

William Z. Haskell II

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RESEARCH INTERESTS

Marine biological production and export	Upper ocean physicochemical dynamics
Global biogeochemical cycling of C, O and N	Coastal ocean processes
Stable and radioisotope tracers	Autonomous sampling platforms

APPOINTMENTS

Postdoctoral Fellow Monterey Bay Aquarium Research Institute (MBARI) <i>Advisor: Andrea Fassbender</i>	<i>Aug 2018 – Present</i>
Postdoctoral Scholar Marine Science Institute, UC Santa Barbara	<i>Sept 2017 – Apr 2018</i>
Postdoctoral Research Fellow National Science Foundation (NSF–OCE) UMCES Horn Point Laboratory & UC Santa Barbara <i>Advisors: Nicholas Nidzieko & Alyson Santoro</i>	<i>Sept 2015 – Aug 2017</i>
Graduate Research Assistant University of Southern California	<i>Aug 2009 – Aug 2015</i>
Graduate Teaching Assistant University of Southern California <i>Courses: Intro. to Oceanography, Planet Earth, The Nature of Scientific Inquiry</i>	<i>Aug 2009 – Aug 2011</i>
Undergraduate Research Assistant RSMAS, University of Miami	<i>June 2007 – Aug 2009</i>

EDUCATION

Ph.D. Ocean Sciences University of Southern California <i>Advisor: Douglas Hammond</i> <i>Ecosystem Export Efficiency in an Upwelling Region: A Two-year Time-series Study of Vertical Transport, Particle Export and In-situ Net and Gross Oxygen Production</i>	<i>Aug 2015</i>
M.S. Ocean Sciences University of Southern California <i>Advisor: Douglas Hammond</i> <i>Particulate Organic Carbon Flux Calculated From ²³⁴Th Measurements and Sediment Traps in the Eastern Tropical South Pacific</i>	<i>Aug 2011</i>
B.S. Marine Science & Chemistry RSMAS, University of Miami <i>Advisor: David Kadko</i> <i>Relationship of Radon-222 in Ground Water and Strain in the Crust of the South Iceland Seismic Zone and Possible Tectonic Implications</i>	<i>May 2009</i>

PEER-REVIEWED PUBLICATIONS (* indicates yet to be accepted)

- Haskell, W.Z.** and J.C. Fleming. (2018) Concurrent estimates of carbon export reveal physical biases in ΔO_2 /Ar-based net community production estimates in the Southern California Bight. *Jour. of Mar. Sys.*, 183, pp. 13-23. doi.org/10.1016/j.jmarsys.2018.03.008.
- Teel, E.N., X. Liu, B.N. Seegers, M.A. Ragen, **W.Z. Haskell**, B.H. Jones, N.M. Levine. (2018) Contextualizing time-series data: Quantification of short-term regional variability in the San Pedro Channel using high-resolution in-situ glider data. *Biogeosciences*, 15, 6151-6165. doi.org/10.5194/bg-15-6151-2018.
- Haskell, W.Z.**, M.G. Prokopenko, D.E. Hammond, R.H.R. Stanley, Z.O. Sandwith. (2017) Annual

cyclicality in export efficiency in the inner Southern California Bight. *Global Biogeochemical Cycles*, 31, pp. 357-376. doi: 10.1002/2016GB005561.

