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Open Access Earth System Science Data Discussions

Interactive comment on "Spatial datasets of radionuclide contamination in the Ukrainian Chernobyl Exclusion Zone" *by* Valery Kashparov et al.

Anonymous Referee #2

Received and published: 10 December 2017

The measurements presented in this paper constitute a very useful database from the accident of Chernobyl back in 1986. I am very supportive in open data policy, especially when refers to measurements of radionuclides. Personally, I have been chasing such measurements for a long time and I have sent many inquires to the IAEA and the JRC about the measurements of Cs137 that were used to create the ATLAS map, but I haven't received any convincing answer about their fate.

I have minor comments on the manuscript and I strongly recommend it for publication once they are addressed.

- First, when reading the manuscript, I didn't understand where this Ivankov region is.

I needed to search on google in order to see where exactly this region is. I think it is essential to change Figure 3 and add a secondary map in the same figure where you "zoom out" the existing map and showing, for instance, a map of Ukraine highlighting the Ivankov region.

- Line 56: "to leads" —-> "to lead"

- Lines 71-78 are the same with the last couple of sentences in the Abstract. Please re-frase this part in the abstract of after line 71.

- You must link your database with the data that were published in 2016 by Evangeliou et al. (http://dx.doi.org/10.1016/j.envpol.2016.05.030) and stored in radio.nilu.no. They are supposed to be the most extended measurements of deposition over Europe since 1986. I went through the paper and downloaded the data presented there. More than 10 thousand measurements from 1986 are presented for Cs137, with about 30-40% in Ukraine, but much less for Cs134 (see Fig.1 and 2).

- In the aforementioned paper, there are some very dense measurements for Cs137, Sr90, Pu238, Pu239, Pu240 and Pu241 from the CEZ. I have plotted the data presented there in the attached figures (Fig.3-6). These are reported as decay corrected to 2015 and they were provided by the Ukrainian authorities. I think you need to state/prove somewhere whether or not the data you present here are not the same with these presented in the website radio.nilu.no.

- I think it is really important to link your measurements with the data in radio.nilu.no. If in the future someone ever tries to find similar measurements, it would help a lot if finding your paper can give additional information about other possible measurements

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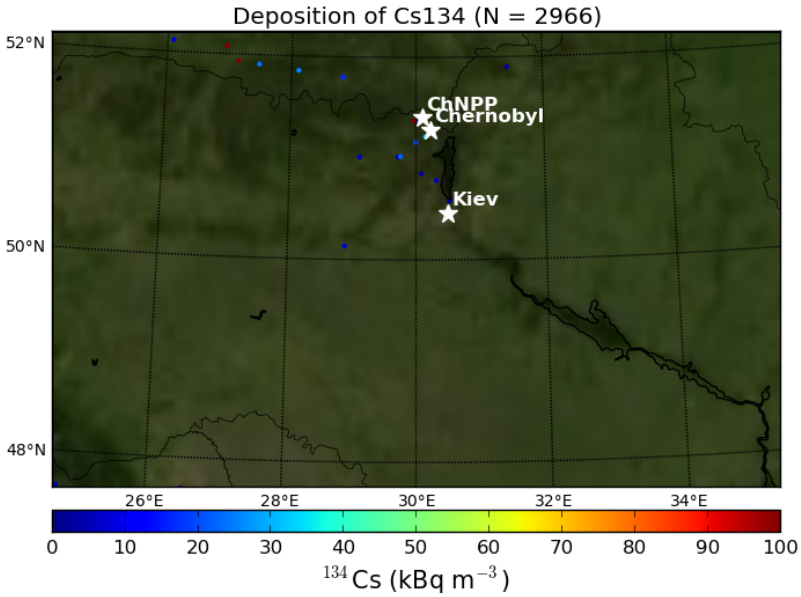

