

# Sarah E. Myhre

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*previously published under S.E. Moffitt*

## EDUCATION

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**Ph.D. Ecology**, June 2014 University of California, Davis  
*Dissertation* Marine ecosystems and climate change: ecological and oceanographic lessons from the  
recent deglaciation  
*Advisor* Dr. Tessa Hill

**B. S. Marine Biology**, June 2006 Western Washington University

## ACADEMIC APPOINTMENTS

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**Postdoctoral Scholar**, *October 2015-Present* *Future of Ice Initiative*, University of Washington

**Postdoctoral Scholar**, *June 2014-October-2015* University of California, Davis

**Doctoral Research**, *2008-June 2014* University of California, Davis

**NSF Integrative Graduate Research**, *2008-2010* University of California, Davis

**Graduate Student Researcher**, *June-August 2008* EPA Environmental Education Program

## AWARDS

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2013 Switzer Environmental Leader Fellowship  
2010-2013 Environmental Protection Agency Science to Achieve Results (STAR) Fellowship  
2012 Outstanding Student Presentation, 2012 Ocean Science Meeting  
2007 Honorable Mention, NSF Graduate Fellowship Research Program  
2006 Honorable Mention, NSF Graduate Fellowship Research Program  
2006 National Undergraduate Research Award, National Council for Undergraduate Research  
2005 Undergraduate Research Accomplishment Award, Western Washington University  
Department of Biology

## PEER REVIEWED PUBLICATIONS

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- 2016 Yasuhara, M., H. Doi, C.-L. Wei, R. Danovaro, **S. E. Myhre**. Biodiversity-ecosystem functioning relationships in long-term time series and palaeoecological records: deep sea as a test bed. *Philosophical Transactions of the Royal Society B*, 371, 20150282.
- 2016 Davis, C. V., **S. E. Myhre**, T. M. Hill. Benthic foraminiferal shell weight: Deglacial species-specific responses recorded in the Santa Barbara Basin. *Marine Micropaleontology*, 124, 24-53.
- 2015 **Moffitt, S. E.**, T. Hill, P. Roopnarine, J. P. Kennett. Response of seafloor ecosystems to abrupt global climate change. *PNAS*, 112, 4684-4689.
- 2015 **Moffitt, S. E.**, R. Moffitt, W. Sauthoff, C. V. Davis, K. Hewett, T. Hill. Paleooceanographic insights on recent Oxygen Minimum Zone Expansion: Lessons for Modern Oceanographic, PLOS ONE, 10, doi:10.1371/journal.pone.0115246.
- 2014 **Moffitt, S. E.**, T. Hill, J. Kennett, K. Ohkushi, R.J. Behl. Vertical oxygen minimum zone oscillation during the last 20 ka in Santa Barbara Basin: A benthic foraminiferal perspective. *Paleoceanography*, 29, 1-14.
- 2013 Abraham, J. P., M. Baringer, N. Bindoff, T. Boyer, L. J. Cheng, J. A. Church, J. L. Conroy, C. M. Domingues, J. T. Fasullo, J. Gilson, G. Goni, S. Good, J. M. Gorman, V. Gouretshki, M. Ishii, G. C. Johnson, S. Kizu, J. M. Lyman, A. MacDonald, W. J. Minkowycz, **S. E. Moffitt**, M. Palmer, A. Piola, F. Resegetti, K. E. Trenberth, I. Velicogna, S. E. Wijeffels, J. Willis. Monitoring systems of global ocean heat content and the implications for climate change, a review. *Reviews of Geophysics*, DOI: 10.1002/rog.20023.
- 2013 Ohkushi, K., J. P. Kennett, C. M. Zeleski, **S. E. Moffitt**, T. M. Hill, C. Robert, L. Beaufort, R. J. Behl. Late Quaternary intermediate water oxygenation history: Benthic foraminiferal assemblages from Santa Barbara Basin. *Paleoceanography*, 29, 1-15.
- 2012 Payne, J. L., J. R. Grootes, A. B. Jost, T. Nguyen, **S. E. Moffitt**, T. M. Hill, J. M. Skotheim. Late Paleozoic fusulinoidean gigantism driven by atmospheric hyperoxia. *Evolution*, 66: 2929-2939.
- 2012 Wetzel, W., I. Lacher, D. Swezy, **S. E. Moffitt**, D. Manning. Survey of rancher decisions and geospatial analysis reveal consequences of Williamson Act elimination for ecosystem conservation and ranching in California. California Agriculture. *California Agriculture*, 66, 131-136
- 2007 **Myhre S.**, A. Acevedo-Gutiérrez. Effects of the sea urchin *Diadema antillarum* on coral recovery and benthic community structure, Caribbean, Costa Rica. *Marine Ecology Progress Series*, 329: 205-210.

