

International Publications

1. Year (2024) Abdul Baseer and Zulfiqar Ali and et al. Development of Ridge Ensemble Standardized Drought Index (RESDI) for Improving Drought Characterization and Future Assessment. *Accepted in Environmental Monitoring and Assessment*.
2. Year (2024) Muhammad Shakeel and Zulfiqar Ali. Improving future drought predictions—a novel multi-method framework based on mutual information for subset selection and spatial aggregation of global climate models of precipitation. *Stochastic Environmental Research and Risk Assessment*, 1-22, <https://doi.org/10.1007/s00477-024-02746-8> .
3. Year (2024) Alina and Ali et al. Development of Divergence and Interdependence-based Hybrid Weighting Scheme (DIHWS) for Accurate Assessment of Regional Drought. Accepted in *Theoretical and Applied Climatology*.
4. Year (2024) Awan, W. B., Batool, A., Ali, Z., Xu, Z., Niaz, R., Sammen, S. S. (2024). A Unified procedure for the probabilistic assessment and forecasting temperature characteristics under global climate change. *Environment, Development and Sustainability*, 1-25. <https://link.springer.com/article/10.1007/s10668-024-05020-7>.
5. Year (2024). Batool, A., Ali, Z., Mohsin, M., Masmoudi, A., Kartal, V., Satti, S. Assessing the generalization of forecasting ability of machine learning and probabilistic models for complex climate characteristics. *Stochastic Environmental Research and Risk Assessment*, 1-21.
6. Year (2024). Mukhtar, A., Ali, Z., Nazeer, A., Dhahbi, S., Kartal, V., Deebani, W. A novel semi data dimension reduction type weighting scheme of the multi-model ensemble for accurate assessment of twenty-first century drought. *Stochastic Environmental Research and Risk Assessment*, 1-25.
7. Year (2024). Naz, R., Ali, Z. A novel self-adjusting weight approximation procedure to minimize non-identical seasonal effects in multimodel ensemble for accurate twenty-first century drought assessment. *Stochastic Environmental Research and Risk Assessment*, 1-22.
8. Year (2024). Saleem, J., Zakar, R., Butt, M. S., Aadil, R. M., Ali, Z., Bukhari, G. M. J., ... Fischer, F. Application of the Boruta algorithm to assess the multidimensional determinants of malnutrition among children under five years living in southern Punjab, Pakistan. *BMC Public Health*, 24(1), 167.
9. Year (2024). Shakeel, M., Ali, Z. Integration of Exponential Weighted Moving Average Chart in Ensemble of Precipitation of Multiple Global Climate Models (GCMs). *Water Resources Management*, 38(3), 935-949.
10. Year (2024). Batool, A., Ali, Z., Mohsin, M., Shakeel, M. A generalized procedure for joint monitoring and probabilistic quantification of extreme climate events at regional level. *Environmental Monitoring and Assessment*, 195(10), 1223.
11. Year (2024). Baseer, A., Ali, Z., Ilyas, M., Yousaf, M. A new Monte Carlo Feature Selection (MCFs) algorithm-based weighting scheme for multi-model ensemble of precipitation. *Theoretical and Applied Climatology*, 155(1), 513-524.
12. Year (2023). Ahmad, M., Ali, Z*, Ilyas, M., Mohsin, M., Niaz, R. A Common Factor Analysis Based Data Mining Procedure for Effective Assessment of 21st Century Drought under Multiple Global Climate Models. *Water Resources Management*, Netherlands 0920-4741.

13. Year (2023). Yousaf, M., Ali, Z*, Mohsin, M., Ilyas, M., Shakeel, M. Development of a new hybrid ensemble method for accurate characterization of future drought using multiple global climate models. *Stochastic Environmental Research and Risk Assessment*, United States 1436-3259.
14. Year (2023). Niaz, R., Almazah, M. M., Al-Rezami, A. Y., Ali, Z., Hussain, I., Omer, T. Proposing a new framework for analyzing the severity of meteorological drought. *Geocarto International*, United Kingdom 1752-0762, 38(1), 2197512
15. Year (2023). Niaz, R., Hussain, A., Almazah, M. M., Hussain, I., Ali, Z., Al-Rezami, A. Y. Identifying inter-seasonal drought characteristics using binary outcome panel data models. *Geocarto International*, United Kingdom 1752-0762, 38(1), 2178527.
