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Determination of the chemical equator from GEOS-Chem model simulation: a focus on the tropical western Pacific region

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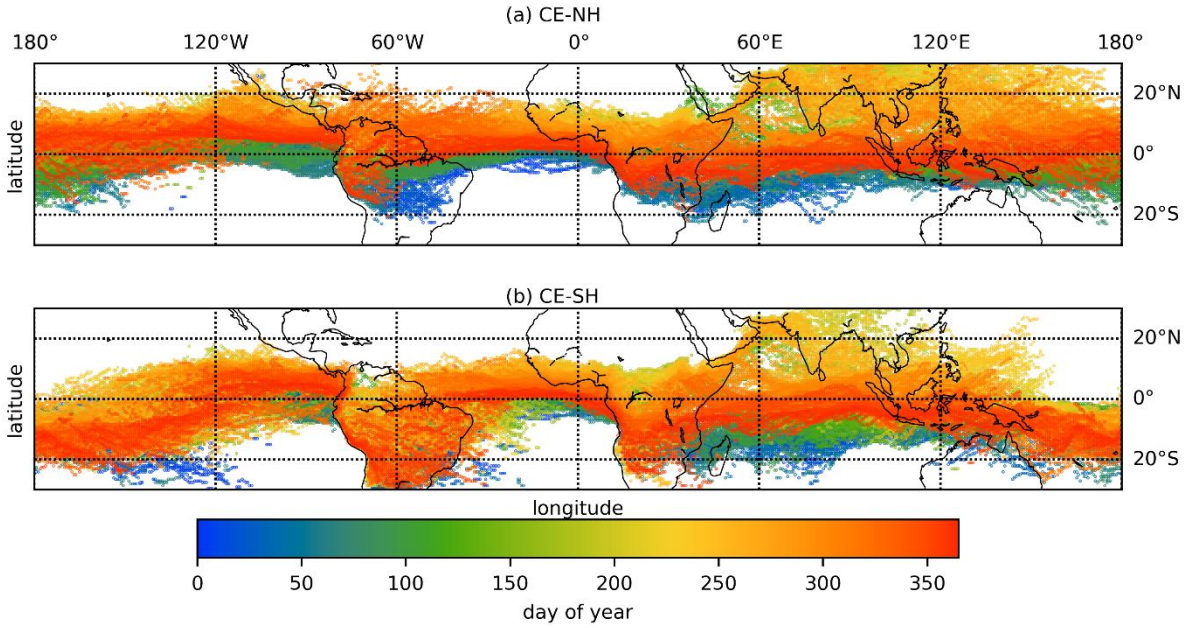

Figure S1. Daily CE-NH and CE-SH calculated from model simulations of (a) E1 (tracer released in NH) and (b) E2 (tracer released in SH) in 2016; the color shows the day of the year.

