

Yash Vijay Amonkar

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RESEARCH INTERESTS	Renewable Energy Integration Energy Droughts Climate Variability and Anthropogenic Climate Change Grid Resilience Sub-Seasonal Forecasting	
PH.D.	Doctoral Candidate , Climate Risk Assessment for 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 simulators to model renewable generation.	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	(exp.) 2023 2017 2016
SERVICES	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	Mar-Jul 2018 Dec 2016-Dec 2017
AWARDS	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.	2020-2022
CERTIFICATES	Fundamental of Engineering (FE) <ul style="list-style-type: none">• Environmental Engineering, California Board	Feb 2018
TEACHING	Teaching Assistant , Columbia University [1] Environmental Data Analysis [2] Environmental Data Analysis	Spring 2019 Fall 2021
PUBLICATIONS	<ul style="list-style-type: none">• 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. <i>Patterns</i>, 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?. <i>Resources Policy</i>, 101270. doi: https://doi.org/10.1016/j.resourpol.2018.09.010	
UNDER REVIEW AND PREPARATION	<ul style="list-style-type: none">• Amonkar, Y., Farnham, D. J., Doss-Gollin, J., Modi, V., Lall, U. (2022). Trends in Extreme Heating and Cooling Demand across the Contiguous United States, with implications for Grid Planning and Management. (Under preparation)• Amonkar, Y., Doss-Gollin, J., Lall, U. (2022). Compound climate risk: Diagnosing and simulating clustered regional flooding at inter-annual and longer time scales. (Under preparation)	

CONFERENCE PROCEEDINGS	<ul style="list-style-type: none"> • 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). • 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	<ul style="list-style-type: none"> • 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	<ul style="list-style-type: none"> • Model predicts seasonal variability of solar and wind power, National Science Foundation, 2022-05-26. • Model predicts seasonal variability of solar and wind power, Mirage, 2022-05-27. • You've Heard of Water Droughts. Could 'Energy' Droughts Be Next?, <i>Kim Martineau</i>, Columbia News, 2022-04-12. • New Study Highlights the Possibility of Renewable Energy Drought, <i>Alex Smith</i>, AZO Cleantech, 2022-04-13.
LEADERSHIP AND SERVICE	<ul style="list-style-type: none"> • Member, Engineering Graduate Student Council, Columbia University 2018-2019. • Member, Engineering Graduate Student Council, Columbia University 2016-2017.
COMPETENCES	<p>Languages English (<i>full professional proficiency</i>), German (<i>elementary proficiency</i>), Marathi (<i>native</i>), Hindi (<i>native</i>), Konkani (<i>native</i>)</p> <p>Techniques R, Python, git, ArcGIS, L^AT_EX</p>