

# MORGAN WINSTON POMEROY

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Honolulu, HI, USA

## EDUCATION

PhD student **Geography**, Arizona State University (expected 2026)  
Advisor: Dr. Mary Donovan

MSc **Marine Biology**, University of Hawai'i at Mānoa (2016)  
*Intraspecific variability in the life history of endemic coral reef fishes between photic and mesophotic depths in the central north Pacific Ocean*  
Advisor: Dr. Erik Franklin  
Committee Members: Dr. Brett Taylor and Dr. Mark Hixon

BA **Biology with Marine Emphasis**, Occidental College (2014)

## RESEARCH & PROFESSIONAL EXPERIENCE

2023- **Marine Data Research Associate**, Hawai'i Coral Reef Initiative (HCRI), University of Hawai'i, on contract to Hawai'i Division of Aquatic Resources

- Assist with developing coral bleaching survey methodology and coordinate/lead strategic state-wide bleaching response meetings
- Support data analysis and prepare technical reports from long term fish and benthic monitoring surveys

2019-2023 **Coral Bleaching Analyst**, Ecosystem Sciences Division, NOAA Pacific Islands Fisheries Science Center

- Develop methods and conduct rapid visual assessments for coral bleaching
- Lead underwater collection of Structure-from-Motion (SfM) imagery; build and analyze 3D models
- Synthesize state-wide coral bleaching survey data across agencies and institutions
- Conduct statistical analyses, prepare technical reports and scientific manuscripts
- Collaborate with local partners to coordinate bleaching survey efforts, lead trainings, and communicate findings

2017-2019 **Marine Ecosystems Research Technician**, Ecosystem Sciences Division, NOAA Pacific Islands Fisheries Science Center

- Participate and serve as benthic team lead on research cruises (~60-90 days at sea per year) to conduct reef community and benthic habitat surveys in the U.S. Pacific Islands
- Coordinate cruise preparation, planning, and field efforts
- Develop training materials and lead classroom and in-water training sessions for incoming scientific divers
- Assist with quality control, processing, analysis, and summarization of imagery and data from coral reef surveys to prepare technical reports, scientific manuscripts, and outreach material

2016-2017 **Fishery Technician**, Aquatic Invasive Species Program, Division of Aquatic Resources, State of Hawai'i Department of Land and Natural Resources

- Assist with the collection (on SCUBA and/or snorkel) and spawning of native Hawaiian collector urchins with a sea urchin hatchery
- Outplant hatchery-raised juvenile sea urchins on reefs with high invasive algal cover

- Conduct benthic surveys and photo transects to assess effects of urchin outplanting and algal removal, perform statistical analyses and prepare technical reports
  - Marine debris management: identify alien biofouling organisms found on marine debris, maintain database logging instances of potential and confirmed Japanese tsunami (2011) marine debris items found in the Hawaiian Islands, participate with and educate communities on importance of reporting marine debris with biofouling at beach cleanup events
  - Update website with current news and reports
- 2015-2016 **Graduate Research Assistant**, Hawai'i Institute of Marine Biology
- Coral reef fish life history studies: derive age-based information by preparing and evaluating otolith microstructures; construct age and growth models using R statistical software; mentor and supervise undergraduate interns
  - Scientific diving: conduct transect surveys of coral reef fishes in Kane'ohe Bay, HI, attain familiarity with invertebrates and fish assemblages of Hawaiian coral reefs
- 2015 **Scientific Diver**, Ecosystem Sciences Division, NOAA Pacific Islands Fisheries Science Center
- Main Hawaiian Islands research cruise
    - Surveyed fish assemblages and benthic communities by underwater visual census on SCUBA
    - Conducted 2-5 dives per day
    - Data entry in Microsoft Access database
- 2015 **Scientific Diver**, Papahānaumokuākea Marine National Monument, NOAA Office of National Marine Sanctuaries
- Northwestern Hawaiian Islands research cruise
    - Safety diver in support of closed circuit rebreather divers
    - Collected reef fish using three-prong pole spears on open-circuit SCUBA
    - Deployed acoustic receivers
- 2011-2014 **Research Assistant**, Vantuna Research Group, Occidental College
- Student researcher and mentor to incoming student laboratory members
  - Experience working on research vessels on day and overnight trips
  - Familiarity with invertebrates and fish assemblages of Southern California kelp forests
  - Microscopy work used to sort ichthyoplankton and sediment samples
  - Fish life history studies using otoliths
  - Trained to perform benthic habitat and biological cover transect surveys through SCUBA using a modified version of the California Department of Fish and Wildlife's CRANE (Cooperative Research and Assessment of Nearshore Ecosystems) methodology

