

Dr. Anil Kumar

List of Publications

1. Manish Kumar, Pravendra Kumar, Anil Kumar, Ahmed Elbeltagi and Alban Kuriqi (2022). Modeling stage–discharge–sediment using support vector machine and artificial neural network coupled with wavelet transform. *Applied Water Science*. 12:87. <https://doi.org/10.1007/s13201-022-01621-7>
2. Ram Kumar, Anil Kumar, A. K. Shankhwar, D.K. Vishkarma A. Sachan, P.V. Singh, J. Jahangeer, A.Verma, (2021) “Modelling of meteorological drought in the foothills of Central Himalayas: A case study in Uttarakhand State, India”. *Ain Shams Engineering Journal*. Vol. 13(3), Online 101959. 1-14. <https://doi.org/10.1016/j.asej.2021.09.022>.
3. Daniel Prakash Kushwaha, Anil Kumar and Sumit Chaturvedi (2021). “Determining the Effectiveness of Carbon-Based Stabilizers Blends in Arresting Soil Erosion and Elevating Properties of Mollisols Soils of North Western Himalayas.” *Environmental Technology and Innovation*. Vol. 23, 101768. <https://doi.org/10.1016/j.eti.2021.101768>. Online
4. Anurag Malik and Anil Kumar (2021). “Application of Standardized Precipitation Index for Monitoring Meteorological Drought and Wet Conditions in Garhwal Region (Uttarakhand) by Using Artificial Intelligence and Regression Models”. *Arabian Journal of Geosciences*. 14, 800. <https://doi.org/10.1007/s12517-021-07158-4>. April
5. Anurag Malik, Anil Kumar, Priya Rai, Alban Kuriqi (2021). “Prediction of Multi-Scalar Standardized Precipitation Index by Using Artificial Intelligence and Regression Models”. *Climate*, 9(2), 28: 1-25. doi.org/10.3390/cli9020028.
6. Sonam S. Dash, D. R. Sena, U. Mandal, Anil Kumar, Gopal Kumar, P. K. Mishra and M. Rawat (2021). A hydrological modelling-based approach for vulnerable area identification under changing climate scenarios. *Journal of Water and Climate Change*. Vol. 12(2). 433-452. <https://doi.org/10.2166/wcc.2020.202>.
7. Malik A., Kumar Anil, Kisi, O., Najeebullah K., Sinan Q. S. and Zaher Mundher Y. (2020). “Analysis of dry and wet climate characteristics at Uttarakhand (India) using effective drought index”. *Natural Hazards*. Vol. 105: 1643-1662. <https://doi.org/10.1007/s11069-020-04370-5>
8. Anurag Malik and Anil Kumar; Quoc, B. P., Senlin, Z.; Nguyen, T. T. L. & Doan Q. T. (2020). “Identification of EDI trend using Mann-Kendall and Sen-Innovative Trend methods (Uttarakhand, India)”. *Arabian Journal of Geosciences*, Vol. 13 (951). <https://doi.org/10.1007/s12517-020-05926-2>.
9. Yogesh Kumar and Anil Kumar (2020). “Spatiotemporal analysis of trend using nonparametric tests for rainfall and rainy days in Jodhpur and Kota zones of Rajasthan (India)”. *Arabian Journal of Geosciences*, Vol. 13 (691). <https://doi.org/10.1007/s12517-020-05687-y>.
10. Anurag Malik, Anil Kumar, A. N. Ahmed, Chow M. F., H. A. Afan, A. Sefelnasr, M. Sherif, Ahmed El-Shafie (2020). "Application of non-parametric approaches to identify trend in streamflow during 1976–2007 (Naula watershed)". *Alexandria Engineering Journal*. Vol. 59 (3). June: 1595-1606. <https://doi.org/10.1016/j.aej.2020.04.006>.
11. Anurag Malik, Anil Kumar, S. Q. Salih, S. Kim, N. W. Kim, Z. M. Yaseen, Vijay P. Singh (2020). "Drought index prediction using advanced fuzzy logic model: Regional case study over Kumaon in India". *PLOS ONE*. Vol. 15(5): e0233280. May. <https://doi.org/10.1371/journal.pone.0233280>.

