Academic Program Review

Program Name: Oceanography - Doctor of Philosophy

Academic Year 2025/2026

Recent Recommendations

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

Response:

Overall recommendations from last review were: Improve time to degree, Develop online offerings/options, Increase retention/persistence, and improve/reduce SLOA to those that are measurable. The first recommendation is confusing because as stated at that time, over the past 4 years PhD students have taken 5.3 years (n=3) to graduate. This is typical for duration at other oceanography institutions. The update average is 5.0 over the last 5 years. LOe have developed more online offering since the review at both the undergraduate and graduate level. The last 2 years show persistence numbers of 100%. Other recommendations centered around SLOA (see below)

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:

We reduced the number of SLOA (as recommended in the last review) from 5 to 3 that are more tractable. SLOA 5 from last review was removed as recommended. SLOA 2 and 4 from last review were combined. Criteria, Goals and implementation timelines are more consistently presented. Distinction between expectations for the MS and PhD degrees is now explicit within SLOAs, specifically the PhD requires three presentations and three chapters (at least one chapter published, and one near submission before graduation). Three chapters require not only more data, but also more expertise, synthesis and enhanced contextual knowledge. To promote these skills PhDs typically take a greater number of electives to develop the breadth of knowledge required for the higher-order, more synthetic research typical of this degree. We consider public presentation and peer-reviewed publication to be implementation of learning outcomes because achieving these metrics indicates students have learned essential skills to conduct science at the PhD-level. Additionally, through the process of public presentation and peer-reviewed publication students receive feedback on how to improve upon these essential skills.

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:

The Integrative Oceanography class was implemented at mid-cycle review - student feedback to it has been positive. With the recent expansion of oceanography faculty, several older elective courses have been revived and updated, with additional new courses in development. After retirement of its previous instructor, our Fisheries Oceanography course is undergoing major revision.

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?

If so, please summarize what changes were made.

Response: Yes

See above. The old SLOA were difficult to evaluate quantitatively beyond did they pass classes, conduct field work, defend their dissertation and graduate. We now provide metrics that are easily quantified, specifically oral presentation/posters at national meetings, publishable chapters and peer-reviewed products

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
- [x] Collaborative Assignments & Projects
- [x] Diversity/Global Learning
- [ ] ePortfolios
- [ ] First-Year Seminars and Experiences
- [ ] Internships
- [ ] Service or Community-Based Learning
- [ ] Undergraduate Research
- [ ] Labs
- [x] Graduate Level Research
- [x] Writing-Intensive Courses
- [x] Publications
- [ ] Communications
- [x] Scholarly Activities
- [ ] Studios
- [x] 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:

Oceanography is a collaborative multidisciplinary activity that at the PhD graduate level results in the production of a defensible triple-chapter dissertation. The ultimate proof of scholarly activity in Oceanography is to present your research to peers at meeting and publish it within the scientific literature. These metrics are now explicit in our latest SLOAs. The HIP selected above are part of course work required for all students and/or implemented as part of fieldwork activities, during the development, defense and publication of their thesis plus during attendance to professional conferences.

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):

Historically OCN and MB1 were housed under a single unit within CFOS (Marine Science & Limnology), although the departments separated sometime ago courses were only designated as either OCN or MB1 (rather than MSL) beginning in F2023. That historical data cannot be pulled apart. As such there are several metrics that are only available for 2 years (i.e. pass rates by program/level, SCH by level/modality, financial data).

Departmental: The vast majority of Oceanography majors are supported by competitive awards to faculty members which imposes limits on the number of students within the program. The number of majors declined from 2022-2024 coincident with a reduction in faculty and external funding cycles. 2025 reflects the addition of several TT faculty that have secured funding to support students. SCH had remained stable. The low course pass rates is driven by undergraduate offering, particularly the OCN Fl 1 1X "The Oceans" course that fulfills the science general education requirement of non-science majors. Given the low number of majors, and the 5 year completion timeline, high variability in degree completion should be expected. Persistence changes are driven by loss of only one or two students given sample size (<20), the larger dip 2022-2023 (3 students) reflect the departure of a faculty member and their associated students.

