

Anthony Meza

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EDUCATION

Massachusetts Institute of Technology & Woods Hole Oceanographic Institution Ph.D. in Physical Oceanography and Climate Science	Cambridge, MA September 2021 – Present
University of California, Irvine B.S. in Mathematics, Concentration in Data Science	Irvine, CA September 2018 – June 2021

EXPERIENCE

Deep Ocean Modeling Research Assistant Woods Hole Oceanographic Institution, Gebbie Lab	Sep. 2021 – Present Woods Hole, MA
<ul style="list-style-type: none">Ran several global ocean simulations using the MITgcm to diagnose the causes of deep ocean cooling in an global data assimilation effort by NASAAnalyzed 15TB+ of next-generation high-resolution coupled climate model output to understand the connections between ocean circulation and dissolved compounds in the oceanProduced written reports, posters and presentations to communicate findings to broader communities	
Electric Grid Modeling Technical Consultant Intern Foundation for Resilient Societies	Jan. 2025 Cambridge, MA
<ul style="list-style-type: none">Ran and debugged simulation cases for generating capacity adequacyIn-person training by Astrape Consulting in SERVIM modeling packageCo-led a team of 12 Electric Grid Modeling Interns to create a comprehensive internal user guide for SERVIM modeling and output analysis	
Coastal Dynamics Research Assistant Woods Hole Oceanographic Institution, Seo Lab	Sep. 2021 – Sep. 2023 Woods Hole, MA
<ul style="list-style-type: none">Processed and analyzed 3TB+ of climate data and found significant connections between near-shore sea surface temperature and extreme California precipitation eventsDeveloped tools to analyze big climate data using Python and Julia	
Parallel Computing Summer Fellow Los Alamos National Laboratory	Jun. 2021 – Aug. 2021 Los Alamos, NM
<ul style="list-style-type: none">Implemented parallel reduced-precision capabilities within the ocean component of the Energy Exascale Earth System ModelFound that reduced precision marginally reduced compute time (i.e. energy consumption), but at the cost of model skill	
Research Assistant – ML for Satellite Networks Institute for Pure and Applied Mathematics & The Aerospace Corporation	Jun. 2020 – Sep. 2020 Los Angeles, CA
<ul style="list-style-type: none">Co-developed Q-learning and Deep Q-learning algorithms to improve satellite network communication efficiencyCreated Monte Carlo simulations to measure efficacy of algorithms using the PyTorch and NetworkX Python packages	

SIDE PROJECTS

xbuoy <i>Python, Xarray, multiprocessing, HTML, Pandas</i>	Sep. 2024 – Present
<ul style="list-style-type: none">Developed a system to query the National Data Buoy Center and aggregate data into daily, monthly and yearly NetCDFsPython package can already be downloaded from https://github.com/anthony-meza/xbuoyFuture 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