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Supplement of

Sensitivity of black carbon concentrations and climate impact to aging and scavenging in OsloCTM2–M7

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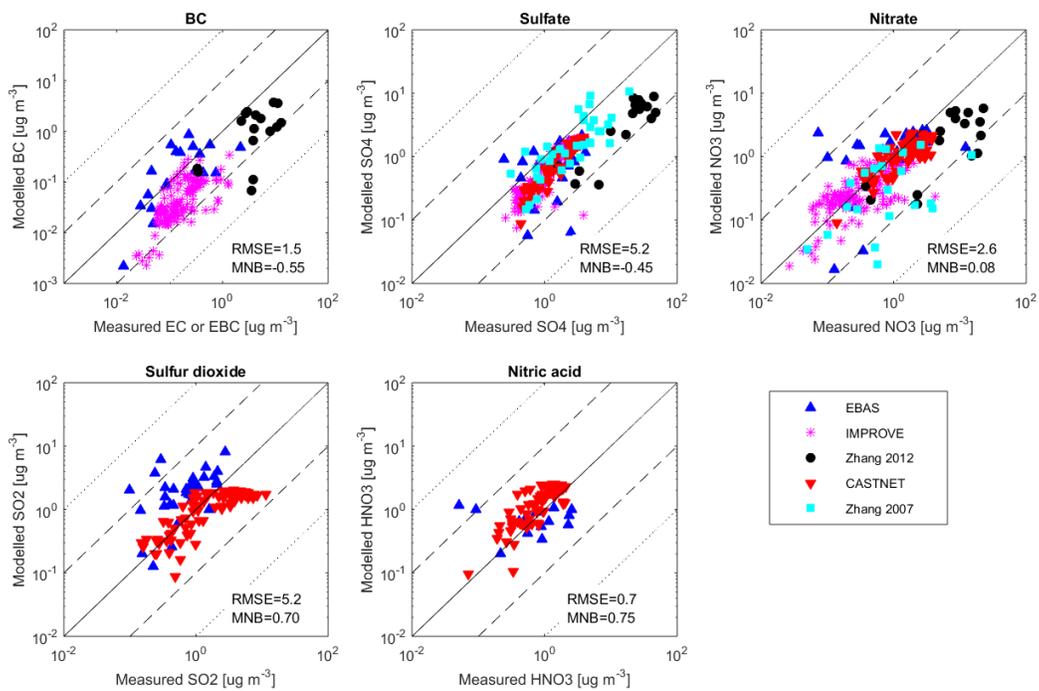


Figure S1: Annual mean measured versus modelled BC, sulfate, nitrate, sulfur dioxide and nitric acid surface concentrations across Europe, North America and Asia.

