



Comment on **essd-2021-114**

Anonymous Referee #1

Referee comment on "Long-term energy balance measurements at three different mountain permafrost sites in the Swiss Alps" by Martin Hoelzle et al., Earth Syst. Sci. Data Discuss., <https://doi.org/10.5194/essd-2021-114-RC1>, 2021

The manuscript by Hoelzle et al presents a long (20+ years) time series of energy balance measurements at alpine sites where they also measure ground temperatures. This data series is unique, at least in mountain permafrost research, and a base line for further research related to understand the influence of the different energy fluxes on ground temperatures, and thus how future climate change will influence mountain permafrost.

The manuscript is well written and documented, and I have no comments to the contents. The paper documents the data and discusses the energy balance components in relation to the observed ground temperature changes during the monitoring period, which was different at the different sites.

Some comments and recommendations for revisions are related to the illustrations, which in general have far too small annotations, making them hardly readable. In addition, the figure text to the illustrations is very short, and one always has to rely on the main text:

Figure 1: cannot read legend and axis labels

Figure 2: ditto

Figure 3: maybe give the significance of the trend. Maybe use only markers as the lines make the diagram very busy.

Figure 5: Give some larger labels. Why did you use different scale?

Figure 8: small labels. Give significance of R^2 .

Figure 9 and 10: use R^2 (not R-square). These figures has perfect label size ...