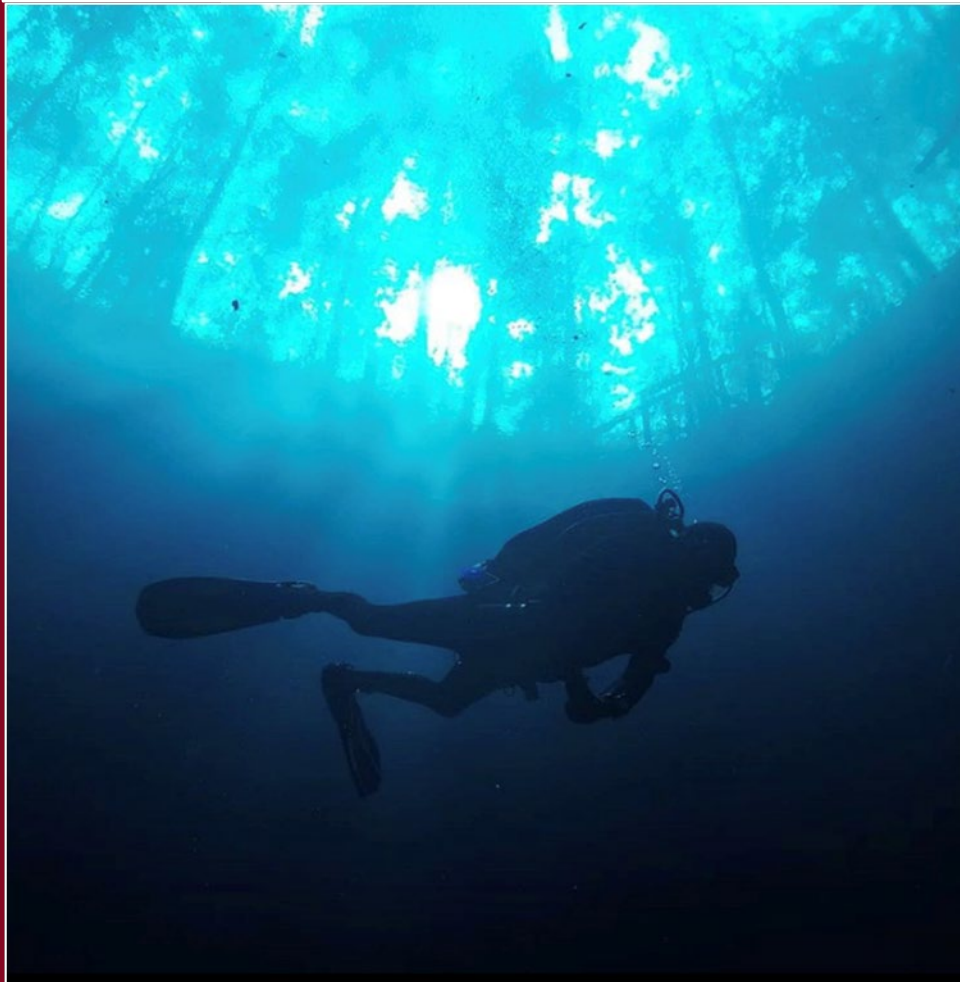




## The Florida State University Academic Diving Program

# ANNUAL REPORT FY 2023



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## Overview

The FSU Academic Diving Program (ADP) oversees and supports underwater research conducted by FSU faculty, students, staff, and visiting scientists. The FSU Diving Control Board governs scientific diving operations with representative members from each invested department of the University. Day-to-day operations are managed by the Diving Safety Officer (DSO), with assistance provided by the Florida State University Coastal and Marine Laboratory (FSUCML) staff.

The objectives of the ADP can be divided into three categories: training, project oversight, and logistical support. Each function aims to facilitate research while minimizing risk and liability to the University.

1. **Training** is provided through workshops and a spring credit course, emergency care certifications necessary to maintain American Academy of Underwater Sciences (AAUS) active diver requirements, and crossover diver training from other organizations to FSU/AAUS standards.
2. **Diving Project Oversight** is provided through assistance in compliance with national standards, review and approval of dive plans, record keeping, and providing letters of reciprocity for divers collaborating with other organizations.
3. **Logistical Support** is provided through the coordination of diving operations, and the management of the diving locker to ensure that researchers have access to quality diving equipment.

This report summarizes the activity of the ADP in fiscal year (FY) 2023, from July 1, 2022, to June 30, 2023.

