Yash Vijay Amonkar

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Google Scholar Profile

PH.D.

Doctoral Candidate, Spatiotemporal Climate Risk Assessment for Water and 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.) Apr 2023
M.S. Environmental Engineering, Columbia University in the City of New York 2018
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 Development Program, Columbia University Spring 2023
Teaching Assistant, Columbia University
[1] Environmental Data Analysis Spring 2019
[2] Management and Development of Water Systems Fall 2021

PUBLICATIONS

- 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., 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. **(Under Review)**
- 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. **(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

- 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