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*Supplement of*

# Marine isoprene production and consumption in the mixed layer of the surface ocean – a field study over two oceanic regions

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# Supplement

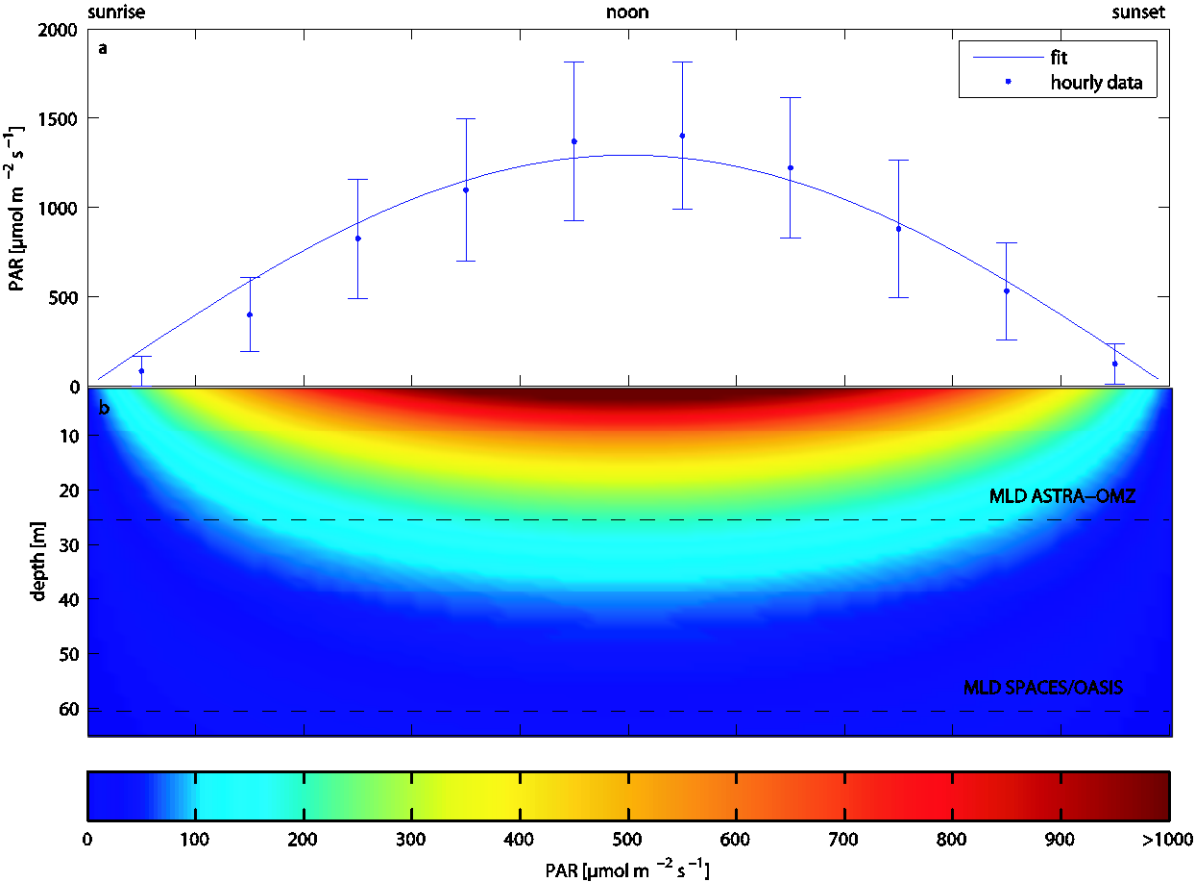


**Figure S1: Example for above and in-water radiation. (a) Data points represent hourly radiation measurements (converted from W $m^{-2}$ into photosynthetic active radiation (PAR, µmol $m^{-2}$ $s^{-1}$) as described in paragraph 2.6) from the ship (mean values ± standard deviation from all cruises), blue line is the fitted data using a sine function. (b) Underwater mean calculated PAR over the course of a day depending on depth by applying the attenuation coefficient $K_d$PAR and Beer-Lambert's law. Dashed line represents mean mixed layer depth (MLD) for each cruise.**

