

MATTHEW T. LUONGO

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EDUCATION

Scripps Institution of Oceanography
University of California, San Diego

La Jolla, CA

Ph.D., Oceanography

Expected Spring 2024

M.S., Oceanography

2020

Advisors: Professors Shang-Ping Xie & Ian Eisenman

Committee Members: Professors Nicholas Lutsko, Jennifer Burney, & Shantong Sun

Harvard University

Cambridge, MA

A.B., Earth & Planetary Sciences, *Magna Cum Laude with Highest Honors*

2017

A.B., Engineering Sciences

Advisor: Professor Peter Huybers

Thesis: Comparison & Calibration of Climate Proxy Data in Medieval Europe

EMPLOYMENT

Scripps Institution of Oceanography, UCSD
Graduate Student Researcher

Sep. 2019 - Present
San Diego, CA

Wildlands Trust
Research Assistant

Oct. 2018 - Sep. 2019
Plymouth, MA

West Monroe Partners
Energy & Utilities Experienced Consultant

Aug. 2017 - Sep. 2018
New York, NY

Harvard University, Dept. of Earth & Planetary Sciences
Undergraduate Research Assistant

Apr. 2015 - May 2017
Cambridge, MA

RESEARCH PUBLICATIONS

Published

6. **Luongo, M.T.**, Brizuela, N.G., Eisenman, I., & Xie, S.-P. (2024). Retaining Short-Term Variability Reduces Mean State Biases in Wind Stress Overriding Simulations. *Journal of Advances in Modeling Earth Systems*, 16, e2023MS003665. doi: [10.1029/2023MS003665](https://doi.org/10.1029/2023MS003665).
5. Tseng, H.-Y., Hwang, Y.-T., Xie, S.-P., Kang, S.M., Tseng, Y.-H., **Luongo, M.T.**, & Eisenman, I. (2023). Fast and Slow Responses of the Tropical Pacific to Radiative Forcing in Northern High Latitudes. *Journal of Climate*, 36(16), pp. 5337-5349. doi: [10.1175/JCLI-D-22-0622.1](https://doi.org/10.1175/JCLI-D-22-0622.1)
4. **Luongo, M.T.**, Xie, S.-P., Eisenman, I., Hwang, Y.-T., & Tseng, H.-Y. (2023). A Pathway for Northern Hemisphere Extratropical Cooling to Elicit a Tropical Response. *Geophysical Research Letters*, 50, e2022GL100719. doi: [10.1029/2022GL100719](https://doi.org/10.1029/2022GL100719)
3. Lutsko, N.J., **Luongo, M.T.**, Wall, C.J., & Myers, T.A. (2022). Correlation Between Cloud Adjustments and Cloud Feedbacks Responsible for Larger Range of Climate Sensitivities in CMIP6. *Journal of Geophysical Research: Atmospheres*, e2022JD037486. doi: [10.1029/2022JD037486](https://doi.org/10.1029/2022JD037486)

2. **Luongo, M.T.**, Xie, S.-P., & Eisenman, I. (2022). Buoyancy Forcing Dominates the Cross-Equatorial Ocean Heat Transport Response to Northern Hemisphere Extratropical Cooling. *Journal of Climate*, 35(20), pp. 3071-3090. doi: [10.1175/JCLI-D-21-0950.1](https://doi.org/10.1175/JCLI-D-21-0950.1)
1. **Luongo, M.T.**, Kurbatov, A.V., Erhardt, T., Mayewski, P.A., McCormick, M., More, A.F., Spaulding, N.E., Wheatley, S.D., Yates, M.G., & Bohleber, P.D. (2017). Possible Icelandic Tephra Found in European Colle Gnifetti Glacier. *Geochemistry, Geophysics, Geosystems*, 18(11), pp. 3904-3909. doi: [10.1002/2017GC007022](https://doi.org/10.1002/2017GC007022)

Submitted

1. Wan, J.S., Chen, C.-C.-J., Tilmes, S., **Luongo, M.T.**, Richter, J.H., & Ricke, K. Diminished Efficacy of Regional Marine Cloud Brightening in a Warmer World. Manuscript in review at *Nature Climate Change*.

