects of the pandemic. In its aftermath, we expect to boost our majors the same way that we did before the pandemic: through active recruiting, teaching engaging in-person classes, and strategic curricular and program planning.

As part of our ongoing strategic planning, we have reinforced our position as the premier environmental discipline at Cal State Fullerton. We changed the Department name to Geography & the Environment in 2017, and created a new concentration in Environmental Analysis in 2022. Moving forward, we will continue to capitalize on student preferences for

courses and programs focused on environment and sustainability (Stoler et al. 2020). This includes considering new program options focused on the environment.

At a faculty meeting in September 2022, we itemized the Department's strengths, weaknesses, opportunities, and threats (Table 2). Despite our recent decline in majors, the faculty emphasized the many strengths of the Department. These include the high quality of teaching, diverse and engaging classes, new degree and certificate options, three technical labs (including the new Cal-Dendro Lab), and the strong Geography community that is reproduced annually by our students and reinforced by their interactions with faculty and alumni. We're optimistic about the opportunity to promote the Department and recruit new students while emphasizing our environmental focus.

We also recognized several weaknesses and threats. Our primary concern is the declining number of majors in the B.A. and M.A. programs. In particular, the low number of M.A. students threatens the program's viability. We also recognize the need to develop Department By-Laws to establish written procedures, and specify the Department's organizational structure, positions, and responsibilities. As for external threats, we are concerned about any changes to the GE program that would reduce our enrollment – especially in GE Area B.5, Natural Sciences and Mathematics. Environmental courses and programs offered by other departments can also pose a problem for our enrollment, though this is also an opportunity for us to expand our environmental offerings. We have benefitted from a very positive, supportive relationship with the Dean's office. This is especially important for a small program, and we know that this can change with turnover.

I.C. Short-Term and Long-Term Priorities

Identify the unit's priorities for the next three (short term) and seven years (long term).

The Department identified nine priorities for 2023-2030. These are presented and discussed in Section VII. The following list identifies our short-term and long-term priorities:

Short-Term Priorities (2023-2026)

1 Increase the Number of Undergraduate Majors, Minors, and Certificate Candidates
2 Increase the Number of Majors in the Graduate Program
3 Improve Advising, Student Retention and Student Completion in the Graduate Program
4 Create Department By-Laws and Strengthen Department Organization
5 Implement the Department's Strategic Plan through New Hires, Curriculum, and Potential Programs

Long-Term Priorities (2023-2030)

6 Support Students through High-Impact Opportunities and Scholarships
7 Support Faculty Retention, Tenure, and Promotion
8 Build a Thriving Alumni Relations Program with a Regular Communications Strategy

9 Improve, Update, and Expand the Department's Classroom and Lab Facilities and Equipment

Table 2
Geography & the Environment
Strengths, Weaknesses, Opportunities, and Threats (SWOT)

Strengths	Weaknesses
• Cal-Dendro Lab • Certificates in GIS and Geospatial Technologies • Department culture/community • Geography Club • All Points of the Compass • Student jobs after graduation • Alumni network • Preparing students for grad school • Quality of teaching – lecturers and FTF • Diversity of faculty research • Breadth of course offerings • Small class sizes/ low student-faculty ratio • New department name • Geography as a vibrant, relevant discipline • Popular GE classes • GEOG 110 lab • Field trips and other HIP experiences	• Low enrollment in M.A. program • Long time to degree/ low rate of degree completion in M.A. program • Declining number of majors since 2020 • Heavy reliance on GE classes for undergraduate enrollment • Lack of written department policies and guidelines
Opportunities	**Threats**
• Outreach to recruit students (on campus, high schools, community colleges) • Take advantage of our environmental focus • Increase field classes and other HIP opportunities (e.g. study abroad, internships) • Improve connections with employers • Professional development opportunities for students • Social media and website • New programs	• Potential changes to GE imposed by State or Chancellor's Office (CO) • Competition for GE enrollment • Potential Dean's office turnover • 'Environmental' courses or degree options offered by other departments or programs

II Department Description and Analysis

II.A. Curriculum and Program Changes

Identify substantial curricular changes in existing programs and new programs (degrees, majors, minors) developed since the last program review. Have any programs been discontinued?

As proposed and recommended in our 2015 PPR, the department changed its name to "Department of Geography & the Environment". This reflects what we do: most of our courses have an environmental focus or component. Also, the new name increases our visibility to students interested in environmental studies.

The Department offers two B.A. degree programs, two certificate programs, a minor program, and an M.A. program. Since 2015, significant changes were made in the Geography curriculum, and a new Geography B.A., Concentration in Environmental Analysis was created. Certificate programs were created in Geographic Information Systems (GIS) and Geospatial Technologies. Limited changes were made in our Geography Minor and Geography M.A. programs.

The new Concentration in Environmental Analysis provides our majors with another degree option, and reinforces the department's environmental focus. The new certificates benefit majors and non-majors interested in developing career-oriented skills in GIS and remote sensing. These are two of only a handful of certificates offered in the College of Humanities and Social Sciences, and provide attractive additions to students' undergraduate degrees.

II.B. Program Structures

Describe the structure of the degree program (e.g., identify required courses, how many units of electives, expected modalities of courses in the program) and identify the logic underlying the organization of the requirements and alignment of the requirements with the department resources.

To complete the Geography B.A., students complete 120 units of coursework, including 42 units for the Geography major. For course descriptions and detailed course listings for program requirements, refer to the 2022-23 university catalog:
https://catalog.fullerton.edu/preview_entity.php?catoid=75&ent_oid=8677&returnto=9873

Geography, B.A. (42 units)

Geography Core (30 units)
Lower-Division Courses (12 units)
Upper-Division Writing Requirement (3 units)

Physical Geography (3 units)
Environmental Geography (3 units)
Human Geography (3 units)
Upper-Division Electives (6 units)

Additional Degree Requirements (12 units)
Lower-Division Course (GEOG 100) (3 units)
Regional Geography (3 units)
Additional Geography Electives (6 units)

Geography, Environmental Analysis Concentration, B.A. (42 units)

Geography Core (30 units)
Lower-Division Courses (12 units)
Upper-Division Writing Requirement (3 units)
Physical Geography (3 units)
Environmental Geography (3 units)
Human Geography (3 units)
Upper-Division Electives (6 units)

Additional Degree Requirements (12 units)
Additional Lower-Division Course (GEOG 120) (3 units)
Additional Physical or Environmental Geography (3 units)
Advanced Physical and Environmental Geography (3 units)
Environmental Analysis Techniques (3 units)

Geographic Information Systems (GIS), Certificate (12 units)

GEOG 180	Digital Earth
GEOG 281	Map Making with Geographic Information Systems
GEOG 481	Geographic Information Systems: Introduction
GEOG 485	Geographic Information Systems: Principles and Applications

Geospatial Technologies, Certificate (15 units)

GEOG 180	Digital Earth
GEOG 481	Geographic Information Systems: Introduction
GEOG 485	Geographic Information Systems: Principles and Applications
GEOG 486	Environmental Remote Sensing
GEOG 489	Digital Image Processing

Geography, Minor (18 units)
Required Course (3 units)
Lower-Division Elective (3 units)
Upper-Division Electives (12 units)

Geography, M.A. (30 units)

Required Courses (15 units)
Electives (12-15 units)
GEOG 598 (Thesis) (0-3 units)

II.C. Applications, Retention, and Graduation

Using data provided by the Office of Assessment and Institutional Effectiveness to discuss student demand for the unit's offerings; discuss topics such as over/under enrollment (applications, admissions, and enrollments), retention, (native and transfer) graduation rates for majors, and time to degree.

Applications, Admissions, Enrollments

First-year students intending to major in Geography are rare (Appendix Table 1-A). However, while the number of transfer applications and admissions increased between 2015 and 2022, transfer enrollments have declined from a peak of 16 students in 2018 (Appendix Table 1-B).

Graduation Rates and Time to Degree

The Department does a good job of graduating its majors. Anecdotally, we know that students who major in Geography are attracted to the subject, our instructors, and the Geography community at Cal State Fullerton. Together with small student-faculty ratios and dedicated one-on-one advising, this improves their retention and graduation rates.

Although the graduation rates for our small transfer cohorts should be taken with a grain of salt, they compare favorably with university transfer cohorts (Appendix Tables 3-B and 3-C). For example, the two-year graduation rates for five of our seven fall semester transfer cohorts (2014-2020) were greater than the university rate. Three of six cohorts (2014-2019) exceeded the university's three-year graduation rates, and three of five cohorts (2014-2018) out-performed the university's four-year graduation rates.

II.D. Enrollment Trends

Discuss the unit's enrollment trends since the last program review, based on enrollment targets (FTES), faculty allocation, and student-faculty ratios. For graduate programs, comment on whether there is sufficient enrollment to constitute a community of scholars to conduct the program (see instructions, Appendices A and B).

Three narratives define our enrollment trends since 2015. Through 2020, total enrollment and our number of majors experienced steady growth. But since the onset of the COVID-19 pandemic, the number of majors has declined significantly, and total enrollment has declined slightly. As a result, the Department's dependence on General Education (GE) courses for enrollment has increased.