Fig. 1. Cs134 over Europe from Evangeliou et al. (2016) zoomed over Ukraine

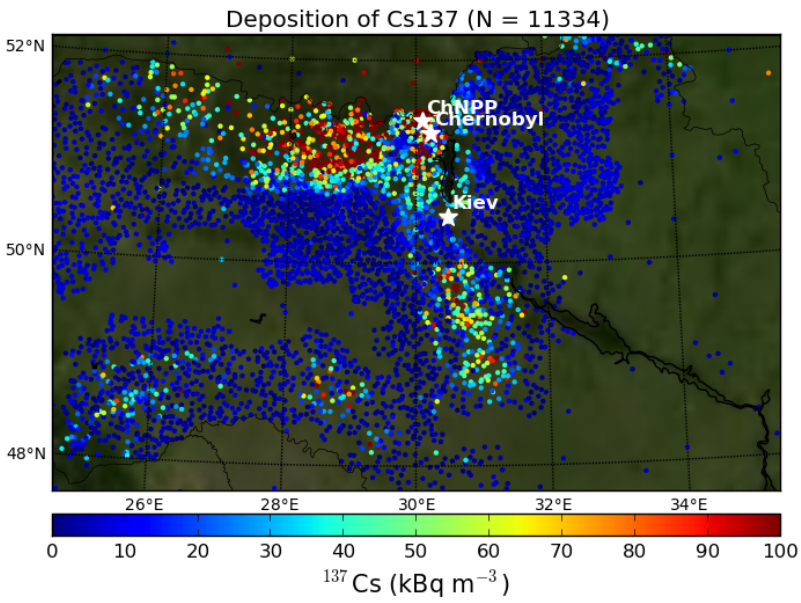

Fig. 2. Cs137 over Europe from Evangeliou et al. (2016) zoomed over Ukraine

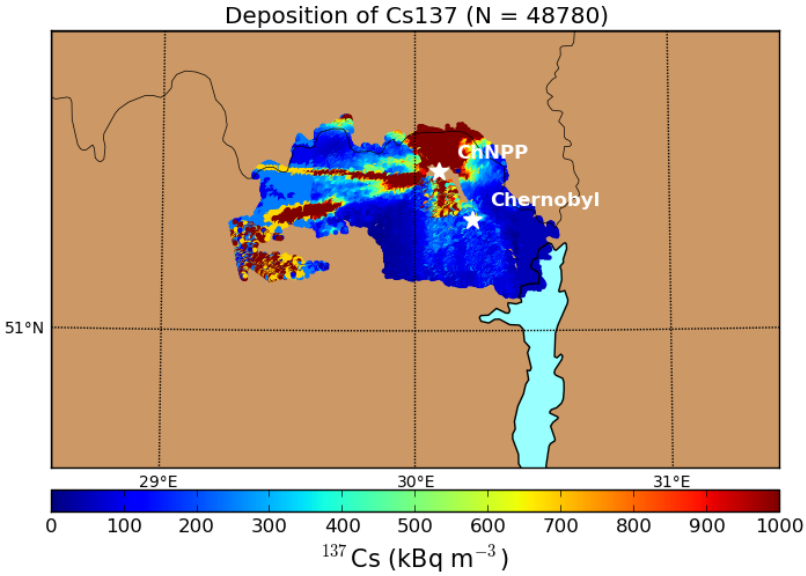

Fig. 3. Cs137 in the CEZ from radio.nilu.no (Evangeliou et al., 2016)

