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Supplement of

Source–receptor matrix calculation for deposited mass with the Lagrangian particle dispersion model FLEXPART v10.2 in backward mode

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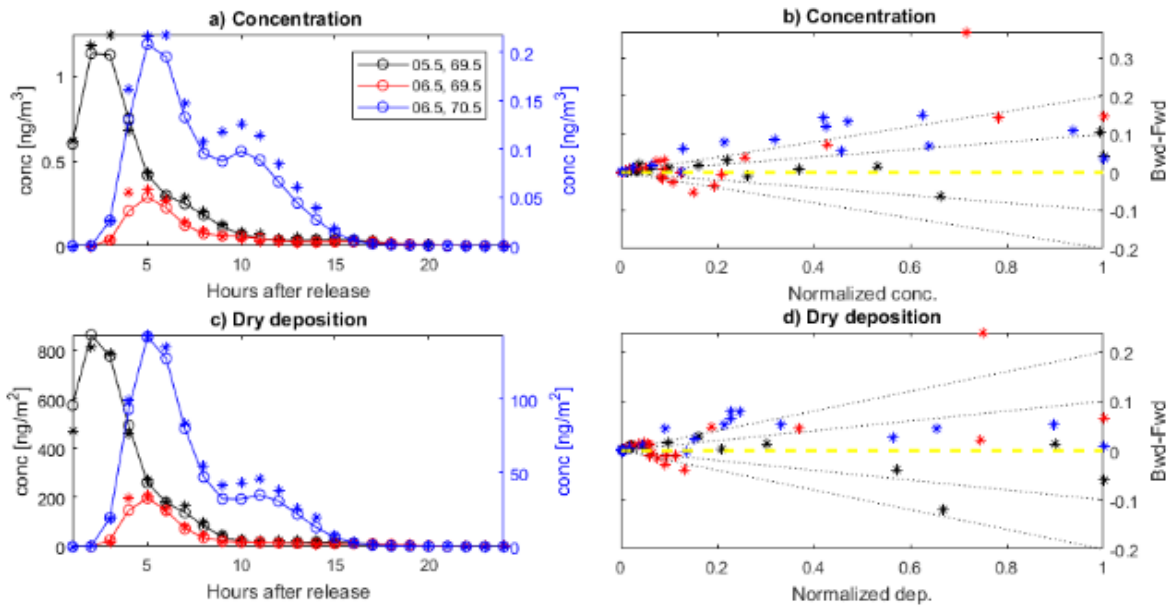


Figure S1: Comparison of modelled concentration and deposition values from forward and backward simulations for the three receptor grid boxes (1) black: 5.5° E, 69.5° N; (2) red: 6.5° E; 69.5° N; (3) blue: 6.5° E, 70.5° N). The left panels show the data as time series for the 24 hours after the emission. The stars depict the values obtained by the backward simulation and the circles and lines the corresponding values from the forward simulation. Notice that due to the lower simulated values at receptor grid box number three, the scales are different for this box and are reported on the right axis in blue colour. The panels on the right hand side show the normalized difference between backward and forward (Bwd-Fwd) simulations as a function of the simulated value obtained with the forward simulation and normalized by the maximum simulated value in the forward simulation. Black dotted lines correspond to 10 and 20% relative error, respectively.

Spatial distribution of fractional bias (FB)
Doherty et al. (2010)

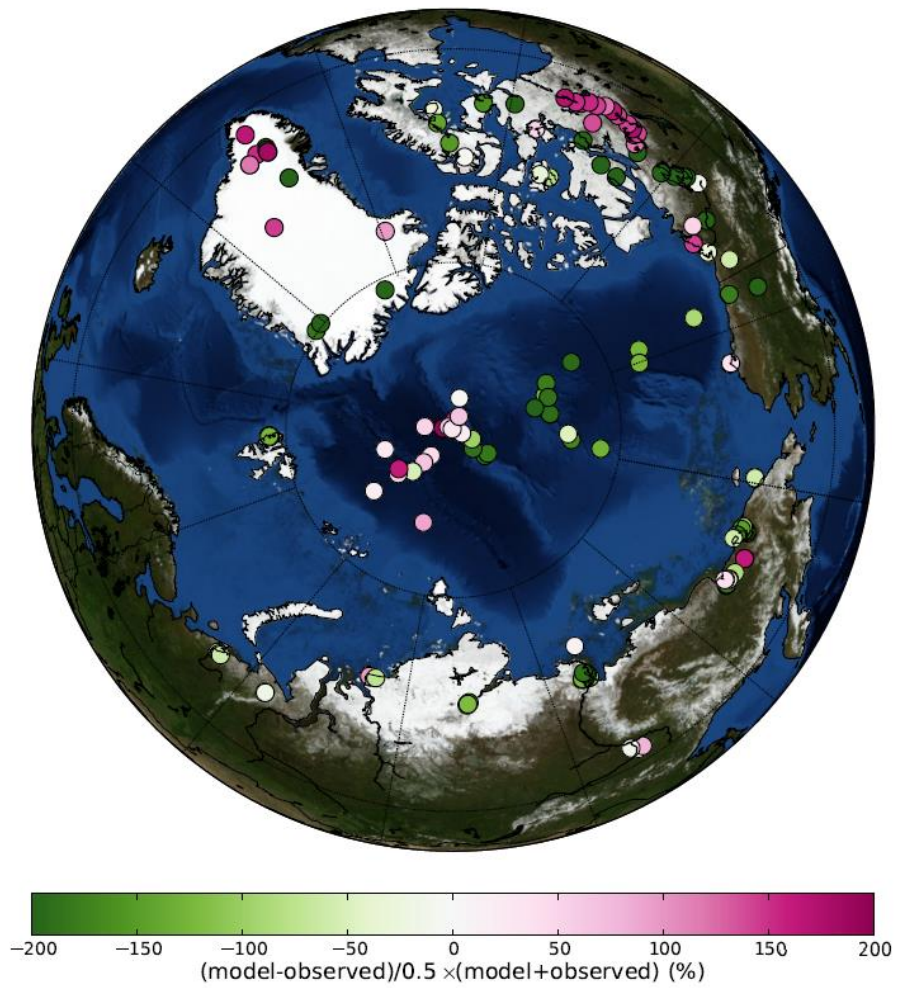


Figure S2: Spatial distribution of the fractional bias between modeled and observed BC concentration in the BC samples described in Doherty et al., (2010)