Total Enrollment

Between 2015-16 and 2020-21, total enrollment in Geography classes increased from 242 Full-Time Equivalent Students (FTES) to 310 FTES, a 28% increase (Appendix Table 2-A). (One FTES is equivalent to a student enrolled in five classes). There was a small decline to 288 FTES in 2021-22, coincident with depressed enrollment in the university during the pandemic.

Robust total enrollment contributed to an increase in our faculty budget for lecturers, and provided more opportunities to attract students to Geography programs. However, this growth was driven by three General Education (GE) courses in GE Area B, Natural Sciences and Mathematics, making us overly dependent on these courses. These include:

- GEOG 110 – Introduction to Natural Environment
- GEOG 110L – Introduction to Natural Environment (Laboratory)
- GEOG 329 – Cities and Nature

In Fall 2022, the Department offered 25 sections of these three courses, which enrolled 979 students. This represented 53 percent of our classes and 63% percent of total enrollment. Overall, we offered 36 GE sections (77% of all classes), which enrolled 1,366 students (88% of total enrollment). While it is essential for the Department to maintain a strong position in General Education – especially in Area B – we should reduce our reliance on three GE courses and increase the number of classes and students in majors-based (non-GE) classes.

Undergraduate Majors, Minors, and Certificate Candidates

Between 2017-18 and 2019-20, our "visibility and outreach" efforts led by Zia Salim paid dividends as our number of majors increased from 55 to 82 students (Appendix Table 2-B). However, this impressive growth was reversed during the COVID-19 pandemic, as the number of majors dropped to 65 students in 2021-22.

Based on University Census reports, we averaged 20 minors between Fall 2015 and Fall 2022, with a high of 26 in Spring 2020. Our new GIS Certificate has been very popular, with 33 candidates in 2021-22. While many Geography majors earn the Certificate, the program also attracts students from other departments. We only have a few students taking our Geospatial Technologies Certificate, which combines classes in GIS and remote sensing. Increasing enrollment in both certificate programs is a priority.

Geography M.A. Majors

Enrollment in the Geography M.A. program has fallen to a critical level, from a peak of 33 students in Fall 2016 to 13 students in Fall 2022. Such low enrollment threatens our ability to offer graduate classes that meet the College's minimum enrollment requirement (8 students), placing the program's viability at risk. This also creates 'isolated cohorts' – e.g., two new students in Fall 2021 and one new student in Fall 2022 – which undermines the experience of being part of a learning community.

Based on University Census reports, 66 students were enrolled in the Geography M.A. program between Fall 2015 and Fall 2022. Tracking the progress of each student reveals the following:

- *Twenty-one students graduated after successful completion of a thesis.* Eleven students finished in their second or third year, and ten finished in four years or more.
- *Ten students graduated after successful completion of a comprehensive exam.* Seven students finished in their second or third year, and three students in four years or more.
- *Thirteen students were enrolled in Fall 2022.* Five were in their first or second year of the program, four were in their third or fourth year, and four were in their fifth year or more.
- *Twenty-two students did not complete the program*.

We will endeavor to increase the share of M.A. students completing a thesis, improve retention, and reduce time to degree.

II.E. Plans for Curriculum and Program Changes

Describe any plans for curricular changes in the short (three-year) and long (seven-year) term, such as expansions, contractions, or discontinuances. Relate these plans to the priorities described above in section I. C (unit's future priorities).

Geographers are well aware of the disconnect between the highly relevant, practical subject matter of Geography, on the one hand, and the difficulties of increasing enrollment and majors, on the other hand. While we tend to blame the paucity of Geography in the grade school curriculum, geographers need to be proactive in promoting our programs and attracting students.

Geography & the Environment is positioning itself as an environmentally-focused department with applied courses and programs in environmental analysis, geospatial techniques, and urban studies.

We will explore the possibility of creating a minor and/or B.S. program in Environmental Analysis to complement the new Concentration in Environmental Analysis.

We are developing an interdisciplinary Urban Studies minor that would combine our urban geography and planning courses with urban-related courses in other departments. This would provide students with another practical, career-oriented program option, and increase enrollment in upper-division urban geography and planning courses that have a significant environmental component.

III Student Achievement and Assessment

III.A. Assessment Plan

Describe the department/program assessment plan (e.g., general approach, time table, etc.) and structure (e.g., committee, coordinator, etc.), and if applicable, how the plan and/or structure have changed since the last PPR.

The Department of Geography & the Environment follows the CSUF six-step assessment process for continuous improvement of our student learning.

Firstly, we revised and updated our Student Learning Outcomes (SLOs) for Geography B.A. and M.A. programs. Specifically, we brainstormed, reviewed, synthesized, and prioritized a list of things that an ideal geography major should know, understand, and value. We then generated a measurable and manageable list of SLOs that are most important to our program at the present time and are aligned with University missions and goals. We communicated to all full-time and part-time faculty and encouraged them to align their course learning outcomes with the program SLOs. We then conducted a curriculum mapping exercise to ensure that our SLOs are adequately addressed in the curriculum, and that the objectives of all components of our program are reflected in the SLOs. (The Geography B.A. SLOs and Curriculum Map are found in Appendix Table 11).

Using the assessment maps for the SLOs as guides, we developed a multi-year assessment plan for our B.A. and M.A. program, respectively, which prioritizes the SLOs and determines which SLOs would be assessed in each year of the assessment cycle. (Please see our 8-Year Assessment Plan for Geography B.A. program in Appendix Table 12). For each of the SLOs, we determined assessment methods and the corresponding criteria for success, or the level of proficiency that students are expected to demonstrate. Rubrics, in the form of a table or matrix, were used to describing the dimensions of student work or response at various levels of performance. Each year the department assessment committee (consisting of an assessment coordinator and 3-4 faculty members) collected evidence of student learning with multiple methods and data sources, and carefully reviewed and analyzed the assessment data for one SLO for Geography B.A. program and M.A. program, respectively. The data were used to

evaluate the effectiveness of our courses and curriculum in promoting student learning, and to provide feedback for improving our teaching and learning practices. Finally, we documented our assessment and improvement activities in our annual assessment reports. (Please see the 2021-22 Annual Assessment Report for the Geography B.A. in Appendix Table 13).

By doing the 6-step cycle of assessment, we have made sure that our assessment process is manageable and sustainable over time, leading to continuous improvement of student learning.

III.B. Student Learning Outcomes (SLOs)

For each degree program, provide the student learning outcomes (SLOs); describe the methods, direct or indirect, used to measure student learning; and summarize the assessment results of the SLOs.

The Department of Geography & the Environment has the following Student Learning Outcomes (SLOs) for the Undergraduate (B.A.) program:

- SLO1 - Students are able to articulate the definitions of, connections between, and differences among fundamental concepts, models and theories in geography.
- SLO2 - Students are able to identify and explain patterns and processes of human and physical geography including the diversity of the earth's peoples and environments, and the interactions between humanity and the earth's environments.
- SLO3 - Students can apply mapping and geospatial technologies to analyze geographic data and solve geographic problems.
- SLO4 - Students can critically assess, interpret, and analyze geographic research.
- SLO5 - Students can clearly and effectively communicate geographic knowledge and research in writing, orally, and/or visually.

The Department of Geography & the Environment has the following Student Learning Outcomes (SLOs) for the graduate (M.A.) program:

- SLO1 - Students acquire in-depth knowledge of at least one subfield of geography (physical, human, or geospatial techniques).
- SLO2 - Students can clearly and effectively communicate in-depth geographic knowledge and research in writing, orally, and/or visually.
- SLO3 - Students are able to conduct high-quality independent research on geographic issues.

For each of the above SLOs, the Department of Geography & the Environment developed, implemented, and revised the assessment methods involving embedded, direct measures (such as exam questions, term papers, projects, and lab reports) and indirect measures (such as an alumni survey and student self-reflections). Led by the Assessment Coordinator, Lei Xu, the

department Assessment Committee assessed samples from all enrolled students for one undergraduate SLO and one graduate SLO each year. For the past seven years, the assessment results were successful, as students have met or exceeded the criteria for success across all assessed courses.

III.C. Assessment Feedback

Describe whether and how assessment results have been used to improve teaching and learning practices, inform faculty professional development, and/or overall departmental effectiveness. Please cite specific examples.

Our assessment work has been constantly rated "Excellent assessment practice" by the CSUF Assessment Review Team and the Office of Assessment and Institutional Effectiveness. Our assessment results have been used to improve teaching and learning practices. For example, the ability to critically assess, interpret, and analyze geographic research is one of the student learning outcomes (SLO4) for the B.A. program. To capture comprehensive evidence of student proficiency, data was collected across various levels of courses where the outcome is "Introduced", "Developed", and "Mastered" in AY 2018-2019. Direct embedded measures were assessed with students exceeding the criteria for success across all assessed courses.

To maintain positive results, we plan to continue with the "early warning system" to address student research and writing-related issues. For example, in GEOG 400A the instructor reviews grades of the first two papers to make an early identification of students who need additional support with respect to interpretation and analysis of research, and/or writing-related resources.

For continuous improvement, we aim to enhance course offerings by 1) integrating a series of short lecture content created to address common student issues with respect to interpretation and analysis, 2) inviting representatives from the University Learning Center and the Writing Center to share information about their resources and services to students in the class, and 3) providing sample essay questions prior to midterm and final exams. We also plan to revise our Alumni Survey to better reflect student learning outcomes and use this indirect measure to capture additional evidence of student achievement and further identify areas for improvement.

