Tirthankar Roy

Assistant Professor, Civil and Environmental Engineering, University of Nebraska-Lincoln

roy@unl.edu roy.unl.edu 402-554-6255

■ PROFESSIONAL PREPARATION

Princeton University	Civil and Environmental Engineering	Postdoc, 2017-19
University of Arizona	Hydrology	Ph.D., 2013-17
Indian Institute of Technology Kanpur	Civil Engineering	M.Tech., 2010-12
Bidhan Chandra Krishi Viswavidyalaya	Agricultural Engineering	B.Tech., 2006-10

■ APPOINTMENTS

University of Nebraska-Lincoln	Assistant Professor	2019-Present
Princeton University	Assistant-in-Instruction	2019
Indian Institute of Technology Kanpur	Project Associate	2012-13
Technische Universität Dresden	DAAD Master Scholar	2011-12

■ AWARDS & HONORS

Daugherty Water for Food Global Institute Faculty Fellow (2020), UNL Research Development Fellow (2020), Princeton University McGraw Center for Teaching & Learning Teaching Transcript (2019), University of Arizona College of Science Service Award as the President of Hydrology & Atmospheric Sciences Student Association (2017), University of Arizona Graduate Research Assistantship for PhD (2013-2017), First Position as coauthor in Best Poster Award at Water Resources Research Center Annual Conference, Tucson (2017), Second Position as lead and presenting author in Best Poster Award at Water Resources Research Center Annual Conference, Tucson (2016), University of Arizona College of Science Galileo Circle Scholarship (2016), University of Arizona Graduate College Fellowship (2014), University Gold Medal and Smt. Shishubala Memorial Gold Medal for highest undergraduate GPA (2013), DAAD Scholarship for master's thesis at TU Dresden, Germany (2011-2012), Government of India Ministry of Human Resource Development Teaching Assistantship in master's program (2010-2011), University Merit Scholarship in undergraduate program (2006-2010)

■ PUBLICATIONS

- Almagro, A., P. T. S. Oliveira, A. A. Meira Neto, **T. Roy**, and P. Troch (2021), CABra: a novel large-sample dataset for Brazilian catchments, Hydrology and Earth Systems Sciences (accepted).
- Mai, J. , B. A. Tolson, H. Shen, É. Gaborit, V. Fortin, N. Gasset, H. Awoye, T. A. Stadnyk, L. M. Fry, E. A. Bradley, F. Seglenieks, A. G. Temgoua, D. G. Princz, S. Gharari, A. Haghnegahdar, M. E. Elshamy, S. Razavi, M. Gauch, J. Lin, X. Ni, Y. Yuan, M. McLeod, N. Basu, R. Kumar, O. Rakovec, L. Samaniego, S. Attinger, N. K. Shrestha, P. Daggupati, **T. Roy**, S. Wi, T. Hunter, and J. R. Craig (2021): The Great Lakes Runoff Intercomparison Project Phase 3: Lake Erie (GRIP-E), Journal of Hydrologic Engineering (accepted).
- **Roy, T.** and H. Gupta (2020): How certain are our uncertainty bounds? Accounting for sample variability in Monte Carlo-based uncertainty estimates, Environmental Modeling & Software, 136, 104931.
- Meira-Neto, A. A., **T. Roy**, G.-Y. Niu, S. Tyler, and P. A. Troch (2020): Enhanced temperature sensitivity of streamflow from snow-aridity interactions, Communications Earth and Environment, 1(56) (Nature Research Journal).

- Meira-Neto, A. A., **T. Roy**, P. T. S. Oliveira, P. A. Troch (2020), An aridity index-based formulation of streamflow components, Water Resources Research, 56(9).
- **Roy, T.**, X. He, P. Lin, H. Beck, C. Castro, and E. F. Wood (2020), Global evaluation of seasonal precipitation and temperature forecasts from NMME, Journal of Hydrometeorology, 21(11).
- **Roy, T.**, J. Valdés, A. Serrat-Capdevila, M. Durcik, E. Demaria, R. Valdés-Pineda, and H. Gupta (2020), Detailed Overview of the Multimodel Multiproduct Streamflow Forecasting Platform, Journal of Applied Water Engineering and Research, 8(4), 277-289.
- Blöschl, G. et al. inclusing **T. Roy** (2019), Twenty-three Unsolved Problems in Hydrology (UPH) – a community perspective, Hydrological Sciences Journal, 64(10), 1141-1158.
- **Roy, T.**, A. J. Martinez, J. E. H. Estrada, Y. Zhang, F. Dominguez, A. Berg, M. Ek, and E. F. Wood (2019), Role of moisture transport and recycling in characterizing droughts: Perspectives from two recent US droughts and the CFSv2 system, Journal of Hydrometeorology, 20, 139-154.
- Beck, H. E., M. Pan, **T. Roy**, G. P. Weedon, F. Pappenberger, A. I. J. M. van Dijk, G. J. Huffman, R. F. Adler, and E. F. Wood (2019), Daily evaluation of 26 precipitation datasets using Stage-IV gauge-radar data for the CONUS, Hydrology and Earth Systems Sciences, 23, 207–224.
- **Roy, T.**, J. B. Valdés, B. Lyon, E. M. C. Demaria, A. Serrat-Capdevila, H. V. Gupta, R. Valdés-Pineda, and M. Durcik (2018), Assessing hydrological impacts of short-term climate change in the Mara River basin of East Africa, Journal of Hydrology, 566, 818–829.
- **Roy, T.**, A. Serrat-Capdevila, J. Valdes, M. Durcik, and H. Gupta (2017), Design and implementation of an operational multimodel multiproduct real-time probabilistic streamflow forecasting platform, Journal of Hydroinformatics, 19(6), 911-919.
- Jain, A., and **T. Roy** (2017), Evaporation modeling using neural networks for assessing the self-sustainability of a water body, Lakes and Reservoirs: Research and Management, 20, 1-11.
- **Roy, T.**, H. V. Gupta, A. Serrat-Capdevila, and J. B. Valdes (2017), Using Satellite-Based Evapotranspiration Estimates to Improve the Structure of a Simple Conceptual Rainfall-Runoff Model, Hydrology and Earth System Sciences, 21(2), 879–896.
- **Roy, T.**, A. Serrat-Capdevila, H. Gupta, and J. Valdes (2017), A platform for probabilistic Multimodel and Multiproduct Streamflow Forecasting, Water Resources Research, 53.
- **Roy, T.**, N. Schütze, J. Grundmann, M. Brettschneider, and A. Jain (2016), Optimal groundwater management using state-space surrogate models: A case study for an arid coastal region, Journal of Hydroinformatics, 18(4), 666-686.
- Troch, P. A., T. Lahmers, A. Meira, R. Mukherjee, J. W. Pederson, **T. Roy**, and R. Valdés-Pineda (2015), Catchment Co-evolution: A useful framework for improving predictions of hydrological change?, Water Resources Research, 51.

■ SERVICE

2020- Member, American Geophysical Union Technical Committee on Uncertainty Analysis
2020- Editorial Board Member, *Hydrology*
2020- Member, University of Nebraska-Lincoln Committee on Committees
2018- Early Career Committee Member, International Association of Hydrological Sciences
2018-19 Council Member, Postdoctoral Council, Princeton University
2016-17 President, Hydrology & Atmospheric Sciences Student Association, University of Arizona
2014-15 Vice President, Hydrology & Water Resources Student Association, University of Arizona