Academic Program Review

Program Name: Climate and Environmental Change – Bachelor of Science

Academic Year 2025/2026

Recent Recommendations

Using your most recent review, please respond to all feedback and recommendations.

Response:

N/A

Student Learning Outcomes

Describe the assessment of your student learning outcomes (SLOs). Discuss your findings, changes you are making, and what you hope to see as a result. Response:

At this point, it is not possible to assess the SLOs because no student is far enough along in the program.

Did you make any curricular changes based on your most recent SLOA? If so, discuss what changes were made. If no changes were made, please discuss the strengths of your curriculum based on the assessment of your outcomes.

Response:

No curricular changes based on the SLOA were made.

As of 2017, all Baccalaureate programs are required to embed communication outcomes within their SLOA Plans. This is optional for non-Baccalaureate programs.

Communication outcomes in the SLOA plan are: Embedded

Check the checkbox to certify completion of the following tasks:

☑ Upload supporting documents to the Supporting Documents folder. This includes artifacts, rubrics, and other documents related to your SLOA.

☑ Upload your most recent SLOA to the Supporting Documents folder, even if no changes have been made since the last review.

Have changes been made to your SLOA document since your last review? Yes

If so, please summarize what changes were made.

Response:

The SLOA document has not undergone review yet, but there were some changes since it was initially proposed in 2023 that are detailed in the list below. Both the 2023 and 2025 SLOA plans can be found in the Supporting Documents. The SLOAs for the program are assessed based on work presented in an ePortfolio, evaluated using rubrics (ePortfolio evaluation).

Changes included reducing the number of SLOs from 6 to 5 by consolidating two science-related SLOs, and expanding the overall capstone ePortfolio rubric to include separate rubrics for each element within the ePortfolio (more detail appears below).

High Impact Practices

Please indicate which high impact practices are currently being implemented in relation to the program's student learning outcomes.

- [x] Capstone Courses & Projects
- [ ] Collaborative Assignments & Projects
- [ ] Diversity/Global Learning
- [x] ePortfolios
- [ ] First-Year Seminars and Experiences
- [ ] Internships
- [ ] Service or Community-Based Learning
- [ ] Undergraduate Research
- [x] Labs
- [ ] Graduate Level Research
- [ ] Writing-Intensive Courses
- [ ] Publications
- [x] Communications
- [ ] Scholarly Activities
- [ ] Studios
- [ ] Practicum
- [ ] Other
- [ ] None of these

Discuss how the HIPs in the program are reflected in the SLOA. If you have identified HIPs that are not included in the SLOA, please consider an update.

Response:

Capstone Courses and Projects – There is a 1-credit capstone course required in the program called CLIM F400 Climate and Environmental Change Capstone ePortfolio (syllabus here), which assists students CLIM F400 in creating an effective, reflective capstone ePortfolio.

ePortfolios – The capstone project for the degree program is for students to build an ePortfolio that brings together examples of their best work, with explanatory and reflective annotation.

There are six sections to the ePortfolio, one section focussed on the introduction and the rest focussed on the five SLOs. Evaluation of the ePortfolios will provide the basis for assessment of the SLOs. Each section of the ePortfolio, as well as the overall quality, is assessed using a rubric.

Labs – Course requirements in the program require students to take several science courses with labs.

Communications – Both written and oral communication assessements are included in the SLOs and examples and reflection are included in the ePortfolio.

Student Success

Please reference the Resources tab for information on accessing the Student Success Data Dashboard and contacting your designated data liaisons.

Student Success Data Trends

Persistence: Increase

Pass Rates: No Change

Student Credit Hours: Increase

Majors: Increase

Degrees Awarded: No Change

Other Trends (if applicable):

Number of majors in the Climate and Environmental Change program ticked up slightly between FY24 and FY25, though not at the rate we expected when the program was established (2024: prediction 8, actual 5; 2025 prediction 18, actual 6).
However, on the bright side, persistence (for the one year data is available) is good (100%).
The gender of majors trends toward [redacted]: 3 out of 5 students in FY24 and 5 out of 6 in FY25 identified [redacted]. A bias toward more [redacted] majors is not unusual for students in the Biology and Wildlife Department, or at UAF overall (PAIR Fact Sheet).
The program appears to be attracting a diverse set of students. The 6 students in the program during FY25 included representatives identifying as [redacted] ([redacted] (n = 1), [redacted] ([redacted] (n = 1), [redacted] (n = 1), and [redacted] (n=3).
Annual SCH loads of students in the program increased from 12.8 credits in FY24 to 18.0 credits in FY25.