III.D. Other Quality Indicators

Describe other quality indicators identified by the department/program as evidence of effectiveness/success other than student learning outcomes (e.g., number of students attending graduate or professional school, job placement rates, community engagement/leadership, etc.).

Our assessment work in Geography & the Environment reflects a consistent record of excellence in ensuring student learning success. For example, our B.A. program was highlighted in the University Assessment Annual Report 2018 - 2019 as a Best Practice in using the Six-Step Assessment Method. The University Assessment office also showcased the Geography B.A.'s assessment from the 2018-2019 cycle on the university's assessment website.

In addition to student learning outcomes, other quality indicators identified as evidence of effectiveness and success include the number of students attending graduate schools, student community engagement and leadership, and student research. For example, based on data requested from the National Student Clearinghouse, we had 197 students who received a BA in Geography over the past 7 years from CSUF. Of those 197, 41 (or 21%) attended graduate school at CSUF or other institutions.

Several students received awards at professional conferences, which is evidence of the effectiveness of student learning. For example, Midori Gonzalez received a first-place award at the 2022 California Geographical Society (CGS) conference, Elois Joseph received a first place graduate paper award at the 2019 CGS conference, and Olivia Hinton received a graduate geosystems award at the 2019 CGS conference.

Students are also actively engaged in professional and community organizations. For example, Ryan Tuong An Koyanagi and Pedro Chacon were Southern California student representatives for the CGS, and Kaitlyn Matyuch is a board member of Friends of Harbors, Beaches, and Parks.

III.E. Online Courses – Assessment

Many department/programs are offering courses and programs via technology (e.g., online, etc.) or at off-campus sites and in compressed schedules. How are these courses identified and how is student learning assessed in these formats/modalities?

When we started to develop and revise our department assessment plan in AY 2014-2015, there were already quite a few online courses in our department offerings. We have both online and in-classroom modalities in mind when building our assessment process, from identifying a solid set of student learning outcomes, to selecting the use of various direct measures and indirect measures, to determining criteria for success for each of the SLOs, and to formulating thoughtful improvement actions.

We have also made efforts in strengthening faculty training in online teaching. Both full-time faculty members and part-time lectures have done substantial training for online teaching. Some of them completed 15 hours of FDC Summer Workshops such as "Teaching Remotely: Intermediate Level Online Pedagogy". Others have completed or signed up for Professional Development training courses offered by CSU Online Course Services, such as "Improving Your Online Courses" and "Advanced QLT Course in Teaching Online".

IV Faculty

IV.A. Faculty Changes: FTEF, FTF, Tenure Density

Describe changes since the last program review in the full-time equivalent faculty (FTEF) allocated to the department or program. Include information on tenured and tenure track faculty lines (e.g., new hires, retirements, FERP's, resignations), and how these changes may have affected the program/department's academic offerings and the department's long-term goals. Describe tenure density in the program/department and the distribution among academic rank (assistant, associate, professor) [see instructions, Appendix C]. Attach faculty vitae (see Appendix D).

The Department counts on growing enrollment and majors to increase its allocation of full-time equivalent faculty (FTEF). With the College's shift to a 3-3 teaching workload for full-time faculty (FTF) in 2014, a significant residual (FTEF-FTF) is needed to pay for lecturers and maintain or increase the Department's enrollment target.

The robust growth in majors and total enrollment between 2017 and 2020 contributed to a significant increase in FTEF, from 10.5 to 13.3. With a declining number of majors and reduced enrollment between 2020 and 2022, FTEF has been reduced to 12.5. The impact on the budget for lecturers has been partly offset by one faculty member entering the Faculty Early Retirement Program (FERP), reducing our FTF from 9.0 to 8.5.

There has been little change in the ranks of the full-time faculty since 2015. Trevis Matheus was hired in 2017. Bob Voeks entered the Faculty Early Retirement Program (FERP) in 2021.

Dr. Matheus has made a significant contribution to the department's offerings in physical geography. In addition to teaching introductory physical geography, he teaches Weather and Climate, Meteorology, Global Climate Change, and Mountain Field Geography. Dr. Matheus created and manages the only dendrochronological laboratory in the CSU system, the Cal-Dendro Lab. This has provided research opportunities for several undergraduate and graduate students.

Dr. Voeks has been responsible for teaching our classes in biogeography, including Natural Vegetation and Tropical Rainforests. One of our lecturers is taking on these important courses, which help to diversify our upper-division curriculum.

With only one new hire since 2015, all full-time faculty have received tenure. Five of the nine faculty members are full professors, and four are associate professors. Tenure density in Fall 2022 was 68%. With College approval, the Department may be able to conduct a search for a new faculty member in the next year.

IV.B. Hiring Priorities

Describe priorities for faculty positions when they are available. Explain how these priorities and future hiring plans relate to relevant changes in the discipline; student demographics; the career objectives of students; the planning of the university; and regional, national or global developments.

One of the Department's strengths is a faculty with diverse teaching and research interests. This supports a curriculum which combines a strong environmental focus with courses in each of the discipline's major subfields, as well as geospatial techniques.

Due to our high tenure density, we have been unable to conduct a job search since 2016. With upcoming faculty retirements, we expect to be able to bring on more than one new tenure-track faculty member over the next seven years. Our hiring priorities include (1) reinforcing our strengths in environmental geography and geospatial technologies, (2) complementing faculty teaching and research interests and maintaining a well-rounded curriculum, and (3) increasing the social-demographic diversity of the faculty.

IV.C. Roles of Full-time Faculty, Lecturers, and Graduate Assistants

Describe the role of tenure track faculty, part-time faculty, and graduate/student assistants in the program/department's curriculum and academic offerings. Indicate the number and percentage of courses taught by part-time faculty and teaching assistants. Identify any parts of the curriculum that are solely or primarily the responsibility of part-time faculty or teaching assistants.

Full-time Faculty

The full-time faculty (FTF) teach a mix of General Education (GE) classes, majors-oriented classes, and graduate classes. The diverse teaching interests of our nine FTF ensure that courses are regularly offered in each area of requirements for the major, minor, and certificate programs. Any gaps are covered by our dedicated group of excellent lecturers.

Between 2015 and 2022, the faculty published 53 peer-reviewed or editor-reviewed articles and book chapters. Faculty articles were published in some of the leading journals in Geography and related fields, including *Annals of the American Association of Geographers, Climatic Change, cultural geographies*, *Economic Botany*, and *Physical Geography*. Faculty published two highly-regarded books: DeLyser and Greenstein (2021) *Neon: A Light History*, and Voeks (2018) *The Ethnobotany of Eden: Revisiting the Jungle Medicine Narrative*.

Faculty received external grants worth $95,000, and internal grants worth $172,000. Major grants included $60,000 awarded to Dydia DeLyser by the National Endowment for the

Humanities (NEH); $20,000 awarded to Dr. DeLyser by the Anders Foundation; $70,000 awarded to John Carroll and one other investigator by CSU; and $14,800 awarded to Zia Salim and three other investigators by CSUF.

Full-time are actively involved in service to the Department, University, and community. Important service accomplishments since 2015 include:

- Dydia DeLyser and the Department Personnel Committee (DPC) led the revision of the Department Personnel Standards (DPS), which had been unchanged since 2003
- Zia Salim created the position of "Outreach and Visibility" coordinator, and organized student visits to CSUF and outreach activities in local high schools and community colleges.
- Trevis Matheus created the Cal-Dendro Laboratory, which provides an important service to the department by diversifying our technical capabilities and creating more opportunities for student research.

Lecturers

The Department is fortunate to employ a core group of lecturers who have been with us for several years. (Five of the six lecturers graduated from our M.A. program). They are an excellent group of skilled, enthusiastic instructors who play a major role in our undergraduate programs. Lecturers cover most of our upper-division General Education (GE) classes, as well as specialized classes in GIS and urban planning. They provide an important service to the Department by inspiring many students to change majors or declare Geography as their major.

With the shift to a 3-3 teaching workload for full-time faculty, lecturers bear more teaching responsibility. In Fall 2022, six lecturers taught 29 sections with 987 students, while eight full-time faculty taught 18 sections with 565 students. Lecturers taught 62% of our classes and 64% of our students.

Our lecturers are to be commended for making the sudden (unfunded) shift to online learning in Spring 2020 with the onset of the COVID-19 pandemic. Student evaluations prove that they maintained their high level of instruction in online classes, while providing students with the additional care and empathy required for these challenging times.

Graduate Assistants

Each semester, the Department employs four or five graduate assistants. While receiving a modicum of financial support, they help professors with course preparation, grading, research, outreach, and other tasks.

V Student Support and Advising

V.A. Advising Structures

Briefly describe how the department advises its majors, minors, and graduate students and the effectiveness of this advising structure.

The Department of Geography places a high priority on student advising. We have a designated Undergraduate Advisor (Mark Drayse) and Graduate Advisor (Jonathan Taylor). The advisors receive a course release each semester. We find it advantageous to have two faculty members specializing in advising. The advisors are knowledgeable about the procedures required for advising (e.g. graduation checks, form processing, and graduate study plans). Students know whom to talk to regarding any questions pertaining to classes, schedules, and program requirements. The current advising structure works well for a medium-size department.

