

CLARISSA R. ANDERSON

Executive Director

Southern California Coastal Ocean Observing System

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ABOUT ME

I am a biological oceanographer with expertise in ecological forecasting and remote sensing. My research has focused on the prediction of harmful algal blooms (HABs) in estuarine and coastal ecosystems as well as the fate and transport of harmful toxins to deeper waters and sediments. As research faculty at UC Santa Cruz, I established the California Harmful Algae Risk Mapping (C-HARM) system with NASA support, now operational at NOAA NESDIS. I continue to work on projects at Scripps Institution of Oceanography developing new modeling methods for HABs and their application to management in collaboration with students and postdocs.

At SIO, I am the director of SCCOOS where I manage a large network of real-time ocean observing and modeling systems that range from high-frequency radar for surface current measurements, ecosystem moorings, wave buoys, operational autonomous underwater vehicles, automated shore station measurements of water quality, seabird observations, fisheries cruise support, real-time circulation models, and harmful algal bloom and ocean acidification monitoring, data management, communications, and outreach. The role in a breadth of projects allows me to take advantage of my interdisciplinary background within an Earth System Observation framework and apply that to crucial societal issues facing the ocean. The crux of my job is team work, whether that be my programmatic and data management team, SCCOOS governance boards, teams of science PIs for targeted projects, stakeholder partners, or the entire U.S. Integrated Ocean Observing System (IOOS) enterprise.

EDUCATION

Ph.D. University of California, Santa Barbara, Marine Science, 2007

B.A. University of California, Berkeley, Integrative Biology *with honors*, Art History, 1999

HONORS AND AWARDS

2013 California Sea Grant New Investigator Award
2007-2008 National Research Council Postdoctoral Fellowship, NOAA
2004-2007 NASA Earth System Science Graduate Fellowship
2000 Departmental Scholarship, Ecology, Evolution, and Marine Biology
University of California, Santa Barbara
1998 Gompertz Undergraduate Research Fellowship, Integrative Biology,
University of California, Berkeley

RELEVANT POSITIONS HELD

2017- Executive Director, Southern California Coastal Ocean Observing System
2016-2017 Deputy Director, Southern California Coastal Ocean Observing System
2015- Research Faculty (Asst Researcher II) – Institute of Marine Sciences, UC Santa Cruz

2014- Lecturer, Ocean Sciences Department, UC Santa Cruz
 2013-2014 Research Faculty (Asst Researcher I) – Institute of Marine Sciences, UC Santa Cruz
 2010-2012 Postdoctoral Research Associate- University of California, Santa Cruz (Ocean Sciences Department, advisor: Raphael Kudela)
 2009-2010 Postdoctoral Research Associate-University of South Carolina, co-located at UC Santa Cruz with field work in the Santa Barbara Channel (Department of Geological Sciences, advisor: Claudia Benitez-Nelson)
 2008-2009 Postdoctoral Research Associate- University of California, Santa Cruz (Ocean Sciences Department, advisor: Raphael Kudela)
 2008-2010 Visiting Assistant Research Scientist- University of Maryland (Earth System Science Interdisciplinary Center, PI: Raghu Murtugudde)
 2007-2008 National Research Council Postdoctoral Associate –NOAA (National Environmental Satellite, Data, and Information Service, supervisor: Christopher Brown)

