

# James Doss-Gollin

## APPOINTMENTS

<b>Rice University</b> Assistant Professor	2021–present
<b>The Pennsylvania State University</b> Postdoctoral Scholar	2020

## EDUCATION

<b>Columbia University</b> Ph.D in Earth & Environmental Engineering	2020
M.S. in Earth & Environmental Engineering	2016
<b>Yale University</b> B.S. in Mechanical Engineering	2015

## AWARDS

<b>Outstanding Reviewer Award</b> , Earth's Future	2023
<b>Nickolas and Liliana Themelis Fellowship</b> , Fu Foundation School of Engineering and Applied Science, Columbia University	2018
<b>Graduate Research Fellowship</b> , Climate and Large-Scale Atmospheric Dynamics, National Science Foundation	2017
<b>Presidential Distinguished Fellowship</b> , Fu Foundation School of Engineering and Applied Science, Columbia University	2015
<b>Distinction in Major</b> , Department of Mechanical Engineering and Materials Science, Yale University	2015
<b>Legacy Award</b> , New Haven Promise	2015
<b>Larry Coben '79 Fellowship</b> , Yale University	2014
<b>Vance-Carter Travel Award</b> , Yale University	2013
<b>Thomas C. Barry Travel Award</b> , Yale University	2012

## GRANTS AND CONTRACTS

Amounts reflect Rice portion for collaborative grants and subawards; total amount for direct awards.

<b>National Science Foundation: Confronting Hazards, Impacts and Risks for a Resilient Planet (CHIRRP).</b> "RAISE: Flood resilience in rural Texas communities." <b>co-PI</b> (PI: Avantika Gori). <b>\$999,986.</b>	2025–2028
<b>Consortium for Enhancing Resilience and Catastrophe Modeling (CERCAT).</b> "A Nonstationary Joint Probability Method for Tropical Cyclone Hazard Assessment." <b>Lead PI. \$75,000.</b>	2025–2026
<b>NVIDIA.</b> "Computing Infrastructure for AI-enhanced Climate Risk and Resilience at Rice." <b>co-PI</b> (PI: Arlei Lopes da Silva). <b>\$0.</b>	2025–2025
<b>Ken Kennedy Institute at Rice University.</b> "Advancing AI for Climate Risk and Urban Resilience." <b>Lead PI. \$160,000.</b>	2024–2025
<b>National Science Foundation.</b> "IUCRC Planning Grant Rice University: Center for Climate, Equity and Resilience in Catmodeling (CERCat)." <b>co-PI</b> (PI: Jamie Padgett). <b>\$20,000.</b>	2024–2025
<b>Texas Water Development Board</b> (via Texas A&M University). "Developing Future Rainfall Frequency Grids for the State of Texas." <b>Subaward Co-PI</b> (PI: John Nielsen-Gammon). <b>\$77,750.</b>	2022–2025
<b>National Science Foundation: Strengthening America's Infrastructure.</b> "EAGER: Participatory Design for Water Quality Monitoring of Highly Decentralized Water Infrastructure Systems." <b>PI</b> (PI: Alicia Cooperman). <b>\$104,684.</b>	2022–2025

National Science Foundation: <i>Climate and Large-Scale Dynamics</i> . “Collaborative Research: Evaluating the Past and Future of Mississippi River Hydroclimatology to Constrain Risk via Integrated Climate Modeling, Observations, and Reconstructions.” <b>co-PI. \$472,024.</b>	2022–2025
Rice University: <i>Sustainable Futures Fund</i> . “Leveraging Earth System Observations at Multiple Scales to Improve Stormwater Management in Houston.” <b>Lead PI. \$50,000.</b>	2022–2023
100,000 Strong in the Americas Innovation Fund. “IFCE-Rice-SENAI Program on Artificial Intelligence for Urban Sustainability and Resilience to Natural Disasters in the Americas.” <b>co-PI (PI: Arlei Lopes da Silva). \$50,000.</b>	2022–2023
Energy Foundation. “Synthesis of Texas Electricity Research from Rice University.” <b>co-PI (PI: Daniel Cohan). \$24,928.</b>	2022–2023