16. Year (2023). Ali, Z., Qamar, S., Khan, N., Faisal, M., Sammen, S. S. A New Regional Drought Index under X-bar Chart Based Weighting Scheme – The Quality Boosted Regional Drought Index (QBRDI). *Water Resources Management*, Netherlands 0920-4741, 37(5), 1895-1911.
17. Year (2022). Qamar, S., Ali, Z., Sammen, S. S. A new method for modelling precipitation variability in relation to climate change. *Journal of Water and Climate Change*, United Kingdom 2040-2244, 14(1), 289-304.
18. Year (2022). Raza, M. A., Almazah, M., Ali, Z., Hussain, I., Al-Duais, F. S. Application of Extreme Learning Machine Algorithm for Drought Forecasting. *Complexity*, Egypt 1076-2787 Volume 2022, Article ID 4998200.
19. Year (2022). Tehreem, Z., Ali, Z., Al-Ansari, N., Niaz, R., Hussain, I., Sammen, S. S. A Novel Appraisal Protocol for Spatiotemporal Patterns of Rainfall by Reconnaissance the Precipitation Concentration Index (PCI) with Global Warming Context. *Mathematical Problems in Engineering*. United States 1024-123X, Volume 2022, Article ID 3012100.
20. Year (2022). Li, Z., Riaz, S., Qamar, S., Ali, Z., Abbasi, J. N., Fayyaz, R. Development of adaptive standardized precipitation index and its application in the Tibet Plateau region. *Stochastic Environmental Research and Risk Assessment*, United States 1436-3259, 37(2), 557-575.
21. Year (2022). Ali, F., Li, B. Z., Ali, Z. A New Weighting Scheme for Diminishing the Effect of Extreme Values in Regional Drought Analysis. *Water Resources Management*, Netherlands 0920-4741, 36(11), 4099-4114.
22. Year (2022). Ali, F., Riaz, S., Ali, Z., Qamar, S., Li, B. Z., Khan, M. A. The Spatiotemporal Weighted Efficient Drought Index (STWEDI) - A New Generalized Procedure of Regional Drought Indicator. *Ecohydrology*, United Kingdom 1936-0584, 15(7), e2454.
23. Year (2022). Ali, F., Ali, Z., Li, B. Z., Qamar, S., Nazeer, A., Riaz, S., ... Nawaz Abbasi, J. Exploring Regional Profile of Drought History- a New Procedure to Characterize and Evaluate Multi-Scaler Drought Indices Under Spatial Poisson Log-Normal Model. *Water Resources Management*, Netherlands 0920-4741, 36(9), 2989-3005.
24. Year (2022). Yuanbin, S., Qamar, S., Ali, Z., Yang, T., Nazeer, A., Fayyaz, R. A New Ensemble Index for Extracting Predictable Drought Features from Multiple Historical Simulations of Climate. *Tellus, Series A: Dynamic Meteorology and Oceanography*. United Kingdom 1600-0870, 74, 236-249

25. Year (2022). Khan, M. A., Riaz, S., Jiang, H., Qamar, S., Ali, Z., Islamil, M., ... Zhang, X. Development of an assessment framework for the proposed Multi-Scalar Seasonally Amalgamated Regional Standardized Precipitation Evapotranspiration Index (MSARSPEI) for regional drought classifications in global warming context. *Journal of Environmental Management*, United States 1095-8630, 312, 114951.
26. Year (2022). Khan, M. A., Zhang, X., Ali, Z., Jiang, H., Ismail, M., Qamar, S. A New Standardized Type Drought Indicators Based Hybrid Procedure for Strengthening Drought Monitoring System. *Tellus, Series A: Dynamic Meteorology and Oceanography*, United Kingdom 1600-0870, 74(1), 119-140.
27. Year (2022). Li, Z., Ali, Z., Cui, T., Qamar, S., Ismail, M., Nazeer, A., Faisal, M. A comparative analysis of pre- and post-industrial spatiotemporal drought trends and patterns of Tibet Plateau using Sen slope estimator and steady-state probabilities of Markov Chain. *Natural Hazards*, Netherlands 1573-0840, 113(1), 547-576.
28. Year (2021). Ali, Z., Ellahi, A., Hussain, I., Nazeer, A., Qamar, S., Ni, G., Faisal, M. Reduction of Errors in Hydrological Drought Monitoring – A Novel Statistical Framework for Spatio-Temporal Assessment of Drought. *Water Resources Management*, Netherlands 0920-4741, 35(13), 4363-4380.
