

# ***Interactive comment on “Evaluation of the initial stage of the reactivated Cotopaxi volcano – analysis of the first ejected fine-grained material” by T. Toulkeridis et al.***

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Dear Benjamin Bernard,

1) Regarding the ash distribution map, we are really surprised that you consider your map more precise than ours. You have performed this map by using 10 points for covering more than 500 km<sup>2</sup>. Your sampling method is not statistical relevant to construct such a map and categorically affirm that the ashes dropped only in the northwest direction. Even worse to build up the distribution map you show. Our map is based on field observation and satellite data. Moreover, it is still quite interesting to observe a “perfect drop-shaped” distribution as a result of natural process.

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2) These procedures of ash sampling are not different from ours, but once again, these procedures are for a different purpose. Moreover, we present below a few out of hundreds of actual papers, where the sampling procedures are equivalent to ours. The following papers are considered some of the most relevant studies in volcanology. Using the state of the art of ash sampling as well as risk assessment. These kind of analysis have been used to evaluate economic and safety interests of areas such as the Iceland case a few years ago. None of them cite the references mentioned by the Referee #2 and B. Bernard.

3) Independently of the sampling method used, based on the studies listed below, the final evaluation of the morphology as well as the geochemistry of the samples remains the same. The interpretation of the behavior of the Cotopaxi volcano and its assessment towards a more frequent and less violent eruptive phase has been demonstrated by the morphology of the grains which is pointing out a hydrothermal event rather than a more violent magmatic event.

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