## JOURNAL ARTICLES

- Haider, M. R., Dee, S. G., **Doss-Gollin, J.**, Dunne, K. B. J., and Muñoz, S. E. 2025. “Impact of 21st Century Climate Change on Mississippi River Basin Discharge in CESM2 Large Ensemble Projections”. In: *Global and Planetary Change* 249, p. 104742. DOI: 10.1016/j.gloplacha.2025.104742.
- Liu, Chunshan, Kowal, Daniel R., **Doss-Gollin, James**, and Vannucci, Marina. 2025. “Bayesian Functional Graphical Models with Change-Point Detection”. In: *Computational Statistics & Data Analysis* 206, p. 108122. DOI: 10.1016/j.csda.2024.108122.
- Liu, Yuhao, **Doss-Gollin, James**, Dai, Qiushi, Veeraraghavan, Ashok, and Balakrishnan, Guha. 2025. “Downscaling Extreme Precipitation with Wasserstein Regularized Diffusion”. In: *IEEE Transactions on Geoscience and Remote Sensing*, pp. 1–1. DOI: 10.1109/TGRS.2025.3611872.
- Lu, Yuchen**, Seiyon Lee, Benjamin, and **Doss-Gollin, James**. 2025. “Bayesian Spatiotemporal Nonstationary Model Quantifies Robust Increases in Daily Extreme Rainfall across the Western Gulf Coast”. In: *Environmental Research: Climate* 4.3, p. 035016. DOI: 10.1088/2752-5295/adf56e.
- Kazadi, Arnold, **Doss-Gollin, James**, Sebastian, Antonia, and Silva, Arlei. 2024. “FloodGNN-GRU: A Spatio-Temporal Graph Neural Network for Flood Prediction”. In: *Environmental Data Science* 3, e21. DOI: 10.1017/eds.2024.19.
- Murphy, Kelsey, Dee, Sylvia, **Doss-Gollin, James**, Dunne, Kieran B. J., O'Donnell, Michelle, and Muñoz, Samuel. 2024. “Competing Influences of Land Use and Greenhouse Gas Emissions on Mississippi River Basin Hydroclimate Simulated Over the Last Millennium”. In: *Paleoceanography and Paleoclimatology* 39.7, e2024PA004902. DOI: 10.1029/2024PA004902.
- Singh, Deepti, Bekris, Yianna S., Rogers, Cassandra D. W., **Doss-Gollin, James**, Coffel, Ethan D., and Kalashnikov, Dmitri A. 2024. “Enhanced Solar and Wind Potential during Widespread Temperature Extremes across the U.S. Interconnected Energy Grids”. In: *Environmental Research Letters* 19.4, p. 044018. DOI: 10.1088/1748-9326/ad2e72.
- Amonkar, Yash, **Doss-Gollin, James**, Farnham, David J., Modi, Vijay, and Lall, Upmanu. 2023. “Differential Effects of Climate Change on Average and Peak Demand for Heating and Cooling across the Contiguous USA”. In: *Communications Earth & Environment* 4.1 (1), pp. 1–9. DOI: 10.1038/s43247-023-01048-1.
- Amonkar, Yash, **Doss-Gollin, James**, and Lall, Upmanu. 2023. “Compound Climate Risk: Diagnosing Clustered Regional Flooding at Inter-Annual and Longer Time Scales”. In: *Hydrology* 10.3 (3), p. 67. DOI: 10.3390/hydrology10030067.
- Doss-Gollin, James**, Amonkar, Yash, Schmeltzer, Katlyn, and Cohan, Daniel. 2023. “Improving the Representation of Climate Risks in Long-Term Electricity Systems Planning: A Critical Review”. In: *Current Sustainable/Renewable Energy Reports*. DOI: 10.1007/s40518-023-00224-3.
- Doss-Gollin, James** and Keller, Klaus. 2023. “A Subjective Bayesian Framework for Synthesizing Deep Uncertainties in Climate Risk Management”. In: *Earth's Future* 11.1. DOI: 10.1029/2022EF003044.
- Garcia, M., Juan, A., **Doss-Gollin, J.**, and Bedient, P. 2023. “Leveraging Mesh Modularization to Lower the Computational Cost of Localized Updates to Regional 2D Hydrodynamic Model Outputs”. In: *Engineering Applications of Computational Fluid Mechanics* 17.1, p. 2225584. DOI: 10.1080/19942060.2023.2225584.
- Wutich, Amber, Thomson, Patrick, Jepson, Wendy, Stoler, Justin, Cooperman, Alicia D., **Doss-Gollin, James**, Jantrania, Anish, Mayer, Alex, Nelson-Núñez, Jami, Walker, W. Shane, and Westerhoff, Paul. 2023. “MAD Water: Integrating Modular, Adaptive, and Decentralized Approaches for Water Security in the Climate Change Era”. In: *WIREs Water* n/a/n/a, e1680. DOI: 10.1002/wat2.1680.
- Zhou, Xiangnan, Duenas-Orsorio, Leonardo, **Doss-Gollin, James**, Liu, Lu, Stadler, Lauren, and Li, Qilin. 2023. “Mesoscale Modeling of Distributed Water Systems Enables Policy Search”. In: *Water Resources Research* 59.5. DOI: 10.1029/2022WR033758.
- Doss-Gollin, James**, Farnham, David J., Lall, Upmanu, and Modi, Vijay. 2021. “How Unprecedented Was the February 2021 Texas Cold Snap?” In: *Environmental Research Letters*. DOI: 10.1088/1748-9326/ac0278.