PUBLICATIONS

- Bernstein, S., Ruiz-Cooley, R. I., Kudela, R., Anderson, C. R., Dunkin, R., & Field, J. C. (2021). **Stable isotope analysis reveals differences in domoic acid accumulation and feeding strategies of key vectors in a California hotspot for outbreaks.** *Harmful Algae*, *110*, 102117. doi: [10.1016/j.hal.2021.102117](https://doi.org/10.1016/j.hal.2021.102117)
- Estes, M., Anderson, C., Appeltans, W., Bax, N., Bednaršek, N., Canonico, G., ... Weatherdon, L. V. (2021). **Enhanced monitoring of life in the sea is a critical component of conservation management and sustainable economic growth.** *Marine Policy*, *132*, 104699. doi: [10.1016/j.marpol.2021.104699](https://doi.org/10.1016/j.marpol.2021.104699)
- Kahru, M., Anderson, C., Barton, A. D., Carter, M. L., Catlett, D., Send, U., ... Mitchell, B. G. (2021). **Satellite detection of dinoflagellate blooms off California by UV reflectance ratios.** *Elementa-Science of the Anthropocene*, *9*(1). doi: [10.1525/elementa.2020.00157](https://doi.org/10.1525/elementa.2020.00157)
- Muller-Karger, F., Kavanaugh, M., Iken, K., Montes, E., Chavez, F., Ruhl, H., ... Anderson, C., Bates, A., Sousa-Pinto, I., Masahiro, N., Soares, J. (2021). **Marine Life 2030: Forecasting changes to ocean biodiversity to inform decision-making: A critical role for the Marine Biodiversity Observation Network (MBON).** *Marine Technology Society Journal*, *55*(3), 84-85. doi: [10.4031/MTSJ.55.3.28](https://doi.org/10.4031/MTSJ.55.3.28)
- Canonico, G., Anderson, C., McCammon, M., Newton, J., & Quintrell, J. (2021). **Ecological forecasts for a rapidly changing coastal ocean.** *Marine Technology Society Journal*, *55*(3), 64-65. doi: [10.4031/MTSJ.55.3.23](https://doi.org/10.4031/MTSJ.55.3.23)
- Bresnahan, P., T. Wirth, T. Martz, K. Shipley, V. Rowley, C.R. Anderson, T. Grimm. (2020) Equipping smart coasts with marine water quality IoT sensors. ***Results in Engineering***. 5. [10.1016/j.rineng.2019.100087](https://doi.org/10.1016/j.rineng.2019.100087).
- MacKenzie, B., L. Celliers, K. Larkin, L.P.F. Assad, J.J. Heymans, N. Rome, J. Thomas, C. Anderson, J. Behrens, M. Calverley, K. Desai, P. DiGiacomo + 21 authors (2019) The role of stakeholders in creating societal value from coastal and ocean observations. ***Frontiers in Marine Science*** 6:137. [10.1016/j.rineng.2019.100087](https://doi.org/10.1016/j.rineng.2019.100087)
- Anderson, C.R., E. Berdalet, R.M. Kudela, C. Cusack, J. Silke, E. O'Rourke, D. Dugan, M.

- McCammon, J.A. Newton, S.K. Moore, et al. (2019) Scaling up from regional case studies to a global harmful algal bloom observing system. *Frontiers in Marine Science*, 6: 250. doi: 10.3389/fmars.2019.00250
- C. Ramirez-Reyes, K. Brauman, R. Chaplin-Kramer, G.L. Galford, S.B. Adamo, C.B. Anderson, C., G.R.H. Allington, K.J. Bagstad, + M.T. Coe, A.F. Cord + 16 authors. (2019) Reimagining the potential of Earth observations for ecosystem service assessments. *Science of the Total Environment*. 665: 1053-1063. 10.1016/j.scitotenv.2019.02.150
- Umhau, B., C.R. Benitez-Nelson, C.R. Anderson, Thunell, R.C., McCabe, K., and Burrell, C.A. (2018) Time series of water column distributions and sinking particle flux of *Pseudo-nitzschia* and domoic acid in the Santa Barbara Basin, California. *Toxins*, 10, doi:10.3390/toxins10110480
- Anderson, C.R., K.G. Sellner, and D. M. Anderson (2017) Bloom Prevention and Control. Invited chapter for **UNESCO Manual: Desalination and Harmful Algal Blooms: A Guide to Impacts, Monitoring, and Management**, Eds: D. Anderson, S. Boerlage, and M. Dixon, 205-222.
- Karlson, B., C.R. Anderson, K.J. Coyne, R.M. Kudela, K.G. Sellner, and D. M. Anderson (2017) Designing an observing system for early detection of harmful algal blooms. **UNESCO Manual: Desalination and Harmful Algal Blooms: A Guide to Impacts, Monitoring, and Management**, Eds: D. Anderson, S. Boerlage, and M. Dixon, 89-117.
- Wells, B.K., I.D. Schroeder, S. Bograd, E.L. Hazen, M.G. Jacox, A. Leising, N. Mantua, J.A. Santora, J. Fisher, W.T. Peterson, E. Bjorkstedt, R.R. Robertson, F.P. Chavez, R. Goericke, R. Kudela, C. Anderson, + 27 authors. (2017) State of the California Current 2016-17: still anything but “normal” in the north. *CalCOFI Reports*. Vol. 58.
- Anderson C.R., R.M. Kudela, M. Kahru, Y. Chao, F. Bahr, L. Rosenfeld, D. Anderson, and T. Norris, Initial skill assessment of the California Harmful Algae Risk Mapping (C-HARM) system, *Harmful Algae*, 59, 1-18, doi: 10.106/j.hal.2016.08.006
- McClatchie, S., R. Goericke, A. Leising, T.D. Auth, E. Bjorkstedt, R.R. Robertson, R.D. Brodeur, X. Du, E.A. Daly, C. Morgan, F.P. Chavez, A.J. Debich, J. Hildebrand, J. Field, K. Sakuma, M.G. Jacox, M. Kahru, R. Kudela, C. Anderson + 25 authors (2016) State of the California Current 2015-2016: Comparisons with the 1997-98 El Nino. *CalCOFI Reports*. Vol. 57.
- Kahru, M., R.M. Kudela, C.R. Anderson, and B.G. Mitchell (2015) Optimized merger of ocean chlorophyll algorithms of MODIS-Aqua and VIIRS. *IEEE Geoscience and Remote Sensing Letters*, 12.11 (2015): 2282-2285.
- Anderson, C.R., S. Moore, M. Tomlinson, J. Silke, and C. Cusak (2015) Living with harmful algal blooms in a changing world: Strategies for modeling and mitigating their effects in coastal marine ecosystems. Invited chapter for **Coastal and Marine Hazards, Risks, and Disasters** volume, Eds: J. Ellis and D. Sherman, Elsevier B.V., <http://dx.doi.org/10.1016/B978-0-12-396483-0.00017-0>
- Bograd, S., M.M. P. Buil, E. Di Lorenzo, C. Castro, I.D. Schroeder, R. Goericke, C.R. Anderson, C. Benitez-Nelson, and F. Whitney (2015) Changes in source waters to the Southern California Bight, *Deep-Sea Research II*, Special Issue on CCE-LTER, 112:42-52.
- Kahru, M., R.M. Kudela, C.R. Anderson, M. Manzano-Sarabia, B. G. Mitchell (2014) Evaluation of satellite retrievals of ocean chlorophyll-*a* in the California Current. *Remote Sensing*, 6: 8524-8540, doi: 10.3390/rs6098524
- Kudela, R.M., S.A. Frolov, C.R. Anderson, and J.G. Bellingham (2013) Leveraging ocean

