



A REVIEW

Drought modelling: A comprehensive review

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Abstract : Droughts are a recurring natural hazard with significant social, economic, and environmental consequences. Accurate drought modelling is crucial for effective drought preparedness, mitigation, and response strategies. This review paper comprehensively overviews drought modelling approaches, including traditional statistical, physically-based and emerging machine learning techniques. We discuss the strengths and weaknesses of each approach, highlighting recent advancements and future research directions. Additionally, we examine the various drought indices employed for drought characterization and explore the integration of climate change scenarios into drought modelling frameworks. Finally, the review addresses the challenges and limitations of drought modelling and emphasizes the importance of data availability, model validation, and user-centric applications.

Key Words : Drought, Modelling, Climate change, Mitigation, Machine learning

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