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Supplement of

Microwave radiometer observations of the ozone diurnal cycle and its short-term variability over Switzerland

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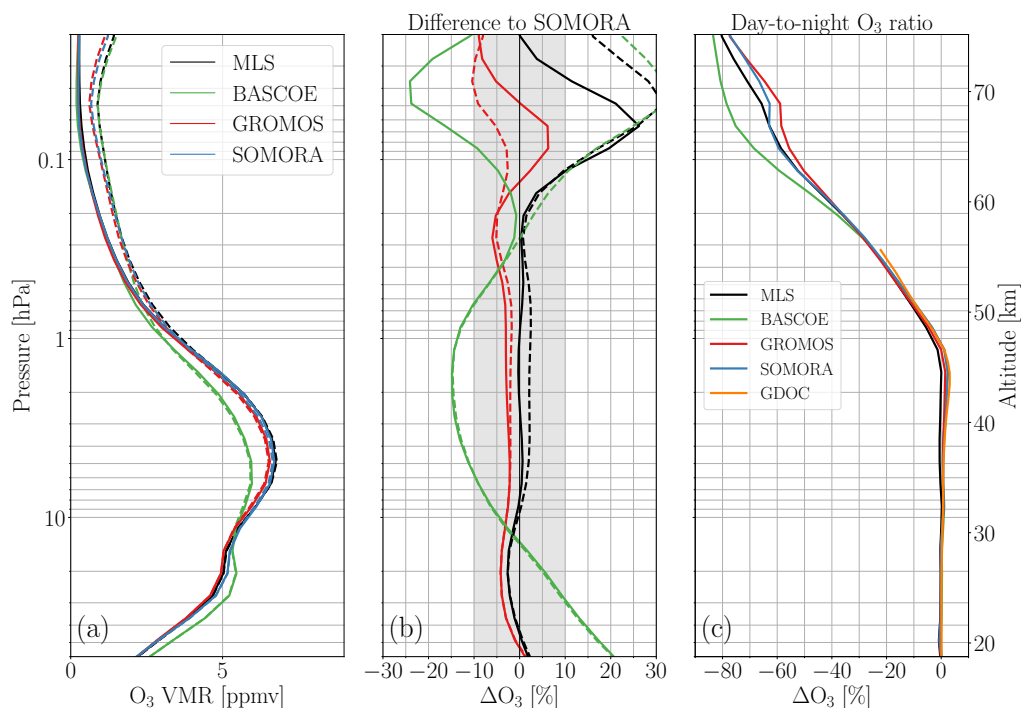# Supplementary material: Microwave radiometer observations of the ozone diurnal cycle and its short-term variability over Switzerland
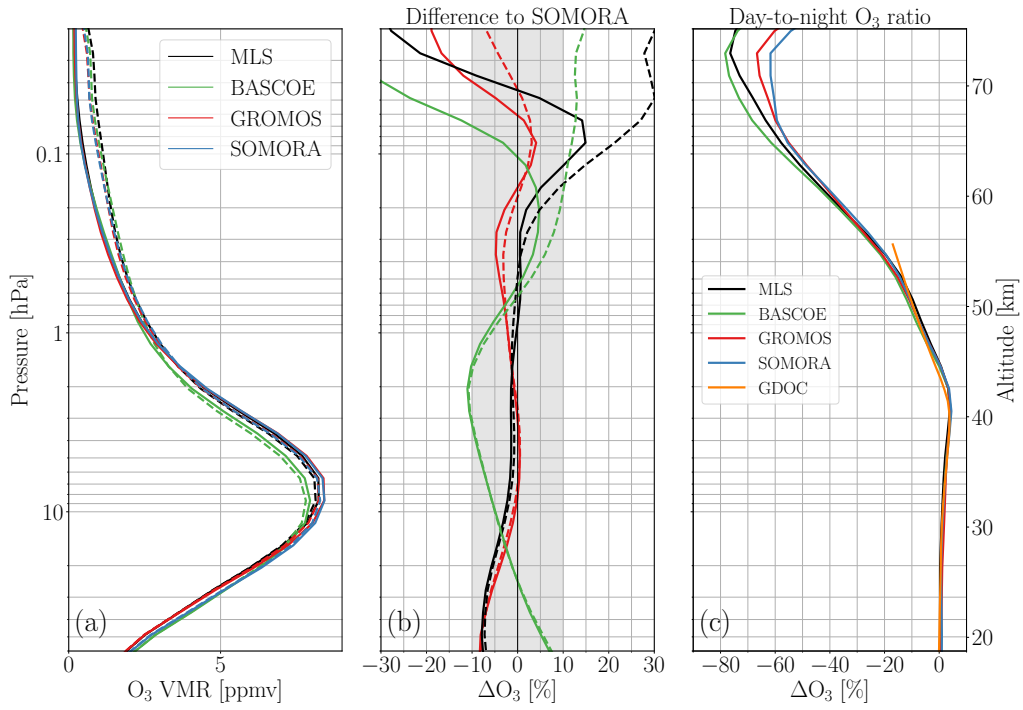
This documents shows some a set of supplementary plots accompanying the manuscript "Microwave radiometer observations of the ozone diurnal cycle and its short-term variability over Switzerland". They are mostly aiming at the interested reader and do not present significant new results compared to the results shown in the original submitted manuscript.

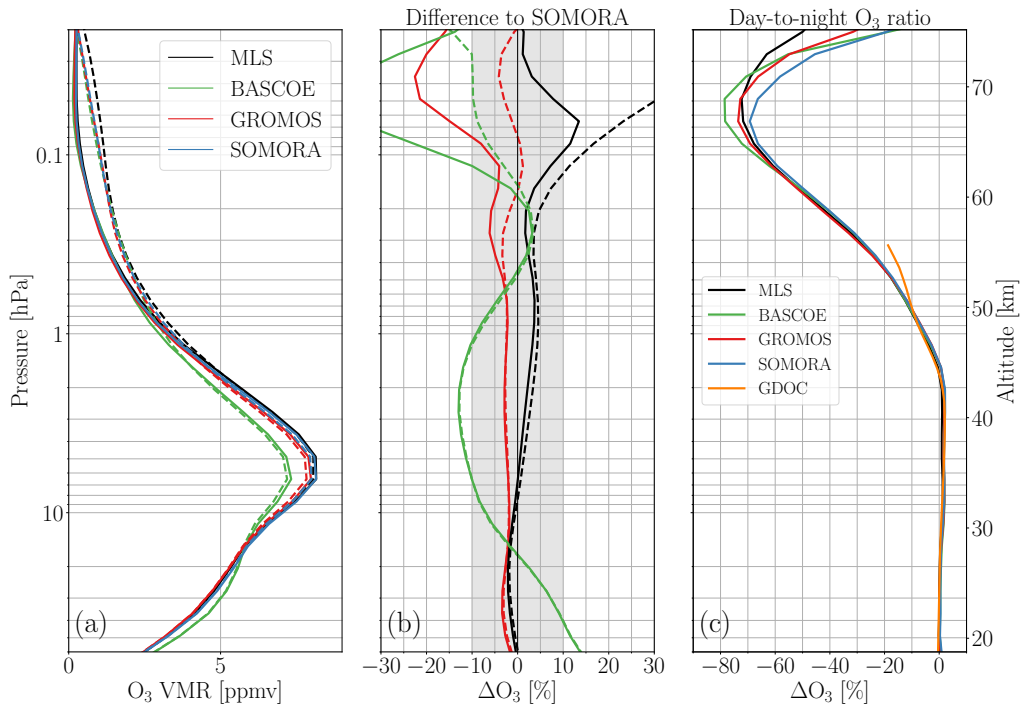## S1   Monthly ozone profiles and day-to-night ratio