29. Year (2021). Niaz, R., Zhang, X., Ali, Z., Hussain, I., Faisal, M., Elashkar, E. E., ... Al-Deek, F. F. A new propagation-based framework to enhance competency in regional drought monitoring. *Tellus, Series A: Dynamic Meteorology and Oceanography*, United Kingdom 1600-0870, 73(1), 1-12.
30. Year (2021). Habeeb, R., Zhang, X., Hussain, I., Hashmi, M. Z., Elashkar, E. E., Khader, J. A., ... Al-Deek, F. F. Statistical analysis of modified Hargreaves equation for precise estimation of reference evapotranspiration. *Tellus, Series A: Dynamic Meteorology and Oceanography*, United Kingdom 1600-0870, 73(1), 1-12.
31. Year (2021). Niaz, R., Hussain, I., Ali, Z., Faisal, M. A novel framework for regional pattern recognition of drought intensities. *Arabian Journal of Geosciences*, Germany 1866-7538, 14, 1-16.
32. Year (2021). Niaz, R., Hussain, I., Zhang, X., Ali, Z., Elashkar, E. E., Khader, J. A., ... Shoukry, A. M. Prediction of Drought Severity Using Model-Based Clustering. *Mathematical Problems in Engineering*, United States 1024-123X, Volume 2021, Article ID 9954293.
33. Year (2021). Ali, F., Li, B. Z., Ali, Z. Strengthening Drought Monitoring Module by Ensembling Auxiliary Information Based Varying Estimators. *Water Resources Management*, Netherlands 0920-4741, 35(10), 3235-3252.
34. Year (2021). Raza, A., Hussain, I., Ali, Z., Faisal, M., Elashkar, E. E., Shoukry, A. M., ... Gani, S A seasonally blended and regionally integrated drought index using Bayesian network theory Meteorological Applications Science and Technology for Weather and Climate. *Meteorological Applications*, United States 1350-4827, 28(3), e1992.
35. Year (2021). Khan, M. A., Faisal, M., Hashmi, M. Z., Nazeer, A., Ali, Z., Hussain, I. Modeling drought duration and severity using two-dimensional copula. *Journal of Atmospheric and Solar-Terrestrial Physics*, United Kingdom 1364-6826, 214, 105530.
36. Year (2020). Niaz, R., Hussain, I., Ali, Z., Faisal, M., Elashkar, E. E., Shoukry, A. M., ... Al-Deek, F. F. A novel spatially weighted accumulative procedure

- for regional drought monitoring. *Tellus, Series A: Dynamic Meteorology and Oceanography*, United Kingdom 1600-0870, 72(1), 1-13.
37. Year (2020). Ali, Z., Hussain, I., Nazeer, A., Faisal, M., Ismail, M., Qamar, S., ... Ni, G. Measuring and restructuring the risk in forecasting drought classes: an application of weighted Markov chain based model for standardised precipitation evapotranspiration index (SPEI) at one-month time scale. *Tellus, Series A: Dynamic Meteorology and Oceanography*, United Kingdom 1600-0870 72(1), 1-10.
 38. Year (2020). Ali, Z., Hussain, I., Grzegorzczak, M. A., Ni, G., Faisal, M., Qamar, S., ... Al-Deek, F. F. Bayesian network based procedure for regional drought monitoring: The Seasonally Combinative Regional Drought Indicator. *Journal of Environmental Management*, United States 1095-8630, 276, 111296.
 39. Year (2020). Jiang, H., Khan, M. A., Li, Z., Ali, Z., Ali, F., Gul, S. (2020) Regional drought assessment using improved precipitation records under auxiliary information. *Tellus, Series A: Dynamic Meteorology and Oceanography*, United Kingdom 1600-0870, 72(1), 1-26.
 40. Year (2020). Ali, Z., Hussain, I., Faisal, M., Grzegorzczak, M., Qamar, S., Shoukry, A. M., ... Gani, S. On the more generalized non-parametric framework for the propagation of uncertainty in drought monitoring. *Meteorological Applications*, United States 1350-4827, 27(3), e1914.
