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*Supplement of*

## **Influence of mesoscale eddies on the distribution of nitrous oxide in the eastern tropical South Pacific**

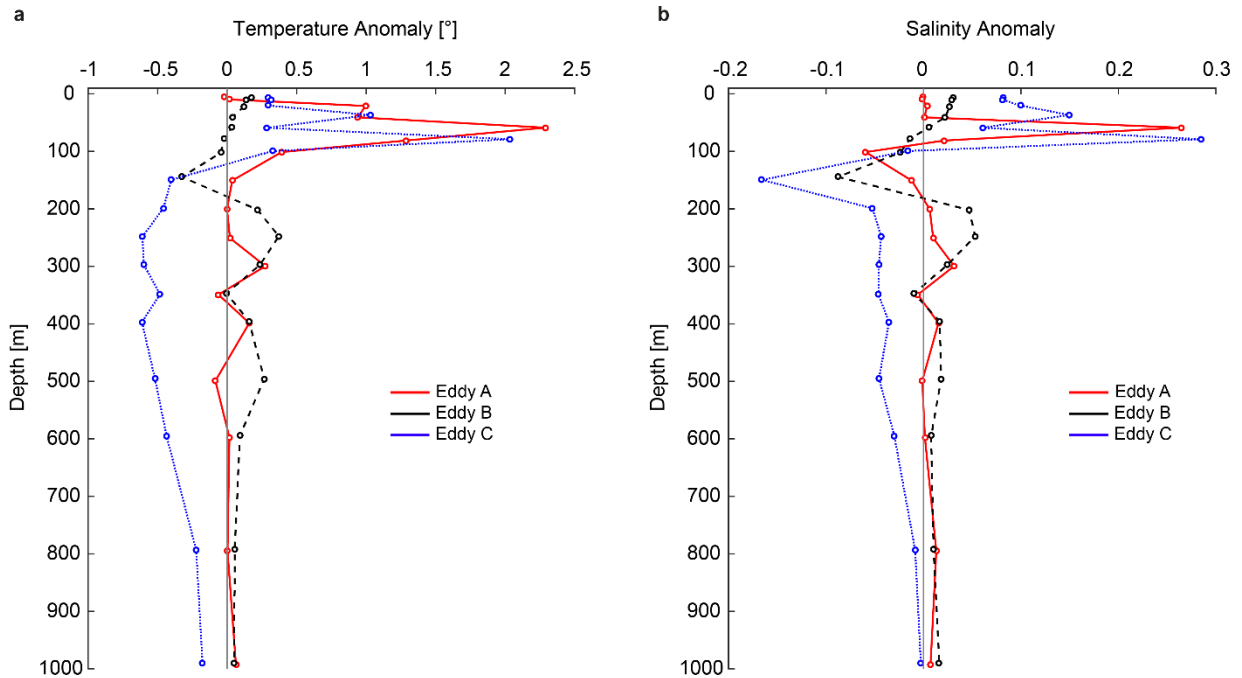
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# 1 Supplement

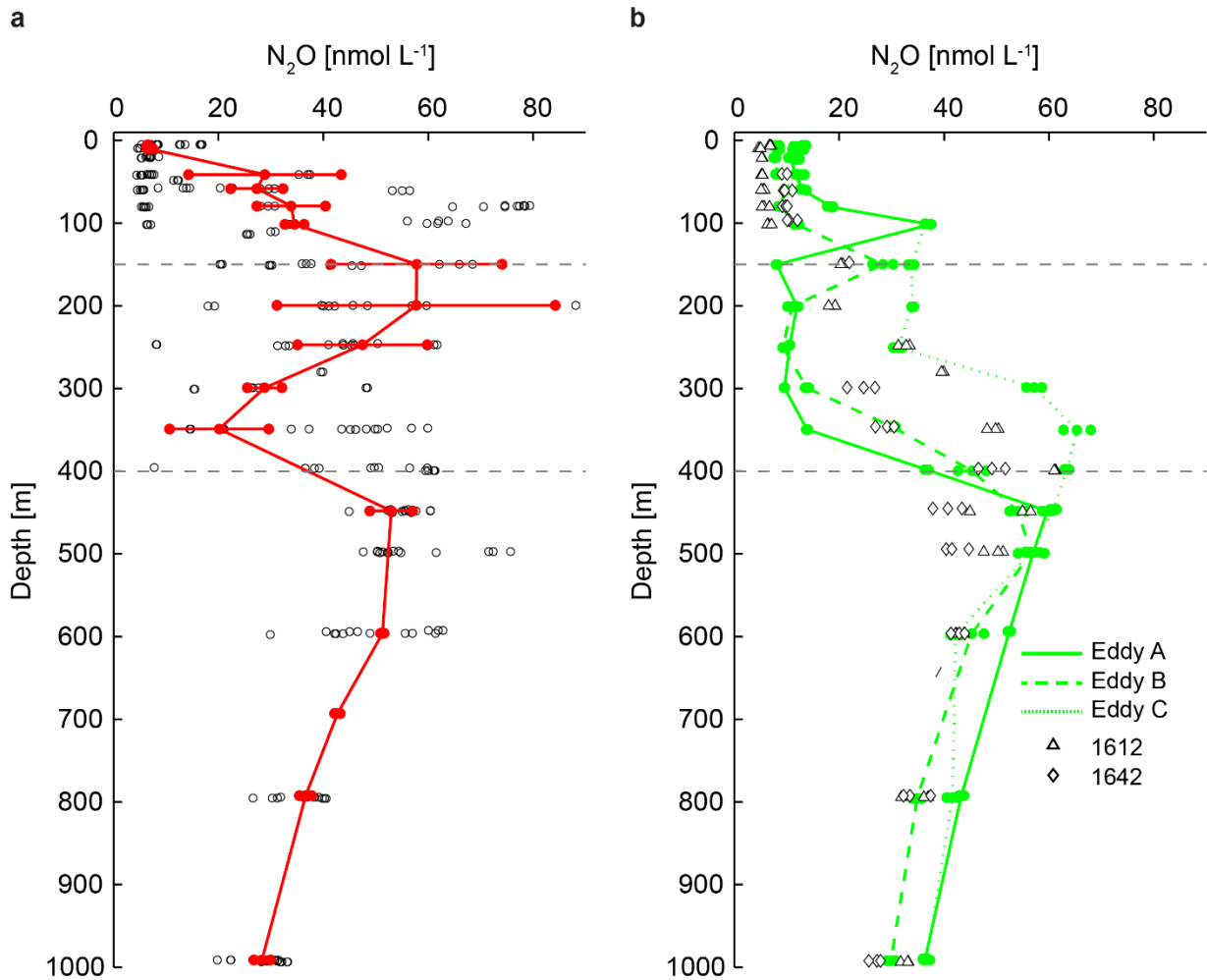
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5 Figure S1. Temperature (a) and salinity (b) core anomalies (for definition see main text) from  
6 selected depth profiles across the mode water eddies A (red lines), B (black lines), and the  
7 cyclonic eddy C (blue lines) during the M90 cruise in November 2012. The name and location of  
8 the sampling stations used to compute the anomalies is indicated in Figs. 1 and 3 of the main  
9 text.

