

## ***Interactive comment on “Atmosphere–ocean exchange of heavy metals and polycyclic aromatic hydrocarbons in the Russian Arctic Ocean” by Xiaowen Ji et al.***

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Received and published: 9 September 2019

Dear authors, it's an interesting report about PAHs and metals net deposition in the Arctic Ocean. I would like to draw your attention to some deficiencies. Firstly, PAHs part seems to get some similar conclusion with the one (Belén González-Gaya et al. 2016, High atmosphere–ocean exchange of semivolatile aromatic hydrocarbons, nature geoscience) while that one was established in the global scale. This study can support their results to fill the gap in Arctic Ocean. While the metals' part needs a major revision for discussion with other ocean and metals change between all detected ones. So far, it only seems to focus on mercury. There are some paper authors should

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study, as below (and others):

Tuohy, A., Bertler, N., Neff, P., Edwards, R., Emanuelsson, D., Beers, T., and Mayewski, P. (2015), Transport and deposition of heavy metals in the Ross Sea Region, Antarctica, *J. Geophys. Res. Atmos.*, 120, 10,996–11,011, doi:10.1002/2015JD023293.

Jurina, I.; Ivanić, M.; Vdović, N.; Troškot-Čorbić, T.; Lojen, S.; Mikac, N.; Sondi, I. (2015), Deposition of trace metals in sediments of the deltaic plain and adjacent coastal area (the Neretva River, Adriatic Sea). *Journal of Geochemical Exploration*. DOI: 10.1016/j.gexplo.2015.06.005.

Authors need to revise Figure 6 b, it's net deposition from air to sea, the bar should be downwards.

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Interactive comment on Atmos. Chem. Phys. Discuss., <https://doi.org/10.5194/acp-2019-653>, 2019.

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