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The Cryosphere Discussions

Interactive comment on "Changes in Andes Mountains snow cover from MODIS data 2000–2014" *by* Freddy A. Saavedra et al.

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We thank the reviewer #2 for the constructive comments and suggestions.

Literature review: We extended the introduction to include more relevant research and better illustrate the gap of information filled by our study.

Cloud effects on trends: We tested the trends of cloud cover during the same period to evaluated whether these could affect snow cover trends. We did not detect trends in cloud cover in the study area during the 2000-2014 period, which is one indication that cloud impairment may not have affected the trend directions. We included this information in the new version of manuscript.

We have also explored cloud correction approaches in detail for this area but have

some concerns about generating a cloud-free dataset before performing trend analyses. The majority of MODIS gap filling techniques include data from Terra and Aqua satellites as the first step. Since band 6 in Aqua is defective, the performance of these algorithms must be tested before applying the correction. In the new collection 6 of MODIS snow data, the reconstruction of band 6 data on Aqua may produce some spatial-temporal changes in snow patterns that would be interesting to test in the region at a daily step, but we did not detect a problem with cloud impairment in the 8-day product used. We extended the discussion section to include cloud filling options.

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