

Supplementary Materials for “Seasonal variability of the retroflection structures and transports in the Atlantic Ocean as inferred from satellite-derived salinity maps” by P. Castellanos, E. Olmedo, J.L. Pelegrí, A. Turiel, and E.J.D. Campos

The Supplementary Materials consists of seven figures that complement the figures provided in the main text:

Figure S1. Root mean square error (RMSE) in SSS between Argo and HYCOM (left panels) and Argo and SMOS (right panels) as computed in a $1^\circ \times 1^\circ$ grid, for^{oo} the Brazil-Malvinas Confluence and (bottom) the Agulhas Leakage.

Figure S2. Time evolution of the RMSE in SSS between HYCOM and Argo data (dashed lines) and between SMOS and Argo data (solid lines), for (top panel) the North Brazil Current Retroflection, (middle panel) the Brazil-Malvinas Confluence and (bottom panel) the Agulhas Leakage.

Figure S3. Monthly climatology in the North Brazil Current Retroflection from HYCOM data. (Top panels) Speed of the surface water. (Bottom panels) Absolute value of the SSS horizontal gradient.

Figure S4. Monthly climatology in the Brazil-Malvinas Confluence from HYCOM data. (Top panels) Speed of the surface water. (Bottom panels) Absolute value of the SSS horizontal gradient.

Figure S5. Monthly climatology in the Agulhas Leakage from HYCOM data. (Top panels) Speed of the surface water. (Bottom panels) Absolute value of the SSS horizontal gradient.

Figure S6. Angle between the SSS gradient and the velocity vectors (measured from the former to the latter) at the sea surface for the BMC region, as deduced from the HYCOM model. This figure correspond to the November monthly climatology and it is the same domain than as in Figure 3.

Figure 7. Water zonal transport per unit depth for the North Brazil Current Retroflection (NBCR), the Brazil-Malvinas Confluence (BMC) and the Agulhas Leakage (AL). In all cases the integration is over 4° of latitude, as explained in the text, with positive/negative values denoting eastward/westward transports.

