

The review comments are shown in black and the author responses in red.

We would like to thank the reviewer for reviewing our manuscript. Please find below our responses to the comments.

This revision has improved acknowledgement of limitations in the study and I recommend that it is now largely acceptable. I have a few more minor comments.

Lines 176 (“SnowCCI ... provided in a geographical latitude-longitude grid”) and 187 (“SnowCCI data ... are mapped to a 25 km EASE-Grid”) appear contradictory (I think because the distinction between SnowCCI and bias-corrected SnowCCI is not very clear).

We edited the text according to the comment.

Line 209

Indeed, “the longest running satellite-based record of any environmental variable” (Estilow et al. 2015).

We edited the text according to the comment.

Line 300

If referring to a Supplementary figure in this much detail, it shouldn't be supplementary. Is it surprising that assimilation of IMS snow cover improves SWE but not SCE in this figure?

We moved Figure S3 to the main manuscript and edited the text.

Colour in figures should mean something. Repeatedly changing the colours that represent ERA5 and ERA5-Land within Figures 2-7, 10, 11, S1 and S3 forces the reader to keep recalibrating.

We changed the colors of the timeseries figures so that the colors are the same in every figure.

Colour bars in Figures 1 and S2 should have labels (SWE, SCE, albedo).

We added labels.

The caption of Figure S1 is very uninformative.

We changed it to: “Monthly timeseries of different albedo estimates in ERA5 and ERA5-Land.”