The Undergraduate Advisor is responsible for meeting with students to answer questions related to courses and program requirements, processing all forms related to undergraduate students, and reviewing student Titan Degree Audits (TDAs) and completing graduation checks.

The College organized Student Success Coordinators in each department to help retain students and reduce their time to degree. Zia Salim has taken on this role in the Department, while also assisting with advising new students in the program.

The Graduate Advisor is responsible for reviewing graduate applications and selecting applicants for the M.A. program, meeting with students to develop a study plan, processing all forms related to graduate students, organizing graduate exams, and meeting with students to go over any questions with courses and program requirements. The graduate advisor acts as an overseer for the M.A. program, identifying any issues that need to be brought to the attention of the Department.

In addition, graduate students selecting the thesis option identify a thesis advisor. The thesis advisor works closely with the graduate student, reviewing and discussing the thesis topic, research questions, and thesis chapters.

Students in the GIS and Geospatial Technologies certificate programs are advised by John Carroll and Jindong Wu, the respective program coordinators.

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V.B. High-Impact Practices

Describe opportunities for students to participate in departmental honors programs, undergraduate or graduate research, collaborative research with faculty, service learning, internships, etc. How are these opportunities made available and accessible to students? List the faculty and students participating in each type of activity and indicate any plans the department has for increasing these activities.

The Department actively promotes experiential, high-impact learning activities for students. We enter 2023 with plans to increase our high-impact opportunities, which were curtailed by the pandemic. The following list highlights high-impact activities between 2015 and 2022.

Field Class

- Trevis Matheus led students in GEOG 483 (Mountain Field Geography) on a two-week field trip to the Sierra Nevada, where they conducted field work and make presentations regarding the mountain environment.

Field Trips

- John Carroll organized mapping field trips to Acacia Park in Fullerton and Chino Hills State Park for students in GEOG 283 (Introduction to Spatial Data).
- Trevis Matheus incorporated a field trip to the CSU Desert Studies Center in Zzyzx for students in GEOG 311 (Weather and Climate).
- Bob Voeks led field trips in GEOG 313 (Natural Vegetation) to the Bolsa Chica Marsh and the Tucker Wildlife Sanctuary.
- In GEOG 329 (Cities and Nature), Leaa Short organized tours of local facilities, including a water district, a water recycling demonstration, a material recovery facility, a landfill, a sanitation district, and a groundwater replenishment facility
- Leaa Short organized field trips to Downtown Los Angeles in GEOG 357 (Cultural Geography) and GEOG 478 (Urban Planning).
- Zia Salim led field trips to Downtown Los Angeles in GEOG 359 (World Cities) and GEOG 361 (Cities and Suburbs).
- Peggy Smith has led students in GEOG 371 (National Parks) on field trips to Anacapa Island and Santa Cruz Island in the Channel Islands National Park.
- Vienne Vu organized a field trip to Little Saigon for students in GEOG/SOCI 456 (Immigrant Orange County).
- Trevis Matheus took students in GEOG 520 (Seminar in Physical Geography) to Crystal Lake to sample trees.

The Campus as Laboratory/ The Fullerton Arboretum

- Several classes took advantage of the Fullerton Arboretum, including Vienne Vu's GEOG 110 (introduction to Natural Environment) and GEOG 329; Leaa Short's GEOG 313 (Natural Vegetation) and GEOG 329 (Cities and Nature); Peggy Smith's GEOG 329, GEOG

332 (United States), and GEOG 371; and Bob Voeks' GEOG 120 (Global Environmental Problems) and GEOG 313.
- Vienne Vu led a sustainable walking tour of the campus for students in GEOG 329.
- Zia Salim's GEOG 361 students partnered with CSUF Facilities Management to study and report on waste management and electricity consumption.

Student Research and Publications

- Trevis Matheus co-wrote and is publishing an article with one of his M.A. students (Villalba and Matheus 2022).
- Bob Voeks co-wrote and published articles with three CSUF students. These included Maldonado and Voeks (2021), Joseph and Voeks (2021), and Voeks and Greene (2018).
- Based on his final project in GEOG/SOCI 456 (Immigrant Orange County), undergraduate student Ryan Koyanagi published a paper in *The California Geographer*. He was mentored by Zia Salim in preparing and revising the paper.
- Students in Leaa Short's GEOG 357 (Cultural Geography) did an auto-ethnographic project that involves community participation, field observation, and interviews.
- Students in Leaa Short's GEOG 478 (Urban Planning) conducted a research project involving site analysis and land-survey techniques.
- More than 20 students completed Independent Study projects under Trevis Matheus' supervision in the Cal-Dendro Lab.

Master's Theses

- A main goal of the master's program is to prepare students for professional careers. To this end, the thesis demonstrates a student's ability to identify a research problem and research questions, perform original research, and communicate the results of the research in a thesis. Between 2015 and 2022, 21 graduate students completed master's theses. Most thesis topics focused on important environmental problems. Examples include:

  Blondell, Curtis (2016) From forest to fumaroles: A new era in bioprospecting
  Druck, Chrisopher (2020) Access versus preservation: The case of Joshua Tree National Park
  Foltz, Eric (2016) Democratizing the grid: Estimating solar potential for the City of Irvine
  Situ, Wei (2020) The impact of future sea-level rise on social vulnerability in the San Pedro, Wilmington, and Long Beach region
  White, Aliza (2022) Analyzing the relationship between climate, mule deer population, and tree rings in California

Student Participation in Professional Conferences

- With Zia Salim, the Geography Club organized our annual All Points of the Compass Conference. This one-day event showcases research presentations and posters by our

undergraduate and graduate students. Following a three-year hiatus due to the pandemic, we will hold our next All Points conference on 10 March 2023.

- Our students regularly present papers and posters at regional and national Geography conferences organized by the California Geographic Society (CGS), the Association of Pacific Coast Geographers (APCG), and the American Association of Geographers (AAG). Between 2015 and 2022, 37 students presented papers, 49 presented posters, and 20 were panelists. An additional 46 students attended conferences. (Most of this activity was between 2015 and 2019, before the pandemic).

Study-Abroad and Study-Away Programs

- In 2015, Mark Drayse led a CSUF Study Abroad program in Cape Town, South Africa. Nineteen students participated in the program, including several Geography majors. The program focused on urban sustainability in Cape Town, environmental conservation, and the historical and geographical development of South Africa.
- In 2019, John Carroll taught students in a CSUF Biology Department Study-Abroad course in Baja California. This course in restorative ecology had a geospatial technologies component.
- In 2023, Zia Salim will teach classes in the CSU DC Scholars Program in Washington, DC. This will be a great opportunity for geographers and other students to gain hands-on experience with government.

Community Engagement

- In Zia Salim's GEOG 361 (Cities and Suburbs), students conducted a parks assessment for the City of Anaheim in 2016. This required collaborative field-based research, report writing, and a presentation to City of Anaheim staff at the city hall.

Career-Oriented Projects

- Students in Zia Salim's GEOG 400A (Geographic Thought) have created resumes and personal statements, prepared for interview questions, and assembled portfolios.

Internships

- Several students – usually one or two per year – received credit for internships. Students worked for a variety of organizations in jobs related to geography, including Cerritos College, the City of Corona, the City of Huntington Beach, the City of San Clemente, the CSUF Center for Demographic Research, ESRI, Innerline Engineering, and Southern California Edison.

Other High-Impact Activities

- Led by John Carroll, the interactive GIS map for the Fullerton Arboretum has been developed and maintained by undergraduate and graduate students, as well as Interns from local high schools.
- Students in our physical geography classes can access real-time weather data from the department's weather station.

- Dydia DeLyser, Trevis Matheus, and Zia Salim co-taught GEOG 300B (Geographic Methods) in Spring 2020. Designated a HIPs class by CSUF, students engaged in field research, did a statistical exercise using real data, and conducted interviews.

VI Resources and Facilities

VI.A. Department Resources, 2017-2022

Itemize the state support and non-state resources received by the program/department during the last five years.

In AY 2021-22, the Department received $53,284 in state-support funds to pay for department operations, student assistants, faculty travel, and faculty professional development (Appendix Table 10-A).

In AY 2021-22, the Department had access to $82,929 in non-state support funds (Appendix Table 10-B). This included $40,193 in the Geography Student Research Endowment, which supports student participation in academic conferences and study-away or study-abroad programs, and $18,620 in the Geography Excellence Fund, which provides the Department with discretionary funding.

Between 2017 and 2022, the value of these two funds increased by more than $25,000. This is due to the very generous contributions made by Ray and Kiyo Young, in addition to support from many alumni.

In addition, the Department has $2,066 in the Barbara Weightman Scholarship fund, which supports graduate student thesis research.

VI.B. Special Facilities and Equipment

Identify any special facilities/equipment used by the program/department such as laboratories, computers, large classrooms, or performance spaces. Identify changes over last seven years and prioritize needs for the future.

Geographic Learning Center

The Geographic Learning Center is a multi-function, open floorplan instructional space that contains a 30-seat lecture space and a 30-workstation GIS computer lab. A similar instructor computer is connected to a projector serving the lecture space and also can control the 30 workstations using LanSchool classroom management software.

