

# Supporting Information for ”Impacts of mesoscale activity on the water masses and circulation in the Coral Sea”

L. Rousselet,<sup>1</sup> A.M. Doglioli,<sup>1</sup> C. Maes,<sup>2</sup> B. Blanke,<sup>2</sup> and A. Petrenko<sup>1</sup>

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1. Figures S1 to S4

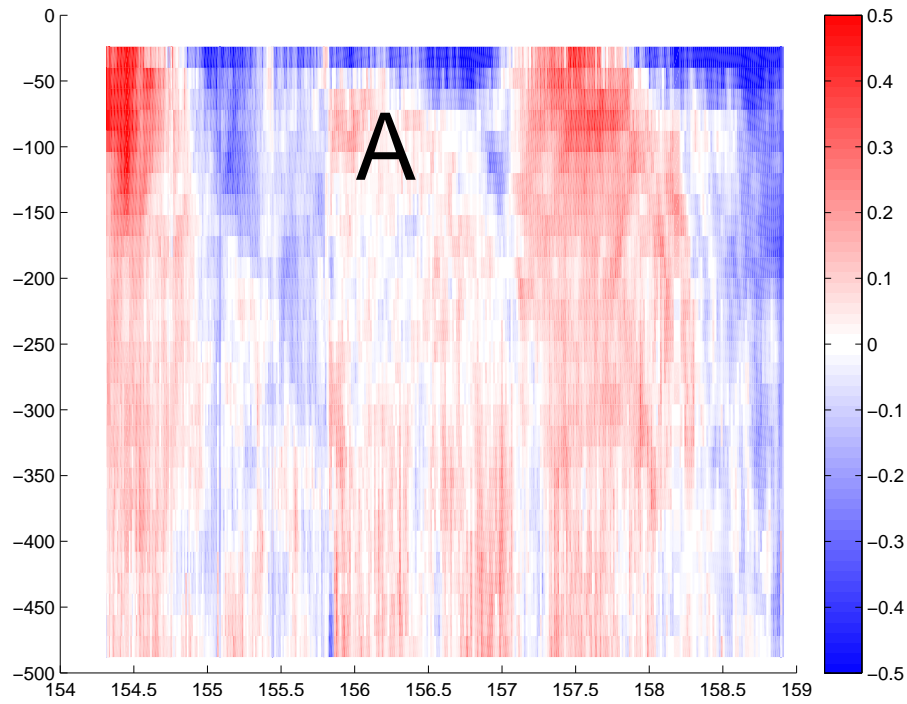
**Introduction** This supporting information provides figures completing the main article.

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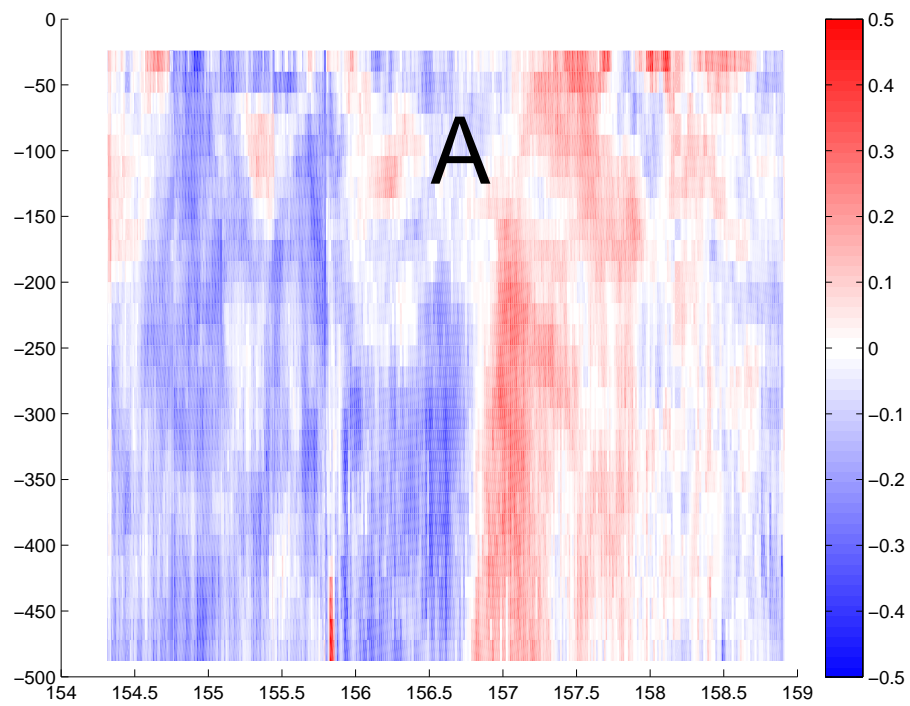
Corresponding author: L. Rousselet, MIO - Institut Méditerranéen d’Océanologie, Bureau 155, 1er étage, Campus de Luminy-Case 901, 13288 MARSEILLE cedex 9, France.  
(louise.rousselet@mio.osupytheas.fr)

