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Earth Surface Dynamics Discussions

Interactive comment on "On the potential for regolith control of fluvial terrace formation in semi-arid escarpments" *by* K. P. Norton et al.

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We appreciated the positive but thorough comments by the referee. There are some great challenges posed in the review. With respect to the specific comments, we have done the following:

We have expanded our treatment of variability. The single largest control for both soil production and fluvial transport is precipitation. For this reason, we model the inter-annual variability of precipitation rate from the historic monthly averages and propagate those uncertainties forward into the sediment load and transport calculations (see revised Figure 8, page 5 lines 1-2, Page 6 lines 11-15.

We have added expanded discussions of the limitations and long-term response. This

has improved our thinking of these connections and we thank the referee for the comment (see pg 11, 25-31, pg 12, 16-25).

We updated our treatment of rainfall and now include it as an uncertainty (see responses to previous referee comments). Unfortunately, we do not have event based rainfall data and are not able to perform the analysis that the referee suggests. This comment has started us thinking, however, that such an analysis would be possible in a landscape evolution model.

Technical corrections: All were changed. Note that the comment on pg 722 is addressed on page 8 of the revised manuscript (lines 21-end).

Please see the tracked manuscript uploaded with the previous comment for changes.

Interactive comment on Earth Surf. Dynam. Discuss., 3, 715, 2015.