Contents

Hydrologic extremes

v Editorial: Hydrologic extremes
D. Nagesh Kumar and K. Srinivasa Raju

1 Assessment of spatiotemporal characteristics of agro-meteorological drought events based on comparing Standardized Soil Moisture Index, Standardized Precipitation Index and Multivariate Standardized Drought Index
Muhammad Imran Khan, Xingye Zhu, Muhammad Arshad, Muhammad Zaman, Yasir Niaz, Ikram Ullah, Muhammad Naveed Anjum and Muhammad Uzair

18 Applicability of SPI and RDI for forthcoming drought events: a non-parametric trend and one way ANOVA approach
Ankur Vishwakarma, Mahendra Kumar Choudhary and Mrityunjay Singh Chauhan

29 Comparison of meteorological indices for drought monitoring and evaluating: a case study from Euphrates basin, Turkey
Okan Mert Katipoğlu, Reşat Acar and Selim Şengül

44 Evaluating drought risk in data-scarce contexts. The case of southern Angola
Natalia Limones, Javier Marzo-Artigas, Marcus Wijnen and Aleix Serrat-Capdevila

68 Spatio-temporal analysis of maximum drought severity using Copulas in Northern Algeria
Soumia Mellak and Doudja Souag-Gamane

85 Stochastic time-series models for drought assessment in the Gaza Strip (Palestine)
Hassan Al-Najjar, Gokmen Ceribasi, Emrah Dogan, Mazen Abualtayef, Khalid Qahman and Ahmed Shaqfa

115 Evaluation of temporal drought variation and projection in a tropical river basin of Kerala
M. A. Jincy Rose and N. R. Chithra

133 Assessment of the performance of CMIP5 and CORDEX-SA models over the drought-prone Bundelkhand region, India
Ankur Vishwakarma, Mahendra Kumar Choudhary and Mrityunjay Singh Chauhan
145 Uncertainties in runoff projection and hydrological drought assessment over Gharesu basin under CMIP5 RCP scenarios
S. M. Ashrafi, H. Gholami and M. R. Najafi

164 Hydrological drought risk recurrence under climate change in the karst area of Northwestern Algeria
Senna Bouabdelli, Mohamed Meddi, Ayoub Zeroual and Ramdane Alkama

189 Association between drought and agricultural productivity using remote sensing data: a case study of Gujarat state of India
Koyel Sur and M. M. Lunagaria

203 Monitoring agricultural drought using geospatial techniques: a case study of Thal region of Punjab, Pakistan
Muhammad Amin, Mobushir Riaz Khan, Sher Shah Hassan, Aftab Ahmad Khan, Muhammad Imran, Muhammad Arif Goheer, Syeda Mahlaqa Hina and Abida Perveen

217 Drought and households’ adaptive capacity to water scarcity in Kasali, Uganda
Joseph Mukasa, Lydia Olaka and Mohammed Yahya Said

233 Synoptic climatological approach associated with three recent summer heatwaves in the Canadian Arctic
Farahnaz Fazel-Rastgar

251 Climate change and its influence on design rainfall at-site in New South Wales State, Australia
Evan Hajani

270 Modelling the effects of climate change on urban coastal-fluvial flooding
Jennifer Isabel Munro Kirkpatrick and Agnieszka Indiana Olbert

289 Spatial-temporal trends analysis of flood events in the Republic of Armenia in the context of climate change
Hrachuhi Galstyan, Shamshad Khan, Hovik Sayadyan, Artur Sargsyan and Tatevik Safaryan

310 Hydro-meteorological characteristics and occurrence probability of extreme flood events in Moroccan High Atlas
Mohamed El Mehdi Saidi, Tarik Saouabe, Abdelhafid El Alaoui El Fels, El Mahdi El Khalki and Abdessamad Hadri

322 Precision of raw and bias-adjusted satellite precipitation estimations (TRMM, IMERG, CMORPH, and PERSIANN) over extreme flood events: case study in Langat river basin, Malaysia

343 Locally tuned hybridized particle swarm optimization for the calibration of the nonlinear Muskingum flood routing model
Umut Okkan and Umut Kirdemir
359 Development of a minimalist conceptual numerical model for flood forecasting and management under GIS environment  
Mustapha Rabie Boudani, Mohamed Mazour, Hichem Mazighi and Omar Djoukbala

387 Development of high-resolution 72 h precipitation and hillslope flood maps over a tropical transboundary region by physically based numerical atmospheric-hydrologic modeling  
T. Trinh, C. Ho, N. Do, A. Ercan and M. L. Kavvas

407 Application of RUSLE integrated with GIS and remote sensing techniques to assess soil erosion in Anambra State, South-Eastern Nigeria  
Fidelis Odedishemi Ajibade, Nathaniel Azubuike Nwogwu, Bashir Adelodun, Taofeeq Sholagberu Abdulkadir, Temitope Fausat Ajibade, Kayode Hassan Lasisi, Olaolu George Fadugba, Titilayo Abimbola Owolabi and Olabanji Olatona Olajire