

The limits of data: application of a lumped catchment model to a small humid tropical basin

CHRIS BARNES^{1,2} & MIKE BONELL^{3,4}

1 Australian Institute of Sport, Canberra, ACT 2714, Australia
chris.barnes@ausport.gov.au

2 Faculty of Information Technology and Engineering, University of Canberra, Australian Capital Territory 2719, Australia

3 The Centre for Water Law, Policy & Science (under the auspices of UNESCO), University of Dundee, DD1 4HN, UK

4 Lancaster Environment Centre, Lancaster University, Lancaster LA1 4YQ, UK

Abstract In the humid tropics, the available data is usually at best rainfall–runoff (of variable quality) and with little or no supporting process hydrology knowledge. A simple modelling approach is offered to extract the maximum information (within the limits set by the data) using data from a tropical forest basin. The model outputs are compared with previous process hydrology knowledge. Results show that the intelligent combination of simple models with even low quality data can lead to qualitatively new hydrological insights.

Key words adaptive modelling; runoff process hydrology; tropical rainforest basin; northeast Queensland, Australia