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Hydrology and Earth System Sciences
Discussions

Interactive comment on "Development and Evaluation of a Stochastic Daily Rainfall Model with Long Term Variability" *by* A. F. M. Kamal Chowdhury et al.

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Development of rainfall generation algorithms has a long history; however having an algorithm with realistic short term and long -term rainfall is a challenge and this manuscript addresses this issue. Such rainfall that is generated can be a design storm for design of hydraulic structures, determination of a n-year flood and various other engineering and societal applications. The algorithm involves enhancements to the existing simple Markov Chain model to make it a realistic rainfall simulator.

This is a well-written paper and I have only very minor comments as they relate to the figures and results

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Discussion paper

(1) In Figure 1, I guess that green signifies coastal, yellow inland and red monsoonal areas (2) Are 12 stations enough to warrant statistical significance? (3) Is there an inherent difference in the rainfall in Sydney and Adelaide that their P11 and mu variability is so different? (4) Color in Figures 2-12 is un-necessary (5) What is the significance of the shading in Figure 5 and 12? (6) In your Conclusions (section 9) you contend that DHMC is better than the other MC models. Can you quantify this conclusion? (7) Instead of having many figures is it possible to summarize a few as in tables for easier recognition – example Figure 11? (8) Lastly why choose Adelaide and Sydney – is there a reason?

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