

## CURRICULUM VITAE - CHRISTOPHER LEE SABINE

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### Research and Administrative Interests

My research addresses the role of the ocean in the global carbon cycle. In particular, my work centers on interpreting ocean inorganic carbon measurements and understanding ocean acidification. This includes understanding the air-sea exchange of CO<sub>2</sub> at the ocean surface, examining the basin-scale distributions of both natural and anthropogenic carbon in the ocean’s interior, understanding multiple tracer relationships (e.g. anthropogenic CO<sub>2</sub> and dissolved oxygen), evaluating ocean carbon cycle GCMs with data-based global carbon distributions, and examining carbonate and organic matter re-mineralization within the open ocean and in coastal environments. My administrative interests are grounded in a desire to help advance science and technology more effectively at the national and international levels. I enjoy working with a broad scope of researchers and technology developers to take a “big picture” view of the current state of ocean science and contribute to the development of research directions and innovative technologies that will help both the ocean and society to prosper.

### Education

1992 Ph.D. in Oceanography, University of Hawai‘i at Mānoa, Honolulu, HI 96822 (Fred T. Mackenzie, Advisor).  
1986 B.S. in Marine Science, Texas A&M University at Galveston, Galveston, TX 77553.

### Professional History

2020-Present Associate Dean of Research, SOEST, University of Hawai‘i at Mānoa  
2018-Present Full Professor (tenured 2020), Oceanography Department, University of Hawai‘i at Mānoa  
2019-2020 Interim Associate Dean of Research, SOEST, University of Hawai‘i at Mānoa  
2019-2019 Acting Associate Dean of Research (50%), SOEST, University of Hawai‘i at Mānoa  
2007-2018 Affiliate Full Professor, Department of Oceanography, University of Washington  
2004-2018 Senior Fellow, University of Washington Joint Institute for the Study of the Atmosphere and Ocean  
2011-2018 Director, NOAA Pacific Marine Environmental Laboratory  
2008-2011 Supervisory Oceanographer, NOAA Pacific Marine Environmental Laboratory  
2002-2008 Oceanographer, NOAA Pacific Marine Environmental Laboratory  
1999-2007 Affiliate Associate Professor, Department of Oceanography, University of Washington  
1999-2002 Research Scientist, Joint Institute for the Study of the Atmosphere and the Ocean, University of Washington/NOAA Pacific Marine Environmental Laboratory.  
1994-1999 Research Staff, Program in Atmospheric and Ocean Sciences, Department of Geosciences, Princeton University.  
1992-1994 Research Associate, Program in Atmospheric and Ocean Sciences, Department of Geological and Geophysical Sciences, Princeton University.  
1987-1992 Graduate Research Assistant, Hawaii Institute of Geophysics, University of Hawaii at Manoa.  
1986-1987 Research Technician, University of Texas Medical Branch, Department of Microbiology  
1985 Summer Intern, Harbor Branch Foundation Inc., Marine Geology Department, Ft. Pierce, FL (C. Hoskin, Advisor)

