The manuscript is well-organized, clearly written, and presents a rigorous investigation into how landscapes respond to tectonic and climatic forcing, with a focus on slope evolution at river headwaters. Using the Badlands landscape evolution model, the authors demonstrate that changes in rainfall rate, unlike uplift rate changes, can induce transient slope change reversals near drainage divides, a process strongly modulated by hillslope diffusion. This insight offers a novel perspective on differentiating between climatic and tectonic controls in geomorphic systems. The experimental design is systematic, the interpretation is robust, and the study is presented in fluent and technically precise language. The work makes a valuable contribution to Earth surface process research and is suitable for publication with minor revisions. To further improve the clarity and scientific strength of the paper, the following suggestions are offered:

1. The authors argue that the transient slope change reversals are driven by differential erosion rates between the divide and adjacent areas. It is recommended to elaborate on why changes in rainfall rate lead to this contrast, while changes in uplift do not. What are the respective roles of hillslope diffusion and river incision in generating or amplifying these differences? A more detailed mechanistic discussion would strengthen the internal logic of the manuscript.

2. Since the authors mention that slope-area and chi analysis can help identify transient slope change reversals, it is recommended to include representative plots from the numerical models. These visualizations would help illustrate how such plots reveal the geomorphic response to climatic or tectonic perturbations.

3. The manuscript suggests that erosion rate patterns near drainage divides, measurable through cosmogenic nuclides, may help distinguish between climatic and tectonic forcing. Including a brief geological example would help bridge the model findings with field-based applications and strengthen the practical relevance of the study.

4. In the methodology section, it is recommended that the authors clearly list all model parameters used, including the values of m and n in the stream power incision equation. Additionally, the initial condition is described as a uniform elevation of 10 meters; however, the landscape at the end of the first stage appears asymmetric. If any initial perturbation or topographic noise was introduced to generate this asymmetry, it should be explicitly stated and justified in the methods section.

5. Technical Corrections

Figure 4(a): The labels for 25 Ma and 26 Ma are reversed in the figure legend.