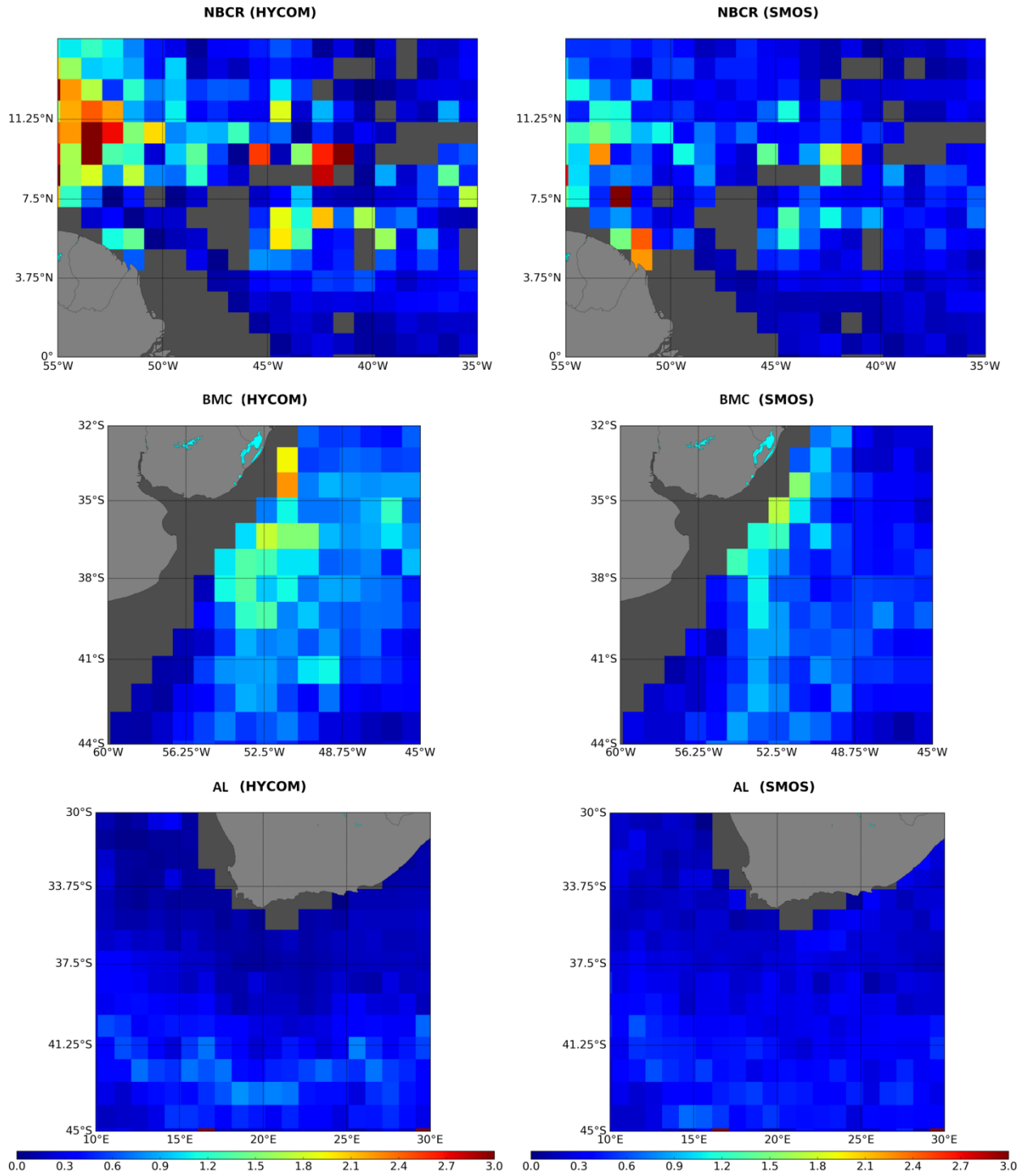


Figure 1. °Root mean square error (RMSE) in SSS between Argo and HYCOM (left panels) and Argo and SMOS (right panels) as computed in a $1^\circ \times 1^\circ$ grid, for (top) the North Brazil Current Retroflexion, (middle) the Brazil-Malvinas Confluence and (bottom) the Agulhas Leakage.