<sup>1</sup>Aix-Marseille Université, CNRS/INSU,  
IRD, Université du Sud Toulon-Var,  
Mediterranean Institute of Oceanography  
(MIO), UM 110, 13288 Marseille

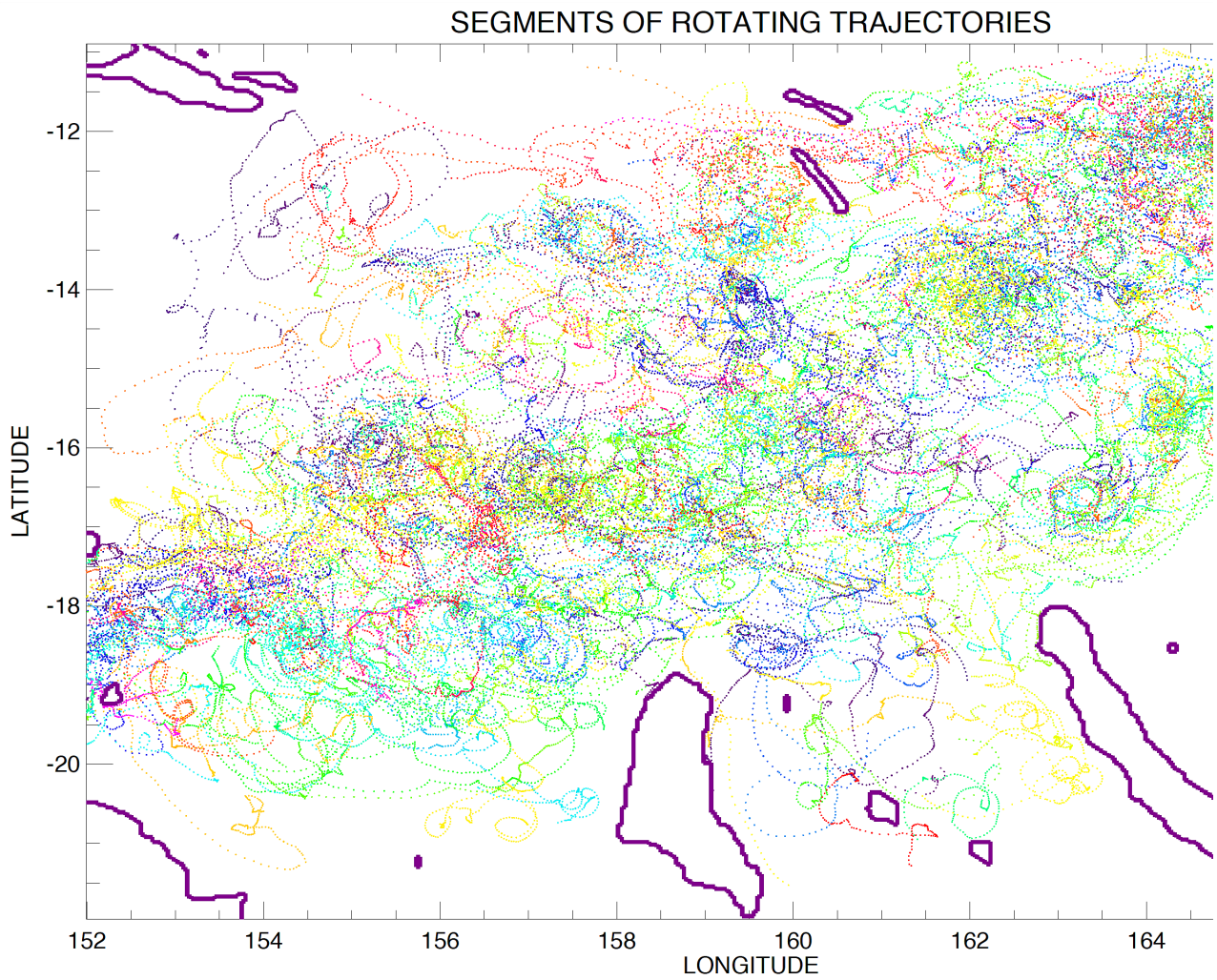
<sup>2</sup>Laboratoire d’Océanographie Physique  
et Spatiale (LOPS), CNRS, Ifremer, IRD,  
UBO, Brest, France



