



Supplement of

Global distribution and variability of subsurface chlorophyll \boldsymbol{a} concentrations

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Figure S1. Data distribution of Chl-*a* concentrations from (a) bottle samples, (b) CTD fluorescence, (c) underway CTD fluorescence, (d) profiling floats, (e) glider, and (f) drifting buoys.



Figure S2. (a) Number of the Chl-*a* data and (b) number of eliminated data in each bin (every 0.1 mg/m³ in $< 3 \text{ mg/m}^3$ and all the rest) of concentration and depth.



Figure S3. Seasonal evolution of chlorophyll a (Chl-a) concentrations with the Chl-a maximum from bottle sampled data (black cross), 0.415 mol-quanta/m²/day of photosynthetically available radiation (magenta dot), 1 µmol/kg of nitrate (green open circle), and mixed layer (black solid line) at (a) 2°S to 2°N, 120–170°E (western tropical Pacific), (b) 2°S to 2°N, 120–90°W (eastern tropical Pacific), (c) 30–40°N, 150-130°W (midlatitude North Pacific), (d) 10–30°N, 120°E to 120°W (subtropical North Pacific), (e) 15–30°N, 70–30°W (subtropical North Atlantic), (f) 30–10°S, 50–0°W (subtropical South Atlantic), (g) 40–55°N, 160°E to 155°W (subarctic North Pacific), (h) 50–70°N, 30–0°W (subarctic North Atlantic), and (i) 60–45°S (Southern Ocean).



Figure S4. As Figure S3 but using data from profiling floats.