

Alexandra Brainerd

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PROFILE

Interdisciplinary marine ecologist, educator, and science communicator with 8 years of experience conducting and supporting field research across coral reefs, kelp forests, and polar ecosystems. Skilled scientific diver (PADI Divemaster; dry-suit certified) with expertise in ecological monitoring, data collection, and community engagement. Passionate about bridging science, communication, and stewardship to advance marine conservation and translate ecological research into meaningful environmental action.

EDUCATION | **Stanford University**

Master of Arts: Earth Systems: Environmental Communications *September 2022 (3.95 GPA)*

Bachelor of Science: Earth Systems: Oceans, Atmosphere, and Climate *March 2022 (3.7 GPA)*

- Dean's Award for Outstanding Undergraduate Academic Achievement
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PROFESSIONAL EXPERIENCE

Bleu World | *Vice President, Treasurer, and Science Diver* *September 2024 - Present*

- Serve as Lead PI on a multi-year sargassum removal and monitoring project evaluating ecological impacts on kelp forest resilience.
- Conduct kelp forest monitoring dives, including Giant Sea Bass behavior, fish community surveys, and Marine Protected Area assessments.
- Expand citizen-science programs supporting Catalina marine conservation; manage organizational finances and contribute to grant development to sustain long-term research and education projects.

Catalina Island Conservancy

Senior Naturalist and Outreach Specialist *January 2025 - Present*

- Lead instructor for the California Naturalist and Conservancy Naturalist certification programs, integrating island ecology and restoration science into training.
- Direct internal education on the Catalina Island Restoration Project, serving as lead science educator on deer management and habitat restoration.

Education Programs Coordinator and Interim Manager *February 2023 - January 2025*

- Provided interim leadership for the Education Department, overseeing program strategy, design, and delivery to 2,000+ participants.
 - Designed and taught courses, workshops, and lecture series; managed the Summer Naturalist Internship Program.
 - Oversaw grant-funded education programs, including reporting, compliance, and budget tracking.
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RESEARCH EXPERIENCE

Bleu World | *Principal Investigator (Community-Based Project)* *August 2025 - Present*

Project: Sargassum Removal and Monitoring, Catalina Island

- Leading a multi-year, dive-based study on the ecological impacts of invasive sargassum removal on kelp forest resilience. The project integrates removal trials, habitat mapping, and community training programs to inform long-term restoration strategies.

Stanford University | *Master's Capstone Project* *January - June 2022*

Project: Indigenous Environmental Justice & the Osage Nation

- Created a podcast and website examining intersections of Indigenous sovereignty, storytelling, and environmental justice.

Marine Conservation Institute | *Blue Parks Science Intern* *June - September 2021*

Project: Global Blue Parks evaluation

- Produced evaluation reports for Marine Protected Area (MPA) nominations, integrating ecological criteria, stakeholder interviews, and policy frameworks.
- Collaborated with scientists and Indigenous community representatives to support the global Blue Parks initiative.

Stanford University | *Course-Based Research Project* *January - April 2020*

Project: Remote sensing of Gulf of Mexico hypoxia and Mississippi watershed precipitation

- Applied satellite data and precipitation records to evaluate drivers of hypoxic zone variability.

Stanford at SEA | Undergraduate Researcher and Crew*April - June 2019**Project: Visual communication in Purpleback Flying Squid (*Sthenoteuthis oualaniensis*)*

- Conducted chromatophore analyses and behavioral observations during a 6-week South Pacific expedition.
- Operated CTDs, plankton nets, and oceanographic instruments.

Hopkins Marine Station | Research Assistant*June - August 2019**Project: Coral reef trophic dynamics and resilience in a large marine protected area*

- Analyzed prey images using ImageJ and conducted statistical analyses in R.
- Supported stable isotope research through image analysis and contributed to data visualization for trophic ecology studies

Heron Island Research Station | Undergraduate Researcher*September - December 2019**Project: Macroalgae-zooxanthellae interactions on Great Barrier Reef corals*

- Led underwater benthic transect surveys on the Great Barrier Reef to assess coral-algae interactions.
- Analyzed coral health metrics to evaluate symbiont density and algal proximity effects.

Shedd Aquarium | Research Assistant*June - September 2018**Project: Fish behavior and predation dynamics in reef habitats*

- Analyzed underwater video footage, identified reef fish species, and recorded behavioral data around standardized predation units.

TEACHING EXPERIENCE**Stanford University | Graduate Teaching Assistant***September 2021 - April 2022*

- EARTHSYS 101: Energy & the Environment (50 students): Led discussion sections, held office hours, supported assignments, and assisted with course logistics.
- EARTHSYS 10: Introduction to Earth Systems (400+ students): Assisted instruction in a large introductory course, coordinated with faculty and supported student learning outside lectures.

COMMUNICATION EXPERIENCE**Apple Studios | "Killers of the Flower Moon" Production Assistant***April - June 2021*

- Ensured accurate cultural representation of the Osage Nation by coordinating background actors and supporting set logistics.

The YEARS Project | Climate Media Intern*June - September 2020*

- Researched and developed digital media content on climate science and environmental issues.
- Produced scripts and videos that reached 3M+ viewers, translating complex science into accessible, public-facing storytelling.

FIELD AND TECHNICAL SKILLS

- **Field Research:** Scientific diving (PADI Divemaster; experience includes kelp forest, coral reef, and cold-water/Arctic expedition dives), ecological transect surveys, species identification, MPA monitoring, benthic surveys, oceanographic instrumentation (CTD, plankton nets), small boat handling and shipboard crewing.
- **Data & Analysis:** R, MATLAB, Python, ArcGIS, SeaDAS, ImageJ, data visualization, statistical analysis.
- **Research Communication:** Scientific writing, literature review, curriculum development, public outreach, digital media production.

CERTIFICATIONS

- California Naturalist Certified Instructor
- PADI Divemaster and Rescue Diver
- PADI Dry Suit Diver
- PADI Freediver
- Wilderness First Aid
- CPR/AED
- Red Cross Lifeguard