RAJAT JOSHI

300 Forrestal Road, Sayre Hall, Princeton, NJ
rajatjoshi@princeton.edu ⋄ rajatjoshi.princeton.edu

RESEARCH INTERESTS

Climate Dynamics, Weather and Climate Modeling, AI for Climate.

EDUCATION

Princeton University 2021-present
PhD Candidate in Program in Atmospheric and Oceanic Sciences
Committee: Dr. Rong Zhang (*Advisor), Dr. Leo Donner, Dr. Ming Zhao, and Dr. David Paynter*

Indian Institute of Science *2019-2021*
Master of Technology in Climate Science (Distinction)

G. B. Pant University of Agriculture and Technology *2015-2019*
Bachelor of Technology in Mechanical Engineering (Distinction)

FELLOWSHIP, AWARDS AND GRANTS

Assistantship in Research, Princeton University 2022-present

First Year Fellowship in Natural Sciences and Engineering, Princeton University 2021-2022

Nikhil Memorial Gold Medal Award, Indian Institute of Science 2021

Jeremy Grantham Fellowship, Divecha Center for Climate Change, Bengaluru 2020-2021

Graduate Aptitude Test in Engineering Scholarship, Ministry of Education, Govt. of India 2019-2021

University Merit Scholarship , G. B. Pant University of Agriculture and Technology 2016-2017

PUBLICATIONS

Joshi, R., Zhang, R. Impacts of the North Atlantic biases on the upper troposphere/lower stratosphere over the extratropical North Pacific. *npj Clim Atmos Sci* **6**, 151 (2023) (Link)

Joshi, R., Zhang, R. On the teleconnections between extratropical North Atlantic and tropical Atlantic in response to the external freshwater forcing **Under Internal Review.**

Joshi, R., Borah P.J, and Venugopal, V. Interhemispherical footprint on Indian monsoon floods **In Prep.**

Joshi, R., Zhang, R. Impact of weakening of AMOC on the extratropical North Pacific climate **In Prep.**

Joshi, R., Zhang, R. Simulated Atlantic hurricane response associated with weakening of AMOC **In Prep.**

ORAL AND POSTER PRESENTATIONS

Joshi, R., Zhang, R. On the Atlantic extratropical-tropical teleconnection associated with the AMOC weakening. *submitted to AGU Fall Meeting*, (2024)

Venugopal, V., **Joshi, R.** and Borah P.J. Interhemispherical footprint on Indian monsoon floods. *AOGS*, (2024, **invited talk)**

Joshi, R., Zhang, R. Wintertime Atmospheric Response over the Extratropical North Pacific to the North Atlantic Biases. *Ocean Sciences Meeting*, (2024) [Poster] (Link) and *AGU Fall Meeting*, (2023) [Poster] (Link)

Joshi, R., Borah P.J, and Venugopal, V. Two Distinct Types of Indian Monsoon Floods and their Subseasonal Evolution *AGU Fall Meeting*, (2021) [Oral Presentation](Link)

Joshi, R., Borah P.J, and Venugopal, V. Subseasonal Characteristics of Rainfall during Indian Monsoon Floods *International Symposium on Tropical Meteorology*, (2021)

RELEVANT COURSEWORK

Geophysical Fluid Dynamics, Atmospheric Dynamics, Ocean Dynamics, Atmospheric Radiation, Physical Oceanography, Atmospheric Thermodynamics, Numerical Prediction of the Atmosphere and Ocean, Earth's Climate, Environmental Fluid Dynamics and Mathematical Methods for Climate Science.

TECHNICAL SKILLS

Programming Languages and mathematical packages: MATLAB, Python (xarray, numpy, pandas, scipy, scikit-learn, pytorch, dask), and FORTRAN (Basic Introductory Level)

Other: Linux, Windows OS, Handling large climate data in HPC environments.

REFERENCES

Dr. Rong Zhang
Senior Scientist, GFDL, NJ, USA
Email: rong.zhang@noaa.gov

Dr. Leo Donner
Physical Scientist, GFDL, NJ, USA
Email: leo.j.donner@noaa.gov

Dr. Ming Zhao
Senior Scientist, GFDL, NJ, USA
Email: ming.zhao@noaa.gov

Dr. David Paynter
Physical Scientist, GFDL, NJ, USA
Email: david.paynter@noaa.gov