

Reviewer #1 (R1)

Dear authors,

You provided a very nice paper. With some minor (mainly technical) corrections your manuscript can be published, to my opinion. I added my comments in esurf-2022-20-supplement.pdf

All the Best

We appreciated the comments and suggestions and reworked the original manuscript accordingly. The remarks really helped to improve the quality of the paper. Wherever we cross-reference changes in our response, we refer to the revised manuscript with accepted changes, as the numbering of Figures had to be updated, and also the line numbers.

title: Maybe you could think about a more simplified title.

We appreciate this comment and changed the title. We tried to find a good balance between process understanding and specialties of the study area.

line 10: Because there is no existing Lake Bonaduz you should call it paleolake Bonaduz throughout the whole text.

Thanks for this suggestion. We thought about changing that, but then figured that we would then, consequently, have to call also Lake Ilanz “Paleolake Ilanz”. In the Flims community, however, Lake Ilanz is widely used, although there is no present lake, so we keep Lake Bonaduz, accordingly. We adapted that throughout the text.

line 15: Cresta hills are not defined in the text. Just keep it simple and include them in the word Toma hill or describe the difference between Toma hills and Cresta hills.

We agree that the termini are confusing. Especially around Flims, many different words for the diverse hills can be found in the literature. According to Arbenz and Staub (1910), the long hills situated in the Bonaduz plain are called ‘Cresta’, whereas the round or cone-shaped hills containing rockslide material are called ‘Toma’ around Ems, and ‘Put’ around Bonaduz. Piperoff (1897) and Arbenz and Staub (1910) interpreted the caps on top of the hills as moraine deposits, but only few outcrops were known.

Hereafter, we call all hills in our manuscript Toma, as this term is widely used in the community, and we can be sure that they all have a rockslide source, regardless on which side of Ils Aults they are situated.

We added this explanation in lines 43-48.

line 26: catastrophic rock-slope failure. Other types of non catastrophic rock-slope failures can reach even higher dimensions.

We changed that.

line 45: At Tschirgant no Toma hills are known, but Toma hills are developed at the rock avalanche in Almtal (Van Husen, D., Ivy-Ochs, S., Alfimov, v., 2007: Mechanism and age of late glacial landslides in the Calcareous Alps; the Almtal, Upper Austria. Austrian Journal of Earth Sciences, 100, 114-126,) and Pragser Wildsee. (Ostermann, M., Ivy-Ochs, S., Ruegenberg, F., Vockenhuber, Ch., 2020: Characteristics and Dating of the rock avalanche at Pragser Wildsee/Lago di Braies (Dolomites, Italy). Alpine and Mediterranean Quaternary, 33(2), 183-189, doi.org/10.26382/AMQ.2020.07)

We changed that and added the suggested references to our manuscript.

Fig. 1: The orange line at Tamins indicates the scarp, but at Flims it doesn't and the arrows at Flims should be placed more distributed.

Maybe you add a insert map with better visible ERT profiles and drilling sites.

“gravel pit of Reichenau” Please indicate on the map.

We reworked the map in Fig. 1 for better visibility of the measured profiles and now indicate Reichenau and some other locations, as R2 asked for.

Fig. 3: Indicate what the numbers in the circles stand for. Enhance the quality of the labels.

We changed Fig. 4 accordingly. The numbers in the circles correspond with the evolution phases 1-4. We now clarify that in the caption.

Fig. 4: The numbers of the drill logs are more confusing than they support the content of your sketch. Indicate that the black bars are drilling sites. The numbers in the circles correspond to the phases, but this is not indicated in the figure.

The signature for remobilized Bonaduz Gr. is very hard to identify.

Thanks for these suggestions. We deleted some of the numbers of the drilling sites, except for e.g. “B5/90”, as this drilling site is cross-linked to Fig. 2f. We adapted the caption, accordingly. We also improved the signature for the remobilized material.