Hydrology and Water Resources

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Contents

Hydrology and Water Resources

Detailed knowledge of global water resources certainly has been enriched over the 40 years that have passed since the International Hydrological Decade. Water cycles on Earth can now be measured and simulated on finer temporal and spatial scales with detailed models of each hydrological process, and the current and future status of the global water system can be illustrated. Firstly, we discuss about the general information hydrology and water resources. We also discuss Role of Hydrological Studies for the Development of the TDPS System and Integrating Entropy and Copula Theories for Hydrologic Modeling and Analysis. Then we present An Analysis of Land Use Change Dynamics and Its Impacts on Hydrological Processes in the Jialing River Basin and Application of BP Neural Network Algorithm in Traditional Hydrological Model for Flood Forecasting. After that we described Multi-Model Grand Ensemble Hydrologic Forecasting in the Fu River Basin Using Bayesian Model Averaging and HydroZIP: How Hydrological Knowledge can Be Used to Improve Compression of Hydrological Data. Hydrological Responses to Land Use/Cover Changes in the Olifants Basin, South Africa and Physically, Fully-Distributed Hydrologic Simulations Driven by GPM Satellite Rainfall over an Urbanizing Arid Catchment in Saudi Arabia are also discussed in this book. We also described Modelling Hydrology and Sediment Transport in a Semi-Arid and Anthropized Catchment Using the SWAT Model: The Case of the Tafna River (Northwest Algeria) and A Hydrological Concept including Lateral Water Flow Compatible with the Biogeochemical Model ForSAFE. Urbanization Effects on Watershed Hydrology and In-Stream Processes in the Southern United States and Estimating the Ground Water Resources of Atoll Islands are also presented. We also try to describe Hydrological Evaluation of Lake Chad Basin Using Space Borne and Hydrological Model Observations and The Use of H-SAF Soil Moisture Products for Operational Hydrology: Flood Modelling over Italy. Integrated Water Resources Management in a Lake System: A Case Study in Central Italy and Water Resources Assessment and Management in Drylands are also presented. Then, we give information about SWAT Modeling for Depression-Dominated Areas: How Do Depressions Manipulate Hydrologic Modeling and A Simplified Model for Modular Green Roof Hydrologic Analyses and Design. We also give information about Hydrologic and Water Quality Model Development Using Simulink and Two-Stage DEA Analysis of Water Resource Use Efficiency.

Tanjina finished her PhD in Civil and Environmental Engineering in 2014 from University of Technology Sydney (UTS). Now she is working as Post-Doctoral Researcher in the Centre for Technology in Water and Wastewater (CTWW) and published about eight International journal papers with 80 citations. Her research interest is wastewater treatment technology using adsorption process.

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