

Supporting Information for “A parameterization of local and remote tidal mixing”

A. F. Waterhouse¹, B. Ferron², C. de Lavergne³, C. Vic², C. B. Whalen⁴, F. Roquet⁵, G. Madec^{3,6}, P. Bouruet-Aubertot³, T. Hibiya⁷, Y. Cuyppers³

¹Scripps Institution of Oceanography, University of California, La Jolla, California

²LOPS Laboratory, UBO-IFREMER-CNRS-IRD, Plouzané, France

³LOCEAN Laboratory, Sorbonne Université-CNRS-IRD-MNHN, Paris F-75005, France

⁴Applied Physics Laboratory, University of Washington, Seattle, Washington

⁵Department of Marine Sciences, University of Gothenburg, S-405 30 Gothenburg, Sweden

⁶LJK Laboratory, Université Grenoble Alpes-INRIA-CNRS, Grenoble, France

⁷Department of Earth and Planetary Science, Graduate School of Science, The University of Tokyo, Tokyo, Japan

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Introduction

This supporting information contains three figures. Figures S1 and S2 compare turbulence production estimated using the present tidal mixing parameterization and ship-based finestructure observations (Kunze 2017) along Pacific and Indian ocean transects. Figure S3 compares co-localized profiles of turbulence production derived from microstructure observations, finestructure observations and the present parameterization.

References

Kunze, E. (2017). Internal wave-driven mixing: global geography and budgets. *Journal of Physical Oceanography*, 47, 1325-1345. <https://doi.org/10.1175/JPO-D-16-0141.1>

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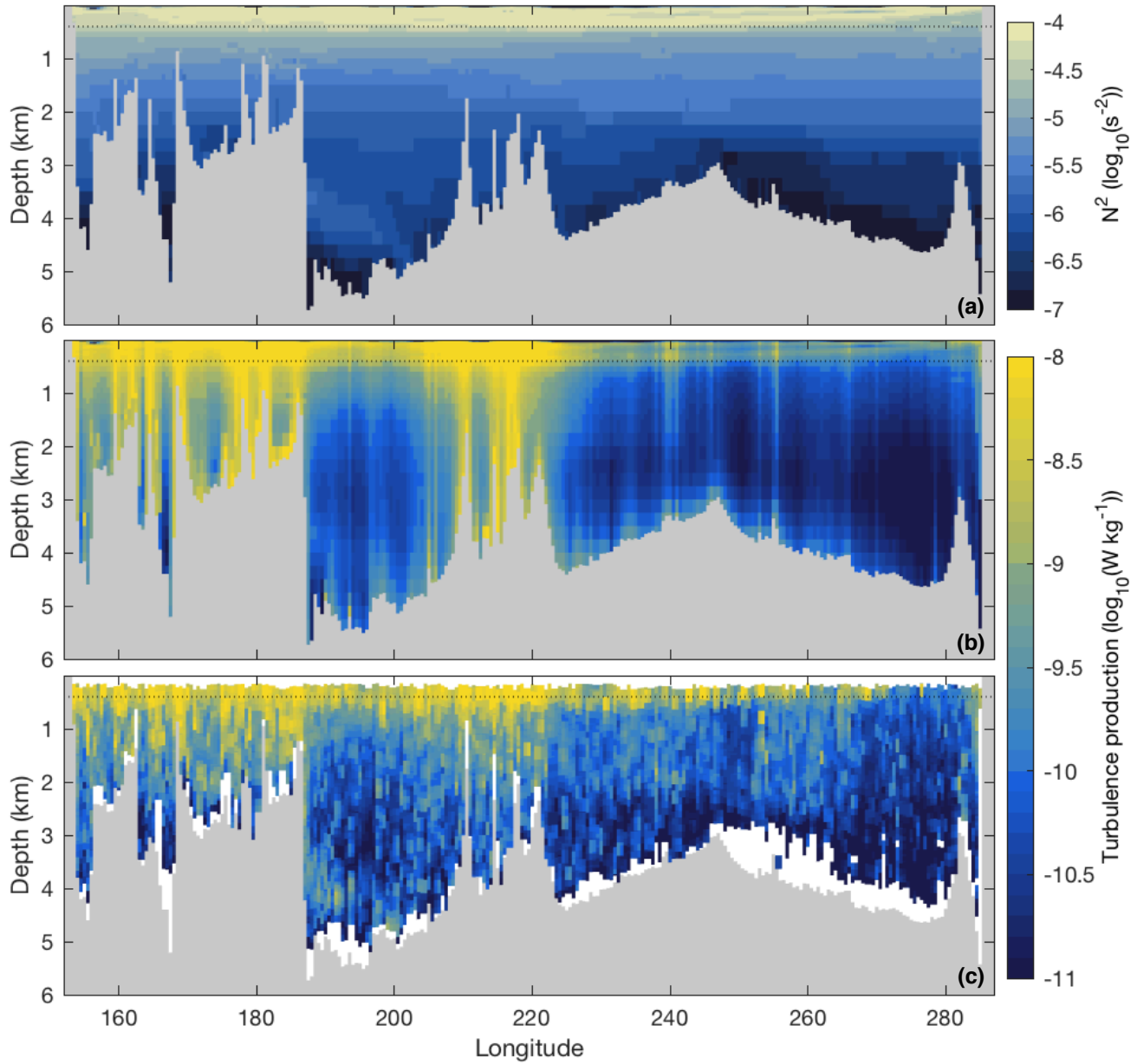


