

*1) It is not very clear what the authors mean by shallow landslide. In the work of Samarin et al (2020), shallow landslides represent a class of soil erosion (areas with displaced topsoil layers and clear boundaries to the surrounding vegetation). It is possible to insert some pictures of the studied phenomena?*

Of course, we will for sure elaborate on the meaning of shallow landslides in the context of our study and include images to support this, thank you for pointing this out.

*2) The aerial images for the study sites were collected during different years (2013, 2014 and 2015). Which events reference the landslide inventories? Is it possible to include in the text the characteristics of the rainfall events which triggered the shallow landslides?*

This is correct, the aerial images, which are the basis for the shallow landslide inventory, are taken at different years (2013, 2014, 2015). This means that depending on the study site it is one of these years. We will include the years of the images as information in Table 1 for the individual study sites. The reason for these different years is that this image product by Swisstopo doesn't capture the entire area of Switzerland in one year but divides the country up in different sectors, which are covered over multiple years. The selected years in this study are the closest together timewise, that we can get.

The information on the rainfall events are of course matched to the years of the different sites (e.g. for Chrauchtal with the image taken in 2014). The extreme precipitation events of the last 10 and 5 years, respectively, were selected to match this year.

Further, we can give information on the extreme precipitation events of the different sites that are available from our data set but we are not able to tell, if this was really a shallow landslide triggering event.

*3) The authors have extracted the centre points of shallow landslide with ArcGIS. Nevertheless, I think that the landslide causal factors are better represented by the landslide source areas.*

We acknowledge, that for deep seated landslides this may be an important aspect. However, we argue, that the shallow landslides in our study can be very small (4 sqm) and also often the shapes of these sites are not classic «landslide» shapes with a clear scarp and therefore we chose the center points to better represent the affected areas. Also, Zêzere et al. (2017) showed, that in their study there was little difference between centroid points and rupture zone points. Choosing the centroid point has also been done in other studies (e.g., Wang et al., 2014). Because we have a high number of shallow landslide points (some sites up to 8073) we require a high level of automation and it would not be feasible and introduce subjectivity to select the source areas as our points.

If with „landslide source area“ the reviewer means having a polygon representing the shallow landslide rather than centroid points, the issue with this is, that we require non-landslide points for the logistic regression approach. For non-landslide sites it is not possible to represent these as polygons and therefore we need points.

*4) The authors selected a simplified geological data set containing only the three main rock formation classes (igneous, metamorphic, sedimentary). Generally shallow landslides occur in the soil cover. Why the authors have not considered the pedological map (or the soil cover) of the study sites?*

Such a map does not (yet) exist for Switzerland and therefore was not available for this study. In fact, this is a great political discussion in Switzerland and just recently new political efforts have been started to eventually fill the gap of a Swiss-wide soil map. For some parts of Switzerland detailed soil maps are available, however, these maps cover the fertile low land areas.