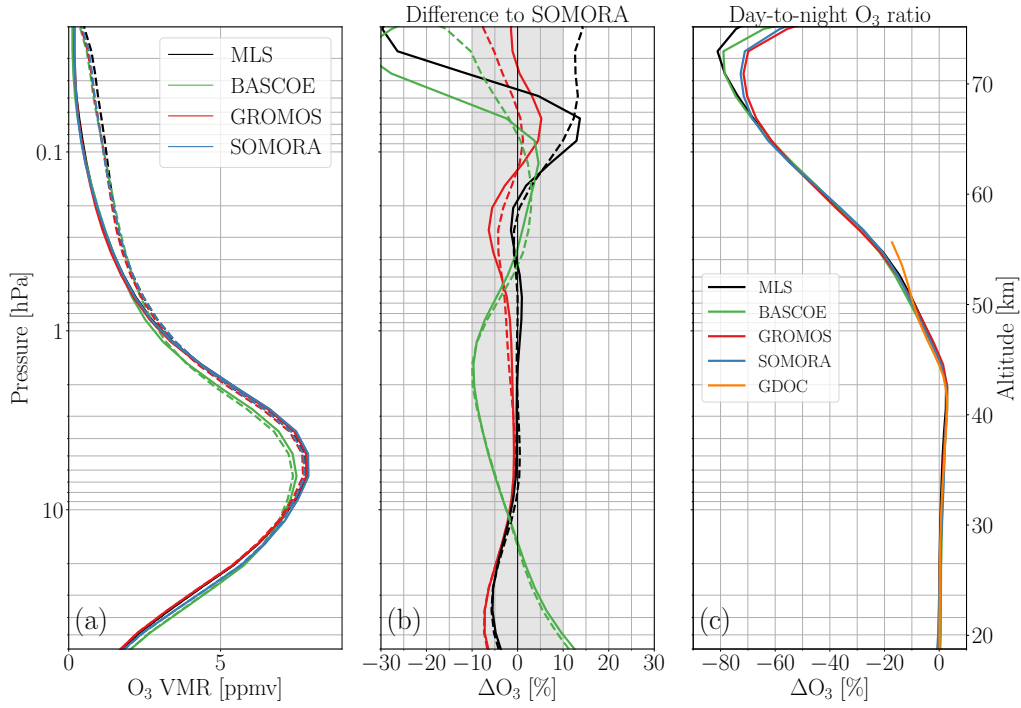Comparison of monthly ozone profiles but with respect to SOMORA instead of GROMOS.

Figure S1. (**a**) Monthly averaged profiles, (**b**) relative differences ((X-SOM)/SOM), and (**c**) day-to-night ratios of ozone volume mixing ratio (VMR) above Switzerland in December. In (**a**) and (**b**), the solid lines are the daytime profiles whereas the dashed lines are the nighttime profiles.

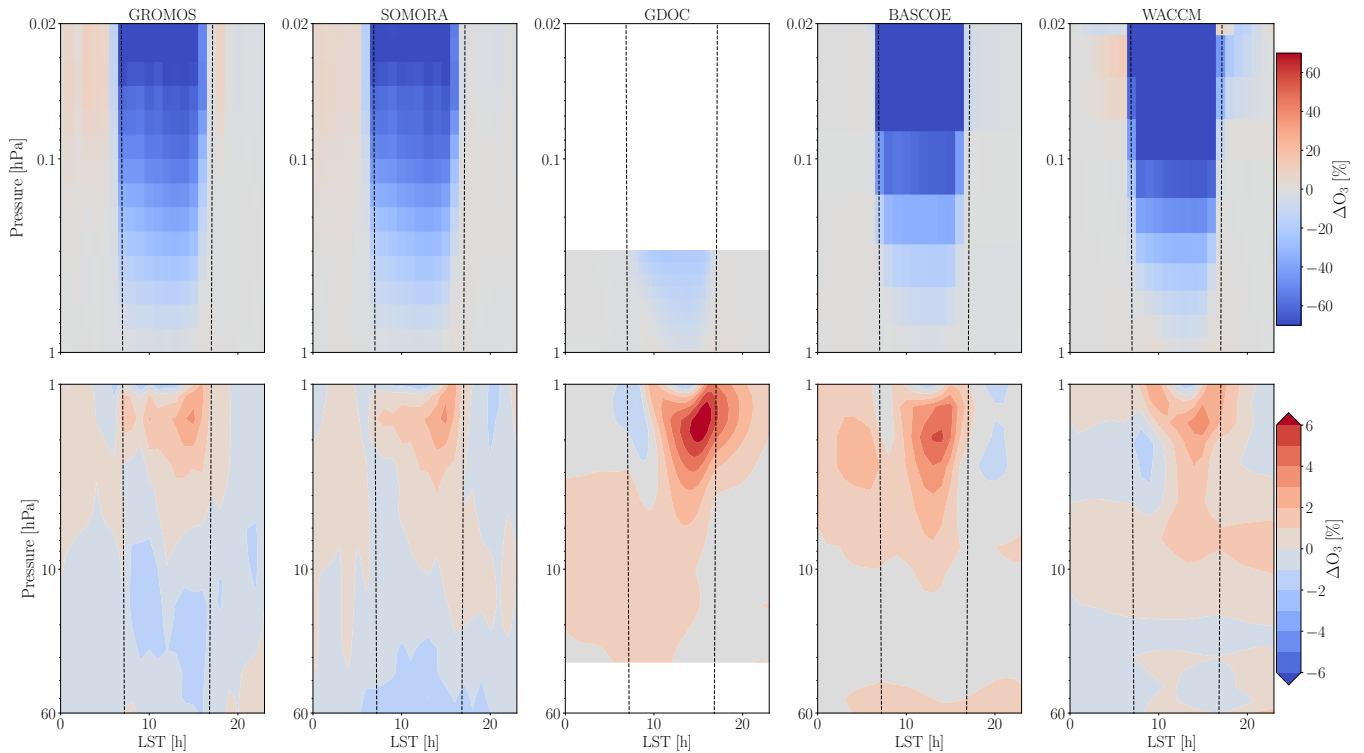**Figure S2.** Same as Figure S1 but for June.

