Contents

1 Assessment of GeoEye-1 stereo-pair-generated DEM in flood mapping of an ungauged basin
I. K. Tsanis, K. D. Seiradakis, I. N. Daliakopoulos, M. G. Grillakis and A. G. Koutroulis

19 Prediction of flow resistance in a compound open channel
Mrutyunjaya Sahu, S. S. Mahapatra, K. C. Biswal and K. K. Khatua

33 Evolutionary network flow models for obtaining operation rules in multi-reservoir water systems
Néstor Lerma, Javier Paredes-Arquiola, Jose-Luis Molina and Joaquin Andreu

50 Generation of the bathymetry of a eutrophic shallow lake using WorldView-2 imagery
Onur Yuzugullu and Aysegul Aksoy

60 Multi-site evaluation to reduce parameter uncertainty in a conceptual hydrological modeling within the GLUE framework
Kairong Lin, Pan Liu, Yanhu He and Shenglian Guo

74 Integration of an evolutionary algorithm into the ensemble Kalman filter and the particle filter for hydrologic data assimilation
Gift Dumedah and Paulin Coulibaly

95 Encapsulation of parametric uncertainty statistics by various predictive machine learning models: MLUE method
Durga L. Shrestha, Nagendra Kayastha, Dimitri Solomatine and Roland Price

114 Spatial evaluation of complex non-point source pollution in urban–rural watershed using fuzzy system
Haijun Wang, Wenting Zhang, Song Hong, Yanhua Zhuang, Hongyan Lin and Zhen Wang

130 The characteristics of probability distribution of groundwater model output based on sensitivity analysis
Xiankui Zeng, Jichun Wu, Dong Wang and Xiaobin Zhu

144 An optimization model for water resources allocation risk analysis under uncertainty
Y. L. Xie and G. H. Huang

165 Hybrid metaheuristics for multi-objective design of water distribution systems
Qi Wang, Dragan A. Savić and Zoran Kapelan
178 Consequence management of chemical intrusion in water distribution networks under inexact scenarios
   Abbas Afshar and Ehsan Najafi

189 Free-surface flow simulations for discharge-based operation of hydraulic structure gates
   C. D. Erdbrink, V. V. Krzhizhanovskaya and P. M. A. Sloot

207 Implementation of pressure reduction valves in a dynamic water distribution numerical model to control
   the inequality in water supply
   Gabriele Freni, Mauro De Marchis and Enrico Napoli

218 Improving applicability of neuro-genetic algorithm to predict short-term water level: a case study
   Gooyong Lee, Sangeun Lee and Heekyung Park

231 Impact of climate change on future stream flow in the Dakbla river basin
   Srivatsan V. Raghavan, Vu Minh Tue and Liong Shie-Yui