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RESEARCH DIRECTIONS

Revitalising Rainfall-Runoff Estimates

Dr Ataur Rahman from the School of Engineering is revising the way engineers can estimate design runoff for places where no recorded runoff data is available through funding from Engineers Australia.

'Australian engineers rely heavily on a manual called 'Australian Rainfall and Runoff', which is regarded as the bible of Australian hydrology, and which allows them to look at typical rainfall and water runoff patterns in specific areas, and predict how their designs for water infrastructures will cope with expected peak water flows,' says Dr Rahman. 'Published by Engineers Australia, the current chapter on ungauged catchments was modified 20 years ago, and with changes in climate and rainfall due to global warming, the data and calculation methods in this reference book may be obsolete.'

Following on from a pilot study conducted by Dr Rahman, this project will revise the procedures of estimating peak runoff flows for ungauged catchments in NSW. To do this, Dr Rahman will use maps, rainfall and catchment data and various hydrological modelling techniques. The research will also explore the possibility of adopting to NSW data various advanced techniques developed internationally and recommend suitable methods of runoff calculation in 'Australian Rainfall and Runoff.'

The results of this project will allow engineers to make more accurate designs of urban and water-related structures such as bridges, causeways and

dams and may, therefore, result in smaller flood damage. With access to more accurate runoff figures, designing and building these structures will be more cost effective and safer, providing peace of mind for both designers and the community living around the structures.

Project Title: Australian Rainfall and Runoff – Regional methods for design flow estimation in ungauged catchments in New South Wales
Funding has been set at: $28,045
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