

"Quantifying Retrogressive Thaw Slump Mass Wasting and Carbon Mobilisation on the Qinghai-Tibet Plateau Using Multi-Modal Remote Sensing" by Maier et al. is the first study to quantify the impact of RTS on erosion, soil carbon mobilization, and ground ice loss across the entire QTP. The methods and analyses are well designed and the results represent a meaningful contribution to our current understanding of RTS. The authors have done an excellent job of addressing my comments and concerns from the first round of review and I am satisfied with the scientific rigor and overall quality of the manuscript. Below I have listed a few remaining comments, all related to minor wording changes, that I think would help polish the presentation.

L15 "mobilised" would be better as "mobilisation of"

L16 "1.20+-0.01 and 1.30+-0.01" should be "1.20+-0.01 to 1.30+-0.01"

L55 As far as I'm aware, "senescence" only applies to living organisms and is not an appropriate term for RTS. In the context of this sentence, I'm not sure what you were going for, but I would suggest adding "recovery" instead.

L55 I'd suggest ending the sentence before "which" and starting the next sentence with "RTS can reactivate...".

L62 I'd suggest editing "though similar" to "although these are similar".

L64 I'd suggest removing "However" and starting the paragraph with "Due".

L90 I'd suggest adjusting the word order from "used instead of OLS and orthogonal distance regression (OGR)" to "used an orthogonal distance regression (OGR) instead of OLS."

L122 "each 400 km²" would be better as "400 km² each"

L213 I'd suggest "if the depth d is deeper than the ALT" to avoid any ambiguity about whether "higher" means vertically higher. Alternately, you could use "greater than".

L274-275 "However, the fit is slightly noisier and manifests itself in a lower confidence ($R^2_{ODR} = 0.75$, $R^2_{ODR} = 0.77$)." I think you can cut "and manifests itself in a lower confidence". Although the reader can infer that the lower R^2 value is probably the one associated with Axia, it would be better to specify which R^2 value is which within the parenthetical.

L287 "the volume distribution per RTS was highest in the northeast QTP" would be clearer as "individual RTS in the QTP eroded a larger volume of material on average."

L314 I found the "<" confusing here. Does this mean that the lower limit is approximately 10^3 or is lower than 10^3 ? It might be clearer to frame this as "We found that RTS monitoring using TanDEM-X can only identify RTS larger than $\sim 10^3$ m²."

L359 "factor-two increase" isn't a phrase that is used. Typically, something "increases by a factor of two", but that could be too wordy and awkward here. Maybe "doubling" could work?

L389 I would remove "Setting into context" from the section title, as it's not really necessary and just sounds a bit awkward to me.

L427-428 "Compared to rates on the QTP, RTS on the Taymyr Peninsula mobilised a similar amount of material on individual RTS level prior to the heatwave yet already 14 times more SOC." I'm not sure what exactly this means since it seems to be missing a word or have some grammatical errors. Please revise.

L440 "can" should be "could"

L456 "until 2022, only 59 new RTS were detected on the PlanetScope images." Do you mean between 2020 and 2022? I would also use "in" instead of "on".

L464 "DEM" should be plural

L477-478 "across large but even local scales". This sounds a bit awkward. I think you mean "at both local and broad scales"?