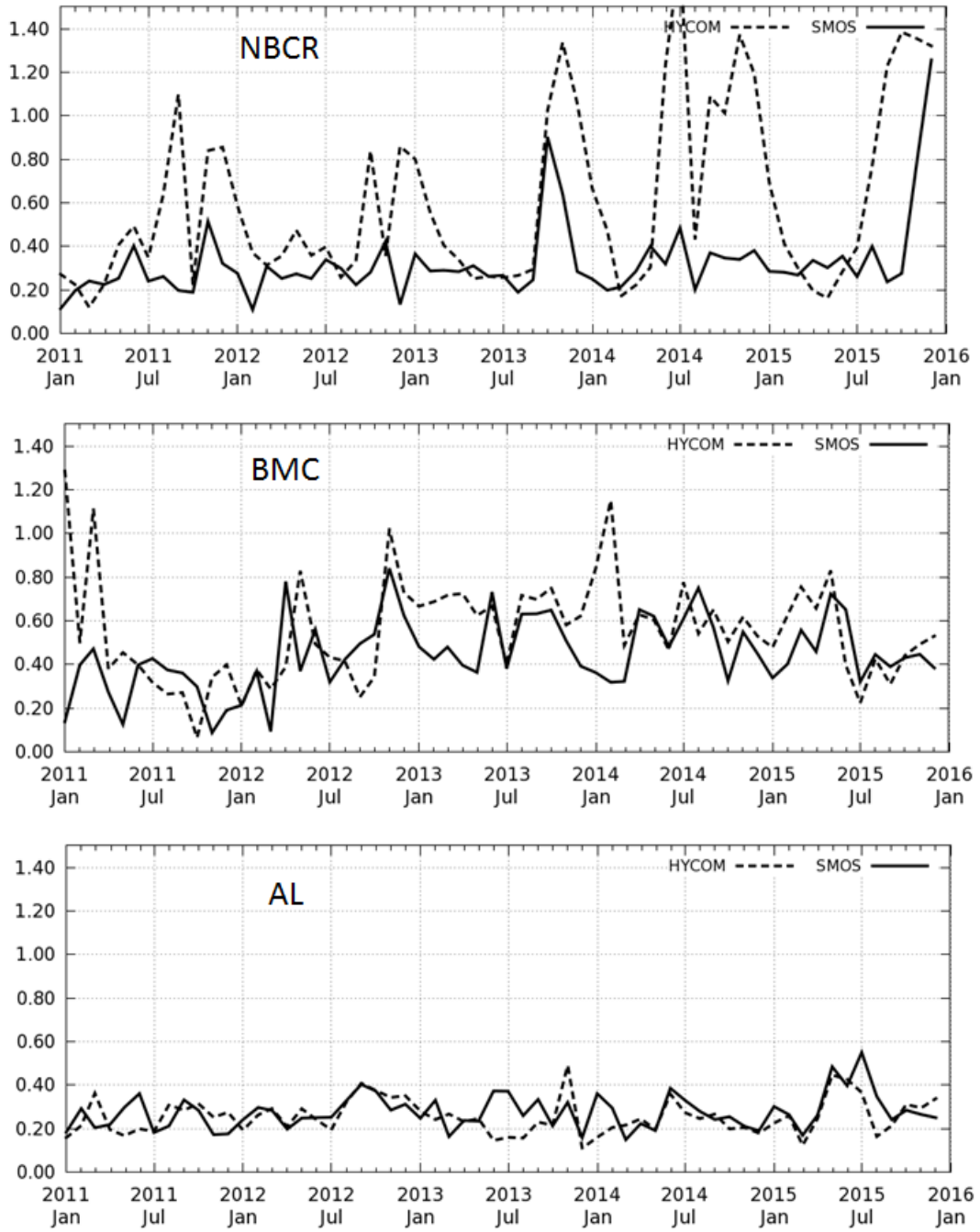


Figure 2. Time evolution of the RMSE in SSS between HYCOM and Argo data (dashed lines) and between SMOS and Argo data (solid lines), for (top panel) the North Brazil Current Retroflexion, (middle panel) the Brazil-Malvinas Confluence and (bottom panel) the Agulhas Leakage.

