

MATTHEW T. LUONGO

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EDUCATION

Scripps Institution of Oceanography
University of California, San Diego

La Jolla, CA

Ph.D., Oceanography

Jun. 2024

M.S., Oceanography

Dec. 2020

Thesis: “Understanding the Climate Response to Hemispheric Differences in Radiative Forcing through Coupled Ocean-Atmosphere Interactions”

Advisors: Professors Shang-Ping Xie & Ian Eisenman

Harvard University

Cambridge, MA

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

May 2017

A.B., Engineering Sciences

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

Advisor: Professor Peter Huybers

EMPLOYMENT

University of Washington

2024 -

CICOES Postdoctoral Research Fellow

Seattle, WA

Scripps Institution of Oceanography, UCSD

2019 - 2024

Graduate Student Researcher

San Diego, CA

Wildlands Trust

2018 - 2019

Research Assistant

Plymouth, MA

West Monroe Partners

2017 - 2018

Energy & Utilities Experienced Consultant

New York, NY

RESEARCH PUBLICATIONS

Published

8. **Luongo, M.T.**, Xie, S.-P., Eisenman, I., Sun, S., & Peng, Q. (2025). How the Subsurface Tropical Pacific Responds to Subtropical Surface Cooling: Implications for Cross-Equatorial Transport. In press at *Journal of Climate*. doi: [10.1175/JCLI-D-24-0440.1](https://doi.org/10.1175/JCLI-D-24-0440.1).
7. Wan, J.S., Chen, C.-C.-J., Tilmes, S., **Luongo, M.T.**, Richter, J.H., & Ricke, K. (2024) Diminished Efficacy of Regional Marine Cloud Brightening in a Warmer World. *Nature Climate Change*, **14**, 808-814. doi: [10.1038/s41558-024-02046-7](https://doi.org/10.1038/s41558-024-02046-7)
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

3. Peng, Q., Xie, S.-P., Miyamoto, A., Deser, C., Zhang, P., & **Luongo, M.T.** Strong 2023-2024 El Niño Generated by Ocean Dynamics. In press at *Nature Geoscience*.
2. Taylor, B.A., Shi, J.-R., Talley, L.D., Xie, S.-P., **Luongo, M.T.**, & Peng, Q. Warming Band in Southern Ocean's Indian Sector: The Role of Remote Atlantic Buoyancy Forcing via Poleward-Shifting Circulation Response. In press at *Journal of Climate*.
1. Hahn, L.C., Lutsko, N.J., Eisenman, I., **Luongo, M.T.**, & Xie, S.-P. Contribution of AMOC Decline to Uncertainty in Global Warming via Ocean Heat Uptake and Climate Feedbacks. Manuscript submitted to *Journal of Climate*.

HONORS & AWARDS

2024–	CICOES Postdoctoral Fellowship (UW CICOES & NOAA PMEL)
2024–	Data Science Postdoctoral Fellowship (UW eScience Institute)
2024	Early Career Researcher Presentation Award (CFMIP)
2024	Outstanding Student Presentation Award (AGU23)
2023	Outstanding Student Presentation Award (CalGFD)
2022–2024	FINESST Graduate Research Fellowship (NASA)
2022	Outstanding Teaching Assistant (SIO)
2021	NSF GRFP Honorable Mention (NSF)
2021	Outstanding Student Mentor (SIO)
2019–2020	Regents Fellowship (UCSD)
2017	Hoopes Prize for Outstanding Senior Thesis Work (Harvard)
2015	Undergraduate Summer Research Fellow (Harvard University Center for Environment)
2013	National Merit Program Commended Scholar
2013	John Joseph Moakley Scholar
2012	Eagle Scout

PRESENTATIONS

22. University of Washington, School of Oceanography, Seattle, WA (May 2025).
21. University of Washington, eScience Institute, Seattle, WA, USA (Apr. 2025).
20. Columbia University, Applied Physics & Applied Mathematics Dept., New York, NY, USA (Feb. 2025). *Invited*.

19. AGU Fall Meeting, Washington, DC, USA (Dec. 2024). Poster.
18. Physical Oceanography Dissertations Symposium (PODS) XIII, Lihue, Kauai, HI, USA (Oct. 2024). *Invited*.
17. National Taiwan University, Dept. of Atmospheric Sciences, Taipei, Taiwan (Sep. 2024). *Invited*.
16. University of Tokyo, AORI, Kashiwa, Japan (Aug. 2024). *Invited*.
15. University of Tokyo, RCAST, Tokyo, Japan (Aug. 2024). *Invited*.
14. CFMIP, Boston, MA, USA (Jun. 2024).
13. University of Washington, School of Oceanography, Seattle, WA (May 2024). *Invited*.
12. AGU Fall Meeting, San Francisco, CA, USA (Dec. 2023). Poster.
11. AGU Fall Meeting, San Francisco, CA, USA (Dec. 2023).
10. CalGFD, La Jolla, CA, USA (Sep. 2023).
9. Atlantic Variability and Tropical Basin Interactions Workshop, International Centre for Theoretical Physics, Trieste, Italy (Aug. 2023). Poster.
8. AGU Fall Meeting, Chicago, IL, USA (Dec. 2022).
7. Graduate Climate Conference, Pack Forest, WA, USA (Oct. 2022). Poster.
6. Scripps Student Symposium, La Jolla, CA, USA (Sep. 2022).
5. Equilibrium Climate Sensitivity & Cloud Feedback Symposium, Virtual (Aug. 2022). *Invited*.
4. CalGFD, Pasadena, CA, USA (Aug. 2022).
3. NOAA Climate Sensitivity Task Force Meeting, Virtual (Mar. 2022). *Invited*.
2. AGU Fall Meeting, New Orleans, LA, USA (Dec. 2021).
1. Graduate Climate Conference, Virtual (Oct. 2020). Poster.

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

- *Current Research in Climate Science* (OCEAN 475), UW. 2025. Instructor: Steven Riser.
- *Physics of Climate* (ATMS 321), UW. 2025. Instructor: Dargan Frierson.
- *Numerical Modeling of the Climate System* (SIOC 224), UCSD. 2022, 2024. Instructor: Ian Eisenman.
- *Dynamics of the Atmosphere and Climate* (SIO 173), UCSD. 2023. Instructor: Shang-Ping Xie.

Research Mentor

- Jun-Young Moon, MS student, Yonsei University: *Asymmetric Climate Impacts of High-latitude Radiative Forcing*.
- Cassia Cai, PhD student, UW: *Modeled and Observed Variability of the Southern Hemisphere Subtropical Cell*.

Peer Mentor

- Jessica Wan & Laney Wicker (SIO).
- SIO-Ask, mentoring program for underrepresented graduate school applicants (2022-2023).

LEADERSHIP AND SERVICE

Field

- AGU Session Convener: “El Niño-Southern Oscillation and Pantropical Climate Interactions: Mechanisms, Predictability, Impacts, and Projections” (2024, 2025).
- ECS & Cloud Feedback Virtual Symposium Organizer (2024-present).
- CalGFD Organizing Committee (2023).
- Reviewer for: *Journal of Climate*, *Weather & Climate Dynamics*, *Nature Communications*, *Earth's Future*.

Department

- SIO Climate Journal Club: Seminar Organizer (2020-2024).
- 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 WORK

October 2024: Ocean Observatories Initiative Coastal Endurance Array Fall Cruise

10 days on *R/V Sikuliaq* deploying and recovering moorings, profilers, and gliders off the coast of WA & OR to contribute to OOI's long-term coastal time series.