Geosci. Instrum. Method. Data Syst. Discuss.,
https://doi.org/10.5194/gi-2018-25-RC3, 2018

Geoscientific Instrumentation Methods and Data Systems Discussions

Interactive comment on "Precise DEM extraction from oblique imagery of Svalbard in 1936" *by* Luc Girod et al.

Anonymous Referee #3

Received and published: 17 August 2018

The paper presents an application of SfM to a dataset of historical oblique images with the aim of deriving a DEM of the area with the best achievable accuracy. The application is interesting and the case study is meaningful, however the methodological part of the paper requires some major clarifications.

Specific comments

Line 32: please, clarify how the image were resampled.

Paragraph 3.2: please, state how many ties did you look for and which statistical criteria did you adopt to accept or reject points. Please, state also which software did you use.

Par 3.4: it is not clear what is the "modern source" used and its accuracy.

Par. 3.5, line 6: the choice of working with three images only is quite unusual for SfM and should be discussed better.

Par 3.5, l 14-15: Please, reformulate this part. It is not clear in this context what you considered "area of interest", what you considered background and foreground. It is an important aspect for process automation.

Par 4.1, l 14-17: what is the nominal accuracy of these products?

Par 4.1, l 18: please, be more precise: what did you mean with low-slope?

Par 4.1, l 1-2 (pag10): did you compare with all the products mentioned at the beginning of the paragraph? Are these values an average among the three? How did you make the comparison between DEMs at different resolutions?

Par 4.1, l 4-5: this comparison is not meaningful since the investigated areas are very different in extent; can you evaluate the elevation error of your product in the same small area investigated by Mertes et al.? Furthermore, a few details about their methodology would ease the comparison.

Par 5, l11: it appears to me that the amount of manual editing was relatively large and it was crucial for the accuracy.

Interactive comment on Geosci. Instrum. Method. Data Syst. Discuss., https://doi.org/10.5194/gi-2018-25, 2018.