The computers in the GIS lab have been on a 3-year refresh cycle supported by the College. The GIS computer lab consists of:

31 Dell Precision 3431 workstations

- Intel Core i7-9700 @ 3.00GHz, 16GB SDRAM, 500GB Solid State Drive, Nvidia Quadro P400 graphics card, 24" monitor, Windows 10 – 64-bit

Printers, Scanners, and Plotters

- 1 B&W Laser Printer (networked)
- 1 Color Laser Printer (networked)
- 1 Desktop Flatbed Scanner
- 1 Large Format Plotter (HP DesignJet Z6 42")

Global Positioning Systems (GPS) Equipment

- 1 Trimble GeoExplorer GeoXT 2008/3000 series handheld GPS/field computer
- 1 Trimble GeoExplorer GeoXT 2005 series handheld GPS/field computer
- 20 Trimble Juno SB Handheld GPS units
- Various Garmin and Magellan units

Other Equipment

- 2 Laser Technology TruPulse 360B Range Finders

Center for Remote Sensing and Environmental Analysis (CRSEA)

The Center for Remote Sensing & Environmental Analysis (CRSEA) was established in 2007 with a $750,000 grant from the National Aeronautics and Space Administration (NASA). The Center consists of a 16-workstation teaching lab and a separate research lab with 3 high-end workstations. The following equipment is in the Remote Sensing lab:

Data Storage Server

- Dual Core Xeon Processor 5130 4MB Cache, 2.00GHz, 1333MHz FSB, 4 GB RAM, 1.8 TB Hard Drive storage.

3 Research Workstations

- Dell Precision T1650 Tower Workstation with Intel® Core™ i7-3770 (8M, 3.4GHz, w/HD4000 Graphics), 8GB RAM, 250 GB Solid State Drive + 500GB HDD, 16X DVD +/- RW SATA, and Dell High Color 30 inch UltraSharp Widescreen Digital Flat Panel.

16 Teaching Workstations

- Dell Optiplex 7050 with Intel® Core™ i5-7600 CPU @ 3.50GHz, 16GB RAM, 512GB Solid State Drive, AMD Radeon R7 450 video adapter, and DELL 2007FP UltraSharp Dual flat Panels.

Cal-Dendro Lab

The Cal-Dendro Tree-Ring Laboratory (Cal-Dendro) was established by Trevis Matheus in 2017 using a combination of start-up funds and department resources. The laboratory contains the equipment and software needed for teaching tree-ring research, laboratory, and field methods. Cal-Dendro is utilized for faculty research, field classes, independent study, and both graduate and undergraduate research.

Cal-Dendro is located in H-422E. This room is surrounded by faculty offices and classroom H-422. Tree-ring research requires extensive power tools; as a result, students and faculty working in the lab need to work around the teaching schedule of H-422 and ensure the offices are not occupied before processing can start. In the future, a space that is not surrounded by classrooms or offices would be ideal.

The laboratory recently purchased WinDendro2022 tree-ring scanning software to measure, archive, and store digitized core scans, but funds need to be secured for a large flatbed scanner. Additional resources needed to optimize the lab for teaching include one more stereo microscope, a reliable digital camera with HDMI output to replace the existing unreliable generic USB camera, and a high-resolution monitor. The following resources are in the Cal-Dendro laboratory:

2 Dell Precision 1700 Workstations

- Intel Core i7 @ 3.40GHz, 8GB SDRAM, 256GB Solid State Drive, 500 GB SATA hard drive, Nvidia Quadro K600 graphics card, 24” monitor, Windows 7 – 64-bit

2 Stereo Microscope

- Amscope 7x-45x magnification, with boom, stands, and LED ring lights, one microscope is trinocular and includes a generic digital USB camera

Velmex Stand Micrometer

- Unislide assembly, one-micron resolution linear encoder, Velmex VRO readout/encoder, and reset/send remote cable.

Software

- Measure J2X, WinDendro2022, free tree-ring software (ARSTAN, COFECHA, etc.), MatLab, and Microsoft Office Suite

Sanding Equipment

- Orbital and belt sander stand, handheld belt sander, handheld orbital sander, shop vacuum, router and router stand, and hand saws

Field Equipment

- Haglof hand bores (various lengths), 4 DBH tapes, Silky Katanaboy hand saw, corded Dewalt power drill, Stihl MS 461 Chainsaw, chainsaw chaps and helmet, map tubes for core transport, and core straws.

Weather Station

The Department operates a weather station located on the roof of the Humanities and Social Sciences Building. The weather station's website is: https://geography.fullerton.edu/weather/

Future Needs

We will continue to use Department and College funds to support the acquisition of equipment and software. In addition, along with a larger space for the CalDendro Lab, students would benefit from a dedicated space for our popular GEOG 110L (Introduction to Natural Environment: Lab).

VI.C. Library/Research Resources

Describe the current library/research resources for the program/department, the priorities for acquisitions over the next five years and any specialized needs such as collections, databases etc.

ESRI GIS Products

Our campus participates in a CSU system-wide site license for ESRI GIS products. J o h n Carroll, the CSUF site license administrator, is responsible for:

- maintaining the campus license server
- distributing single-use licenses to departments, faculty, and staff
- representing CSUF on the system-wide GIS Specialty Center Board

Software Used in the GIS and Remote Sensing Labs

The following software is used in the GIS and Remote Sensing labs:

- ERDAS Imagine 2013 Full-Suite with ATCOR ENVI 5.0 + IDL 8.2
- Geospatial Modeling Environment 0.7.2*RC2
- ArcGIS Pro and other ESRI products
- Microsoft Office
- Adobe Creative Cloud
- FRAGSTATS 4.2
- SPSS 28

TerraSync, GPS Correct, and Pathfinder Office software is used on our GPS units.

Royal Geographical Society (RGS) Archives

With the generous financial assistance of the College of Humanities and Social Sciences, Dr. DeLyser helped to arrange for the acquisition of Wiley's Royal Geographical Society (RGS) digital archives by Pollak Library. This remarkable geographic archive is available to all CSUF students and faculty.

The RGS archives are found at:
https://app.wileydigitalarchives.com/wiley/collections?archive=RGS

VII Long-Term Plan

VII.A. Long-Term Plan

Summarize the unit's long-term plan, including refining the definitions of the goals and strategies in terms of indicators of quality and measures of productivity.

1 Increase the Number of Undergraduate Majors, Minors, and Certificate Candidates

- Support and conduct regular outreach activities to promote the Department to high school and community college students.
- Reach out to CSUF Geography applicants to encourage them to come to CSUF and major in Geography.
- Promote the major through our annual All Points of the Compass conference.
- Connect with community college instructors.
- Improve the Department's website and social media presence.

2 Increase the Number of Majors in the Graduate Program

- Encourage our undergraduate majors to apply for the Geography M.A. In the past, our undergraduates have been the main source of our graduate students, including many of our most successful ones (including two current tenured faculty).
- Create a digital flyer for the M.A. program.
- Advertise graduate funding opportunities on the Department website.
- Promote the M.A. program through regional professional organizations, including the Association of Pacific Coast Geographers (APCG) and the California Geographic Society (CGS). This includes maintaining a strong presence at annual conferences, and distributing flyers and e-mails regarding the program.

3 Improve Student Retention and Completion in the Graduate Program

- Improve student retention and facilitate successful completion of M.A. requirements.

- Review and revise the department's application process.
- Ensure that students have a thesis or specialty advisor by the end of their first semester.
- Conduct a survey of recent graduate students to inform our efforts to improve advising, retention, and completion.
- Hold an orientation for incoming graduate students each semester.
- Review graduate student progress each semester.

4 Create Department By-Laws and Strengthen Department Organization

- Create Department By-Laws to govern its organization and operations.
- Organize the Curriculum Committee and specify its responsibilities.

5 Implement the Department's Strategic Plan through New Hires, Curriculum, and Potential Programs

- Hire faculty who will complement the research and teaching specialties of other faculty members and help the Department meet its strategic curricular and program goals. These include combining a strong environmental focus with courses in each of the discipline's major subfields, as well as geospatial techniques. A secondary goal is to increase the department's socio-demographic diversity.
- Develop new courses that meet program requirements, promote the Department's mission, and increase enrollment and majors.
- Diversify the Department's GE courses, especially in GE Area B, Natural Sciences and Mathematics.
- Review course names to increase their attractiveness to students.
- Conduct an alumni survey of recent undergraduate students to inform the development of our curriculum and programs.

6 Support Students through High-Impact Practices and Scholarships

- Promote high-impact practices that incorporate experiential learning, including field trips and field classes, study-abroad and study-away programs, community engagement, and research collaboration with faculty.
- Enhance student scholarships to provide support for participation in conferences and thesis field work.
- Improve communication with students regarding courses, program requirements, opportunities for high-impact opportunities, and job opportunities.
- Conduct an alumni survey of recent undergraduates to inform our curriculum, program development, and advising.

7 Support Faculty Retention, Tenure, and Promotion

- Mentor new faculty and support them through the RTP process.
- Support and encourage faculty applying for external grants, sabbatical leaves, and awards.
- Provide annual Professional Development Funds for lecturers.