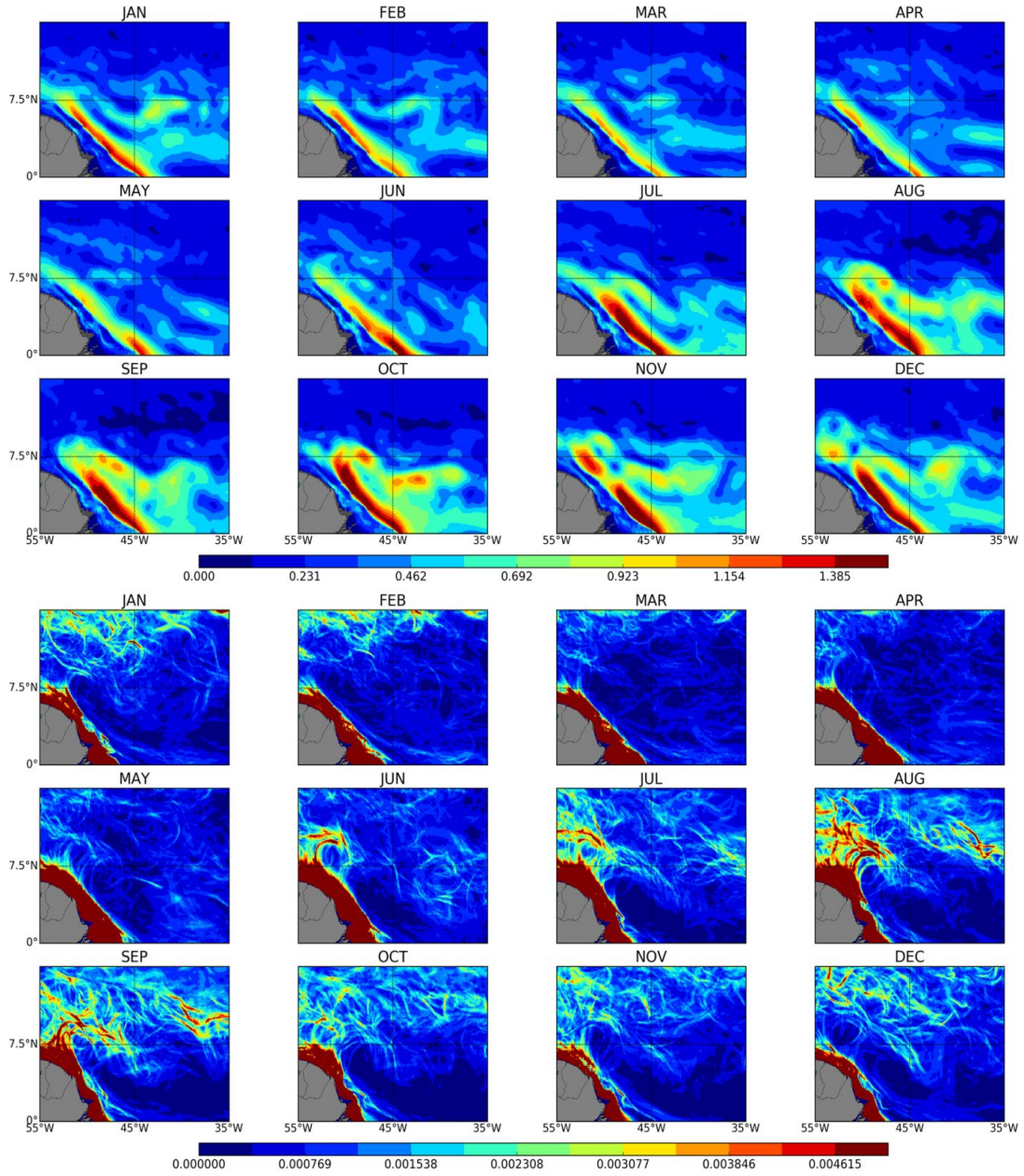


Figure 3. Monthly climatology in the North Brazil Current Retroflexion from HYCOM data. (Top panels) Speed of the surface water. (Bottom panels) Absolute value of the SSS horizontal gradient.