Figure S1. South Pacific transect (P21, near 17°S) of (a) climatological stratification, (b) parameterized turbulence production and (c) finestructure-inferred turbulence production (Kunze 2017). Transect location is shown in Fig. 7b.

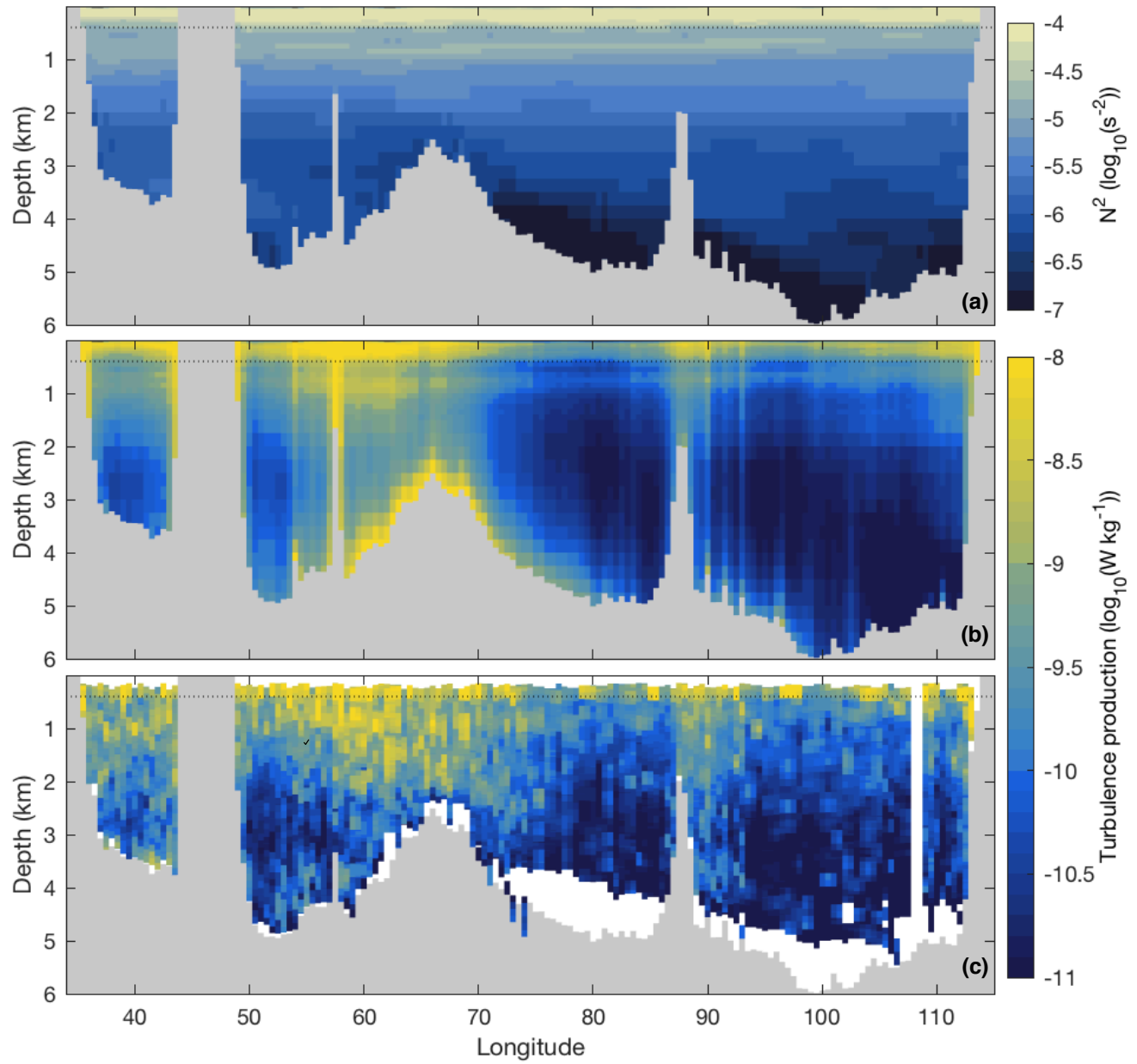


Figure S2. Indian Ocean transect (I03 and I04, near 20°S) of (a) climatological stratification, (b) parameterized turbulence production and (c) finestructure-inferred turbulence production (Kunze 2017). Transect location is shown in Fig. 7b.