- Doss-Gollin, James**, Farnham, David J., Ho, Michelle, and Lall, Upmanu. 2020. "Adaptation over Fatalism: Leveraging High-Impact Climate Disasters to Boost Societal Resilience". In: *Journal of Water Resources Planning and Management* 146.4. DOI: 10.1061/(asce)wr.1943-5452.0001190.
- Doss-Gollin, James**, Farnham, David J., Steinschneider, Scott, and Lall, Upmanu. 2019. "Robust Adaptation to Multi-scale Climate Variability". In: *Earth's Future* 7.7, pp. 734–747. DOI: 10.1029/2019ef001154.
- Rözer, Viktor, Kreibich, Heidi, Schröter, Kai, Müller, Meike, Sairam, Nivedita, **Doss-Gollin, James**, Lall, Upmanu, and Merz, Bruno. 2019. "Probabilistic Models Significantly Reduce Uncertainty in Hurricane Harvey Pluvial Flood Loss Estimates". In: *Earth's Future* 7.4. DOI: 10.1029/2018ef001074.
- Doss-Gollin, James**, Muñoz, Ángel G, Mason, Simon J, and Pastén, Max. 2018. "Heavy Rainfall in Paraguay during the 2015-2016 Austral Summer: Causes and Sub-Seasonal-to-Seasonal Predictive Skill". In: *Journal of Climate* 31.17, pp. 6669–6685. DOI: 10.1175/jcli-d-17-0805.1.
- Farnham, David J, **Doss-Gollin, James**, and Lall, Upmanu. 2018. "Regional Extreme Precipitation Events: Robust Inference from Credibly Simulated GCM Variables". In: *Water Resources Research* 54.6. DOI: 10.1002/2017wr021318.
- Doss-Gollin, James**, de Souza Filho, Francisco de Assis, and da Silva, Francisco Osny Enéas. 2015. "Analytic Modeling of Rainwater Harvesting in the Brazilian Semi-arid Northeast". In: *Journal of the American Water Resources Association* 52.1, pp. 129–137. DOI: 10.1111/1752-1688.12376.

## FORTHCOMING

- Baer, Jack, Sebastian, Antonia, Grimley, Lauren Elise, **Doss-Gollin, James**, Wright, Daniel B., and Hussain, Mohammad Ashar. 2024. *Neglecting Spatiotemporal Rainfall Variability Underestimates Flood Hazard and Risk*. Pre-published.
- Geldner, Nathan, Johnson, David R., **Doss-Gollin, James**, and Keller, Klaus. 2023. *Efficient Flood Risk Mitigation and Intersectional Equity Implications: A Case Study in New Orleans*. DOI: 10.21203/rs.3.rs-3098000/v1. Pre-published.
- Hancock, Christopher L, Dee, Sylvia G., Haider, Muhammad Rezaul, **Doss-Gollin, James**, Lehner, Flavio, Murphy, Kelsey, and Munoz, Samuel E. 2025. *Robust 21st Century Hydrological Trends in the Mississippi River Basin from CMIP6: West-Gets-Drier, East-Gets-Wetter*. Pre-published.
- O'Donnell, Michelle, Murphy, Kelsey, **Doss-Gollin, James**, Dee, Sylvia, and Munoz, Samuel. 2024. *Evaluation of Hydroclimatic Biases in the Community Earth System Model (CESM1) within the Mississippi River Basin*. DOI: 10.5194/hess-2024-153. URL: <https://hess.copernicus.org/preprints/hess-2024-153/> (visited on 06/10/2024). Pre-published.
- Pollack, Adam, Auermuller, Lisa, Burleyson, Casey, Campbell, Jentry E., Condon, Madison, Cooper, Courtney, Coronese, Matteo, Dangendorf, Sonke, **Doss-Gollin, James**, Hegde, Prabhat, Helgeson, Casey, Kopp, Robert, Kwakkel, Jan, Leaf, Andrew, Lesk, Corey, Mankin, Justin, Nicholas, Robert E., Rice, Jennie S., Roth, Samantha, Scheeler, Moira, Srikrishnan, Vivek, Tuana, Nancy, Vernon, Chris, Zhao, Mengqi, and Keller, Klaus. 2024. *Unlocking the Benefits of Transparent and Reusable Science for Climate-Risk Management*. DOI: 10.31219/osf.io/29nhv. URL: <https://osf.io/29nhv> (visited on 10/31/2024). Pre-published.
- Pollack, Adam, **Doss-Gollin, James**, Srikrishnan, Vivek, and Keller, Klaus. 2024. *UNSAFE: An UNCertain Structure And Fragility Ensemble Framework for Property-Level Flood Risk Estimation*. DOI: 10.31219/osf.io/jb9ta. URL: <https://osf.io/jb9ta> (visited on 05/20/2024). Pre-published.

