

ANTHONY WILSON

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RESEARCH INTERESTS AND BIO

Climate science and physical oceanography, with emphasis on Earth's warmest surface and near-surface temperatures, climate extremes, radiative constraints, diurnal controls, coupled ocean-atmosphere interactions, marine heatwaves, regional climate impacts, and machine-learning applications for climate prediction and decision support.

I am a Ph.D. candidate in Climate Science at Scripps Institution of Oceanography at UC San Diego, where I use Python, machine learning, and large-scale climate-model datasets to study extreme temperatures and translate complex environmental processes into reliable analytical workflows. Across projects spanning climate prediction, electric-grid resilience, corporate emissions, and marine heatwaves, I have developed a strong foundation in quantitative modeling, computational performance, and reproducible analysis. Just as importantly, I bring a commitment to making technical work tangible—communicating complex results clearly, connecting them to lived experience, and helping people understand why they matter.

EDUCATION

2026 — University of California San Diego, Ph.D. in Oceanography.

Dissertation: Moving From Fear to Hope Through Projections, Radiative Constraints, and Diurnal Controls

Committee: Arthur Miller, Chair; Nicholas Lutsko, Co-Chair; Ivan Evans; Sasha Gershunov.

2023 — University of California San Diego, M.S. in Earth Sciences.

2020 — Central Michigan University, B.S. in Geography with concentration in GIS and Math. Advisor: Matthew Liesch.

APPOINTMENTS AND AFFILIATIONS

2021–2026 — Graduate Research Assistant, Scripps Institution of Oceanography, UC San Diego. Supervisor: Arthur J. Miller.

California Current Ecosystem Long Term Ecological Research Program — Graduate student affiliate; climate modeling and machine learning.

Scripps Climate Physics Group — Graduate student, co-advised by Arthur J. Miller and Nicholas Lutsko.

RESEARCH EXPERIENCE

2023 — Research Fellow, Science Based Targets, Carbon Disclosure Project (CDP). Analyzed company emissions changes and developed Python tools translated from R workflows.

2022 — Climate Risk and Resilience Student, Electric Power Research Institute. Measured impacts of persistent low/high temperature on electric load and trained machine-learning algorithms using climate-model temperature data. 2021 — NOAA Pathways Program — Virtual research experience with the NOAA Boulder Office, Boulder, CO 2019–2020 — Significant Opportunity in Atmospheric Research, National Center for Atmospheric Research. Defined heatwave metrics and compared heatwave statistics across climate-model resolutions.

2018–2020 — McNair Scholar, Central Michigan University. Supervisor: John Allen. Analyzed tornado climatology definitions and regional tornadic-environment differences.

HONORS AND AWARDS

2026 — Better Brothers LA LGBTQ+ Scholarship

2026 — Harvey Milk Luncheon Scholarship

2024 — Damon J. Shearer Scholarship

2023 — Raytheon RAYPRIDE & NXGEN STEM Scholarship, PFLAG San Diego County.

2023 — California LGBTQ Foundation grant / California Legislative LGBTQ Scholarship.

2022 — Best Student Poster, Eastern Pacific Ocean Conference.

2022 — Bill Anderson Fund Fellow, 2022 Cohort, Climate Science.

2021 — San Diego Fellowship, UC San Diego.

2019–2020 — Central Michigan University Dean's List.

CONFERENCE PRESENTATIONS, TALKS, POSTERS, AND PANELS

Wilson, A. (2025). Panelist, “Top 5 Ocean Action Items to Watch at COP30.” Ocean Pavilion / COP30, Nov. 12, 2025. Format: panel.

Wilson, A., Lutsko, N., & Miller, A. J. (2023). “Radiative Constraints on Earth’s Warmest Surface Temperatures.” Radiation and Climate

Miller, A., Wilson, A., Barbeau, K., Ohman, M., & Stukel, M. (2022). “North Pacific Marine Heat Waves Affecting the California Current Ecosystem (CCE).” CCE All Scientists Meeting, Monterey, CA, Sept. 19–23, 2022. Format: oral presentation.

Wilson, A., Lutsko, N., & Miller, A. (2022). “Radiative Constraints on Earth’s Warmest Surface Temperatures.” Eastern Pacific Ocean Conference, Mount Hood, OR, Sept. 14–17, 2022. Format: poster; Best Student Poster award.