## MANUSCRIPTS IN REVIEW and PREPARATION

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- Myhre, S. E.**, K. J. Kroeker, T. M. Hill, P. Roopnarine, J. P. Kennett. Community benthic paleoecology from high-resolution climate records: Mollusca and Foraminifera in post-glacial environments of the California Margin (*in review*).
- Myhre, S. E.**, M. Borreggine, A. C. Ravelo, C. Deutsch. Abrupt oceanographic and ecological change in the Bering Sea through the past 20,000 years: A synthesis of existing paleoceanographic records (*in preparation*).
- Myhre, S. E.**, A. C. Ravelo, M. Cook, C. Deutsch. Coupled millennial-scale transitions in sea ice, hypoxia and seafloor community ecology in the Bering Sea (*in preparation*).
- Myhre, S. E.**, S. M. White, T. M. Hill, J. P. Kennett. Millennial-scale differences in benthic and planktonic foraminiferal community ecology at ~735 ka, Santa Barbara Basin, CA, using multivariate community ecology analysis (*in preparation*).

## REPORTS & OTHER PUBLICATIONS

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- 2015 California Environmental Protection Agency, Indicators of Climate Change in California, 2015. Contracted appointment to produce chapters focused on climate change monitoring in coastal Californian waters (*in review*).
- 2014 **Moffitt, S. E.** Fisheries ecosystems and hypoxia: A future informed by the past. *Fisheries*, 39, 199-200.
- 2010 Morgan L.E., W. Chandler, E. Douce, S. Brooke, J. Guinotte, **S. Myhre**. Research Priorities for the Pacific Remote Islands Marine National Monument. Marine Conservation Biology Institute Special Report.
- 2007 Brainard R., J. Helyer, J. Kenyon, F. Mancini, **S. Myhre**, M. Nadon, R. Schroder, B. Vargas-Angel, S. Vogt, P. Vroom. 2002-2006 American Samoa Coral Reef Monitoring Report. NOAA Special Report

## EMPLOYMENT HISTORY

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Indicators of Climate Change, Contractor, California Environmental Protection Agency, 6/2014-9/2015  
Climate Science Internship, Marine Conservation Institute, 6-8/2010  
Coral Reef Ecosystem Specialist, NOAA Coral Reef Ecosystem Division, 11/2006-5/2008  
Fieldwork and Laboratory Coordinator, Bermuda Institute for Ocean Science, 9-11/2006  
Scientific Diver and Technician, Bermuda Institute for Ocean Science, 6-9/2005

## GRANTS

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- 2010-2013 Environmental Protection Agency Science to Achieve Results (STAR) Fellowship  
2010 Mia Tegner Memorial Research Grants in Marine Environmental History and Historical Ecology, Marine Conservation Institute  
2010 Graduate Scholarship to Urbino Italy Summer School in Paleoclimatology, NSF  
2008-2010 REACH Integrative Graduate Education Research and Traineeship, NSF  
2006 Student Travel Grant, American Geophysical Union, Ocean Sciences Meeting

2006 Student Travel Grant, Western Washington University College of Science, Technology  
2005 C.V. Star Scholarship, Bermuda Institute for Ocean Science  
2005 Women in Science Scholarship, Western Washington University College of  
Science, Technology  
2004 Research Grant, The PADI Foundation  
2005 Biology Chair Research Funds, Western Washington University  
2003 Research and Creative Opportunities Grants for Undergraduates, Western Washington  
University  
2003 NASA Space Grant Undergraduate Research Award, University of Washington

## **INVITED PRESENTATIONS**

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7<sup>th</sup> Annual Northwest Climate Conference, 11/14/2016