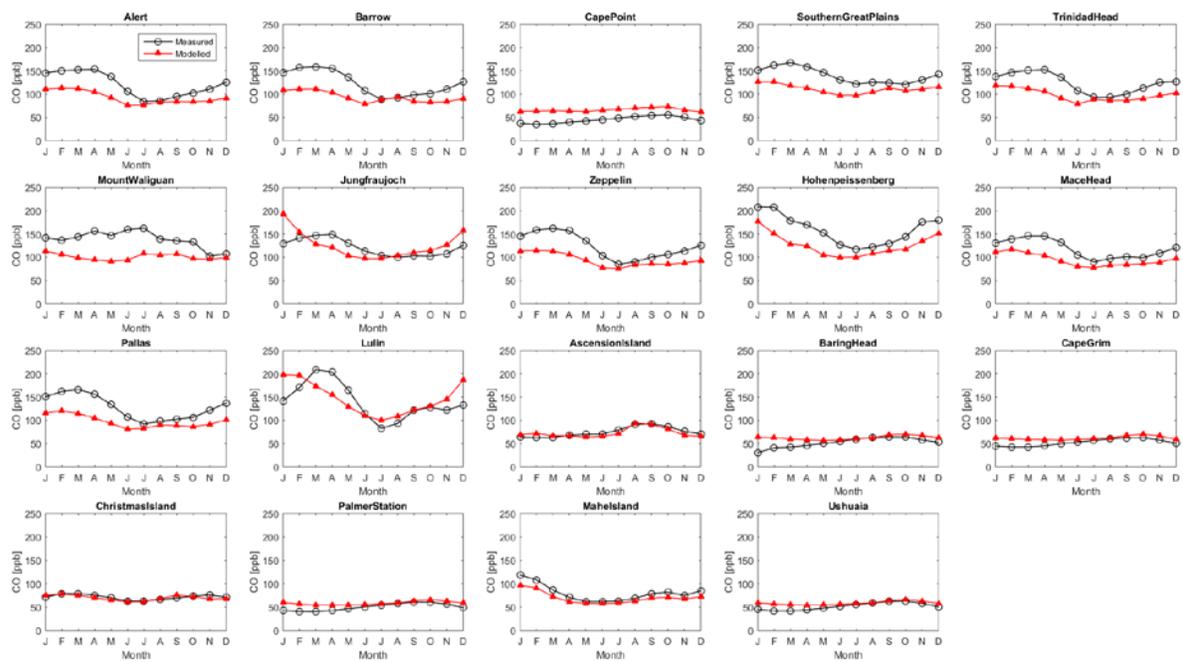


Figure S2: Monthly measured and modelled surface CO concentration averaged over 2008-2010.

