

# Casey O'Hara

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## Education

### **PhD Environmental Science and Management (2022 expected)**

Bren School of Environmental Science & Management, University of California, Santa Barbara  
*Committee: Dr. Benjamin Halpern (chair), Dr. Halley Froehlich, Dr. Christopher Costello*

### **Master of Environmental Science and Management (2014)**

Bren School of Environmental Science & Management, University of California, Santa Barbara  
*UCSB University Award of Distinction; Bren School Academic Achievement Award*

### **Single Subject Teaching Credential in Science, Physics (2004)**

Graduate School of Education, San Francisco State University

### **Master of Science in Mechanical Engineering Design (1994)**

Department of Mechanical Engineering, Design Division, Stanford University

### **Bachelor of Science in Mechanical Engineering (1993)**

Department of Mechanical Engineering, Stanford University

## Environmental science and management

**Researcher, Ocean Health Index** (January 2015 – present) National Center for Ecological Analysis and Synthesis - Santa Barbara, CA

**AAAS Mass Media Science Fellowship** (June 2014 - September 2014) *The Oregonian* - Portland, OR

**Program Consultant** (June 2013 - August 2013) The School for Examining Essential Questions of Sustainability (SEEQS) Charter School - Honolulu, HI

**Masters Thesis Group Project** (April 2013 - June 2014) UCSB Bren School - Santa Barbara, CA  
“Offshore wind energy in the context of multiple ocean uses on the Bermuda platform.” Client: Department of Environmental Protection, Bermuda

## Teaching and mentoring (post-secondary)

### **Teaching Associate**

- Advanced Data Analysis (ESM244) (Winter 2022)

### **Teaching Assistant**

- Statistics & Data Analysis for Environmental Science & Management (ESM206) (Fall 2019, 2021)
- Advanced Data Analysis (ESM244) (Winter 2021)
- Geographic Information Systems (ESM263) (Winter 2020)
- Environmental Informatics (ESM262) (Spring 2019)
- Quantitative Methods in Environmental Studies (ES25) (Spring 2013)

### **Group Project Ph.D. Mentor**

- Developing a site suitability framework for shellfish aquaculture on Canada's Pacific Coast (2021-2022)
- Spatial Analysis to Inform Policy Recommendations for Shark and Ray Protection in Mozambique (2020-2021)
- Where the Wind Goes: Motivating Low Ecological Risk Wind Development (2018-2019)

See also *STEM Education and Engineering*

## Working groups

- **Functional Interactions and Biodiversity Targets** (April 2021, ongoing) National Center for Ecological Analysis and Synthesis - Santa Barbara, CA
- **Species Vulnerability Working Group (National Philanthropic Trust)** (February 2020) Matadradra Serua, Fiji
- **Coastal Outcomes Working Group (SNAPP)** (April 2019) National Center for Ecological Analysis and Synthesis - Santa Barbara, CA
- **Ocean Futures Working Group (SNAPP)** (July 2018) National Center for Ecological Analysis and Synthesis - Santa Barbara, CA

## Relevant technical skills

- R/R Studio including spatial analysis, data visualization, package development, ShinyApps
- Git/GitHub version control and project management
- MATLAB, Stata, C/C++, HTML, JavaScript, LaTeX
- ArcGIS, QGIS

## Publications

See my Google Scholar profile for up to date publication list with citation counts.