## INVITED TALKS

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| "Advancing Urban Flood Risk Management through Physics-informed, Data-Driven Hazard Assessment". Earth, Marine, and Environmental Science Seminar, University of North Carolina, Chapel Hill, NC.               | 2024-03-27 |
| "Quantifying and characterizing uncertain climate hazards to enable adaptive resilience". Atmospheric Sciences Seminar, Texas A&M University, College Station, TX.  | 2022-11-16 |
| "Unprecedented impacts don't require unprecedented weather". Post-Harvey Climate & Flood Impacts on the Built Environment, Severe Storm Prediction, Education, & Evacuation from Disasters Center, Houston, TX. | 2022-04-29 |
| "Revisiting our design criteria: What hazards should we design for in a changing climate?". Hydrologic Sciences and Water Resources Engineering Seminar, University of Colorado Boulder, Remote Presentation.   | 2022-04-13 |
| "Adapting Engineering Design Criteria to a Changing Climate: Insights from House Elevation". Technical Webinar, ASCE Central New Jersey Branch, Remote Presentation.  | 2022-04-12 |
| "Panelist". Extreme Weather: How To Report on a World That's Warmer, Colder, Wetter, Drier and Weirder, 31st Annual Conference of the Society of Environmental Journalists, Houston, TX.                        | 2022-04-02 |

<b>"Extreme Impacts Don't Require Extreme Weather: Lessons from the February 2021 Texas Black-outs".</b> Outreach Event: Science is for Everyone, <i>American Meteorological Society</i> , Remote Presentation.	2022-01-25
<b>"Extreme Impacts Don't Require Extreme Weather: Lessons from the February 2021 Texas Black-outs".</b> Compound Events Working Group, <i>Risk KAN (Knowledge Action Networks)</i> , Remote Presentation.	2021-12-09
<b>"Panelist".</b> Tail events: Prediction, Planning, and Performance, <i>Harvard Electricity Policy Group</i> , Remote Presentation.	2021-09-28
<b>"Towards Adaptive Resilience: Managing Flood Risks in a Changing World".</b> Technical Webinar, <i>ASCE Central New Jersey Branch</i> , Remote Presentation.	2021-04-28
<b>"Prediction and Implications of Structured Climate Risk for Sequential Adaptation under Deep Uncertainty".</b> Center for Climate Risk Management CLIMA Seminar, <i>the Pennsylvania State University</i> , State College, PA.	2020-01-29
<b>"Prediction and Implications of Structured Climate Risk for Sequential Adaptation under Deep Uncertainty".</b> Department of Civil and Environmental Engineering Seminar, <i>Rice University</i> , Houston, TX.	2020-01-27
<b>"Prediction and Implications of Structured Climate Risk for Sequential Adaptation under Deep Uncertainty".</b> Complex Systems Simulation and Optimization Group, <i>National Renewable Energy Laboratory</i> , Golden, CO.	2020-01-07
<b>"Drivers of Extreme Rainfall: Atmospheric Circulation Patterns and Regional Intense Rainfall in the Ohio River".</b> European Flood Awareness System Group, <i>European Centre for Medium Range Weather Forecasting</i> , Reading, England.	2016-09-02
<b>"Understanding the Physical Drivers of Extreme Rainfall for Flood Prediction".</b> Oxford Water Network, <i>Oxford University</i> , Oxford, England.	2016-08-26

## TEACHING

### Rice University

CEVE 421/521: <i>Climate Risk Management</i> . Instructor.	Spring 2024
CEVE 421/521: <i>Climate Risk Management</i> . Instructor.	Spring 2023
CEVE 543: <i>Environmental Data Science</i> . Instructor.	Spring 2022
CEVE 101: <i>Fundamentals of Civil and Environmental Engineering</i> . Instructor.	Fall 2024
CEVE 543: <i>Data Science Methods for Climate Hazard Assessment</i> . Instructor.	Fall 2023
CEVE 101: <i>Fundamentals of Civil and Environmental Engineering</i> . Instructor.	Fall 2021

### Columbia University

EAECE 4257: <i>Environmental Data Analysis and Modeling</i> . Teaching Assistant.	Spring 2018
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## ADVISING

