

Una Kim Miller

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Education

Columbia University PhD in Ocean and Climate Physics	Expected 2022
Columbia University M.Phil. in Ocean and Climate Physics	2020
Columbia University M.A. in Ocean and Climate Physics	2018
University of Washington B.S. in Oceanography	2015

Research Interests

Air-sea interaction, boundary layer turbulence, Antarctic polynya dynamics, Southern Ocean water mass modification

Research Experience

Graduate research fellow, Columbia University <i>Advised by Dr. Christopher J. Zappa</i>	2016-present
Staff researcher, University of Washington <i>Advised by Dr. H. Paul Johnson</i>	2015-2016
Undergraduate researcher, University of Washington <i>Advised by Dr. H. Paul Johnson</i>	2012-2015

Awards

Future Investigators in NASA Earth and Space Science and Technology (FINESST) grant recipient	2019
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Publications

- Miller, U.**, C. J. Zappa, J. T. Farrar, D. LeBel, R. A. Weller (in prep) Scaling turbulence in the ocean boundary layer of the Southeast Pacific Ocean stratus region
- Wurl, O., K. Bird, M. Cunliffe, W.M. Landing, **U. K. Miller**, N. I. H. Mustaffa, et al. (2018). Warming and inhibition of salinization at the ocean's surface by cyanobacteria. *Geophysical Research Letters*, 45, 4230–4237. <https://doi.org/10.1029/2018GL077946>

Johnson, H. P., **U. K. Miller**, M. S. Salmi, and E. A. Solomon (2015), Analysis of bubble plume distributions to evaluate methane hydrate decomposition on the continental slope, *Geochem. Geophys. Geosyst.*, 16, 3825–3839, doi:[10.1002/2015GC005955](https://doi.org/10.1002/2015GC005955).

Hautala, S. L., E. A. Solomon, H. P. Johnson, R. N. Harris, and **U. K. Miller** (2014), Dissociation of Cascadia margin gas hydrates in response to contemporary ocean warming, *Geophys. Res. Lett.*, 41, 8486–8494, doi:[10.1002/2014GL061606](https://doi.org/10.1002/2014GL061606).

Presentations

Miller, U. K., C. J. Zappa (2020), Investigation of High Salinity Shelf Water in the Terra Nova Bay Polynya, Ross Sea. *Land-Ice-Ocean Network Exploration with Semiautonomous Systems (LIONESS) Workshop*. Talk. Virtual.

Miller, U. K., C. J. Zappa, J. T. Farrar, D. LeBel, R. A. Weller (2020), Scaling turbulence in the ocean boundary layer of the Southeast Pacific Ocean stratus region. *Ocean Sciences*. Talk. San Diego, CA.

Miller, U. K., H.P. Johnson, M.S. Salmi, E.A. Solomon (2015), Analysis of Bubble Plume Distributions to Evaluate Methane Hydrate Decomposition on the Continental Slope. *American Geophysical Union Fall Meeting*. Poster. San Francisco, CA.

Teaching Experience

Teaching Assistant, Columbia University **Fall 2018**
Introduction to Physical Oceanography

Teaching Assistant, Columbia University **Fall 2017**
Dynamics of Climate Variability and Change

Teaching Assistant, University of Washington **Fall 2015**
Oceanography of the Pacific Northwest

Professional Service

Lamont-Doherty Earth Observatory Executive Committee,
Graduate Student Representative **2019-2020**

Ocean and Climate Physics Seminar Coordinator **2019-2020**

Lamont-Doherty Earth Observatory Colloquium Committee **2018-2020**

Graduate Student Committee **2018-2019**

Volunteer Service

Girls Who Code at Columbia University (weekly) **2016-2019**

Girls' Science Day at Columbia University (annually) **2016, -17, -18**

Lamont-Doherty Earth Observatory Open House (annually) **2016, -17, -18**

Research Cruise Experience

R/V Falkor, Southwest Pacific Ocean, November-December, 6 weeks **2019**

R/V Araon, Ross Sea, Antarctica, February-March, 6 weeks **2018**

R/V Thompson, Nootka Sound, British Columbia, December, 10 days **2014**

R/V Thompson, Washington and Oregon coasts, October, 2 weeks

R/V Thompson, Washington and Oregon coasts, June-July, 2 weeks

R/V Atlantis, Washington and Oregon coasts, August, 4 weeks **2013**

R/V Barnes, Puget Sound, April, 1 day