Achievement Disparities

Discuss any achievement disparities identified in your disaggregated student success data and explain how you plan to address them.

Response:

At a departmental level during FY25, pass rates were slightly lower (~2%) for [redacted] and lower for [redacted] and [redacted] students (9=14% lower) than for [redacted] students. We will attempt to address pass rate disparities by continuing to communicate through email and Listening Sessions the learning resources available through the Student Success Center, and by continuing to encourage faculty to engage in professional development to learn about teaching well to a diversity of learners.

Closing the Loop

Please discuss how your student learning outcomes are reflected in high impact practices and student success data.

Response:

High impact practices such as ePortfolios and communication are well integrated into the SLOs. At this early stage, and given the small number of students involved, it is difficult to make generalizations about the success of the small set of students in Climate and Environmental Change or about the impact of our actions. Once students start to reach the capstone stage and begin to graduate, it will be easier to assess challenges to, and impacts of, this this program.

Academic Program Profile

The following questions help show how your program supports the university's mission, connects with other UA programs, engages with the community, contributes through service courses, and supports student success after graduation. Please use this section to highlight the value your program brings to students, the university, and beyond.

UAF's Mission:

The University of Alaska Fairbanks is a Land, Sea, and Space Grant university and an international center for research, education, and the arts, emphasizing the circumpolar North and its diverse peoples. UAF integrates teaching, research, and public service as it educates students for active citizenship and prepares them for lifelong learning and careers.

In what ways does your program advance UAF's mission?

Response:

The Climate and Environmental Change B.S. program serves UAF's mission by educating students broadly in science with a focus on rapid environmental change in circumpolar North. The program will produce graduates who can solve problems, synthesize ideas, and communicate well, thus preparing them for careers in science or the translation of science within industry, government, or NGOs, as well as for lifelong learning.

How is your program related to others in the UA system?

Response:

At UAF, there are two additional undergraduate degrees with ""Climate"" in the title: the Climate and Arctic Sustainability and the Climate and Atmospheric Science. All three originated during the last few years. Despite similar names, the programs have different emphases and are likely to attract different groups of students (Fig. 1). Climate and Arctic Sustainability is a B.A. program that includes no math beyond the GER and very little coursework in science. Climate and Atmospheric Science is a "hard science" B.S. program that requires higher level courses in mathematics (e.g. 3 semesters of calculus), physics, chemistry, and atmospheric science than either of the other programs. It offers a concentration in Forecasting, providing a pathway to a meterology career. The Climate and Environmental Change B.S. program sits between these two. It requires more math and science courses and build a stronger foundation in STEM than the Climate and Arctic Sustainability program, but provides a broader and more interdisciplinary education than the Climate and Atmopheric Science program. Students in Climate and Environmental Change can adopt a concentration in Ecological Processes, Environmental Earth Science, or Sustainability. The program originally included a concentration in Physical Processes, but that will be removed from the 2026-27 catalog in an effort to reduce redundancy with the Climate and Atmospheric Science program. The Climate and Environmental change program is somewhat related to the Natural Resources and Environment major, which is also interdisciplinary and focused on environment, but emphasizes more practical aspects of resource management.

UAA had Environment and Society B.S. and B.A programs several years back, but these have been suspended.

UAS has three environmentally-focussed programs: Environmental Resources B.S., Environmental Science B.S., and Environmental Studies B.A.

Who are your key community or external partners?

Response:

The Department of Biology and Wildlife maintains a long-standing and productive partnerships with the Institute of Arctic Biology (IAB) and the Museum of the North, both of which support faculty and student research and provide access to valuable facilities. The department has long partnered with the Alaska Cooperative Fish and Game Research Unit (AKCFGRU), whose members teach biology and wildlife courses at the graduate level and mentor graduate students. Undergraduate students often work as research assistants on, and build their thesis research around, projects funded by the Alaska Department of Fish and Game, the US Fish and Wildlife Service, and the National Park Service.