True Furrh: <i>Ph.D. in Civil and Environmental Engineering</i> , Rice University. <b>Committee Member.</b>	
Dongwook Kim: <i>Ph.D. in Civil and Environmental Engineering</i> , Rice University. <b>Primary Advisor.</b>	
Yuchen Lu: <i>Ph.D. in Civil and Environmental Engineering</i> , Rice University. <b>Primary Advisor.</b>	
Kelsey Murphy: <i>Ph.D. in Earth, Environmental, and Planetary Sciences</i> , Rice University. <b>Committee Member.</b>	
Jonah Schaechter: <i>Ph.D. in Civil and Environmental Engineering</i> , Rice University. <b>Primary Advisor.</b>	
Valerii Sobolevskaia: <i>Ph.D. in Earth, Environmental, and Planetary Sciences</i> , Rice University. <b>Committee Member.</b>	
Karan Jakhar: <i>Ph.D. in Mechanical Engineering</i> , Rice University. Thesis: "Equation Discovery and Deep Learning for Geophysical Turbulence". <b>Committee Member.</b>	2025
Kyle Ostlind: <i>M.S. in Civil and Environmental Engineering</i> , Rice University. Thesis: "Evaluating Runoff Response to Nature-Based Solutions under Varying Development Scenarios in Upper Cypress Creek near Houston, Texas". <b>Committee Member.</b>	2025
John A. Baer: <i>M.S. in Earth, Marine and Environmental Sciences</i> , University of North Carolina at Chapel Hill. Thesis: "Quantifying Precipitation-Induced Uncertainty in Flood Hazard Assessment in a Coastal Urban Area". <b>Committee Member.</b>	2024

Kendall Capshaw: <i>Ph.D. in Civil and Environmental Engineering</i> , Rice University. Thesis: “Modeling Coastal Petrochemical Infrastructure Risk, Resilience, and Cascading Community Consequences”. <b>Committee Member</b> .	2024
Xinyue Luo: <i>Ph.D. in Earth, Environmental and Planetary Sciences</i> , Rice University. Thesis: “Characterizing the El Niño-Southern Oscillation and its North American Teleconnections over the Last Millennium”. <b>Committee Member</b> .	2024
Anibal Tafur Gutierrez: <i>Ph.D. in Civil and Environmental Engineering</i> , Rice University. Thesis: “Methods and Tools for Risk-informed Resilience Enhancement of Coastal Intermodal Freight Networks”. <b>Committee Member</b> .	2024
Matthew Garcia: <i>Ph.D. in Civil and Environmental Engineering</i> , Rice University. Thesis: “Novel Urban Floodplain Modeling Methods for Applications in Coupling Surrogate Machine Learning Methods”. <b>Committee Member</b> .	2023
Mia Peebles: <i>M.S. in Civil and Environmental Engineering</i> , Rice University. Thesis: “Modeling Flood Reduction of Nature-Based Channel Modifications in Houston, TX”. <b>Committee Member</b> .	2023
Xiangnan Zhou: <i>Ph.D. in Civil and Environmental Engineering</i> , Rice University. Thesis: “Resilience Planning for Water Distribution Systems”. <b>Committee Member</b> .	2023
Raychel Bahnick: <i>M.S. in Civil and Environmental Engineering</i> , Rice University. Thesis: “Assessing Land Use Change and Subsidence Impact on Inland Flooding”. <b>Committee Member</b> .	2022
Alyssa Graham: <i>M.S. in Civil and Environmental Engineering</i> , Rice University. Thesis: “Water Supply Vulnerability Testing and Robust Planning Analysis with Exploratory Modeling under Deep Uncertainty”. <b>Committee Member</b> .	2022
Elizabeth Hoffmann: <i>M.S. in Civil and Environmental Engineering</i> , Rice University. Thesis: “Mapping Dynamic Watershed Response Under Increasing Development Using HEC-RAS 2D: A Case Study of the Big Creek Watershed in Fort Bend County”. <b>Committee Member</b> .	2022
Chunshan Liu: <i>Ph.D. in Statistics</i> , Rice University. Thesis: “Bayesian Graphical Models for Multivariate Time Series”. <b>Committee Member</b> .	2022
Xiaoyu (Toby) Li: <i>M.S. in Civil and Environmental Engineering</i> , Rice University. Thesis: “Evaluating the Effects of Project Brays Mitigation Using Unsteady HEC-RAS Hydraulic Modeling: Application to Meyerland in Houston, TX”. <b>Committee Member</b> .	2021

## ADVISEE AWARDS

Karen and John Huff Graduate Fellowship in Civil and Environmental Engineering, <b>Dongwook Kim</b> .	2025
H.W. Reeves Endowed Scholarship, <b>Yuchen Lu</b> .	2022