- Use Department operating budget (O&E) to supplement faculty travel and Professional Development Funds.
- Include lecturer representative(s) in faculty meetings.
- Hire Graduate Assistants to support faculty teaching and research. Consider hiring Teaching Assistants (TAs) for our GEOG 110L lab classes.

8 Build a Thriving Alumni Relations Program with a Regular Communications Strategy

- Implement regular communications with Department alumni, e.g., via a newsletter, e-mails, social media, Linked-In.
- Encourage alumni to attend and participate in our annual All Points of the Compass conference.
- Encourage alumni to support students by contributing to our scholarship funds.

9 Improve, Update, and Expand the Department's Classroom and Lab Facilities and Equipment

- Use Department funds to purchase equipment for the Cal-Dendro and Remote Sensing labs, and equipment used by students in specific classes.
- Find a new space for the Cal-Dendro Lab, and a dedicated space for the GEOG 110L lab classes.

VII.B. Long-term Plan and University Missions and Goals

Explain how the long-term plan implements the University's mission, goals and strategies and the unit's mission and goals.

Table 4 shows the relationship between the Department's long-term goals and the University's strategic goals.

VII.C. Evidence to Evaluate Long-term Goals

Explain what kinds of evidence will be used to measure the unit's results in pursuit of its goals, how it will collect and analyze such evidence, and the timeline against which progress toward those goals will be measured.

Table 4 shows the evidence that will be used to evaluate the Department's long-term goals.

VII.D. Budget Plan

Develop a long-term budget plan in association with the goals and strategies and their effectiveness indicators. What internal reallocations may be necessary? What new funding may be needed over the next seven years to maintain educational quality?

- Increase enrollment to ensure that the faculty budget is sufficient to hire lecturers
- Increase Geography Scholarship and Excellence funds to support students
- Allocate Department O&E as needed to purchase equipment and software

Table 3
Department Priorities, University Goals, and Indicators of Progress

Department Priorities	Related University Goals	Indicators of Progress
1 - Increase the Number of Undergraduate Majors, Minors, and Certificate Candidates	1 – Provide a transformative educational experience and environment for all students.	--Number of majors --Number of minors --Number of certificate candidates
2 – Increase the Number of Majors in the Graduate Program	1 – Provide a transformative educational experience and environment for all students.	--Number of majors
3 – Improve Student Retention and Completion in the Graduate Program	1 – Provide a transformative educational experience and environment for all students. 2 – Strengthen opportunities for student completion and graduation.	--Reduced time to degree --Increasing share of students who complete the M.A. degree
4 – Create Department By-Laws and Strengthen Department Organization		--Approved Department By-Laws --Revitalized Curriculum Committee
5 – Implement the Department's Strategic Plan through New Hires, Curriculum, and Potential Programs	1 – Provide a transformative educational experience and environment for all students.	--New and revised courses --New and revised programs --New faculty members

	3 – Recruit and retain a high-quality and diverse faculty and staff.	
6 – Support Students through High-Impact Opportunities and Scholarships	2 – Strengthen opportunities for student completion and graduation. 4 – Expand and strengthen our financial and physical capacity.	--Number of students participating in high-impact activities --Contributions to scholarship funds --Awarded student scholarships
7 – Support Faculty Retention, Tenure, and Promotion	3 – Recruit and retain a high-quality and diverse faculty and staff.	--Retention of tenure-track faculty and lecturers --Faculty grants and financial support (PDF, travel, equipment) --Mentoring relationship with new faculty
8 – Build a Thriving Alumni Relations Program with a Regular Communications Strategy		--Evidence of regular communication with alumni --Alumni contributions to student scholarship funds and the Geography Excellence Fund
9 – Improve, Update, and Expand the Department's Classroom and Lab Facilities and Equipment	1 – Provide a transformative educational experience and environment for all students. 4 – Expand and strengthen our financial and physical capacity.	--Purchase of new equipment and software --New space for the Cal-Dendro Lab

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VIII Appendices

APPENDIX A. UNDERGRADUATE DEGREE PROGRAMS

Table 1-A
Undergraduate Program Applications, Admissions, and Enrollments

Fall	# Applied	# Admitted	# Enrolled
2015	13	5	1
2016	19	10	0
2017	17	7	0
2018	22	5	1
2019	27	9	1
2020	14	8	2
2021	32	17	1

Source: CSUF Office of Assessment and Institutional Effectiveness

Table 1-B
Upper-Division Transfers:
Program Applications, Admissions, and Enrollments

Fall	# Applied	# Admitted	# Enrolled
2015	76	34	11
2016	83	36	8
2017	85	31	10
2018	82	36	16
2019	76	37	10
2020	97	54	11
2021	92	66	8

Source: CSUF Office of Assessment and Institutional Effectiveness

Table 2-A
Undergraduate Program Enrollment in FTES

Academic Year (Annualized)	Enrollment in FTES		
	Lower-Division FTES[1]	Upper-Division FTES[2]	Total FTES
2015-2016	130	111.5	241.5
2016-2017	135.1	128.1	263.2
2017-2018	141.8	116.1	257.9
2018-2019	123.2	129.5	252.7
2019-2020	134.3	153.7	288
2020-2021	146.3	164.1	310.4
2021-2022	122.5	166	288.5

[1] All students' FTES enrolled in lower-division courses of the program, regardless of student major.
[2] All students' FTES enrolled in upper-division courses of the program, regardless of student major.

Source: CSUF Office of Assessment and Institutional Effectiveness

Table 2-B
Undergraduate Program Enrollment
(Headcount & FTES by Major Only)

Academic Year (Annualized)	Majors						
	Lower-Division		Upper-Division (Including Post-Bac & 2nd Bac)		Total		
	Headcount	FTES[1]	Headcount	FTES[2]	Headcount	FTES[3]	FTES per Headcount
2015-2016	5	4.7	65	50.2	70	55	0.79
2016-2017	5	4.3	55	42.1	60	46.4	0.77
2017-2018	5	4.8	50	38.6	55	43.5	0.79
2018-2019	5	4.4	72	60.6	76	65	0.87
2019-2020	5	4.7	77	63.5	82	68.2	0.83
2020-2021	5	4.4	71	57.4	76	61.8	0.81
2021-2022	5	4.3	60	44.9	65	49.2	0.76

[1] FTES of the lower division students who are majoring in the program.
[2] FTES of the upper division students who are majoring in the program.
[3] FTES of all students who are majoring in the program.

Source: CSUF Office of Assessment and Institutional Effectiveness

Table 3-A
Graduation Rates for the Degree Program
First-Year, Full-Time Graduation Rates

Entered in Fall	Cohort	% Graduated			Equity Gap*	
		In 4 Years	In 5 Years	In 6 Years	By Pell Status	By UR Status
2012	2	50%	100%	100%	– **	0%
2013	1	0%	0%	100%	– **	– ***
2014	0	N/A	N/A	N/A	N/A	N/A
2015	1	100%	100%	100%	– **	– ***
2016	0	N/A	N/A	N/A	N/A	N/A
2017	0	N/A	N/A	N/A	N/A	N/A
2018	1	100%	N/A	N/A	N/A	N/A

**Note: Equity gap is calculated as the percentage point difference in six-year graduation rates between two sub-populations of each cohort year (e.g., 2012 non-UR six-year graduation rate – 2012 UR six-year graduation rate). Please consider cohort sizes when interpreting the equity gap data.*
***Note: All students in Cohort were non-Pell students.*
****Note: All students in Cohort were non-UR students.*

Source: CSUF Office of Assessment and Institutional Effectiveness

Table 3-B
Graduation Rates for the Degree Program
Transfer Student Graduation Rates*

Entered in Fall	Cohort	% Graduated		
		In 2 Years	In 3 Years	In 4 Years
2014	11	54.5%	63.6%	90.9%
2015	11	36.4%	63.6%	72.7%
2016	8	62.5%	75%	75%
2017	10	50%	90%	100%
2018	16	50%	81.3%	87.5%
2019	10	30%	70%	N/A
2020	11	72.7%	N/A	N/A

**Note: Starting with the Fall 2019 cohort, both state-support and self-support matriculated students are included in the cohorts.*

Source: CSUF Office of Assessment and Institutional Effectiveness

Table 3-C
Graduation Rates
University-Wide Transfer Cohorts

Fall Cohort	2-Year %	3-Year %	4-Year %
2014	36.4	69.1	79.5
2015	37.9	69.3	79.5
2016	36.3	71.1	80.9
2017	42.4	73.9	81.9
2018	42.6	72.3	80.3
2019	42.0	71.6	
2020	37.7		

Source: CSUF Office of Assessment and Institutional Effectiveness

Table 4
Degrees Awarded

Academic Year	Degrees Awarded
2015-2016	26
2016-2017	25
2017-2018	28
2018-2019	14
2019-2020	35
2020-2021	33
2021-2022	36

Source: CSUF Office of Assessment and Institutional Effectiveness

APPENDIX B. GRADUATE DEGREE PROGRAMS

Table 5
Graduate Program Applications, Admissions, and Enrollments

Fall	# Applied	# Admitted	# Enrolled
2015	12	9	6
2016	17	8	7
2017	4	4	4
2018	14	10	7
2019	8	5	3
2020	10	10	4
2021	11	5	2