4. Fassbender, A.J., H.I. Palevsky, T.R. Martz, A.E. Ingalls, M. Gledhill, S.E. Fawcett, J.A. Brandes, L.I. Aluwihare, the **participants of COME ABOARD, DISCO XXV**. (2017) Perspectives on Chemical Oceanography in the 21st century: Participants of the COME ABOARD Meeting examine aspects of the field in the context of 40 years of DISCO. *Marine Chemistry*, 196, pp. 181-190. doi.org/10.1016/j.marchem.2017.09.002.
5. **Haskell, W.Z.**, M.G. Prokopenko, D.E. Hammond, R.H.R. Stanley, W.M. Berelson, J.J. Baronas, J.C. Fleming, L. Aluwihare. (2016b) An organic carbon budget for coastal Southern California determined by estimates of upwelled nutrients, net production, and export. *Deep-Sea Res. I.*, 116, pp. 49-76.
6. **Haskell, W.Z.**, M.G. Prokopenko and R.H.R. Stanley. (2016a) Estimates of vertical turbulent mixing used to determine a vertical gradient in net and gross O₂ production in the oligotrophic South Pacific Gyre. *Geophys. Res. Lett.*, 43, pp. 7590-7599, doi: 10.1002/2016GL069523.
7. **Haskell, W.Z.**, D.E. Hammond, M.G. Prokopenko. (2015b) A dual-tracer approach to estimate upwelling velocity in coastal Southern California. *Earth and Planet. Sci. Lett.*, 422, pp. 138-149.
8. **Haskell, W.Z.**, D. Kadko, D.E. Hammond, M.G. Prokopenko, W.M. Berelson, A.N. Knapp, D.G. Capone. (2015a) Upwelling velocity and eddy diffusivity from ⁷Be measurements used to compare vertical nutrient flux to export POC flux in the Eastern Tropical South Pacific. *Marine Chemistry*, 168, pp. 140-150.
9. Berelson, W.M., **W.Z. Haskell**, M.G. Prokopenko, D. G. Capone, A.N. Knapp, D.E. Hammond, N. Rollins. (2015) Biogenic rain and remineralization in the Eastern Tropical South Pacific. *Deep-Sea Res. I*, 99, pp. 23-34.
10. **Haskell, W.Z.**, W.M. Berelson, D.E. Hammond, D.G. Capone. (2013) Particle sinking dynamics and POC fluxes in the Eastern Tropical South Pacific based on ²³⁴Th and sediment trap deployments. *Deep-Sea Res. I*, 81, pp.1-13.
- *11. **Haskell, W.Z.**, D.E. Hammond, M.G. Prokopenko, E.N. Teel, B.N. Seegers, M.A. Ragan, N. Rollins (*submitted*) Net community production in a productive coastal ocean from an autonomous buoyancy-driven glider. *Jour. of Geophys. Res. Oceans*.
- *12. **Haskell, W.Z.** and N.J. Nidzieko. (*in prep*) Community metabolism in large oceanic provinces scales allometrically with ecosystem volume.
- *13. Prokopenko, M.G., D.E. Hammond, W.M. Berelson, A.N. Knapp, **W.Z. Haskell**, N. Rollins, L.Y. Yeung, R.H.R. Stanley, D.G. Capone. (*in prep.*) Factors controlling rates of Net Community Production in two regions of the Eastern Tropical South Pacific under La Niña and El Niño
- *14. **Haskell, W.Z.**, N.J. Nidzieko, A.W. Fisher, A.E. Santoro. (*in prep.*) Vertical turbulent nitrate flux using in-situ measurements of microstructure shear and nitrate from a propelled AUV.
- *15. **Haskell, W.Z.**, N.J. Nidzieko, L. Washburn, D.A. Siegel. (*in prep.*) Cross-shelf fluxes of nutrients and particles in coastal Santa Barbara using a buoyancy-driven glider-mounted ADCP.

FUNDING (* indicates *pending*)

2. Principle Investigator - NSF-OCE Postdoctoral Research Fellowship (OCE-PRF 1521616) | Broadening Participation: Internal wave-generated turbulent mixing and vertical nitrate flux during spring and neap tides along the Mid-Atlantic Bight shelf break. W. Haskell (UMCES/UCSB); \$173,440

3. Author/Project Lead - NSF Chemical Oceanography (OCE 1260692 and 1260296) | Collaborative Research: Use of Triple Oxygen Isotopes and O₂/Ar to constrain Net/Gross Oxygen Production during upwelling and non-upwelling periods in a coastal setting
M. Prokopenko (Pomona), D. Hammond (USC); \$421,210 - USC; \$228,690 - Pomona, 2/1/13 - 1/31/16

4. International Association of Geochemistry Student Research Grant | Use of Triple Oxygen Isotopes and O₂/Ar to estimate Net/Gross Oxygen Production during variable coastal upwelling
W. Haskell (USC); \$1500

AWARDS, SCHOLARSHIPS, HONORS

Invited Participant Dissertations Symposium in Chemical Oceanography (DISCO XXV) and Chemical Oceanography Meeting: A Bottom-up Approach to Research Directions (COME ABOARD)	Oct 2016
Invited Participant UNOLS Chief Scientist Training Course	Feb 2016
Woods Hole Oceanographic Institution Postdoctoral Scholarship Declined	Apr 2015
USC Keck Endowed Graduate Fellowship	2013
USC Sonosky Graduate Fellowship	2011
USC Earth Sciences Department TA Award	2010, 2011
Univ. of Miami George E. Merrick Scholarship	2005 - 2009

FIELD EXPERIENCE

Coastal Remus 600 operations Santa Barbara Channel/Shelf Break	Mar 2017 – Present
Remus-Integrated Laser Optic Imaging PIs: L. Mullen, D. Alley (R/V Rachel Carson) (Naval Air Warfare Center (NAWC) Naval Air Station Patuxent River, MD)	Jul 2017
Northrop Grumman Remus 600 ASW Acoustic Detection and Comm. Annual Naval Technology Exercise (Naval Undersea Warfare Center (NUWC) Newport, RI)	Aug 2016
UNOLS Chief Scientist Training Course cruise (R/V Thompson)	Feb 2016
Drifting and Autonomous Platforms Mid-Atlantic Shelf Break (R/V Endeavor)	Nov 2015
Upwelling Regime In-Situ Ecosystem Efficiency study 21 cruises (R/V Yellowfin)	2013 - 2014
San Pedro Ocean Time-Series (SPOT) Cruises Monthly (R/V Yellowfin)	2009 - 2014
Eastern Tropical South Pacific - II (R/V Melville)	Mar - Apr 2011
Eastern Tropical South Pacific - I (R/V Atlantis)	Feb - Mar 2010
Several Bermuda Atlantic Time Series (BATS) Cruises (R/V Atlantic Explorer)	2007 - 2009