Trends by program: There has been a strong shift in the number of students away from the masters to the doctoral program largely due to faculty capitalizing on R1 initiatives. There are several instances of the same student shifting from the MS to PhD program within these metrics. SCH for majors had remained relatively stable and similar between the 2 degrees. Course pass rate is limited to only 2 years of data (when tracking was disentangled from MB1) and confirms the lower rates for undergraduates. The 94% graduate pass in 2024 represents 2 failures in a field of 34, while the 90% in 2025 (6 of 60) is nonsensical because graduate enrollment has not doubled between these years as data suggests. As per departmental summary, the low number of majors, and the 5 year completion timeline, high variability in degree completion should be expected. Persistence changes are driven by loss of only one or two students given sample size (<20).

SCH: 1s also limited to 2 years of data. The continued growth our undergraduate degree in Fisheries and Marine Sciences (MMS) has resulted in large increases credit hours for OCN courses at all levels, particularly at the upper level as the initial cohort moved through. 1nternal vs in/out unit is impossible to interpret because of the intermingling for OCN, MB1 and F1SH courses within the MMS). Course modality shows there is similar preference distance and face-to-face offerings, with similar relative increases in both over the past year. 1n terms of demographics, SCH does not appear to differ consistently or statistically with gender, race, age, ethnicity or first-gen status either in aggregate or with the MS or PhD degrees.

Demographics: Majors overall 2//3-3/4 [redacted], mostly [redacted], with 10-15% [redacted], a large majority [redacted] and only a small percent[redacted]. Percent degrees for demographic metrics cannot be interpreted due to small sample size. Persistence for majors does not appear to be consistently related to gender, race, age, ethnicity or first-gen status. The MS degree is more dominated by [redacted] than the PhD and MS students are typically [redacted]. 1n the past 3 years the PhD program has become distinct dominated by [redacted]. Conclusion cannot be reached about the impact of race, ethnicity of first-gen status for either degree due to small samples size. Based on 2 years of data: Undergraduate course pass rates do not appear to be related to gender, while [redacted] and [redacted] pass rates appear lower than [redacted]. Students [redacted] typically perform more poorly than those older, ethnicity is inconclusive due to sample size, while data suggests [redacted] and [redacted] do more poorly. With only 2 yrs of data impact of gender, race, ethnicity and age in graduate courses is inconclusive, although in one year [redacted] performed distinctly worse than [redacted].

Achievement Disparities

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

Response:

There are no consistent achievement disparities in the disaggregated data at the PhD graduate level targeted by this review

Closing the Loop

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

Response:

The PAIR data does not reflect out major SLOA metrics of field experience, presentations at meetings and publications. Over the past 5 years all students have engaged in significant field plus lab activities. All 8 PhD students that graduated during the review period have produced a dissertation of 3 chapters, with an average of 1.9 peer-reviewed works published by each and

several more under review or in preparation. Each has presented their research at national meeting multiple times averaging 4.9 per student.

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:

Oceanography supports the needs of Alaska, its communities, the nation and the international community through research and training of the next generation of scholars and leaders that will monitor and manage the wise use of Alaskan and Arctic marine resources

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

Response:

This program interacts regularly with CFOS departments of Fisheries and Marine Biology that collectively offer out undergraduate program in Fisheries and Marine Sciences

Who are your key community or external partners?

Response:

Oceanography interacts with a number coastal communities, commercial entities and both state (ADF&G) and federal agencies (NOAA, BOEM, NPS, USFWS, USGS) many of whom are staffed by former Oceanography graduates

What role do your services courses play, if any?

Response:

OCN Fll1X (The Oceans) is a 4-credit GER course that offers honors credit. It contributes a science course for UAF's general education requirement and to the Honor's College

How do your graduates succeed after leaving the program?

Response:

Doctoral graduates for the past 5 years have gone on to post-docs [redacted], [redacted] scientists [redacted] research faculty [redacted]. Our most recent graduates are still looking for positions given disruptions in the academic/governmental funding systems

Submitter and Collaborator Names:

Russ Hopcroft, Ana Aguilar-Islas, Christina Sutton, Luke Canady

Submitter Email:

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Committee Review

Program Name: Oceanography - Doctor of Philosophy

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.

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

Explanation of Overall Recommendations

Response:

The PhD program in Oceanography graduates a relatively small number of students, hence trends are difficult to assess, but the high faculty to student ratio, grant support for most students, and ample opportunities for gaining field experience, presenting at conferences, and engaging in collaborative research are strengths of the program. The SLOAs need some adjustment and clarifications; the SLOA seems incomplete as as the only metrics evaluated were number of presentations and publications; the modest number of students per FTE suggests the potential for increasing enrollment if funding (e.g. fellowships) can be secured. Cost effectiveness through stacking but links to other departments within CFOS (cross-listing?) and other University programs (ESS?) are unclear. Financial data was separated among CFOS departments for the first time this year and only 2 years of data are available for Oceanography due to the recent separation of MBI and OCN from what was one academic unit (MSL). It is a useful starting point but needs refinement.