*Plenary Speaker*

Geek Girl Con, 10/8/2016

*Women in science and technology: a panel discussion*

Malibu Public Library Speaker Series, Malibu City California, 8/30/2016

*Malibu Climate Change: Hopes and Fears*

North American Congress for Conservation Biology, Communicating Science for Conservation Action,  
7/21/2016

*Nuts and Bolts: Strategy, skills and priorities for scientific communication*

*Across the Divide: Cognitive and ethical issues facing scientists*

University of Washington Polar Day, 3/30/2016

*Mt. Baker Ski Area and the Future of Ice Initiative: Academic boundary partnerships in a future  
of abrupt climate change*

University of Washington, Biological Oceanography and Marine Geochemistry and Geophysics Seminar,  
2/2/2016

*Climate, oxygen and organisms: paleoecology as a tool to understand the past and present*

American Geophysical Union, Effective Climate Communication Session, 12/16/2015

*The Deep End of the Pool: Strategy, Skills and Priorities for Climate Communication*

Union of Concerned Scientists, Climate Science Communication Workshop, 12/13/2015

*Planning your dive and diving your plan: frontloading the work of communication planning*

University of Washington, Chemical Oceanography Seminar, 12/4/2015

*Climate, oxygen and organisms: using paleoecology to understand a no-analogue ocean*

San Francisco State University, Department of Earth and Climate Sciences, 9/23/2014

*Marine ecosystem and abrupt climate change: insights from the recent deglaciation*

Western Washington University, Biology Department, 2/28/2012

*Rapid environmental change on continental margins; using marine sediment records as paleoecological tools*

Point Blue (Point Reyes Bird Observatory), 3/14/2010

*Climate transitions, anoxic waters and the benthic ecology of Santa Barbara Basin.*

Science in the River City Workshop for Teachers, Sacramento State University, 2/20/2010

*Climate change and coastal California*

## **TEACHING EXPERIENCE**

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**Instructor**, Summer 2013

Bodega Marine Laboratory, Biological Oceanography (GEL/ESP 150C)

**Teaching Assistant**, Summer 2012

Bodega Marine Laboratory, Independent Undergraduate Research (BIS 124)

Supervisor: Dr. Tessa Hill and Dr. John Largier

**Teaching Assistant**, Summer 2011

Bodega Marine Laboratory, Biological Oceanography (GEL/ESP 150C)

Supervisor: Dr. Tessa Hill

**Guest Lecturer**, 2009-2011

University of California at Davis, The Oceans (GEL 16)

**Guest Lecturer**, 2009

University of California at Davis, Biological Conservation (ECL 291)

**Teaching Assistant**, Summer 2008

Bodega Marine Laboratory, Biological Oceanography (GEL/ESP 150C)

Supervisor: Dr. Tessa Hill

**Mentor**, Summer 2008

Bodega Marine Laboratory, National Science Foundation Research Experience for Undergraduates

**Teaching Assistant**, Fall 2006

Bermuda Institute of Ocean Science, Coral Reef Ecology

Supervisor: Dr. Samantha DePutron

**Teaching Assistant**, Spring 2005

Western Washington University, Marine Ecology (BIO 356)

Supervisor: Dr. Alejandro Acevedo

## **UNDERGRADUATE RESEARCH MENTORSHIP**

---

Marisa Borreggine, 2016. Abrupt oceanographic and ecological change in the Bering Sea through the past 20,000 years: A synthesis of existing paleoceanographic records (*in preparation*).

Miranda Stripe, 2014. Invertebrate fossil correlation to climate trends in sediment core MD02-2504 from Santa Barbara Basin in the past 24 kyr. *Explorations*, the UC Davis Undergraduate Research Journal, Vol. 16.

Adam Rueckert, 2014. A paleoecological study of predation on mollusks in the Santa Barbara Basin. BML Summer Session II: Research Symposium.

Alison Fisher, 2012. The effects of ocean acidification on the community structure of sessile benthic invertebrates in the rock intertidal zone. Bodega Bay, CA, BML Summer Session II: Research Symposium.

