

Contents

Preface by Stewart W. Franks, Eva Boegh, Eleanor Blyth, David M. Hannah & Koray K. Yilmaz	v
Drought risks and impact on water resources in part of northern Nigeria <i>Olusegun Adeaga</i>	1
Kohonen Self-Organizing Map as a software sensor estimator of reference crop evapotranspiration <i>Adebayo Adeloye & Rabee Rustum</i>	7
Pan evaporation trend for the Haihe River basin and its response to climate change <i>Zhenxin Bao, Jianyun Zhang, Guoqing Wang, Guobin Fu, Cuishan Liu & Xiaolin Yan</i>	15
Calibration of an evapotranspiration model using runoff records and regional evapotranspiration <i>Zoubeida Bargaoui & Ahmed Houcine</i>	21
Developing a feedbacks toolkit for regional water resource assessments <i>E. M. Blyth & C. M. J. Jacobs</i>	27
Hydrological validation of statistical downscaling methods applied to climate model projections <i>Marie Bourqui, Thibault Mathevret, Joel Gailhard & Frederic Hendrickx</i>	32
Pathologies of hydrological models used in changing climatic conditions: a review <i>L. Coron, V. Andréassian, M. Bourqui, C. Perrin & F. Hendrickx</i>	39
Variability, change and prediction of hydro-climatic elements in the Hai River basin, China <i>Xiangyi Ding, Yangwen Jia, Jinsheng Jia, Huaidong Zhou & Yuchun Wang</i>	45
Evaluation of energy balance, combination and complementary schemes for estimation of evaporation <i>A. Ershadi, M. F. McCabe, J. P. Evans & J. P. Walker</i>	52
Temporal changes in annual rainfall in the “Top End” of Australia <i>Wayne D. Erskine, Michael J. Saynor & Maureen Townley-Jones</i>	57
Water and ice regimes of the rivers of European Russia under climate change <i>Natalia Frolova, Svetlana Agafonova & Dmitry Nesterenko</i>	63
Statistical downscaling of daily rainfall for southeastern Australia <i>Guobin Fu & Stephen P. Charles</i>	69

Non-stationary analysis of spatial patterns of extreme rainfall events in West Africa <i>Sandra G. García Galiano & Juan D. Giraldo Osorio</i>	75
Evolution des principales caractéristiques de la saison des pluies au Burkina Faso à partir des données pluviométriques de cinq modèles climatiques régionaux (MCR) / Evolution of main rainy season characteristics in Burkina Faso derived from rainfall data of five regional climate models (RCM) <i>Boubacar Ibrahim, Harouna Karambiri & Jan Polcher</i>	82
The effects of the 2007–2008 drought on water resources in Ilam Province, Iran <i>Haji Karimi & Sadegh Alimoradi</i>	87
Changes of pan evaporation and its influencing factors in different climate zones of China <i>Cuishan Liu, Jianyun Zhang, Guoqing Wang & Ruimin He</i>	93
Recent increased frequency of drought events in Poyang Lake Basin, China: climate change or anthropogenic effects? <i>Yuanbo Liu, Ping Song, Jian Peng, Qiaoni Fu & Cuicui Dou</i>	99
Hydro-climatological variability in the Murray-Darling Basin <i>Natalie Lockart, Dmitri Kavetski & Stewart W. Franks</i>	105
Explaining annual streamflow variability of Amazonian rivers <i>Alan V. Lopes & John A. Dracup</i>	112
Agronomie et climatologie d'un bassin de 100 000 km ² en Afrique de l'Ouest / Agronomy and climatology of a 100 000 km ² watershed in West Africa <i>S. Louvet, K. Delarue, J. E. Paturel, G. Mahé, M. Vaksman, L. Tiganadaba, N. Vigaud, P. Roucou, N. Rouché & M. Koité</i>	118
Variabilité spatio-temporelle passée et future de la pluie sur le bassin du Bani en Afrique de l'Ouest / Past and future spatiotemporal variability of rainfall of the Bani catchment in West Africa <i>S. Louvet, J. E. Paturel, G. Mahé, N. Vigaud, P. Roucou, N. Rouché & M. Koité</i>	125
Le fleuve Niger et le changement climatique au cours des 100 dernières années / The River Niger and climate change over 100 years <i>G. Mahé, G. Lienou, F. Bamba, J. E. Paturel, O. Adeaga, L. Descroix, A. Mariko, J. C. Olivry, S. Sangare, A. Ogilvie & J. C. Clanet</i>	131
Estimation of the flooded area of the Inner Delta of the River Niger in Mali by hydrological balance and satellite data <i>G. Mahe, D. Orange, A. Mariko & J. P. Bricquet</i>	138

Numerical modelling and land–atmosphere feedback of drought in southeast Australia <i>X. H. Meng, J. P. Evans & M. F. McCabe</i>	144
Simulation of the impacts of climate change on the water budget of the Xitiaog River catchment, China <i>Xingguo Mo & Dejuan Meng</i>	150
Separation of climate and anthropogenic influences on Columbia River mean flow and sediment transport <i>Pradeep K. Naik & David A. Jay</i>	157
Hydro-climatic variability of the Hadejia–Jama’are river systems in north-central Nigeria <i>Shakirudeen Odunuga, Ifeyinwa Okeke, Ademola Omojola & Lekan Oyebande</i>	163
Analysis of extreme daily rainfall in southeast Asia with a gridded daily rainfall data set <i>Keisuke Ono & So Kazama</i>	169
Modelling maximum precipitation in a mountainous area of Greece under global warming <i>Dionysia Panagoulia & Chrys Caroni</i>	176
River runoff response to climate changes in Poland (East-Central Europe) <i>Joanna Pociask-Karteczka</i>	182
Non-linearity of the runoff response across southeastern Australia to increases in global average temperature <i>David A. Post, Jin Teng, Francis H. S. Chiew, Biao Wang, Jai Vaze & Steve Marvanek</i>	188
How could hydro-climatic conditions evolve in the long term in West Africa? The case study of the Bani River catchment <i>D. Ruelland, L. Collet, S. Ardoin-Bardin & P. Roucou</i>	195
Trends in hydro-meteorological variables in the Brahmaputra basin in India and their impact on flood events <i>U. C. Sharma & Vikas Sharma</i>	202
Estimation of evapotranspiration in the Brígida River basin, Brazil, by satellite remote sensing <i>Richarde Marques Silva, Leonardo Pereira e Silva, Celso Augusto Guimarães Santos & Suzana Maria Gico Lima Montenegro</i>	208
Satellite-based tracking of water surface variation of Poyang Lake during the last three decades <i>Ping Song & Yuanbo Liu</i>	215

Calibration of hydrological models for medium-term streamflow prediction in a changing climate <i>Jin Teng, Francis H. S. Chiew, Jai Vaze & David A. Post</i>	221
Trends in precipitation extremes and long-term memory of runoff records in Zhejiang, East China <i>Ye Tian, Yueping Xu, Martijn J. Booij, Qingqing Zhang & Shengji Lin</i>	227
Climate variability and water security for power generation <i>Adam M. Wyatt & Stewart W. Franks</i>	233
Evapotranspiration observation and data analysis in reed swamp wetlands <i>Shiguo Xu & Tao Ma</i>	239
Assessment of flash flood events using remote sensing and atmospheric model-derived precipitation in a hydrological model <i>Ismail Yucel & Fatih Keskin</i>	245
Key word index	253