## PUBLICATIONS

### *Peer reviewed*

- Winston M**, Fuller K, Neilson B, Donovan M (2023). Complex drivers of invasive macroalgae boom and bust in Kāne'ohe Bay, Hawai'i. *Marine Pollution Bulletin* 197:115744. doi: 10.1016/j.marpolbul.2023.115744
- Winston M**, Oliver T, Couch C, Donovan MK, Asner GP, Conklin E, Fuller K, Grady BW, Huntington BH, Kageyama K, Kindinger TL, Kozar K, Kramer L, Martinez T, McCutcheon A, McKenna S, Rodgers K, Shayler CK, Vargas-Angel B, Zgliczynski B (2022). Taxonomic susceptibility and local stressors drive coral bleaching across the Hawaiian Archipelago during the 2019 marine heatwave. *PLOS ONE* 17(9): e0269068. doi: 10.1371/journal.pone.0269068
- Huntington BE, Weibe R, Halperin A, **Winston M**, McCoy K, Amir C, Asher J, Vargas-Angel B (2022) Early successional trajectories of benthic and reef fish communities in an isolated, uninhabited reef system following mass coral bleaching. *Coral Reefs* 41:1087-1096. doi: 10.1007/s00338-022-02246-7

- Couch CS, Oliver TA, Suka R, Lamirand M, Asbury M, Amir C, Vargas-Ángel B, **Winston M**, Huntington B, Lichowski F, Halperin A, Gray A, Garriques J, Samson J (2021) Comparing coral colony surveys from in-water observations and Structure-From-Motion imagery shows low methodological bias. *Front. Mar. Sci.* 8:647943. doi: 10.3389/fmars.2021.647943
- Weijerman M, Oyafuso ZS, Leong KM, Oleson K LL, **Winston M**. (2020) Supporting Ecosystem-based Fisheries Management in meeting multiple objectives for sustainable use of coral reef ecosystems. *ICES Journal of Marine Science*; doi:10.1093/icesjms/fsaa194
- Winston M**, Taylor BM, Franklin EF (2017) Intraspecific variability in the life history of endemic coral reef fishes between photic and mesophotic depths in the central Pacific Ocean. *Coral Reefs* 36:663–674
- Winston M**, Claisse JT, Williams CM, Williams JP, Pondella DJ (2018) Age and growth of the Giant Kelpfish, *Heterostichus rostratus*, in southern California, USA. *Journal of Applied Ichthyology* 34: 91–96

### ***Thesis and technical***

- Ehrenberg E, **Winston M**, Oliver T, Couch C (2022) Development of a Semi-Automated Coral Bleaching Classifier in CoralNet: A Summary of Standard Operating Procedures and Report of Results. NOAA Technical Memorandum NMFS-PIFSC-133, 9 p. doi:10.25923/d0re-9y93
- Couch C, Suka R, Oliver T, Lamirand M, Asbury M, Amir C, Vargas-Angel B, **Winston M**, Huntington B, Lichowski F, Halperin A, Gray A, Garriques J, Boland R, Pomeroy N, Samson J (2021) Comparing coral demographic surveys from in situ observations and structure-from motion imagery shows low methodological bias. NOAA PIFSC Administrative Report, H-21-01, 61 p. doi:10.25923/307k-fk90
- Winston M**, Couch C, Huntington B, Vargas-Ángel B, Suka R, Oliver T, Halperin A, Gray A, McCoy K, Asbury M, Barkley H, Gove J, Smith N, Kramer L, Rose J, Conklin E, Sukhraj N, Morioka J (2020) Preliminary results of patterns of 2019 thermal stress and coral bleaching across the Hawaiian Archipelago. NOAA PIFSC Admin Report, H-20-04, 13 p. doi:10.25923/8pqq-tq06
- Winston M**, Couch C, Ferguson M, Huntington B, Swanson D, Vargas-Ángel B (2019). Ecosystem Sciences Division Standard Operating Procedures: Data collection for Rapid Ecological Assessment benthic surveys, 2018 Update. NOAA Technical Memorandum NOAA-TMNMFS-PIFSC-92, 66 p. doi:10.25923/w1k2-0y84
- Vargas-Ángel B, Ayotte P, Barkley H, Couch C, Halperin A, Kindinger T, **Winston M** (2019) Coral reef ecosystem monitoring report for the National Marine Sanctuary of American Samoa: 2018. Pacific Islands Fisheries Science Center, PIFSC Data Report, DR-19-040, 56 p. doi:10.25923/1sk7-vp89
- Suka R, Asbury M, Couch C, Gray A, **Winston M**, Oliver T (2019) Processing photomosaic imagery of coral reefs using Structure-from-Motion Standard Operating Procedures. U.S. Dept. of Commerce, NOAA Technical Memorandum NOAA-TM-NMFS-PIFSC-93, 54 p. doi:10.25923/h2q8-jv47
- Winston MS** (2016) Intraspecific variability in the life history of endemic coral reef fishes between photic and mesophotic depths in the central north Pacific Ocean. MS Thesis. University of Hawai'i at Mānoa.

