

Dear Dr. Ran,

I have read your revised manuscript entitled “Climate warming over the past half century has led to thermal degradation of permafrost in the Qinghai-Tibet Plateau” (tc-2017-120). Thank you for your revisions. Please make the following edits before submitting for publication.

Best regards,

Peter

Minor comments:

P2, L29: “Canada. 1988” becomes “Canada, 1988”

P2, L2: “et al, 2009; Schuur et al, 2009; Schaefer et al, 2011” becomes “et al., 2009; Schuur et al., 2009; Schaefer et al., 2011”

P2, L9: “°Ca⁻¹” becomes “°C a⁻¹”

P2, L31: “of the MAGT is almost impossible” becomes “of MAGT are almost non-existent”

P3, L6: “resolutions.” Becomes “resolutions, from which mean annual land surface temperature (MAST) can be determined.” MAST is used later on in the text on page 6, but the acronym is not defined until page 8. Early on, the link has to be explicitly drawn between LST and MAST in terms of how LST will be used to determine MAST used in the model.

P3, L8: “(Wan et al, 2002; 2004; 2008).” Becomes “(Wan et al., 2002, 2004, 2008).”

P3, L13: “demonstrated the high correlation” becomes “demonstrated a high correlation”

P3, L20: “the permafrost thermal state” becomes “the thermal state of permafrost”

P3 L24: datasets is not capitalized base on the rest of your style

P3, L25: “based on the MAAT” becomes “based on a MAAT”

P5, L16: “LST on MAAT during this period are unknown. This will” becomes “LST on estimating MAAT during this period are unknown, and will”

P5, L24: “A linear regression model is used to evaluate the rates of MAAT change in the QTP over the past 50 years, and the statistical significance is evaluated using Student’s t-test.” Becomes “The statistical significance of the regression model is evaluated using Student’s t-test.”

P6, L4: “type in the past” becomes “typed over the past”

P6, L10: Ran et al., 2017 has not been published and cannot be cited. Please remove all citations and the reference from your list at the end of the paper.

P7, L19 and 20: in each case, “Zou et al., (2016)” becomes “Zou et al. (2017)”
In addition to these changes, all references to this paper, and the reference itself need to be updated to the paper actually published in *The Cryosphere* in 2017, not the Discussion paper from 2016. Discussion papers cannot be cited as a reference.

P6, L22: Delete Ran et al., 2017 citation.

P8, L7: “mean annual land surface temperature (MAST)” becomes “MAST”

P10, L31: “in earlier” becomes “for earlier”

P11, L10: “results may result” becomes “results may stem”

P11, L21: Should “a greater degradation” becomes “a greater spatial degradation”?

P11, L22: Change “smaller” to “less”

P12, L7: Change “accepted” to “acceptable”

P12, L11: Change “thermal degrades” to “thermally degrades”

P12, L12: Change “This indicates” to “This suggests”

P14, L9: Capitalize journal title.

P14, L12: Journal titles is not complete.

P 14, L14: Capitalize journal title.

P14, L23: Capitalize “glaciology”

P16, L18: Insert space after “China.”

P17, L13: Delete this reference (Ran et al., 2017). It is not published.

P17, L29: Capitalize journal title

P18, L5: Capitalize journal title

P18, L1P19, L9: Spell out the journal title

P20, L3: This paper has since been published. Please update the reference (date, DOI, etc.), and any citations in the text. Please note that *The Cryosphere* requires cited literature to have been

published, and articles under review in *The Cryosphere Discussion* are not considered to be published.