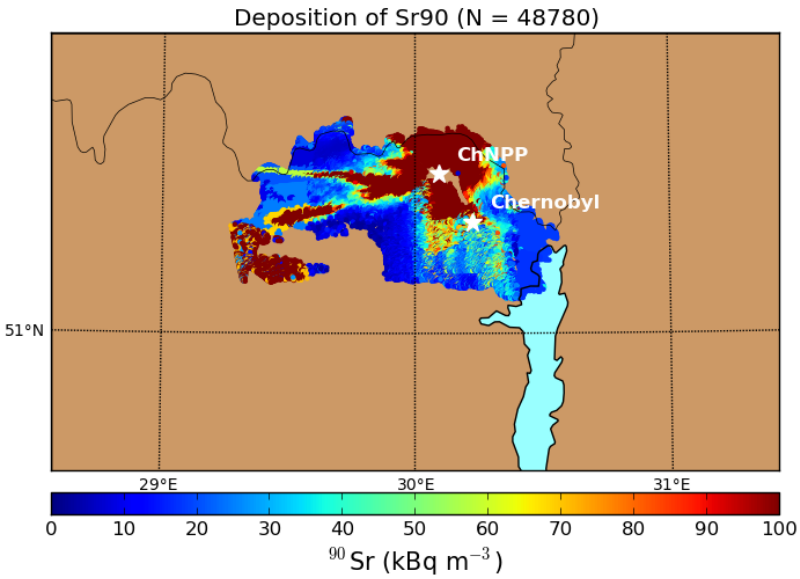

Fig. 4. Sr90 in the CEZ from radio.nilu.no (Evangeliou et al., 2016)

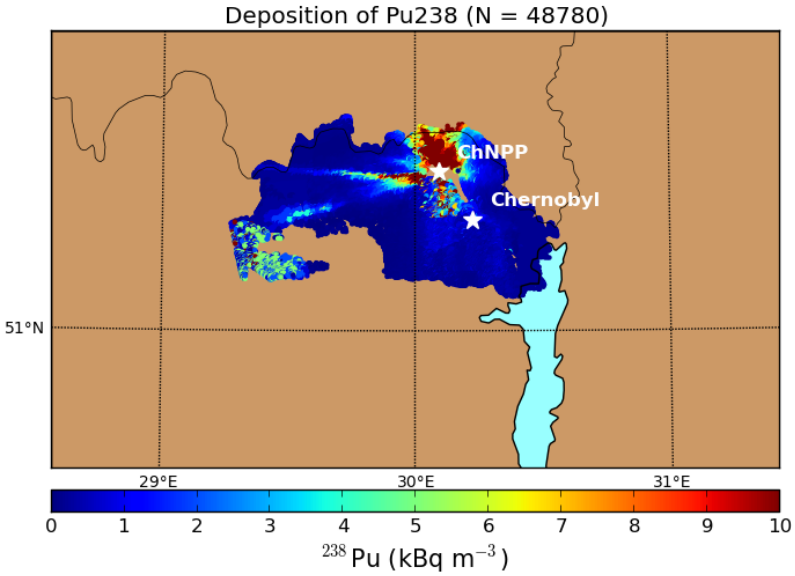

Fig. 5. Pu238 in the CEZ from radio.nilu.no (Evangeliou et al., 2016)