Student Learning Outcomes Feedback

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

Student Learning Outcomes Assessment Feedback

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

SLOA Feedback Narrative:
A full assessment of SLOAs based on the metrics listed and the SLOA implementation plan (Were SLOA outcomes met?) and associated narrative are missing (for example evaluations of core course performance, thesis proposal, field courses, etc was not provided). The evaluation (under 'Closing the Loop') is limited to the average number of presentations and average number of publications. No other metrics were considered, thus it is difficult to assess if SLOs are met.
Program-specific mission statement in the SLOA Plan is missing, so it is unclear how the SLOA aligns with the UAF/CFOS mission.
For the PhD, mention of "thesis" should be changed to "dissertation"
The SLOA plan mentioned several forms, e.g., dissertation defense, project evaluation, core courses, proposal forms, field evaluation, etc. Where are these forms, what is being evaluated? How are the expectations different from MS? For that matter, what are the expectations?
Overall, goals are the same between MS and PhD, except 1 conference presentation at the MS level, 2 at the PhD level. Make the scope difference more clear. Also, the minimum standard should be mentioned everywhere - are all students expected to present twice or 80% of them? Provide some way to evaluate that the program accomplishes its objectives.
Make more clear what field/ship experience means to an oceanographer. What and how is performance evaluated? Does it matter as long as field work is being performed? How are expectations in field/ship work different between MS/PhD? For example, are PhD students more groomed towards becoming chief scientists? What would be involved etc.
Communication goals and assessment between MS and PhD are essentially the same. Except, MS students are expected to execute publishable research, but the instruments does not require publication of a thesis chapter. Similarly, the expectation of one publication for a PhD student with 3 dissertation chapters is very low.
The objective "work as university-level educators or professional scientists" is not aligned with data collected to assess this
How is teaching experience tracked and what counts? For example, TAship only, guest lectures?
The requirement to present at an international conference requires grant funding, and if the student's advisor does not have funds to cover this (can be very expensive, e.g., Ocean Sciences in Scotland would cost at minimum several thousand dollars to attend) may present a barrier to attending this meeting and thus meeting this condition. Suggest adding language ... e.g., national conference or other conference as funds permit. It should be explicitly stated that all conference attendance as required by the SLOA will be covered by the advisor or university.
The requirement of field work can be a barrier to students who are disabled, potentially limiting the types of students who can participate in the PhD program.

Student Success and Equity Feedback

Narrative:

- All relevant metrics were adequately summarized and the trends described accurately capture data provided by the PAIR dashboard. Evaluation of these trends is challenging because OCN courses were recently separated from MBI courses (until two years ago, both were taught as MSL = Marine Science and Limnology). This, combined with small sample sizes, precludes meaningful interpretation of trends at this time. A fuller evaluation of trends should be conducted once multiple years of data under the new departmental structure (OCN/MBI) are available.

High Impact Practices Feedback

Narrative:

- The Oceanography PhD program employs several HIP, such as Research, publications, and capstone projects. These HIPs are appropriate for a science-based doctoral-level program.

Tracking indicates high productivity of students in the HIP. We commend the program faculty for implementing relevant HIP.

Profile Feedback

- ☐ Mission-Centric to College and/or UAF
- ☑ Collaborative with other UA Programs
- ☑ Strong Post-Grad Success for Students
- ☐ Strong Ties to Community or Industry
- ☑ Unique within UA
- ☐ Provides Job Placement for Graduates
- ☐ Strong Service Teaching Component

Financial Feedback

- ☐ High Tuition Revenues
- ☐ Operates at Low Cost
- ☐ Opportunities to Increase Revenue
- ☑ High Grant Revenues
- ☐ Productive Faculty
- ☑ Low Enrollment

Reviewer Names:

Cramb, Hennon, Horstmann, Hueffer, Kelley, Mueter

Dean Review

Program Name: Oceanography - Doctor of Philosophy

Academic Year 2025/2026

Dean Feedback

The Oceanography PhD degree program is a central part of the Oceanography Department, and as are other CFOS department doctoral programs in Fisheries and Marine Biology, this is a key part of the R1 goal of UAF. The key challenge to enrollment is external funding to support both the research and the PhD student. The department turns down 10:1 students who apply due to insufficient funds. Aside from enrollment, the department has world-class faculty and is increasingly attracting higher performing students as evidenced by graduation rates at roughly 5 years, typical of other national high quality doctoral programs in this discipline. SLOAs can be improved, and are being addressed. Overall, the program is important in training scientists and meeting Alaska's workforce needs in aquatic ecosystems and prediction capabilities.