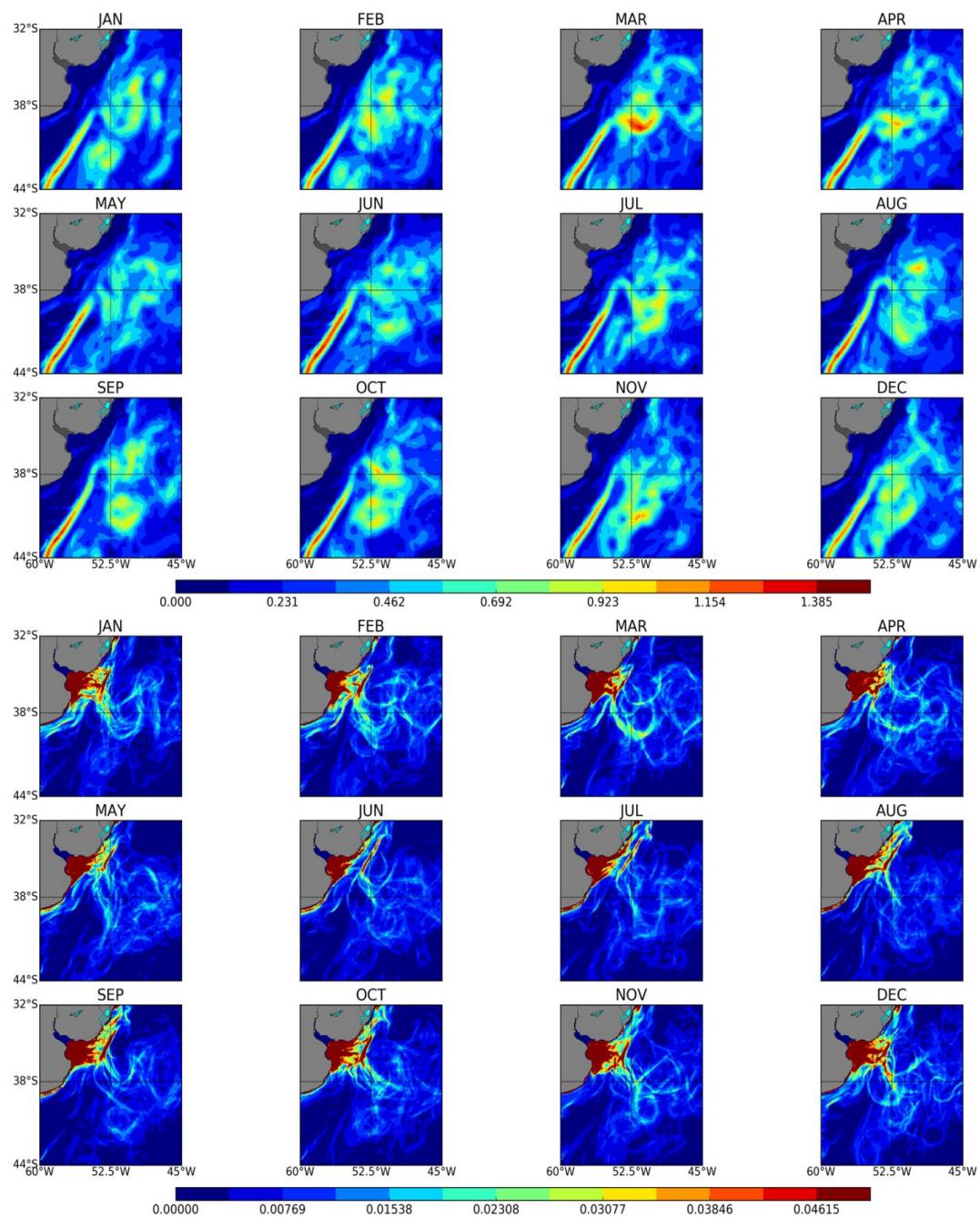


Figure 4. Monthly climatology in the Brazil-Malvinas Confluence from HYCOM data. (Top panels) Speed of the surface water. (Bottom panels) Absolute value of the SSS horizontal gradient.