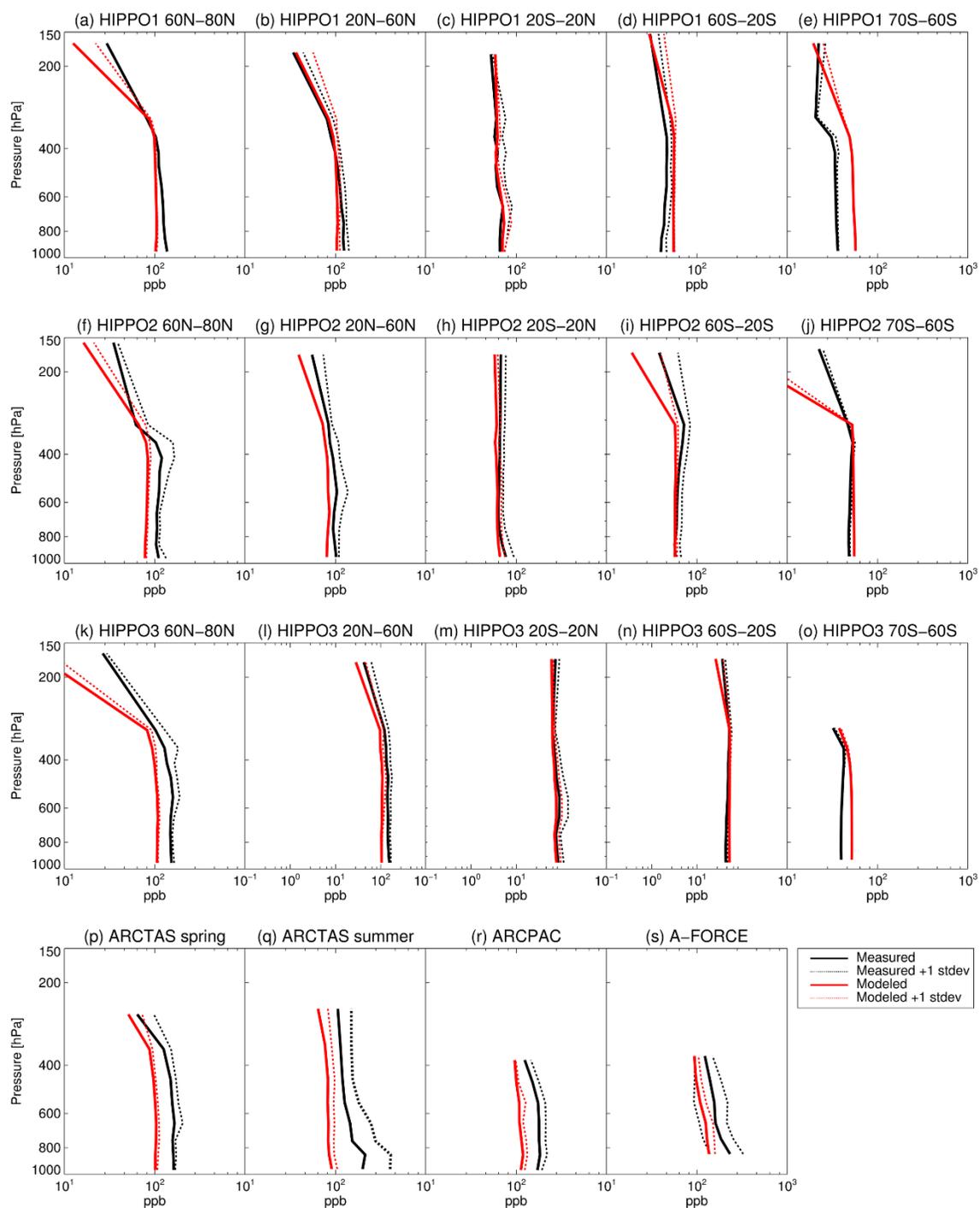


Figure S3: Comparison of modeled vertical profiles of CO with measurements from six flight campaigns: (a)-(o) HIPPO 1-3, averaged over five latitude bands, (p)-(q) ARCTAS, spring and summer, (r) ARCPAC and (s) A-FORCE. Solid lines show the average of observations and model results binned in 100 hPa intervals (25 hPa for HIPPO data between 400 and 200 hPa), while dashed lines show the standard deviation in each interval.

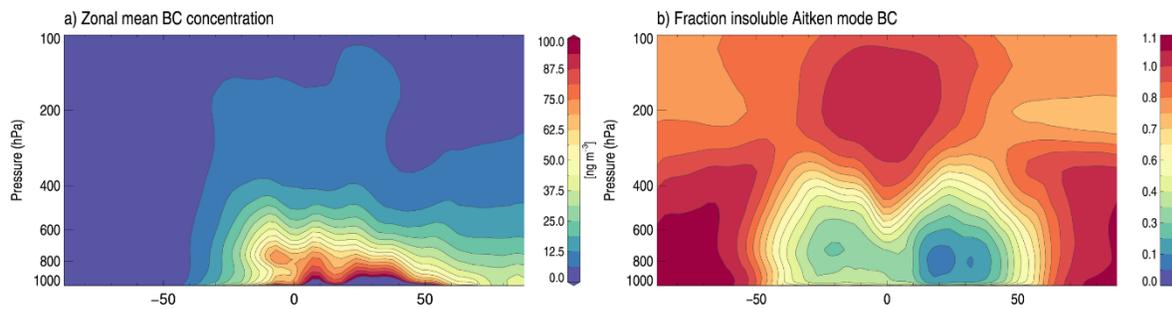


Figure S4: a) Zonal, annual mean BC concentration in the baseline simulation and b) the fraction of total BC in the insoluble Aitken mode.

