

CURRICULUM VITAE

PERSONAL INFO:

Samantha Siedlecki
College of Liberal Arts and Sciences
Department of Marine Sciences
University of Connecticut
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EDUCATION:

- 2010 University of Chicago, Chicago, IL
PhD in Oceanography: *The Role of the Bottom Boundary Layer in Biogeochemical Cycles of the Coastal Ocean*. Advisor: David Archer
- 2002 Eckerd College, St. Petersburg, FL
B.S. Marine Science, Concentration: Marine Geology
Thesis: *Pleistocene Orbital-Scale Depositional Cycles along the Shelf Margin of the Great Australian Bight: Paleoclimatic Implications*. Advisor: Gregg Brooks

PROFESSIONAL AND RESEARCH EXPERIENCE:

- 2017- *Assistant Professor*, Department of Marine Sciences, College of Liberal Arts and Sciences, University of Connecticut
- 2012-2017 *Research Associate*, Joint Institute for the Study of the Atmosphere and Ocean (JISAO), Univ. of Washington
- 2016 *Kavli Fellow*, participant, Chinese-American Kavli Frontiers of Science symposium
- 2015 (April –May) *Co-Chief Scientist*, CLIVAR Repeat Hydrography Cruise Leg 1 of P16, April 2015
- 2010-2012 *Postdoctoral Research Fellow*, Joint Institute for the Study of the Atmosphere and Ocean (JISAO) and Program on Climate Change (PCC), University of Washington
- 2010 *Participant*, Dissertations in Chem. Oceanography (DISCO) XXII
- 2002-2010 *Graduate Research Assistant*, Department of Geophysical Sciences, University of Chicago
- 2000 -2002 *Research Assistant*, Paleoceanography Lab, Univ. of South Florida
- 1998-2002 *Undergraduate Research Assistant*, Department of Marine Science, Eckerd College

PEER-REVIEWED PUBLICATIONS:

14. Bednaršek, N., R.A. Feely, N. Tolimieri, A.J. Hermann, S.A. Siedlecki, H.O. Pörtner, G.G. Waldbusser, P. McElhany, S.R. Alin, and J. Menkel (2017): Exposure history determines pteropod vulnerability to ocean

acidification along the US West Coast. *Scientific Reports* 7,
Article number: 4526, doi:10.1038/s41598-017-03934-z

13. Carter, B.R., Feely, R.A., Mecking, S., Cross, J. N., Macdonald, A.M., **Siedlecki, S.A.** Talley, L., Sabine, C. L., Millero, R., Swift, J.H. , and Dickson, A. G., (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.
12. Tommasi, D., Stock, C., Hobday, A., Methot, R., Kaplan, I., Eveson, P., Holsman, K., Miller, T., Gaichas, S., Gehlen, M., Pershing, A., Vecchi, G., Msadek, R., Delworth, T., Eakin, M., Haltuch, M., Sefarian, R., Spillman, C., Hartog, J., **Siedlecki, S.**, Samhuri, J., Muhling, B., Asch, R., Pinsky, M., Saba, V., Kapnick, S., Gaitan, C., Rykaczewski, R., Alexander, M., Xue, Y., Pegion, K., Lynch, P., Payne, M., Kristiansen, T., Lehodey, P., and C. Werner. (*accepted*) Managing living marine resources in a dynamic environment: the role of seasonal to decadal climate forecasts, *Progress in Oceanography*
11. S. McClatchie, A. R. Thompson, S. R. Alin, S. J. Bograd, **S.A. Siedlecki**, W. Watson, (2016) The influence of Pacific Equatorial Water on fish diversity in the southern California Current System, *JGR-Oceans*, doi:10.1002/2016JC011672
10. **Siedlecki, S.A.**, Kaplan, I.C., Hermann, A., Nguyen, T., Bond, N., Williams, G., Newton, J., Peterson, W. T., Alin, S., and R.A. Feely (2016) Experiments with Seasonal Forecasts of ocean conditions for the Northern region of the California Current upwelling system, *Nature: Scientific Reports* 6, doi:10.1038/srep27203
9. Harrison, C.S., Hales, B., **Siedlecki, S.A.**, and Samelson, R.M., Potential and timescales for oxygen depletion in coastal upwelling systems: Idealized model analysis (2016) *JGR-Oceans* 121, doi:10.1002/2015JC011328.
8. Kaplan, I. C., Williams, G. D., Bond, N. A., Hermann, A. J. and **Siedlecki, S. A.** (2016), Cloudy with a chance of sardines: forecasting sardine distributions using regional climate models. *Fisheries Oceanography*, 25: 15–27. doi: 10.1111/fog.12131
7. **Siedlecki, S.A.**, Banas, N., Davis, K.A., Giddings, S., Hickey, B.M., MacCready, P., Connolly, T., and S. Geier, Seasonal and interannual oxygen variability on the Washington and Oregon continental shelves, (2015), *J. Geophys. Res. Oceans*, 120, DOI: 10.1002/2014JC010254
6. Davis, K. A., N. S. Banas, S. N. Giddings, **S. A. Siedlecki**, P. MacCready, E. J. Lessard, R. M. Kudela, and B. M. Hickey (2014), Estuary-enhanced upwelling of marine nutrients fuels coastal productivity in the U.S. Pacific Northwest, *J. Geophys. Res. Oceans*, 119, 8778–8799, doi:10.1002/2014JC010248.
5. Giddings, SN, MacCready, P, Hickey, BM, Banas, NS, Davis, KA,

