Improved Dating of Landslides in Zimbabwe by Combining Satellite Multispectral and Synthetic Aperture Radar Observations: Response to Reviewers

We thank the reviewers for the detailed and constructive comments on this manuscript. We have considered these comments and have revised the manuscript accordingly. Below we provide the individual comments and responses, along with manuscript changes. Review comments are provided in grey boxes, responses in **blue bold**, and manuscript changes in normal black text.

Community Reviewer

COMMUNITY REVIEWER: COMMENT 1

First, the work by Dille et al. (2026). This study investigates the same event as your paper, i.e. the landslides triggered by cyclone Idai. This work, that was published after your manuscript has already been submitted for review, provides a substantially more comprehensive landslide inventory. Nearly 12,000 landslide source areas (predominantly shallow) are mapped as polygons, together with a comparable number of runout areas. Overall, this inventory contains approximately ten times more mapped features than the inventory of Emberson et al (2022), which forms the basis of your analysis. I believe these differences, which may raise questions about the completeness and representativeness of the Emberson et al. (2022) inventory, could be acknowledged and briefly discussed in your manuscript.

RESPONSE

We thank Olivier for spending time to provide comments for this paper, and for highlighting the recent inventory produced by Dille et al. (2026). This study was published after the initial submission of our manuscript and therefore was not available during the development of the methodology. We agree that the substantially larger number of mapped landslides may have implications for the completeness and representativeness of the Emberson et al. (2022) inventory used in this study. We have therefore added a discussion acknowledging the newer inventory and its potential implications for future applications and validation of the proposed workflow.

MANUSCRIPT CHANGES

[Added Line 334 before Reviewer 2 comment 7]

Furthermore, since the completion of this study, Dille et al. (2026) have published a substantially larger inventory for this region, containing approximately 12,000 sources. This is more extensive than Emberson et al. (2022), which highlights the further issue of inventory completeness. Future work could apply the workflow presented here to the Dille et al. (2026) inventory to assess the transferability of the method and its performance across a more comprehensive set of landslides.

COMMUNITY REVIEWER: COMMENT 2

Second, the work by Deijns et al. (2024). This study presents a semi-automatic approach for landslide detection based on times series of eight spectral indexes, including NDVI. The approach of Deijns et al. (2024) was calibrated and validated using rainfall triggered landslides in Africa as well and relies on Sentinel-2 imagery. In addition to mapping landslides, the approach enables the timing of landslide occurrence to the determined. The resulting inventory comprises nearly 4,000 mapped landslides and may therefore provide useful context for your discussion on landslide dating methodologies.

RESPONSE

We thank the reviewer for highlighting Deijns et al. (2024). This study has now been added to Table 1, which summarises existing landslide dating methodologies and provides additional context for comparison with the approach presented here.

MANUSCRIPT CHANGES

[Added to Table 1]

Study	Data Source	Data Type	Landslide Data	Geometry Input	Satellite Data Length	Resolution	Accuracy	Temporal Uncertainty
Deijns et al. 2024	Sentinel-2	Multi-spectral	3900 landslides	Geometries	Varied	10mx10m		2-4 weeks