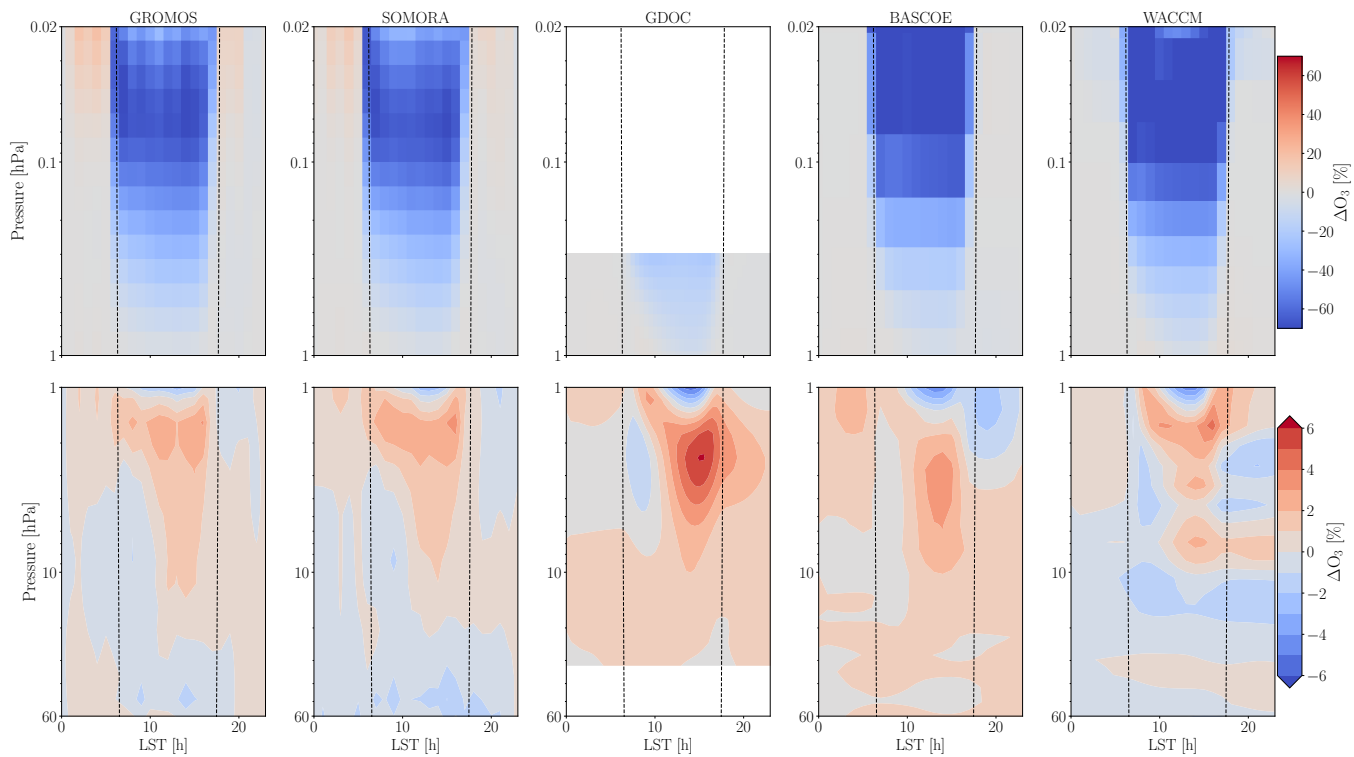**Figure S3.** Same as Figure S1 but for March.

Figure S4. Same as Figure S1 but for September.
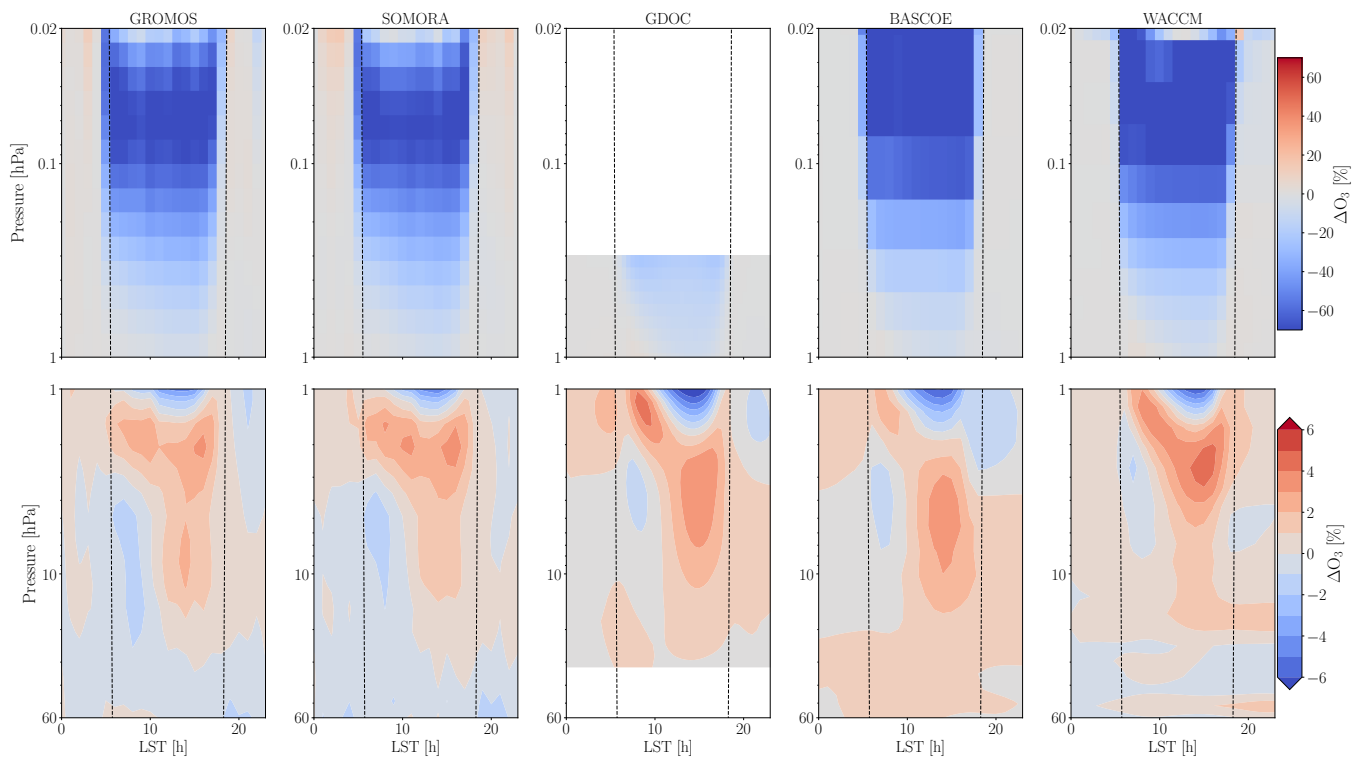
S2 Comparison of monthly ozone diurnal cycle

