

On the porosity of barrier layers

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SUPPLEMENTARY MATERIAL

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A Online supplementary material

Fig. S.1. shows an example of observed thin (less than 10m) BLs to justify the criterion (2).

Fig. S.2., S.3., S.4. respectively correspond to Fig. 4, 5 and 6 for the 12 months of the year. Fig.

S.5. shows the monthly maps of BLT computed as in de Boyer Montégut et al. (2007) updated

with the data set used in this study.

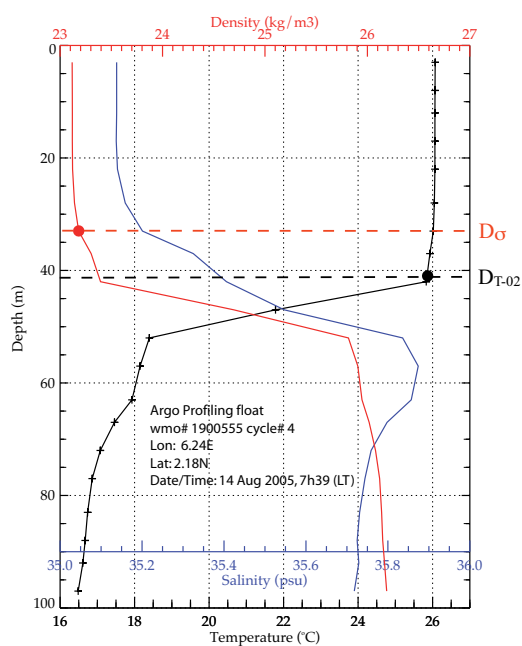


Fig. S.1.: as Fig. 1 for a ARGO profiler float on August 14th 2005 in the deep tropical Atlantic illustrating possible very thin (less than 10m) BLs. The one that is shown here is 7.5m thick.