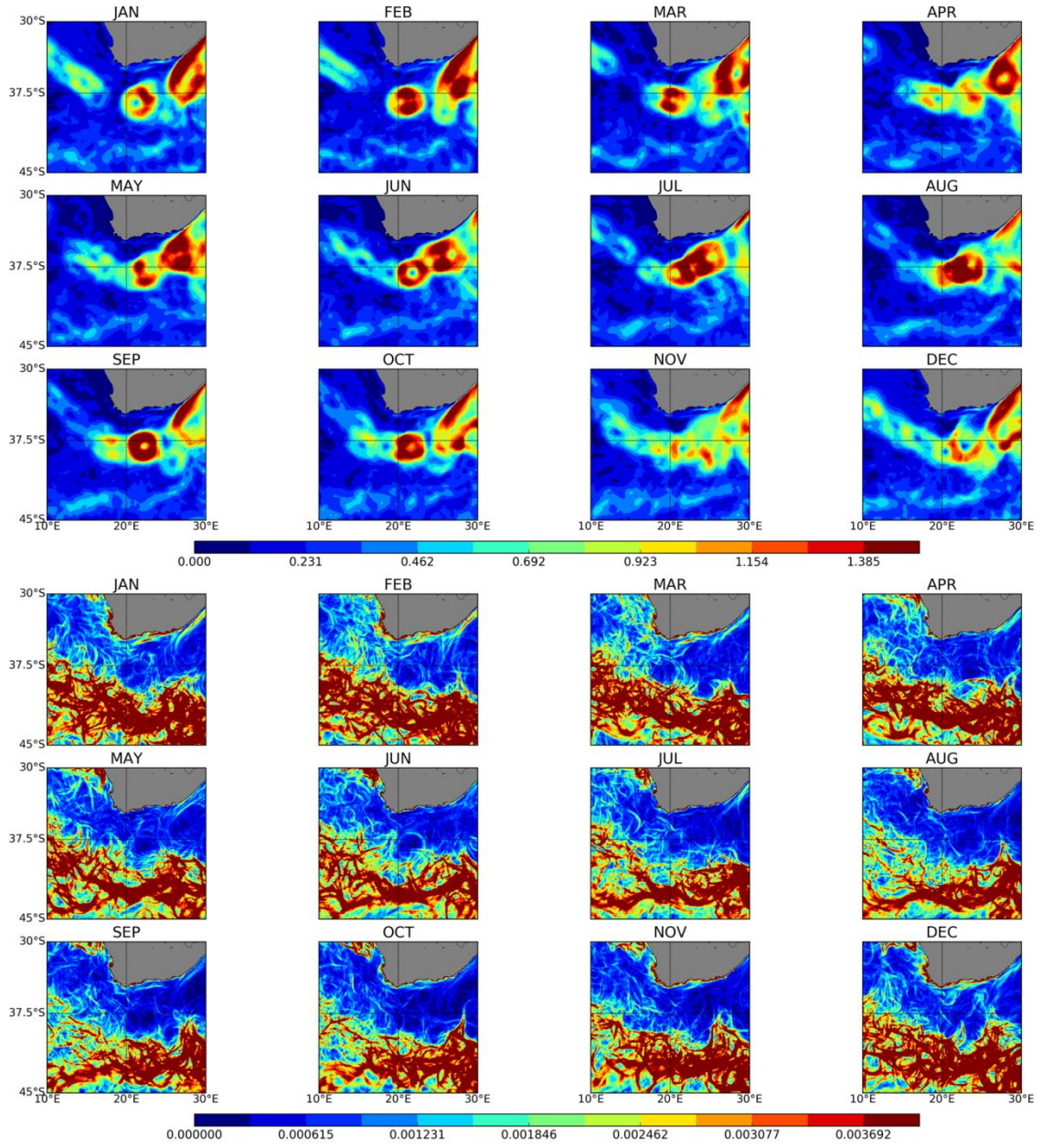


Figure 5. Monthly climatology in the Agulhas Leakage from HYCOM data. (Top panels) Speed of the surface water. (Bottom panels) Absolute value of the SSS horizontal gradient.

