

Response to editor's correction

We corrected the manuscript according to the editor's correction.

>Line 465: Several modelling...REF NEEDED HERE

We have found a modelling study that estimated contribution of vertically migrating phytoplankton to primary production (Witz and Lan Smith, 2020). Several modelling studies have reported effects and characteristics of vertically migrating phytoplankton on their growth and vertical distribution (not primary production). Therefore, we corrected as follows.

Line 465-467: A modelling study estimated that vertically migrating phytoplankton contributes 7% of net primary production at the subarctic gyre of the western Pacific (Witz and Lan Smith, 2020).

We found a mistake in the unit of diffusive transport and corrected as follows.

Line 412: diffusive transport of NO_3^- were calculated to be $0.00022 - 0.0022 \mu \text{mol m}^{-2} \text{s}^{-1}$