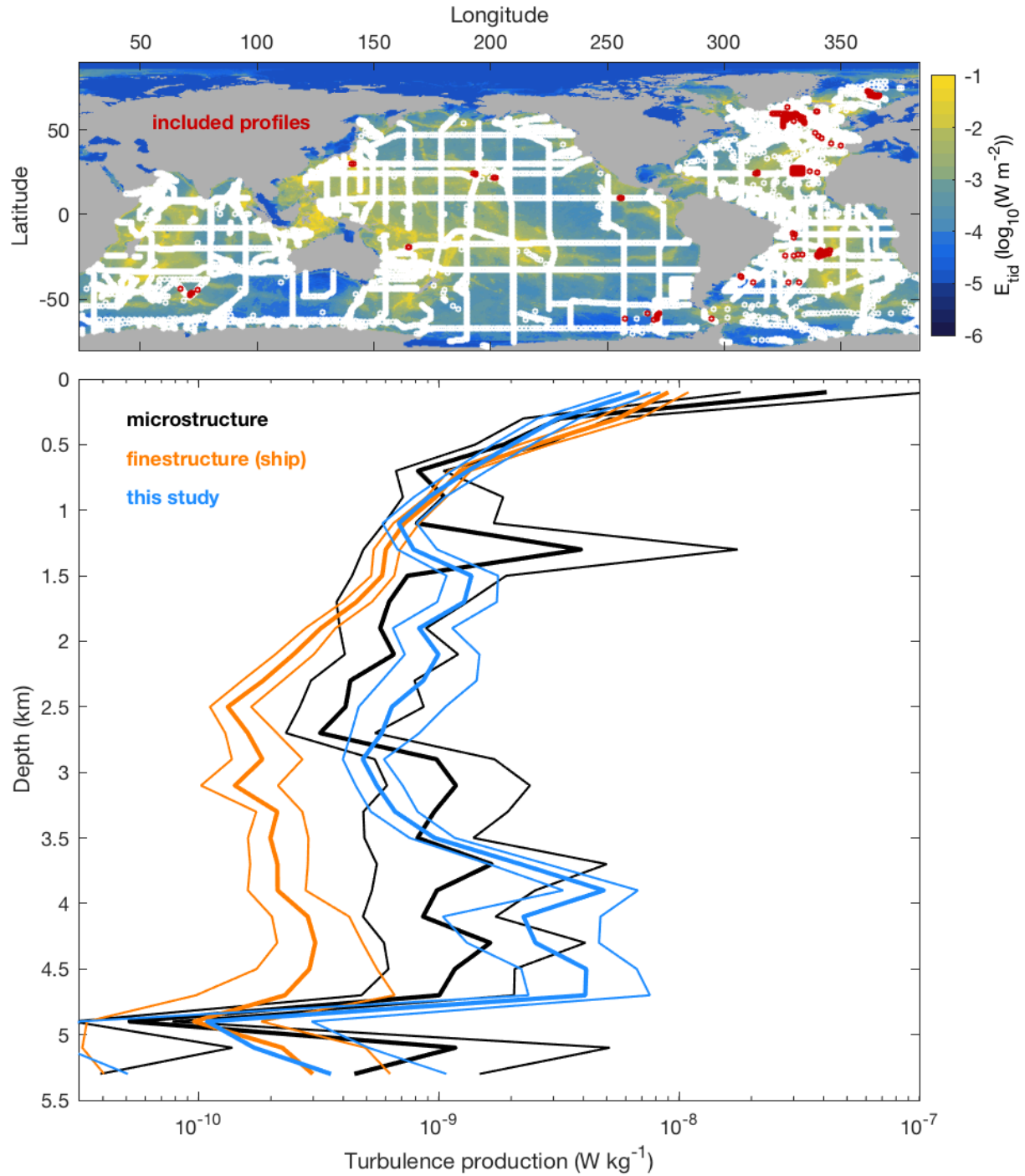


Figure S3. Comparison of turbulence production (black) measured by microstructure probes, (orange) inferred by Kunze (2017) and (blue) parameterized here. We first averaged finestructure and parameterized profiles located within 50 km of each microstructure cast. We thus obtained 525 profiles with defined microstructure, finestructure and parameterized values. If either of the three measures of turbulence is not defined at some depth, all three are set to not-a-number at this depth; this ensures that differences in coverage do not bias the comparison. Thick curves show the average over the 525 profiles. Thin curves enclose 95% confidence intervals from bootstrapping. The top panel shows in red the locations of the 525 profiles and in white the locations of all ship-based finestructure profiles, overlain on the shaded internal tide energy dissipation E_{tid} .