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The Cryosphere Discussions

Interactive comment on "Area and volume loss of the glaciers in the Ortles-Cevedale group (Eastern Italian Alps): controls and imbalance of the remaining glaciers" *by* L. Carturan et al.

Anonymous Referee #2

Received and published: 26 March 2013

I find this a thorough study of glacier changes in the Italian alps. It is comprehensive and detailed, but could be strengthened by clearer and more concise scientific writing.

The authors should add error bars in their estimates, e.g. in the abstract, results/discussion/conclusions and they are urged to discuss the accuracy a bit more, maybe as a paragraph in the discussion. Error bars are not needed in every single result, but could be more evident in the paper than now.

A bit English proof reading is also recommended. I have identified some places in the in the specific comments, but the list are just examples and suggestions, many more could be added.

Some specific comments:

269, line 6-7 does not fit. rewrite

Line 9 – 'a band ratio' could be replaced with 'the band ratio method'. Divide sentence in two, thus. '. . .. manual corrections. Snow. . ..'

Line 12, replace now with specific time, 2000s?

13/14, similar, over the last decade, if you mean 2000s be specific.

13 mean remaining snow? I assume at one point all glaciers were fully snow covered also in 2009

17 could add error estimate, $\pm$. . .

18 emphasized instead of confirmed?

270, line 11, what do you mean specific with feedbacks, too general, sentence could be rewritten and merged with the following one.

16 add 'of glaciers' after response

25, could also add reference to the Mass balance glossary by Cogley and others (2011).

273, 26, mean low % cloud cover. add percentage.

274, 10, add reference to the met.data provider

17. Say something on orthorectification first, were the images orthorectified and was the quality of the orthorectification checked?

21, how was the threshold selected?

275, 1, when and how was it carried out 2, assessing -> determining 14, mean divides (not outlines) 15 higher spatial resolution – compared to what? 22 could discuss how easy it was to determine glacierets from glaciers.

276, assuming then A87 was always the biggest? add or explain

277, 13, define ha

23, unclear method description, it is common practice to describe methods before the results

28, has been -> was

278, 8, How sensitive is the threshold chosen to the results? 18, heavy sentence, suggest to rewrite

279, first paragraph, the choice of AAR value of 1 needs to be explained/justified better 12, remove first 'individual'

280, 6, explain how this test was carried out and why this subset was chosen? Some information is given later, but this is confusing and the paragraph should be reordered and written more clearly. 11, what about other glaciers in the figure, zoom in figure or refer to them also 20, can it be strictly confirmed, writing 'in agreement' is better

281, 1-2, could comment on the weather in this period, on how much melting it was. 17, explanation to what, be direct

282, 14, the terms ice body, glacieret, mountain glaciers should be defined in the paper.

283, 5, elevation (not elevations) 9 Are negligible changes observed? No notable changes may be better. 9-11 seems a bit odd. 11. The mean slope had increased. . ..

285, the geodetic estimates are sensitive to many choices, including the density assumption, give error bar and discuss the uncertainty, suggest to add a subchapter in the discussion for this

Table 4. Do you refer to the 1987-size or 2009 size. Could be stated in the table text.

Figure 4. It would be easier to compare if the Landsat and othophoto were side by side with the same extent and scale.

Figure 6. Referring to 1987-area (see comment to table 4).

Interactive comment on The Cryosphere Discuss., 7, 267, 2013.