Source: CSUF Office of Assessment and Institutional Effectiveness

Table 6
Graduate Program Enrollment by Headcount and FTES

Academic Year (Annualized)	Headcount	FTES	FTES per Headcount
2015-2016	18	10	0.56
2016-2017	22	12.9	0.59
2017-2018	17	8.9	0.52
2018-2019	16	10.1	0.63
2019-2020	14	8.8	0.63
2020-2021	13	7.6	0.58
2021-2022	12	6.8	0.57

Source: CSUF Office of Assessment and Institutional Effectiveness

Table 7
Graduate Student Graduation Rates

All Master's Entered in Fall:	Cohort	% Graduated		
		In 2 Years	In 3 Years	In 4 Years
2014	4	0	25%	25%
2015	6	0	16.7%	33.3%
2016	7	0	28.6%	42.9%
2017	4	0	50%	50%
2018	7	28.6%	57.1%	57.1%
2019	3	0	33.3%	N/A
2020	4	25%	N/A	N/A

Source: CSUF Office of Assessment and Institutional Effectiveness

Table 8
Master's Degrees Awarded

Academic Year	Degrees Awarded
2015-2016	0
2016-2017	5
2017-2018	5
2018-2019	6
2019-2020	7
2020-2021	3
2021-2022	5

Source: CSUF Office of Assessment and Institutional Effectiveness

APPENDIX C. FACULTY

Table 9
Full-Time Instructional Faculty:
Faculty Composition[1]

Fall	Tenured	Tenure-Track	Sabbaticals at 0.5	FERP at 0.5	Full-Time Lecturers	Actual FTEF
2017	5	3	0	0	0	8
2018	7	2	0	0	2	11
2019	7	2	0.5	0	4	13
2020	8	1	0.5	0	4	13
2021	8	1	0.5	0.5	4	13

[1] Headcount of tenured, tenure-track, sabbaticals at 0.5, and FERP at 0.5 includes full-time and part-time faculty. Headcount of lecturers only includes full-time faculty, as consistent with the IPEDS HR definition. It does not represent the number of full-time lecturer lines assigned to the department.

Source: CSUF Office of Assessment and Institutional Effectiveness

APPENDIX D. RESOURCES

Table 10-A
Geography & the Environment: Budget

Year	State OE (Including Travel) (1)	Student Assistants (1)	Professional Development (1)	Course Match (2)	Total State Support	CSFPF Accounts (3)
AY21/22	$24,300	$13,384	$5,400	$10,200	$53,284	$82,929
AY 20/21*	14,712	-	4,500	3,400	22,612	143,257
AY 19/20	20,500	12,500	5,400	10,200	48,600	85,518
AY 18/19	20,500	11,500	5,400	17,000	54,400	47,177
AY 17/18	20,000	10,750	4,800	13,600	49,150	36,631

(1) Fiscal year allocations

(2) OE earned for enrollment in Course Match sections

(3) Balance as of June 30th of the fiscal year.

*Reduction in state allocation due to budget reduction

Source: College of Humanities and Social Sciences

Table 10-B
Geography & the Environment
Non-State Support (CSFPF Accounts)

	Account Balance ($)			
Year	*Geography Excellence Fund*	*Barbara Weightman Scholarship*	*Geography Student Research Endowment*	*DeLyser Project*
AY 21-22	18,620	2,066	40,193	22,050
AY 20-21	8,466	2,405	44,536	87,850
AY 19-20	3,248	2,405	36,116	43,750
AY 18-19	2,606	2,405	35,166	7,000
AY 17-18	272	2,405	33,954	
AY 16-17	497	2,800	33,140	

Source: College of Humanities and Social Sciences

APPENDIX E. ASSESSMENT

Table 11
Geography & the Environment
Undergraduate (GEO B.A.) Student Learning Outcomes and Curriculum Map

SLO1 Students are able to articulate the definitions of, connections between, and differences among fundamental concepts, models and theories in geography. (ULG 1, 2, 5)

SLO2 Students are able to identify and explain patterns and processes of human and physical geography including the diversity of the earth's peoples and environments, and the interactions between humanity and the earth's environments. (ULG 1, 6)

SLO3 Students can apply mapping and geospatial technologies to analyze geographic data and solve geographic problems. (ULG 2)

SLO4 Students can critically assess, interpret, and analyze geographic research. (ULG 2)

SLO5 Students can clearly and effectively communicate geographic knowledge and research in writing, orally, and/or visually. (ULG 3)

Undergraduate (GEOG B.A.) Curriculum Map

Course	SLO1	SLO2	SLO3	SLO4	SLO5
100	Introduced	Introduced			
110	Introduced	Introduced			
120	Introduced & Developed	Introduced			
160	Introduced	Introduced			Introduced
281			Introduced & Developed		
283			Introduced & Developed		
300A	Developed			Introduced, Developed, & Mastered	Introduced & Developed
312					
325		Introduced & Developed			

328	Developed	Developed			
329	Introduced & Developed	Introduced & Developed		Introduced	Introduced & Developed
332		Developed		Developed	Developed
333	Introduced	Introduced			
340		Developed			Developed
344		Developed			Developed
345		Developed			Developed
350	Introduced & Developed	Developed		Developed	Developed
352	Introduced & Developed	Developed		Developed	Developed
353				Introduced	
355		Introduced & Developed			
357	Developed	Developed		Introduced	Introduced
360	Introduced & Developed			Developed	Developed
370	Introduced & Developed			Developed	Developed
375	Introduced & Developed			Developed	Developed
425					Developed & Mastered
462	Mastered	Mastered		Mastered	Mastered
478					Mastered
481			Mastered		
484					
485			Mastered		
489			Mastered		

Table 12
Geography & the Environment
8-Year Assessment Plan for Undergraduate (GEOG B.A.) Student Learning Outcomes

2014 -2015 SLO3 - Students can apply mapping and geospatial technologies to analyze geographic data and solve geographic problems. (*D = Direct Assessment; I = Indirect Assessment)						
Course	**Curriculum Mapping**	**Assessment Method**	**Criteria of Success**	**Time Frame**	**Student Sample**	**Responsible Parties**
281	Introduced & Developed	Final Project (D)	90% of students receive 14 or more points out of the total 20 points	End of Spring semester	All enrolled students	Faculty & Assessment Coordinator
481	Mastered	Final Project (D)	90% of students receive "Satisfactory" on the final project	End of Spring semester	All enrolled students	Faculty, Graduate Assistants, & Assessment Coordinator
489	Mastered	Final Exam Question[1] (D)	80% of students receive 20 or more out of 30 points on the question	End of Spring semester	All enrolled students	Faculty & Assessment Coordinator
After Graduation		Alumni Survey (I)	An average of 3.5 (out of 5) or higher average rating	After graduation	A sample of alumni	Assessment Coordinator

[1] The question involves a series of remote sensing data calculation and problem solving.

2015 -2016 SLO5 - Students can clearly and effectively communicate geographic knowledge and research in writing, orally, and/or visually. (*D = Direct Assessment; I = Indirect Assessment)						
Course	**Curriculum Mapping**	**Assessment Method**	**Criteria of Success**	**Time Frame**	**Student Sample**	**Responsible Parties**
300A	Introduced & Developed	Papers (D)	70% of students receive an acceptable score (70% or higher) on a randomly selected sample of papers.	End of Spring semester	All enrolled students	Faculty & Assessment Coordinator
360	Developed	Research Paper (D)	70% of students receive "Acceptable" or higher on research paper.	End of Spring semester	All enrolled students	Faculty & Assessment Coordinator

2016-2017 SLO1 - Students are able to articulate the definitions of, connections between, and differences among fundamental concepts, models and theories in geography. (*D = Direct Assessment; I = Indirect Assessment)						
Course	**Curriculum Mapping**	**Assessment Method**	**Criteria of Success**	**Time Frame**	**Student Sample**	**Responsible Parties**
120	Introduced & developed	Final Exam Question[2] (D)	Students receive a mean score of 75% on selected questions.	End of Spring semester	First 25 students who completed the final exam	Faculty & Assessment Coordinator
300A	Developed	Papers (D)	70% of students receive an acceptable score (70% or higher) on a randomly selected sample of papers.	End of Spring semester	All enrolled students	Faculty & Assessment Coordinator
328	Developed	Final Exam Question[3] (D)	Students should, on average, receive70% of the total points.	End of Summer session	All enrolled students	Faculty & Assessment Coordinator

[2] Seven multiple choice questions are drawn from the final exam. Each question addresses a significant geographical dimension of a global environmental issue.

[3] Five multiple choice questions and one short answer question (32.5 points in total) are randomly selected from the final exam.

2017 – 2018 SLO2 - Students are able to identify and explain patterns and processes of human and physical geography including the diversity of the earth's peoples and environments, and the interactions between humanity and the earth's environments. (*D = Direct Assessment; I = Indirect Assessment)						
Course	**Curriculum Mapping**	**Assessment Method**	**Criteria of Success**	**Time Frame**	**Student Sample**	**Responsible Parties**
160	Introduced & developed	Final Exam Question[4] (D)	Students receive a mean score of 75% on selected questions.	End of Spring semester	All enrolled students	Faculty & Assessment Coordinator
332	Developed	Final Exam Question[5] (D)	Students should, on average, receive70% of the total points.	End of Spring semester	All enrolled students	Faculty & Assessment Coordinator
357	Developed	Papers (D)	70% of students receive an acceptable score (i.e. B-) on a randomly selected sample of papers.	End of Spring semester	All enrolled students	Faculty & Assessment Coordinator

[4] Three relevant multiple-choice questions are drawn from the final exam addressing patterns and processes of human geography, as well as the interactions between humanity and the earth's environments.
[5] Six questions (including five multiple choice questions and one written response question) are selected from the final exam.