## Operational Summary

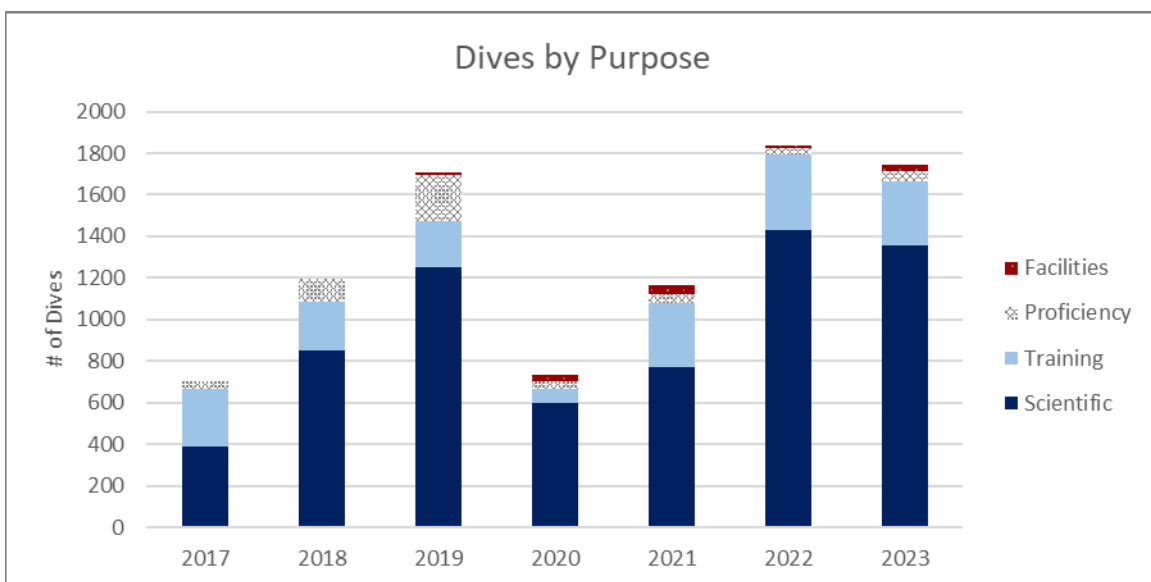


Figure 1. Annual changes in the total number of dives in four categories: proficiency, training to become Scientific Divers, scientific dives and facilities dives. Facilities dives began in FY 2019.

In FY 2023, the ADP facilitated underwater research for 77 active FSU scientific divers and one additional visiting scientific diver (Figure 2). Divers included undergraduate students, graduate students, research staff, postdoctoral researchers, and faculty (Figure 3) from across campus, including the Coastal and Marine Laboratory and the departments of Anthropology, Biological Science, Earth, Ocean, and Atmospheric Science, and Geography. The Department of Biological Sciences consistently accounts for the largest number of divers. In FY 2023, 34 divers from Biological Science logged 755 dives. Collectively, the ADP enabled 1,742 dives and over 1,533 hours in the field working underwater (Figure 4), not including the dives made by visiting scientists.

