

# Alex Barth

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Ph.D. Student, Biological Sciences & Ecology,  
Planned Completion Date: 8/1/2024  
University of South Carolina  
B.S. Marine Sciences, Minor Statistics,  
California Polytechnic State University, 2019 *cum laude*

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[TheAlexBarth.Github.io](https://github.com/TheAlexBarth)

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## PUBLICATIONS

<i>In Prep</i>	<b>Barth AJ</b> , Stone JP. Getting a clear picture: application and analyses of in-situ imaging data for plankton ecology. Target Journal: <i>Journal of Plankton Research: Horizons</i> . Draft available on request.
<i>In Review</i>	<b>Barth AJ</b> , Johnson R, Stone JP. Size and transparency influence diel vertical migration patterns in copepods. <i>Limnol Oceanogr</i> .
2023	Kenitz KM, Orenstein EC, Anderson CR, <b>Barth AJ</b> , Briseño-Avena C, et al. Convening expert taxonomists to build image libraries for training automated classifiers. <i>Limnol. Oceanogr. Bulletin</i> .
2022	<b>Barth AJ</b> , Stone JP. Comparison of an <i>in situ</i> imaging device and net-based method to study mesozooplankton communities in an oligotrophic system. <i>Front. Mar. Sci.</i> 9:898057. doi: 10.3389/fmars.2022.898057.
2020	<b>Barth AJ</b> , Walter RK, Robbins IR, Pasulka AL. Seasonal and interannual variability of phytoplankton abundance and community composition on the Central Coast of California. <i>Marine Ecology Progress Series</i> , 637: 29-43. doi: 10.334/meps13245.

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## AWARDS & GRANTS

2023	<b>FlowCam Aquatic Research Grant for Graduate Students</b>
2023	<b>Slocum Lunz Foundation Graduate Research Grant</b> , \$1,130
2023	<b>Elsie Taber Fellowship, USC</b> , \$2,500
2023	<b>Graduate Travel Grant, USC</b> , \$800
2022	<b>Elsie Taber Fellowship, UofSC</b> , \$2,980
2021	<b>SPARC Graduate Research Grant, UofSC</b> , \$4,979
2021	<b>National Science Foundation GRFP</b> , Honorable Mention
2019	<b>Presidential Fellowship, UofSC</b> , \$40,000
2019	<b>National Science Foundation GRFP</b> , Honorable Mention
2019	<b>Frost Student Research Award, Cal Poly</b> , \$500

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## PUBLIC SOFTWARE PACKAGES

[DEV] Ver 1.2.2.9000	{EcotaxaTools}. A toolkit to process output files from the web application Ecotaxa. R. <a href="https://github.com/TheAlexBarth/EcotaxaTools">https://github.com/TheAlexBarth/EcotaxaTools</a> .
Ver 0.2.0	{ggusc}. A color palette for University of South Carolina color schemes. R. <a href="https://github.com/TheAlexBarth/ggusc">https://github.com/TheAlexBarth/ggusc</a> .
[DEV] Ver 0.1.0.9000	{batsFtpReadr}. A simple webscraper to import and process CTD data from batsftp.bios.edu. R. <a href="https://github.com/TheAlexBarth/batsFtpReadr">https://github.com/TheAlexBarth/batsFtpReadr</a> .

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## FIELD/OCEANOGRAPHIC EXPERIENCE & CERTIFICATIONS

2022	<b>R/V Oscar Elton Sette, Big Eye Tuna Oceanography Cruise.</b>
2019	<b>R/V Atlantic Explorer, BATS, July Cruise</b>
2018	<b>1<sup>st</sup> Aid, CPR, AED Certified</b>
2018	Scientific Diver Certification, <b>American Academy of Underwater Scientists (AAUS)</b> .
2017	Small Boat Certificate, <b>NASBLA</b> , California

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## RESEARCH EXPERIENCE

2019-Current	Graduate Research Assistant, <b>Stone Zooplankton Ecology Lab</b> <i>University of South Carolina, Department of Biological Sciences. PI: Dr. Joshua Stone</i>
2017-2019	HAB Sampling Technician, <b>Southern California Coastal Ocean Observing System</b> <i>Cal Poly, San Luis Obispo Center for Coastal Marine Science. PIs: Dr. Alexis Pasulka and Dr. Ryan Walter</i>
2018-2019	Student Research Assistant, <b>Common Garden reciprocal cross of <i>K. kelletii</i></b> <i>Cal Poly, San Luis Obispo. PI: Dr. Crow White</i>

2017	Senior Research Project, <b>Investigating a trophic cascade in the upper subtitle</b> <i>Wrigley Institute, Catalina Island. Advisor: Dr. Chris Lowe</i>
2017	Research Assistant, <b>Fishes of Texas.</b> <i>The University of Texas at Austin. Dr. Dean Hendrickson, Advisor: Adam Cohen</i>

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## TEACHING & OUTREACH

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2023	Instructor of Record, <b>Principals of Ecology Laboratory (570L).</b>
2022 – 2023	Undergraduate Project Advisor, <b>Magellan Scholar Program</b>
2020 – 2022	Graduate Teaching Assistant, <b>Ecology and Evolution Lab (301L).</b> <i>University of South Carolina, Department of Biological Sciences</i>
2020	Guest Lecturer, <b>Ocean Sampling Techniques</b> <i>Cal Poly San Luis Obispo, Department of Biological Sciences</i>
2019	Graduate Teaching Assistant, <b>Introduction to Biology Lab (101L)</b> <i>University of South Carolina, Department of Biological Sciences</i>
2018-2019	Outreach Diver, <b>Diver Beneath the Surface</b> <i>San Luis Obispo, PIs: Dr. Crow White, Dr. Lynne Slivovsky</i>
2018, 2019	Group Instructor, <b>Learn by Doing Lab, Cal Poly, San Luis Obispo, CA</b>
2017-2018	Tutor, <b>Ecology, Evolution, &amp; Statistics</b>
2016	Education Intern, <b>Greater Cleveland Aquarium</b>

