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Assistant Researcher
Joint Institute for Regional Earth System Science & Engineering (JIFRESSE)
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Ph.D., Oceanography, Scripps Institution of Oceanography, University of California-San Diego, 2016.

Dissertation: Interactions of mesoscale ocean dynamics with large-scale ocean and climate variability: case studies in the mid-latitude Pacific and tropical Indian oceans

Advisors: Julie McClean, Janet Sprintall, and Lynne Talley

Master of Science, Oceanography, Scripps Institution of Oceanography, University of California-San Diego, 2010.

Bachelor of Science, Geology & Geophysics, *magna cum laude*, Yale University, 2009.

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- Interactions of oceanic mesoscale phenomena with large-scale and submesoscale variability
- Mesoscale contributions to meridional transport, sea level and mixed layer changes
- Intraseasonal, interannual, and decadal climate variability
- Satellite oceanography and meteorology
- Process studies to quantify impacts of individual processes on ocean budgets (of temperature, freshwater/salt, momentum, vorticity)

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Delman, A., and F. Landerer (2022), Downscaling satellite-based estimates of ocean bottom pressure for tracking deep ocean mass transport. *Remote Sensing*, **14**, 1764.
<https://doi.org/10.3390/rs14071764>.

Delman, A., and T. Lee (2021), Global contributions of mesoscale dynamics to meridional heat transport. *Ocean Science*, **17**, 1031-1052. <https://doi.org/10.5194/os-17-1031-2021>.

Delman, A., and T. Lee (2020), A new method to assess mesoscale contributions to meridional heat transport in the North Atlantic Ocean. *Ocean Science*, **16**, 979-995.
<https://doi.org/10.5194/os-16-979-2020>.

Delman, A. S., T. Lee, and B. Qiu (2018), Interannual to multidecadal forcing of mesoscale eddy kinetic energy in the subtropical southern Indian Ocean. *J. Geophys. Res. Oceans*, **123**.
<https://doi.org/10.1029/2018JC013945>.

Delman, A. S., J. L. McClean, J. Sprintall, L. D. Talley, and F. O. Bryan (2018), Process-specific contributions to anomalous Java mixed layer cooling during positive IOD events. *J. Geophys. Res. Oceans*, **123**. <https://doi.org/10.1029/2017JC013749>.

Delman, A. S. (2016), Interactions of mesoscale ocean dynamics with large-scale ocean and climate variability: case studies in the mid-latitude Pacific and tropical Indian oceans. Ph.D. thesis, University of California-San Diego.

Delman, A. S., J. Sprintall, J. L. McClean, and L. D. Talley (2016), Anomalous Java cooling at the initiation of positive Indian Ocean Dipole events. *J. Geophys. Res. Oceans*, **121**, 5805-5824. <https://doi.org/10.1002/2016JC011635>.

Delman, A. S., J. L. McClean, J. Sprintall, L. D. Talley, E. Yulaeva, and S. R. Jayne (2015), Effects of eddy vorticity forcing on the mean state of the Kuroshio Extension. *J. Phys. Oceanogr.*, **45**, 1356-1375. <https://doi.org/10.1175/JPO-D-13-0259.1>.

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- Co-I/Science PI: “Effects of Mesoscale Oceanic Variability on Mixed Layer Heat and Salt Budgets, Transports, and Lateral Mixing”. NASA ROSES 2018 Physical Oceanography program award. PI: Tong Lee (JPL). \$450K. Term of support: 6/2019-9/2022.
- NASA Postdoctoral Program (NPP) fellowship, 2016-2018#
- NASA Earth and Space Science Fellowship (NESSF), 2013-2016#
- University of California Regents fellowship, 2009-2010#

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2021-present

Assistant Researcher, Joint Institute for Regional Earth System Science & Engineering (JIFRESSE), University of California Los Angeles

- Assessing the variability of the three-dimensional mesoscale ocean circulation and its impacts on upper ocean temperature and climate
- Improving the spatial resolution of GRACE/GRACE-FO satellite gravimetry products near ocean boundaries

2019-2021

Scientist II, Jet Propulsion Laboratory, California Institute of Technology

- Quantifying mesoscale contributions to meridional heat/freshwater transport and mixed layer budgets using a range of ocean and coupled models
- Formulating a downscaling method for GRACE data and validating with in-situ bottom pressure data; quantifying deep ocean meridional transport variability using GRACE

2018-2019

JPL Postdoctoral Scholar, Jet Propulsion Laboratory, California Institute of Technology

- Studying mechanisms for climate and local forcing of mesoscale eddy activity in the Pacific ocean and globally; examining mesoscale contributions to meridional transports and sea level variability

- 2016-2018 NASA Postdoctoral Program (NPP) fellow, Jet Propulsion Laboratory, California Institute of Technology

 - Using remote sensing observations and in-situ data to study interannual/decadal variability of mesoscale eddy variability in the subtropical southern Indian Ocean and forcing by climate modes, winds, and internal ocean conditions

