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How important are future marine and shipping aerosol emissions in a warming Arctic summer and autumn?

Article

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Corrigendum

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Corrigendum to "How important are future marine and shipping aerosol emissions in a warming Arctic summer and autumn?" published in Atmos. Chem. Phys., 18, 10521–10555, 2018

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The following corrections should be noted for this paper.

1. Figure B1b in the Appendix was not correct. The correct figure is shown below. (Note that Fig. 2 in the main paper, which also shows sea ice concentration, is correct.) Although the SIC is somewhat higher in the corrected figure, the monthly mean sea ice thickness in October is still low (< 0.7 m in the whole Arctic). Therefore, we expect that ships will be able to cross the ocean with an extended use of ice breakers (as mentioned in the paper).

2. Figure 12 shows the number of cloud droplets that *can* freeze heterogeneously, not the number of cloud droplets that freeze heterogeneously.

3. The monthly mean DMS seawater concentrations are prescribed according to Lana et al. (2011), not according to Kettle and Andreae (2000).

4. "Thus, the vertically integrated condensation rate of sulfate increases where the ship emissions occur (not significant; Supplement Fig. S13b)" should be "Thus, the vertically integrated condensation rate of sulfate increases where the ship emissions occur (Supplement Fig. S13b; not significant between 75 and 90° N)".

References

Lana, A., Bell, T. G., Simó, R., Vallina, S. M., Ballabrera-Poy, J., Kettle, A. J., Dachs, J., Bopp, L., Saltzman, E. S., Stefels, J., Johnson, J. E., and Liss, P. S.: An updated climatology of surface dimethlysulfide concentrations and emission fluxes in the global ocean, Global Biogeochem. Cy., 25, GB1004, https://doi.org/10.1029/2010GB003850, 2011.

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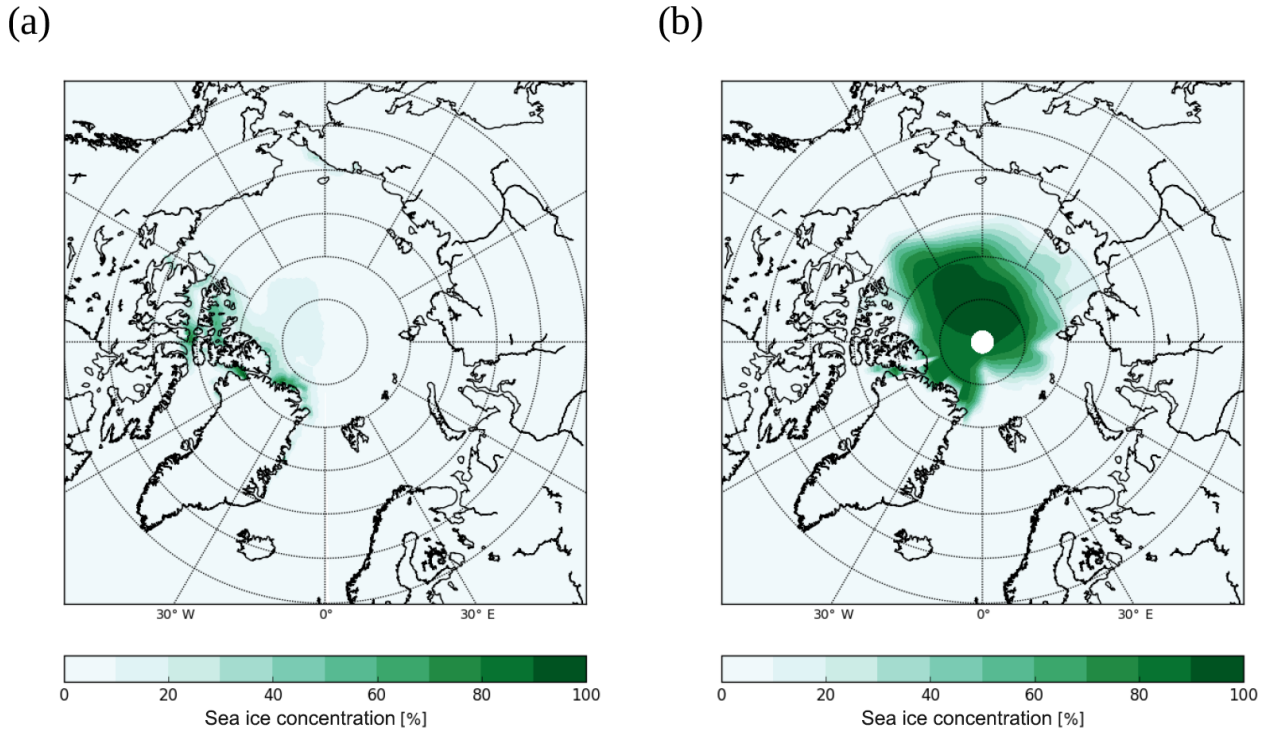

Figure B1. SIC in 2050 for **(a)** NCAR-CCSM3 in September (average over five ensemble members) and **(b)** MPI-ESM in October (the ensemble member used in this study).