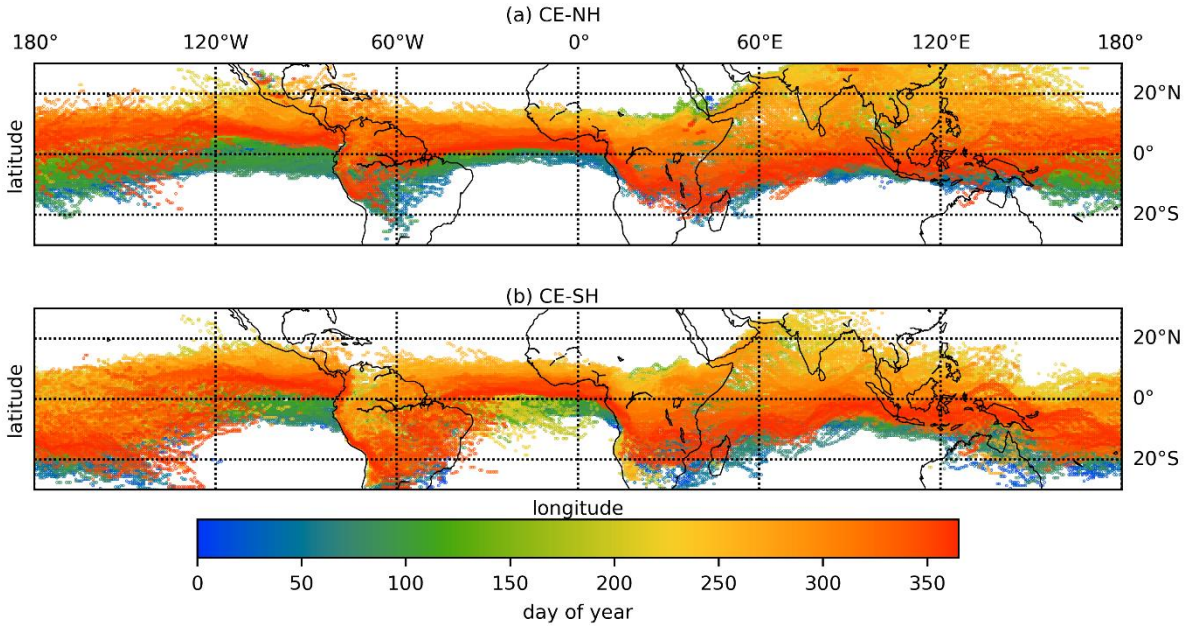

Figure S2. Daily CE-NH and CE-SH calculated from model simulations of (a) E1 (tracer released in NH) and (b) E2 (tracer released in SH) in 2017; the color shows the day of the year.

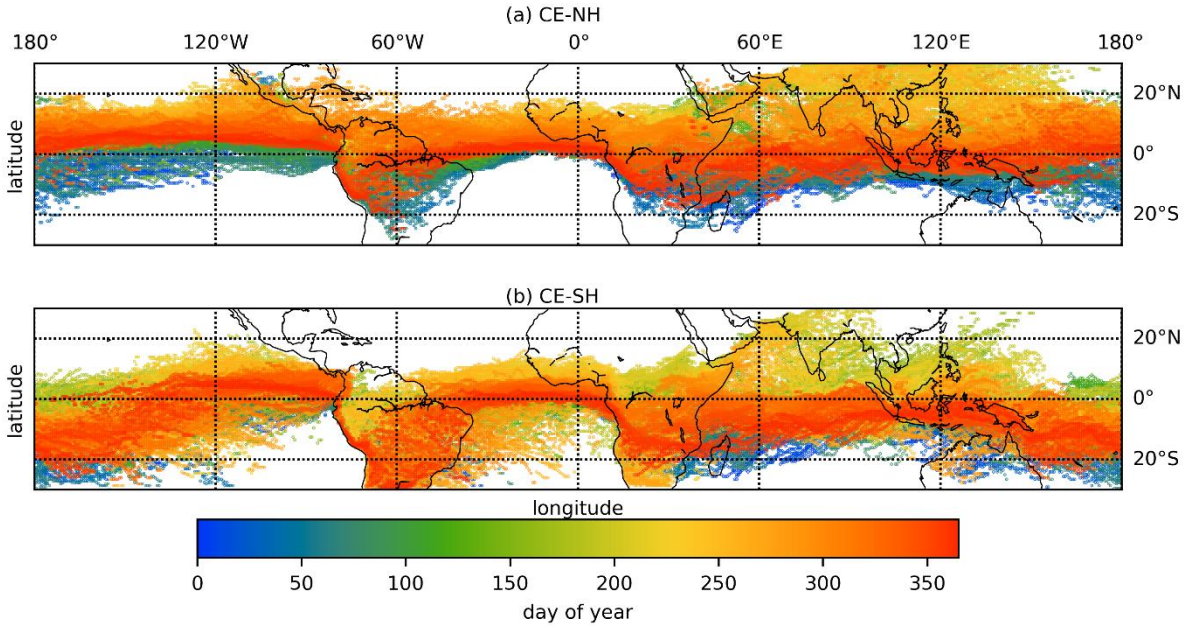

Figure S3. Daily CE-NH and CE-SH calculated from model simulations of (a) E1 (tracer released in NH) and (b) E2 (tracer released in SH) in 2018; the color shows the day of the year.