- observations to monitor and forecast harmful algal blooms: a case study of the U.S. West Coast, ***U.S. Integrated Ocean Observing System Summit Report***.
- Sekula-Wood, E.S., C.R. Benitez-Nelson, S.L. Morton, C.R. Anderson, C.W. Burrell, and R. Thunell (2011) *Pseudo-nitzschia* and domoic acid fluxes in Santa Barbara Basin (CA) from 1993 to 2008. ***Harmful Algae***, doi:10.1016/j.hal.2011.04.009
- Anderson, C.R., R.M. Kudela, C.R. Benitez-Nelson, E.S. Sekula-Wood, C. Burrell, Y. Chao, G. Langlois, J. Goodman, D.A. Siegel (2011) Detecting toxic diatom blooms from ocean color and a regional model. ***Geophysical Research Letters***, 38, L04603, doi:10.1029/2010GL045858.
- Anderson, C.R., M.R.P. Sapiano, M.B.K., Prasad, W. Long, P.J. Tango, C.W. Brown, R. Murtugudde, (2010) Predicting toxigenic *Pseudo-nitzschia* blooms in the Chesapeake Bay. ***Journal of Marine Systems***, GEOHAB Modeling Special Issue, doi 10.1016/j.jmarsys.2010.04.003.
- Prasad, M.B.K., M.R.P. Sapiano, W. Long, C.R. Anderson, R. Murtugudde (2010) Long-term variability of nutrients in the Chesapeake Bay: A retrospective analysis, 1990-2006. ***Estuaries and Coasts***, 33: 1128-1143, doi: 10.1007/s12237-010-9325-y
- Sekula-Wood, E.S., A. Schnetzer, C.R. Benitez-Nelson, C.R. Anderson, W. Berelson, J. Burns, D. Caron, J. Ferry, S.L. Morton, R. Thunell (2009) The toxin express: Rapid downward transport of the neurotoxin domoic acid in coastal waters. ***Nature Geoscience*** 2(4): 272-275, doi: 10.1038/NGEO472
- Anderson, C.R., D.A. Siegel, R.M. Kudela, M.A. Brzezinski (2009) Empirical habitat models of toxigenic *Pseudo-nitzschia* spp.: Potential use as a remote detection tool in the Santa Barbara Channel. ***Harmful Algae***, 8: 478-492, doi: 10.1016/j.hal.2008.10.005
- Anderson, C.R., D.A. Siegel, N. Guillocheau, M.A. Brzezinski (2008) Controls on temporal patterns in phytoplankton community structure in the Santa Barbara Channel, California, ***Journal of Geophysical Research-Oceans***, 113: C04038, doi:10.1029/2007JC004321.
- Anderson, C.R., M.A. Brzezinski, L. Washburn, R. Kudela (2006) Circulation and environmental conditions during a toxigenic *Pseudo-nitzschia australis* bloom in the Santa Barbara Channel, California. ***Marine Ecology Progress Series***, 327: 119-133.
- Power, M.E., W.E. Rainey, M.S. Parker, J.L. Sabo, A. Smyth, S. Khandwala, J.C. Finlay, F.C. McNeely, K. Marsee, and Anderson, C. (2004) River-to-watershed subsidies in an old growth conifer forest. In ***Food Webs at the Landscape Level***. Eds: Gary A. Polis, Mary E. Power, and Gary R. Huxel. University of Chicago Press.

