

Laura Gruenburg

(347) 834-2125 laurag@ldeo.columbia.edu
<https://lagruenburg.github.io>

EDUCATION

Columbia University, New York, NY

Graduate Student in Physical Oceanography, 2015-present

M.A. May 2017

M.Phil February 2019

Vassar College, Poughkeepsie, NY

B.A. in Earth Science, May 2012

FELLOWSHIPS AND HONORS

NASA Earth and Space Science Fellowship 2017

Deans Fellow Columbia University 2015

Associate member Sigma Xi 2012

RESEARCH EXPERIENCE

Department of Earth and Environmental Science, Columbia University, NY, NY

Research Advisor: Dr. Arnold Gordon 2015-present

Committee Members: Ryan Abernathey, Andreas Thurnherr

- Analysis of contribution of Indonesian Throughflow variability to heat/freshwater in Eastern Indian Ocean with implications for regional climate

Research Cruise Aboard the Baruna Jaya VIII, Jakarta, Indonesia

PI Dr. Arnold Gordon and Dr. Anna Kuswardani August 2017

- Recovery of Makassar Strait Mooring.

Department of Earth and Atmospheric Sciences, City College, NY, NY

Research Advisor: Dr. Steven Kidder Spring 2015

- Developed titanium-in-quartz thermobarometry for determining pressure-temperature environment of deformation using recrystallized quartz in New Zealand Mylonites.

Department of Earth Science and Geography, Vassar College, Poughkeepsie, NY

Research Advisor: Dr. Brain McAdoo 2011-2012

- Established methodologies for flood risk assessment in rural and urban watersheds in upstate New York.

Norwegian Geotechnical Institute, Oslo, Norway

Research Advisor: Dr. Carl Harbitz Summer 2010

- Verified methods for tsunami risk assessment using the 2009 tsunami in the Pacific that hit American Samoa.

PUBLICATIONS

A.L. Gordon, A. Napitu, B.A. Huber, **L.K. Gruenburg**, K. Pujiana, T. Agustiadi, A. Kuswardani, N. Mbay, and A. Setiawan. 2019. Makassar Strait Throughflow Seasonal and Interannual Variability, an Overview. *JGR Oceans* <https://doi.org/10.1029/2018JC014502>

Gruenburg, L.K., and A.L. Gordon. 2018. Variability in Makassar Strait heat flux and its effect on the eastern tropical Indian Ocean. *Oceanography* 31(2), <https://doi.org/10.5670/oceanog.2018.220>

Li, M., A.L. Gordon, J. Wei, **L.K. Gruenburg**, and G. Jiang. 2018. Multi-decadal timeseries of the Indonesian Throughflow. *Dynamics of Atmospheres and Oceans* 81(2018) 84-95, <https://doi.org/10.1016/j.dynatmoce.2018.02.001>

PRESENTATIONS

Gruenburg, L.K., A.L. Gordon. 2018. The Pathways and Impacts of Indonesian Throughflow Heat Flux on the Eastern Tropical Indian Ocean. Presented at American Geophysical Union Fall Meeting 2018.

Gruenburg, L.K., A.L. Gordon. 2017. Indian Ocean Response to Indonesian Throughflow Variability.

Presented at 2018 Ocean Sciences Meeting, Portland, Oregon.

Gruenburg, L.K., A.L. Gordon., M. Li. 2017. Interannual Variability in ITF Plume Spreading Across the Indian Ocean. Presented at the European Geophysical Union General Assembly 2017.

Gruenburg, L.K. 2015. Titanium-in-Quartz Thermobarometry in New Zealand Mylonites. Presented at the Jeffrey Steiner Memorial Symposium, City College, NY, NY.

Harbitz, C.B., R. Frauenfelder, G. Kaiser, S. Glimsdal, K. Sverdrup-thygeson, F. Lovholt, **L. Gruenburg, B. McAdoo.** 2015. Application and Validation of a GIS Model for Local Tsunami Vulnerability and Mortality Risk Analysis. Presented at the 2015 American Geophysical Union Fall Meeting.

TEACHING EXPERIENCE

Teaching Assistant: EESC GU4930y, Earth's Oceans and Atmosphere, Spring 2019, Columbia University, NY, NY

Teaching Assistant: EESC GR5400, Dynamics of Climate Variability and Change, Fall 2018, Columbia University, NY, NY

Teaching Assistant: EESC GU4925, Intro to Physical Oceanography, Fall 2017, Columbia University NY, NY.

Teaching Assistant: EESC W1030, Oceanography, Fall 2016, Columbia University NY, NY.

Instructor: EAS 106 Earth System Science (laboratory section) Spring 2015. City College NY, NY.

SERVICE

Reviewer for Geophysical Research Letters

Reviewer for Climate Research

Co-organizer of LDEO Ocean Climate Physics division weekly seminar series Fall 2018 and Spring 2019

Mentor to incoming graduate student as part of LDEO first year peer-mentoring program Fall 2016-Spring 2017

Mentor to High School student as part of Lamont Summer Intern Program Summer 2017

SKILLS

Data Analysis: Python, Matlab, R, ArcGIS

Conversational Spanish

PROFESSIONAL DEVELOPMENT

Columbia Inclusive Teaching multi-day workshop Spring 2019

Blindspots in Inclusive Teaching: Implicit Bias

Managing our Blindspots: Strategies for Inclusive Teaching

2018 Columbia Science of Learning Symposium *Metacognition: From Research to Classroom*

SCIENCE OUTREACH EXPERIENCE

Science Educator: Girls Science Day at Columbia University, Earthquake Hazard, N.Y., N.Y. 4/6/19

Science Educator: Intrepid Kids Week, N.Y., N.Y. 2/19/19

Science Educator: Lamont Doherty Earth Observatory Open House, Palisades, N.Y. 10/13/18

Science Educator: Sun-Earth Day at the American Museum of Natural History, N.Y., N.Y. 3/24/18

Science Educator: Intrepid for Girls in Science and Engineering Day, N.Y., N.Y. 3/10/18

Science Educator: Girls Science Day at Columbia University, Ocean Acidification, N.Y., N.Y. 11/11/17

Science Educator: Lamont Doherty Earth Observatory Open House, Palisades NY 10/7/17

Science Educator: Sun-Earth Day at the American Museum of Natural History, N.Y., N.Y. 4/22/17

Science Educator: Girls Science Day at Columbia University, The Nitrogen Cycle. NY, NY. 11/12/16

Science Educator: Lamont Doherty Earth Observatory Open House, Palisades, NY. 10/11/16

Science Educator: Sun-Earth Day at the American Museum of Natural History, NY, NY. 3/19/16

Science Educator: Girls Science Day at Columbia University, Smog City. NY, NY. 11/14/15

Science Educator: A Day in the Life of the Hudson River. Piermont, N.Y. 10/20/15