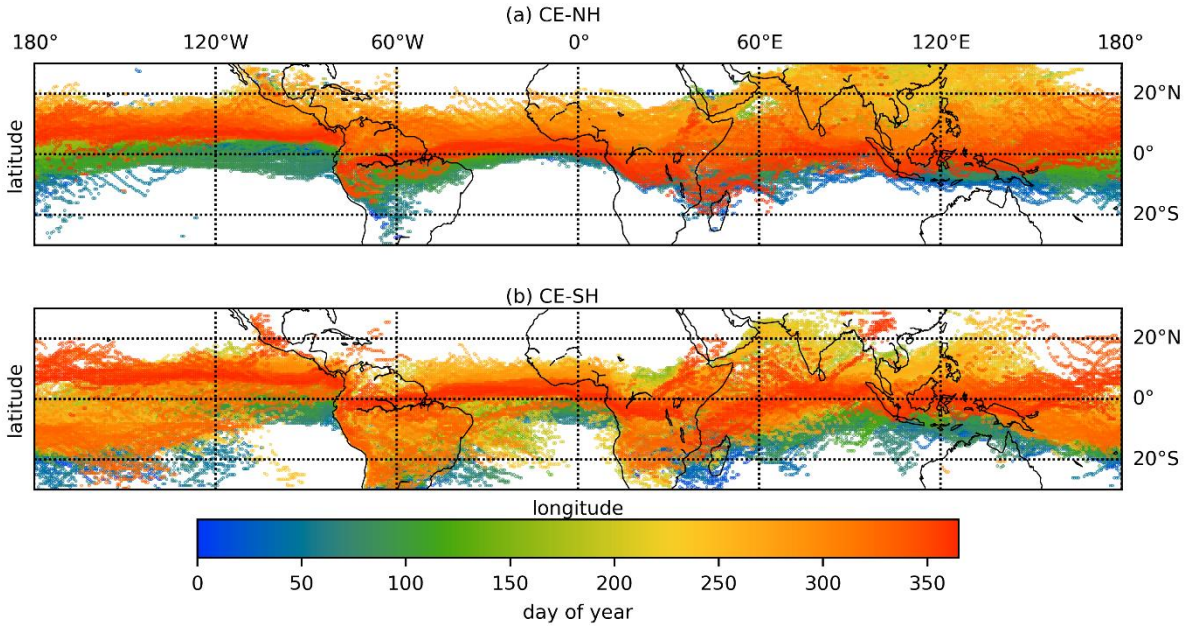

Figure S4. Daily CE-NH and CE-SH calculated from model simulations of (a) E1 (tracer released in NH) and (b) E2 (tracer released in SH) in 2019; the color shows the day of the year.