INVITED TALKS

- 48th “Zeke Grader Fisheries Forum, Sem. Mike McGuire (CA), Nov 2021
- Association of Pacific Ports Conference, Ports and Climate Resilience, Oct 2021
- Marine Recreation Association, Marinas and Climate Change, Oct 2021
- NOAA Science Advisory Board, July 2021
- SIO Perspectives on Ocean Science Lecture, Birch Aquarium, June 2021
- AltaSea Open House, Feb 2021
- Coastal Oceans Pollution, Observing Systems, Ecology, and Modeling; Tijuana River Valley Webinar, Councilwoman Moreno, San Diego, Feb 2021
- UCSD Osher Lifelong Learning Institute, Dec 2020

- California Cooperative Oceanic Fisheries Investigations (CalCOFI) Conference, Dec 2020
- Scripps Institution of Oceanography Tech Innovation Webinar, July 2020
- NOAA NMFS California Current Integrated Assessment team, June 2020
- The Nature Conservancy, June 2020
- Scripps Institution of Oceanography Director's Council, June 2020
- Centro de Investigacion Cientifica y de Educacion Superior de Ensenada (CICESE), Jan 2020
- "Toxins from Space," Earth Science and Applications from Space Symposium in honor of Dr. Michael Freilich, National Academy of Sciences, D.C, Jan 2020
- Scripps Institution of Oceanography, Climate Summit, March 2019
- Congressional Briefing, Juan Vargas (CA-51), July 2019
- Phycological Society of America, Plenary Speaker, Ft. Lauderdale, FL, June 2019
21st Annual Perspectives on Science Lecture Series at Pt. Loma Nazarene Univ., May 2019
- NASA ARSET Training Workshop, Sep 2018
- U.S. Harmful Algal Bloom Symposium, Plenary Speaker, Baltimore, MD, Nov 2017
- SIO Perspectives in Ocean Science, Birch Aquarium, Sep 2017
- Marine Institute, Galway, Ireland, January 2016
- 43rd "Zeke Grader" Fisheries Forum, Sen. Mike McGuire (CA), Sacramento, CA, Feb 2016
- International Ocean Color Science Meeting, San Francisco, CA, June 2015
- Scripps Institution of Oceanography, La Jolla, CA, June 2015
- Humboldt State University, Humboldt, CA, May 2015
- Central and Northern California Ocean Observing System, Moss Landing, CA, August 2014
- Monterey Bay National Marine Sanctuary, Elkhorn Slough, CA, April 2014
- Moss Landing Marine Laboratories, Moss Landing, CA, November 2011
- NOAA Pacific Environmental Fisheries Laboratory, Pacific Grove, CA, August 2011
- Bodega Marine Laboratory, UC Davis, Bodega, CA, May 2011
- University of Hawaii SOEST, Manoa, HI, February 2011
- Scripps Institution of Oceanography, La Jolla, CA, May 2010
- West Coast Regional Harmful Algal Bloom Summit, Portland, OR, February 2009
- NASA Jet Propulsion Laboratory, Pasadena, CA, October 2008
- University of South Carolina/South Carolina Algal Ecology Laboratory, Charleston & Columbia, SC, January 2008
- University of Maryland, Earth System Science Interdisciplinary Center, October 2007
- University of Maryland, Horn Point Laboratory, Cambridge, MD, October 2007

