Raul Antonio Moreno

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EDUCATION

University of Washington, Seattle, WA Sep 2022–Present
Ph.D. in Atmospheric Sciences
M.S. in Atmospheric Sciences Advisor: Dr. Dale Durran
Indiana University Bloomington, Bloomington, IN Aug 2018–May 2022
B.S. in Atmospheric Science, B.A. in International Law and Institutions
Minors in Math and Chinese

AWARDS AND HONORS

NASA FINESST Fellow 2025–Present
ARCS Scholar 2022–2025
Sheldon Turner Geological Sciences Award 2021
Herman B. Wells Scholarship 2018–2022

RESEARCH EXPERIENCE

University of Washington, Department of Atmospheric Sciences
Graduate Research Assistant 2022–Present
Developed artificial intelligence methods for Earth system modeling.
Processed large model- and observation-derived datasets.

NSF Research Experience for Undergraduates, NEPARS
Undergraduate Researcher 2021
Studied meteorological trends in visibility for aviation using
station data over Alaska.

U.S. State Department, Diplomacy Lab
Undergraduate Researcher 2020
Researched volcanic hazards across Mexico and contributed
to the production of a GIS database of other natural hazards.

Indiana University Bloomington
Undergraduate Research Assistant 2020–2022
Evaluated radiative transfer model simulations of marine cloud
brightening scenarios.

SELECTED PRESENTATIONS & PUBLICATIONS

- **Moreno, R. A.**, Durran, D. R. *Moving beyond parameterized precipitation processes using holistic machine learning and satellite observations.* AGU Meeting, 2025. [Talk]
- **Moreno, R. A.**, Durran, D. R. *Moving beyond parameterized precipitation processes using holistic machine learning and satellite observations.* In prep.

- Cresswell-Clay, N., Liu, B., Durran, D. R., Liu, Z., Espinosa, Z. I., **Moreno, R. A.**, and Karlbauer, M. *A Deep Learning Earth System Model for Efficient Simulation of the Observed Climate.* AGU Advances https://doi.org/10.1029/2025AV001706

- Karlbauer, M., Cresswell-Clay, N., Durran, D. R., **Moreno, R. A.**, Kurth, T., Bonev, B., Brenowitz, N., and Butz, M. *Advancing Parsimonious Deep Learning Weather Prediction Using the HEALPix Mesh.* Journal of Advances in Modeling Earth Systems https://doi.org/10.1029/2023MS004021