### Scholarships and Awards

- 2018 Department of Commerce Bronze Medal for strengthening NMFS-OAR collaborations through the pioneering use of a Saildrone for next-generation ecosystem surveys in the Bering Sea (Pacific Marine Environmental Laboratory 2016 Saildrone Team).
- 2017 Department of Commerce Bronze Medal for creating the Global Ocean Acidification Observing Network, a collaborative international approach to document the progress of ocean acidification.
- 2014 NOAA Administrator's Award for scientific expertise, leadership and outstanding contributions to the IPCC 5<sup>th</sup> Assessment Report
- 2013 AGU Fellow
- 2012 Honorary Doctor of Science Degree from Gustavus Adolphus College
- 2011 NOAA Technology Transfer Award
- 2010 Seattle Federal Executive Board's 2010 Public Service Award for Space Needle CO<sub>2</sub> sensor outreach project with the Pacific Science Center
- 2009 NOAA Research Employee of the Year (leadership)
- 2009 NASA Group Achievement Award for outstanding accomplishments and interagency collaboration in the Southern Ocean Gas Exchange Experiment 2008.
- 2009 American Geophysical Union Editor's Citation for Excellence in Refereeing from Geophysical Research Letters
- 2009 OAR Outstanding Scientific Paper Award "Feely, R.A., C.L. Sabine, J.M. Hernandez-Ayon, D. Ianson, and B. Hales (2008): Evidence for upwelling of corrosive "acidified" water onto the Continental Shelf. *Science*, 320(5882), doi: 10.1126/science.1155676, 1490–1492."
- 2008 PMEL Outstanding Scientific Paper Award "Sabine, C.L., and R.A. Feely (2007): The oceanic sink for carbon dioxide. In *Greenhouse Gas Sinks*, D. Reay, N. Hewitt, J. Grace, and K. Smith (eds.), CABI Publishing, Oxfordshire, UK, 31–49."
- 2008 NOAA/OAR Special Act Award
- 2007 Special recognition from IPCC for contributing to the 2007 Nobel Peace Prize.
- 2007 NOAA employee of the month for October 2007.
- 2006 Department of Commerce Gold Medal Award for pioneering research leading to the discovery of increased acidification in the world's oceans due to the absorption of carbon dioxide.
- 2005 PMEL Outstanding Scientific Paper Award "Sabine, C.L., R.A. Feely, N. Gruber, R.M. Key, K. Lee, J.L. Bullister, R. Wanninkhof, C.S. Wong, D.W.R. Wallace, B. Tilbrook, F.J. Millero, T.-H. Peng, A. Kozyr, T. Ono, and A.F. Rios (2004): The oceanic sink for anthropogenic CO<sub>2</sub>. *Science*, 305(5682), 367-371."
- 2005 NOAA Outstanding Scientific Paper Award "Feely, R.A., C.L. Sabine, K. Lee, W. Berelson, J. Kleypas, V.J. Fabry, and F.J. Millero (2004): Impact of anthropogenic CO<sub>2</sub> on the CaCO<sub>3</sub> system in the oceans. *Science*, 305(5682), 362-366."
- 2005 NOAA/OAR Significant Achievement Award
- 2004 NOAA/OAR Significant Achievement Award
- 2004 NOAA/OAR Special Act Award
- 2003 NOAA/OAR Significant Achievement Award
- 2002 NOAA Outstanding Scientific Paper Award "Feely, R.A., C.L. Sabine, T. Takahashi, and R. Wanninkhof (2001): Uptake and storage of carbon dioxide in the oceans: The global CO<sub>2</sub> survey. *Oceanography*, 14(4), 18–32."
- 1999 Technical Communications Merit Award, Society for Technical Communication, for technical report "Surface water and atmospheric underway carbon data obtained during the World Ocean Circulation Experiment Indian Ocean cruises (R/V Knorr, December 1994-January 1996), NDP64."
- 1989 ARCS Scholarship Award, Achievement Rewards for College Scientists Foundation Inc.
- 1986 C. D. Mickey Award for excellence in marine chemistry, Texas A&M University at Galveston.
- 1986 Full scholarship to attend summer course in Sediment-Organism Relationships, Bermuda Biological Station (F. T. Mackenzie, Professor).
- 1985, 1986 Troy Sweatnam Memorial Scholarship, Texas A&M University at Galveston.

