Review #2 of Penny, G., V. Srinivasan, I. Dronova, S. Lele, and S. Thompson, Spatial characterization of long-term hydrological change in the Arkavathy watershed adjacent to Bangalore, India, submitted to *Hydrol. Earth Syst. Sci*., 2017.

This version of the article is much improved, particularly in terms of the description of how the change in relationship between rainfall and streamflow, B, is interpreted and in the additional background providing context on the relationship between Arkavathy and water resources in India more broadly.

I appreciate the authors' attempt to look at the land use change data in a different way; however, I still struggle with the analysis of the relationship between land use and B (change in relationship between rainfall and streamflow). Relating a trend (B) to a time-averaged land use fraction is not intuitive to me. I expect that the authors want to use the trend rather than the time series because the trend, as calculated, excludes interannual variability in precipitation and dry season days. Given the limitations on data availability, I think the approach, with the given caveat of not inferring causation, is acceptable. The number of land use fraction measurements (4) would not support a direct comparison of trends, which I suspect is why the authors use the time-average land use fraction. It is unclear how many points are used in the regression (are all 13 tank clusters used or just 3 (see line 25, p. 9)? are unique values of land use fraction used for each tank cluster?). I'd like to see the plot of average irrigated area vs. B in the supplementary materials. It would be good if the authors could clarify exactly what data went into the regression analysis and also give further justification for this choice of method.