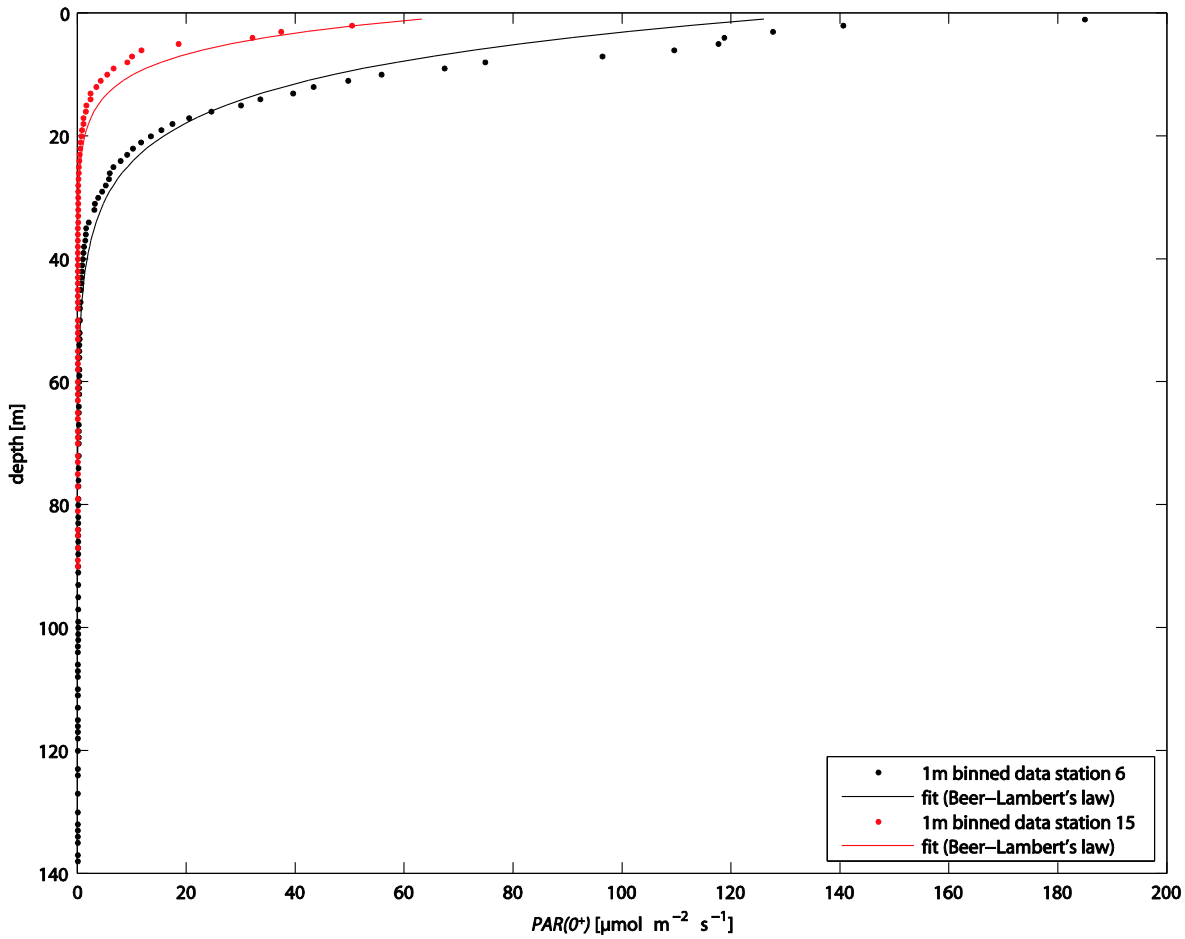


**Figure S2: Example of two *PAR(0⁺)* depth profile measurements during ASTRA-OMZ. Data points are 1m binned data of station 6 (black) and station 15 (red). The line is calculated from *PAR(0⁺)* by applying Beer-Lambert's law using a mean attenuation coefficient $K_dPAR$ obtained from all $E_dPAR(0^+)$ depth profile measurements during OASIS and ASTRA-OMZ.**