### Professional Societies

American Geophysical Union

## The Oceanography Society

### Synergistic Activities

- 2018-present IOC Integrated Ocean Carbon Research (IOC-R) Working Group Co-chair
- 2017-present trainer for Global Ocean Acidification – Observing Network (GOA-ON) capacity building workshops (Mauritius – August 2017, Fiji – October 2017, Hawaii – August 2018, Colombia – January 2019)
- 2019-2020 Chair, search committee for SOEST Hawaii Institute of Geophysics and Planetology director
- 2018-2019 UH Oceanography Marine Geology and Geochemistry Division Head
- 2018-2019 UH Oceanography Space Committee
- 2018-2019 UH Oceanography Departmental Personnel Committee
- 2018-2019 UH Oceanography Faculty Search Committee for 3 hires
- 2017-2019 OceanObs'19 Program Committee
- 2015-2019 Shell Ocean Discovery XPRIZE Scientific Advisory Board
- 2017-2018 member of U.S.-China Joint Scientific Experts Group (JSEG)
- 2017-2018 co-chair of NOAA's Western Regional Coordination Team (NOAA West)
- 2016-2018 member of OAR Performance Management and Awards Committee (PMAC)
- 2013-2018 member of Joint Institute for the Study of the Atmosphere and the Ocean (JISAO) Executive Board
- 2013-2018 member of Joint Institute for Marine and Atmospheric Research (JIMAR) Executive Board
- 2011-2018 member of Cooperative Institute for Alaska Research (CIFAR) Executive Board
- 2011-2018 member of Cooperative Institute for Marine Resources Studies (CIMRS) Executive Board
- 2011-2018 member of NOAA Senior Research Council
- 2010-2018 member of Interagency Working Group on Ocean Acidification chartered under JSOST
- 2013-2015 Wendy Schmidt Ocean Health XPRIZE Scientific Advisory Board
- 2013-2016 member of NOAA Libraries Advisory Committee
- 2009-2014 co-chair of the Global Ocean Ship-based Hydrographic Investigations Panel (GO-SHIP)
- 2010-2013 Coordinating Lead Author for IPCC Working Group 1 Chapter 6
- 2010-2011 ex-officio SSC member for U.S. Ocean Carbon and Biogeochemistry Program
- 2006-2011 member of Ocean Carbon and Biogeochemistry Time-Series Advisory Committee
- 2005-2011 member of PICES section on Carbon and Climate
- 2003-2011 Member of the US CLIVAR/CO<sub>2</sub> Repeat Hydrography Oversight Committee
- 2008-2011 co-chair of the Carbon Cycle Science Working Group (develop a new US CCS Plan)
- 2004-2011 Chair of IOC/SCOR International Ocean Carbon Coordination Project (IOCCP)
- 2007-2010 member of International Repeat Hydrography Advisory Group
- 2008-2010 advisory group for the *Ronald H. Brown*
- 2005-2009 Scientific Steering Committee member for U.S. Ocean Carbon and Climate Change Program
- 2005-2009 Scientific Steering Committee member for U.S. Ocean Carbon and Biogeochemistry Program
- 2004-2008 Scientific Steering Committee member for U.S. North American Carbon Program
- 2004-2006 Contributing author to IPCC Fourth Assessment Report
- 2001-2006 Scientific Steering Committee member for IGBP/IHDP/WCRP Global Carbon Project
- 2003-2005 Lead author for IPCC Special Report on carbon dioxide capture and storage
- 2002-2005 Member of PICES Working Group 17: Biogeochemical Data Integration and Synthesis
- 2001-2005 Member of International CLIVAR/CLIC Southern Ocean panel
- 2001-2004 Working Group for the Implementation of the North American Carbon Program (NACP)
- 2002-2004 Working Group for the Implementation of Ocean Carbon and Climate Change (OCCC) Program
- 2001-2004 Member of US CLIVAR Southern Ocean panel
- 2000-2003 Member of IGBP Integrated Global Carbon Observing (IGCO) theme team
- 1998-2003 Member of CARbon dioxide IN the Atlantic (CARINA)

### Cruise Experience 30 research cruises (cumulative of ~2 years at sea), 6 as chief or co-chief scientist

- 2/24/18- R/V Kilo Moana; Hawaii Ocean Time-series Station
- 2/28/18 ALOHA; sponsored by NSF

5/14/15-  
5/19/15 R/V Kilo Moana Wendy Schmidt Ocean Health X-Prize Sea Trials  
sponsored by X-Prize Foundation (co-chief scientist)

2/29/08-  
4/12/08 Ronald H. Brown Southern Ocean Gasex  
sponsored by NOAA (chief scientist)

5/11/07-  
6/14/07 R/V Wecoma NACP West Coast Cruise  
sponsored by NOAA (chief scientist)

2/13/06-  
3/3/06 R/V Thomas G. Thompson Carbon/CLIVAR P16N  
sponsored by NSF&NOAA (chief scientist)

1/9/05-  
2/20/05 R/V Revelle Carbon/CLIVAR P16S  
sponsored by NSF&NOAA COSP

10/23/03-  
11/14/03 R/V Knorr Carbon/CLIVAR A22  
sponsored by NSF&NOAA COSP

2/2/01-  
3/8/01 Ronald H. Brown GASEX – 2001  
sponsored by NOAA/OGP

7/16/97-  
8/11/97 R/V Knorr, WOCE leg A20  
sponsored by WOCE/DOE

11/1/95-  
11/28/95 R/V Knorr; WOCE leg I10  
sponsored by WOCE/DOE

1/24/95-  
3/5/95 R/V Knorr; WOCE leg I9N  
sponsored by WOCE/DOE

10/5/93-  
11/10/93 R/V Thomas G. Thompson; WOCE leg P10  
sponsored by WOCE/DOE

10/6/92-  
11/26/92 R/V Knorr; WOCE legs P16S/P17A  
sponsored by WOCE/DOE

4/1/90-  
5/1/90 R/V Endeavor; to: Bermuda Atlantic Time-series  
Station; sponsored by University of South Florida

