Review of Gimenes et al. (2025) 'Sensitivity analysis of peak water to ice thickness and temperature: A case study in the Western Kunlun Mountains of the Tibetan plateau'

Summary
This paper presents an analysis of the runoff contribution, past, present and future, of glaciers in the western Kunlun Shan depending on which of the two currently available global ice-thickness datasets is used to initialise the ice-flow model (OGGM). The authors find substantial differences in the timing of peak water depending on the dataset used, as well as the meteorological forcing used for the future portion of the simulations.

I think this is a well-executed paper that fits the format of a brief communication. The method is solid and the findings well-supported, meaning the paper provides a nice illustration of the importance of model initial conditions in an under-studied region. I have a few minor comments that should be fairly easy to fix, so I recommend the paper be returned to the authors for minor revisions.

Page and line numbers refer to those in the clean version of the revised manuscript.

Major Comments
- Language: I confess that at some point on page 7 I got slightly fed up of noting down all the minor grammar points (and even then, I'd let some small ones slide already) and stopped. I hope that the journal's own proof-readers will pick up any remaining ones when it comes to publication, but I'm putting this here just to suggest to the authors that it might be worth having a re-read of the paper before submitting the final version. Mostly, it's all pretty small stuff (a lot of it is singular-plural disagreements between nouns and verbs), but the cumulative effect on some sentences makes them very hard to follow.

Minor Comments
- p.1, l.16: 'as other sectors such as'
- p.1, l.17: 'on the timing of peak water'
- p.2, l.29: 'but is not yet applicable at a large scale.' Also, is this true? There have been a couple of recent IGM papers at a regional scale, most recently the Leger et al. (2025) paper for the Alps at the LGM (Leger, T.P.M., Jouvet, G., Kamleitner, S. et al. A data-consistent model of the last glaciation in the Alps achieved with physics-driven AI. Nat Commun 16, 848 (2025). https://doi.org/10.1038/s41467-025-56168-3). By 'large', I assume the authors mean 'global', so I would reformulate this as 'but have not yet been applied at a global scale'.
- p.2, l.33-34: This is a very brief and generic exposition of what the paper is going to do, and also does not at all follow naturally from what went before. There need to be a few more lines here to bridge the gap from the global-scale application of global models talked about in the preceding paragraph to the regional-scale study this paper is doing, and then some more details about exactly what it is this paper is doing (such as the region of concern and why there in particular! Obviously, it's explored in more detail in the following section, but a brief mention here is necessary)
- Introduction generally: Sure, makes sense, but this feels like an introduction to a paper that's doing something on a global scale – everything is couched in terms of, despite their limitations, global-scale glacier models being the only sensible thing to use at a global scale. But this is a regional-scale paper, so there's a bit of a disconnect between the thrust of the introduction and what the paper's actually doing. See my previous comment for one suggestion on how to fix that
- p.2, l.49: 'were mostly positive'
- p.3, l.73: 'One of the common approaches in these models…'
- p.4, l.90: 'correcting for...average...compared to…'
- p.4, l.95: 'projects'
- p.4, l.96: 'whose source...and can be either…'
- p.5, l.105 'cross-section'
- p.5, l.129: 'the OGGM inversion method'
- p.6, l.136: I don't think there's any need to write OGGM out in full again here.

- p.6, l.140: 'ice thickness models'
- p.6, l.145: 'datasets'
- p.6, l.148: 'simulation'
- p.6, l.154: 'use'
- p.6, l.156: The reference isn't properly formatted
- p.7, l.166: 'often reach...which remains...'
- p.7, l.170: 'regional'
- p.7, l.171: I'm not quite sure what the authors mean by '"enough" high' here. I think this sentence might need reworking.
- p.7, Section 2.6: OK, fair enough, the study is only interested in the difference caused by the initial ice thickness, but there needs to be an extra line here to explain why the authors picked that one particular GCM out of the several available.
- Figure 3: It's a long way from where it's referenced in the text. Maybe move it to be a bit closer? It's also rather small – I might suggest having a single column of four panels and thereby allowing each panel to be rather easier to read!