12. Anurag Malik and Anil Kumar (2020). Meteorological drought prediction using heuristic approaches based on effective drought index: a case study in Uttarakhand. *Arabian Journal of Geosciences*, 13(6) 276: 1-17. [https://doi.org/ 10.1007/s12517-020-5239-6](https://doi.org/10.1007/s12517-020-5239-6).
13. Anurag Malik and Anil Kumar (2020). "Spatio-temporal Trend Analysis of Rainfall using Parametric and Non-parametric Tests: Case Study in Uttarakhand, India". *Theoretical and Applied Climatology*, 140: 183-207. [Doi.org/ 10.1007/s00704-019-03080-8](https://doi.org/10.1007/s00704-019-03080-8).
14. Anurag Malik, Anil Kumar, S. Kim, M. H. Kashani, V. Karimi, A. Sharafati, M. A. Ghorbani, N. Al-Ansari, S. Q. Salih, Z. M. Yaseen and Kwok-Wing Chau (2020). "Modeling Monthly Pan Evaporation Process over the Indian Central Himalayas: Application of Multiple Learning Artificial Intelligence Model". *Engineering Applications of Computational Fluid Mechanics*, 14(1): 323-338. [Doi.org/10.1080/19942060.2020.1715845](https://doi.org/10.1080/19942060.2020.1715845).
15. Anurag Malik, Anil Kumar, M. Ghorbani, M. H. Kashani, Ozgur Kisi and S. Kim. (2019). "The viability of co-active fuzzy inference system model for monthly reference evapo-transpiration estimation: Case study of Uttarakhand State". *Hydrology Research*. Vol. 50(6): 1623-1644. DOI: [org/10.2166/nh.2019.059](https://doi.org/10.2166/nh.2019.059).
16. Tikhamarine Y., Anurag Malik, Anil Kumar, Souag-Gamane, D. and Kisi, O. (2019). "Estimation of monthly reference evapotranspiration using novel hybrid machine learning approaches". *Hydrological Sciences Journal*, Vol. 64(15): 1824-1842. [https://DOI: 10.1080/02626667.2019.1678750](https://doi.org/10.1080/02626667.2019.1678750).
17. Anurag Malik, Anil Kumar and R.P. Singh (2019). "Application of Heuristic Approaches for Prediction of Hydrological Drought Using Multi-Scalar Streamflow Drought Index". *Water Resources Management*, 33(11):3985-4006. [Doi:10.1007/s11269-019-02350-4](https://doi.org/10.1007/s11269-019-02350-4).
18. Anurag Malik, Anil Kumar, Daniel Prakash Kushwaha, Ozgur Kisi, S. Salih, N. Al-Ansari, Z. Yaseen (2019). The implementation of hybrid model for hilly sub-watersheds prioritization using morphometric variables: Case study in India. *Water*, 11(6), 1138; [https://DOI: 10.3390/w11061138](https://doi.org/10.3390/w11061138).
19. Anurag Malik, Anil Kumar, Ozgur Kisi and Jalal Shiri (2019). Evaluating the performance of four different heuristic approaches with Gamma test for daily suspended sediment concentration modeling. *Environmental Science and Pollution Research*. Vol. 26(22): 22670–22687. doi.org/10.1007/s11356-019-05553-9.
20. Rana, Muhammad Adnan Ikram, Anurag Malik, Anil Kumar, Kulwinder Parmar and Ozgur Kisi (2019). Pan evaporation modeling by three different neuro-fuzzy intelligent systems using climatic inputs. *Arabian Journal of Geosciences*. 12(19):606. [DOI.org/10.1007/s12517-019-4781-6](https://doi.org/10.1007/s12517-019-4781-6). Oct.
21. Anurag Malik, Anil Kumar, Pulak Guhathakurta and Ozgur Kisi (2019). Spatial-temporal trend analysis of seasonal and annual rainfall (1966–2015) using innovative trend analysis method with significance test. *Arabian Journal of Geosciences*, Vol. 12(10): 328: 1-23. <https://doi.org/10.1007/s12517-019-4454-5>. May
22. Anurag Malik, Anil Kumar and Himanshu Kandpal (2019). Morphometric analysis and prioritization of sub-watersheds in a hilly watershed using weighted sum approach. *Arabian Journal of Geosciences*, Vol. 12(4)118:1-12. [doi:10.1007/s12517-019-4310-7](https://doi.org/10.1007/s12517-019-4310-7). Feb.
23. Anurag Malik, Anil Kumar, Priya Rai and Sachin Kumar Singh (2018). Hypsometric curve and integral estimation of four hilly watersheds of Ramganga river basin using RS and GIS. *International Journal of Agricultural Invention* 3(2): 145-149.
24. Tarate Suryakant Bajirao, Pravendra Kumar and Anil Kumar (2018). Spatio-Temporal Variability of Land use/Land Cover within Koyna River Basin. *International Journal of Current Microbiology and Applied Sciences* 7(09): 944-953. [https:// doi.org/10.20546/ijcmas.2018.709.114](https://doi.org/10.20546/ijcmas.2018.709.114).
25. Vasantgouda Roti, P.S. Kashyap, Anil Kumar, R.K. Srivastava and Harish Chandra (2018). Runoff and Sediment Yield Estimation by SWAT Model: Review and Outlook. *International Journal of Current Microbiology and Applied Sciences* 7(10): 879-886. doi.org/10.20546/ijcmas.2018.710.097

26. Mishra, Alok Kumar and Anil Kumar (2018). Investigating Rainfall Trend and Monitoring Meteorological Drought in a Himalayan Watershed of India. *Geosciences Research*, Vol. 3(4) November: 51-64. DOI:10.22606/gr.2018.34002
27. Anurag Malik, Anil Kumar, and Ozgur Kisi (2018). Daily pan evaporation estimation using heuristic methods with Gamma test. *Journal of Irrigation and Drainage Engineering (ASCE)*. Vol. (9). 144:04018023. 1-10. [https://doi.org/10.1061/\(ASCE\)IR.1943-4774.0001336](https://doi.org/10.1061/(ASCE)IR.1943-4774.0001336).
28. Anita Singh, Anurag Malik, Anil Kumar, and Ozgur Kisi (2018). Rainfall-runoff modeling in hilly watershed using heuristic approaches with gamma test. *Arabian Journal of Geosciences*. Vol. 11(11) 261:1 -12. doi.org/10.1007/s12517-018-614-3. May
29. Anurag Malik, Anil Kumar, and Ozgur Kisi (2017). Monthly pan-evaporation estimation in Indian central Himalayas using different heuristic approaches and climate based models. *Computers and Electronics in Agriculture*, 143: 302-313. <https://doi.org/10.1016/j.compag.2017.11.008>
30. Anurag Malik, Anil Kumar, and Jamshid Piri (2017). Daily suspended sediment concentration simulation using hydrological data of Pranhita river Basin, India. *Computers and Electronics in Agriculture*, 138: 20-28. <http://dx.doi.org/10.1016/j.compag.2017.04.005>.