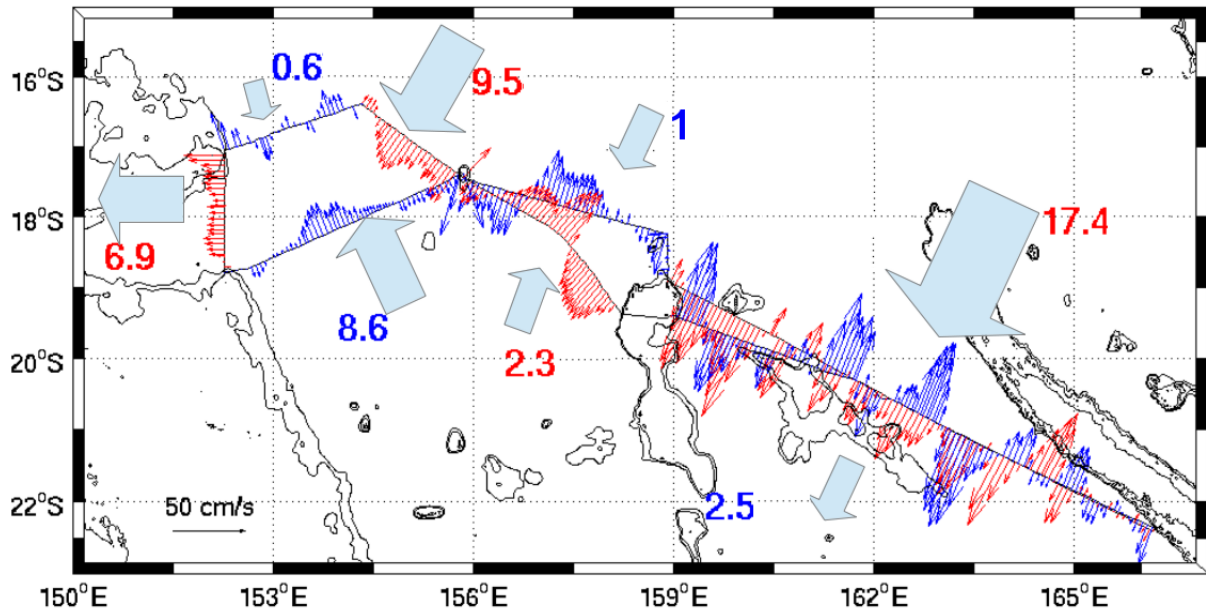
**Figure 1.** Vertical section of the meridional component ( $u$ ) velocity [ $\text{m s}^{-1}$ ] of the S-ADCP for transects 2b and 3 of the Bifurcation cruise. The entering flow (positive values) and the outgoing flow (negative values), through the transects 2b and 3, allow to identify eddy A.



**Figure 2.** Same as Figure 1 but for the zonal component ( $v$ ) velocity [ $\text{m s}^{-1}$ ].



**Figure 3.** Portions of trajectory, between the Ariane\_SLI and Ariane\_NVJ sections, associated with eddy-like variability identified by the Lagrangian analysis. Each portion is drawn using a random color to help differentiate them. Reef coasts are drawn in purple.



**Figure 4.** Orthogonal components of S-ADCP along the Bifurcation cruise route. Vectors are alternatively blue and red to help differentiate the transects of the cruise. Corresponding transports [Sv] from transect 1 (17.4) to transect 8 (2.5) are also indicated and their directions are represented by a big arrow.