1/89-  
9/91 13 cruises to: Hawaii Ocean Time-series Station  
ALOHA; sponsored by JGOFS/WOCE

12/6/88-  
12/12/88 R/V Townsend Cromwell; to: Penguin Bank, Hawaii;  
sponsored by NMFS/University of Hawaii (co-chief scientist)

5/26/88-  
6/26/88 R/V Townsend Cromwell; to: Northwestern Hawaiian  
Islands; sponsored by NMFS/University of Hawaii (co-chief scientist)

11/12/87-  
11/20/87 R/V Townsend Cromwell; to: Penguin Bank, Hawaii;  
sponsored by NMFS/University of Hawaii

#### **Recent Collaborators**

D. Bakker (UEA-UK); J. Bullister (PMEL); R.H. Byrne (USF); K. Cadeira (Lawrence Livermore Nat'l. Lab.); M. Cronin (PMEL); P. Ciais (LSCE-France); E. DeCarlo (UH); A. Dickson (Scripps); S. Diggs (Scripps); S. Doney (WHOI); S. Emerson (Univ. of Wash); A. Fassbender (UW); R.A. Feely (PMEL); B. Hales (OSU); M. Ishii (MRI-Japan); G. Johnson (PMEL); R. Key (Princeton); A. Kozyr (CDIAC); M. Kramp (IOC-UNESCO - France); C. Lee (KIOST-S. Korea); K. Lee (Pohang Univ.- S. Korea); F. Mackenzie (Univ. of Hawaii); M. McPhaden (PMEL); C. Meinig (PMEL); N. Metzl (IPSL-France); J. Newton (UW); J.H. Noh (KIOST-South Korea); A. Olsen (Bjerknes Center-Norway); B. Pfeil (Bjerknes Center-Norway); M. Rhein (U. Bremen-Germany); S. Rintoul (CSIRO-Australia); C. Rödenbeck (BGC-Jena-Germany); J. Reum (UW); J. Salisbury (UNH); J. Sarmiento (Princeton); U. Send (Scripps); B. Sloyan (CSIRO-Australia); A. Sutton (PMEL); J. Swift (Scripps); T. Takahashi (LDEO); B. Tilbrook (CSIRO-Australia); D. Vandemark (UNH); R. Wanninkhof (AOML)

### **Thesis Advisor (7 total as primary) and Postgraduate-Scholar Sponsor (2 total)**

Katherine Fagan (PhD 2011, Univ. of Washington); Andrea Fassbender (masters 2010, PhD. 2014, Univ. of Washington); Nancy Williams (masters 2014, Univ. of Washington); Gwenn Hennon (PhD 2015, Univ. of Washington, committee member); Laurie Juranek (NRC postdoc, 2011-2012); Adrienne Sutton (NRC postdoc, 2012); Chris Wall (PhD 2019, Univ. of Hawaii, committee member); Evan Lechner (masters student, Univ. of Hawaii); Caroline Jackson (masters student, Univ. of Hawaii); Lucie Knor (PhD student, Univ. of Hawaii); Noah Howins (masters student, Univ. of Hawaii); Melissa Melendez (postdoc, 2020-present).

### **Classes Taught**

OCN780 (seminar) – Spring18 (lead)  
OCN 623 (Chemical Oceanography) 33% - Spring18, Spring19, Spring 20  
OCN310 (Global Environmental Change) 50% - Fall18 (lead), Fall19 (lead), Fall20 (lead)  
OCN 201 (Science of the Sea [geology/chemistry]) 33% - Spring19  
Guest lecture at WCC (discussed marine debris on OCN120 Global Environmental Challenges) Spring18  
Lecture at Coastal Ocean Environment Summer School in Ghana – Summer 2020

