

Dear Editor,

We have revised the manuscript according to the points mentioned:

Comments to the Author:

The authors basically answered all questions or suggestions concerned by the two reviewers. The manuscript will not be sent back to reviewers, but there are still some minor changes which are needed:

1). As reviewer 2 pointed out that errors or uncertainties are very important, the authors are asked to add one small paragraph at the end of the section 5.1 to summarize all potential errors or uncertainties from this study.

We have added a paragraph on the uncertainties, as suggested:

The palsa distribution map of Finnmark represents all palsas/peat plateaus that are well visible in aerial images. However, isolated small palsas (with a diameter of less than 10 m) are not well recognizable so that they are not contained in the map. A more detailed assessment in the four study areas suggests that the total number of 250 m grid cells with palsas and peat plateaus may be up to 10 % higher if also isolated small palsas are included (Sect. 3). However, as these unmapped permafrost features are very small, their contribution to the total area is negligible.

The total area covered by palsas/peat plateaus has been computed from the gridded 250 m palsa distribution map using an average grid cell fraction that was determined by manual delineation of the palsa/peat plateau boundaries in four study areas covering about 2 % of the total number of grid cells containing palsas/peat plateaus. The manual mapping is associated with errors, e.g. by subjectively defining the palsa margins. This “human” error is estimated to be on the order of 10 % from independent mapping of two persons (Sect. 3), which can provide a rough estimate for the grid cell fraction and the hereof computed total area covered by palsas/peat plateaus. Finally, it is unclear whether the four study areas are fully representative for the entire region, although they are situated along a transect spanning a wide range of conditions under which palsas/peat plateaus occur in Finnmark.

2). p15, second line from the bottom: In the reply letter to the editor, the authors said that they used images from 2008, while in the text, it says using the images from 2005. Which one is correct?

2008 is correct, this is corrected in the manuscript.

3). p23, add "with uncertainty of 10 km² or about 9%" after the first sentence of the first bullet point.

Done

4). p23, the first sentence of the second bullet: change "at all study areas" into "at the four study areas" if this is what you are talking about. Otherwise, it can be very easily confused or misleading.

Done

5). p23, line 23: Is it possible that the authors provide a rough error bar for the 100 km² decrease in area?

The 100km² areal decrease is a rough estimate, but it is difficult to assign a meaningful error bar to this number. The important point here is that the outlines were always mapped by the same person so the 8 % uncertainty in areal extent cannot be directly transferred to the estimate of change (although it is very important that the changes are much larger than this uncertainty of the individual mapping). Therefore, we do not provide a specific number for the uncertainty, but have changed the corresponding passage to make clear that the 100km² areal decrease must be considered a coarse estimate only.