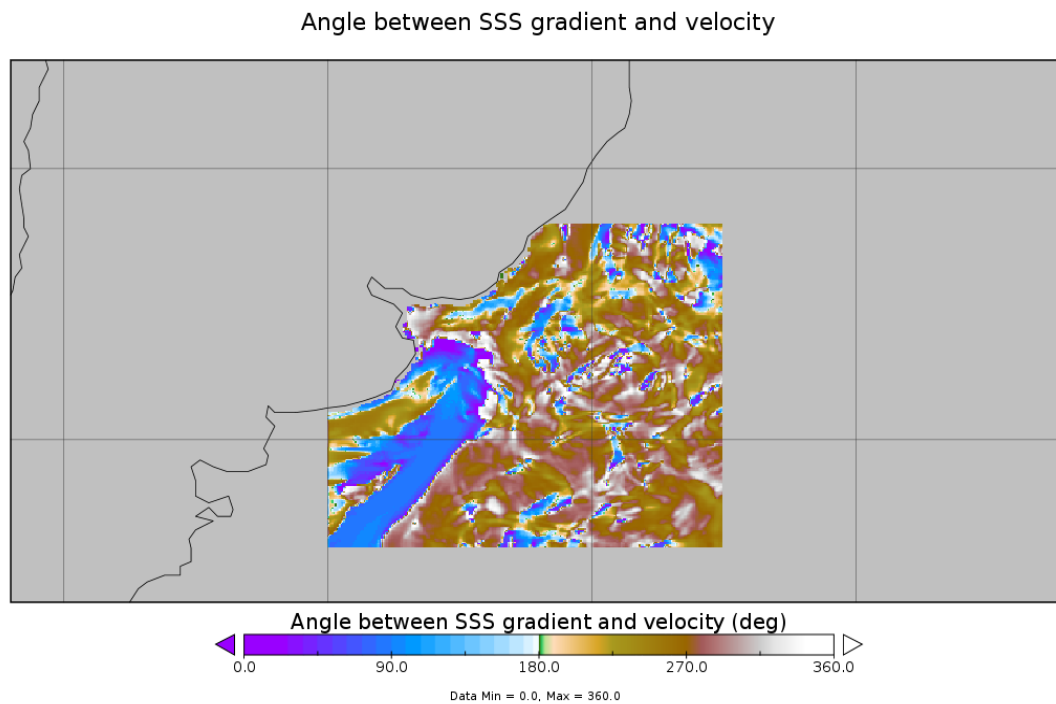


Figure 6. Angle between the SSS gradient and the velocity vectors (measured from the former to the latter) at the sea surface for the BMC region, as deduced from the HYCOM model. This figure correspond to the November monthly climatology and it is the same domain than as in Figure 3.

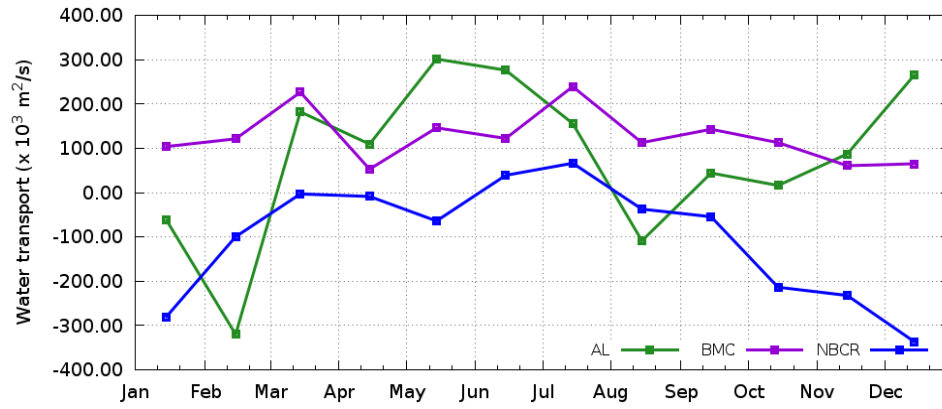


Figure 7. Water zonal transport per unit depth for the North Brazil Current Retroflexion (NBCR), the Brazil-Malvinas Confluence (BMC) and the Agulhas Leakage (AL). In all cases the integration is over 4° of latitude, as explained in the text, with positive/negative values denoting eastward/westward transports.