

RESEARCH DIRECTIONS

Estimating floods

Dr Ataur Rahman from the School of Engineering is undertaking research to develop techniques to estimate floods in regional Victoria, through funding from Engineers Australia and the Victorian Department of Sustainability.

'Estimating the frequency of floods in a particular area is essential for the planning of urban design and other structures such as bridges, causeways and dams' says Dr Rahman. 'Flooding is a natural feature but floods vary in scale from water running off saturated hills to rivers bursting their banks and the disruption and damage to the community from flooding can range from waterlogged paddocks and blocked roads to widespread inundation of houses and commercial property and, unfortunately occasionally, loss of life.'

The aim of this project is to improve design of flood estimation for small, ungauged catchments in Victoria by assessing how the availability and selection of stream gauging sites with suitable data is likely to impact uncertainty in regional flood estimates. The project is being overseen by a panel of experts under the leadership of Associate Professor James Ball of the University of Technology, Sydney. The team will develop a quality controlled database of streamflow records and relevant climatic and catchment characteristics, by developing suitable metrics for testing climate change signals and testing Quantile Regression Technique, Probabilistic Rational Method and other potentially suitable methods.



This research will inform the revision of Australian Rainfall and Runoff (ARR), the national guideline on flood estimation. Accurate estimates will form the basis for flood risk maps and are important in the planning of new developments, as well as providing essential up-to-date information to engineers and insurers, contributing to improved safety and economic information for the Australian community.

Project Title: Australian Rainfall & Runoff – Victorian Regional Flood Frequency – Sensitivity Analysis

Funding has been set at: \$9,000

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