Monthly averaged ozone diurnal cycle from GROMOS, SOMORA, GDOC, BASCOE and WACCM. Compared to the original figures, the cycles shown here are without the opacity filtering (GROMOS and SOMORA) and without the AVK smoothing procedure (BASCOE and WACCM).

Figure S5. Monthly averaged ozone diurnal cycle over Switzerland in January as seen in GROMOS, SOMORA, GDOC, BASCOE and WACCM.

Figure S6. Same as Figure S5 but for February.
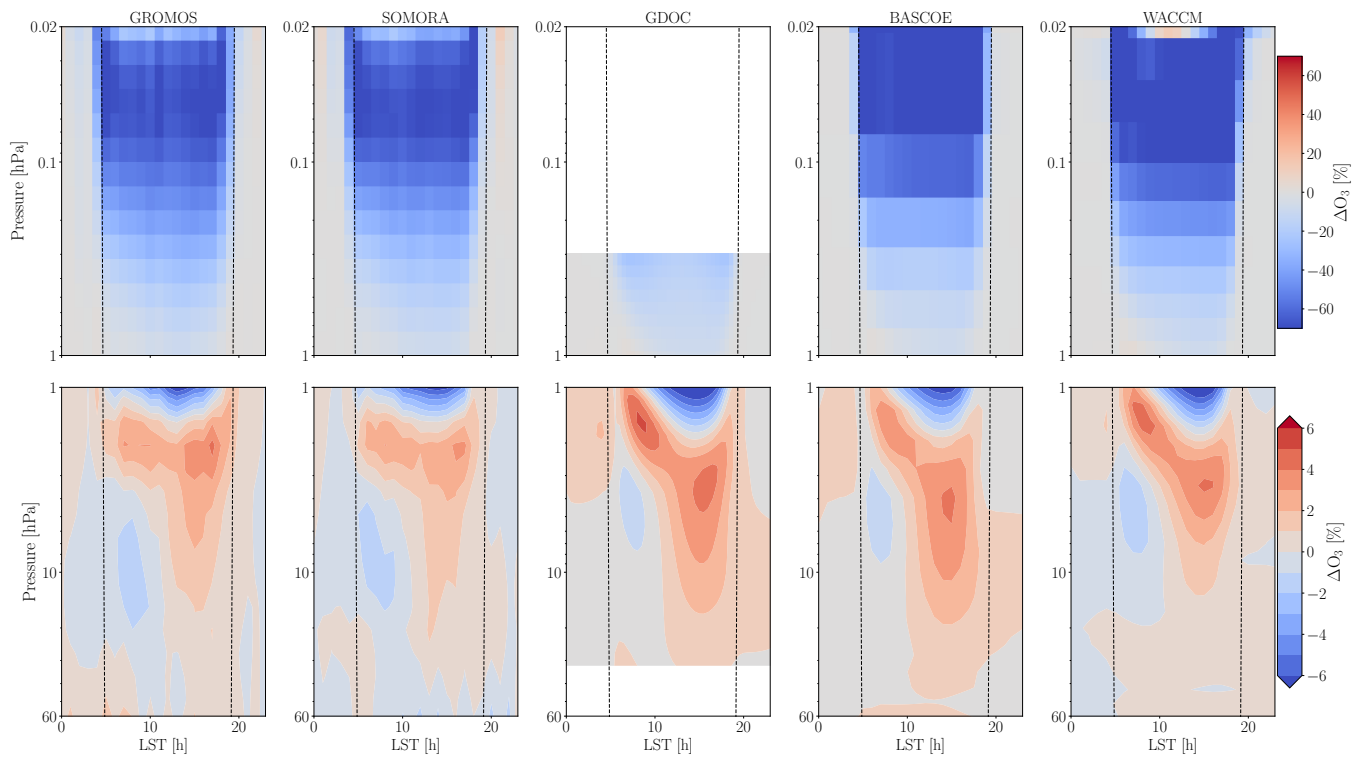

