Comments on the paper "*A method for using unmanned aerial vehicles for emergency investigation of single geo-hazards and sample applications of this method"* submitted to Natural Hazards and Earth System Sciences.
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Iteration: Major Revision

General advice:

This paper aims to describe a RPAS and processing pipeline specifically developed for the management of small hazard events. Authors discuss both the platform/sensor technology and the main steps followed during the complete UAV mission workflow. Finally, performance evaluation is carried out on three test cases. The revised version of the manuscript correctly addressed the major concerns highlighted during the first revision round. However, few minor issues should be further considered by the authors.

Comments:

1. Please, replace "high-definition" with "high-resolution" throughout the text.

2. Line 45: please, remove "of features".

3. Line 122-123: please, replace "new digital photogrammetric technologies" with "tools for semi-automated photogrammetric processing". Furthermore, the authors are encouraged to include the following recent works among the references dealing with photogrammetric techniques coupled with computer vision approaches and, in particular, the SfM approach:

Förstner, W. and Wrobel, B., 2016. *Photogrammetric computer vision.* Springer.

Özyeşil, O., Voroninski, V., Basri, R. and Singer, A., 2017. *A survey of structure from motion*. Acta Numerica, 26, pp.305-364.

4. Lines 145-146: the authors make a comparison between their own system and a popular commercial one. Although interesting, the remarks about the improvements in image quality and system performance should be adequately proven.

5. Line 191: please, replace "scheme" with "schemes".

6. Line 255: please, correct the typo "fast processing fast processing"

7. Line 270: please, replace "SfM" with "semi-automated SfM-based".

8. Line 274: please, replace "The fast SfM" with "The adopted SfM-based".

9. Line 275: it is not clear whether the entire photogrammetric processing is performed using images at reduced resolution or only the tie point extraction step is carried out on images at lower resolution. Please, clarify this issue. Furthermore, since GPS data are exploited in the BBA, please add "GPS-assisted" aerial triangulation.

10. Line 326: since the (minimum) number and distribution of GCPs are essential factors to be considered when balancing requirements in terms of accuracy and efficiency, authors are encouraged to add references that further support/discuss what is here stated.

11. Line 349: if the flight altitude increases, the mean GSD (ground sampling distance) of the acquired images is bigger, thus providing for lower spatial resolution of the final photogrammetric products. Please, improve your sentence.

12. Line 408: replace “2D DSMs” with “2.5D DSMs”.

13. Section 5 - Application examples.
    a. Authors are encouraged to add a table with the time required by each step of the workflow in order to provide a quick overview and a means of comparison among the three different experimental tests.
    b. Please, add the mean GSD of the original images.
    c. Please, use the term “spatial resolution” when referring to the final photogrammetric products (orthophoto and DSM) and “GSD” when referring to the original images.
    d. It is not clear whether the accuracy assessment is performed on the orientation results of the aerial triangulation or on the final orthophoto. Please, comment on this. Furthermore, please remark that, although a rigorous accuracy assessment should be performed by using external and independent check points, the GCPs themselves are here exploited given the limited availability of external ground truth. Finally, please report on the accuracy of the GCPs’ 3D coordinates measured in the field.