



## **Improving precipitation extremes generated by a random cascade model - experiences from Queensland**

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Multiplicative Discrete Random Cascade (MDRC) models are used to temporally downscale site precipitation using disaggregation weights drawn randomly from probability density functions. The aim is usually to convert a long continuous series of daily precipitation into a sub-daily sequence to support flood estimation. Literature review finds mixed levels of performance in modelling sub-daily extremes; and the ability to generate near-PMP extremes is often not explored and is inherently limited by the range of extremes available for model fitting. This presentation examines the behaviour and performance of MDRC models using a case study in Brisbane and evaluates approaches for improving the near-PMP properties. The potential for generalising models across time-scales and across sites in Queensland is explored