Recommendation to University-Wide Committee No

Vice Provost Review

Program Name: Oceanography - Doctor of Philosophy

Academic Year 2025/2026

Vice Provost Feedback

Overall feedback narrative:

The program revised its SLOA following the 2023 mid-cycle review, but the MS and PhD SLOs remain insufficiently differentiated to reflect the distinct expectations at each degree level. SLO #1, #2, and #3 require refinement to better distinguish breadth and depth of knowledge, communication competencies, and research expectations for PhD students, rather than relying on assessment differences alone. SLO #1 is overly broad and conflates core knowledge, communication, and research; SLO #2 combines two distinct constructs and should be split; and SLO #3 should focus more explicitly on research depth rather than grantsmanship. Although assessment procedures are noted and a rubric was provided, the program must include all artifacts, rubrics, collected data, and narrative evaluation of SLO achievement in future reviews. For the 2027 mid-cycle program review, the program should revise the SLOA to clarify degree distinctions, provide direct evidence of SLO assessment, and more clearly connect curricular changes to assessment findings.

Student success data indicate stable persistence and high pass rates, including 100% comprehensive exam pass rates and strong employment outcomes for graduates across academia, agencies, NGOs, and industry. Faculty provide consistent mentoring, funding support, and oversight of research progress, and the program maintains strong partnerships with CFOS units, other UAF departments, and statewide agencies and [redacted] organizations. However, PAIR dashboard metrics were minimally analyzed, with limited disaggregation or c[redacted]tualization of gender and demographic patterns. No analysis of potential achievement gaps or strategies to support underrepresented groups was provided, and early-alert or intervention mechanisms were not described. Capacity constraints related to faculty resources were noted, but the impact on student experience or success was not evaluated. Future reviews should examine dashboard data more fully, address equity considerations, and develop strategies for monitoring and responding to emerging gaps.

High-impact practices are clearly described and effectively linked to student learning outcomes across research engagement, field and lab work, communication activities, and collaborative scholarship. These practices support strong student preparation and align well with the SLOA, demonstrating meaningful integration throughout the program. The diversity and global learning category, while selected, would benefit from additional narrative and a clearer connection to specific coursework or SLOs to strengthen its documentation and alignment. Continuing to explicitly articulate how HIPs reinforce SLO achievement will support closing-the-loop expectations for the 2027 review.

Department Profile and Financial Data only needs to be completed for programs undergoing FULL review.

Department Profile and Financial Data

Department Name: Oceanography

Last updated: 2025/2026

Department Profile and Financial Data

This section aligns with Board of Regents Policy 10.06 and supports systemwide consistency in academic program review. Responses are maintained across review cycles and may not need to be updated annually. Please review your previous answers and update only if necessary.

When answering the following questions, refer exclusively to the standardized Financial Data Template provided by UAF. Work with your data liaison to interpret the template accurately. Do not include any additional or alternative data — consistency across programs is essential. To maintain integrity and standardization across all of UAF it is very important that you do not provide any additional or alternative data from this template.

Confirmation of Review

Have you reviewed the information in this section and made any necessary updates? Yes

Financial Data Spreadsheet

☑ I have reviewed the Financial Template for updates and accuracy.

Cost Effectiveness

Please describe strategies such as instructional efficiency, shared resources, cross-listed courses, or other ways your department uses resources thoughtfully.

Response:

The majority of our 600-level courses have been stacked, making them more available to our undergraduates and increasing overall enrollment in these courses. The MS and PhD share the same core course requirements. Note that due to combined reporting (of OCN and MBI) financial data is incorrect for AY223/24 for some metrics. In particular, SCH is inflated in that year: it did not drop by 50% the following year.

Associated Programs

Program Name	Degree Type
Oceanography	MS
Fisheries and Marine Sciences	BS

Collaborator Name(s):

Collaborator Email(s):

Financial Data only needs to be completed for programs undergoing FULL review.