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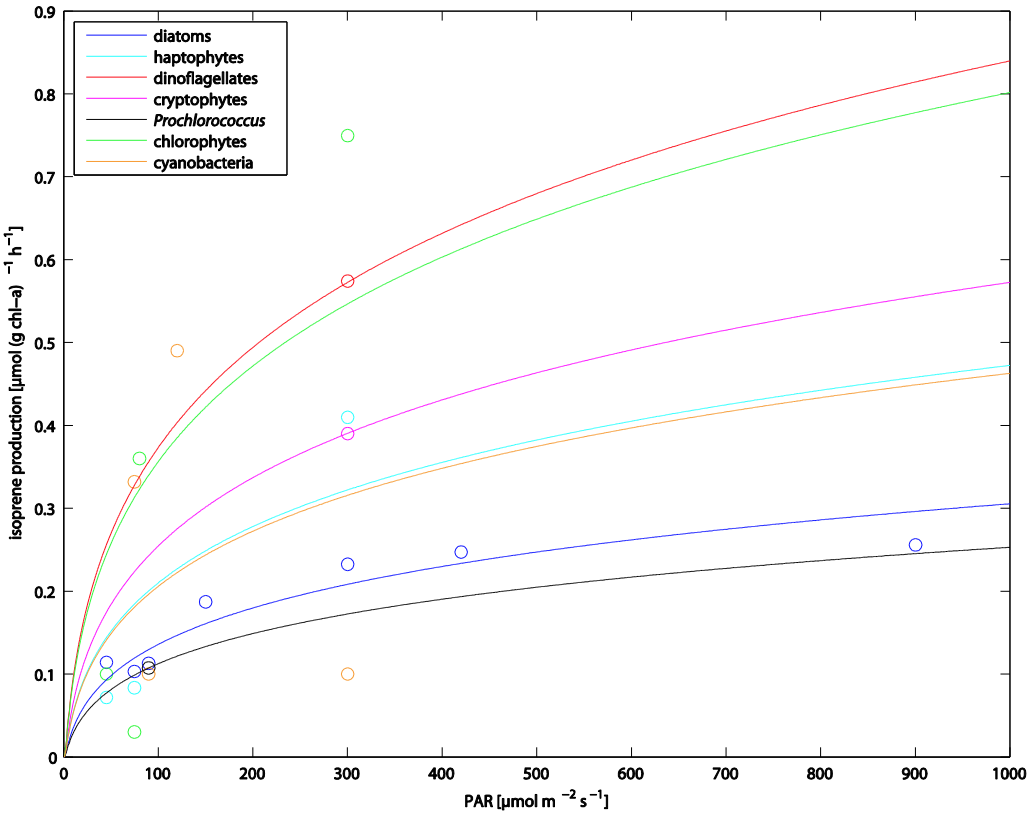


**Figure S3: Single literature laboratory chl-a normalized isoprene production rates $P_{chloro}$ (µmol isoprene (g chl-a)$^{-1}$ h$^{-1}$) (Table 2) as a log squared function of light intensity $I$ (µmol m$^{-2}$ s$^{-1}$).**

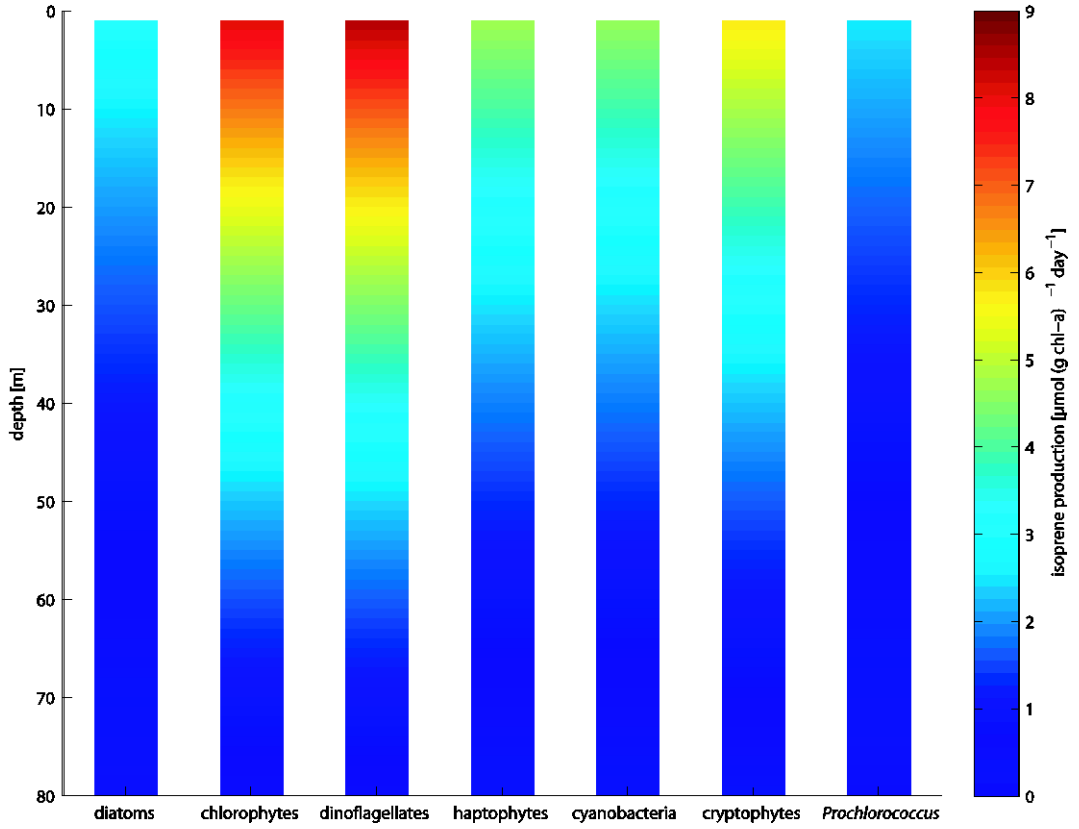


**Figure S4: Example of calculated $P_{chloro}$ values (µmol isoprene (g chl-a)$^{-1}$ day$^{-1}$) for each PFT at station 9 during SPACES depending on the depth in the water column.**