### **Recent Significant Abstracts, Presentations and Workshop Activities**

McKinley, GA, J. Cross, T. DeVries, J. Hauck, A. Fay, P. Landschützer, GG. Laruelle, N. Lovenduski, P. Monteiro, R. Najjar, L. Resplandy, C. Rodenbeck, **C. Sabine**, A. Sutton, R. Wanninkhof, and N. Williams (2020) Applying multiple methods to quantify the mean ocean carbon sink, *2020 Fall AGU meeting*, talk given by G. McKinley

Lovenduski, N., A Sutton, N Swart, J Fyfe, G McKinley, **C Sabine**, and N Williams (2020) The influence of COVID-related emissions reductions on surface ocean pCO<sub>2</sub> and pH, *2020 Fall AGU meeting*, talk given by N. Lovenduski

Chu, SN, AJ Sutton, BR Hales, D Manzello, JB Mickett, JM Morell, JA Newton, S Noakes, MD Ohman, VC Parker, **CL Sabine**, J Salisbury, U Send, DC Vandemark and TA Warren (2020) Recommendations for Capturing Surface and Subsurface Carbonate System Variability in U.S. Coastal and Coral Ecosystems. *2020 Ocean Sciences Meeting*, talk given by S. Chu.

Briggs, E.M., Martz, T.R., De Carlo, E.H., **Sabine, C.L.** and Howins, N. (2020) Autonomous Total Alkalinity and pH Measurements on a Barrier Reef of Kāneʻohe Bay. *2020 Ocean Sciences Meeting*, poster.

Knor, L, De Carlo, E H, Drupp, P S, Terlouw, G J, Howins, N, Mackenzie, F T, Musielewicz, S, Sutton, A J, **Sabine, C L** (2019) Hawaii's Coastal MAPCO<sub>2</sub> Network: A Decade of Observations on Tropical Coral Reefs. *2019 Fall AGU Meeting*, talk given by L. Knor.

De Carlo, E.H., L.A. Knor, N. Howins, G.J. Terlouw, F.T. Mackenzie, **C.L. Sabine**, S. Musielewicz, A.J. Sutton, T.A. Courtney, H.N. Page, and A.J. Andersson (2019) A Decade of CO<sub>2</sub> System Observations at the Coastal Ocean Hawaii Acidification Network (COHAN): What Have We Learned? *4th Global Ocean Acidification Observing Network (GOA-ON) International Workshop*, talk given by E. De Carlo.

Valauri-Orton, A., A. Puritz, **C. Sabine**, S. Chu, A. Dickson, L. Hansson, K. Currie (2019) GOA-ON in a Box: A Suite of Cost-Effective Monitoring Equipment for Collecting Weather Quality Ocean Chemistry Data, *4th Global Ocean Acidification Observing Network (GOA-ON) International Workshop*, poster.

- Sabine, C.** (2019) Global Ocean Acidification Observing Network (GOA-ON) Applied Training Course on Ocean Acidification, Santa Marta, Columbia, lead trainer.
- Bronselaer, B., Winton, M., Russell, J. L., **Sabine, C. L.** and Khatiwala, S. (2018) OC24B-0449 Agreement of CMIP5 Simulated and Observed Ocean CO<sub>2</sub> Uptake, *2018 Ocean Sciences Meeting*, poster.
- Courtney, T., Lebrato, M., Bates, N. R., Collins, A., de Putron, S. J., Garley, R., Johnson, R.J., Molinero, J. C., Noyes, T. J., **Sabine, C. L.** and Andersson, A. J. (2018) OC34A-0460 New insights into the drivers of coral and reef-scale calcification from Bermuda, *2018 Ocean Sciences Meeting*, poster.
- De Carlo, E. H., Knor, L., Drupp, P. S., Terlouw, G. J., Howins, N., Mackenzie, F. T., Musielewicz, S., Sutton, A. J. and **Sabine, C. L.** (2018) OC12A-07: Hawaii's Coastal MAPCO<sub>2</sub> Network: A Decade of Observations on Tropical Coral Reefs, *2018 Ocean Sciences Meeting*, talk given by L. Knor.
- Fassbender, A. J., Rodgers, K. B., Palevsky, H. I. and **Sabine, C. L.** (2018) OC23A-04: Drivers of Seasonal pCO<sub>2</sub> Variability at Subtropical-Subpolar Boundaries and the Evolution of Sea-Air CO<sub>2</sub> Fluxes through 2100 Under the RCP8.5 Concentration Pathway, *2018 Ocean Sciences Meeting*, talk given by A. Fassbender.
- Howden, S. D., Sutton, A. J., **Sabine, C. L.**, Cambazoglu, F. K. and Soto Ramos, I. M. (2018) OC34B-0481 Ocean Acidification Monitoring in the Western Mississippi Bight, *2018 Ocean Sciences Meeting*, poster.
- Sutton, A. J., Feely, R. A. and **Sabine, C. L.** (2018) OC23A-02: Surface ocean carbon from days to decades: unique signals emerging from moored autonomous time series, *2018 Ocean Sciences Meeting*, talk given by A. Sutton.
- Thomalla, S. J., Anson, I. J., du Plessis, M., Gregor, L., Levy, M., Little, H., Maenner, S., Mahadevan, A., Ogunkoya, G., Racault, M.-F. and **Sabine, C. L.** (2018) EP11A-04: What we have Learned from SOSCEX: A High-Resolution Glider Experiment in the Sub-Antarctic Southern Ocean, *2018 Ocean Sciences Meeting*, talk given by S. Thomalla.