- Greg Merrill, 2012. The effects of upwelling on the predation of mussels by whelks, proxied by abundance. BML Summer Session II: Research Symposium.
- Lian Rother, 2012. Shell morphology of the California mussel (*Mysilus californianus*) compared to patterns in pH and temperature in Bodega Bay, Ca. BML Summer Session II: Research Symposium.
- Miranda Stripe, 2012. Correlation of invertebrate fossils with climate trends in Santa Barbara Basin for the past 25,000 years. BML Summer Session II: Research Symposium.
- Isabella Hines, 2012. The size class distribution of *Anthopleura xanthogrammica* and tide pool seawater variability in Horseshoe Cove. BML Summer Session II: Research Symposium.
- Wilson Sathoff, 2011. Biotic evidence of historic climate change events in the Santa Barbara Basin over the past 16,000 years. BML Summer Session II: Research Symposium.
- Jamie Rich, 2009. Distribution and abundance of foraminifera in Bodega Harbor with respect to sediment grain size. BML Summer Session II: Research Symposium.
- Will Fennie, 2008. The effects of wave energy and sediment composition on beach profiles. BML Summer Session II: Research Symposium.
- Frank Sousa, 2008. Dunes on the Bodega Marine Reserve: *Ammophila arenaria*, native vegetation and bare sand. BML Summer Session II: Research Symposium.
- Danny West, 2008. The longshore transport of sediment: Russian River to the Bodega Bay area. BML Summer Session II: Research Symposium.
- Allison Philips, 2008. Distribution of wind blown, marine, and freshwater sediment in Tomales Bay, California. BML Summer Session II: Research Symposium.

## **RESEARCH PRESENTATIONS (LAST 6 YEARS)**

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- Myhre, S. E.**, T. M. Hill, C. Frieder, B. Grupe, 2016. Decadal to centennial oscillations in the upper and lower boundaries of the San Diego, California margin Oxygen Minimum Zone. Ocean Science Meeting, New Orleans, LA (poster).
- Myhre, S. E.**, S. M. White, T. M. Hill, J. P. Kennett, 2015. Earth-system scales of biodiversity variability in shallow continental margin seafloor ecosystems. American Geophysical Union, Fall Meeting, San Francisco, CA (poster).
- Moffitt, S. E.**, T. Hill, K. Kroeker, P. Roopnarine, J. P. Kennett, 2014. Molluscan and foraminiferan paleoecological reconstructions of extreme post-glacial seafloor environments of the California Borderland. American Geophysical Union, Fall Meeting, San Francisco, CA (poster).
- Moffitt, S. E.**, R. Moffitt, W. Sauthoff, C. V. Davis, K. Hewett, T. M. Hill, 2013. Paleoceanographic insights on oxygen minimum zone expansion: Lessons from the most recent deglaciation. American Geophysical Union, Fall Meeting, San Francisco, CA (oral).
- Moffitt, S. E.**, T. Hill. 2012. Deglacial forcing of rapid deoxygenation and seafloor ecological change, Santa Barbara Basin, CA. 22<sup>nd</sup> V.M. Goldschmidt Conference, Montreal, Canada (oral).
- Moffitt, S. E.**, T. Hill. 2012. Deglacial forcing of eastern-boundary current oxygenation and benthic ecology. Ocean Sciences Meeting, Salt Lake City, Ut (oral).
- Moffitt, S. E.**, T. M. Hill, 2012, Hypoxia in high-resolution sediment records: reconstructing the California Current Oxygen Minimum Zone on multi-decadal timescales. American Geophysical Union Fall Meeting, San Francisco, CA (poster).
- Conroy, J., S. Mandia, J. Abraham, **S. E. Moffitt**, G. Tootle, 2012. Environmental litigation and the role of climate scientists. American Geophysical Union Fall Meeting. San Francisco, CA (poster).
- Myhre, S. E.**, T. Hill, J. P. Kennett, K. Ohkushi, R. Behl. 2011. Spatial Scales of deglacial hypoxia in the Santa Barbara Basin: Using rank-abundance curves and kurtosis to understand paleoecological community stress. American Geophysical Union Fall Meeting. San Francisco, CA (poster).
- Myhre, S.**, T. Hill, J. Kennett, K. Ohkushi, R. Behl. 2011. Constraining the vertical movement of OMZ waters in Santa Barbara Basin for the past 15 ka. Pacific Climate Workshop. Monterey, CA (poster).