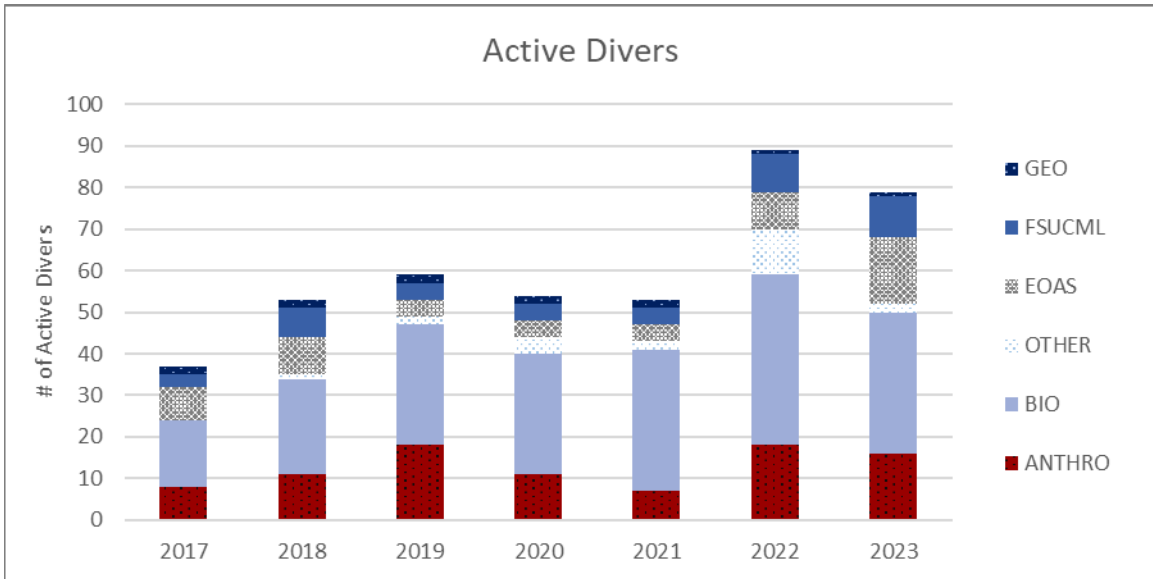


Figure 2. Annual changes in the number of active divers over time by department. Active divers are individuals currently using scuba diving as a tool to train for or contribute to research at FSU. ANTHRO = Anthropology, BIO = Biological Science, EOAS = Earth, Ocean, & Atmospheric Science, FSUCML = Coastal & Marine Laboratory, GEO = Geography, OTHER = Visiting Researchers and all other departments.

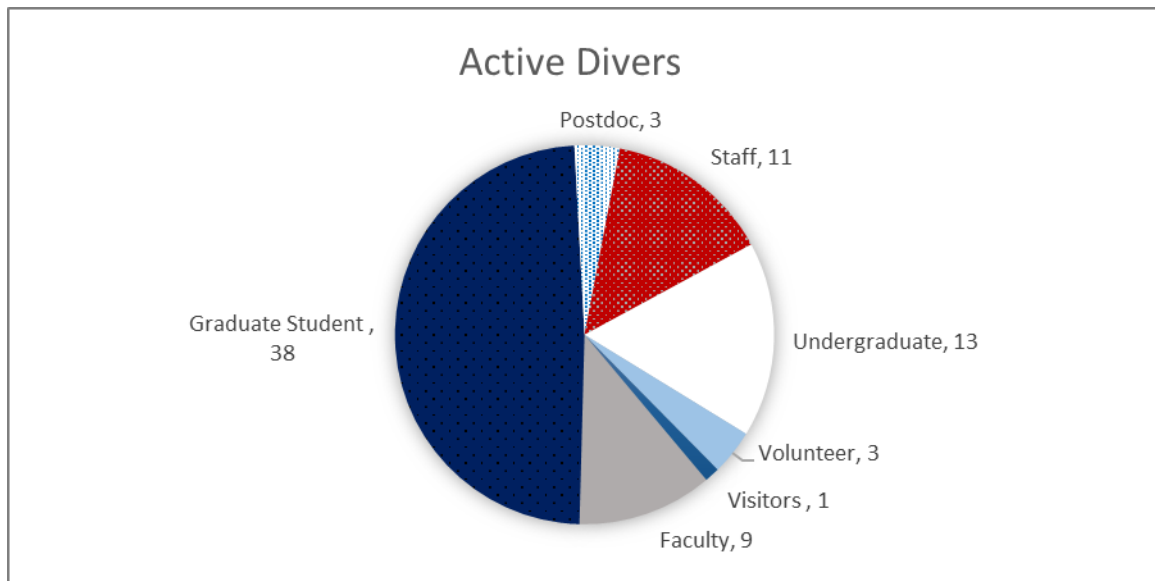


Figure 3. FY 2023 active divers by position at FSU. Graduate students consistently account for roughly half of active scientific divers at FSU, many of whom will work as volunteers to support each other's academic goals.

