

October 2021

Publications

Singh, R.K. and **Jain, M.K.** Complexity Analysis of the Godavari and Krishna River Streamflow using the concept of Entropy. *ActaGeophysica*, Springer, <https://doi.org/10.1007/s11600-021-00660-z>, 2021. (Q1).

Malik, M.A., Dar, A.Q., and **Jain, M.K.** Modelling streamflow using SWAT model and multi-site calibration utilizing SUFI-2 of SWAT-CUP model for high altitude catchments, NW Himalaya's. *Modeling of Earth Systems and Environments*, Springer Nature, (<https://doi.org/10.1007/s40808-021-01145-0>), 2021.

Nanda, A. and **Sen, S.** 2021. A complex network theory-based approach to better understand the infiltration-excess runoff generation thresholds. *Journal of Hydrology*, 603, 127038, doi.org/10.1016/j.jhydrol.2021.127038

Kumar, S., **Agarwal, A., Ganapathy, A.** et al. Impact of climate change on stormwater drainage in urban areas. *Stoch Environ Res Risk Assess* (2021). <https://doi.org/10.1007/s00477-021-02105-x>

Beyene, T.K., Jain, M.K., Yadav, B.K., Agarwal, A. Multiscale investigation of precipitation extremes over Ethiopia and teleconnections to large-scale climate anomalies. *Stoch Environ Res Risk Assess* (2021). <https://doi.org/10.1007/s00477-021-02120-y>

Yeditha, P. K., **Pant, T., Rathinasamy, M., & Agarwal, A.** (2021). Multi-scale investigation on streamflow temporal variability and its connection to global climate indices for unregulated rivers in India. *Journal of Water and Climate Change*. <https://doi.org/10.2166/wcc.2021.189>

Invited Talk and Training Course

Prof. Brijesh K Yadav gave a talk on “Overview of Applied Modeling for Water Resources System” on October 25, 2021, during the one-week online training program on “Analysis and modeling in water resources engineering” held by GEC Bhavnagar, Gujarat during Oct 25-29, 2021

Prof. Brijesh K Yadav Delivered a keynote talk on “Overview of Managed Aquifer Recharge in (semi)-arid regions of India” during the online conference entitled "Threats and Challenges to Sustainability of Natural Resources: Contemporary Remedial Tools and Techniques held by the Department of Soil & Water Conservation Engineering, College of Technology, GBPUA&T Pantnagar during Oct 23-24, 2021

Prof. Brijesh K Yadav delivered a keynote talk on “CO₂ Geo-sequestration in Deep Subsurface to Mitigate Climate Change” during the virtual conference cum training on “Climate-Induced Hydrological Disasters, Policies & Management”, Oct 7-9, 2021.

Prof. Brijesh K Yadav delivered a keynote talk on “Rejuvenation of Water Bodies: Case Studies” during the 5-day online FDP on “Sustainable practices for conservation and

management of water” conducted by the Dr. S. & S. S. Ghandhy Government Engineering College, Surat during Oct 4-8, 2021.

Prof. Brijesh K Yadav delivered an expert talk on “Movement of LNAPL under dynamic groundwater flow conditions” during the one and half-day Indo-Norwegian Workshop on Computational Challenges and Modelling of Coupled Processes in Porous Media conducted by the University of Bergen Norway during Oct 1-2, 2021.

Attending Meetings as a Technical expert

Prof. Manoj Kumar Jain participated as a committee member in the 75th meeting of the Technical Advisory Committee of NIH Roorkee on September 1, 2021.

International Conference

Ashish Manoj J, Ravi Kumar Guntu, Ankit Agarwal Characterisation of Compound Soil Moisture - Precipitation Events Over India, WCRP Workshop on Extremes in Climate Prediction Ensembles (ExCPEs), Hosted by APEC Climate Center (APCC), Institute for Basic Science (IBS) Center for Climate Physics (ICCP), Pusan National University.

Vijaykumar, B., and Sharma, A. (2021). “Impact of Climatic Changes and Anthropogenic Activities on Ecosystem's Net Primary Productivity in India during 2001-2019”, Second International Conference on Natural Hazards and Risks in a Changing World 2021, 5 – 6 October 2021.

Ravi Kumar, Guntu and Ankit Agarwal: Disentangling increasing compound extremes at regional scale during Indian Summer Monsoon. 2nd International Conference on Natural Hazards and Risks in a Changing World; 10/2021

Ravi Kumar, Guntu and Ankit Agarwal: Accounting for temporal variability for improved precipitation regionalization based on self-Organizing map coupled with information theory. 2nd International Conference on Natural Hazards and Risks in a Changing World; 10/2021

Awards and Achievements

Mr. Pankaj Dhote (Ph.D. Scholar) received a Student Travel Grant to participate in the 2021 American Geophysical Union (AGU) Fall Meeting, 13-17 December 2021, in New Orleans, LA, USA

Ms. Mayuri Gadhawe (Master student) received a Student Travel Grant to participate in the 2021 American Geophysical Union (AGU) Fall Meeting, 13-17 December 2021, in New Orleans, LA, USA

Mr. Shivam Rawat (Master student) received a Student Travel Grant to participate in the 2021 American Geophysical Union (AGU) Fall Meeting, 13-17 December 2021, in New Orleans, LA, USA

Mr. Shubham Tiwari (Ph.D. Scholar) received a Student Travel Grant to participate in the 2021 American Geophysical Union (AGU) Fall Meeting, 13-17 December 2021, in New Orleans, LA, USA

Anuradha Garg (Ph.D. Scholar) has received the prestigious Student Travel Grant to participate in the 2021 American Geophysical Union (AGU) Fall Meeting, 13-17 December 2021, in New Orleans, LA, USA

Team HydroR (Aniruddha Saha, Shrishti Sharma, Ankush Choudhary, Prachi Singhal, Babita Malakar, Ashish Manoj J) consisting entirely of students from the Department of Hydrology was selected as one of the eight finalists for the Wave2WebHackathon conducted by WRI India in association with Microsoft and BlackRock. As part of the Hackathon, the team created a neural network model to predict the reservoir water availability one month ahead for the city of Bangalore. The event had over 2130 registrations from across the globe.

Lab

"Advanced Membrane And Desalination Lab"

"<https://hy.iitr.ac.in/departments/HY/pages/Research+Facilities+Laboratories.html>".

Also, the equipment like

1. Drop Shape (Contact angle) Analysis System (model: DSA25B, KRUSS, Germany)
2. Hollow Fiber Membrane Casting Unit (TechIn)
3. Electrospinner (membrane fabricator)(Make: Pico Physics Instruments Co. Chennai)
4. Micrometer Adjustable Film Applicator