- Siedlecki, SA**, Trainer, VL, Kudela, RM, Pelland, NA, and Connolly, TP. (2014) Hindcasts of harmful algal bloom transport on the Pacific Northwest coast, *JGR-oceans*, 119(4), 2439-2461. doi: 10.1002/2013/JC009622.
4. **Siedlecki, SA**, Mahadevan, A, and Archer, DE (2012) The Coastal Ocean as a Supplier of Global Iron: Mechanisms for Iron Export in an Upwelling Regime, *Geophysical Research Letters* **39**, DOI:10.1029/2011GL050366
 3. **Siedlecki SA**, Archer, DE, and Mahadevan, A (2011) Mechanisms for nutrient exchange and ventilation in the coastal ocean: an idealized model for the East Coast of the US, *Journal of Geophysical Research – Oceans* **116**
 2. Loubere P, **Siedlecki SA**, and Bradtmiller LI (2007) Organic carbon and carbonate fluxes: Links to climate change *DEEP-SEA RESEARCH PART II-TOPICAL STUDIES IN OCEANOGRAPHY* **54** (5-7): 437-446
 1. Brunner, C.A., Andres, M., Holbourn, A.E., **Siedlecki, S.**, Brooks, G.R., Molina Garza, R.S, Fuller, M.D., Ladner, B.C., Hine, A.C., and Li, Q., 2002. Quaternary planktonic foraminiferal biostratigraphy, ODP Leg 182 sites. In Hine, A.C., Feary, D.A., and Malone, M.J. (Eds.), *Proc. ODP, Sci. Results*, 182 [Online]. Available from World Wide Web: <http://www.odp.tamu.edu/publications/182_SR/011/011.htm>.

IN PREP PUBLICATIONS:

1. **S. A. Siedlecki**, D. Pilcher, A. J. Hermann, K. Coyle, Mathis J. (*in review*) The importance of freshwater to spatial variability of aragonite saturation state in the Gulf of Alaska, *JGR-Oceans*
2. Pilcher, D.J., Siedlecki, S.A., Hermann, A.J., Coyle, K.O., Mathis, J.T., W. Evans (*submitted*) Simulated impact of high alkalinity glacial runoff on CO₂ uptake in the Coastal Gulf of Alaska, *Geophysical Research Letters*

FUNDING:

NOAA OAP (2018-2020) Enhancement of an existing ocean forecast system to include ocean acidification (PIs Alin, Feely, Siedlecki, Hermann, Bednarsek: 4 months support per year)

Wendy Schmidt Foundation (2016-2018) Evaluating Local Impacts of Ocean Acidification on the U.S. West Coast (PIs Klinger, Newton, MacCready, Deutsch, Siedlecki: 7 months support total)

NOAA MAPP (2017-2020) Title: Downscaled seasonal forecasts for living marine resource management off the US west coast (PIs Jacox, Hazen, Edwards, Fiechter, Alexander: 1 month support per year).

NOAA MAPP (2017-2020) Title: Experiments with Seasonal Forecasts of ocean conditions in the Pacific Northwest to aid the crab fishery (PIs Siedlecki, Kaplan, Hermann, Bond, Alin, Newton, Alexander: 1.5 months support per year)

NOAA FATE (2016-2018) Title: Short-term forecasting of Pacific hake distribution in the California Current Ecosystem (PIs Hunsicker, Brodeur, Haltuch, Hicks, Kaplan, Parker-Stetter, Bond, Hermann, Newton, Siedlecki: 0 months support per year)

NOAA OAP (2015-2017) Enhancement of an existing ocean forecast system to include ocean acidification (PIs Alin, Feely, Siedlecki, Hermann, Bednarek: 4 months support per year)