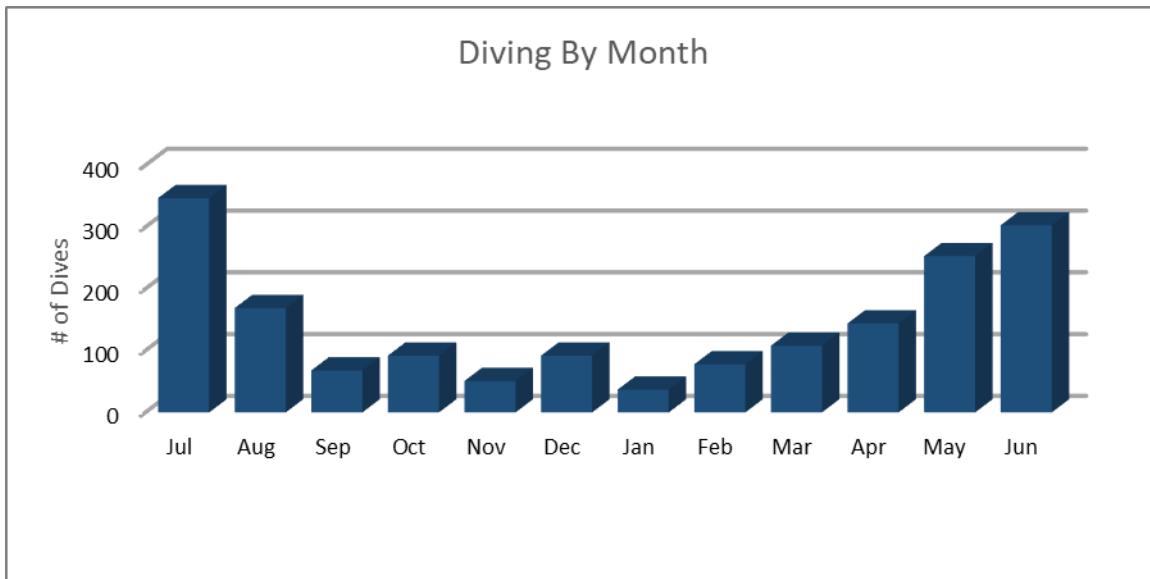


Figure 4. FY 2023 diving activity by month. Diving activity is influenced by predictable seasonal trends in field research.

The ADP manages 30 regulator systems, 2 breathing air compressors, 39 buoyancy control devices, 166 compressed gas cylinders, and a variety of additional equipment to enable safe and productive underwater research. In FY 2023, 239 equipment rental requests were made to the ADP, with rental time periods ranging from one day to several months.

There were no Incident Reports filed with the Diving Control Board in FY 2023.

The spring 2023 Introduction to Scientific Diving course concluded with the certification of 12 new AAUS scientific divers. Three additional divers-in-training were certified as scientific divers during the fiscal year, each of whom entered the program with significant diving experience. The procedures for training research staff as divers was formalized and enabled a new FSUCML position, stationed at the Apalachicola National Estuarine Research Reserve (ANERR) to collaborate with the Florida Department of Environmental Protection (DEP). Open water certifications were issued exclusively to support the FSUCML Diving Scholarship. Additional certifications were issued for specialties in dry suit diving, enriched air nitrox, and emergency first response.

### Training and Research Locations

The nature of the research diving requires the ADP to be operational in many locations, both locally and internationally. Most divers work primarily on FSU main campus in Tallahassee. Others are stationed at laboratories and research sites including FSUCML, ANERR and the Smithsonian Tropical Research Institute in the Republic of Panama (STRI).

The dive locker, boat diving and marine training operations are centered at the FSUCML. A substantial portion of scientific work is also launched from the FSUCML including work supporting the Apalachicola Bay System Initiative (ABSI). All facilities dives are also located at and in support of the FSUCML. Routine underwater maintenance of the FSUCML seawater system and the research vessel (R/V) Apalachee was undertaken by the ADP beginning in FY 2019 and classified as essential maintenance during the pandemic (Figure 1).

The Morcom Aquatics Center in Tallahassee serves as an outstanding site for training dives and watermanship evaluations. Several north Florida karst features also serve as important training sites, particularly Cherokee Sink, a karst window located inside Wakulla Springs State Park.

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During FY 2023, research teams worked primarily in Florida. The Department of Anthropology's Underwater Archaeology Field School was held over six weeks on the banks of the Aucilla River. There were also operations in the US Virgin Islands and abroad including the Dutch Caribbean, the Republic of Panama, French Polynesia, and British Columbia.



Figure 5. FSUCML Diving Scholarship recipients dive into training at a North Florida spring.



