

Interactive comment on “The role of carbonyl sulphide as a source of stratospheric sulphate aerosol and its impact on climate” by C. Brühl et al.

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We thank referee 1 for checking the language of the paper and for spotting missing parts. We agree with most of the suggested changes.

In the introduction on p20825, l24 we insert: 'As rather longlived source gas its distribution is modulated by the QBO in the tropical upwelling region.'

p20826, CS₂: We add on top of p20827: 'According to Watts (2000) and Chin and Davis (1993) the largest anthropogenic contribution comes from the chemical industry, notably fiber production.' Also Blake will be cited.

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p20831, thanks for spotting a typo, it should be 0.48 ± 0.04 . Figure 1 contains now a timeseries at the equator and in the boundary layer, illustrating the rearranged text (see comment to referee 2). The old figure 1 is now figure 2 and for the same periods as discussed later, with additions in the caption.

Figure 2 (now 3): 'SO_x = SO₂+SO₃+SO+SH'.

Figure 3 (now 4), organic carbon: is mostly related to biomass burning.

Figure 3 and 4 will be merged in the tex-file (new figure 4).

Caption figure 9: 'total effective cloud cover in the troposphere'.

Reference: Chin, M., and D.D. Davis, Global sources and sinks of OCS and CS₂ and their distributions, *Glob. Biogeochem. Cycles*, 7, 321-337, 1993.

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