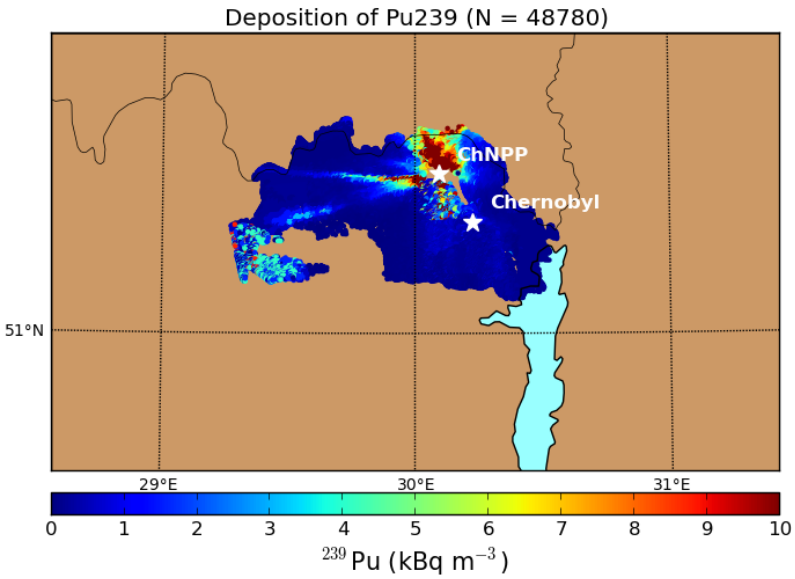

Fig. 6. Pu239 in the CEZ from radio.nilu.no (Evangeliou et al., 2016)

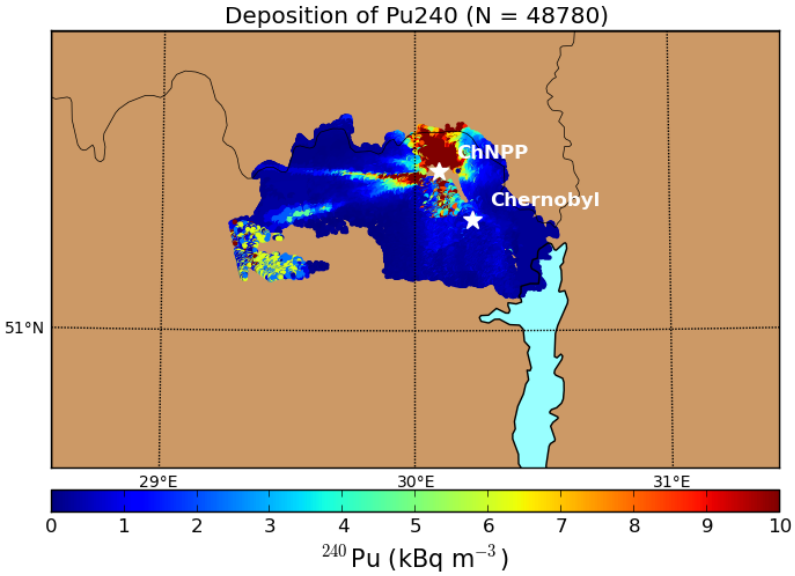

Fig. 7. Pu240 in the CEZ from radio.nilu.no (Evangeliou et al., 2016)

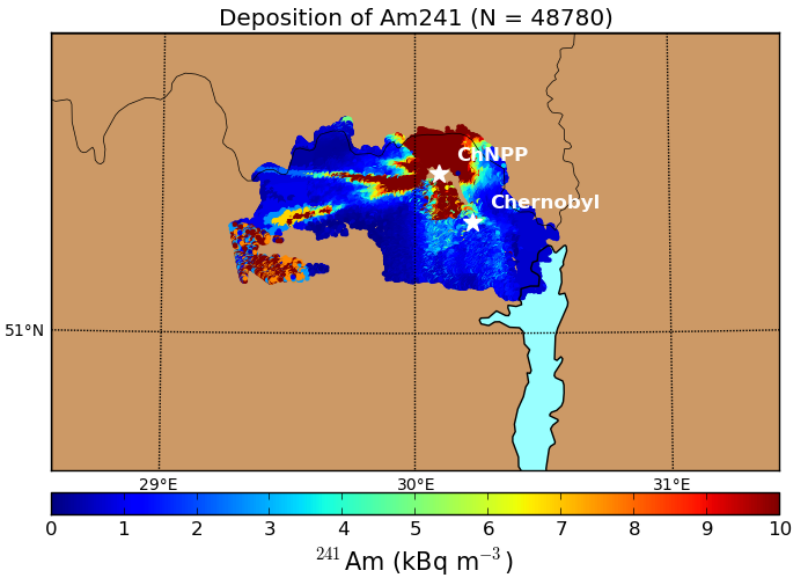

Fig. 8. Am241 in the CEZ from radio.nilu.no (Evangeliou et al., 2016)