Figure S7. Same as Figure S5 but for March.
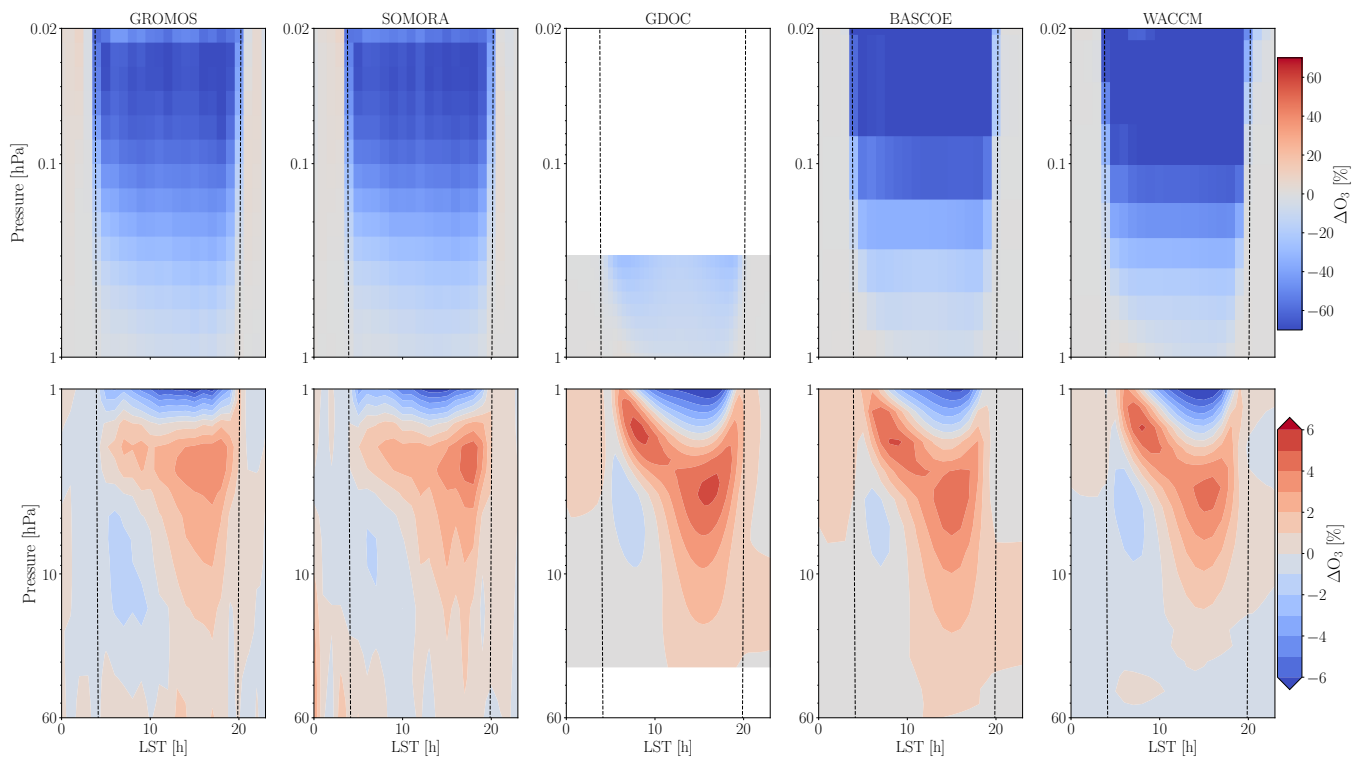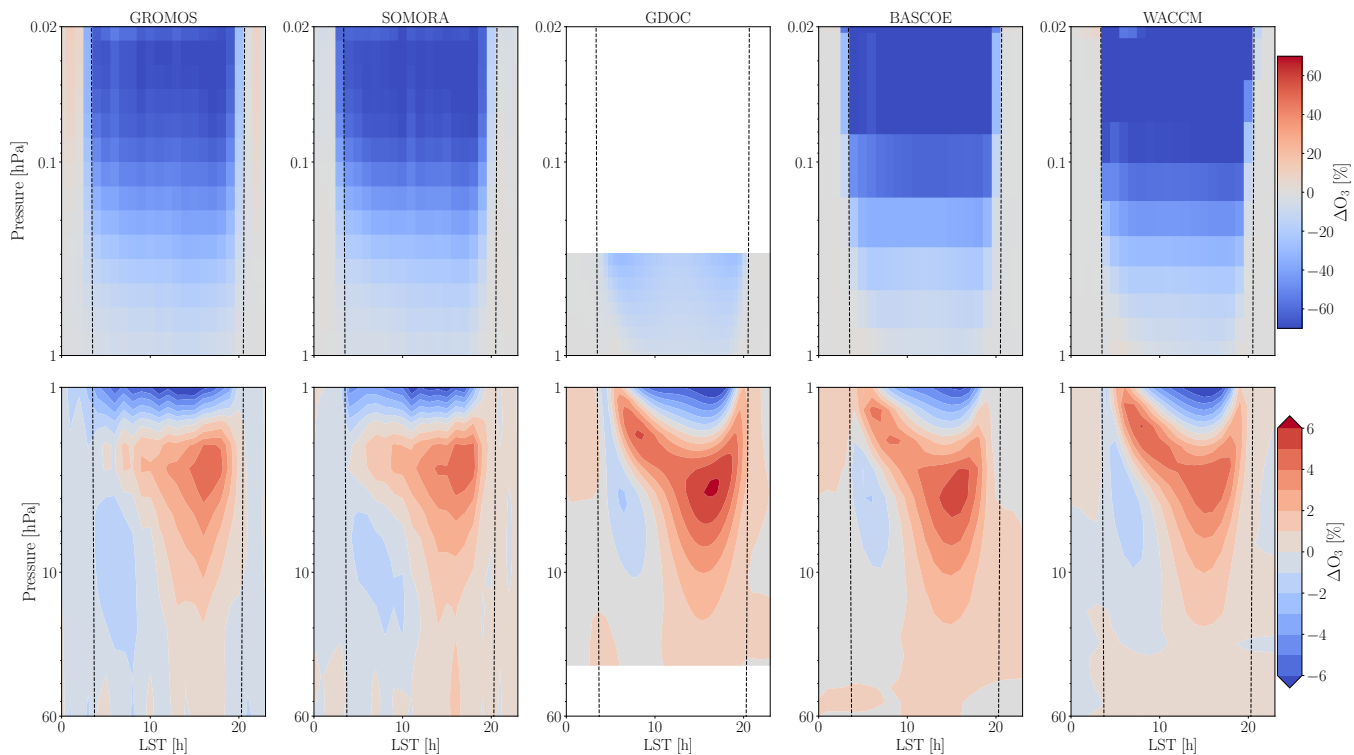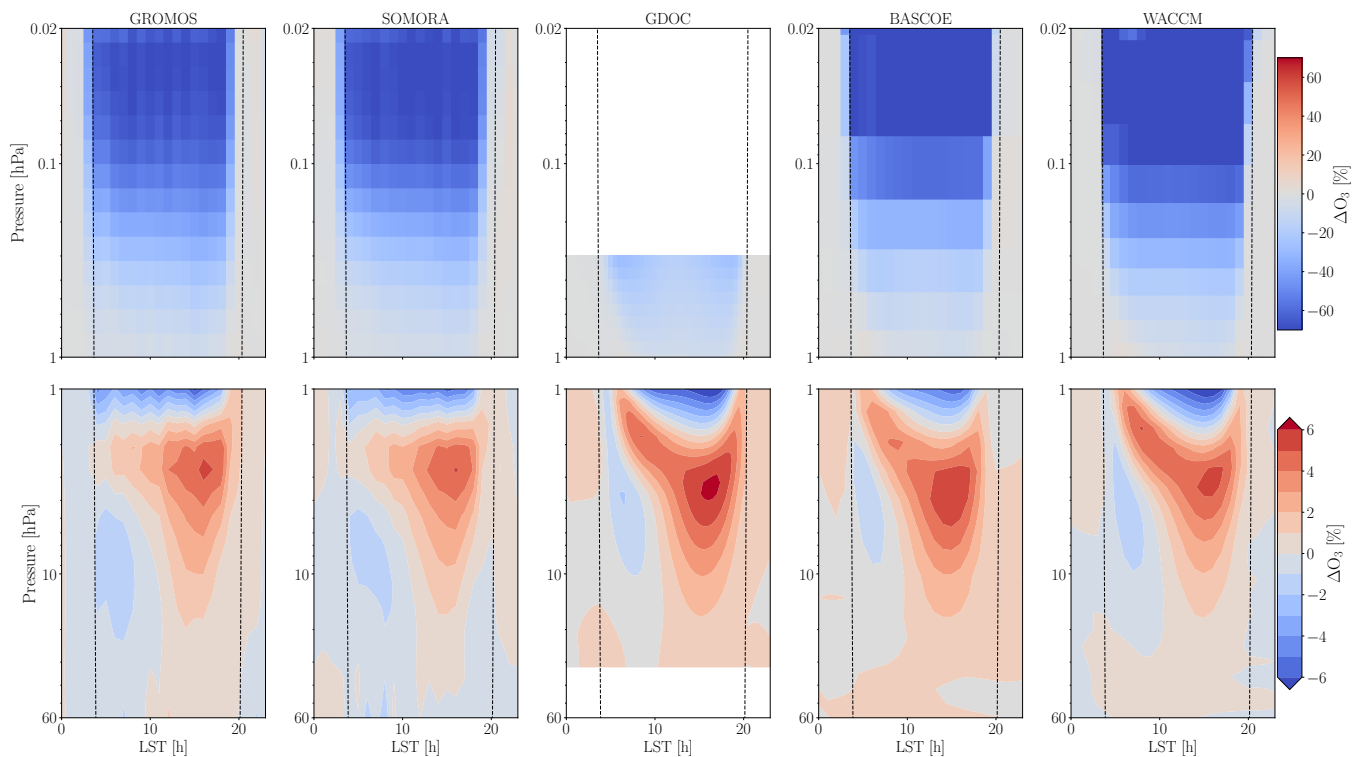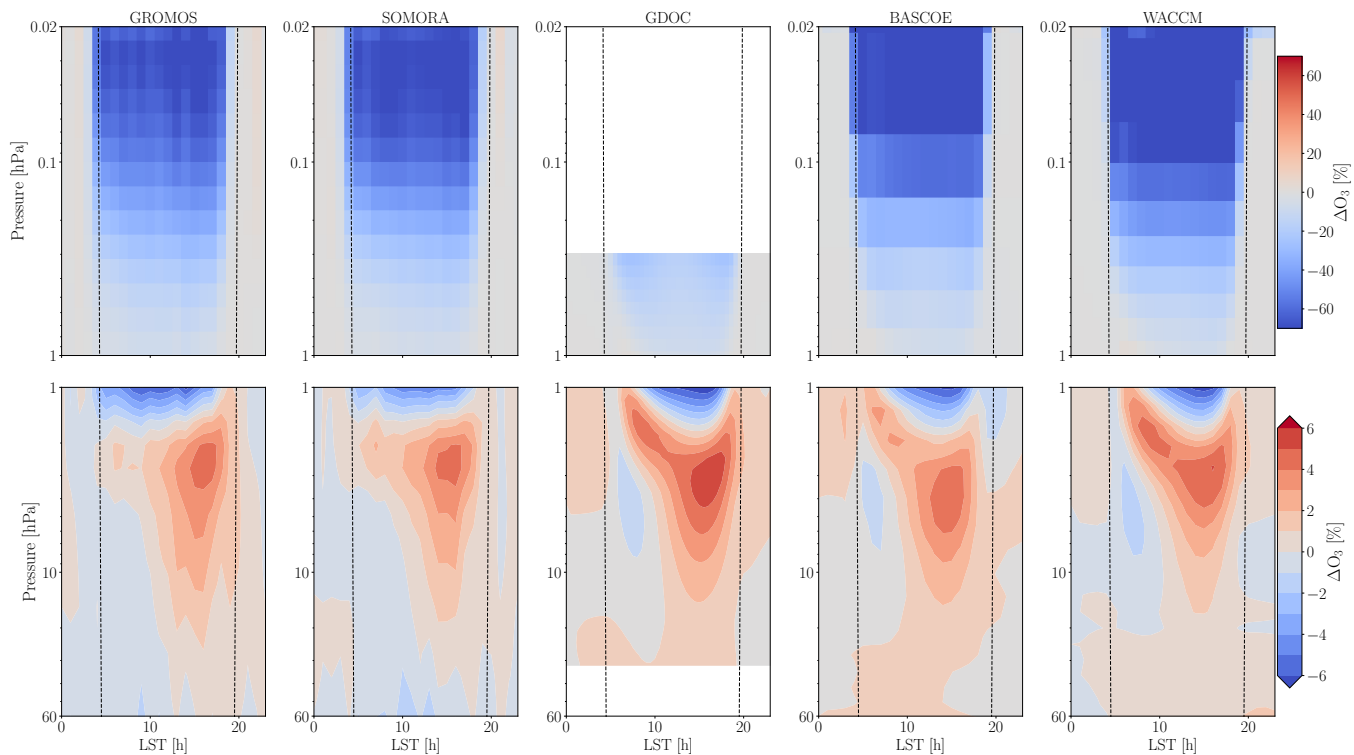
Figure S8. Same as Figure S5 but for April.

