

# Anthony Meza

Ph.D. Candidate

(714) 552-2396 | ameza@mit.edu | anthony-meza.github.io

## Education

---

### **Massachusetts Institute of Technology & Woods Hole Oceanographic Institution**

*Ph.D. in Physical Oceanography*

Cambridge, MA

2021–Present

### **University of California, Irvine**

*B.S. in Mathematics, Concentration in Data Science*

Irvine, CA

2018–2021

## Publications

---

- **Meza, A.**, & Gebbie, G. (2025). Wind-driven mid-depth Pacific cooling in a dynamically consistent ocean state estimate. *Journal of Geophysical Research: Oceans*. doi.org/10.1029/2025JC022462

## Research Experience

---

### **Woods Hole Oceanographic Institution**

*Graduate Research Assistant*

Sep 2021–Present

Woods Hole, MA

- Tested causes of deep ocean cooling using global MITgcm simulations, supporting NASA efforts of global ocean modeling and data assimilation.
- Analyzed 40TB+ of high-resolution coupled climate model output to understand the connections between ocean circulation and dissolved chemicals in the ocean.
- Produced written reports, posters, and presentations to communicate findings to broader communities.
- Processed and analyzed 5TB+ of high-resolution ocean reanalysis data and found significant connections between near-shore sea surface temperature and extreme California precipitation events.
- Developed tools to analyze big climate data using Python and Julia.

### **Los Alamos National Laboratory**

*Summer Intern*

Jun 2021–Aug 2021

Los Alamos, NM

- Implemented reduced-precision capabilities within the ocean component of the Energy Exascale Earth System Model.
- Found that reduced precision significantly reduced compute time but at cost of model skill.

### **The Aerospace Corporation**

*Summer Intern*

Jun 2020–Sep 2020

Los Angeles, CA

- Designed and implemented reinforcement learning algorithms for adaptive packet routing in satellite network simulations.
- Empirical models were built in Python primarily using PyTorch and NetworkX.

## Personal Projects

---

### **xbuoy**

- Developed a Python workflow to query the National Data Buoy Center and aggregate data into daily, monthly and yearly NetCDFs.