TEACHING EXPERIENCE/MENTORING

- Currently advising Florybeth La Valle, Postdoc, SIO; Allison Moreno, Postdoc, UCLA (ECOHAB); Paige Hoel, UCLA (ECOHAB); Monica Thukral, SIO (ECOHAB); Sophie Bernstein, MLML (CA Sea Grant)

- Co-advised Aldo Hernandez, CICESE, Baja California; Paula Maria Salgado Hernanz, Universidad de las Islas Baleares (*UIB*)/UC Santa Cruz; Brett Stacey, UC Santa Cruz
- Co-advised graduate students with Professor Raphael Kudela, Ocean Sciences, UC Santa Cruz
- Instructor, OCEA 80B “Our Changing Planet,” lower division Earth System Science course, Ocean Sciences Department, UC Santa Cruz, Winter 2014
- Remote Sensing Workshop at Phycological Society of America conference, June 2019
- Mentor – NASA DEVELOP program, Summer 2014
- Guest Lecturer, Marine Environments, Professor: Jon Zehr, UC Santa Cruz, Feb 2013
- Mentor – two (female) high school students for the High School Summer Internship Program (HSSIP) at UC Santa Cruz; trained them on basic microscopy and phytoplankton identification/culturing; assisted in presentation for AGU BrightStaRS session.
- Marine Optics Lecturer, NASA NSERC Student Airborne Research Program (SARP) – Summer 2010, UC Irvine
- Environmental Processes of Oceans and Lakes – Graduate Student Instructor (four quarters) Ecology, Evolution, and Marine Biology, UC Santa Barbara
- Phycology Laboratory – Graduate Student Instructor (one quarter) Ecology, Evolution, and Marine Biology, UC Santa Barbara
- Introductory Biology Laboratory – Graduate Student Instructor (one quarter) Molecular, Cellular, and Developmental Biology, UC Santa Barbara
- Algebra I – Instructor, Math Department, Berkeley High School, 1999-2000, 5 pds/day

SPECIAL TRAINING AND WORKSHOPS

- GEOHAB Open Science Meeting on Modeling (2009, Galway, IR)
- SeaDAS data-processing short course (2009, Goddard Space Flight Center)
- Ecology of Harmful Algae (2001, Bigelow Laboratory, ME)
- Coastal Toxicology (2001, Bodega Bay, CA)
- UC Study Abroad Program, Tropical Biology (1997, Monteverde, Costa Rica)
- French Language and Civilization, Sorbonne University (Summer 1994, Paris)
- PADI Dive Certification

COMMUNITY SERVICE AND PROFESSIONAL MEMBERSHIPS

***ongoing**

- 2021 NASA DEVELOP lead mentor for interns at NASA Ames Research Center, Fall 2021*
- 2021 UN SCOR Working Group#162 – Observing Air Sea Interactions Strategy (OASIS)*
- 2021 UN Decade of the Oceans Endorsed Programme – OASIS – Steering committee*
- 2020 IOC-SCOR GlobalHAB Scientific Steering Committee, elected member*
- 2020 Advisory Board Member, The Ocean Foundation*
- 2019 SIO representative for the Western Association of Marine Laboratories (WAML)*
- 2019 Science Advisory Team to California Ocean Protection Council, elected member*
- 2019 Technical Advisory Team for a MERHAB project, PI: Raphael Kudela, invited member*
- 2019 OceanObs’19 Regional Coordination Network Committee, Active Collaborator
- 2019 Organizing Committee for GlobalHAB Modeling Workshop (2021, Glasgow, Scotland)

