

MATTHEW T. LUONGO

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EDUCATION

Scripps Institution of Oceanography *La Jolla, CA*
University of California, San Diego

Ph.D., Oceanography June 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

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*. 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. **Luongo, M.T.**, Xie, S.-P., Eisenman, I., Sun, S., & Peng, Q. How the Subsurface Tropical Pacific Responds to Hemispherically Asymmetric Temperature Forcing: Implications for Cross-Equatorial Mass and Heat Transport. Manuscript in revision at *Journal of Climate*. [Pre-print](#).
2. Peng, Q., Xie, S.-P., Miyamoto, A., Deser, C., Zhang, P., & **Luongo, M.T.** Unusual growth of the 2023-24 El Niño against the odds of Indo-Atlantic warming. Manuscript submitted.
1. 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. 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

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

- *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).
- 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.