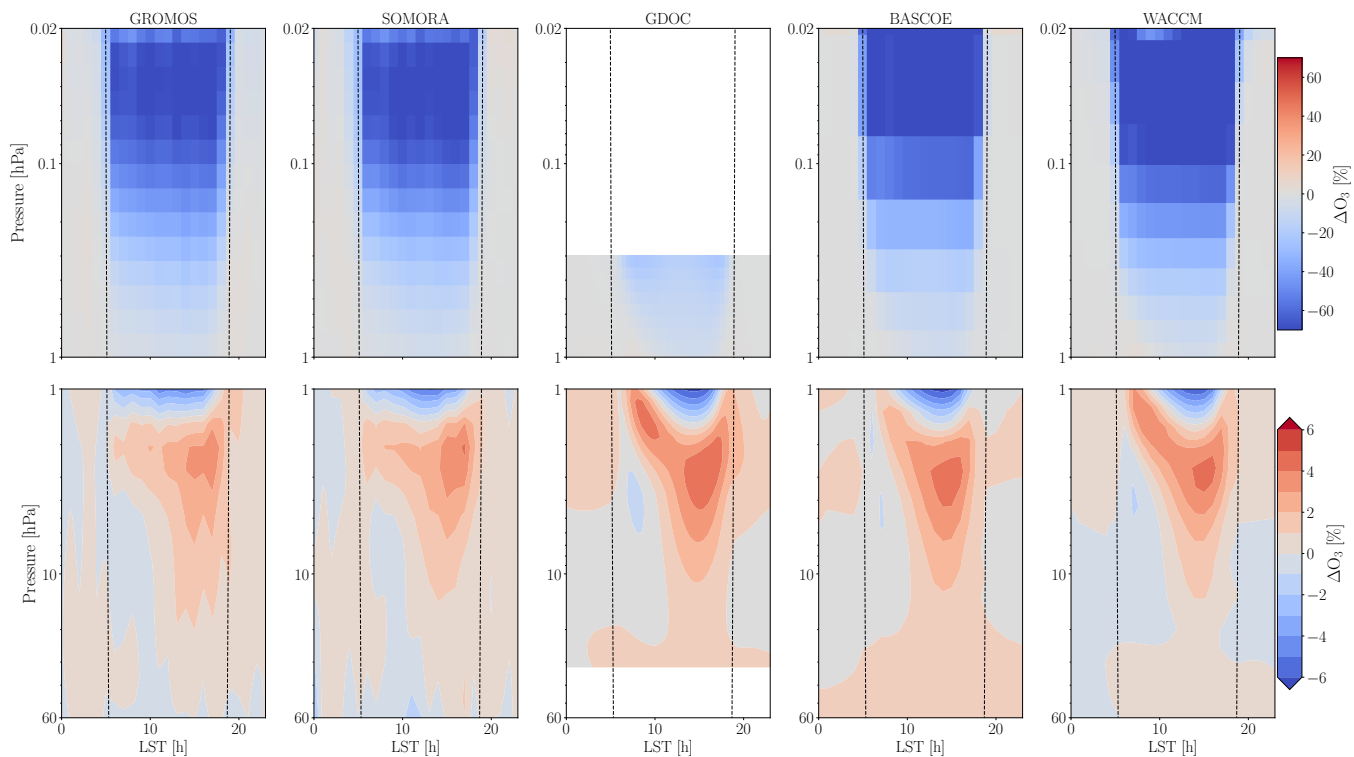**Figure S9.** Same as Figure S5 but for May.