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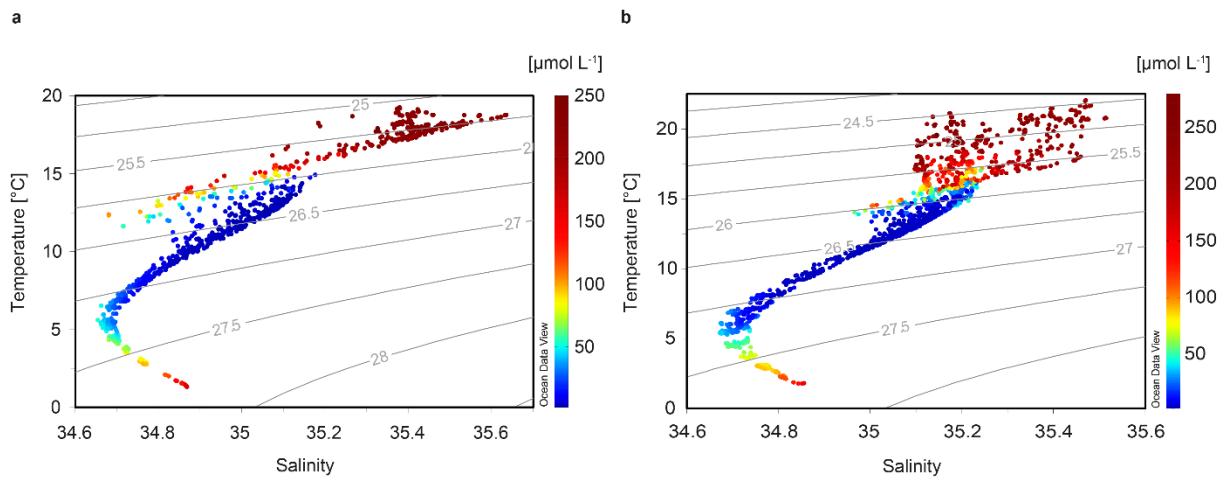
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19 Figure S2. Comparison of N<sub>2</sub>O distribution within the center of the eddies and background  
 20 conditions in the ETSP. In (a), the N<sub>2</sub>O concentrations from stations along the 86°W section (6°S  
 21 – 16°S; black circles) which were used to compute a mean open ocean profile (red lines/circles)  
 22 are shown. The red horizontal lines and dots in (a) indicate the standard deviation from the mean  
 23 profile (data from Kock et al. (2016)). In (b) the N<sub>2</sub>O concentrations of stations at the center of  
 24 eddies A, B, and C, as well as from stations 1612 (Δ) and 1642 (◇) (cf. Fig. 1) are shown. The  
 25 grey dashed lines in (a) and (b) indicate the depth range of the OMZ core (waters with O<sub>2</sub> < 5  
 26 μmol L<sup>-1</sup>).

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31 Figure S3. T-S diagrams from stations between about 15°S – 18°S and 86°W – 75°W (cf. Fig. 1)  
32 during the M90 (a) and M91 (b) cruises in December-November 2012. The color code  
33 corresponds to the measured O<sub>2</sub> concentrations.

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