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## Seamount effect of a deep seamount on phytoplankton in the tropical western Pacific

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It is generally believed that the enhancement of phytoplankton appears only in shallow and intermediate depth seamounts, while the phenomenon has also been observed in some deep seamounts by satellites recently. To figure out what effect do deep seamounts have on phytoplankton and the relevant mechanisms, the phytoplankton biomass and community on the Kocebu Seamount (depth: 1198 m) were studied. The results showed that high Chl *a* patches ( $> 0.2 \text{ mg}\cdot\text{m}^{-3}$ ) were mainly distributed within 20 km of the peak, and both nitrate and orthophosphate were obviously uplifted at the peak. The physical data indicated the uplifted of nutrients could be caused by the internal tides, which generated by the interaction of topography and tide. This is the first time that the promotion of phytoplankton was observed in situ on a deep seamount, and this study expounded relevant mechanisms and suggested that the ecological functions of deep seamounts may have been previously neglected.