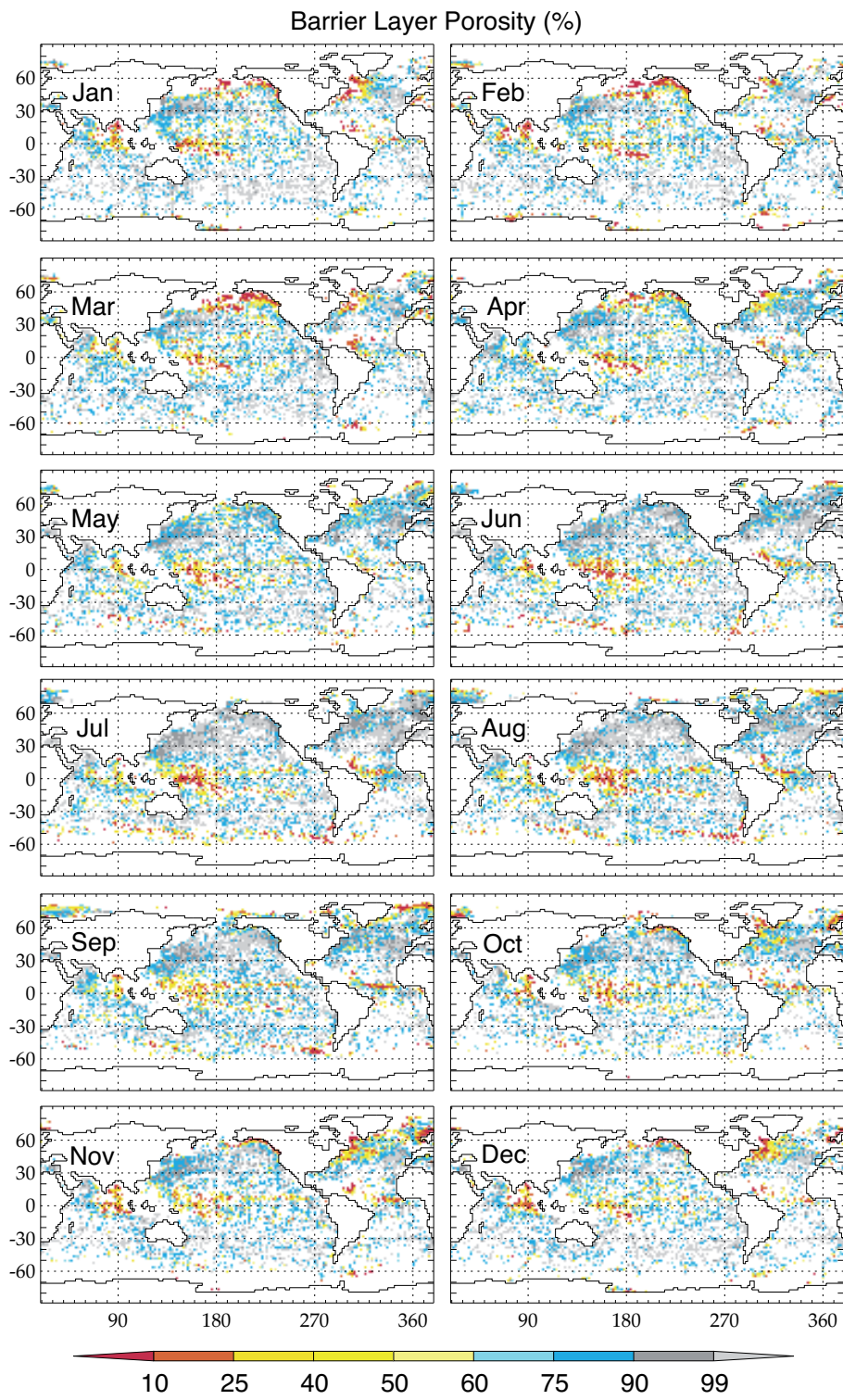


Fig. S.2.: as Fig. 4 for the 12 months of the year

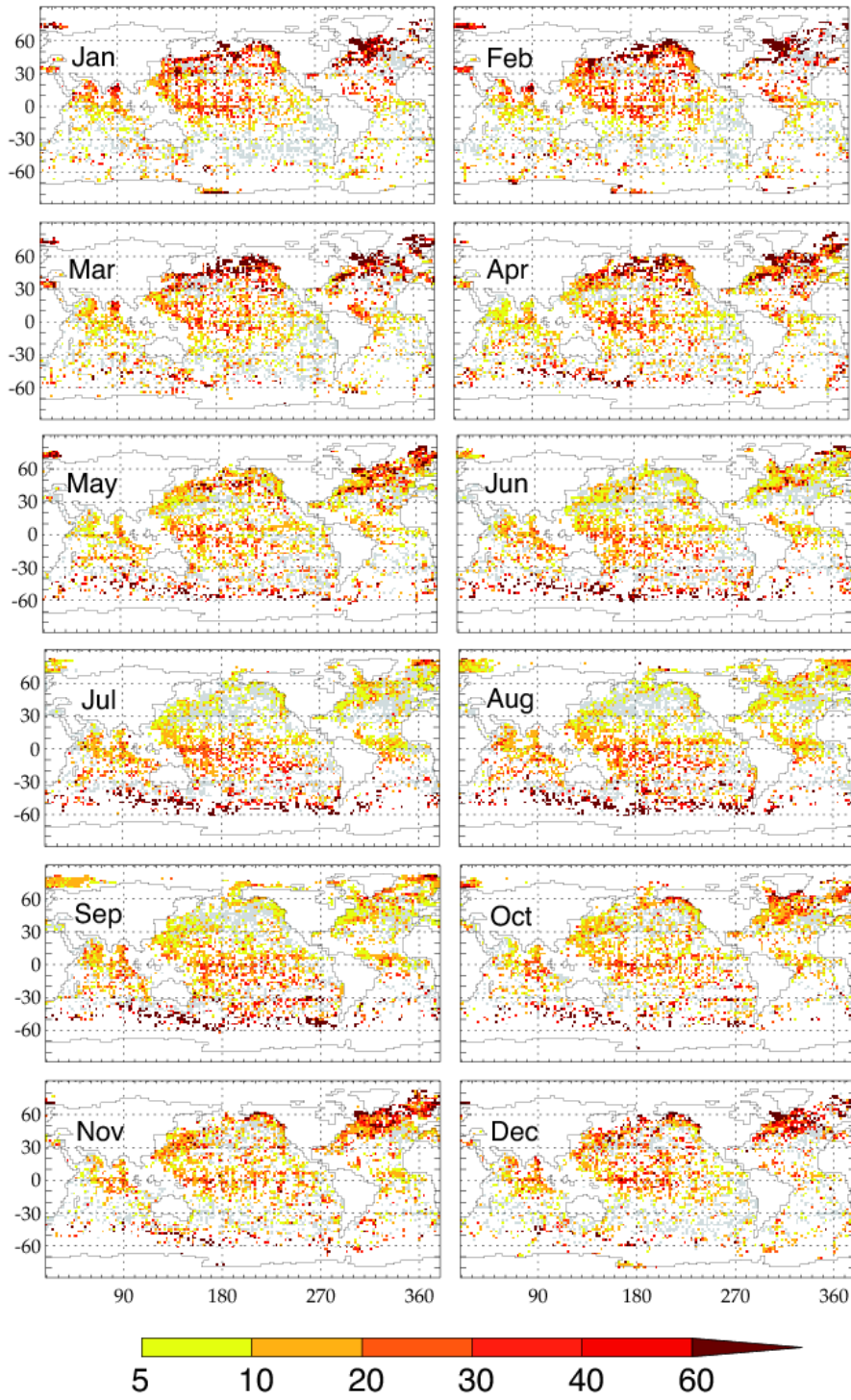


Fig. S.3.: as Fig. 5 for the 12 months of the year

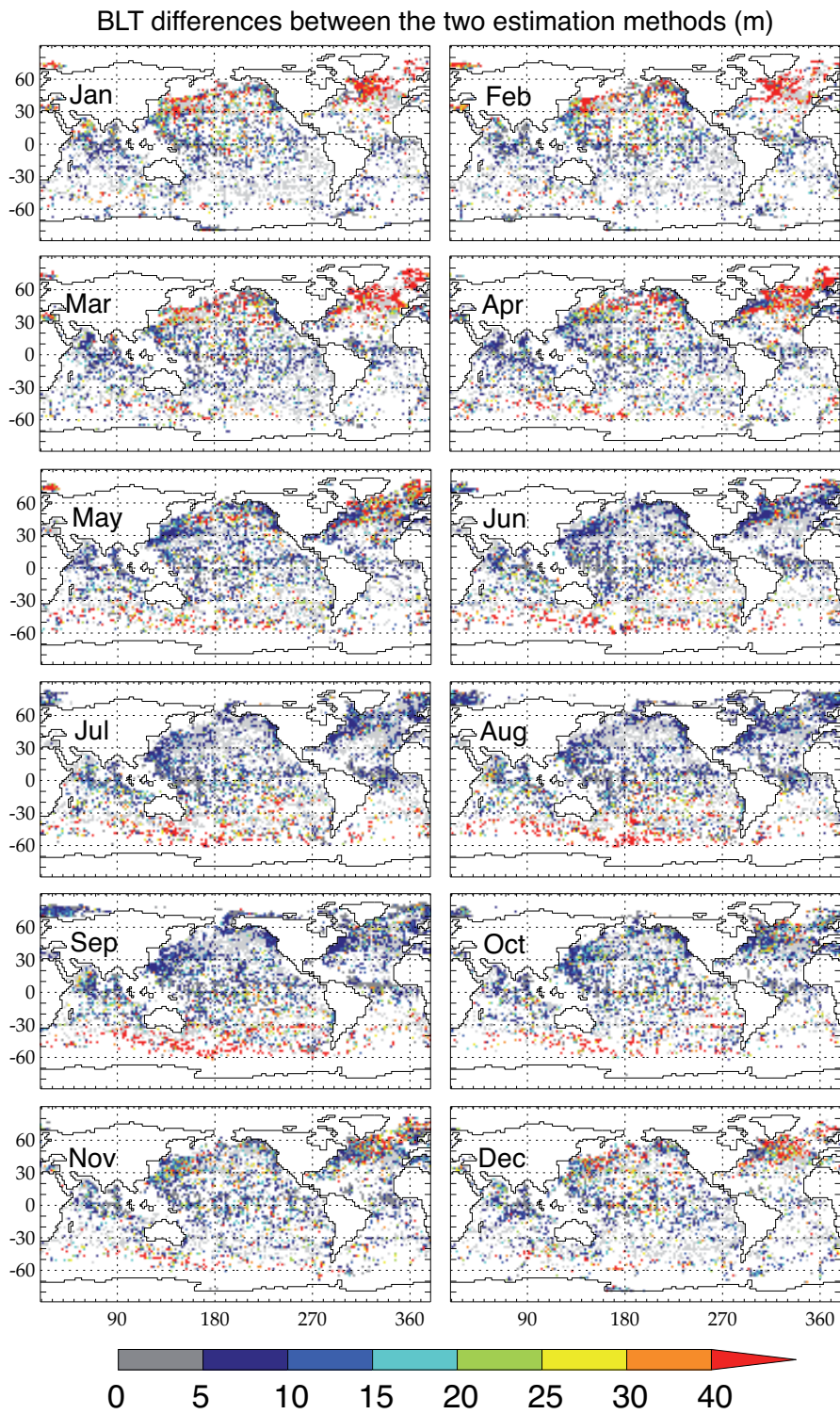


Fig. S.4.: as Fig. 6 for the 12 months of the year

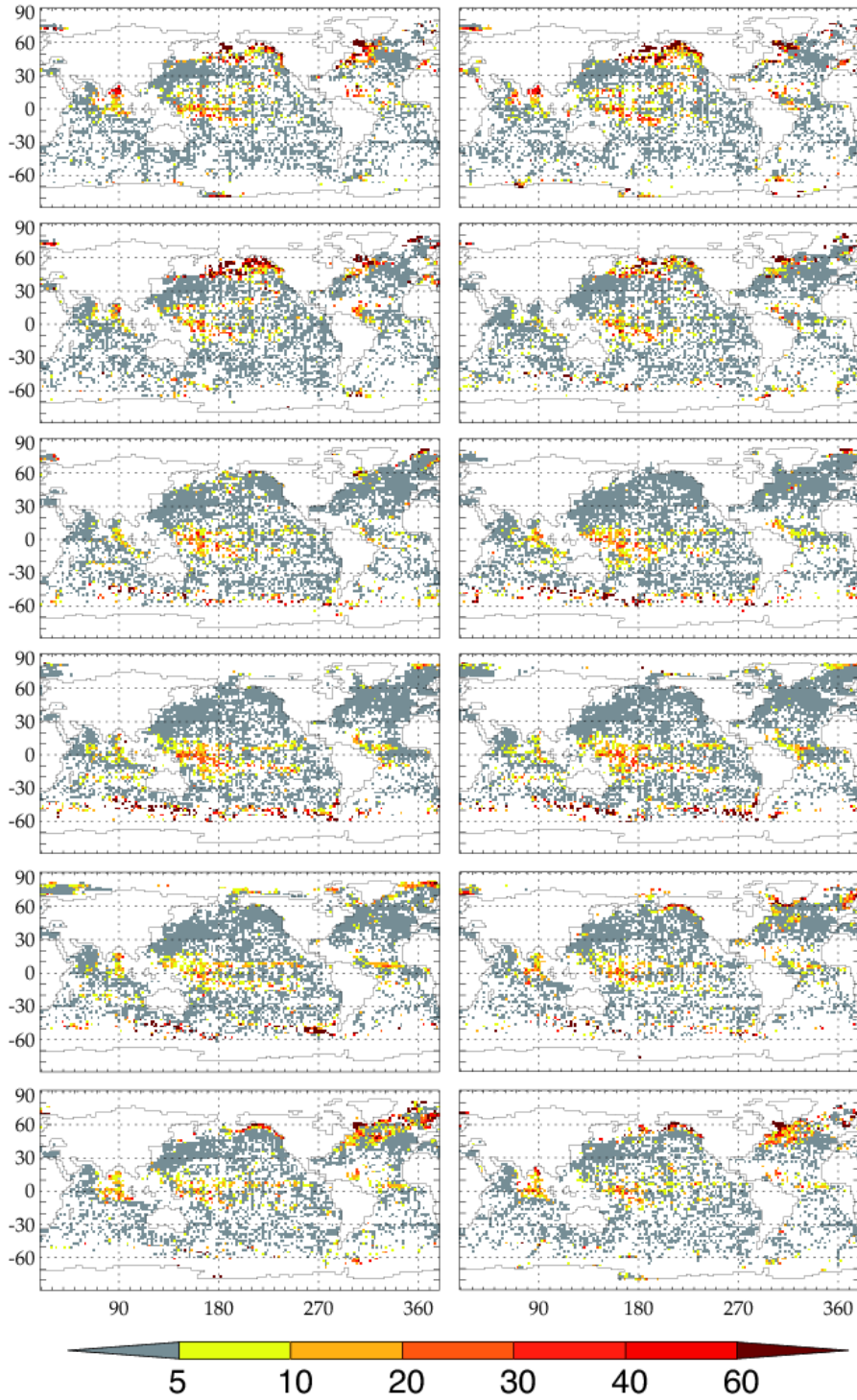


Fig. S.5.: Monthly maps of the difference between D_{T-02} and D_{σ} computed as described in de Boyer Montégut et al. (2007): for each grid mesh corresponding to a square of $2^{\circ} \times 2^{\circ}$, we plot the median of all available differences. Grey oceanic areas show grid points where the difference is smaller than 5m (included possible negative values). White areas show grid points where the no BLT could be computed (no profile or no criteria reached) or where less than 5 profiles were available.

References

de Boyer Montégut, C., J. Mignot, A. Lazar, and S. Cravatte, 2007a: Control of salinity on the mixed layer depth in the world ocean. part I: general description. *J. Geophys. Res.*, **112**, No. C06011 10.1029/2006JC003953.