## Refereed Publications

- Winter, K. B., Y. M. Rii, F. A. W. L. Reppun, K. DeLaforge Hintzen, R. A. Alegado, B. W. Bowen, L. L. Bremer, M. Coffman, J. L. Deenik, M. J. Donahue, K. A. Falinski, K. Frank, E. C. Franklin, N. Kurashima, N. Kekuewa Lincoln, E. M. P. Madin, M. A. McManus, C. E. Nelson, R. Okano, A. Olegario, P. Pascua, K. L. L. Oleson, M. R. Price, M. J. Rivera, K. S. Rodgers, T. Ticktin, **C. L. Sabine**, C. M. Smith, A. Hewett, R. Kaluhiwa, M. Cypher, B. Thomas, J.-A. Leong, K. Kekuewa, J. Tanimoto, K. Kukea-Shultz, A. Kawelo, K. Kotubetey, B. J. Neilson, T. S. Lee, and R. J. Toonen. 2020. Collaborative research to inform adaptive comanagement: a framework for the He'eia National Estuarine Research Reserve. *Ecology and Society* 25(4):15. <https://doi.org/10.5751/ES-11895-250415>
- Sabine, C.**, A Sutton, K McCabe, N Lawrence-Slavas, S Alin, R Feely, R Jenkins, S Maenner, C Meinig, J Thomas, E van Ooijen, A Passmore, B Tilbrook (2020) Evaluation of a new carbon dioxide system for autonomous surface vehicles. *J. Atm. Ocn. Tech.*, DOI: 10.1175/JTECH-D-20-0010.1
- Briggs, E.M., De Carlo, E.H., **Sabine, C.L.**, Howins, N.M., and Martz T.R. (2020) Autonomous Ion-Sensitive Field Effect Transistor-Based Total Alkalinity and pH Measurements on a Barrier Reef of Kāne'ohe Bay. *ACS Earth and Space Chem*, 4 (3), 355-362, DOI: 10.1021/acsearthspacechem.9b00274
- Carter, B.R., Feely, R.A., Wanninkhof, R., Kouketsu, S., Sonnerup, R.E., Pardo, P.C., **Sabine C.L.**, Johnson, G. C., Sloyan, B.M., Murata, A., Mecking, S., Tilbrook, B., Speer, K., Talley, L.D., Millero, F.J., Wijffels, S.E., Macdonald, A.M., Gruber, N., Bullister, J. L. (2019) Pacific anthropogenic carbon between 1991 and 2017. *Global Biogeochem. Cycles*, 10.1029/2018GB006154.
- Terlouw, G.J., De Carlo, E.H., Drupp, P.S., Knor, L., Mackenzie, F.T., Li, Y.-H., Sutton, A.J., Pleuddemann, A.J., and **Sabine, C.L.** (2019) Hawaii Coastal MAPCO<sub>2</sub> Network: A statistical evaluation of eight years of observations on tropical coral reefs. *Frontiers in Marine Science*, doi: 10.3389/fmars.2019.00226.
- Gruber, N., D. Clement, B.R. Carter, R.A. Feely, S. van Heuven, M. Hoppema, M. Ishii, R.M. Key, A. Kozyr, S. Lauvset, C. Le Monaco, J.T. Mathis, A. Murata, A. Olsen, F.F. Perez, **C.L. Sabine**, T. Tanhua, and R. Wanninkhof (2019): The oceanic sink for anthropogenic CO<sub>2</sub> from 1994 to 2007. *Science*, 363(6432), 1193–1199, doi: 10.1126/science.aau5153
- Fassbender, A.J., Rodgers, K.B., Palevsky, H.I., and **C.L. Sabine** (2018) Seasonal asymmetry in the evolution of surface ocean pCO<sub>2</sub> and pH thermodynamic drivers and the influence on sea-air CO<sub>2</sub> flux. *Global Biogeochem. Cycles*, 10.1029/2017GB005855.