- 2010-2016 Graduate Student Researcher, Scripps Institution of Oceanography
Janet Sprintall, Julie McClean, and Lynne Talley, co-advisors

 - Constructing budgets from high-resolution ocean GCM output to quantify the specific contribution of wind stress, coastal Kelvin waves, and mesoscale eddies to mixed layer temperature changes near Java during the development of positive Indian Ocean Dipole events
 - Analyzed satellite data to determine the influence of Kelvin waves and other mesoscale phenomena on the interannual variability of SST near Java
 - Computed and analyzed the time-mean vorticity budget in the Kuroshio Extension, using GCM output and a stream coordinate-following reference frame to characterize eddy-mean flow interactions

- 2011, 2012 Student research visitor, National Center for Atmospheric Research
Frank Bryan, advisor

 - Participated in the SUNNY (Scripps/UCSD/NCAR New and Young) program for Ph.D. students to have short-term residences at NCAR
 - Attended the CESM Tutorial (2012)
 - Used output from multiple runs of the CCSM/CESM suite of coupled models to construct heat budgets for the upper ocean in the Indian Ocean near Indonesia

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Dec. 2020 AGU Fall Meeting, virtual. “Global contributions of mesoscale ocean dynamics to meridional heat transport”, oral presentation.

- Feb. 2020 Ocean Sciences Meeting, San Diego, CA. “The contribution of mesoscale ocean dynamics to Atlantic meridional heat transport”, oral presentation.

- Mar. 2019 Sources and Sinks of Ocean Mesoscale Eddy Energy, US CLIVAR-sponsored workshop, Tallahassee, FL. “Sea level, subsurface gradients, and the temporal variability of mesoscale eddies”, oral presentation.

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 - 2019 Editors’ Citation for Excellence in Reviewing – *Geophysical Research Letters*

- Primary convener and chair for oral & poster sessions at 2018 AGU Fall Meeting: “Temporal variability in oceanic mesoscale activity, from seasonal to multi-decadal records”
- Panel reviewer for NASA Physical Oceanography and Ocean Surface Topography Science Team
- NASA Earth and Space Science Fellowship (NESSF) and Future Investigators in NASA Earth and Space Science and Technology (FINESST) programs for graduate students, expert and panel reviewer
- Seminar organizer, Ocean Science Elements group, Jet Propulsion Laboratory
- Computing Committee student representative, Scripps Institution of Oceanography
- Physical Oceanography student representative, Scripps Institution of Oceanography
 - Organized and coordinated events for prospective graduate students visiting campus, during the Open House and at other times; matched prospective students with hosts

Reviewer for *Deep-Sea Research Part I*, *Geoscientific Model Development*, *Journal of Physical Oceanography*, *Geophysical Research Letters*, *Journal of Geophysical Research: Oceans*, *Science Bulletin*, *Marine Research in Indonesia*, *Oceanography*, *International Journal of Remote Sensing*, *Journal of Marine Science and Engineering*

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| 2017, 2018 | Guest lectures on “California’s Climate” for GEOG 330 (California Geography), at California State University, Northridge |
| 2016 | Guest lecture on “Ocean Circulation: Upwelling and Downwelling” for MARS 220 (Introduction to Atmospheric and Ocean Sciences), at the University of San Diego |
| 2011, 2014-2016 | Team for Inclusion and Diversity in Engineering and Science (TIDES), SIO (formerly named GDAWG) <ul style="list-style-type: none"> • Tutoring children ages 5-10, primarily from non-English speaking families, in mathematics, science, reading/writing in English and Spanish |
| 2015 | Participant in “The College Classroom”, University of California, San Diego <ul style="list-style-type: none"> • Completed a course that prepares future university-level instructors to implement evidence-based teaching methods and active learning in the classroom |

- 2012 Teaching Assistant for SIO 20 (The Atmosphere), introductory undergraduate atmospheric science course at UCSD
- Led review sessions, graded assignments and exam, held office hours, responded to student questions (in person and by e-mail)
- 2006-2009 Science and Math Achiever Teams (SMArT), Yale University
- Worked with students from inner-city middle schools on science fair-style projects
 - Day Coordinator for other mentors in Spring 2007
- 2005-2007 Instrumental Connections (IC), Yale University
- Taught beginner clarinet lessons to children ages 9-10
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- Nov.-Dec. 2014 ChinStrAP cruise: Southern Ocean, 25 days, R/V Laurence M. Gould.
Chief Scientist: Andrew Thompson (Caltech)
- Aided in the deployment and piloting of two gliders at the southern edge of Drake Passage, CTD casts, XBT/XCTD casts, salinometer measurements
 - Responsible for preliminary analysis of XBT/XCTD cast data collected on the AX-22 repeating transect, and of salinometer measurements during CTD casts
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- High proficiency in MATLAB, bash, C-shell, Vi/Vim, LaTeX, Microsoft Word/PowerPoint/Excel
 - Some proficiency in Python, Fortran, C++, HTML