

Fig. S1. Fingerprint of annual anomalies of the meteorological, soil water, and carbon exchange measurements compared to the averaged values shown in Fig. 1 and 2 of the main text. For each day of the year air temperature ( $T_{\text{air}}$ ), incoming global radiation ( $R_g$ ), vapour pressure deficit (VPD), soil water potential (SWP), and gross primary productivity (GPP) are plotted in function of time of the day.

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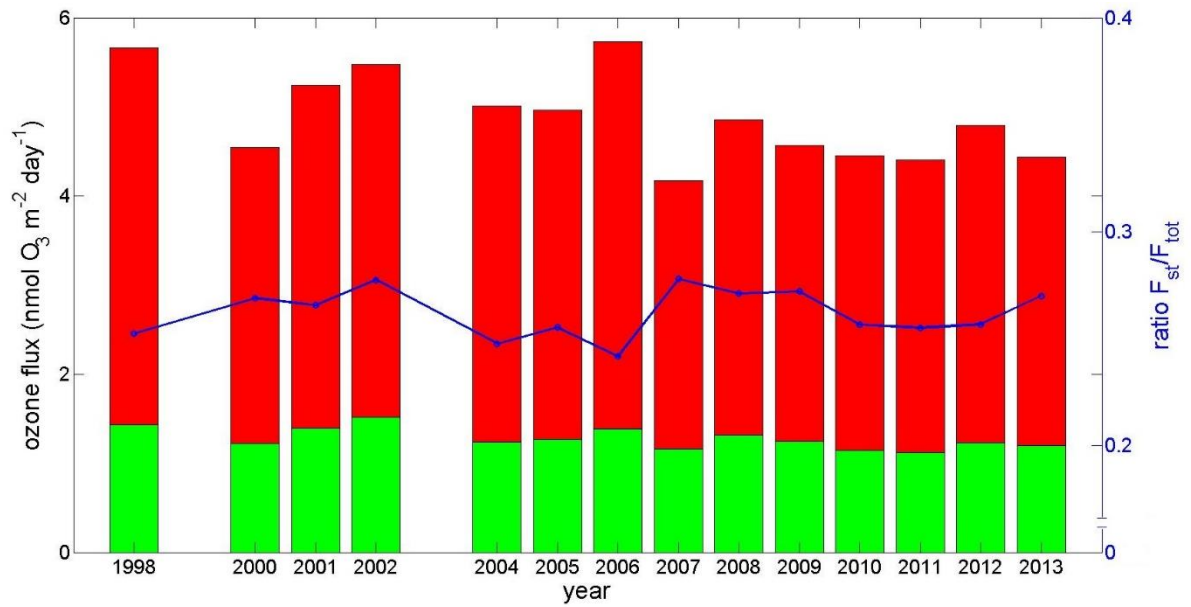
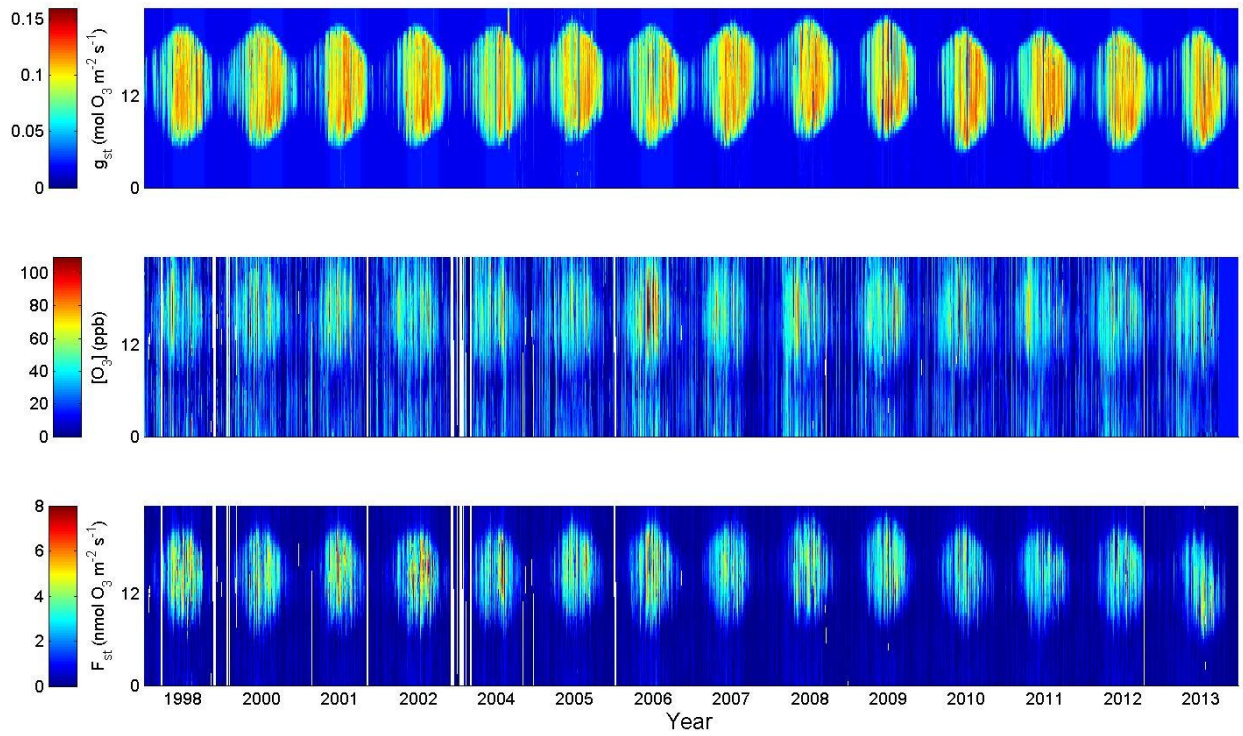


Fig. S2. Average daily  $O_3$  flux during the growing season and ratio of stomatal versus total ozone flux ( $F_{\text{st}}/F_{\text{tot}}$ ) for each year. The height of the bars represents the average total  $O_3$  flux. The green part of the bar is the stomatal  $O_3$  flux, whereas the red part is the non-stomatal  $O_3$  flux. The ratio  $F_{\text{st}}/F_{\text{tot}}$  is represented by the blue line.



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Fig. S3. Fingerprints of stomatal conductance ( $g_{st}$ ), ozone mixing ratio ( $[\text{O}_3]$ ), and stomatal  $\text{O}_3$  uptake ( $F_{st}$ ). Day of year is plotted on the x-axis and hour of day on the y-axis.

Fig. S4. (a, b, c) The measured growing season GPP as function of total stomatal  $O_3$  flux ( $F_{st}$ ), AOT40, and  $POD_1$ .

15 PLA = projected leaf area. (d, e, f, g) Time series of measured growing season GPP,  $F_{st}$ , AOT40, and  $POD_1$ .