 41. Year (2020). Ali, Z., Almanjahie, I. M., Hussain, I., Ismail, M., Faisal, M. A novel generalized combinative procedure for Multi-Scalar standardized drought Indices-The long average weighted joint aggregative criterion. *Tellus, Series A: Dynamic Meteorology and Oceanography*, United Kingdom 1600-0870, 72(1), 1-23.
 42. Year (2020). Niaz, R., Almanjahie, I. M., Ali, Z., Faisal, M., Hussain, I. A Novel Framework for Selecting Informative Meteorological Stations Using Monte Carlo Feature Selection (MCFS) Algorithm. *Advances in Meteorology*, Egypt 1687-9317, Volume 2020, Article ID 5014280.
 43. Year (2020). Ali, Z., Hussain, I., Faisal, M., Khan, D. M., Niaz, R., Elashkar, E. E., Shoukry, A. M. Propagation of the Multi-Scalar Aggregative Standardized Precipitation Temperature Index and its Application. *Water Resources Management*, Netherlands 0920-4741, 34, 699-714.
 44. Year (2019). Ali, Z., Hussain, I., Faisal, M., Grzegorzczak, M. A., Almanjahie, I. M., Nazeer, A., Ahmad, I. Characterization of regional hydrological drought using improved precipitation records under multi-auxiliary information. *Theoretical and Applied Climatology*, Austria 1434-4483, 140, 25-36.
 45. Year (2019). Ullah, I., Zuberi, A., Rehman, H., Ali, Z., Thörnqvist, P. O., Winberg, S. Effects of early rearing enrichments on modulation of brain monoamines and hypothalamic-pituitary-interrenal axis (HPI axis) of fish mahseer (*Tor putitora*). *Fish physiology and biochemistry*, Netherlands 0920-1742, 46, 75-88.
 46. Year (2019). Ali, Z., Hussain, I., Faisal, M., Shad, M. Y., Elashkar, E. E., Gani, S. An Ensemble Procedure for Pattern Recognition of Regional Drought. *International Journal of Climatology*, United Kingdom 1097-0088, 40(1), 94-114.
 47. Year (2019). Ali, Z., Hussain, I., Faisal, M., Elashkar, E. E., Gani, S., Shehzad, M. A. Selection of appropriate time scale with Boruta algorithm for regional drought monitoring using multi-scaler drought index. *Tellus, Series A: Dynamic Meteorology and Oceanography*, United Kingdom 1600-0870, 71(1), 1604057.

48. Year (2019). Ali, Z., Hussain, I., Faisal, M., Almanjahie, I. M., Ahmad, I., Khan, D. M., ... Qamar, S. A Probabilistic Weighted Joint Aggregative Drought Index (PWJADI) criterion for drought monitoring systems *Tellus, Series A: Dynamic Meteorology and Oceanography*, United Kingdom 1600-0870, 71(1), 1588584.
49. Year (2019). Ali, Z., Hussain, I., Faisal, M., Shoukry, A. M., Gani, S., Ahmad, I. A framework to identify homogeneous drought characterization regions. *Theoretical and Applied Climatology*, Austria 1434-4483, 137, 3161-3172.
50. Year (2018). Ali, Z., Hussain, I., Faisal, M., Almanjahie, I. M., Ismail, M., Ahmad, M., Ahmad, I. A New Weighting Scheme in Weighted Markov Model for Predicting the Probability of Drought Episodes. *Advances in Meteorology*, Egypt 1687-9317, Volume 2018, Article ID 8954656.
51. Year (2017). Ali, Z., Hussain, I., Faisal, M., Nazir, H. M., Moemen, M. A. E., Hussain, T., Shamsuddin, S. A Novel Multi-Scalar Drought Index for Monitoring Drought: the Standardized Precipitation Temperature Index. *Water Resources Management*, Netherlands 0920-4741, 31, 4957-4969.
52. Year (2017). Ali, Z., Hussain, I., Faisal, M., Nazir, H. M., Hussain, T., Shad, M. Y., ... Hussain Gani, S. Forecasting Drought Using Multilayer Perceptron Artificial Neural Network Model. *Advances in Meteorology*, Egypt 1687-9317, Volume 2017, Article ID 5681308.
53. Year (2016). Nazir, H. M., Hussain, I., Zafar, M. I., Ali, Z., AbdEl-Salam, N. M. Classification of Drinking Water Quality Index and Identification of Significant Factors. *Water Resources Management*, Netherlands 0920-4741, 30, 4233-4246.