

Interactive comment on “Elevated atmospheric mercury concentrations at the Russian polar station Amderma during Icelandic volcanoes’ eruptions” by Fidel Pankratov et al.

Fidel Pankratov et al.

fidel_ru@mail.ru

Received and published: 28 March 2019

1. In general, the paper needs English re-editing. . . There are some spelling problems, e.g. page 1 line 24 a different spelling of the Icelandic volcano is used. . . Remarks accepted. The article will be re-edited and English will be improved in comparison with the first version. The name of the volcano in Iceland has been corrected (page 1: line 24).
2. A lot of the references are quite old, the thesis was published in 2015, but this paper is 2019, mercury science has moved on. . . Remarks accepted. The main task in choosing literature was to show the current state of research in the field of volcanology.

C1

The authors provided links to articles where the main study was volcanic activity and mercury emissions during the eruption period.

3. This paper demonstrates that some of the peaks in the long-term trends of measurements could come from volcanic eruptions that occurred in 2010 and 2011 in Iceland.

There are similar sized peaks in 2012 and 2013 that are not identified or discussed that probably aren't volcanic eruptions. What are their sources? Remarks accepted. Indeed, on the presented graphs it can be seen that there are high values of mercury concentration in the spring period. Identification of these the registration of elevated atmospheric mercury concentrations is of significant complexity. Atmospheric transport is the main source of mercury to the polar regions from southern and middle latitudes. Therefore, it is not possible to correct assessment the source of mercury intake. Thus, in this article, the authors showed the real possibility of the correlation of high concentrations of atmospheric mercury with volcanic eruptions in Iceland (page 4: line 8-15).

4. The authors should discuss the whole data set and identify the other peaks, or they should not include them and talk about in more detail the volcanic data.

Remarks accepted. Taking into account the received comments, we will edit the results was presented in the article, taking into account the spring high values of atmospheric mercury concentration (page 4: line 8-15).

Please also note the supplement to this comment:

<https://www.atmos-chem-phys-discuss.net/acp-2018-1228/acp-2018-1228-AC2-supplement.pdf>

Interactive comment on Atmos. Chem. Phys. Discuss., <https://doi.org/10.5194/acp-2018-1228>, 2018.

C2