## MEDIA COVERAGE

“Historic Texas Flooding.” <b>KEYE-AUS (CBS)</b> [recorded video interview].	2025-07-25
“Houston’s Morning Show.” <b>Fox26 Houston</b> [live video interview].	2025-07-10
“Breaking down the force of water in the Texas floods.” <b>AP News</b> — Michael Phillis [print].	2025-07-10
“Here are some things you can do to be better prepared for major flooding.” <b>Associated Press</b> — Caleigh Wells [print].	2025-07-10
“ABC13-Luke Jones speaks with James Doss-Gollin, an assistant professor of Civil and Environmental Engineering at Rice University, about the key differences between flooding in Houston and central Texas.” <b>ABC13</b> — Luke Jones [recorded video interview].	2025-07-09
“After deadly flooding in Central Texas, state lawmakers look to prevent similar tragedies.” <b>KVUE</b> — Daniel Perreault [recorded video interview].	2025-07-09
“New Flood Warning System Greenlit Shortly Before Deadly Texas Disaster.” <b>The Wall Street Journal</b> — Joseph De Avila [print].	2025-07-09
“Questions arise on how emergency warning systems work after Central Texas flood.” <b>ABC13</b> — Tom Abrahams [print].	2025-07-08
“Bajo la Amenaza del Golfo (Under the Threat of the Gulf).” <b>Telemundo Houston</b> [recorded video interview].	2025-05-30
“Will Texas become too hot for humans?” <b>BBC Future</b> — Sarah Griffiths [print].	2023-06-30



"Climate change has sent temperatures soaring in Texas." <b>The Texas Tribune</b> — Erin Douglas, Yuriko Schumacher and Alex Ford [ <i>print</i> ].	2023-06-27
"Texas could have foreseen 2021 cold-wave disaster, new study concludes." <b>Texas Climate News</b> — Bob Henson [ <i>print</i> ].	2022-05-21
"Opinion: The risks of climate change are great - so are the rewards of solving it." <b>Houston Chronicle</b> — Andrew Dessler, James Doss-Gollin, and Katherine Hayhoe [ <i>print</i> ].	2021-09-01
"The False Comfort of Higher Seawalls." <b>The New Republic</b> — Paola Rosa-Aquino [ <i>print</i> ].	2019-10-29
"New Study Shows Promise for Long-Term Weather Forecasts in South America." <b>State of the Planet</b> — Elisabeth Gawthrop [ <i>print</i> ].	2018-08-06

## SESSIONS ORGANIZED

<b>Co-Organizer.</b> <i>Nature-Based Solutions for a Resilient Gulf Coast Workshop</i> at <b>Rice University</b> , Houston, TX.	2025-03-03
<b>Primary Convener.</b> <i>H31G - Integrating Social, Scientific, and Engineering Approaches to Identify and Address Gaps in Water Infrastructure and Household Water Security</i> at <b>American Geophysical Union Fall Meeting</b> , San Francisco, CA.	2023-12-13
<b>Convener.</b> <i>NH41C - Hybrid Modeling and Digital Twin Systems for Flood Hazard Prediction and Risk Assessment at Different Spatial Scales</i> at <b>American Geophysical Union Fall Meeting</b> , Washington, DC.	2023-12-11
<b>Chair.</b> <i>H44G - Water and Society: Interdisciplinary Perspectives on Hydroclimatic Forecasting for Water Resources Decision Making</i> at <b>American Geophysical Union Fall Meeting</b> , New Orleans, LA.	2021-12-16
<b>Primary Convener.</b> <i>NH53 - Emerging Needs and Approaches for Climate Services: Understanding and Developing Innovative Approaches to User-Oriented Climate Services</i> at <b>American Geophysical Union Fall Meeting</b> , San Francisco, CA.	2019-12-23
<b>Student Organizer.</b> <i>Earth and Environmental Engineering Student Research Symposium</i> at <b>Columbia University</b> , New York, NY.	2018-10-12
<b>Student Organizer.</b> <i>Earth and Environmental Engineering Student Research Symposium</i> at <b>Columbia University</b> , New York, NY.	2017-10-27

## WORKSHOP PRESENTATIONS

Presenter names in bold indicate my own presentations; presenter names in blue indicate advisee presentations.