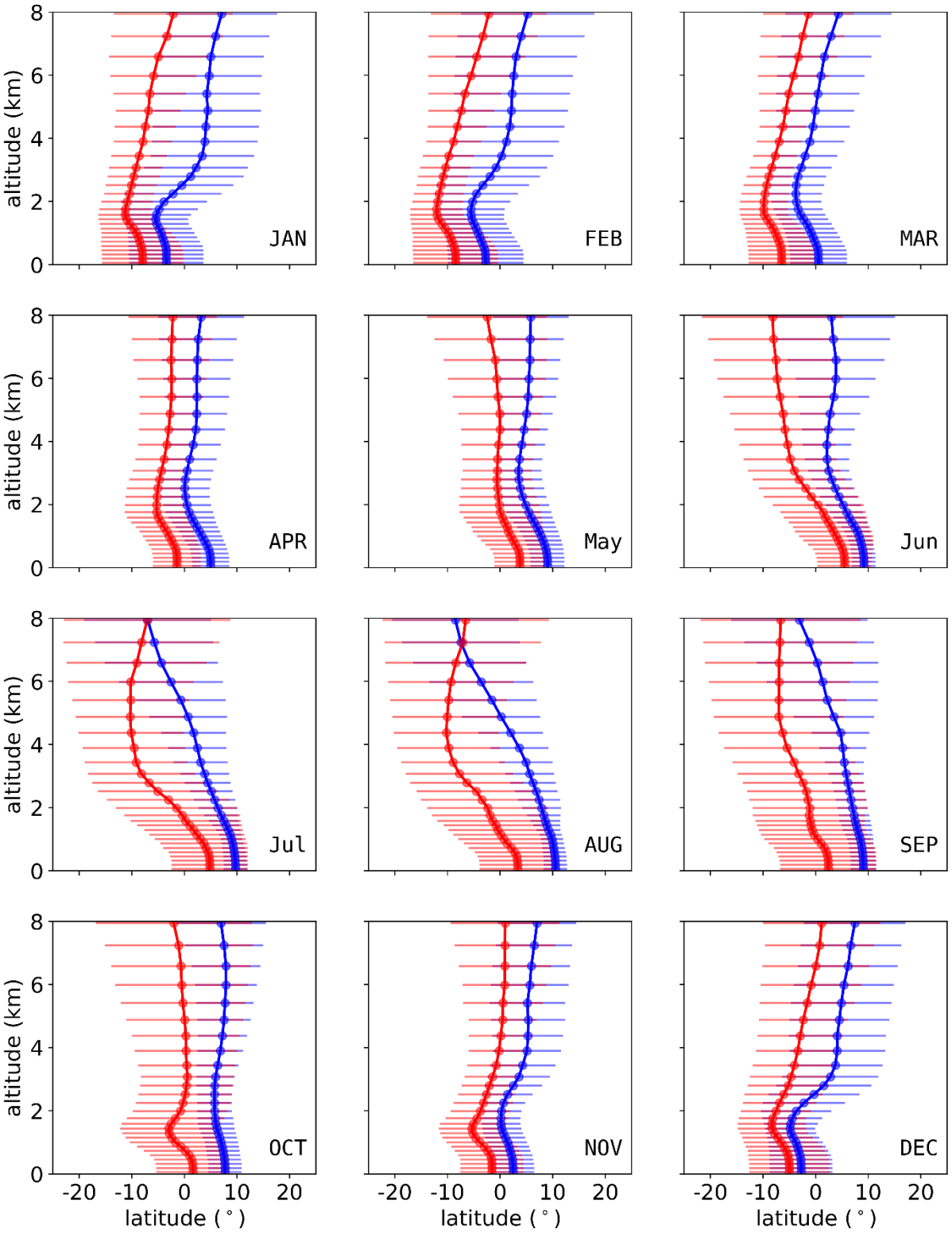

Figure S5. Monthly averaged (2015-2019) CE by altitude. The CE-NH / CE-SH are zonally (15° W - 50° E) averaged over the AF region see Fig. 5. The blue lines show the CE-NH and the red lines show the CE-SH. Only CE-NH / CE-SH below 8 km are shown here because of the large uncertainty in the higher model level. 1-σ of the CE-NH and CE-SH are given in the plots.