- Myhre, S.**, T. Hill, J. Kennett, K. Ohkushi, R. Behl. 2010. Constraining the vertical movement of low oxygen waters in Santa Barbara Basin for the past 15 ka. American Geophysical Union Fall Meeting. San Francisco, CA (poster).
- Myhre, S.**, T. T. Hill, J. Kennett, K. Okushi, R. Behl. 2009. Anoxic waters in the Santa Barbara Basin during the past 15 ka. Bodega Marine Laboratory Research Seminar, Bodega Bay, CA (oral).
- Myhre, S.**, T. T. Hill, J. Kennett, K. Okushi, R. Behl. 2009. Investigating a transect of anoxic waters in the Santa Barbara Basin during the past 15 ka. American Geophysical Union Fall Meeting. San Francisco, CA (poster).

## OUTREACH AND COMMUNICATION

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- Climate scientists, mourning Earth's losses, should make their voices heard**, The Guardian, 5/19/2016
- Putting climate science in perspective, one GIF at a time**, Snohomish High School, 3/24/2016
- Reddit AMA**, PLOS ONE, Ocean oxygen loss in a future of climate warming, 2/17/2016
- Women in Science Lunch**, University Preparatory Academy, Seattle, 1/27/2016
- Reddit AMA**, We are the people behind "The Point of No Return" climate change article in Rolling Stone, and here to talk about solutions. Ask Us Anything, 8/13/2015
- Jenner Solar Summit (public talk)**, City of Jenner, 2/21/2015
- Why are climate scientists so bad at talking about climate change?** (public talk), Science Uncorked at Gourmet au Bay, Bodega Bay, 2/17/2015
- New research reveals extreme oxygen loss in oceans during past climate change** (blog), The Guardian, 1/29/2015
- Ocean Science** (educational talk), Summerfield Waldorf School and Farm, 5/2013
- What's climate scientist James Hansen's legacy?** (interview), The Guardian, 4/2013
- How do we learn about Earth's climate history?** (educational talk), Technology Access Foundation Academy, Seattle WA, 3/2013
- San Diego Coastal Expedition** (blog), Scripps Institution of Oceanography, San Diego, CA, 12/2012
- Climate Change Blog-O-Thon** (blog), Daily Kos, 9/2012

## SELECT PRESS

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- The Seattle Times**, On the scene: Event address the high cost of climate change, 6/5/2016  
[https://static1.squarespace.com/static/509c628ee4b0b5d93ca27462/t/5755ee3b27d4bdc00d208cfa/1465249355930/EndangeredEconomy\\_LiveWire\\_highres+%28002%29.pdf](https://static1.squarespace.com/static/509c628ee4b0b5d93ca27462/t/5755ee3b27d4bdc00d208cfa/1465249355930/EndangeredEconomy_LiveWire_highres+%28002%29.pdf)
- Pacific Standard**, Suffocating the ocean, 5/9/2016  
<https://psmag.com/suffocating-the-ocean-1c4fa66ca0f4#.pbn4wa4vo>
- Crosscut**, Climate scientists take their message to the slopes, 1/15/2016  
<http://crosscut.com/2016/01/climate-scientists-take-their-message-to-the-slopes/>
- Huffington Post**, Ocean acidification is bad, and it's getting worse, 1/11/2016  
[http://www.huffingtonpost.com/pierce-nahigyan/ocean-acidification-is-ba\\_b\\_8952240.html](http://www.huffingtonpost.com/pierce-nahigyan/ocean-acidification-is-ba_b_8952240.html)
- The Guardian**, The best of climate science and humanity come together at AGU, 12/21/2015  
[http://www.theguardian.com/environment/climate-consensus-97-per-cent/2015/dec/21/the-best-of-climate-science-and-humanity-come-together-at-agu?CMP=share\\_btn\\_tw](http://www.theguardian.com/environment/climate-consensus-97-per-cent/2015/dec/21/the-best-of-climate-science-and-humanity-come-together-at-agu?CMP=share_btn_tw)
- Climate Cast**, Minnesota Public Radio, 12/17/2015
- Rolling Stone**, The Point of No Return: Climate Change Nightmares are Already Here, 8/5/2015  
<http://www.rollingstone.com/politics/news/the-point-of-no-return-climate-change-nightmares-are-already-here-20150805>
- Blue Streak Science** (podcast interview), 8/26/2015

