

Jeremy M. Klavans

Miami, FL
[Google Scholar](#)

410.971.8377
jeremy.klavans@gmail.com

PROFILE

Climate scientist who builds projections of climate impacts from small signals hidden within large ensembles of climate models. This is the same challenge that underlies future hazard projection. Background spans climate dynamics and economic model analysis, with a track record of translating complex model output into decision-relevant tools for non-technical audiences.

EDUCATION

University of Miami Rosenstiel School of Marine and Atmospheric Science	Miami, FL
• Ph.D. in Meteorology and Physical Oceanography	2015 – 2020
University of Chicago Harris School of Public Policy	Chicago, IL
• M.S. in Environmental Science and Policy with Honors	2012 – 2014
University of Miami	Coral Gables, FL
• B.A., <i>cum laude</i> , in Ecosystem Science and Policy & Political Science with Departmental Honors	2007 – 2011

RESEARCH EXPERIENCE

University of Miami Rosenstiel School of Marine and Atmospheric Science	Miami, FL
Assistant Scientist	2025 – Present
• Constructed the experimental framework to identify the cause of the signal-to-noise error in climate models	
• Generated policy-relevant climate projections of heat risk in South Florida	
University of Colorado, Boulder	Boulder, CO
Postdoctoral Associate	2020 – 2025
• Isolated the role of forcing in the Pacific Decadal Oscillation and impacts on the western United States	
• Extended forced-variability attribution methods to paleoclimate reconstructions, linking hemispheric warming to Holocene-era North Pacific drought	
University of Miami Rosenstiel School of Marine and Atmospheric Science	Miami, FL
Graduate Researcher	2015 – 2020
• Attributed decadal changes in North Atlantic climate variability – including hurricane environment – to external forcing in large ensembles of climate models, observations, and proxy reconstructions	
Center for Robust Decision Making on Climate and Energy Policy	Chicago, IL
Research Assistant	2013 – 2015
• Built public-facing decision-support tools translating technical energy-policy and climate-economy models into consumer-relevant costs (RPS Calculator , webDICE)	

TECHNICAL SKILLS

- Languages & Tools: Python, MATLAB, bash, NCO, CDO, NCL, Microsoft Office
- Computing: High-performance and parallel computing
- Climate Data & Modeling: CMIP archive, CESM ecosystem

SELECT PEER-REVIEWED PUBLICATIONS

He et al. “Tropical Atlantic Multidecadal Variability is Dominated by External Forcing.” [Nature, 2023](#). Attributes decadal changes in the tropical Atlantic hurricane environment to external forcing rather than internal variability, isolating the predictable component behind hurricane-relevant SST and wind shear trends.

Klavans et al. “Human Emissions Drive the Pacific Decadal Oscillation.” [Nature, 2025](#). Identifies a novel, predictable, human-driven signal in the Pacific Decadal Oscillation, a key driver of western US drought and wildfire risk.

Klavans et al. “Identifying the Externally-forced Atlantic Multidecadal Variability Signal through Florida Rainfall.” [Geophysical Research Letters, 2020](#). Corroborated external forcing as a driver of multidecadal North Atlantic SST variability using independent, century-long Florida rain gauge records, thereby providing evidence that Florida precipitation hazards carry a predictable, forced component rather than being purely stochastic.

Clement et al. “The Signal-to-Noise Problem in Climate Change.” [Journal of Climate, 2025](#). Shows climate models understate the ratio of externally forced signal to natural noise relative to observations, with direct implications for hazard model confidence.

AWARDS & RECOGNITION

- F.G. Walton Smith Prize for outstanding Ph.D. dissertation (2021)
- University of Miami Fellowship (highest award offered by UM Graduate School)
- RSMAS Teaching Assistant Excellence Award (2018)
- Climate expert for media outlets including Yale Climate Connections, Southern California Public Radio, and PBS's *NOVA*