

Amey Pathak

Assistant Professor

Address: Room no. 111,

Department of Agricultural and Food Engineering,

Indian Institute of Technology Kharagpur,

Kharagpur, West Bengal, India, 721302

Phone:

Email: pathak.amey1@gmail.com;

Google Scholar: <https://scholar.google.co.in/citations?user=do9u7u8AAAAJ&hl=en&oi=ao>

(a) Professional Preparation

Indian Institute of Technology Bombay	Mumbai	Water Resources Engineering	Post-doc (2017)
Indian Institute of Technology Bombay	Mumbai	Water Resources Engineering	Ph.D. (2017)
Indian Institute of Technology Bombay	Mumbai	Natural Resources Engineering (Remote sensing and GIS)	M.Tech. (2010)
Mahatma Phule Krishi Vidyapeeth	Rahuri	Agricultural Engineering	B.Tech. (2008)

(b) Ph.D. research topic

"Role of Precipitation Recycling and Moisture Transport during Summer Monsoon in Indian Sub-Continent."

(c) Appointments

- Assistant Professor in Land and Water Resources Engineering Specialization, Department of Agricultural and Food Engineering at IIT Kharagpur (May 2018 to present)
- Post-Doctoral researcher on project: *"Coupled Human And Natural Systems Environment (CHANSE) for water management under uncertainty in the Indo-Gangetic Plain"* at IIT Bombay (January 2017 to April 2018)
- Teaching Assistant for P.G. courses- Applied Statistics, Eco-Hydro-Climatology, Stochastic Hydrology, Hydraulics Funded by MHRD. (Aug 11-Jul 16)
- Lecturer in the Rajiv Gandhi University of Knowledge Technology, Civil Engineering Department, India. (October 2010 to July 2011)

(d) Publications (Journals and book chapter)

- **Pathak A.**, Ghosh S., and P. Kumar, 2014: Precipitation Recycling in the Indian Subcontinent during Summer Monsoon. *Journal of Hydrometeorology*, 15, 2050-2066, doi: <http://dx.doi.org/10.1175/JHM-D-13-0172.1>, [impact factor - 3.645]
- **Pathak A.**, Ghosh S., Martinez J.A., Dominguez F., and P. Kumar, 2017: Role of Oceanic and Land Moisture Sources and Transport in the Seasonal and Inter-annual variability of Summer Monsoon in India, *Journal of Climate*, 30, 1839-1859, [impact factor - 4.85]

- **Pathak A.**, Ghosh S., R. Murtugudde, and P. Kumar, 2017: Role of Oceanic and Terrestrial Atmospheric Moisture Sources in Intra-Seasonal Variability of Indian Summer Monsoon Rainfall. *Scientific Reports, Nature Publishing Group*, 7, Article number: 12729, doi:10.1038/s41598-017-13115-7 [*impact factor - 4.259*]
- Roxy, M. K., Ghosh, S., **Pathak, A.**, Athulya R., Mujumdar, M., Murtugudde, R., Terray, P., Krishnan, R., Rajeevan, M, 2017: A threefold rise in widespread extreme rain events over central India, *Nature Communications*, 8, Article number: 708(2017), doi:10.1038/s41467-017-00744-9 [*impact factor - 12.124*]
- Sahana, A.S., **Pathak, A.**, Roxy, M.K. et al. (2018). Understanding the role of moisture transport on the dry bias in Indian monsoon simulations by CFSv2, *Climate Dynamics*, doi:https://doi.org/10.1007/s00382-018-4154-y. [*impact factor - 4.708*]
- Paul S., Ghosh S., Oglesby, R., **Pathak A.**, Chandrasekharan, A., and R. Ramshankaran 2016: Weakening of Indian Summer Monsoon Rainfall due to Changes in Land Use Land Cover, *Scientific Reports, Nature Publishing Group*, 6, Article number: 32177, [*impact factor - 4.847*]
- Sebastian, D., **A. Pathak**, and S. Ghosh, 2016: Use of Atmospheric Budget to Reduce Uncertainty in Estimated Water Availability over South Asia from Different Reanalyses, *Scientific Reports, Nature Publishing Group*, 6, Article number: 29664, [*impact factor - 4.847*]
- Vittal, H., S. Ghosh, S. Karmakar, **A. Pathak**, and R. Murtugudde, 2016: Lack of Dependence of Indian Summer Monsoon Rainfall Extremes on Temperature: An Observational Evidence, *Scientific Reports, Nature Publishing Group*, 6, Article number: 31039, [*impact factor - 4.847*]
- Barik, B., Ghosh, S., Sahana, A. S., **Pathak, A.**, and Sekhar, M. 2016: Water Food Energy Nexus: Changing Scenarios in India during recent Decades, *Hydrology and Earth System Sciences*, 21, 3041-3060, 2017. [*impact factor - 3.535*]
- **Pathak A.**, S Paul and S Ghosh, (2018): Land-Surface Feedback and Impacts of Land-Use Change to Indian Monsoon Rainfall, Springer, (book chapter under-review)

