Review of Conde et al.

General comments:

The paper discusses the important societal application of monitoring volcanic emissions, in an area where this is difficult logistically. The paper is interesting in showing the application of observations to the benefit of society. It addresses the following aim and scope of Geosci. Instrum. Method. Data Syst.: "New observational strategies to address societal needs in areas such as monitoring climate change and preventing natural disasters". The paper provides details of the instrumentation used to monitor the volcanic emissions.

However, I was expecting the paper to discuss the design of the monitoring network following the objective of optimizing the location of the monitoring sites. Such type of studies are done for the design of satellite missions for meteorology (namely, improving the weather forecast) and air quality (namely, improving the monitoring capability). Such an approach (termed an observing system simulation experiment, OSSE, for future observations; an observing system experiment, OSE, for existing observations – see Masutani et al., 2010) is applicable to an in situ monitoring network such as that discussed in this paper. I do not see evidence of such a discussion, even the mention of the possibility of performing such a study, which I think would be interesting to the readership of this journal, especially considering the possibility of evaluating the economic benefit of such a network using this approach.

It may be the case that such a study to optimize the monitoring network is beyond the scope of this paper. If so, fine, but I think such a study (or the mention of such a study) would enhance the paper. As it stands, the paper is worthy and of interest, but (to this reviewer) does not appear to be more than just a description of a monitoring network, admittedly, in difficult conditions. Whether this is enough to be worthy of publication in Geosci. Instrum. Method. Data Syst. is up to the editor to decide.

Specific comments:

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L. 10: Indicate what you will do in each section of the paper.

Reference:

Masutani, M., Schlatter, T.W., Errico, R.M., Stoffelen, A., Andersson, E., Lahoz, W., et al. (2010). "Observing system simulation experiments," in *Data Assimilation: Making Sense of Observations*, eds W.A. Lahoz, B. Khattatov, and R. Ménard (Berlin: Springer), 647–679.