

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.**, D.E. Hammond, M.G. Prokopenko, E.N. Teel, B.N. Seegers, M.A. Ragan, N. Rollins, B. H. Jones (2019) Net community production in a productive coastal ocean from an autonomous buoyancy-driven glider. *Jour. of Geophys. Res. Oceans*, 124, <https://doi.org/10.1029/2019JC015048>.
- Haskell, W.Z.** and J.C. Fleming. (2018) Concurrent estimates of carbon export reveal physical biases in $\Delta O_2/Ar$ -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.

4. **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.
5. 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.
6. **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.
7. **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.
8. **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.
9. **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.
10. 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.
11. **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.
- *12. **Haskell, W.Z.** and N.J. Nidzieko. (*in prep*) Community metabolism in large oceanic provinces scales allometrically with ecosystem volume.
- *13. **Haskell, W.Z.**, A.J. Fassbender, J. Long, J. Plant, K.S. Johnson. (*in prep.*) Annual net community production of particulate and dissolved organic carbon from a decade of biogeochemical profiling float observations in the Northeast Pacific.
- *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*)

1. **Contractor** | Maxon Environmental Consulting, San Diego, CA

Aug 2018 - Present

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

Line P Cruise | Northeast Pacific (CCGS *John P. Tully*)

Jun 2019

Coastal Remus 600 operations | Santa Barbara Channel/Shelf Break

2017 – 2018

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 $\Delta O_2/Ar$ by equilibrator inlet mass spectrometry (EIMS)

High vacuum dissolved gas sampling/analysis | $\Delta O_2/Ar$, $^{16}O/^{17}O/^{18}O$, 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 <i>Frontiers in Marine Science</i>	2016 – Present
Manuscript Reviewer <i>Journal of Geophysical Research-Biogeosciences, JGR-Oceans, Global Biogeochemical Cycles, Marine Chemistry, Biogeosciences, Progress in Oceanography, Deep-Sea Research</i>	2015 – Present
Proposal Reviewer <i>National Science Foundation (Chemical Oceanography)</i>	2015 – Present
Participant <i>NASA EXPORTS Science Meeting (Williamsburg, VA)</i>	2019
Participant <i>NSF OCB Biogeochemical Floats Workshop (Seattle, WA)</i>	2018
Participant <i>NSF OOI Coastal Arrays Workshop (Arlington, VA)</i>	2016
Chief Scientist <i>21 UpRISEE Cruises (34 days at sea)</i>	2013 - 2014
Chair <i>Southern California Geobiology Symposium Organizing Committee</i> Attended by 130 researchers from 10 universities at USC in April 2014	2014
NSF-OCE Broadening Participation Postdoctoral Fellow	2015 - 2017
Presenter <i>Horn Point Laboratory Open House</i> , Led a hands-on activity designed to educate the public on the use of autonomous vehicles in marine research	2015
Mentor <i>USC Young Researchers Program</i> , Advised underrepresented L.A. high school students (youngresearchers.usc.edu)	2012 – 2014

SELECTED PRESENTATIONS

- Haskell, W.Z.** (Invited Talk) “*Observing carbon export out of the surface ocean interface.*” University of Maine - School of Marine Sciences Seminar, Spring 2019. Orono, ME.
- 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.
- Haskell, W.Z.** (Invited Talk) “*Quantifying biological production and export in the dynamic surface ocean.*” Moss Landing Marine Laboratories, Spring 2018. Moss Landing, CA.
- 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.
- 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.
- 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.
- 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.