

# OLIVIA C. CARMACK

Curriculum Vitae

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## EDUCATION

Jan 2016 - May 2019      **University of Southern California (USC)**  
Los Angeles, CA  
B.S. in Environmental Studies | Minor in Marine Biology

## PROFESSIONAL EXPERIENCE

Jan 2023 – Current      **Paua Marine Research Group**, Los Angeles, CA, Senior Marine Biologist

- Lead abalone outplanting activities in San Diego with NOAA National Marine Fisheries Service, including coordinating scientific diving, boating operations and divers and maintaining supplies for diving and abalone outplant/research activities
- Assist with the NOAA young-of-year rockfish project in the Puget Sound, Washington, including diving in Washington four times a year, partner outreach and data management
- Assist with PMRG projects including eelgrass research, restoration and mitigation and other subtidal and intertidal biological surveys that involve scientific diving, small boat operation and trailering, operating GIS and sonar equipment, data management, analysis, and reporting

June 2021 – Dec 2022      **The Bay Foundation**, Los Angeles, CA, Ocean Resiliency Program Coordinator

- Conducted surveys on kelp forest, abalone and eelgrass beds, data, and specimen collection, deployed field instruments and underwater photography and videography on SCUBA
- Operated and maintained organization of small research vessel, dive gear, field, and lab equipment
- Supported abalone lab operations including caring and feeding of abalone

Aug 2020 - Dec 2020      **Smithsonian Marine Station**, Fort Pierce, FL, Science Communication Intern

- Developed [articles](#) and educational materials for the SMS digital newsletter and website to increase the accessibility of science for lay audiences
- Co-producer and editor on an [educational video series](#) to introduce research conducted by CHAMP lab and key concepts with corals and coral disease

May 2019 - Aug 2020      **Smithsonian Marine Station**, Fort Pierce, FL, Paid Research Intern  
*Project #1 - Studied the impact of chemical cues on the recruitment of juvenile reef fish and coral larvae*

- Spent extended periods conducting field work on remote field station, Carrie Bow Cay in Belize; Safely operated marine research vessels
- Conducted monthly subtidal marine surveys on SCUBA utilizing monitoring techniques such as quadrats, band transects, random point contact, benthic and fish transect, and roving diver fish counts
- Accurately organized large amounts of data with statistical software

- Sept 2018 - Dec 2018      *Project #2 - Studied the ecology and pathogenesis of the stony coral tissue loss disease outbreak along the Florida reef tract*
- Conducted coral health and abundance surveys, photographed coral colonies on permanent monitoring sites, collected coral samples, and treated diseased corals in the field with probiotic treatment on SCUBA
  - Managed educational content for the Coral Health and Marine Probiotics lab [Twitter](#)
  - Prepared and routinely checked logistical supplies necessary for field work
  - Practiced basic microbiology while handling bacteria culture
- Sept 2017 - Dec 2017      **USC Wrigley Institute for Environmental Studies, Los Angeles, CA,**  
Undergraduate Research Assistant
- Project #1 - Collaborated with faculty and peers to design and conduct experiments aimed at improving AAUS scientific diving curriculum*
- Conducted baseline habitat surveys in seagrass and kelp beds around Catalina Island
  - Designed, tested, and wrote experimental protocols for AAUS students
  - Identified adult and juvenile marine algae, invertebrate, and fish species
- Project #2 - Researched the potential cultivation of kelp in the open ocean at large scale to turn into biofuel*
- Conducted growth assessment surveys of *Macrocystis pyrifera* and collected juvenile kelp samples on SCUBA
  - Became familiar with adult and juvenile Southern California marine algae, invertebrate, and fish species

## **CERTIFICATIONS & SKILLS**

- American Academy of Underwater Science diver with a dept cert to 100'
- Motorboat Operator Training Course (MOTC)
- First Aid / CPR / AED / Emergency O2 Administration
- PADI Master Diver
- Wilderness First Aid
- SDI/TDI Computer Nitrox Diver
- 450+ logged dives in cold water and 150+ warm water conditions
- Microsoft Office Suite and Google platforms
- ImageJ software
- Coral Point Count with Excel Extensions software

## **HONORS AND AWARDS**

- 2020                      Women Divers Hall of Fame Underwater Education Scholarship (\$2,000)
- 2018                      USC Green Engagement Fund (\$4,000)
- 2017                      USC Dornsife Summer Undergraduate Research Fund (\$3,000)

## SCIENTIFIC OUTREACH & EDUCATION

- Feb 2021-  
Dec 2021
- Waterfront Education**, Redondo Beach, CA, Co-program Director
- Taught weekly lessons on biology, ecology, marine science, and conservation to students in the Los Angeles area
  - Led weekly ocean adventures by kayak and foot to explore local tidepools, beach shorelines and marine life
- Jan 2020
- North Florida Marine Science Symposium**, Poster Presentation, Augustine, FL, University of Florida Whitney Lab
- Presented on current research investigating the effects of outplanted corals on coral recruitment on Caribbean reefs
- Oct 2019
- Indian River Lagoon Science Festival**, Volunteer, Fort Pierce, FL
- Created an interactive booth to educate the public on chemical ecology and current research at the Smithsonian Marine Station
- Jun 2019 -  
Aug 2019
- Smithsonian Aquarium Summer Camp**, Visiting Scientist, Fort Pierce, FL
- Designed educational scientific experiments with campers (ages 10-13) at monthly summer camps comparing multiple sea grass habitats in the Indian River Lagoon based on biodiversity and water quality
- Sept 2018 -  
May 2019
- USC Joint Educational Program**, Education Mentorship, Los Angeles, CA
- Designed and executed weekly lessons in local grade schools (2<sup>nd</sup> and 6<sup>th</sup> grade) on topics related to marine biology and ocean conservation
  - Fundraised \$2,000 and organized a field trip for 130 underprivileged students to visit an aquarium and local beach for a beach clean u