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A new model for the global biogeochemical cycle of carbonyl sulfide – Part 1: Assessment of direct marine emissions with an oceanic general circulation and biogeochemistry model

T. Launois et al.

Correspondence to: T. Launois (thomas.launois@lsce.ipsl.fr)

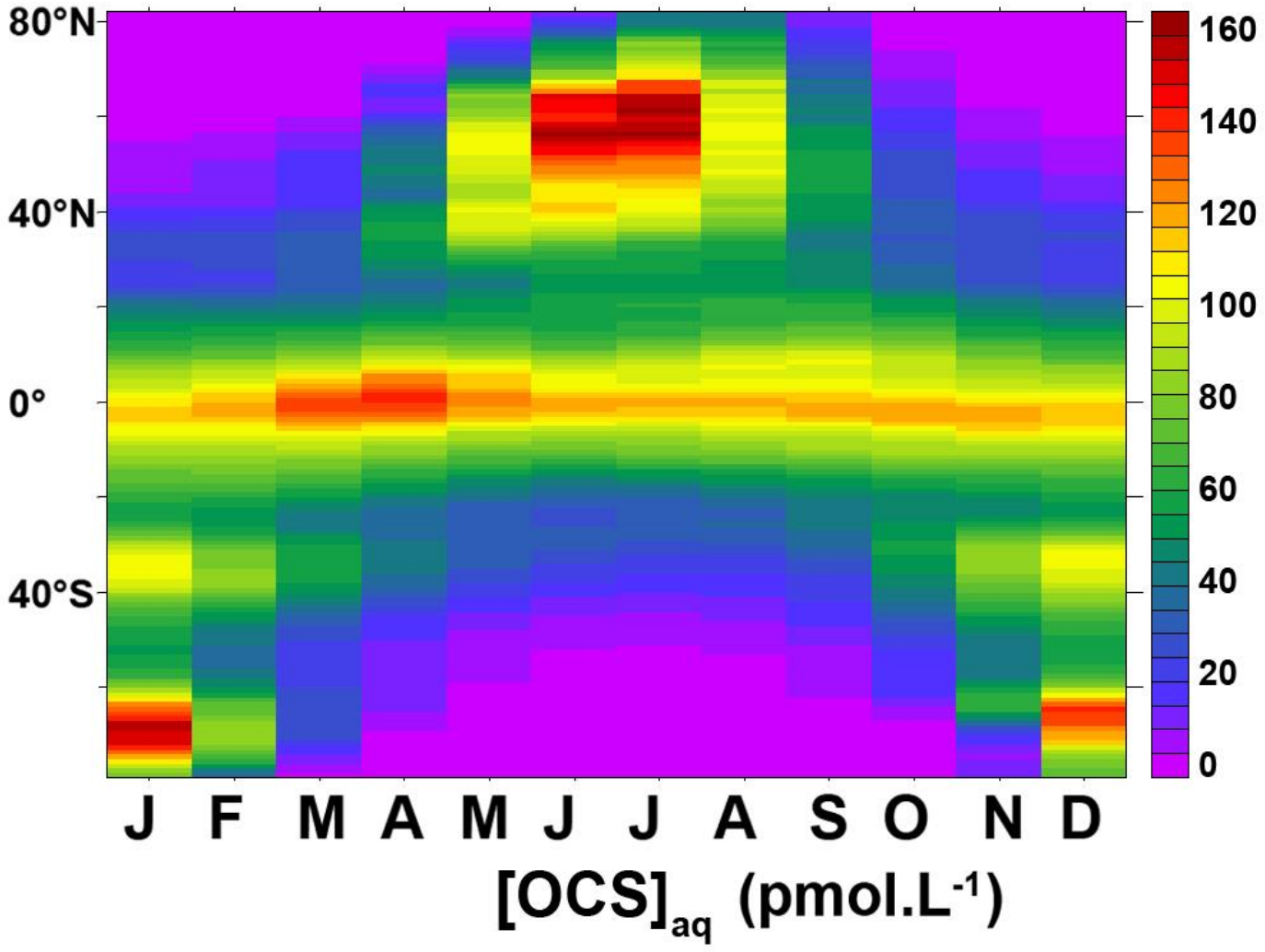

Fig S1: Latitude-time plot of zonal monthly mean concentration of OCS simulated with the NEMO-PISCES model using the a_{350} parameterization from Morel and Gentili (2009) and the hydrolysis constants established by Elliott et al. (1989).

