

Yash Vijay Amonkar

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APPOINTMENTS	Postdoctoral Research Associate , UNC Chapel Hill Supervised by Gregory Characklis <ul style="list-style-type: none">Institute of the Environment. University of North Carolina, Chapel Hill.Center on Financial Risk in Environmental Systems (CoFiRES)	May 2023–Current
PH.D.	Modeling Spatiotemporal Dependence for Integrated Climate Risk Assessment of Energy Infrastructure Systems Supervised by Upmanu Lall <ul style="list-style-type: none">Analysis of spatio-temporal climate risk to energy infrastructure at a regional level.Developed high dimensional space-time simulation algorithms to model renewable energy.	2018–2023
EDUCATION	Ph.D. Environmental Engineering , Columbia University in the City of New York M.S. Environmental Engineering , Columbia University in the City of New York B.S. Chemical Engineering (B.Chem) , Institute of Chemical Technology, Mumbai	April 2023 2018 2016
PROFESSIONAL SERVICES	Graduate Research Assistant Part-Time, The Earth Institute <ul style="list-style-type: none">Project with LCRA. Sr. Research Assistant Full-Time, The Earth Institute <ul style="list-style-type: none">Worked at the Columbia Water Center Graduate Student Assistant Part-Time, The Earth Institute <ul style="list-style-type: none">Norges Bank Investment Management funded project on Sustainable Mining	Jun-Aug 2022 Mar-Jul 2018 Dec 2016-Dec 2017
AWARDS	Morton B. Friedman Memorial Prize for Excellence Cheung-Kong Innovation Doctoral Fellowship , Fu Foundation School of Engineering and Applied Science, Columbia University <ul style="list-style-type: none">Covered Ph.D. stipend and tuition. Approved for a second year of funding. LaVon Duddleson Fellowship , Department of Earth and Environmental Engineering, Columbia University	May 2023 2020-2022 2022-2023
CERTIFICATES	Teaching Development Program , Columbia University Fundamentals of Engineering (FE) <ul style="list-style-type: none">Environmental Engineering, California Board	Spring 2023 Feb 2018
TEACHING	Instructor , UNC Chapel Hill [1] Python for Environmental Applications Teaching Assistant , Columbia University [2] Environmental Data Analysis [3] Management and Development of Water Systems	Fall 2023 Spring 2019 Fall 2021
PEER-REVIEWED PUBLICATIONS	<ul style="list-style-type: none">Amonkar, Y., Farnham, D. J., Doss-Gollin, J., Modi, V., & Lall, U. (2023). Differential effects of climate change on average and peak demand for heating and cooling across the contiguous United States. <i>Communications Earth & Environment</i> 4.1 (2023): 402.	

- Doss-Gollin, J., Amonkar, Y., Schmeltzer, K., & Cohan, D. (2023). Improving the Representation of Climate Risks in Long-Term Electricity Systems Planning: a Critical Review. *Current Sustainable/Renewable Energy Reports*, 1-12.
 - Amonkar, Y., Doss-Gollin, J., & Lall, U. (2023). Compound Climate Risk: Diagnosing Clustered Regional Flooding at Inter-Annual and Longer Time Scales. *Hydrology*, 10(3), 67.
 - Amonkar, Y., Farnham, D. J., & Lall, U. (2022). A k-nearest neighbor space-time simulator with applications to large-scale wind and solar power modeling. *Patterns*, 3(3), 100454. doi: <https://doi.org/10.1016/j.patter.2022.100454>
 - Salem, J., Amonkar, Y., Maennling, N., Lall, U., Bonnafous, L., & Thakkar, K. (2018). An analysis of Peru: Is water driving mining conflicts?. *Resources Policy*, 101270. doi: <https://doi.org/10.1016/j.resourpol.2018.09.010>
- UNDER REVIEW AND PREPARATION
- Amonkar, Y., Farnham, D. J., & Lall, U. (2023). A clustering based k-nearest neighbor space-time simulator for hourly wind and solar spatiotemporal data generation. (**Under Review**)
 - Amonkar, Y., Pahel-Short, C., Zeighami, A., Kern, J., & Characklis, G. (2023). A clustering based k-nearest neighbor space-time simulator for hourly wind and solar spatiotemporal data generation. (**In Prep**)
 - Zhang, M., Yan, L., Amonkar, Y., & Lall, U. (2023). Predictability of energy supply and demand in Texas: the roles of El Niño and La Niña. (**In Prep**)
- CONFERENCE PROCEEDINGS
- Amonkar, Y. V., Doss-Gollin, J., Farnham, D. J., Modi, V., Lall, U. (2022, December). Changing Climate, Peak Demand and Load Factors across the contiguous United States. In AGU Fall Meeting 2022. AGU.
 - Lall, U., Amonkar, Y. V., Farnham, D. J., Modi, V., Doss-Gollin, J. (2021, December). The Risks of Energy Shortfalls considering Temperature Extremes, Wind and Solar Energy for the Texas Energy Grid Using a Novel Space-Time Simulation Model. In AGU Fall Meeting 2021. AGU.
 - Amonkar, Y. V., Farnham, D. J., Lall, U. (2020, December). Joint Spatio-Temporal Simulation of Gridded Wind-Solar Fields. In AGU Fall Meeting Abstracts (Vol. 2020, pp. GC074-0010).
 - Amonkar, Y. V., Doss-Gollin, J., Lall, U. (2019, December). Preserving long-term variability in simulation of multisite streamflow extremes. In AGU Fall Meeting Abstracts (Vol. 2019, pp. H13T-2050).
- WORKSHOPS PRESENTATIONS
- Amonkar, Y. V. (2019, Oct). Preserving long-term variability in multi-site simulation of streamflow extremes. EAEE Graduate Student Symposium.
 - Amonkar, Y., Doss-Gollin, J., Lall, U. (2019, Sept). Multi-site and multi-flow conditional simulation and prediction of streamflow extremes. NE Grad Student Water Conference.
 - Amonkar, Y. V., Lall, U. (2019, May). Spatiotemporal Clustered Risk of Flooding in the Ohio River Basin and American Midwest. Correlated Extremes Workshop.
- MEDIA COVERAGE
- Model predicts seasonal variability of solar and wind power, **National Science Foundation**, 2022-05-26.
 - You've Heard of Water Droughts. Could 'Energy' Droughts Be Next?, *Kim Martineau*, **Columbia News**, 2022-04-12.
 - New Study Highlights the Possibility of Renewable Energy Drought, *Alex Smith*, **AZO Cleantech**, 2022-04-13.
- PANEL PARTICIPATION
- **How to get a PhD in environmental engineering**. A panel tailored to BIPOC, LGBTQ+, and First-Gen people interested in pursuing a career in environmental engineering (October 2022).

PEER
REVIEWING
SERVICE

- Joule
- Environmental Research Letters
- Journal of Climate.
- Journal of Applied Meteorology and Climatology.
- IET Renewable Power Generation.
- Hydrology
- Energies
- Sustainability

LEADERSHIP
AND SERVICE

- **Member**, Engineering Graduate Student Council, Columbia University 2018-2019.
- **Member**, Engineering Graduate Student Council, Columbia University 2016-2017.

COMPETENCES

Languages English (*full professional proficiency*), German (*elementary proficiency*), Marathi (*native*), Hindi (*native*), Konkani (*native*)

Techniques R, Python, git, ArcGIS, L^AT_EX