Figure S10. Same as Figure S5 but for June.

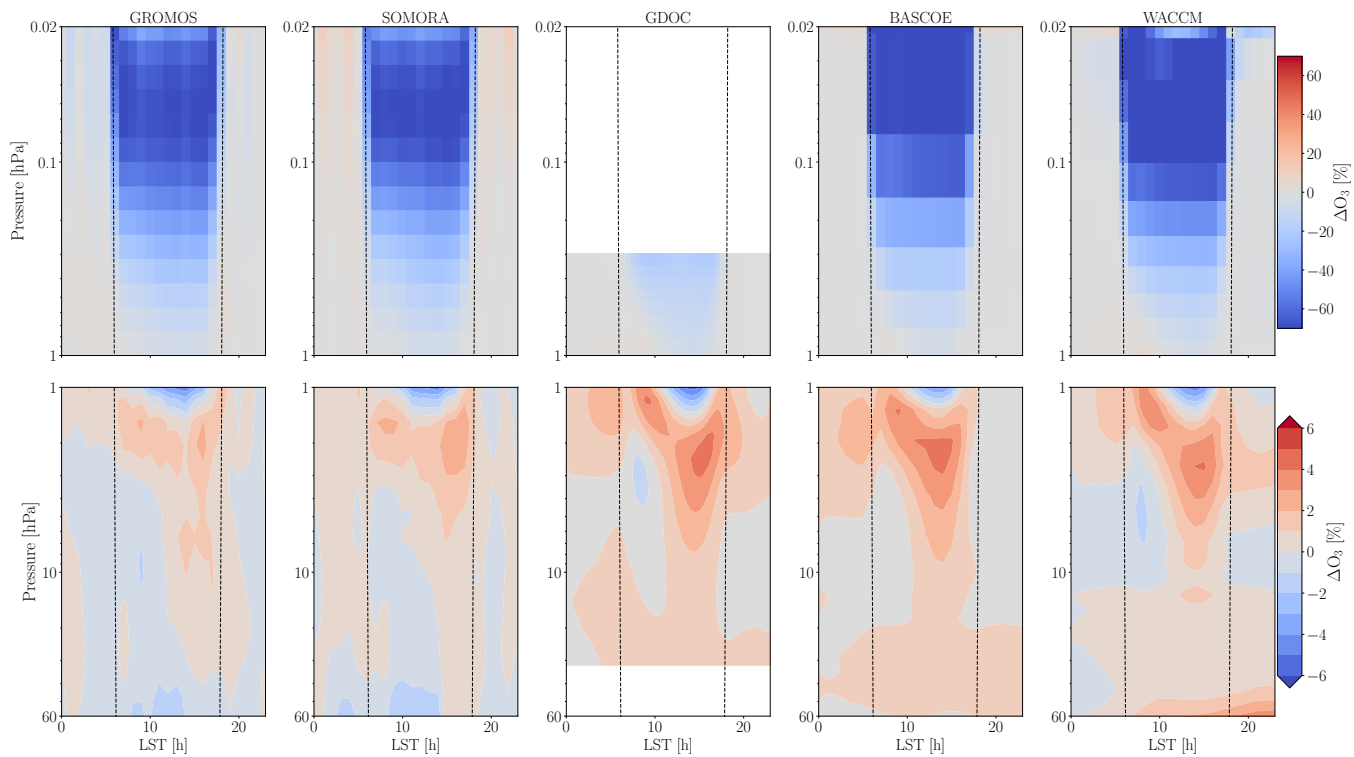**Figure S11.** Same as Figure S5 but for July.