- 2019 Southern California Coastal Water Research Project (SCWWRP) Science Advisory Group, Model Validation and Scenarios Subcommittee
- 2019 IOOS Association - HAB Committee, elected member*
- 2019 IOOS Association - Policy Committee, elected member*
- 2019 IOOS Association - Foundation Support Committee, elected member*
- 2018 IOOS Association - Modeling Committee, elected member*
- 2018 Elected Member- National Harmful Algal Bloom Committee (NHC), elected member*
- 2018 Science Advisory Group (SAG), Southern California Bight Ocean Acidification & Hypoxia Modeling Project (SCWWRP, UCLA, UW); SAG Model Validation Subcommittee, invited member*
- 2018 Steering Committee for the E.U. Horizon 2020 Project- CoCliMe: Adapting to a Changing Marine Ecosystem, invited member*
- 2017 West Coast Ocean Forecast System Oversight Committee, invited member*
- 2017 President Elect of the Eastern Pacific Ocean Conference, EPOC (501c3)*
- 2017 Marine Modeling Working Group, Unified Modeling Framework Strategic Implemental Plan, NOAA NCEP, invited member*
- 2016 Ocean Acidification and Hypoxia Monitoring Inventory Task Force for the U.S. West Coast, Pacific Coast Collaborative (PCC) and the Interagency Working Group on Ocean Acidification (IWG-OA), invited member
- 2016 Organizing committee for U.S. CLIVAR Workshop on Ecosystem Response to ENSO, Scripps Institution of Oceanography, La Jolla, CA, Aug 2016
- 2015 Cal-HABMAP Steering Committee, elected member*
- 2015 Organizing Committee member for 8th U.S. HAB Symposium, Nov 2015
- 2014 Mentored NASA DEVELOP undergraduate team, “Analyzing Harmful Algae Blooms in Southern Right Whale Habitat Using a Suite of Satellite Earth Observation”
- 2014 External reviewer for World Ocean Assessment Capacity Building Chapters; and U.K. Defra Harmful Algal Bloom Modelling Programme
- 2013 Mentor for UCSC Science Internship Program for high school students
- 2011 Participant in Ecosystem Science Challenge Workshop, NOAA HQ, white paper
- 2011 Co-Chair of special session at World Climate Research Programme (WCRP) Open Science Conference, Denver, CO, 23-29 *October 2011*
- 2011 Chairperson of the Eastern Pacific Ocean Conference (EPOC), Fallen Leaf Lake, Lake Tahoe, CA, 11-14 *October 2011*
- 2010 Co-chair of special HAB session at AGU *Ocean Sciences Meeting*, Portland, OR
- 2010- Member of the International Society for the Study of Harmful Algae (judge for student presentations at bi-annual ICHA)*
- 2010 Marine Optics lecturer and mentor for the NASA Student Airborne Research Program, Summer 2010, UC Irvine
- 2009- *Referee for peer-reviewed publications in *Remote Sensing of Environment*, *Biogeosciences*, *Harmful Algae*, *Journal of Plankton Research*, *Aquatic Sciences*, *Revista de Biologia Marina y Oceanografia*, *Continental Shelf Research*, *Journal of Geophysical Research*, *Marine Drugs*, *Marine Ecology Progress Series*, *Progress in Oceanography*, *Journal of Marine Research*, *Chinese Journal of Oceanology and Limnology*, *Remote Sensing of Environment*, *Frontiers in Marine Science*, *Nature Scientific Reports*
- 2009- External reviewer for NOAA, NASA, NSF, and EPA funding opportunities*
- 2008- Advisor to science outreach coordinators at Ty Warner Sea Center, Santa Barbara

Museum of Natural History

- 2007 Co-chair of session at ASLO *Aquatic Sciences Meeting*, Santa Fe, NM
- 2004- Member of the American Geophysical Union and American Society for Limnology and Oceanography (regularly chair sessions and judge student presentations and posters since 2007)*
- 2004- Member of The Oceanography Society
- 2003- Women in Science and Engineering (WISE) graduate student member

CURRENTLY FUNDED PROJECTS

- NOAA IOOS Regional Association: Southern California Coastal Ocean Observing System (SCCOOS)
- NOAA IOOS Coastal Ocean and Modeling Testbed: Advancing the West Coast Ocean Forecasting System through Assessment, Model Development, and Ecological Products
- NOAA ECOHAB19: Oceanographic and Cellular Controls on Domoic Acid Production in the Central and Southern California Current System
- NOAA ECOHAB17: Integrated Modeling of Harmful Algal Genus *Pseudo-nitzschia* to Support Ecosystem Prediction and Environmental Management in the Southern California Current System
- NOAA PCMHAB20: Harmful Algal Bloom Community Technology Accelerator (i.e. development of a national HAB Data Assembly Center)
- NSF-Coastlines and People Research Coordination Network: New Technology to Inform Coastal Science and Management (RESON)
- CA Ocean Protection Council Proposition 1: Implementation of an Automated Early Warning System for Harmful Algal Bloom Events in California
- CA Ocean Protection Council/CA Sea Grant: Integrated Ocean Observing Systems for Assessing Marine Protected Areas across California
- NASA PACE Early Adopter Program: California Harmful Algae Risk Mapping (C-HARM) System