

Personal details



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Research Interest

Agricultural water management, Hydrology, Watershed development, Remote sensing applications in water management, Soil conservation

Research Highlight

Integration of remote sensing and AI models for agricultural water and watershed management

Remote sensing for crop growth monitoring and crop area mapping

Membership/fellowship

Research publication/patent/technology

Tarate, S.B., Singh, I.S., Raut, S.M. et al. (2025) Waterbody decline and warming trends in aquatic ecosystems of selected districts of North Bihar in India (1995–2024): A remote sensing perspective. *Theor Appl Climatol* 156, 560.
<https://doi.org/10.1007/s00704-025-05820-5>

Tarate, S.B., Patel, N.R. & Danodia, A. (2024) A combined drought index for monitoring and assessment of drought severity over India by integrating CHIRPS, MODIS and GRACE data. *Environ Dev Sustain* 28, 14731–14754. <https://doi.org/10.1007/s10668-024-05555-9>

Tarate, S. B., Patel, N. R., Danodia, A., Pokhariyal, S., & Parida, B. R. (2024) Geospatial Technology for Sustainable Agricultural Water Management in India—A Systematic Review. *Geomatics*, 4(2), 91-123. <https://doi.org/10.3390/geomatics4020006>

Tarate, S.B., Singh, I.S., Raut, S.M. et al. (2026) What do century-long rainfall trends reveal about climate change in Bihar’s Makhana-growing wetland districts? *Mausam*, 77(3): 807–826. <https://doi.org/10.54302/mausam.v77i3.7005>

Tarate, S. B., Vishnu, P. (2023) Comparative performance of different infiltration models for prediction of infiltration rate under different land-use conditions. *Environ Earth Sci* 82, 112. <https://doi.org/10.1007/s12665-023-10808-3>

Tarate, S. B., Elbeltagi, A., Kumar, M. et al. (2022) Applicability of machine learning techniques for multi-time step ahead runoff forecasting. *Acta Geophys.* 70, 757–776. <https://doi.org/10.1007/s11600-022-00749-z>