- Sabine, C.L.** (2018): Hot and sour in the deep ocean. *Nature Clim. Change*, 7(12), 854–855, doi: 10.1038/s41558-017-0018-4.
- Bronselaer, B., M. Winton, J. Russell, **C.L. Sabine**, and S. Khatiwala (2017): Agreement of CMIP5 simulated and observed ocean anthropogenic CO<sub>2</sub> uptake. *Geophys. Res. Lett.*, 44, doi: 10.1002/2017GL074435.
- Courtney, T.A., M. Lebrato, N.R. Bates, A. Collins, S.J. de Putron, R. Garley, R. Johnson, J.C. Molinero, T.J. Noyes, **C.L. Sabine**, and A.J. Andersson (2017): Environmental controls on modern scleractinian coral and reef-scale calcification. *Sci. Adv.*, 3(11), e1701356, doi: 10.1126/sciadv.1701356.
- Xue, L., W.-J. Cai, A.J. Sutton, and **C.L. Sabine** (2017): Sea surface aragonite saturation state variations and control mechanisms at the Gray's Reef time-series site off Georgia, USA (2006–2007). *Mar. Chem.*, 195, 27–40, doi: 10.1016/j.marchem.2017.05.009.
- Sutton, A.J., R. Wanninkhof, **C.L. Sabine**, R.A. Feely, M.F. Cronin, and R.A. Weller (2017): Variability and trends in surface seawater pCO<sub>2</sub> and CO<sub>2</sub> flux in the Pacific Ocean. *Geophys. Res. Lett.*, 44(11), 5627–5636, doi: 10.1002/2017GL073814.
- Reimer, J.J., W.-J. Cai, L. Xue, R. Vargas, S. Noakes, X. Hu, S.R. Signorini, J.T. Mathis, R.A. Feely, A.J. Sutton, **C.L. Sabine**, S. Musielewicz, B. Chen, and R. Wanninkhof (2017): Time series pCO<sub>2</sub> at a coastal mooring: internal consistency, seasonal cycles, and interannual variability. *Cont. Shelf Res.*, 145, 95–108, doi: 10.1016/j.csr.2017.06.022
- Fassbender, A.J., **C.L. Sabine**, and H.I. Palevsky (2017): Nonuniform ocean acidification and attenuation of the ocean carbon sink. *Geophys. Res. Lett.*, 44(16), 8404–8413, doi: 10.1002/2017GL074389.
- Okazaki, R.R., A.J. Sutton, R.A. Feely, A.G. Dickson, S.R. Alin, **C.L. Sabine**, P.M.E. Bunje, and J.I. Virmani (2017): Evaluation of marine pH sensors under controlled and natural conditions for the Wendy Schmidt Ocean Health XPRIZE. *Limnol. Oceanogr. Methods*, 15, 586–600, doi: 10.1002/lom3.10189.
- Fassbender, A.J., **C.L. Sabine**, M.F. Cronin, and A.J. Sutton (2017): Mixed layer carbon cycling at the Kuroshio Extension Observatory. *Global Biogeochem. Cycles*, 31, doi: 10.1002/2016GB005547
- Carter, B.R., R.A. Feely, S. Mecking, J.N. Cross, A.M. Macdonald, S.A. Siedlecki, L.D. Talley, **C.L. Sabine**, F.J. Millero, J.H. Swift, and A.G. Dickson (2017): Two decades of Pacific anthropogenic carbon storage and ocean acidification along GO-SHIP Sections P16 and P02. *Global Biogeochem. Cycles*, 31, doi: 10.1002/2016GB005485
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