PRIOR FUNDING:

WOAC (2015-2017) Proposal for development of an Ocean Acidification forecast model (PIs MacCready, Siedlecki, McCabe: 4 months of support)

NASA (2013-2016) Novel Blending of Numerical/Statistical Models and Satellite Data to Improve Coastal Ocean Water Quality Predictions, (PIs Anderson, Kudela, Banas, Kahru, Siedlecki: 2 weeks support per year)

NOAA FATE (2013-2016) Refinement of J-SCOPE Forecast System for the California Current Integrated Ecosystem Assessment, (PIs Kaplan, Bond, Hermann, Levin, Newton, Peterson, Siedlecki: 3 months support per year)

AOOS (2013-2016) Creating a Coastal Carbon Model for the Northern Gulf of Alaska to Determine the Controls and Extent of Ocean Acidification Events in the Region (PIs Mathis, Siedlecki: 10 months of support)

NSF-OCE (2012-2015) Collaborative Research: Modeling coastal oxygen production and carbon sequestration, (PIs Samelson, Hales, Ackerman, Siedlecki: 1 month support per year Siedlecki)

WOAC (2013-2015) Proposal for development of an Ocean Acidification forecast model (PIs MacCready, Banas, Siedlecki: 11 months of support)

FIELD EXPERIENCE:

2015	<i>RV Brown</i> , 34 days, Co-Chief Scientist, CLIVAR Repeat Hydrography Cruise Leg 1 of P16, April-May
2007, 2009	<i>RV Corwith Cramer</i> , 7 days, Teaching Assistant, University of Chicago, Oceanography course at sea, June
2009	<i>RV Wecoma</i> , 20 days, Carbon measurements assistant (pCO ₂ , TCO ₂ , nutrients, oxygen sampling), SUCCESS cruise off the Oregon coast, June and August
2006	<i>RV Thompson</i> , 28 days, CTD watchstander, CLIVAR Repeat Hydrography Cruise Leg 2 of P16 N

TEACHING EXPERIENCE:

- 2013 Carbon and Climate – co-taught with Abby Swann, UW, Winter Quarter, graduate students
- 2015 Guest lectures – Carbon and Climate, Winter; Ethics of Geoengineering, Winter Quarter

PRESENTATIONS:

Invited Talks

Future:

Rutgers University, November 2017

Past:

- Kavli Frontiers of Science US-China symposium, October 2016
The workshop, Forecasting ENSO Impacts on Marine Ecosystems of the US West Coast, *August 2016*
- Texas A&M. January, 2016, *Predicting Hypoxia and Ocean Acidification of the coastal waters of the CCS: What do we know and what can we expect?*
- Gordon Research Conference – Coastal Ocean Modeling. June, 2015, *Predicting Hypoxia and Ocean Acidification in coastal waters: What do we know and what can we expect?*
- OAI RUG – Ocean acidification, getting ahead of the curve, Monaco, January, 2015, *Forecast Models: How good are they and how can we validate them?*
- CALCOFI Symposium - Prediction of the California Current System, Scripps Institute of Oceanography, December, 2014: *Predicting Hypoxia and Ocean Acidification of the coastal waters of the CCS: What do we know and what can we expect?*
- PCC seminar, University of Washington. November 2013: *Seasonal Forecasting of Hypoxia and Ocean Acidification on the Washington Shelf*
- IPOC seminar, University of Washington. November, 2013: *Seasonal Forecasting of Hypoxia and Ocean Acidification on the Washington Shelf*
- Chemical Oceanography seminar, University of South Florida, February, 2013: *Connecting the Biogeochemistry of the Coastal Ocean with the Open Ocean: The Role of the Bottom Boundary Layer*
- Oceanography Seminar, United States Naval Academy, March, 2013: *Connecting the Biogeochemistry of the Coastal Ocean with the Open Ocean: The Role of the Bottom Boundary Layer*
- FOCI seminar, NOAA – PMEL, February, 2011: *The role of the bottom boundary layer in biogeochemical cycles of coastal upwelling systems*
- University of Wisconsin – Madison. August, 2010: *The role of the bottom boundary layer in biogeochemical cycles of the coastal ocean*

Seminars and other Presentations:

2016

Siedlecki, S.A., MacCready, P., McCabe, R., Barth, J., Durski, S., and Newton, J. Ocean Acidification of the Pacific Northwest Coastal Waters: A Modeling Study ASLO/AGU Ocean Sciences, New Orleans, Feb 2016