(e) Publications (Conferences)

- **Pathak, A.**, H. Shashtri, and S. Ghosh, 2015: Feedback from Urbanization and Land Surface ET to Indian Summer Monsoon Rainfall, National Climate Science Conference, Divecha Centre for Climate Change, Indian Institute of Science, Bangalore.
- **Pathak A.**, A.S. Sahana and S. Ghosh, 2015: Impact of Atmospheric Moisture Transport on Indian Summer Monsoon Onset and Withdrawal, Dynamics of the Indian Ocean: perspective and Retrospective, NIO, Goa.
- **Pathak, A.**, S. Ghosh, & P. Kumar, 2015: Role of Terrestrial Moisture Source Transport on Summer Monsoon Rainfall Variability over Ganga River Basin, 2015 American Geophysical Union Fall Meeting San Francisco.

- **Pathak, A.**, 2013: Impacts of precipitation recycling on Indian summer monsoon rainfall, Annual Monsoon Workshop 2012, Indian Meteorological Society, Pune.
- **Pathak, A.**, S. Ghosh, & P. Kumar, 2012: Precipitation Recycling in India during South West Monsoon, 2012 American Geophysical Union Fall Meeting San Francisco, 1496549.
- Paul, S., **A. Pathak**, and Ghosh, S. 2016: Role of Local Characteristics On Indian Summer Monsoon Precipitation. Climate Change, Monsoon and Extreme Weather Events(AS02), Asia Oceania Geosciences Society (AOGS), 13th Annual Meeting, 2016, Beijing, China.
- Joseph, J., **A. Pathak**, and S. Ghosh, 2015: Uncertainty assessment in climate change simulation of Ganges basin, 2015 American Geophysical Union Fall Meeting.
- Sahana A.S., **A. Pathak**, Roxy M.K., and S. Ghosh, 2016: Understanding Dry Bias in the Simulations of Indian Monsoon by CFSv2 Through Analysis of Moisture, European Geophysical Union. EGU2016-7346
- Barik B., Sahana A.S., **A. Pathak**, and S. Ghosh, 2016: Evaluating Ground Water Storage towards Sustainable Water-Food-Energy Management, European Geophysical Union. EGU2016-996

(f) Research Interests

Eco-Hydro-Climatology, Extreme Events, Precipitation Recycling, Indian Monsoon, Climate change, Ocean–Land–Atmosphere Interactions, Geo-Spatial Engineering, Statistics & Probability, etc

(g) Professional and Synergistic Activities, and Awards

- Served as reviewer for Journal of Climate, Earth System Dynamics, Journal of Earth System Science, Environmental Research Letter (2015 onwards)
- Member of the Indian Society for Hydraulics, American Geophysical Union.
- District level weekly forecast of 2017 heat wave based on the Extended Range Forecast Outputs for West Bengal state.
- Identification and modeling of Climate Change risk for three Indian states. (at IIT Bombay)
- Member of the Indian Society for Hydraulics (2013-present)
- Invited for research talk at IITM-Pune, SVNIT, and IIT Bombay-QIP program (2013-2016)
- Indo-US SERB Postdoctoral fellowship 2017 (had to declined due to personal reasons)
- All India Rank 48 in Graduate Aptitude Test in Engineering (GATE-2008)
- 1-month internship at Regional Remote Sensing Service Centre, ISRO, Nagpur (2007)
- MHRD fellowship during M.Tech. and Ph.D.