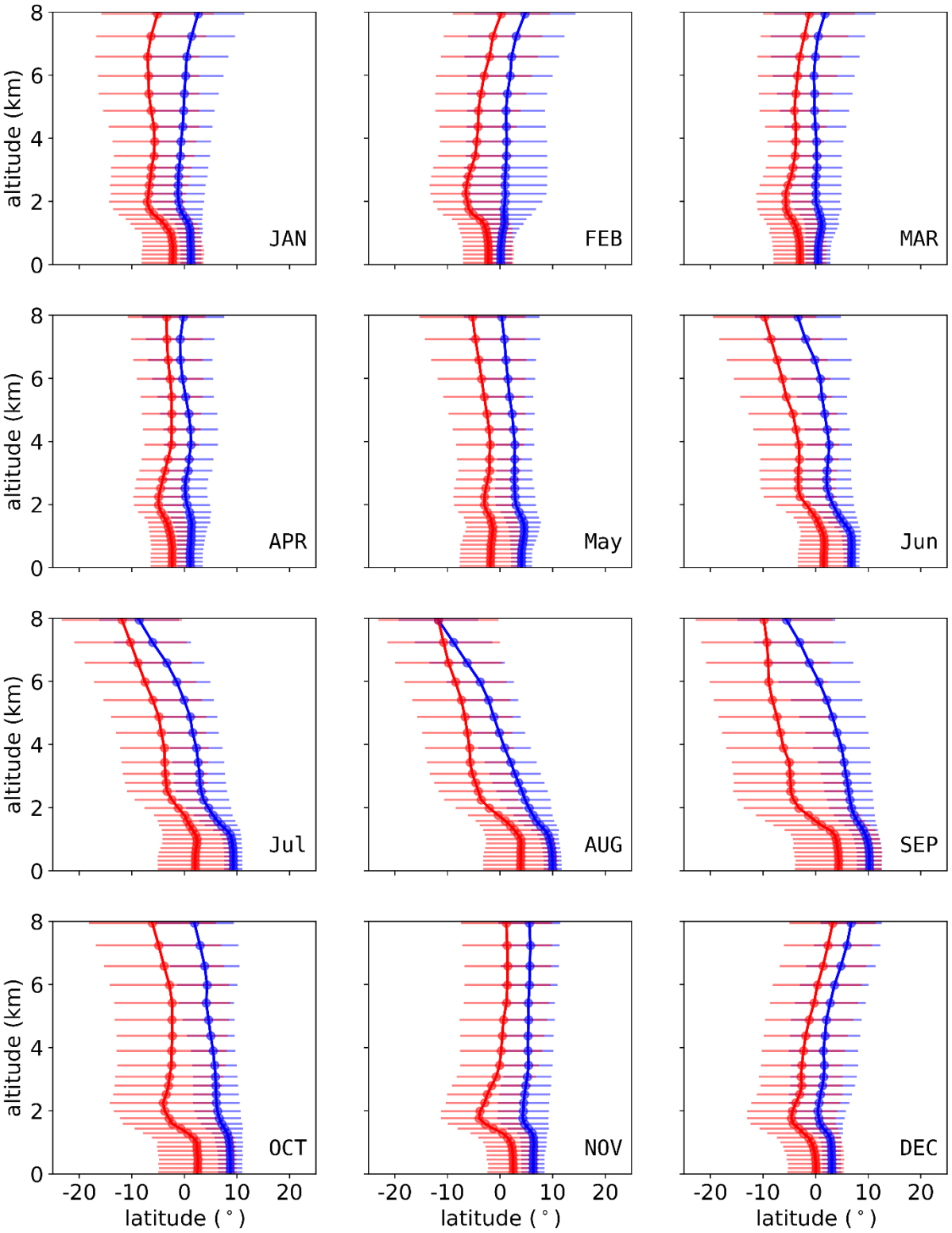

Figure S6. Monthly averaged (2015-2019) CE by altitude. The CE-NH / CE-SH are zonally (40° W - 15° W) averaged over the AT region see Fig. 5. The blue lines show the CE-NH and the red lines show the CE-SH. Only CE-NH / CE-SH below 8 km are shown here because of the large uncertainty in the higher model level. 1-σ of the CE-NH and CE-SH are given in the plots.