Nguyen, T., **Siedlecki, S.A.**, Ackerman, T., Bond, N., Hermann, A., and Newton, J. Impact of shortwave radiation biases on ocean conditions in the Pacific Northwest waters: Results from the seasonal forecast system J-SCOPE. ASLO/AGU Ocean Sciences, New Orleans, Feb 2016

2015

Siedlecki, S.A., Alin, S. et al. Closing the North American Carbon Budget: Continental Margin Fluxes Matter! AGU Fall Meeting, San Francisco, December, 2015

2014

Siedlecki, S.A., Bond, N., Hermann, A., Feely, R., Alin, S., Hales, B., and Newton, J. Hypoxia and Ocean Acidification of the coastal waters of the Pacific Northwest: Evaluation of seasonal predictions of hypoxia and pH. ASLO/AGU Ocean Sciences, Hawaii, Feb 2014

2013

Siedlecki, S.A., Bond, N., Hermann, A., Feely, R., Alin, S., Hales, B., and Newton, J. Ocean Acidification of the coastal waters of the Pacific Northwest: A modeling study. AGU Fall Meeting, San Francisco, CA, 2013

Siedlecki, S.A., Bond, N., Hermann, A., Feely, R., Alin, S., Hales, B., and Newton, J. Hypoxia and Ocean Acidification of the coastal waters of the Pacific Northwest: Evaluation of seasonal predictions from a regional model forced with the Coupled Forecast System (CFS). CERF, San Diego, CA, 2013

2012

Siedlecki, S.A., Banas, N., Davis, K.A., Giddings, S., MacCready, P., Connolly, T., and Hickey, B. The Role of the Slope Currents in Seasonal Oxygen variability on the Pacific Northwest Continental Shelves. AGU/ASLO Ocean Sciences Meeting, Salt Lake City, 2012.

2011

Siedlecki, S.A., Banas, N., Davis, K.A., Giddings, S., MacCready, P., Connolly, T., and Hickey, B. The role of slope currents in determining the chemistry of upwelling source waters –A closer look at seasonal oxygen variation in the Pacific Northwest. Pacific Northwest Climate Conference, Seattle, 2011.

Siedlecki, S.A., Banas, N., Davis, K.A., Giddings, S., MacCready, P., Connolly, T., and Hickey, B. The role of slope currents in determining the chemistry of upwelling source waters –A closer look at seasonal oxygen variation in the Pacific Northwest. Gordon Research Conference on Coastal Oceanography, Massachusetts, 2011

2010

Siedlecki, S A, D. E. Archer, B. Hales, M. Segura-Noguera, and A. Mahadevan (2010). A Model for Export of Particulate Organic Carbon in Eastern Boundary Upwelling Systems, Abstract OS32B-06, presented at 2010 Fall Meeting, AGU, San Francisco, Calif., 13-17 Dec

Segura-Noguera, M., Ferron, S., **Siedlecki, S. A.**, Hales, B., and Ho, D. T., 2010b. Changes in the Chemical Composition of the Bottom Boundary Layer During an Upwelling Event at the Oregon Coast. Abstract OS23A-1574 presented at 2010 Fall Meeting, AGU, San Francisco, Calif., 13-17 Dec.

Siedlecki, SA, Mahadevan, A., and Archer, DE, (2010) The Coastal Ocean as a Supplier of Global Iron: Mechanisms for Iron Export in an Upwelling Regime *Eos Trans. AGU*, 91(26), Ocean Sci. Meet. Suppl., Abstract IT45A-24

Archer, DE, **Siedlecki, SA**, and Jokulsdottir, T (2010) High Resolution Measurements of Particle Size Distributions in a Coastal Upwelling System *Eos Trans. AGU*, 91(26), Ocean Sci. Meet. Suppl., Abstract GO35B-07

Hales, BR, Segura-Noguera, M, Hebert, D, Shearman, RK, and **Siedlecki, SA** Seasonal and higher frequency wind controls on the nearshore biogeochemistry of an Eastern Boundary upwelling system (Invited) *Eos Trans. AGU*, 91(26), Ocean Sci. Meet. Suppl., Abstract IT44A-05

Segura-Noguera, M, Hales, BR, **Siedlecki, SA**, Jennings, J, and Hubbard, D (2010) High-frequency ammonium measurements during an upwelling event at the Oregon coast *Eos Trans. AGU*, 91(26), Ocean Sci. Meet. Suppl., Abstract IT45A-20

2009

Siedlecki, SA, Mahadevan, A., and Archer, DE, (2009) The Coastal Ocean as a Supplier of Global Iron: Mechanisms for Iron Export in an Upwelling Regime. Eastern Pacific Ocean Conference

Siedlecki, SA, Mahadevan, A., and Archer, DE, (2009) The Coastal Ocean as a Supplier of Global Iron: Mechanisms for Iron Export on Both Coasts. Gordon Conference on Coastal Ocean Circulation

2008

Siedlecki, S.A., Mahadevan, A., and Archer, D., (2008), The Role of Shelf Break Upwelling Along the East Coast of the US in the Coastal Carbon Cycle: A Model's Tale, *Eos Trans. AGU*, 89(53), Fall. Meet. Suppl., Abstract OS53C-1322.

