Supplemental figures

Novel triple O₂-sensor aquatic eddy covariance instrument with improved time-shift correction reveals central role of microphytobenthos for carbon cycling in coral reef sands

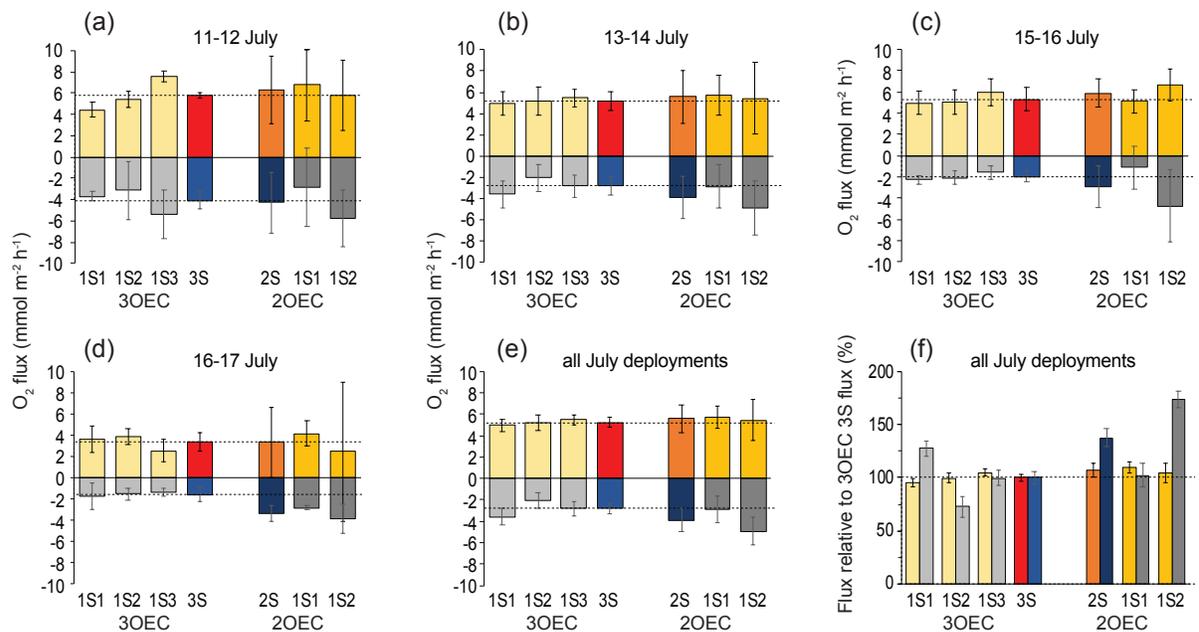Alireza Merikhi, Peter Berg, Markus Huettel

Figure S5a. (a-d) Comparison on the average fluxes based on individual sensors and sensor averages for the 3OEC and 2OEC for the 4 depolyment days (error bars SD) and (e) the fluxes averaged over all days (av, error bars SE). (f) normalized 1S fluxes and 2S flux relative to the 3OEC 3S flux, which was set to 100% (all S, T, and W- corrected, error bars SE). Yellow columns: 3OEC daytime 1S fluxes, light grey columns: 3OEC nighttime 1S fluxes, red columns: 3OEC daytime 3S flux, blue columns: 3OEC nighttime 3S flux, orange columns: 2OEC daytime 1S fluxes, dark grey columns: 2OEC nighttime 1S fluxes, brown columns: 2OEC daytime 2S flux, dark blue columns: 2OEC nighttime 2S flux.
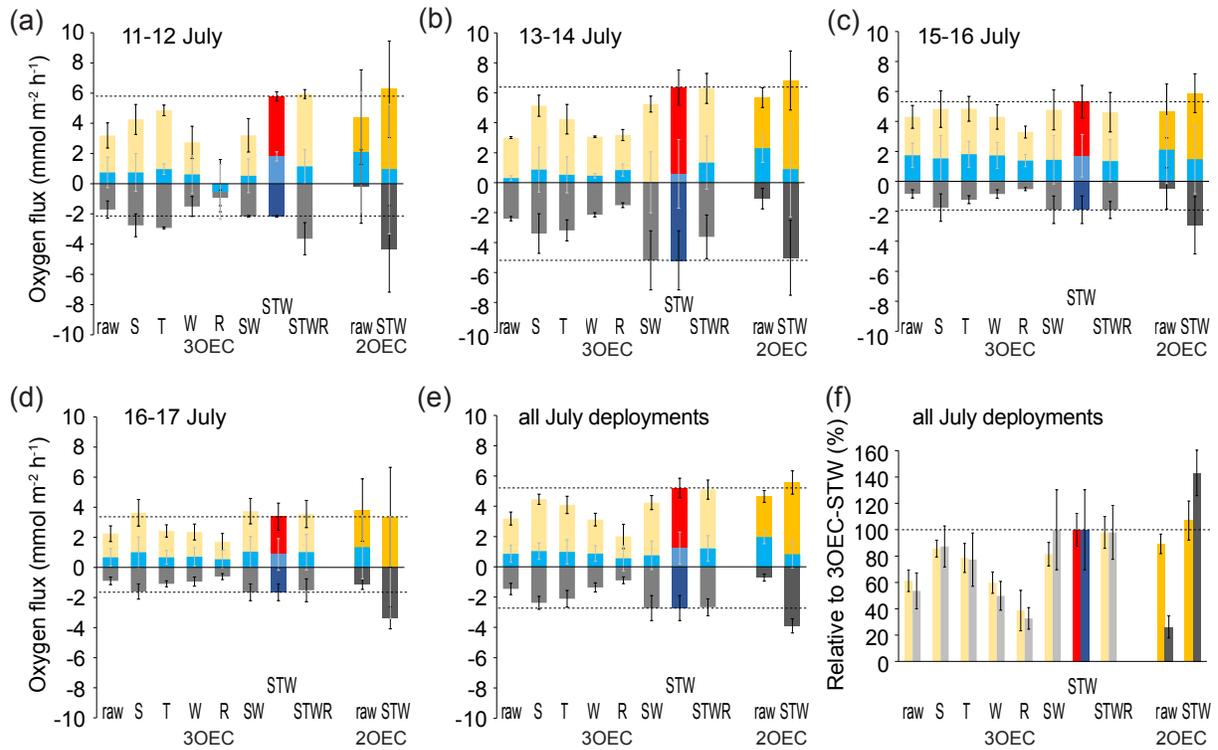
Figure S5b. Fluxes caclulated by averaging the sensor signals (3OEC: 3S, 2OEC: 2S) and the effects of corrections on daytime (yellow), nighttime (grey) and 24h fluxes (light blue). (a-d) fluxes for the 4 deployments (error bars SD) in July 2017, and (e) fluxes averaged over all days (error bars SE). (f) percentual differences between the 3OEC STW-corrected average fluxes and average fluxes with no correction or different corrections recorded with the 3OEC and the 2OEC (error bars SE). raw: not corrected, S: Storage-corrected, T: Time shift-corrected, W: Wave rotation-corrected, R: Rotation-corrected, SW, STW, STWR are combinations of the above corrections. Column color coding as listed in legend for Fig. S5a.