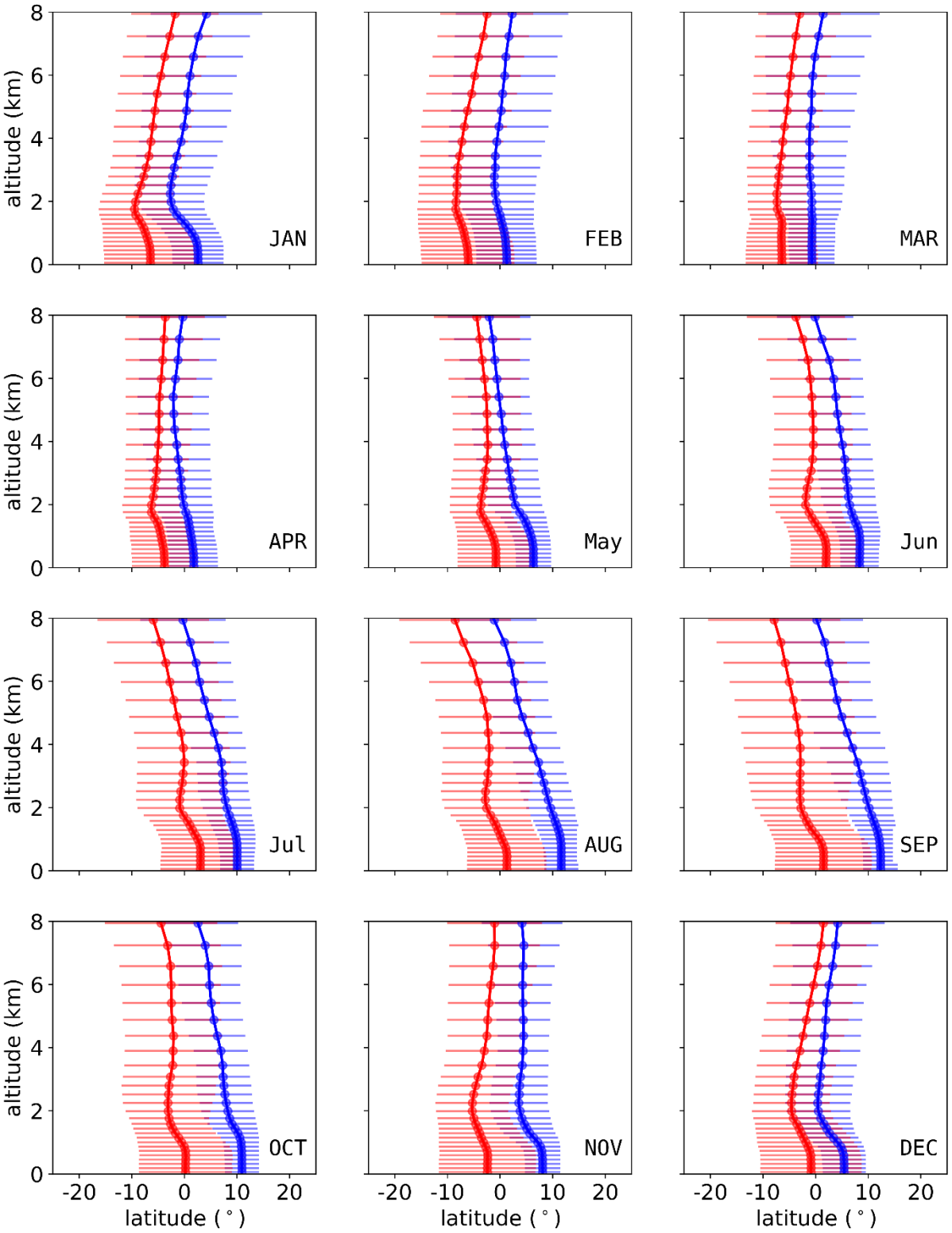

Figure S7. Monthly averaged (2015-2019) CE by altitude. The CE-NH / CE-SH are zonally (180° - 80° W) averaged over the CEP region see Fig. 5. The blue lines show the CE-NH and the red lines show the CE-SH. Only CE-NH / CE-SH below 8 km are shown here because of the large uncertainty in the higher model level. 1-σ of the CE-NH and CE-SH are given in the plots.