2007

Siedlecki, S.A., Mahadevan, A., and Archer, D.E., (2007) Modeling the supply of nutrients to the coastal ocean: The role of a shelf break front. Gordon research conference on Coastal Ocean Modeling.

2006

Deringer, S.A., Mahadevan, A., Hales, B., and Archer, D.E., (2006), The Role of the Benthic Boundary Layer in Frontal Stability and Cross-shelf Exchange: An Idealized Model of the East Coast of the United States, *Eos Trans. AGU*, 87(52), Ocean Sci. Meet. Suppl., Abstract OS11C-1506.

Jokulsdottir, T., **Deringer, S.**, and Archer, D., (2006), A One Dimensional Model of Particle Flux in the Water Column, *Eos Trans. AGU*, 87(36), Ocean Sci. Meet. Suppl., Abstract OS26A-23

Deringer, S. A., Archer, D.E., and Mahadevan, A., (2006), Cross-Shelf Exchange and the Coastal Organic Carbon Cycle: an Idealized Model of the East Coast of the United States, *Eos Trans. AGU*, 87(36), Ocean Sci. Meet. Suppl., Abstract OS25G-23

2005

Deringer, S. A., Archer, D.E., and Mahadevan, A., (2005), How do Particle Dynamics on a Passive Margin Influence the Coastal Carbon Cycle?: An Idealized Model of the East Coast of the United States, *Eos Trans. AGU*, 86(52), Fall Meet. Suppl., Abstract OS51A-0557.

Jokulsdottir, T., Archer, D.E., and **Deringer, S.A.** (2005) The Control of Ballast on the Particulate Organic Carbon Sinking Flux to the Seafloor. Chapman Conference on the Role of Marine Organic Carbon and Calcite Fluxes in Driving Global Climate Change, Past and Future

2004

Siedlecki, S.A., Archer, D., and Mahadevan, A. (2004), Export and Cycling of Continental Shelf Carbon: A Modeling Study, *Eos Trans. AGU*, 85(47), Fall Meet. Suppl., Abstract OS41B=0482

Siedlecki, S.A., Archer, D., and Mahadevan, A. An Idealized Model of Organic Carbon Dynamics on the Continental Margin of the Eastern United States. *Eos Trans. AGU*, 84(46), Fall Meet. Suppl., Abstract OS31C-0215, 2003

Siedlecki, S.A., Brooks, G.R., Brunner, C., Hine, A.C., Flower, B.P., Hastings, D.W., and Mallinson, D., Shelf Sediment Export Controlled by Pleistocene Ice Volume Fluctuations From the Cool Water Carbonate Slope of the Great Australian Bight: ODP Site 1130. *Eos Trans. AGU*, 82(47), Fall Meet. Suppl., Abstract PP52A-0566, 2001

PROFESSIONAL SERVICE:

- 2016 - Co-author NCA4 Chapter on Oceans and Marine Resources
- 2016 - Co-author SOCCR Chapter on Coastal Oceans
- 2011 - Co-lead for the Northern CCS, North American Carbon Program Coastal Interim Synthesis Activity, 2011–present
- 2015, 2016 - Summer High School Internship in Aquatic Chemistry Mentor

Curriculum Vitae: Samantha Siedlecki

- 2015 Co-Conference Chair, EPOC, Fallen Leaf Lake, CA
2013 Co-convener, CERF, *Modeling Ocean Acidification in the Coastal Ocean and Estuaries*
2012 Co-convener, EPOC, *Deoxygenation and acidification in waters of the Eastern Pacific*
2011 Co-convener, AGU, *Eastern Boundary Ocean Margin Carbon Cycles*

NSF- OCE, CO proposal review

NSF – OCE, PO proposal review

NASA and NOAA Proposal Review Panelist

Reviewer for Journals: Journal of Geophysical Research, Geophysical Research Letters, Journal of Physical Oceanography, Science of the Total Environment, Biogeosciences, Progress in Oceanography, Global Biogeochemical Cycles