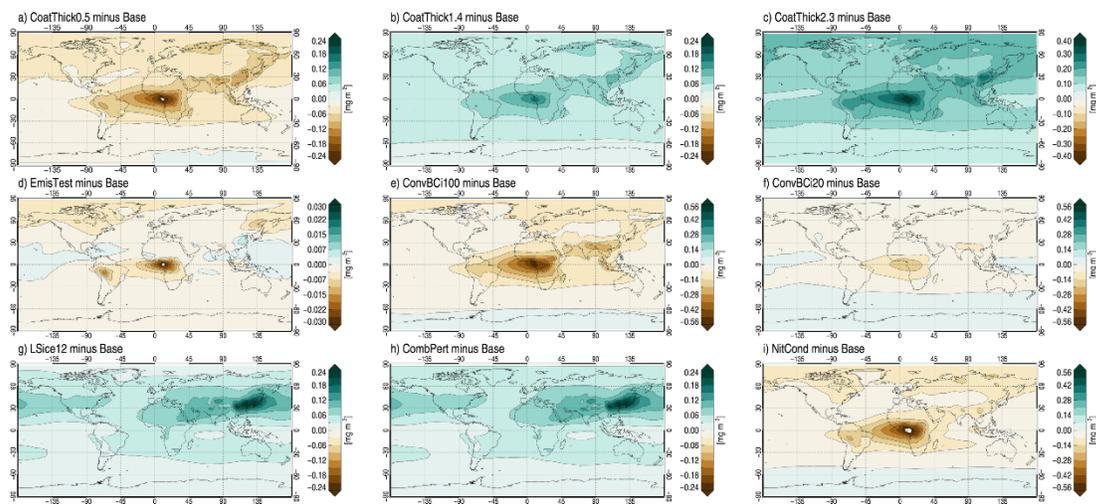


Figure S5: Difference in BC burden between each sensitivity experiment and the baseline simulation.

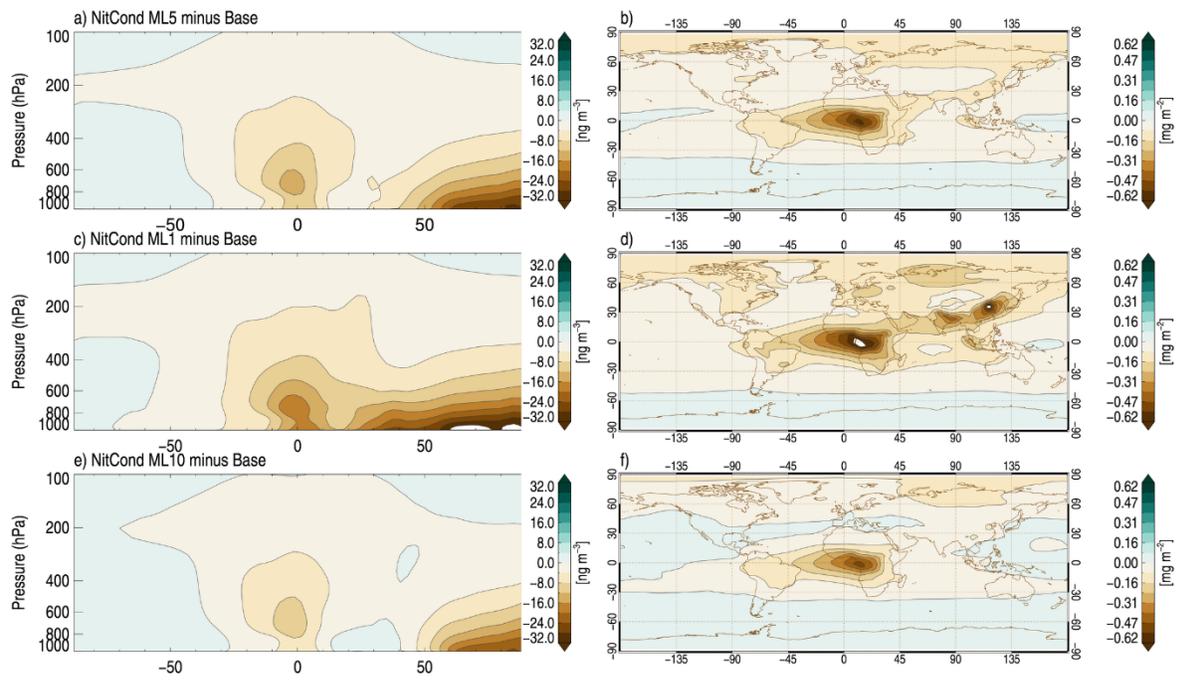


Figure S6: Difference in zonal mean BC concentration (left) and BC burden (right) between each of the three NitCond sensitivity experiments and the baseline simulation.