2018-2019 SLO4 - Students can critically assess, interpret, and analyze geographic research. (*D = Direct Assessment; I = Indirect Assessment)						
Course	**Curriculum Mapping**	**Assessment Method**	**Criteria of Success**	**Time Frame**	**Student Sample**	**Responsible Parties**
300A	Introduced, developed, & Mastered	Papers (D)	75% of students receive an acceptable score (70% or higher) on the "concept / development" portion of a randomly selected sample of papers[6]. (See *Rubric: GEOG300A*)	End of Spring semester	All enrolled students	Faculty & Assessment Coordinator
340	Developed	Final Exam Question[7] (D)	Students should, on average, receive75% of the total points.	End of Fall semester	All enrolled students	Faculty & Assessment Coordinator
425	Developed & Mastered	Final Exam Questions (D)	Students on average receive 75% of the points on both randomly selected final exam essay questions. (See *Rubric: GEOG425*)	End of Spring semester	All enrolled students	Faculty & Assessment Coordinator

[6] This portion of the paper grade reflects students' ability to critically assess, interpret, and analyze assigned readings.

[7] One relevant essay question is drawn from the final exam. The question tests students' ability to assess, interpret and analyze assigned research on the social and economic impacts of rapid population aging in Japan.

2019-2020 SLO3 - Students can apply mapping and geospatial technologies to analyze geographic data and solve geographic problems. (*D = Direct Assessment; I = Indirect Assessment)						
Course	**Curriculum Mapping**	**Assessment Method**	**Criteria of Success**	**Time Frame**	**Student Sample**	**Responsible Parties**
281	Introduced & Developed	Final Project (D)	100% of students receive 14 or more points out of the total 20 points on final project (See *Project Grading Sheet_GEO281*)	End of Fall semester	All enrolled students	Faculty & Assessment Coordinator
481	Mastered	Final Project (D)	90% of students receive "Satisfactory" on the final project (See *Rubric_GEO481*)	End of Fall semester	All enrolled students	Faculty & Assessment Coordinator

2020 – 2021 SLO5 - Students can clearly and effectively communicate geographic knowledge and research in writing, orally, and/or visually. (*D = Direct Assessment; I = Indirect Assessment)						
Course	**Curriculum Mapping**	**Assessment Method**	**Criteria of Success**	**Time Frame**	**Student Sample**	**Responsible Parties**
300A	Introduced & Developed	Papers (D)	70% of students receive an acceptable score (70% or higher) on final paper. (See *Rubric: GEOG300A*)	End of Spring semester	All enrolled students	Faculty & Assessment Coordinator
433	Developed	Research Paper (D)	70% of students receive "Acceptable" or higher on research paper. (See *Rubric: GEOG433*)	End of Spring semester	All enrolled students	Faculty & Assessment Coordinator

2021 – 2022 SLO1 - Students are able to articulate the definitions of, connections between, and differences among fundamental concepts, models and theories in geography. (*D = Direct Assessment; I = Indirect Assessment)						
Course	**Curriculum Mapping**	**Assessment Method**	**Criteria of Success**	**Time Frame**	**Student Sample**	**Responsible Parties**
GEOG 100	Introduced & developed	ARC-GIS Exercises (D)	70% of students receive an acceptable score (60% or higher on exercise questions).	End of Fall semester	All enrolled students	Faculty & Assessment Coordinator
GEOG 110	Introduced & developed	Final Exam (D)	80% of students receive at least 80% of the total points.	End of Fall semester	All enrolled students	Faculty & Assessment Coordinator
GEOG 372	Developed	Papers (D)	70% of students receive an acceptable score (85% or higher) on a randomly selected sample of papers. (See *Rubric: GEOG 372*)	End of Spring semester	All enrolled students	Faculty & Assessment Coordinator

Geography & the Environment
Assessment Report (AY 2021-2022)

I. Assessment Map for Undergraduate Program SLO1 - "Students are able to articulate the definitions of, connections between, and differences among fundamental concepts, models and theories in geography."

Assessment Planning for SLO1 (*D = Direct Assessment; I = Indirect Assessment)						
Course	**Curriculum Mapping**	**Assessment Method**	**Criteria of Success**	**Time Frame**	**Student Sample**	**Responsible Parties**
GEOG 100	Introduced & developed	ARC-GIS Exercises (D)	70% of students receive an acceptable score (60% or higher on exercise questions).	End of Fall semester	All enrolled students	Faculty & Assessment Coordinator
GEOG 110	Introduced & developed	Final Exam (D)	80% of students receive at least 80% of the total points.	End of Fall semester	All enrolled students	Faculty & Assessment Coordinator
GEOG 372	Developed	Papers (D)	70% of students receive an acceptable score (85% or higher) on a randomly selected sample of papers. (See *Rubric: GEOG 372*)	End of Spring semester	All enrolled students	Faculty & Assessment Coordinator

Rubric: GEOG 372

	Organization (25%)	**Mechanics (25%)**	**Content (50%)**
Poor	Writing is rambling and unfocused, with a main theme and supporting details presented in a disorganized, unrelated way.	The author makes numerous errors in grammar, mechanics, punctuation, and/or spelling that interfere with understanding.	Topic is poorly developed, with supporting details that are absent or vague. Trite ideas and/or unclear wording reflect

			lack of understanding of topic and audience.
Acceptable	Writing demonstrates some grasp of organization, with a discernable theme and supporting details.	The author makes several errors in grammar, mechanics, punctuation, and/or spelling that interfere with understanding.	Topic is evident with some supporting details; generally meets requirements of assignment.
Excellent	Writing is clearly organized around a central theme. Each paragraph is clear and relates to the others in a well-planned framework.	The author makes no errors in grammar, mechanics, punctuation, and/or spelling.	Topic is well developed, effectively supported, and appropriate for the assignment. Effective thinking is clearly and creatively expressed.

II. Data Collection and Analysis

To assess SLO 1, Department of Geography and the Environment collected and analyzed data from two 100-level courses (*GEOG 100 Global Geography* and *GEOG 110 Introduction to the Natural Environment*), and one 300-level course (*GEOG 372 Geography of Illegal Drugs)*.

GEOG 100 Global Geography

This course gives students an introduction to general geography of the world, with modules covering each of the world's regions. For some of the modules, students were required to complete an exercise using ArcGIS, a valuable and important analytical tool which pairs map data with a plethora of physical, environmental, climate, biogeographical, population, cultural, and socioeconomic data. For each ArcGIS exercise there are several questions testing the students' knowledge and ability to extract meaningful information from the map and data.

The assessment was to see whether students were able to successfully complete these exercises. Being somewhat difficult, a score of over 60% was considered acceptable. Therefore, the success criteria is "70% of the students receive an acceptable score (60%) on the exercise."

The results show that 78% of students scored 60% or higher on the exercises. Therefore, the criterion was met successfully and SLO1 was achieved in GEOG 100.

GEOG 110 Introduction to the Natural Environment

SLO1 was assessed with the final exam which has 50 questions related to the fundamental concepts, models and theories in physical geography. As a class, 80% of enrolled students shall, on average, receive at least 80% of the total points to satisfy the student learning outcome. In

Fall 2021, 82 students took the exam and 66 students (80.5%) received at least 80% of the total points. Therefore, SLO1 was met successfully.

GEOG 372 Geography of Illegal Drugs

GEOG 372 is an elective upper-division course in Department of Geography and the Environment. In this course, students are supposed to submit a final paper at the end of the semester. 34 papers were submitted and assessed according to the assessment rubric (see *Rubric: GEOG 372*). 32 of the 34 papers received an acceptable score.

The success criteria states "70% of students receive an acceptable score (85% or higher) on a randomly selected sample of papers." Therefore, the criteria was met successfully in GEOG 372. Given the extremely high rate of good scores the assessment does not suggest any changes to this course assignment need to be made.

III. Improvement Actions

We assessed SLO1 in AY 2021-2022 and the assessment results were successful.

To improve our SLO1, we will continue to emphasize in our courses the fundamental geographic concepts, models and theories via lecture, PowerPoint presentation, videos, maps, and graphic illustrations. In GEOG 372 and GEOG 100 in which students received very high rate of good scores, we may consider raising our success of criteria for assessing SLO1. In GEOG 110, we may incorporate weekly homework into the assessment to evaluate the class progress dynamically so that necessary teaching adjustment can be made in a timely fashion.

In academic year 2014-2015, we conducted an alumni survey, which generated very useful data for assessment. In Spring 2023 we plan to conduct a revised alumni survey that better reflects our student learning outcomes. We would use data collected from the survey (an indirect assessment method) to evaluate students' comprehension on fundamental concepts, models and theories in geography.

APPENDIX F. FACULTY CURRICULUM VITAE

Faculty CVs are in a separate PDF file