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Comment on acp-2021-156

Ákos Horváth et al.

Author comment on "Geometric estimation of volcanic eruption column height from GOES-R near-limb imagery – Part 2: Case studies" by Ákos Horváth et al., Atmos. Chem. Phys. Discuss., <https://doi.org/10.5194/acp-2021-156-AC1>, 2021

We thank the Referees for their constructive comments. In the following, we give a point-by-point response to each of the issues raised.

Referee #1

L 46: Himawari-8 dark pixel BT11 with ERA5 profiles is used too. Right?

Yes. We have corrected the sentence accordingly.

Table 1: Why didn't you also put the webcam/quadcopter heights results in table 1?

We have added an extra column to Table 1, showing the webcam/quadcopter heights.

Figure 14c and S3: the red triangle indicating the volcano is not clearly visible, is it possible to enlarge it or/and make it with a different color?

We have enlarged the triangle and also added the letter 'R' next to it to more clearly indicate the location of Raikoke in these figures.

Referee #2

Fig1: make larger symbols for volcanoes, it is difficult to see them.

We have increased the size of the triangles and of the capital letters indicating the volcanoes.

Fig3 and the following figs: red diamond is almost invisible on a red line, change colour of the line.

We have changed the color of the line and occasionally that of the diamond too in all relevant figures, including Figs. 8 and 10 in Part 1 and supplementary Figs. S1 and S2. The baseline and the volcano are now marked in different colors.

515: "3D Winds" method you apparently describe in the part 1 is not totally novel as suggested, see the link below, the authors used a triplet of two sequential SEVIRI and a MODIS image to consider the influence of wind on the height estimation.

<https://acp.copernicus.org/articles/13/2589/2013/>
The same methodology has been applied also on a combination of images from geostationary orbits:
<https://www.mdpi.com/2072-4292/12/3/371>

We have deleted the word 'novel' and added a sentence to this paragraph, noting that a similar stereo method has previously been developed for Meteosat imagery by Zakšek et al. (2013) and Dehnavi et al. (2020).