List of Publications

- *Book Chapters*

1. **Dutta R.**, and Maity, R, (2021), Benefit of time-varying models developed using graphical modeling approach for probabilistic prediction of monthly streamflow, In *Climate Change Impacts on Water Resources*, Edited by R. Jha, V.P. Singh, V. Singh, L.B. Roy and R. Thendiyath, Springer Nature, Switzerland.

2. **Dutta R.**, and Maity, R, (2022), Temporal Networks: A new approach to model non-stationary hydroclimatic processes with a demonstration for soil moisture prediction, In Geospatial and Soft Computing Techniques, Edited by P. V. Timbadiya, Prem Lal Patel, Vijay P. Singh, Ashwini B. Mirajkar, Springer Nature, Singapore.

3. **Dutta, R.,** Maity, R., & Markonis, Y. (2023), Direct and Indirect Coupling of Evapotranspiration with Energy Fluxes over the Indian Subcontinent

- *Peer-Reviewed Journals*

1. **Dutta, R.,** & Maity, R. (2018). Temporal evolution of hydroclimatic teleconnection and a time-varying model for long-lead prediction of Indian summer monsoon rainfall. *Scientific Reports*, Nature Publishing Group, 8(1), 10778. https://doi.org/10.1038/s41598-018-28972-z

2. **Dutta, R.,** & Maity, R. (2020). Identification of potential causal variables for statistical downscaling models: effectiveness of graphical modeling approach. *Theoretical and Applied Climatology*, Springer, 142(3–4), 1255–1269. https://doi.org/10.1007/s00704-020-03372-4

3. **Dutta, R.,** & Maity, R. (2020). Spatial variation in long-lead predictability of summer monsoon rainfall using a time-varying model and global climatic indices. *International Journal of Climatology*, Royal Meteorological Society (RMetS), 40(14), 5925–5940. https://doi.org/10.1002/joc.6556

4. **Dutta, R.,** & Maity, R. (2020). Temporal Networks-Based Approach for Nonstationary Hydroclimatic Modeling and its Demonstration With Streamflow Prediction. *Water Resources Research*, American Geophysical Union (AGU), 56(8), 1–21. https://doi.org/10.1029/2020WR027086

5. Maity, R., Chanda, K., **Dutta, R.,** Ratnam, J. V., Nonaka, M., & Behera, S. (2020). Contrasting features of hydroclimatic teleconnections and the predictability of seasonal rainfall over east and west Japan. *Meteorological Applications*, Royal Meteorological Society (RMetS), 27(1), 1–20. https://doi.org/10.1002/met.1881

6. **Dutta, R.,** Sunanda, N., Patra, A., & Maity, R. (2021). Long-term simulation of daily rainfall across India: Performance of cumulus convection schemes in regional climate model during southwest and northeast monsoon. *Atmospheric Research*, Elsevier, 259(May), 105675. https://doi.org/10.1016/j.atmosres.2021.105675

7. Maity, R., Khan, M. I., Sarkar, S., **Dutta, R.,** Maity, S. S., Pal, M., & Chanda, K. (2021). Potential of Deep Learning in drought assessment by extracting information from hydrometeorological precursors. *Journal of Water and Climate Change*, IWA Publishing, 12 (6): 2774–2796. https://doi.org/10.2166/wcc.2021.062

8. **Dutta, R.,** & Maity, R. (2021). A time-varying network-based approach for capturing hydrological extremes under climate change with application on drought, *Journal of Hydrology*, Elsevier, 603, 126958. https://doi.org/10.1016/j.jhydrol.2021.126958

9. **Dutta, R.,** Maity, R. & Patel, P. (2022), Short and Medium Range Forecast of Soil Moisture for the Different Climatic Regions of India Using Temporal Networks, *Water Resource Management*, Springer, 36, 235-251, https://doi.org/10.1007/s11269-021-03025-9

10. **Dutta, R.,** Chanda, K., and Maity, R., (2022), Future potential of solar energy resources across the globe using CMIP6 projections, *Renewable Energy*, Elsevier, 188, 819-829, https://doi.org/10.1016/j.renene.2022.02.023

11. **Dutta, R.,** and Maity, R, (2022), Value addition in coupled model intercomparison project phase 6 over phase 5: global perspectives of precipitation, temperature and soil moisture fields, *Acta Geophysica*, Springer. 10.1007/s11600-022-00793-9

12. Vargas Godoy, M.R., Markonis, Y., Rakovec, O., Jenicek, M., **Dutta, R.**, Pradhan, R.K., Bešťáková, Z., Kyselý, J., Juras, R., Papalexiou, S.M. and Hanel, M., (2023), Water Cycle Acceleration in Czechia: A Water Budget Approach. *Hydrology and Earth System Sciences*, pp.1-31.