- Simmons, B. A., Butt, N., **O'Hara, C. C.**, Ray, R., Yang, H., Ma, Y., Ma, X., Gallagher, K. P. (draft). Mapping the risks of China's global coastal development to marine socio-ecological systems.
- **O'Hara, C. C.**, Halpern, B. S. (Accepted). Anticipating the future of the world's ocean. Annual Review of Environment and Resources.
- Butt, N., Halpern, B. S., **O'Hara, C. C.**, Allcock, A. L., Polidoro, B., Sherman, S., Byrne, M., Birkeland, C., Dwyer, R. G., Frazier, M., Woodworth, B. K., Arango, C. P., Kingsford, M. J., Udyawer, V., Hutchings, P., Scanes, E., McClaren, E. J., Maxwell, S. M., Diaz-Pulido, G., ... Klein, C. J. (2022). A trait-based framework for assessing the vulnerability of marine species to human impacts. *Ecosphere*, 13(2), e3919. <https://doi.org/10.1002/ecs2.3919>
- **O'Hara, C. C.**, Frazier, M., & Halpern, B. S. (2021). At-risk marine biodiversity faces extensive, expanding, and intensifying human impacts. *Science*, 372(6537), 84–87.
- Roberson, L. A., Beyer, H. L., **O'Hara, C.**, Watson, J. E. M., Dunn, D. C., Halpern, B. S., Klein, C. J., Frazier, M. R., Kuempel, C. D., Williams, B., Grantham, H. S., Montgomery, J. C., Kark, S., & Runting, R. K. (2021). Multinational coordination required for conservation of over 90% of marine species. *Global Change Biology*, 27(23), 6206–6216.
- Beck, M. W., **O'Hara, C. C.**, Lowndes, J. S. S., Mazor, R. D., Theroux, S., Gillett, D. J., Lane, B., & Gearheart, G. (2020). The importance of open science for biological assessment of aquatic environments. *PeerJ*, 8, e9539.
- **O'Hara, C. C.**, Scarborough, C., Hunter, K. L., Afflerbach, J. C., Bodtker, K., Frazier, M., Lowndes, J. S. S., Perry, R. I., & Halpern, B. S. (2020). Changes in ocean health in British Columbia from 2001 to 2016. *PLOS ONE*, 15(1), e0227502.
- Friedman, W. R., Halpern, B. S., McLeod, E., Beck, M. W., Duarte, C. M., Kappel, C. V., Levine, A., Sluka, R. D., Adler, S., **O'Hara, C. C.**, Sterling, E. J., Tapia-Lewin, S., Losada, I. J., McClanahan, T. R., Pendleton, L., Spring, M., Toomey, J. P., Weiss, K. R., Possingham, H. P., & Montambault, J. R. (2020). Research Priorities for Achieving Healthy Marine Ecosystems and Human Communities in a Changing Climate. *Frontiers in Marine Science*, 7.
- Halpern, B. S., Frazier, M., Afflerbach, J., Lowndes, J. S., Micheli, F., **O'Hara, C. C.**, Scarborough, C., & Selkoe, K. A. (2019). Recent pace of change in human impact on the world's ocean. *Scientific Reports*, 9(1), 1–8.

- Burgass, M. J., Milner-Gulland, E. J., Stewart Lowndes, J. S., **O’Hara, C. C.**, Afflerbach, J. C., & Halpern, B. S. (2018). A pan-Arctic assessment of the status of marine social-ecological systems. *Regional Environmental Change*.
- **O’Hara, C. C.**, Villaseñor-Derbez, J. C., Ralph, G. M., & Halpern, B. S. (2019). Mapping status and conservation of global at-risk marine biodiversity. *Conservation Letters*, e12651.
- Halpern, B. S., Frazier, M., Afflerbach, J., **O’Hara, C. C.**, Katona, S., Stewart Lowndes, J. S., Jiang, N., Pacheco, E., Scarborough, C., & Polsenberg, J. (2017). Drivers and implications of change in global ocean health over the past five years. *PLOS ONE*, 12(7), e0178267.
- Lowndes, J. S. S., Best, B. D., Scarborough, C., Afflerbach, J. C., Frazier, M. R., **O’Hara, C. C.**, Jiang, N., & Halpern, B. S. (2017). Our path to better science in less time using open data science tools. *Nature Ecology & Evolution*, 1(6), 0160.
- **O’Hara, C. C.**, Afflerbach, J. C., Scarborough, C., Kaschner, K., & Halpern, B. S. (2017). Aligning marine species range data to better serve science and conservation. *PLOS ONE*, 12(5), e0175739.

## STEM education and engineering

### Secondary education experience

- Program Consultant (June 2013 - August 2013) The School for Examining Essential Questions of Sustainability (SEEQS) Charter School - Honolulu, HI
- Science Teacher: Physics, Integrated Science, Engineering & Green Tech (August 2004 - June 2012) Carlmont High School - Belmont, CA
- Education Liaison (November 2009 - December 2009) Amundsen-Scott South Pole Station, Antarctica

### Secondary education leadership and honors

- “Where the Wonder Went” documentary short film, Santa Barbara International Film Festival (2014)
- Senior Fellow, Knowles Science Teaching Foundation (2009 - present)
- Teaching Fellow, Knowles Science Teaching Foundation (2004 - 2009)
- Exploratorium Teacher Institute (2004 - 2013)
- Innovative Teacher of the Year, Carlmont High School (2011)
- Amgen Award for Science Teaching Excellence (2011)
- Certification: National Board for Professional Teaching Standards (Science - Adolescent/Young Adult) (2009)

### Engineering experience

- Mechanical Engineer (May 2000 - December 2003) St. Jude Medical, Inc. - Sunnyvale, CA
- Mechanical Engineer (May 1997 - May 2000) Asyst Technologies (Hine Design) - Sunnyvale, CA
- Mechanical Engineer (August 1995 - April 1997) Applied Materials, Inc. - Santa Clara, CA
- Maintenance Engineer (August 1994 - August 1995) ATMEL Inc. - San Jose, CA