HONORS & AWARDS

2023	Outstanding Student Presentation Award (CalGFD)
2022-2025	FINESST Graduate Research Fellowship (NASA)
2022	Outstanding Teaching Assistant (SIO)
2021	GRFP Honorable Mention (NSF), Outstanding Student Mentor (SIO)
2019-2020	Regents Fellowship (UCSD)
2017	Hoopes Prize for Outstanding Senior Thesis Work (Harvard University)
2015	Undergraduate Summer Research Fellow (Harvard University Center for Environment)
2013	National Merit Program Commended Scholar, John Joseph Moakley Scholar
2012	Eagle Scout

PRESENTATIONS

Conference Presentations

6. AGU Fall Meeting, San Francisco, CA, USA (Dec. 2023): *Tropical Pacific Responses to Idealized Subtropical Low Cloud Forcing through Subsurface Oceanic Adjustment*.
5. CalGFD, La Jolla, CA, USA (Sep. 2023): *Stress Management Techniques: Overriding Wind Stress in GCMs*.
4. AGU Fall Meeting, Chicago, IL, USA (Dec. 2022): *Surface and Subsurface Ocean Adjustment and Tropical Pattern Formation Responses to Extratropical Radiative Forcing*.
3. Scripps Student Symposium, La Jolla, CA, USA (Sep. 2022): *A Surface Pathway by which Northern Hemisphere Extratropical Cooling Elicits a Tropical Response*.
2. CalGFD, Pasadena, CA, USA (Aug. 2022): *A Surface Pathway by which Northern Hemisphere Extratropical Cooling Elicits a Tropical Response*.
1. AGU Fall Meeting, New Orleans, LA, USA (Dec. 2021): *The Ocean's Dynamic Response to Northern Hemisphere Cooling and Insights into Cross-Equatorial Energy Transport*.

Conference Posters

4. AGU Fall Meeting, San Francisco, CA, USA (Dec. 2023): *Stress Management Techniques: Comparing Wind Stress Overriding Methods in GCMs*.
3. Atlantic Variability and Tropical Basin Interactions Workshop, International Centre for Theoretical Physics, Trieste, Italy (Aug. 2023): *Tropical Subsurface Dynamic Adjustment and Pattern Formation Responses to Idealized Subtropical Low Cloud Forcing*.
2. Graduate Climate Conference, Pack Forest, WA, USA (Oct. 2022): *Coupled Ocean-Atmosphere Processes Lead to La Niña-like Steady-State Response to NH Extratropical Cooling*.

1. Graduate Climate Conference, Virtual (Oct. 2020): *Western European Heatwave Identified in Historical Texts and Paleoclimate Reconstructions*.

Invited Presentations & Seminars

2. Equilibrium Climate Sensitivity & Cloud Feedback Symposium, Virtual (Aug. 2022): *A Surface Pathway by which Northern Hemisphere Extratropical Cooling Elicits a Tropical Response*.
1. NOAA Climate Sensitivity Task Force Meeting, Virtual (Mar. 2022): *Correlation between Cloud Adjustments and Cloud Feedbacks Responsible for Larger Range of Climate Sensitivities in CMIP6*.

TEACHING & MENTORING

Teaching Assistant

Dynamics of the Atmosphere and Climate (SIO 173), UCSD. 2021. Instructors: Shang-Ping Xie & Ian Eisenman.

Frontiers and Foundations of Modern Chemistry: A Molecular and Global Perspective (PS 11), Harvard University. 2015-2017. Instructors: Jim Anderson & Gregg Tucci.

Guest Lecturer

Dynamics of the Atmosphere and Climate (SIO 173), UCSD. 2023. Instructor: Shang-Ping Xie.

Numerical Modeling of the Climate System (SIO 224), UCSD. 2022. Instructor: Ian Eisenman.

Research Mentor

Jun-Young Moon, MS student, Yonsei University.

Peer Mentor

Jessica Wan, SIO.

Laney Wicker, SIO.

SIO-Ask, mentoring program for underrepresented graduate school applicants, 2022-present.

LEADERSHIP AND SERVICE

Department

SIO Climate Journal Club: Seminar Organizer (2020-present).

SIO Peer Mentor Leadership Team (2021-2022).

SIO Graduate Student Council Climate Sciences Curricular Group Representative (2021-2022).

SIO GFD Faculty Search Committee (2022).

Field

CalGFD Organizing Committee (2023).

Peer Review: *Journal of Climate*, *Weather & Climate Dynamics*, *Nature Communications*.

COMPUTER SKILLS

Substantial Experience: Matlab, Python, Fortran 77/90, R, ArcGIS

Additional Experience: C, HTML, Javascript

GENERA

Memberships: American Geophysical Union, Sierra Club, Wildlands Trust

Languages: English, Latin (8 years)

Interests: Camping, Hiking, Punk Rock, National Parks, Land Conservation, New England Sports, Vinyl Records, Amateur Fermentation