

Float to float drift intercomparison in an intermediate current regime

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Oral:

An improved series of underwater drift vectors has been estimated from a 15 days-cycling APEX float in the presence of an intermediate current regime near the Mid-Atlantic Ridge. In a statistical approach these estimates are compared with the velocities inferred from a park ensemble of four eddy-resolving RAFOS floats. They were deployed at the same location and ballasted for the same mission depth.

We develop an extrapolation scheme to correct the surface drift information of the cycling float by data transmission parameters intrinsic to the satellite tracking ARGOS system. A tendency towards a slightly (3%) higher in situ APEX speed is notable. The initial float separation between the cycling float and a simultaneously deployed RAFOS float has also been studied in terms of spatial and time scales of the velocity field. Additional displacement errors induced by geostrophic shear and wind forced currents are found to express only a second order source of inaccuracy. Estimated underwater velocities from the cycling float are in good agreement with the synoptic velocity field deduced from the RAFOS ensemble.

Though the application of these results in comparable cases without a mean current field may be limited, such oceanic observations support the exploitation of the Lagrangian nature of the cycling floats with an improved statistical confidence.