Wilson, A., Lutsko, N., & Miller, A. (2022). “Radiative Constraints on Earth’s Warmest Surface Temperatures.” CalGFD, Pasadena, CA, Aug. 18–19, 2022. Format: poster.

MEETINGS, SCHOOLS, AND WORKSHOPS

2025 — COP30 / Ocean Pavilion programming, Belém, Brazil, Nov. 10–21, 2025; student panel participant on Nov. 12.

2024 — Marine Heatwaves Training Workshop, University of Washington Friday Harbor Laboratories, Aug. 18–31, 2024; participant and co-author on workshop synthesis publication.

2023 — Radiation and Climate Gordon Research Conference, Bates College, Lewiston, ME, July 23–28, 2023; poster presenter.

2023 Rossbypalooza Student Led Meeting; University of Chicago, Chicago, IL, student group participant on, July 20–31

2022 — California Current Ecosystem All Scientists Meeting, Monterey, CA, Sept. 19–23, 2022; oral presenter. 2022 — Eastern Pacific Ocean Conference, Mount Hood, OR, Sept. 14–17, 2022; poster presenter.

2022 — CalGFD, Pasadena, CA, Aug. 18–19, 2022; poster presenter.

MENTORING, SERVICE, AND LEADERSHIP

2021 — SOARS coach/peer mentor, UCAR Significant Opportunities in Atmospheric Research and Science; credited as coach/peer mentor in SOARS 2021 abstracts.

2020–2021 — American Meteorological Society Culture and Inclusion Cabinet, Student Member.

2021–2026 — Scripps community engagement through Queer@Scripps, POC Circle, and Scripps CARES/community enrichment activities as community engagement fellow

MEMBERSHIP IN PROFESSIONAL ORGANIZATIONS

American Meteorological Society (AMS); American Geophysical Union (AGU).

PUBLICATIONS

Peer-reviewed publications

Fadlovich, R., Carrasco, D., Ferrer, E. M., Graham, O. J., Hampton, S. A., Khrizman, A., Kong, C. E., Kreuser, A. M., Pinter, S., Sims, L. D., Torres, M. I., Una, R., Wilson, A., Zhang, W., Zhu, Y., & Greene, C. H. (2025). The Next Generation of Marine Heatwaves Science: Takeaways from a Two-Week Training Workshop. *Limnology & Oceanography Bulletin*, 34, 28–30. <https://doi.org/10.1002/lob.10679>

Manuscripts submitted / in revision

Wilson, A., Lutsko, N., Faggiani Dias, D., & Miller, A. J. (2026, submitted). Projections of Earth’s Hottest Surface Temperatures in CMIP6. Submitted to *Geophysical Research Letters*.

Manuscripts in preparation

Wilson, A., Lutsko, N., & Miller, A. J. Radiative Constraints on Earth’s Warmest Daily-Mean Surface Temperatures. In preparation for submission to *Climate Dynamics*.

Wilson, A., Lutsko, N., & Miller, A. J. A Diurnal-Cycle Model for Earth’s Warmest Daily-Maximum Surface Temperatures. In preparation for submission to *Climate Dynamics*.

Dissertation

Wilson, A. (2026). Earth’s Warmest Surface Temperatures: Projections, Radiative Constraints, and Diurnal Controls. Ph.D. dissertation, University of California San Diego.

Elyoussoufi, A., Walker, C. L., Black, A. W., & DeGirolamo, G. J. (2023). The Relationships between Adverse Weather, Traffic Mobility, and Driver Behavior. *Meteorology*, 2(4), 489–508. Acknowledged as SOARS community mentor.

PUBLIC SCHOLARSHIP AND MEDIA

Scripps Student Spotlight: “Anthony Wilson,” Scripps Institution of Oceanography, Oct. 3, 2024.

Environmental Professionals Radio: “Early career success, equitable opportunities, and finding confidence with Anthony Wilson,” Apr. 22, 2022.

COMPUTER AND TECHNICAL SKILLS

Python; MATLAB; R workflow translation; Unix terminal systems; ArcGIS Pro; ArcPy; Visual Basic; machine learning; climate-model analysis; remote sensing/GIS; CMIP6 analysis; line-by-line radiative-transfer workflows; xarray; Matplotlib.