Yash Vijay Amonkar

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Google Scholar Profile

PH.D.	**Doctoral Candidate**, Climate Risk Assessment for Energy Infrastructure Systems	2018–2023
	Supervised by Upmanu Lall	
	• Analysis of spatio-temporal climate risk to energy infrastructure at a regional level.	
	• Developed high dimensional space-time simulators to model renewable generation.	
EDUCATION	**Ph.D. Environmental Engineering**, Columbia University in the City of New York	(exp.) 2023
	M.S. Environmental Engineering, Columbia University in the City of New York	2017
	B.S. Chemical Engineering (B.Chem), Institute of Chemical Technology, Mumbai	2016
SERVICES	**Graduate Research Assistant** Part-Time, The Earth Institute	Jun-Aug 2022
	• Project with LCRA.	
	Sr. Research Assistant Full-Time, The Earth Institute	Mar-Jul 2018
	• Worked at the Columbia Water Center	
	Graduate Student Assistant Part-Time, The Earth Institute	Dec 2016-Dec 2017
	• Norges Bank Investment Management funded project on Sustainable Mining	
AWARDS	**Cheung-Kong Innovation Doctoral Fellowship**, Fu Foundation School of Engineering and Applied Science, Columbia University	2020-2022
	• Covered Ph.D. stipend and tuition. Approved for a second year of funding.	
CERTIFICATES	**Fundamentals of Engineering (FE)**	Feb 2018
	• Environmental Engineering, California Board	
TEACHING	**Teaching Assistant**, Columbia University	
	[1] Environmental Data Analysis	Spring 2019
	[2] Management and Development of Water Systems	Fall 2021

PUBLICATIONS
- 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., 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
- 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.
- Model predicts seasonal variability of solar and wind power, **Mirage**, 2022-05-27.
- 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
- Journal of Applied Meteorology and Climatology.
- IET Renewable Power Generation.

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, LaTeX