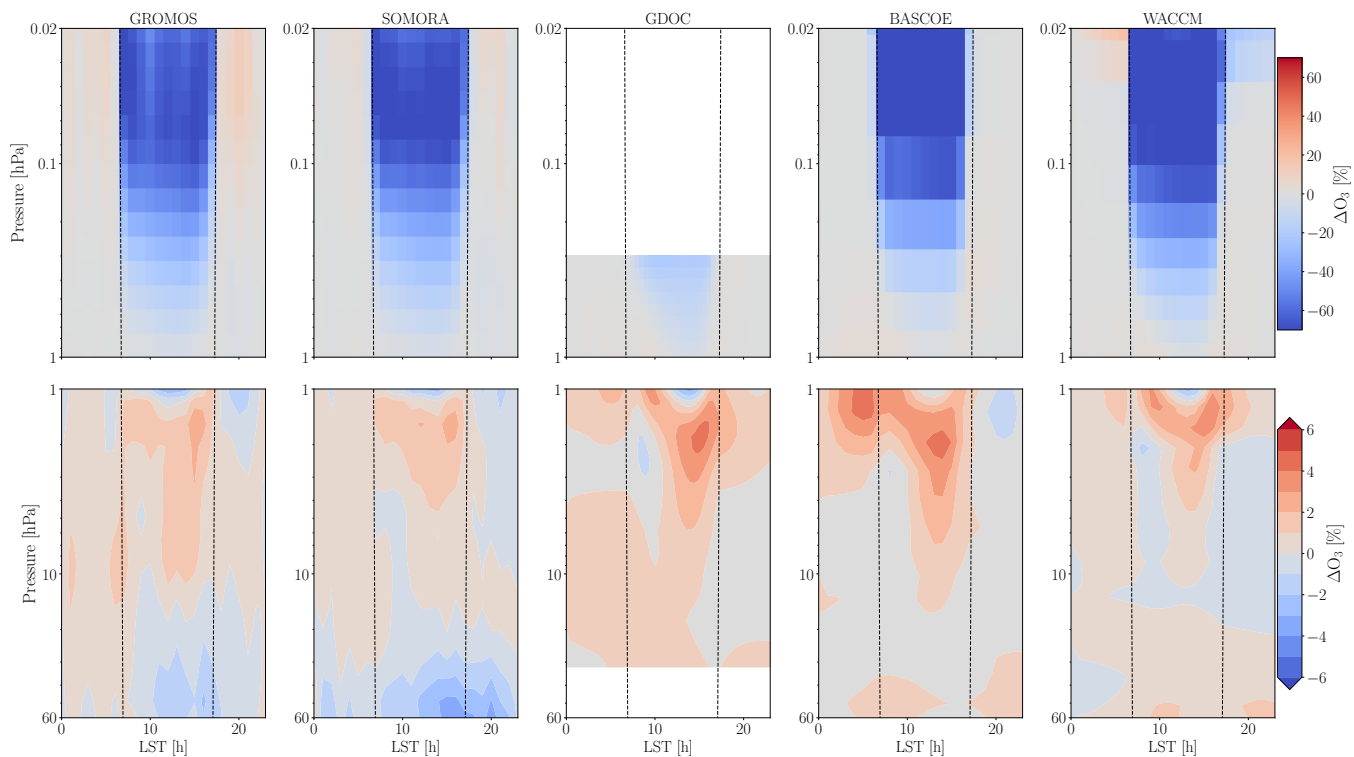**Figure S12.** Same as Figure S5 but for August.

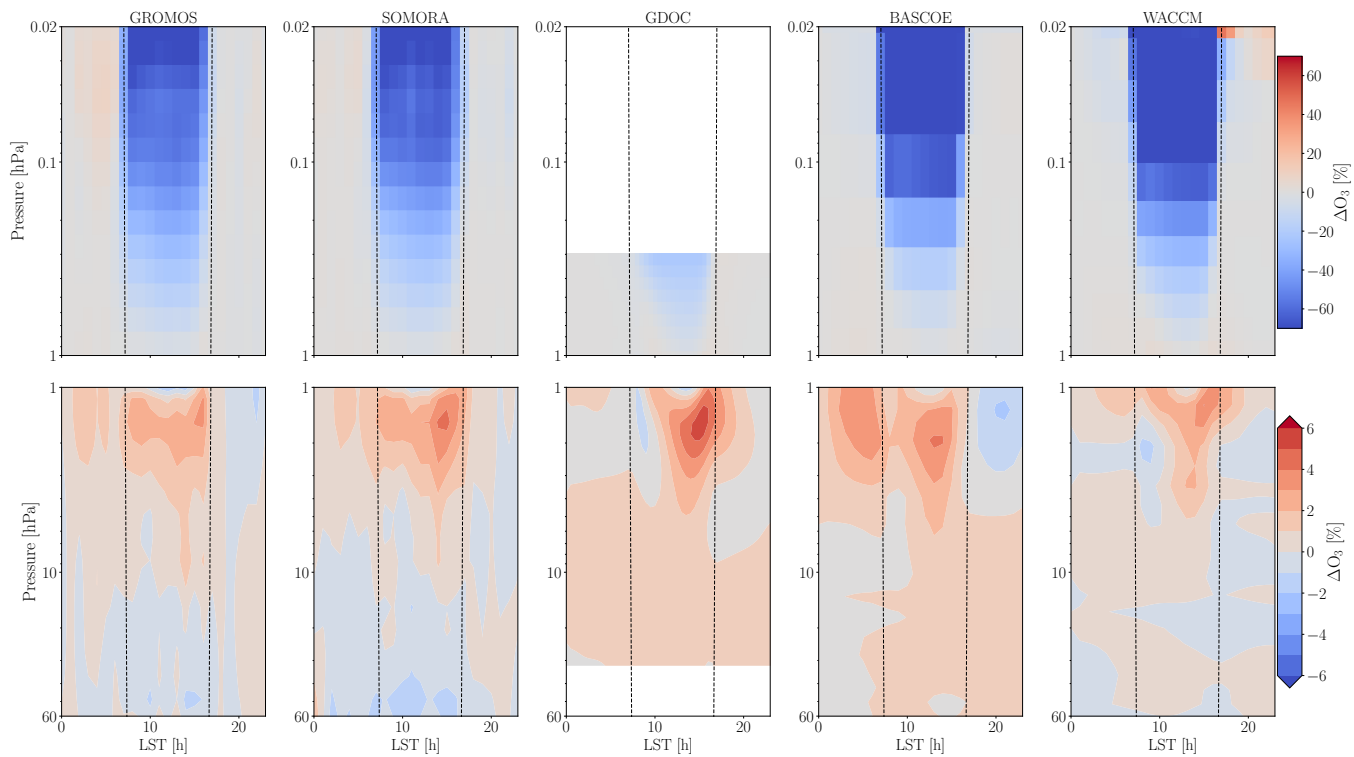**Figure S13.** Same as Figure S5 but for September.

Figure S14. Same as Figure S5 but for October.

Figure S15. Same as Figure S5 but for November.

Figure S16. Same as Figure S5 but for December.