Financial Data

Department Name: Oceanography

Academic Year 2025/2026

	FY2023	FY2024	FY2025	For Data Entry Staff	For Programs and Review Committees
Total Student Credit Hours (SCH)	1382	679	914	Provided in SCH tab in the student success data provided by PAIR.	
Service SCH	1212	546	720	Sum rows labeled as "In unit, outside department, Service" and "Outside unit, Service" in the SCH tab of the data provided by PAIR.	
Department FTEs	9.5	10	13.62	FTE = Full-time equivalent employee. This field will auto-populate from the FTE Worksheet below.	
Total SCH per Department FTE	145.47	67.90	67.11		
Service SCH per Department FTE	127.58	54.60	52.86		

Majors in Programs	14	14	18	Sum for all programs from the Majors Total tab in the data provided by PAIR.	
Department FTE's	9.5	10	13.62	This field will auto-populate from the FTE Worksheet below.	
Majors per Department FTE	1.47	1.40	1.32		

Total Unrestricted Expenditures	[redacted]			Total Expenditures made from budgets with an F1 or F7 fund type designation, from provided cycle report data filtered by Data Liasion	
Total Restricted Expenditures	[redacted]			Total Expenditures made from budgets with revenue of the F2 or S2 fund type designation, from provided cycle report data filtered by Data Liasion	
Total Unit/Central Support Allocated to Program(s)	[redacted]			Expenses incurred for direct support of instruction within orgs identified as central or academic support, if applicable	
Total Expenditures	[redacted]				

Tuition Revenue	[redacted]			Receipts to college from tuition generated by the department/program (F1). NOTE: under the current 80/20 percent tuition distribution model generating units receive 80%. PLEASE USE PAIR REPORTED SCH.	Receipts to college from tuition generated by the department/program, based on the campus's active tuition distribution model, which determines how much the unit receives of their generated tuition, and how much the campus keeps (in addition to the out-of-state surcharges) to support central offices/functions. The current distribution model is 80/20, where the unit/college receives 80% of their generated in-state tuition.
State Appropriation Revenue	[redacted]			Appropriations for current funds operation of the university from the general fund of the State of Alaska through the annual budget cycle. This category also includes TVEP and State Mental Health Trust funds, if allocated to the department. (F1)	Appropriations for current funds operation of the university from the general fund of the State of Alaska through the annual budget cycle.
Restricted/Sponsored Project Revenue	[redacted]			Revenue from external sponsors; includes grants, contracts, sponsored projects & restricted (grant) accounts funded by UA Foundation funds (F2/S2)	Revenue from external sponsors; includes grants, contracts, sponsored projects & restricted (grant) accounts funded by UA Foundation funds
Fees	[redacted]			Course Fees (9159)	
Other UA Receipts/Revenue	[redacted]			e.g. Performance and Sales Receipts, Space Rental Revenue, Indirect Cost Recovery (F1/F7); NOTE: COURSE FEES (9159) REPORTED ABOVE	
Total Revenue	[redacted]				

Workload Allocation	FY2023	FY2024	FY2025	
Teaching Units	76.33	80	100.5	Department facultys' workload units assigned to teaching
Service Units	27	30	32	Department facultys' workload units assigned to service
Research Units	87.55	120	133.62	Department facultys' workload units assigned to research

Full-Time Equivalent Worksheet*	FY2023	FY2024	FY2025	
Faculty FTEs	5	6	7.12	**Base assumption: 12-month full-time = 1.0 FTE. 9-month = 0.75 FTE.** Split appointments are multiplied by the % of effort assigned to this department. Part-time are multiplied by the % of effort assigned. F9 faculty on sabbatical count as 67% of one 9-month 0.75 FTE (or 0.50 FTE).
Adjunct FTEs				**Base assumption: 40 units/credits = 1.0 FTE.** Total # of credits taught by adjuncts in a year divided by 40 = the FTE of adjuncts in that year.
Staff FTEs				**Base assumption: 12-month full-time = 1.0 FTE. 9-month = 0.75 FTE.** Split appointments are multiplied by the % of effort assigned to this department. Part-time are multiplied by the % of effort.
Graduate TA/RA FTEs	4.5	4	6.5	**Base assumption: 40 hours/week for 12 months = 1.0 FTE. 9-month = 0.75 FTE.**
Total Department FTEs	9.5	10	13.62	Sum of all employee FTEs

**Note: FTE definitions and calculations for the purpose of Academic Program Review are different than for other institutional reporting processes (e.g. OMB or IPEDS reporting)*

Information last updated by:	luke canady
Date:	10/3/2025