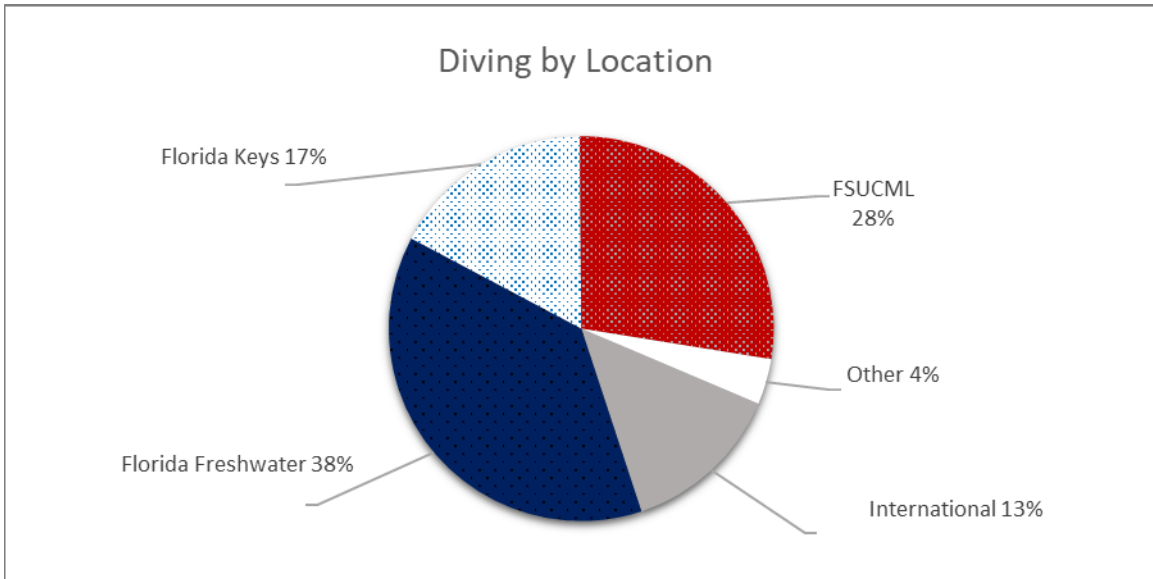


Figure 6. Percent of total FY 2023 dives by location. International diving locations included the Dutch Caribbean, Panama, French Polynesia, and British Columbia. Florida freshwater sites were primarily the Aucilla River and Cherokee Sink.



Figure 7. The Introduction to Scientific Diving course near St. Teresa Beach, FL in spring 2023. In FY 2023, over \$17k in private donations were given to support two diving scholarships, including for the FSUCML Diving Scholarship, which provides funding for deserving FSU students to become Scientific Divers.

### Looking Ahead

FSU diving activity increased dramatically from 2017 to 2019, then dropped in the pandemic years 2020 and 2021, before rebounding to pre-pandemic levels in 2022. We anticipate that the level of diving activity will decrease in 2023 as some diving-intensive projects wind down. For instance, the Underwater Archaeology

Field School is not expected to take place in 2024. However, exciting new research endeavors are burgeoning, including fieldwork into the paleoclimatology of the equatorial Pacific.

In FY 2024, the ADP will undergo an external review to become an accredited organizational member of the American Academy of Underwater Sciences (AAUS). The accreditation process includes a multi-day site visit by experts in scientific diving program management to 1) vet the Diving Control Board, Diving Safety Manual, and Diving Safety Officer, 2) review of administrative and diving procedures, and facilities 3) met with the administration and reviewing institutional support for diving safety. The accreditation will further verify the University's commitment to national standards for safety, while seeking to identify strengths, weaknesses, and opportunities to improve.

Following accreditation, a new strategic plan should be developed to ensure long-term efficiency and success. It is due to the execution of the 2020 strategic plan, that ADP remains well-positioned to support new and existing scientific diving initiatives, leverage talent and resources, enable collaboration with our strategic partners, and serve as an alluring example of what FSU has to offer students, faculty, and the greater academic community - all while minimizing expense, risk, and liability to the University. In addition to ensuring the program remains vital to FSU's research objectives and meets demand for scientific diving operations, the new strategic plan should establish financial goals and identify new ways to engage donors and generate revenue.

Most importantly, the ADP is and must stay prepared to continue its mission: "to provide excellence in underwater research support at Florida State University, including quality instructional and operational assistance using optimal technologies, while ensuring that scientific diving is performed safely following the standards of the American Academy of Underwater Sciences."



Figure 8. Scientific Divers-in-Training practice their skills at Morcom Aquatics Center in Tallahassee.





Figure 9. FSU scientific divers at a National Science Foundation (NSF) study site in Moorea, French Polynesia. Photo credit: Alyssa Turner.



Figure 10. FSU graduate student Nate Spindel dives in Panama with colleagues at the Smithsonian Tropical Research Institute. Photo Credit: Nate Spindel.