INSTRUMENT EXPERIENCE

Hydroid Remus and Slocum glider | Piloting, field ops, sensor calibration, navigation data analysis
Sensors | Seabird GPCTD, WetLabs ECO Puck Fluorometer/backscatter, LiCor PAR, Aanderaa Optode/
Clark-type DO, Satlantic SUNA nitrate, RSI Microrider microstructure, Teledyne/RDI ADCPs
Pfeiffer PrismaPlus QMG | Underway $\Delta\text{O}_2/\text{Ar}$ by equilibrator inlet mass spectrometry (EIMS)
High vacuum dissolved gas sampling/analysis | $\Delta\text{O}_2/\text{Ar}$, $^{16}\text{O}/^{17}\text{O}/^{18}\text{O}$, Winkler titrations
Drifting/moored sediment traps | Deployment/maintenance and trap material analysis
Radioisotope analysis | Gamma spectra and alpha counting

UV/VIS spectrophotometry | Particulate and dissolved nutrient sampling/analysis
CTD rosette | Deployment/assembly, maintenance, SeaBird data processing
Matlab | Data processing/analysis, biogeochemical modeling

PROFESSIONAL SERVICE, LEADERSHIP, AND OUTREACH

Review Editor | *Frontiers in Marine Science* 2016 – Present
Manuscript Reviewer | *Journal of Geophysical Research-Biogeosciences, JGR-Oceans, Global Biogeochemical Cycles, Marine Chemistry, Biogeosciences, Progress in Oceanography, Deep-Sea Research* 2015 – Present
Proposal Reviewer | *National Science Foundation (Chemical Oceanography)* 2015 - Present
Participant | *NSF OCB Biogeochemical Floats Workshop (Seattle, WA)* 2018
Participant | *NSF OOI Coastal Arrays Workshop (Arlington, VA)* 2016
Chief Scientist | *21 UpRISEE Cruises (34 days at sea)* 2013 - 2014
Chair | *Southern California Geobiology Symposium Organizing Committee*
Attended by 130 researchers from 10 universities at USC in April 2014 2014
NSF-OCE Broadening Participation Postdoctoral Fellow 2015 - 2017
Presenter | *Horn Point Laboratory Open House*, Led a hands-on activity designed to educate the public on the use of autonomous vehicles in marine research 2015
Mentor | *USC Young Researchers Program*, Advised underrepresented L.A. high school students (youngresearchers.usc.edu) 2012 – 2014

SELECTED PRESENTATIONS

1. **Haskell, W.Z.** (Invited Talk) “*Quantifying biological production and carbon export in the dynamic surface ocean.*” University of South Carolina – SEOE Seminar, Spring 2018. Columbia, SC.
2. **Haskell, W.Z.** (Invited Talk) “*Quantifying biological production and export in the dynamic surface ocean.*” Moss Landing Marine Laboratories, Spring 2018. Moss Landing, CA.
3. **Haskell, W.Z.**, M.G. Prokopenko, D.E. Hammond, N. Nidzieko, A.E. Santoro. (Invited Talk) “*Quantifying carbon export in the dynamic surface ocean.*” Scripps Institute of Oceanography – Marine Chemistry and Geochemistry Seminar, Spring 2017. La Jolla, CA.
4. **Haskell, W.Z.**, D.E. Hammond, M.G. Prokopenko, R.H.R. Stanley, W.M. Berelson. (Invited Talk) “*Export efficiency in an upwelling regime.*” DISCO XXV, Fall 2016. Honolulu, HI.
5. **Haskell, W.Z.**, M.G. Prokopenko, D.E. Hammond, N. Nidzieko, A.E. Santoro, R.H.R. Stanley, D. Nicholson, W.M. Berelson. (Invited Talk) “*Biological production and export in the dynamic surface ocean.*” USF College of Marine Science Seminar, Spring 2016. St. Petersburg, FL.
6. **Haskell, W.Z.**, M.G. Prokopenko, D.E. Hammond, R.H.R. Stanley, W.M. Berelson. (Invited Talk) “*⁷Be-based upwelling velocity and O₂-based biological production (2013 and 2014).*” SPOT Time Series Workshop, Fall 2015. Los Angeles, CA.
7. **Haskell, W.Z.**, M.G. Prokopenko, D.E. Hammond, R.H.R. Stanley, W.M. Berelson. (Talk) “*A two-year time series study of upwelling and community metabolism in Southern California.*” UMCES Horn Point Lab Seminar, Fall 2015. Cambridge, MD.
8. **Haskell, W.Z.**, M.G. Prokopenko, D.E. Hammond, R.H.R. Stanley. (Talk) “*Coupling O₂/Ar and oxygen isotope distribution with estimates of vertical transport to constrain biological production in the coastal ocean.*” Goldschmidt 2014. Sacramento, CA.