A goal for the future will be to establish partnerships with the Alaska Department of Environmental Conservation and with private environmental consulting and analytical firms to cultivate internships for Climate and Environmental Change students.

What role do your services courses play, if any?

Response:

The Department of Biology and Wildlife provides a number of service courses that help to support the delivery of our undergraduate and graduate programs.

How do your graduates succeed after leaving the program?

Response:

Currently unknown

Submitter and Collaborator Names:

Submitter Email:

Committee Review

Program Name: Climate and Environmental Change – Bachelor of Science

Academic Year 2025/2026

Overall Recommendations

The college or school committees set the tone for helping each program feel seen during this process. We have provided you with feedback tags to attach to this program review. Please select as many as applicable.

- [ ] Insufficent Narratives
- [x] Address Achievement Gap
- [ ] Develop Online Offerings/
- [x] Options Increase Enrollment
- [ ] Increase Retention/Persistence
- [x] May be asked to share Effective Practices
- [ ] Report Incomplete
- [x] Consider Curricular Revisions
- [ ] Improve Time to Degree
- [ ] Increase Graduates
- [ ] Strengthen Advising Practices
- [ ] Recommendation to University-Wide Committee

Explanation of Overall Recommendations

Response:

The BS in CLIM is a new academic program and, as a result, has no previous recommendations. Because it is a new program, students have not had sufficient time to progress through the program to the degree completion stage. The program has strong SLOA with well-defined SLOs and a well-developed rubric for SLO assessment. The program should be prepared to share curricular revisions and effective learning and student success practices in its 2027 full-program review as well as how it is linking together SLOs, HIPs, and student success outcomes to close the loop.

Student Learning Outcomes Feedback

- [x] Strong
- [ ] Requires Minor Revision
- [ ] Developing
- [ ] Requires Major Revision

Student Learning Outcomes Assessment Feedback

- [x] Strong Alignment with SLOA Plan
- [ ] Compelling Learning Story
- [ ] Missing Active Verbs
- [ ] Missing Collaboration within Department
- [ ] Clear, Concise Presentation of Findings
- [ ] Missing a Direct Measure
- [ ] Missing Curricular Connection

SLOA Feedback Narrative:

Provided five SLOs, each of which is clearly defined. Each SLO has a clear set of criteria, procedures for assessment, and implementation plan. The SLOs listed for 2025 are a refinement from six to five SLOs from the initial submission in 2023. The data evaluation process in the SLOA is standardized using a well-designed and detailed rubric/artifact which integrates the assessment of each of the individual SLOs using both qualitative feedback and quantitative data by SLO and in composite. The SLOA should be strengthened in the future by providing evidence/data from the rubric assessment to demonstrate that the SLOs are being addressed.

There have not been any curricular changes to the program yet, likely due to it being relatively new. At its full program review in 2027 (the next review for this program), assessment of the impacts and challenges of the BS in CLIM should be able to occur as students complete or near completion of the program. This will help in addressing the section on Closing the Loop to document that via narrative to articulate the relationship between the SLOs, HIPS, and student success outcomes. Documenting continuous improvement and the closing of the loop are important components of the program review process, not just as an exercise, but to demonstrate that assessment results are used to make meaningful, evidence-based changes that enhance program quality and student learning. This process ensures accountability, fosters a culture of ongoing improvement, and provides clear evidence to accreditors and stakeholders that actions lead to measurable outcomes.

Student Success and Equity Feedback

Narrative:

program's early results are promising. Enrollment grew between FY24 and 25, reflecting increasing student interest and momentum. All enrolled students have continued in the program, (an excellent sign), and the student group, though small, is diverse and well-represented.

Early data suggest that [redacted], [redacted] and [redacted] students are performing slightly better than other groups; however, the small sample size limits long-term conclusions. As enrollment grows, additional data will allow for a clearer understanding of performance trends across groups.To promote equitable student success, the department intends to enhance communication about Student Success Center resources and expand professional development for faculty on supporting diverse learners. These initiatives are commendable and should be further developed, with detailed outcomes documented in the 2027 full program review.

Retention and graduation trends are also encouraging, with one student on track to graduate in alignment with current persistence rates. Continued monitoring and proactive enrollment strategies are recommended, with measurable progress to be reported in 2027.

High Impact Practices Feedback

Narrative:

Reviewer Names: