

Interactive comment on “Mapping and morphometric analysis of glaciers in Jotunheimen, South Norway, during the “Little Ice Age” maximum” by S. Baumann and S. Winkler

A. Kääb (Referee)

kaeaeb@geo.uio.no

Received and published: 7 September 2009

REVIEW

The Cryosphere Discussion

TC-2009-9

Mapping and morphometric analysis of glaciers in Jotunheimen, South-Norway, during the ‘Little Ice Age’ maximum

S. Baumann and S. Winkler

C187

GENERAL COMMENTS —————

In general, a sound, well described and interesting paper on the reconstruction on LIA glacier extent in Jotunheimen, Norway. The presented dataset is certainly of large value for other scientists. I recommend acceptance after the below changes were made carefully.

May major recommendations:

(1) The English language is not bad, but needs thorough revision by a native English speaker. It contains a number of errors. Also, a number of scientific terms are wrong and complicate the understanding (e.g. ‘shot’ for acquisition; is ‘foreland’ a correct term for forefield?)

(2) It is confusing to me which data sets the authors actually compiled by themselves and which they got readily and by whom. They authors have to clearly state which data they got readily, where from, modified, or constructed by themselves. Best place to do that might be the data sources list under 4.1. Some of the data you used might be copyright protected and you might want to refer to the permission under which you used it.

(3) It would be good to have references to similar works done elsewhere, e.g. in the Alps (e.g. Maisch et al). What was done similar, what different. Different or similar analyses, etc.?

SPECIFIC COMMENTS —————

page 352, line 7: flow length: correct term? Is that the length of the central flow line?

P352 2nd paragraph: Too simplistic. Be more specific in what is relevant for your study.

P354 L14: ØYEN. Why capital letters?

P356 L6: why referring to Bindschadler et al. 2001? This paper is about Landsat7. You used Landsat5. The paper is a large review. What exactly do you refer to?

C188

Section 4.2.: It became not clear to me if you digitized the entire LIA outlines, or made a connection with LIA outlines in the lower parts and the present day outlines for the upper part. How did you reconstruct the LIA extent in the upper glacier parts. It is often not well visible.

Section 4.3: the influence of the N50 DEM not reflecting the LIA glacier surface should be mentioned already here and discussed carefully.

P362 L23: I don't understand well why/how you re-did the orthorectification.

P363 L5: Orthorectification of maps? A contradiction in itself.

P363 end and P364 beginning: I don't understand what you mean. Please be more specific.

Section 6.3; P366 L 11: Why did you have to orientate all airphotos individually, not combine many to an image block? That would presumably have given much better results.

Acknowledgements: Usually, the reader finds here some information on the data providers. See major above recommendation (2)

References: Nesje ... xxx ?

Figures: I would very much like to see the usual scatter plot of all glaciers and their area changes (i.e. glacier size vs. glacier area change between 2003 and LIA).

Andy Kääb

END OF REVIEW

Interactive comment on The Cryosphere Discuss., 3, 351, 2009.