- <http://www.bluestreakscience.com/014-interview-with-dr-sarah-moffitt-of-the-bodega-marine-lab/>
- Big Picture Science at the SETI Institute** (podcast interview), The Fix is In, 8/2/2015  
[http://blog.bigpicturescience.org/2015/08/big-picture-science-the-fix-is-in-sarah-moffitt-marine-biodiversity/?utm\\_content=buffere9a10&utm\\_medium=social&utm\\_source=twitter.com&utm\\_campaign=buffer](http://blog.bigpicturescience.org/2015/08/big-picture-science-the-fix-is-in-sarah-moffitt-marine-biodiversity/?utm_content=buffere9a10&utm_medium=social&utm_source=twitter.com&utm_campaign=buffer)
- Climate Action USA** (radio interview), 6/1/2015  
<http://www.blogtalkradio.com/climateactionusa/2015/06/02/interview-sarah-moffitt-postdoctoral-scholar-uc-davis-bodega-marine-laboratory-1>
- Yale Climate Connection** (radio interview), Depleted oxygen zones in the ocean may increase in a warmer climate, 5/5/2015  
<http://www.yaleclimateconnections.org/2015/05/lessons-from-an-ancient-climate-shift/>
- The Guardian**, New paper shows how sensitive the ocean biosphere is to climate change, 4/10/2015  
<http://www.theguardian.com/environment/climate-consensus-97-per-cent/2015/apr/10/new-paper-shows-how-sensitive-ocean-biosystem-is-to-climate-change>
- LA Times**, Oceans might take 1,000 years to recover from climate change, study suggests, 4/1/2015  
<http://www.latimes.com/science/sciencenow/la-sci-sn-oceans-climate-change-20150331-story.html>
- Christian Science Monitor**, Oceans could take thousands of years to recover from climate change, study says, 3/31/2015  
<http://www.csmonitor.com/Science/2015/0331/Oceans-could-take-thousands-of-years-to-recover-from-climate-change-study-says>
- Conservation Magazine**, Seafloor hits bottom fast, bounces back slowly after climate change, 3/31/2015  
<http://conservationmagazine.org/2015/03/seafloor-hits-bottom-fast-bounces-back-slowly-after-climate-change/>
- Discovery Channel**, Climate change could harm marine life for millennia, 3/30/2015  
<http://news.discovery.com/earth/global-warming/climate-change-could-harm-marine-life-for-millennia-150330.htm>
- CBS SF Bay Area**, Climate change may impact oceans for thousands of years, UC Davis study finds, 3/30/2015  
<http://sanfrancisco.cbslocal.com/2015/03/30/climate-change-today-may-impact-oceans-for-thousands-of-years-uc-davis-study-finds/>
- NBC News**, Climate change could damage oceans for millennia, 3/30/2015  
<http://www.nbcnews.com/science/environment/climate-change-could-wreak-millennia-havoc-oceans-n332781>
- SF Gate**, Ancient global warming a warning for modern era, researchers say, 3/30/2015  
<http://www.sfgate.com/science/article/Ancient-global-warming-a-warning-for-modern-era-6169077.php>
- Yale e360**, How long can oceans continue to absorb Earth's excess heat? 3/30/2015  
[http://e360.yale.edu/feature/how\\_long\\_can\\_oceans\\_continue\\_to\\_absorb\\_earths\\_excess\\_heat/2860](http://e360.yale.edu/feature/how_long_can_oceans_continue_to_absorb_earths_excess_heat/2860)
- National Geographic**, Oceans are losing oxygen – and becoming more hostile to life, 3/13/2015  
<http://news.nationalgeographic.com/2015/03/150313-oceans-marine-life-climate-change-acidification-oxygen-fish/>
- KPCC, Southern California NPR-Affiliate** (radio interview), Study looks at Ice Age, predicts alarming trend in ocean oxygen loss, 2/4/2015  
<http://www.scpr.org/programs/take-two/2015/02/04/41408/study-looks-at-ice-age-predicts-alarming-trend-in/>
- ABC7News (TV interview)**, deteriorating ocean oxygen levels affecting marine life, 2/3/2015  
<http://abc7news.com/science/deteriorating-ocean-oxygen-levels-affecting-marine-life/503237/>
- Press Democrat**, New ocean study shows alarming pattern in ice age oxygen loss, 1/30/15

