

Interactive comment on “Predicting effects of plantation expansion on streamflow regime for catchments in Australia” by L. Zhang et al.

Anonymous Referee #3

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The paper is well written, with clear objectives. The topic is an important subject. However, I have the following comments for revision consideration.

1. The results are mainly two folds. The first is on assessment of plantation expansion effect on streamflow regime using DFC, while the second is on the model test. For the first aspect, the authors compared DFCs between pre-treatment and post-treatment periods and then drawn conclusion on the effects of plantation on streamflow regime. My question is how the climate difference between two periods influences the conclusion. Climate may be drier in post-treatment period than in the pre-treatment. In addition, several selected watersheds (Darlot, Delegate River and Upper Denmark) have lower plantation coverages (13-15%), but showed similar responses with other watersheds where much higher plantation coverages experienced. Such flow responses

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to lower forest changes (13-15%) seems counter-intuitive particularly for those large watersheds. More explanations are needed.

2. The second major result is on the model test. Since this is the first peer-review paper to show the model test (the previous publication seems a government report), it would be useful to provide more details about the model. It seems that the current version did not give enough details for readers to assess the model.

3. The paper uses hydrological regime. In fact, it is about high and low flows. However, hydrological regime involves more such as timing, change rates etc. in addition to frequency and magnitude. The authors should mention a broad scope of hydrological regime in spite of its narrow focus. This will provide reader with a context.

4. How does the model (FCFC) deal with forest change? More elaborations will be useful.

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