William Z. Haskell II

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RESEARCH INTERESTS

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

APPOINTMENTS

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

EDUCATION

Ph.D. | Ocean Sciences | University of Southern California *Aug 2015*
Advisor: Douglas Hammond
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
M.S. | Ocean Sciences | University of Southern California *Aug 2011*
Advisor: Douglas Hammond
Particulate Organic Carbon Flux Calculated From ^{234}Th Measurements and Sediment Traps in the Eastern Tropical South Pacific
B.S. | Marine Science & Chemistry | RSMAS, University of Miami *May 2009*
Advisor: David Kadko
Relationship of Radon-222 in Ground Water and Strain in the Crust of the South Iceland Seismic Zone and Possible Tectonic Implications

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

1. **Haskell, W.Z.**, D.E. Hammond, M.G. Prokopenko, E.N. Teel, B.N. Seegers, M.A. Ragan, N. Rollins, B. H. Jones (*in press*) Net community production in a productive coastal ocean from an autonomous buoyancy-driven glider. *Jour. of Geophys. Res. Oceans.*

2. **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.

3. 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 cyclicity 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 O_2 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 ^{7}Be 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 ^{234}Th 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. 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*)

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 O_2/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 O_2/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 ΔO_2/Ar by equilibrator inlet mass spectrometry (EIMS)
High vacuum dissolved gas sampling/analysis | ΔO_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 | *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) *"Observing carbon export out of the surface ocean interface."* University of Maine - School of Marine Sciences Seminar, Spring 2019. Orono, ME.

2. **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.

3. **Haskell, W.Z.** (Invited Talk) *"Quantifying biological production and export in the dynamic surface ocean."* Moss Landing Marine Laboratories, Spring 2018. Moss Landing, CA.

4. **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.

5. **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.

6. **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.

7. **Haskell, W.Z.**, M.G. Prokopenko, D.E. Hammond, R.H.R. Stanley, W.M. Berelson. (Invited Talk) *"^{7}Be-based upwelling velocity and O_2-based biological production (2013 and 2014)."* SPOT Time Series Workshop, Fall 2015. Los Angeles, CA.

8. **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.