<b>James Doss-Gollin:</b> "Robust Trends in Extreme Rainfall Probabilities in Texas". <b>2025 Texas Climate Conference</b> , <i>Rice University and Texas A&amp;M University</i> , Houston, TX [ <i>Talk</i> ].	2025-04-10
<b>James Doss-Gollin:</b> "Use-inspired tools for climate hazard assessment". <b>Nature-Based Solutions for a Resilient Gulf Coast Workshop</b> , <i>Rice University</i> , Houston, TX [ <i>Talk</i> ].	2025-03-04
<b>James Doss-Gollin:</b> "Advancing Urban Flood Hazard Characterization through Machine Learning: Challenges and Opportunities". <b>American Geophysical Union Fall Meeting 2024</b> , <i>AGU</i> , Washington, DC [ <i>Talk</i> ].	2024-12-13
<b>Yuchen Lu:</b> "TxRAIN-Observational: A Hierarchical Bayesian Spatial Framework to Assess Nonstationary Rainfall Intensity, Frequency, and Duration in Texas". <b>American Geophysical Union Fall Meeting 2024</b> , <i>AGU</i> , Washington, DC [ <i>Talk</i> ].	2024-12-10
<b>James Doss-Gollin:</b> "Assessing and Managing Climate Risks to Electricity Systems in an Era of Climate Change and Energy Transition". <b>American Geophysical Union Fall Meeting 2024</b> , <i>AGU</i> , Washington, DC [ <i>Talk</i> ].	2024-12-10
<b>Yuchen Lu:</b> "Nonstationary Extreme Precipitation Probabilities in Texas". <b>Fall Meeting</b> , <i>Consortium for Enhancing Resilience and Catastrophe Modeling (CERCat)</i> , Bethlehem, PA [ <i>Poster</i> ].	2024-10-17
<b>James Doss-Gollin:</b> "Leveraging Machine Learning to Advance Urban Flood Hazard Assessment: Challenges and Opportunities". <b>Data-driven and physics-based machine learning methods for forecasting and knowledge discovery of surface hydrology</b> , <i>Conference on Computational Methods in Water Resources</i> , Tucson, AZ [ <i>Talk</i> ].	2024-10-01

<b>Yuchen Lu:</b> "Spatially Varying and Duration Dependent Covariate Model: A Hierarchical Bayesian Framework for Multi-duration Extreme Precipitation Frequency Analysis in Texas". <b>World Environmental &amp; Water Resources Congress 2024</b> , <i>Environmental &amp; Water Resources Institute (EWRI) - ASCE</i> , Milwaukee, WI [Talk].	2024-05-21
<b>Yuchen Lu:</b> "H21T-1602: Spatially Varying Covariate Model: A Hierarchical Bayesian Framework for Precipitation Frequency Analysis in the Gulf Coast". <b>American Geophysical Union Fall Meeting 2023</b> , AGU, San Francisco, CA [Talk].	2023-12-12
<b>James Doss-Gollin:</b> "NH14B-07: Linking Robust Trends in Observations and Models to Develop Nonstationary Rainfall Frequency Grids for the State of Texas". <b>American Geophysical Union Fall Meeting 2023</b> , AGU, San Francisco, CA [Talk].	2023-12-11
<b>James Doss-Gollin:</b> "A Bayesian Spatial Hierarchical Framework for Process-Informed Nonstationary Analysis of Precipitation Frequencies". <b>13th International Workshop on Statistical Hydrology</b> , <i>International Association of Hydrological Sciences</i> , Boston, MA [Talk].	2023-11-10
<b>Yuchen Lu:</b> "H42E-1333: Nonstationary GEV with Hierarchical Spatial Pooling: A Spatiotemporal Bayesian Framework for Nonstationary Extreme Precipitation Frequency Analysis in the Gulf Coast". <b>American Geophysical Union Fall Meeting 2022</b> , AGU, Chicago, IL [Talk].	2022-12-15
<b>James Doss-Gollin:</b> "H35F-07: Near-term Predictability Lowers Long-Term Adaptation Costs". <b>American Geophysical Union Fall Meeting 2022</b> , AGU, Chicago, IL [Talk].	2022-12-14
<b>James Doss-Gollin:</b> "H25U-1265: Operationalizing Bayesian Model Checking for Robust Decision Making: Insights from House Elevation". <b>American Geophysical Union Fall Meeting 2021</b> , AGU, New Orleans, LA [Poster].	2021-12-14
<b>James Doss-Gollin:</b> "A14H-03: How Unprecedented Was the February 2021 Texas Cold Snap?". <b>American Geophysical Union Fall Meeting 2021</b> , AGU, New Orleans, LA [Talk].	2021-12-13
<b>James Doss-Gollin:</b> "Valuing Flexibility and Soft Instruments for Sequential Decision Problems". <b>2020 Annual Meeting</b> , <i>Society for Decision Making under Deep Uncertainty</i> , [Remote Presentation].	2020-11-11
<b>James Doss-Gollin:</b> "H11G-07: Towards Adaptive Resilience: Managing Uncertainties and Exploiting Predictability across Timescales". <b>American Geophysical Union Fall Meeting 2019</b> , AGU, San Francisco, CA [Talk].	2019-12-09
<b>James Doss-Gollin:</b> "Adaptive Resilience through Real Options and Deep Reinforcement Learning". <b>Doctoral Consortium on Computational Sustainability</b> , <i>Carnegie Mellon University</i> , Pittsburgh, PA [Talk].	2019-10-19
<b>James Doss-Gollin:</b> "Evaluating Staged Investments in Critical Infrastructure for Climate Adaptation". <b>2019 Interdisciplinary Ph.D. Workshop in Sustainable Development</b> , <i>Columbia University</i> , New York, NY [Talk].	2019-04-12
<b>James Doss-Gollin:</b> "H52F-05: Robust Adaptation to Cyclical Climate Risk". <b>American Geophysical Union Fall Meeting 2018</b> , AGU, Washington, DC [Talk].	2018-12-14
<b>James Doss-Gollin:</b> "Robust Adaptation to Multi-Scale Climate Variability". <b>The Nexus of Climate Data, Insurance, and Adaptive Capacity</b> , Asheville, NC [Poster].	2018-11-08
<b>James Doss-Gollin:</b> "A31H-0135: Causes and Model Skill of the Persistent Intense Rainfall and Flooding in Paraguay during the Austral Summer 2015-2016". <b>American Geophysical Union Fall Meeting 2017</b> , AGU, New Orleans, LA [Talk].	2017-12-01
<b>James Doss-Gollin:</b> "H22B-02: Designing and Operating Infrastructure for Nonstationary Flood Risk Management". <b>American Geophysical Union Fall Meeting 2017</b> , AGU, New Orleans, LA [Talk].	2017-12-01
<b>James Doss-Gollin:</b> "Extreme Rainfall in Paraguay during the 2015-16 Austral Summer: Causes and Predictive Skill". <b>North East Graduate Student Water Symposium</b> , <i>University of Massachusetts Amherst</i> , Amherst, MA [Talk].	2017-09-10
<b>James Doss-Gollin:</b> "Regional Intense Precipitation: Inferences From GCM Atmospheric Circulation Fields". <b>Modeling Research in the Cloud</b> , <i>National Center for Atmospheric Research</i> , Boulder, CO [Poster].	2017-05-31
<b>James Doss-Gollin:</b> "Statistical-Dynamical Analysis of Climate Projections for Flood Infrastructure Design". <b>Interdisciplinary Ph.D. Workshop in Sustainable Development 2017</b> , <i>Columbia University</i> , New York, NY [Talk].	2017-04-21