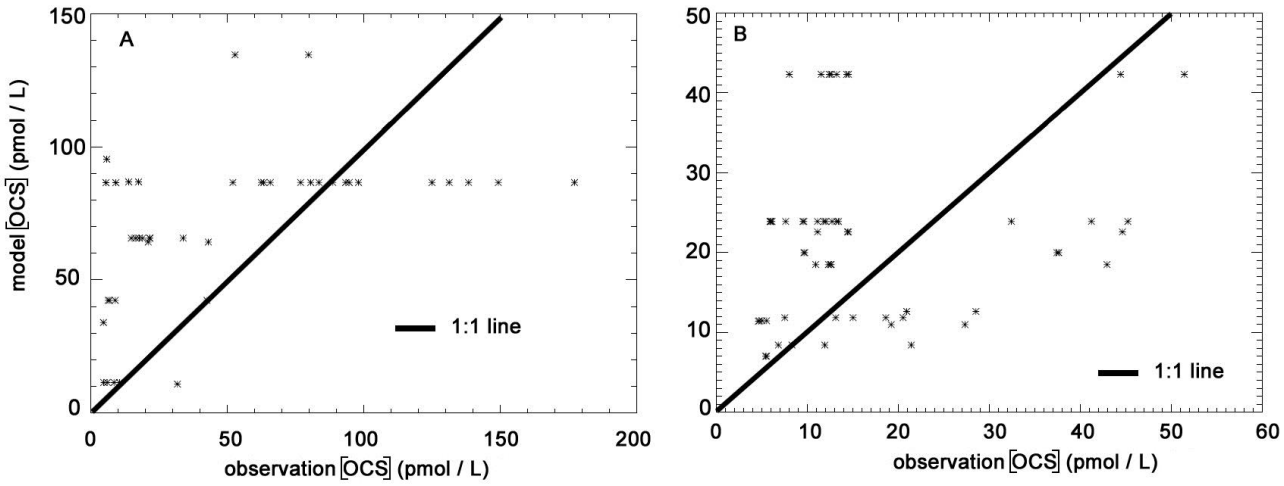

Figure S2: Comparison of modeled and observed marine OCS concentrations from (A) sea surface samples (0 to 10 m depth) and (B) depth profiles.

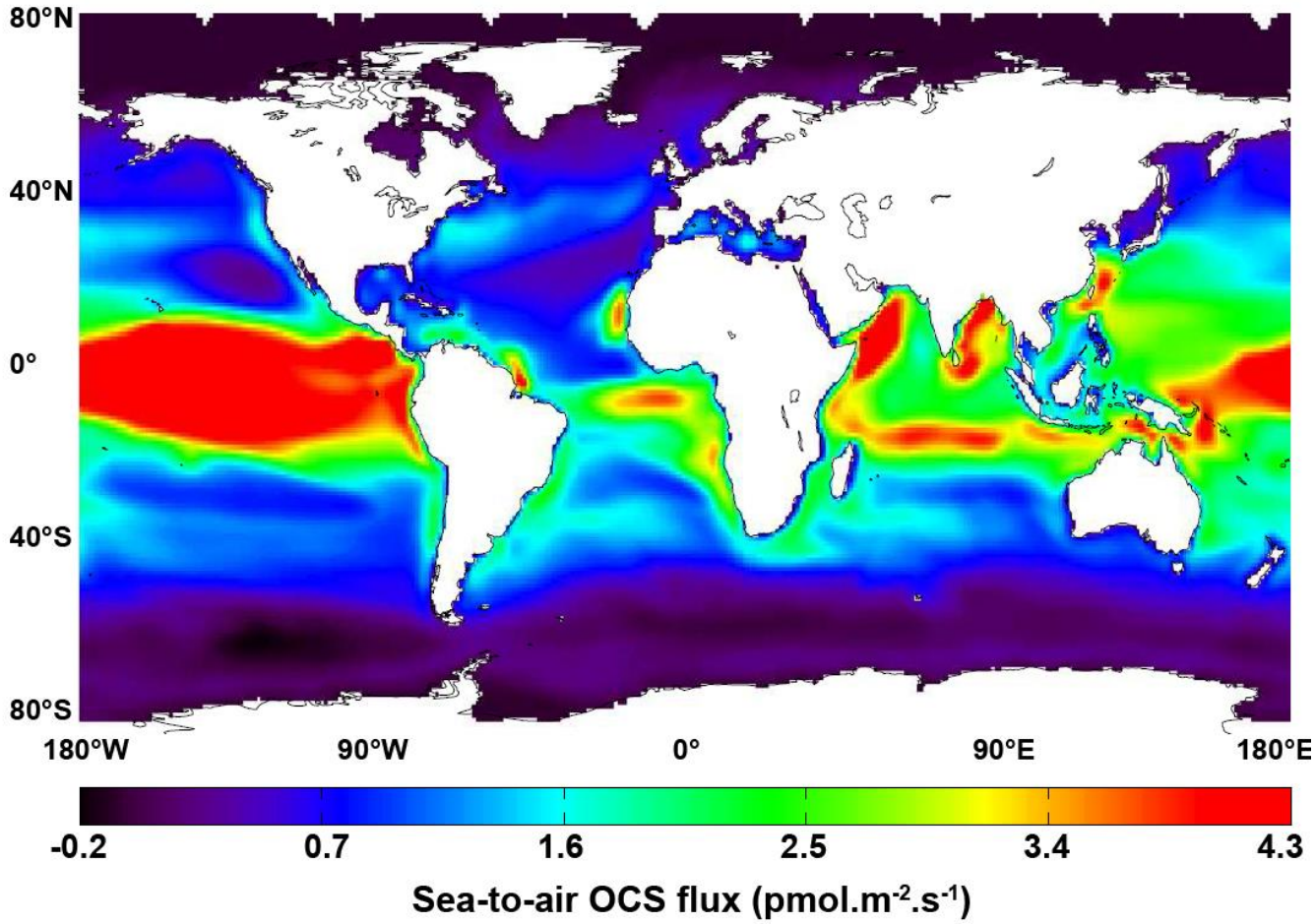

Fig S3: Annual mean sea-air OCS fluxes map simulated with NEMO-PISCES and the parameterizations of Morel and Gentili (2009) and Elliott et al. (1989) for a_{350} and the hydrolysis constant, respectively. Positive fluxes denote OCS outgassing towards the atmosphere. The piston velocity used to calculate surface fluxes was taken from Wanninkhof (1992)