[http://www.pressdemocrat.com/news/3457047-181/new-ocean-study-shows-alarming#.VM0EtEheD\\_g.facebook?page=2](http://www.pressdemocrat.com/news/3457047-181/new-ocean-study-shows-alarming#.VM0EtEheD_g.facebook?page=2)

**Vice Magazine**, What happens when the oceans can't breathe, 1/28/2015

<http://motherboard.vice.com/read/heres-what-happens-when-oceans-cant-breathe>

**MSN News**, Climate change could mean massive ocean dead zones, 1/28/2015

<http://www.msn.com/en-my/news/techandscience/climate-change-could-mean-massive-ocean-dead-zones/ar-AA8H6XM?srcref=rss>

**The Verge**, Climate change could mean massive ocean dead zones, 1/28/2015

<http://www.theverge.com/2015/1/28/7930047/climate-change-could-mean-massive-ocean-dead-zones>

**Nature World News**, Heightened Temperatures Robbed Our Seas of Oxygen, and Could do it Again, 1/28/15

<http://www.natureworldnews.com/articles/12353/20150128/heightened-temperatures-robbed-seas-oxygen-again.htm>

**Science Daily**, Smothered Ocean: Extreme oxygen loss in oceans accompanied past global climate change, 1/28/2015

<http://www.sciencedaily.com/releases/2015/01/150128152155.htm>

**Science Codex**, Smothered oceans: Extreme oxygen loss accompanied past climate change, 1/28/2015

[http://www.sciencecodex.com/smothered\\_oceans-149760](http://www.sciencecodex.com/smothered_oceans-149760)

**Science World Report**, Melting ice and warmer temperatures linked to massive oxygen loss in the world's ocean, 1/29/2015

<http://www.scienceworldreport.com/articles/21773/20150129/melting-ice-warmer-temperatures-linked-massive-oxygen-loss-worlds-oceans.htm>

**Morning Wave, Busan, South Korea** (radio interview), Modern Climate Change, 9/2012

## SHORT COURSE EXPERIENCE

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**Expert Witness Training Academy**, 7/2012

William Mitchell College of Law and the National Science Foundation

**Ecological Institute at the Heinz Center**, 9/2010

Science Communication and Policy Development Workshop

**The Urbino Summer School in Paleoclimatology**, 7/2010

University of Urbino, Italy

**Stable Isotopes in Ecology**, 6/2009

University of Utah

**Coral Reef Ecology**, 6-7/2006

Bermuda Institute of Ocean Science

## SCIENTIFIC SOCIETY MEMBERSHIP

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American Geophysical Union, Member, 2008-present

Bodega Marine Laboratory Seminar Committee, Financial Advisor, 2013-2014

University of California at Davis, Graduate Group in Ecology Diversity Committee, Member, 2014-2015

## SERVICE

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Adjunct Scholar, **Niskanen Center for Climate Science**

Facilitator, **Mt Baker Ski Area** and University of Washington Future of Ice Initiative, Community

Lecture Series

## PROFESSIONAL REFERENCES

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**Tessa M. Hill, Ph.D.**

Associate Professor  
Dept. of Earth & Planetary Sciences  
Bodega Marine Laboratory  
University of California at Davis  
*phone:* 707-875-1910  
tmhill@ucdavis.edu

Bodega Marine Laboratory  
P.O. Box 247  
Bodega Bay, CA 94923

**Curtis Deutsch, Ph.D.**

Associate Professor  
School of Oceanography  
University of Washington  
*phone:* 206-543-5189  
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RM 105 Ocean Teaching Building  
Seattle, WA 98105

**Peter Roopnarine, Ph.D.**

Curator of Geology  
Chair, Dept. of Invertebrate Zoo. and Geol.  
California Academy of Science  
*phone:* 415-379-5271  
proopnarine@calacademy.org

55 Music Concourse Dr.  
Golden Gate Park  
San Francisco, CA 94118

**Eric Steig, Ph.D.**

Professor  
Dept. Earth and Space Science  
University of Washington  
*phone:* 206-685-3715  
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