**James Doss-Gollin:** “Causes and Model Skill of the Persistent Intense Rainfall and Flooding in Paraguay during the Austral Summer 2015-2016”. **Workshop on Subseasonal to Seasonal Predictability of Extreme Weather and Climate**, Columbia University, New York, NY [Poster]. 2016-12-06

## PEER REVIEW

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### Journals

AGU Advances; Climate Risk Management; Climatic Change; Communications Earth and Environment; Earth's Future; Energy Technology; Environmental Data Science; Environmental Research Letters; Geophysical Research Letters; Hydrology and Earth System Sciences; Joule; Journal of Applied Meteorology and Climatology; Journal of Hydrology; Journal of Water Resources Management and Planning; Oxford Journal of Development Studies; Water Resources Research; Water Security; Weather, Climate, and Society.

### Funding Agencies

Department of Energy (BER); National Science Foundation.

### Agencies

Electric Power Research Institute (EPRI); Texas Water Development Board (TWDB).

## ADDITIONAL EXPERIENCE

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<b>Social and Behavioral Research - Basic/Refresher</b> — CITI program.	2025–2028
<b>Panel Fellow</b> — NSF CMMI's Game Changer Academies for Advancing Research Innovation.	2021
<b>Visiting Graduate Researcher</b> — Lamontagne Research Group, Department of Civil and Environmental Engineering, Tufts University, Medford, MA.	2019–2020
<b>Graduate Research Fellow</b> — Columbia Water Center, Department of Earth and Environmental Engineering, Columbia University, New York, NY.	2015–2020
<b>Summer School Participant</b> — Fluid Dynamics of Sustainability and the Environment, Cambridge University, Cambridge, England.	2016
<b>Education Policy Intern</b> — Elm City Communities / New Haven Housing Authority, New Haven, CT.	2015
<b>President (2014), Design Lead (2013), Member (2012, 2015)</b> — Engineers Without Borders, Yale Student Chapter, New Haven, CT.	2012–2015
<b>Undergraduate Research Assistant</b> — Lab of Jaehong Kim, Department of Chemical and Environmental Engineering, Yale University, New Haven, CT.	2014–2015
<b>Visiting Undergraduate Researcher</b> — Water and Climate Risk Lab, Department of Hydraulic and Environmental Engineering, Universidade Federal do Ceará, Fortaleza, Brazil.	2014
<b>Mechanical Design Intern</b> — Slingshot Team, DEKA Research & Development, Manchester, NH.	2013
<b>Undergraduate Research Assistant</b> — Lab of Jan Schroers, Department of Mechanical Engineering and Materials Science, Yale University, New Haven, CT.	2012
<b>Ikatú Agua Intern</b> — Fundación Paraguaya, Asunción, Paraguay.	2012