### **PRESENTATIONS**

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|------|---|
| 2023 | Western Society of Naturalists Annual Meeting, Monterey, CA   |
| 2023 | Hawai'i Conservation Conference, Honolulu, HI   |
| 2021 | Pacific Estuarine Research Society/California Estuarine Research Society Joint Annual Meeting (Virtual) |
| 2016 | International Coral Reef Symposium, Honolulu, HI  |
| 2016 | Albert L. Tester Symposium, University of Hawai'i at Mānoa, Honolulu, HI                                |
| 2015 | Albert L. Tester Symposium, University of Hawai'i at Mānoa, Honolulu, HI                                |
| 2014 | Senior Biology Honors Project Presentation, Occidental College, Los Angeles, HI                         |
| 2014 | Southern California Academy of Sciences Annual Meeting, Camarillo, CA                                   |
| 2013 | Senior Thesis Presentation, Occidental College, Los Angeles, CA   |

2012 Occidental College Undergraduate Summer Research Annual Conference, Los Angeles, CA  
2012 Southern California Academy of Sciences Annual Meeting, Los Angeles, CA

### TEACHING AND MENTORING

2020 **Mentor** for student summer intern, recipient of NOAA Educational Partnership Program with Minority Serving Institutions Undergraduate Scholarship Program  
2014 **Teaching Assistant** - Introduction to Biology, University of Hawai'i at Mānoa  
2014 **Undergraduate Teaching Assistant** - Tropical Ecology, Occidental College  
2013-2014 **Undergraduate Teaching Assistant** - Marine Biology, Occidental College

### ACADEMIC AWARDS

\$950 ASU GPSA Travel Award  
\$500 WSN Student Travel Award  
\$5,000 Fred K. Kurata Award  
*Research grant awarded in October 2013 by Department of Biology at Occidental College*  
\$275.00 Academic Student Project Funding  
*Research grant awarded in October 2013 by the Academic Student Project program at Occidental College to cover costs of materials and expenses of senior honors project*

### SERVICE

Journal Reviewer Marine Biology, Peer J  
Coordinator Hawaii Coral Bleaching Collaborative

### CERTIFICATIONS, TRAINING, SKILLS

**Software and languages:** R statistical software, GitHub, ArcGIS (Pro, ArcMap), Agisoft MetaShape, Image J, Microsoft Office, Adobe Creative Suite, Ecopath with Ecosim

**Diving:** >650 logged dives; AAUS Scientific Research Diver, NOAA Scientific Diver, NAUI Master Diver, PADI Advanced Open Water, PADI Open Water; Working knowledge of underwater visual survey methods including stationary point counts, belt transects, Structure-from-Motion (SfM) image collection

**Safety:** American Red Cross CPR, First Aid, O<sub>2</sub> Administration

**Boating:** Operation of small boats (<25ft), completed U.S. Department of the Interior & U.S. Department of Commerce Motorboat Operator Certification Course with Open Water Module