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## SERVICE ACTIVITIES

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2022-2023	Secretary of Data Management, <b>Graduate Student Association, USC.</b>
2022	Reviewer, <b>Estuaries and Coasts.</b>
2021-2022	Service Chair, <b>Graduate Association of Biological Sciences, USC.</b>
2021	Reviewer, <b>Discover UofSC</b>
2019-2021	Presidential Fellows Advisory Committee, <b>USC</b>
2019-Current	Member, Graduate Association of Biological Sciences, Columbia, SC
2016-2019	Member, Marine Science Club, Cal Poly, San Luis Obispo, CA

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## TECHNICAL QUALIFICATIONS

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<b>R/Shiny</b>	<b>Extremely proficient</b>
<b>Microsoft Excel</b>	<b>Extremely proficient</b>
<b>Python</b>	<b>Proficient</b>
<b>SQLite, POSTGRES</b>	<b>Proficient</b>
<b>HTML/CSS</b>	<b>Knowledgeable</b>

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## PRESENTATIONS & POSTERS

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June 2023	Stone JP, <b>Barth AJ</b> , Rykaczewski R, Wren J. Effects of the ETNP Oxygen Deficient Zone on Zooplankton Communities and Vertical Migration. Aquatic Sciences Meeting 2023. Palma, Spain.
June 2023	<b>Barth AJ</b> , Stone JP. Occupancy modelling of imagery data can reveal zooplankton vertical patterns and patchiness. Aquatic Sciences Meeting 2023. Palma, Spain.
March 2023	<b>Barth AJ</b> . Plankton Paparazzi: How can in situ imaging reveal new patterns in plankton ecology? British Antarctic Survey. Invited Seminar.
September 2022	<b>Barth AJ</b> . {EcotaxaTools} An R package for managing Ecotaxa data. UVP user workshop. Laboratoire d'Océanographie de Villefranche, Villefranche-sur-Mer, France. Oral presentation.
September 2022	<b>Barth AJ</b> , Stone JP. UVP5HD comparisons to MOCNESS zooplankton abundance estimates and other observations from over a year of deployments in the Sargasso Sea. Laboratoire d'Océanographie de Villefranche, Villefranche-sur-Mer, France. Oral presentation.
June 2022	<b>Barth AJ</b> , Stone JP. Migrator Morphology: In-situ observations of copepod diel vertical migration. International Conference on Copepoda. E-ICOC 2022. Virtual.
April 2022	<b>Barth AJ</b> . Plankton control the world: How can we try to understand our global overlords? Presidential Fellows Research Seminar. Columbia, SC. Seminar.
March 2022	<b>Barth AJ</b> , Stone JP. Improving citizen science phytoplankton monitoring through a low-cost, open-source imaging device. Southeastern Estuarine Research Society Meeting Spring 2022, Jekyll Island, GA. Poster.
February 2022	Pasulka AL, Walter RK, <b>Barth AJ</b> , Gilbert J, Robbins IR. Phytoplankton phenological shifts as indicators of oceanographic change in Central California. Ocean Sciences Virtual Meeting 2022.
February 2022	<b>Barth AJ</b> . Plankton! From the great blue to our local shores. EEOB Department Seminar, Columbia, SC. Seminar Presentation.

December 2021	<b>Barth AJ.</b> PlanktoScope Progress and Plans. 1 <sup>st</sup> PlanktoScope workshop. Virtual. Oral Presentation.
June 2021	<b>Barth AJ,</b> Stone JP. Quantifying Rhizaria abundance and ecology in the oligotrophic ocean. ASLO Virtual Meeting 2021. Oral Presentation.
June 2021	Stone JP, <b>Barth AJ.</b> In-situ quantification of zooplankton around the oxygen minimum zone in the Sargasso Sea. ASLO Virtual Meeting 2021.
January 2021	<b>Barth AJ.</b> Ocean Monsters: Giant Protists and Their Role in Zooplankton Communities. EEOB Departmental Seminar, Columbia, SC. Seminar Presentation.
February 2020	<b>Barth AJ,</b> Walter RK, Robbins IR, Pasulka AL. Seasonal and interannual variability of phytoplankton abundance and community composition on the Central Coast of California. Ocean Sciences Meeting 2020. San Diego, CA. Poster.
May 2019	<b>Barth AJ.</b> Seasonal and interannual variability of phytoplankton abundance and community composition along the Central California Coast. CSM Research Conference. Cal Poly, San Luis Obispo, CA. Oral Presentation.
December 2017	<b>Barth AJ.</b> An investigation of trophic cascade effects between the California sheephead ( <i>Semicossyphus pulcher</i> ), the Crowned sea urchin ( <i>Centrostephanus coronatus</i> ), and foundational macroalgae of rocky reef habitats in the upper sublittoral zone. CSU Marine Biology Symposium. USC Wrigley Institute, Catalina Island, CA. Undergraduate Thesis Presentation.