

Lauren Sommers
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EDUCATION

2017-Pres. Doctor of Philosophy in Oceanography – Physical Oceanography
Old Dominion University, Norfolk VA

2015-2017 Master of Science in Oceanography – Physical Oceanography
Old Dominion University, Norfolk VA

2009-2015 Bachelor of Science in Environmental Science Technology and Policy
Bachelor of Science in Mathematics
California State University Monterey Bay, Seaside CA

RESEARCH INTERESTS

Climate change, sea level rise, ocean circulation, bio-physical interactions, applied mathematics

RESEARCH EXPERIENCES

Old Dominion University – Spring 2016 to Pres.

- Investigated large scale climate variability in the Pacific Ocean and its contribution to regional sea level rise.
- Used empirical mode decomposition to break down a bivariate sea level reconstruction into a series of intrinsic mode functions and compare them to specific climate modes of variability.

University of Rhode Island Graduate School of Oceanography - Summer 2014

- ACC transport estimate is used in ocean models and highly affects research and model outputs.
- Treated a high resolution general circulation model as the real ocean and investigated whether the methods of the previous study could have led to an underestimate of the ACC transport.
- Reviewed transport and velocity time series of historical mooring locations to find that the losses of the two moorings were critical and the transport estimate is not influenced by the averaging period of the reference velocities.

California State University Monterey Bay - Spring 2014

- Explored applications of cyclic groups in number theory, music, and chaos theory.

Naval Postgraduate School - Summer 2013

- Analyzed high resolution satellite images surrounding drift buoys so that open water fraction could be estimated as the summer melt-out occurs.
- Created program in MATLAB to identify open water fraction and floe size distribution of Arctic Ocean sea ice to allow us to determine relationships with ocean fluxes and open water.

California State University Monterey Bay - Fall 2012 - Spring 2013

- Identified sediment sources and erosional features from surface runoff and culverts within Hollister Hills State Vehicular Recreation Area.
- Provided recommendations in an effort to reduce non-point source sediment pollution.

City of Monterey - Summer 2012

- Created maps for the purpose of post storm water management of the local watershed with

respect to slope, hydrologic soil groups, geology, impervious coverage, and discrete groundwater data.

TECHNICAL SKILLS

• MATLAB • ArcGIS • R statistical software • Stella

CONFERENCE POSTER PRESENTATIONS

- **Sommers, L.A.**, Hamlington, B., Cheon, S. 2016. Identifying Decadal to Multi-decadal Variability in the Pacific by Empirical Mode Decomposition. American Geophysical Union (December 2016). San Francisco, CA.
- **Sommers, L.A.**, Donohue, K.A., Rosburg, K. 2014. Revisiting Antarctic Circumpolar Current Estimates. American Geophysical Union (December 2014). San Francisco, CA.
- **Sommers, L.A.**, Donohue, K.A., Rosburg, K. 2014. Revisiting Antarctic Circumpolar Current Estimates. SACNAS National Conference (October 2014). Los Angeles, CA.
- **Sommers, L.A.** Applications of Cyclic Groups in Everyday Life. California State University Monterey Bay Mathematics Capstone Festival (May 2014). Seaside, CA.
- **Sommers, L.A.**, Stanton, T.P., Shaw, W.J., Measuring Open Water Fraction and Floe Size Distribution In The Arctic Ocean Ice Pack Using High Resolution Satellite Images. Ocean Science Meeting (February 2014). Honolulu, HI.
- **Sommers, L.A.**, Stanton, T.P., Shaw, W. Measuring Open Water Fraction and Floe Size Distribution in the Arctic Ocean Ice Pack Using High Resolution Satellite Images. Joint Mathematics Meeting (January 2014). Baltimore, MD.
- **Sommers L.A.**, Stanton, T.P., Shaw, W.J. Measuring Open Water Fraction and Floe Size Distribution In The Arctic Ocean Ice Pack Using High Resolution Satellite Images. SACNAS National Conference (October 2013). San Antonio, TX.
- Aroche S., Hobbs W., Oliver M., Olson A., Rios A., **Sommers L.** Identification of Sediment Sources Related to County Road Surface Runoff and Culverts Within Hollister Hills State Vehicular Recreation Area. California State University Monterey Bay Science and Environmental Policy Capstone Festival (May 2013). Seaside, CA.
- **Sommers, L.A.** Constraints on post construction runoff control in the city of Monterey. California GIS (April 2013). Long Beach, CA.

TEACHING EXPERIENCE

August 2015-May 2016. Graduate Teaching Assistant – Old Dominion University

Lead an oceanography lab for undergraduates, while delivering lectures with organized classroom labs to provide hands on experience with techniques and concepts.

January 2011-May 2015. Tutor – Academic Skills and Achievement Program at CSU Monterey Bay

Tutor small groups of students to help them understand the key concepts of Calculus and Pre Calculus, and promote independent learning

Fall 2010-Fall 2013. Instructional Student Assistant – CSU Monterey Bay Mathematics Department

Assisted professor in answering students questions in statistics and graded assignments

MEMBERSHIPS

- The Oceanography Society
- American Geophysical Union
- American Association of University Women