

Daniel P. Dauhajre
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Objective

Create, communicate, and implement sustainable methods of oceanic resource consumption through integrated assessment of marine ecosystem health

Interests

Coastal oceanography, design of sustainable fisheries, physical controls on marine ecosystems, fate and transport of ocean material, anthropogenic effects on oceanic systems, interdisciplinary investigation of natural resource consumption, scientific analysis aimed to inform public policy, communication of scientific interpretations to the general public

Education

University of California, Los Angeles

Doctor of Philosophy, Atmospheric and Oceanic Sciences

Los Angeles, CA

Expected: Jun 2018

- ❖ Dissertation Title: Submesoscale Variability on the Continental Shelf

University of California, Los Angeles

Master of Science, Atmospheric and Oceanic Sciences

Los Angeles, CA

2012 - 2014

University of Southern California

Bachelor of Science, Biomedical Engineering

Los Angeles, CA

2007 - 2011

Academic Background

Geophysical Fluid Dynamics, Physical Oceanography, Biogeochemical Oceanography, Geophysical Turbulence, Numerical Methods, Partial and Ordinary Differential Equations, Climate Dynamics, Atmospheric Chemistry, Atmospheric Radiation, Engineering Fluid Mechanics, Organic Chemistry, Molecular Biology, Linear Circuits, Signal Processing

Research Experience

Atmospheric and Oceanic Sciences (University of California Los Angeles)

Los Angeles, CA

Graduate Research Assistant (Advisor: James C. McWilliams)

Jun 2012 - Present

- ❖ Investigate the physical mechanics and role of small-scale currents in the coastal ocean
- ❖ Create, run, and analyze Regional Oceanic Modelling System simulations of the Southern California Bight using Fortran, Python, and MATLAB
- ❖ Develop theoretical understanding of oceanic phenomena with the creation and interpretation of idealized “toy” models using Python
- ❖ Collaborate with ecologists by translating physical metrics of the coastal ocean for use in studies of the population dynamics of giant kelp in the Santa Barbara Channel
- ❖ Author results of research in peer-reviewed academic journals
- ❖ Present research findings at conferences
- ❖ Advise undergraduate student research on anthropogenic nitrate inputs into the Southern California Bight

Biological Oceanography (University of Southern California)

Los Angeles, CA

Research Assistant (Advisor: Burton Jones)

Jun 2011 - Oct 2011

- ❖ Defined and compiled a water quality index for Santa Monica Bay based on empirical biogeochemical data from the past half-century using MATLAB

- ❖ Authored a report to the Santa Monica Bay Restoration Commission presenting the water quality index and recommending improvements in observational platforms for data acquisition

Climate Dynamics (University of Southern California)

Los Angeles, CA

Research Assistant (Advisor: Julien Emile-Geay)

May 2010 - Aug 2010

- ❖ Independently compiled and analyzed Antarctic ice-sheet surface temperature trends over the 20th century to deduce the primary modes of temperature variability in the region using MATLAB

Coastal Biogeochemistry (University of Southern California)

Los Angeles, CA

Research Assistant (Advisor: Myrna Jacobson Meyers)

Mar 2009 - Aug 2009

- ❖ Investigated biogeochemical cycling of mud in coastal wetlands with wet-lab experiments and aided in the development of a procedure for measuring phosphate count in mud samples using mass spectrometry

Teaching Experience

Atmospheric and Oceanic Sciences (University of California, Los Angeles)

Los Angeles, CA

Guest Lecturer (AOS 130: California's Ocean)

May 2017

- ❖ Variability in the Ocean: Physical conceptions of California's coastal ocean

Guest Lecturer (Python Seminar)

May 2016

- ❖ A Temporal Diffusion Model in Python

Guest Lecturer (AOS 103: Physical Oceanography)

March 2015

- ❖ Internal Waves Lecture

Teaching Assistant (AOS 103: Physical Oceanography)

Jan - March 2014, 2015

- ❖ Taught multiple discussion section (50+students) for upper division Physical Oceanography course
- ❖ Created original teaching material that is used or referenced by current teaching assistants
- ❖ Captained and led class field trips on UCLA research vessel

Adelante Educational Services

Los Angeles, CA

Personal Tutor

Oct 2011 - Feb 2012

- ❖ Taught middle-school level math to students from low-income, spanish-speaking families in the Echo Park neighborhood of Los Angeles

Awards and Fellowships

- ❖ Santa Barbara Coastal Long Term Ecological Research Graduate Student Fellowship (Jun - Oct 2014, 2015, 2016, 2017)
- ❖ UCLA Atmospheric and Oceanic Sciences Brian Bosart Award: "For unselfish service to fellow students and positive contributions to department life while demonstrating a firm commitment to academics" (2014, voted by peers)
- ❖ UCLA Atmospheric and Oceanic Sciences Departmental Fellowship (Sept 2012 - Jun 2013)

Publications

- ❖ Dauhajre, D.P. & J.C. McWilliams 2017: Diurnal evolution of submesoscale front and filament circulations, In Prep.
- ❖ Dauhajre, D.P., J.C. McWilliams, & Y. Uchiyama, 2017: Submesoscale Coherent Structures on the Continental Shelf, In Rev. *J. Phys. Oceanogr.*

Conference Presentations and Posters

- ❖ Submesoscale Variability on the Continental Shelf (Poster): Santa Barbara Coastal LTER All Scientist Meeting (Nov 2016)
- ❖ Phenomenology of inner-shelf submesoscale fronts and filaments (Poster): Santa Barbara Coastal LTER All Scientist Meeting (Nov 2015)
- ❖ Shelf Transport Mechanisms: Classification of Shelf Currents (5 min. talk): Santa Barbara Coastal LTER All Scientist Meeting (Nov 2014)
- ❖ Characterization of inner-shelf flow patterns (5 min. talk): Santa Barbara Coastal LTER All Scientist Meeting (Nov 2013)

Science Communication Experience

- ❖ The Current California Drought and Climate Change: Are they related?: Exploring Your Universe (Speaker)
- ❖ The Poetry of Nature: UCLA Center of the Art of Performance (Speaker)
- ❖ Studio City Green Living Fair (Presenter)
- ❖ Atmosphere, Oceans, Climate, and You: Citizens of the World Charter School 3rd grade assembly (Speaker)
- ❖ Climate Change and the Water Cycle: Orange County Children's Education Water Festival (Presenter)
- ❖ Atmosphere, Ocean, and Climate Science: Comunidad Educativa Lux Mundi 11th grade seminar (Speaker)
- ❖ FIRST LEGO League Dominican Republic (Project Judge)

Management and Leadership

- ❖ **Co-founder:** 314 Action UCLA Student Group (Jun 2017 - Present)
- ❖ **President:** UCLA Atmospheric and Oceanic Sciences Graduate Student Group (Jun 2014 - Jun 2016)
- ❖ **Educational Outreach Coordinator:** UCLA Atmospheric and Oceanic Sciences (Jun 2013 - Jun 2017)
- ❖ **Graduate Student Representative:** UCLA Sustainability Committee (Oct 2014 - Jun 2015)
- ❖ **Graduate Student Representative:** UCLA Math and Physical Sciences Council (Oct 2015 - Jun 2017)

Skills

- ❖ Python, Fortran, MATLAB, NetCDF, Linux, UNIX, Excel, LaTeX, LabView
- ❖ Captain of UCLA Zodiac Research Vessel and operational experience with onboard oceanographic instrumentation
- ❖ Native Spanish speaker