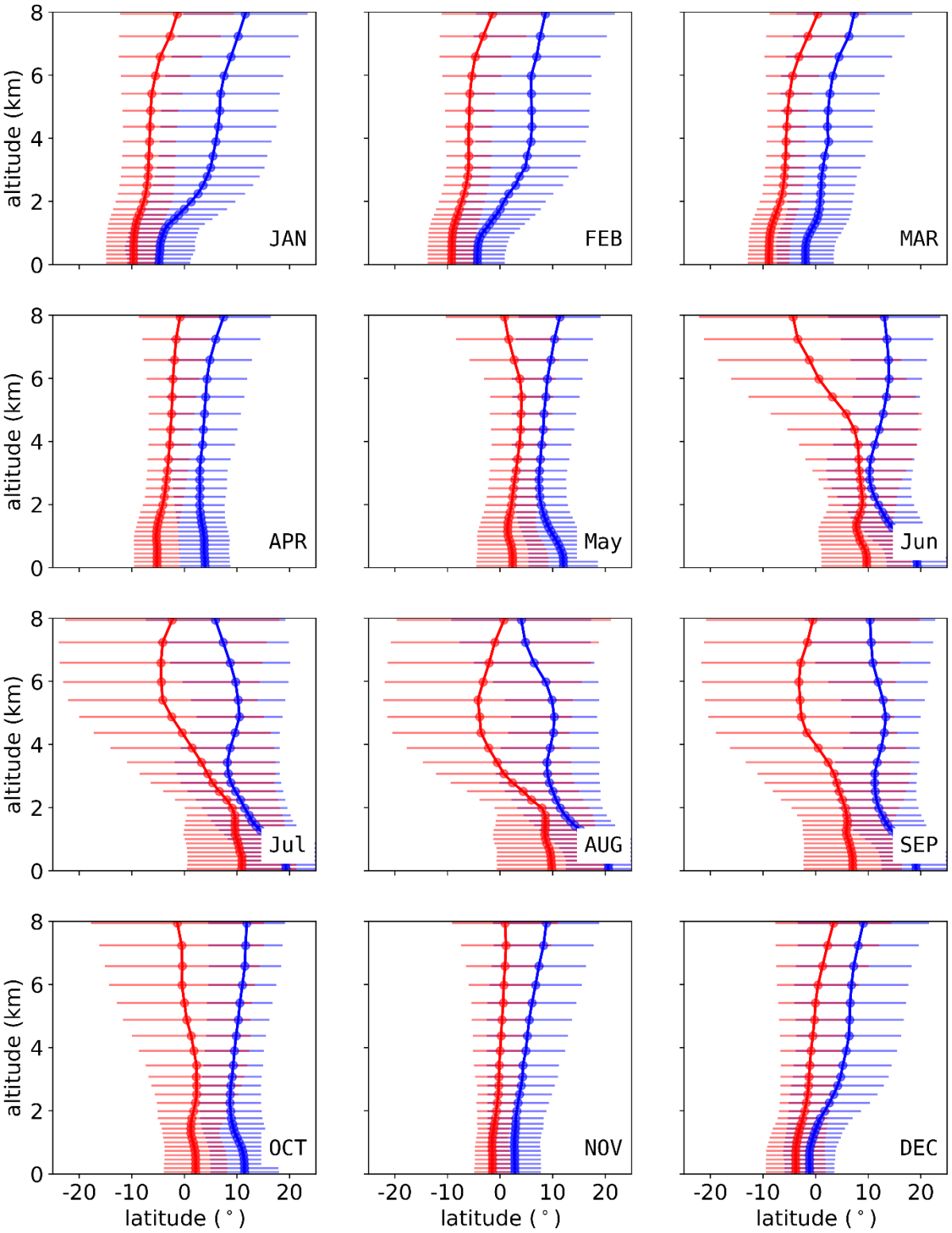

Figure S8. Monthly averaged (2015-2019) CE by altitude. The CE-NH / CE-SH are zonally (50° E – 100 ° E) averaged over the IO region see Fig. 5. The blue lines show the CE-NH and the red lines show the CE-SH. Only CE-NH / CE-SH below 8 km are shown here because of the large uncertainty in the higher model level. 1-σ of the CE-NH and CE-SH are given in the plots.

