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| EDUCATION  | <b>Massachusetts Institute of Technology &amp; Woods Hole Oceanographic Institution</b><br>Cambridge & Woods Hole, MA<br><i>Ph.D. in Physical Oceanography and Climate Science</i><br><b>University of California, Irvine</b><br><i>B.S. in Mathematics, Concentration in Data Science</i>   | 2021 - Present<br>Irvine, CA<br>2018 - 2021   |
| EXPERIENCE | <b>Research Assistant, Woods Hole Oceanographic Institution</b><br><ul style="list-style-type: none"><li>• Ran several global ocean simulations using the MITgcm to diagnose the causes of deep ocean cooling in a global data assimilation effort by NASA.</li><li>• Analyzed 15TB+ of next-generation high-resolution coupled climate model output to understand the connections between ocean circulation and dissolved compounds in the ocean.</li><li>• Produced written reports, posters and presentations to communicate findings to broader communities.</li></ul> <b>Technical Consultant Intern, Foundation for Resilient Societies</b><br><ul style="list-style-type: none"><li>• Received in-person training by Astrapé Consulting in Strategic Energy &amp; Risk Valuation Mode (SERVM) software package.</li><li>• Ran and debugged simulation cases for generating capacity adequacy on the US electrical grid using SERVM.</li><li>• Co-led a team of 12 Electric Grid Modeling Interns to create a comprehensive internal user guide for running SERVM experiments and analyzing their output.</li></ul> <b>Research Assistant, Woods Hole Oceanographic Institution</b><br><ul style="list-style-type: none"><li>• Processed and analyzed 3TB+ of climate data and found significant connections between near-shore sea surface temperature and extreme California precipitation events.</li><li>• Developed tools to analyze big climate data using Python and Julia.</li></ul> <b>Parallel Computing Summer Fellow, Los Alamos National Laboratory</b><br><ul style="list-style-type: none"><li>• Implemented parallel reduced-precision capabilities within the ocean component of the Energy Exascale Earth System Model.</li><li>• Found that reduced precision marginally reduced compute time (i.e. energy consumption), but at the cost of model skill.</li></ul> <b>Research Assistant, Institute for Pure and Applied Mathematics</b><br><ul style="list-style-type: none"><li>• Co-developed Q-learning and Deep Q-learning algorithms to improve satellite network communication efficiency.</li><li>• Created Monte Carlo simulations to measure efficacy of algorithms using the PyTorch and NetworkX Python packages.</li></ul> | 2021.09 - Present<br>Woods Hole, MA<br>2025.01<br>Cambridge, MA<br>2021.09 - 2023.09<br>Woods Hole, MA<br>2021.06 - 2021.08<br>Los Alamos, NM<br>2020.06 - 2020.09<br>Los Angeles, CA |

## PROJECTS

**xbuoy | Python, Xarray, multiprocessing, HTML, Pandas**

*Personal Project*

2024.09 - Present

- Developed a system to query the National Data Buoy Center and aggregate data into daily, monthly and yearly NetCDFs.
- Python package can be downloaded from <https://github.com/anthony-meza/xbuoy>.
- Future goals include using buoy, satellite and model data to improve coverage and projections of coastal regions.

## TECHNICAL SKILLS

**Languages:** Python, Julia, MATLAB.

**Developer Tools:** Linux/Unix, Git, Github, VS Code, Google Colab.