
SARAH SCHLUNEGGER

Postdoctoral Researcher, Princeton University

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Program in Atmospheric and Oceanic Science

EDUCATION

PRINCETON UNIVERSITY *CLASS of 2019*

Princeton, NJ

PhD, Atmospheric and Oceanic Sciences

CORNELL UNIVERSITY *CLASS of 2014*

Ithaca, NY

B. S. Atmospheric Science, Magna Cum Laude with Distinction in Research

RESEARCH FOCUS

The ocean provides a climate service by absorbing excess heat and carbon from the atmosphere, thereby slowing the pace of rising global temperatures. This service, however, comes with penalty -- namely ocean acidification and ocean warming. My research identifies when and where changes in the ocean heat/carbon sinks occur, and when their resulting impacts on marine chemistry and ecosystems will be detectable. I utilize numerical models and observations of the Earth System to assess recent and predict future changes in the global oceans.

PUBLICATIONS

Schlunegger S., K. Rodgers, J.L. Sarmiento, J.P. Dunne, T.L. Frölicher, R. Slater, M. Ishii (2019). Emergence of anthropogenic signals in the ocean carbon cycle. *Nature Climate Change*. doi:10.1038/s41558-019-0553-2

Schlunegger S. (2019). Natural Variability in a Changing Ocean: Emergence and Impacts (Doctoral dissertation). Princeton University, ProQuest Dissertations Publishing. Accession No. 13886236.

Rodgers K. B., M. Ishii; T. L. Frölicher, **S. Schlunegger**, O. Aumont, K. Toyama, R.D. Slater (2019) Coupling of Surface Ocean Heat and Carbon Perturbations Over the Subtropical Cells under 21st Century Climate Change. *In revision Journal of Climate*.

Mahowald N. M., J.T. Randerson, K. Lindsay, E. Munoz, S. C. Doney, P. Lawrence, **S. Schlunegger**, D.S. Ward, D. Lawrence, and F. M. Hoffman (2017), Interactions between land use change and carbon cycle feedbacks. *Global Biogeochemical Cycles* 31 (1), 96-113

Dufour C. O., I. Frenger, T. L. Frölicher, A. R. Gray, S. M. Griffies, A. K. Morrison, J. L. Sarmiento, **S. Schlunegger** (2015) Anthropogenic carbon and heat uptake by the ocean: Will the Southern Ocean remain a major sink?, *US Clivar Variations* 13 (4), 1-7

RESEARCH FELLOWSHIPS, GRANTS & EXPERIENCES

NASA Earth Science Division, Research Grant

2017-2020

Project title: Emergence of anthropogenic trends in the solubility and biological ocean carbon pumps

Max-Planck Institute for Meteorology, Hamburg, DE

2018

Visiting Scientist

Princeton Energy and Climate Scholar Fellowship

2017-2019

National Oceanic and Atmospheric Administration (NOAA) Graduate Funding

2015-2017

Project title: Strong Trade Winds and The Recent Equatorial Pacific Carbon Source

TEACHING / ADVISING

Assistant Instructor | Lab instructor for 'Ocean, Atmosphere, and Climate', an introductory course for incoming Geoscience majors at Princeton University.

2017

Advising | Research supervisor for Princeton Environmental Institute undergraduate intern program.

2016-2018