

Dear Dr. Balco and Dr. Wittmann-Oelze

Thank you for your decision to accept our study for publication in *Geochronology*. I have copied your final comments below and responded to them.

Kindest regards,
Dr. Eric W. Portenga
Leah A. VanLandingham
Dr. Edward C. Lefroy
Dr. Amanda H. Schmidt
Dr. Paul R. Bierman
Dr. Alan J. Hidy

Comments to the author:

Thanks very much to all the authors of this paper for significantly revising the paper through multiple rounds of review; I think the paper is significantly improved over the initially submitted version. This paper is accepted for publication subject to several minor technical corrections as follows. Please make these corrections on the text and figures submitted for copy-editing.

1. As noted in the AE comments, I believe the land acknowledgement should be placed in a separate section headed 'Acknowledgements.'

Author Response: Changed as suggested.

2. "Stymie" is typically spelled with an "ie," at least in the US, but we can defer that to the copy-editing professionals if you want.

Author Response: Corrected spelling as suggested.

3. I have one minor technical concern about the maps in Figures 2 and 4. These maps are drawn in an odd projection. At first I thought they were drawn in a completely uncorrected geographic projection such that degrees of longitude (the x-coordinate) and degrees of latitude (the y-coordinate) have equal length. However, this is not exactly the case; I actually printed out Figure 2 to measure and found a degree of longitude is about 90% of a degree of latitude in the map coordinates. In reality, at 41° latitude, a degree of longitude is about 75% of the length of a degree of latitude, so this choice of projection distorts the map by stretching features in an east-west direction.

If basin areas or perimeters were calculated in this projection, they would be incorrect. However, basin areas are listed in Table 2 in km², so one would tend to assume that they were calculated correctly using an equal-area projection and not the projection used in the figures. Thus, there is no evidence that there is anything quantitatively wrong with using this projection for the figures.

Although it makes the basins look a bit squashed, it helps graphically in fitting multiple views of the map into a compact figure.

What it does mean that a scale bar, as is given in all the maps, is correct in only one compass direction and wrong in others. I also measured out the scale bar and found that it was correct in relation to the latitude ticks, i.e., in the north-south direction. What this means, of course, is that it is not correct in the east-west direction. Thus, either multiple scale bars should be given, or the existing scale bars should be removed. As the lat/long ticks at the edge of the maps redundantly provide scale information, I suggest removing the scale bars entirely.

Thus, please remove the scale bars. It would also be helpful to readers if the projection was stated in the caption.

Author Response: It turns out the latitude tick marks were incorrectly placed, but the Editor is correct that these maps were initially produced in uncorrected geographic coordinates. The maps and figures were redrafted to exhibit the field area in UTM 55S, which is now clarified in figure captions for Figures 2 and 4. The scale bars have been removed to avoid redundancy. The basin areas were previously calculated using an equal-area projection; they have been verified and unchanged from previous versions of the manuscript.

In reproducing the maps in Figure 2 and Figure 4, we used a World Topographic Map basemap for which Esri owns the copyright. There seem to be many nuanced ways of attributing Esri's basemaps, and I believe I have followed their requirements (copyright on the maps themselves, a citation to the online dataset, and an acknowledgement in the Data Availability section). From a laypersons viewpoint, it seems a lot for a basemap, so please advise if there is an alternative option to cite this dataset.

Thanks for your attention to this, and thank you for submitting your work to Geochronology.

-- greg

Comments to the author:

Thank you for your prompt and complete revision. Please consider including a proper acknowledgement text. All the best, Hella

Author Response: We thank you for your constructive comments throughout this process.