13. **Dutta, R.,** & Markonis, Y. (2024). Does ERA5-land capture the changes in the terrestrial hydrological cycle across the globe? *Environmental Research Letters*, *19*(2), 024054. 10.1088/1748-9326/ad1d3a

14. Dalal, G., Chaudhary, S., **Dutta, R.**, Karmakar, S., Koppa, A. and Hari, V., 2024. East–West asymmetry in intensity, duration, frequency of heatwaves over Northern India. *Environmental Research Letters*, *19*(12), p.124089. 10.1088/1748-9326/ad948f

- *Conference*

1. **Dutta, R.,** & Maity, R. (2018), Probabilistic Prediction of Monthly Streamflow using Graphical Modeling Approach, In the proceedings of HYDRO 2018 International conference, HYD-18-120.

2. **Dutta, R.,** & Maity, R. (2019), Potential of Graphical Modelling in Long-lead Seasonal Prediction of Regional Summer Monsoon Rainfall in Context of Climate Change, In the Proceedings of the 16th Annual Meeting of Asia Oceania Geosciences Society (AOGS 2019).

3. Maity, R., Chanda, K, **Dutta, R.,** Ratnam, J. V., Nonaka, M., & Behera, S. (2020), How dissimilar are the large-scale hydroclimatic precursors and predictability of anomalous monthly rainfall in east and west Japan? In EGU2020-6856, European Geosciences Union General Assembly 2020.

4. **Dutta, R.,** & Maity, R. (2020), Time-varying Model for Seasonal Rainfall Prediction in Japan Based on the Temporal Evolution of Hydroclimatic Teleconnection, 17th Annual Meeting of Asia Oceania Geosciences Society (AOGS 2020) at Sono Belle Vivaldi Park, Hongcheon during Jun 28 – July 04, 2020.

5. **Dutta, R.,** & Maity, R. (2021), Temporal Networks: A new approach in hydroclimatic studies to capture time-varying characteristics, In the proceedings of HYDRO 2021 – International Conference (Hydraulics, Water Resources and Coastal Engineering), December 23-25, 2021 at Sardar Vallabhbhai National Institute of Technology, Surat, Gujarat, India.

6. **Dutta, R.,** & Maity, R. (2021), Long-lead prediction of monthly streamflow: Potential of temporal networks in capturing the time-varying characteristics, AGU Fall Meeting, Abstract ID# 884252, December 13-17, 2018, New Orleans LA, USA.

7. **Dutta, R**., Dash, S., & Maity, R. (2022), Spatio-temporal characteristics of extreme rainfall events in India and possible connection to the large-scale atmospheric circulations, IAHR World Congress, Paper ID# 1372, June 19-24, 2022, Granada, Spain.

8. Maity, R., & **Dutta, R.** (2022), Time-varying characteristics of droughts: A modelling scheme with temporal networks for future assessment, IAHR World Congress, Paper ID# 1373, June 19-24, 2022, Granada, Spain.

9. Dash S., **Dutta, R.**, & Maity, R. (2022), An Evaluation of Future Changes in Hydroclimate Extremes across India, In the proceedings of HYDRO 2022 – International Conference (Hydraulics, Water Resources and Coastal Engineering), December 22-24, 2022 at Punjab Engineering College, Chandigarh. India.

10. Dash S., **Dutta R.**, & Maity, R., (2022), Change in the Intensity of Consecutive Precipitation Events across India, AGU Fall Meeting, Abstract ID# 1167926, Final Paper# H51E-05, December 12-16, 2022, Chicago, IL, USA.

11. **Dutta R.**, & Maity, R. (2023), Streamflow Modelling and Prediction using Temporal Networks, In the proceedings of International Perspectives on Water Resources and the Environment (IPWE 2023), during January 04-06, 2023, held at Institute of Water and Flood Management (IWFM), Bangladesh University of Engineering and Technology (BUET), Dhaka, Bangladesh.

12. Maity R., **Dutta, R.**, & K. Chanda (2023), Future of Renewable Energy Potential in a Changing Climate using CMIP6 Simulations for the Indian Subcontinent, In the proceedings of International Perspectives on Water Resources and the Environment (IPWE 2023), during January 04-06, 2023, held

at Institute of Water and Flood Management (IWFM), Bangladesh University of Engineering and Technology (BUET), Dhaka, Bangladesh.

13. **Dutta, R.,** & Markonis, Y. (2023), Global perspective of changes in the terrestrial hydrologic cycle using different data products, In EGU23-12752, European Geosciences Union General Assembly 2023 at Vienna, Austria during 23–28 April 2023.

14. **Dutta, R.,** Maity, R., & Markonis, Y. (2023), Direct and Indirect Coupling of Evapotranspiration with Energy Fluxes over the Indian Subcontinent, In the proceedings of HYDRO 2023 – International Conference (Hydraulics, Water Resources and Coastal Engineering), December 20-22, 2023 at NIT Warangal, Warangal, India.

15. **Dutta, R.,** Kumar R., & Maity, R. (2024), Basin-scale projection of evapotranspiration using machine learning based techniques, In the proceedings of HYDRO 2024 – International Conference (Hydraulics, Water Resources and Coastal Engineering), December 18-20, 2024 at Central Water And Power Research Station, Pune, Maharashtra, India.