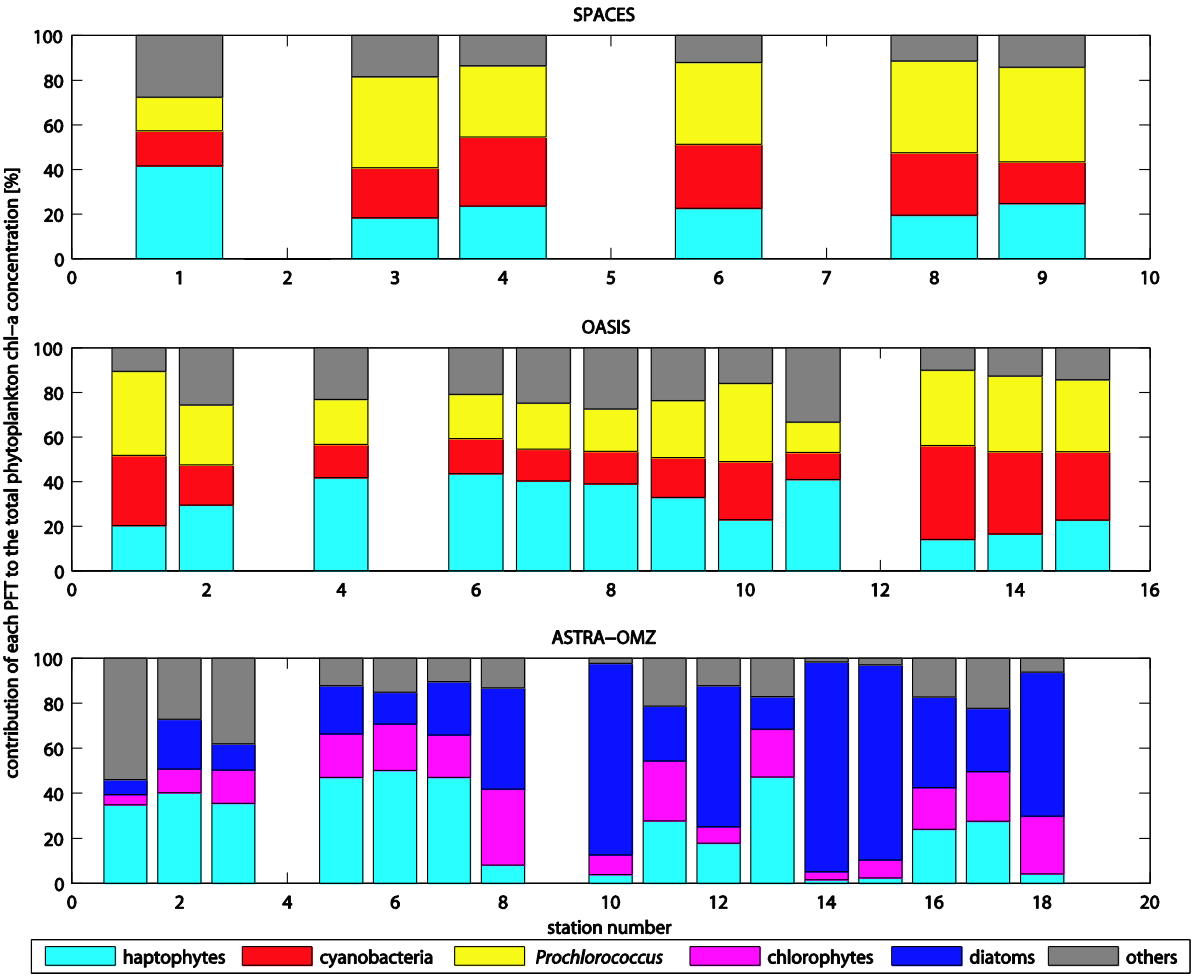


**Figure S5: Contribution of each of the three most abundant PFTs to the total phytoplankton chl-a concentration at each station during SPACES (upper panel), OASIS (middle panel), and ASTRA-OMZ (bottom panel).**