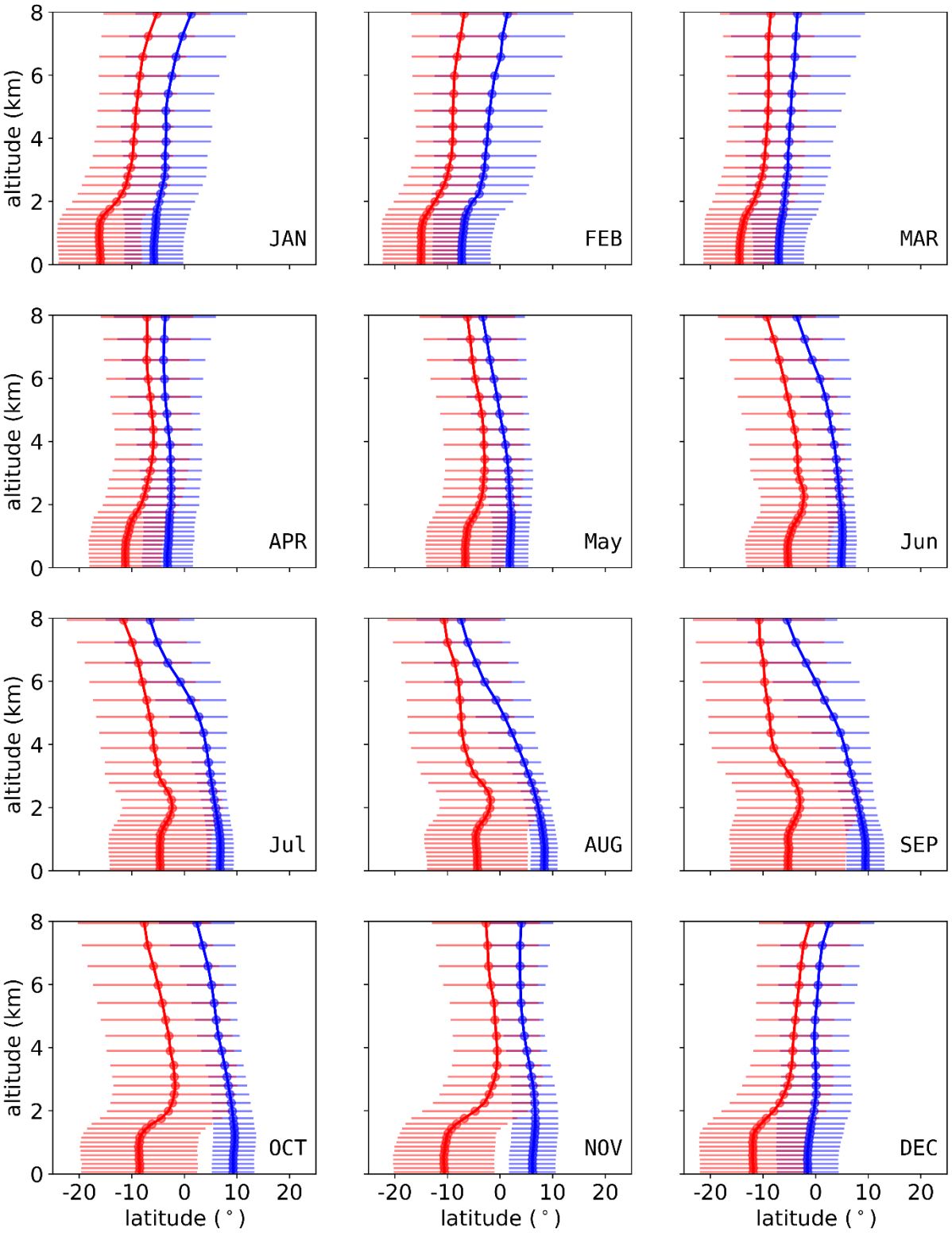

Figure S9. Monthly averaged (2015-2019) CE by altitude. The CE-NH / CE-SH are zonally (80° W - 40° W) averaged over the SA region see Fig. 5. The blue lines show the CE-NH and the red lines show the CE-SH. Only CE-NH / CE-SH below 8 km are shown here because of the large uncertainty in the higher model level. 1-σ of the CE-NH and CE-SH are given in the plots.