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Variability of the AW vein branching, in the Central Mediterranean, estimated by altimetric data.

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Five years (2001-2005) of merged altimetric data (ERS-2, JASON, T/P) are analyzed to shed lights on monthly variability of mesoscale structures that occurs in the Central Mediterranean, off the Tunisian coasts.

This region is considered as a key area for the whole Mediterranean Sea dynamics. It includes the Sardinia Channel, the Strait of Sicily and the Gulf of Gabes, particularly known for the relatively high amplitude of its tides. In this study, attention is specially paid to the branching of the Atlantic Water (AW) vein, east of the Sardinia Channel. The classical scheme of the circulation is this area (called T2S: Tunisia-Sardinia-Sicily) consists on the separation of this AW vein into two branches: one is flowing northward into the Tyrrhenian Sea, the other is crossing the Sicily Strait to flow into the Eastern Mediterranean (Astraldi *et al.*, 1996, Lermussiaux and Robinson, 2001). The latter branch is variable in time and space and seems to be itself subject to additional branching. Recent studies are often referring to two sub-branches: the Atlantic Tunisian Current (ATC) flowing along the Tunisian shelf and the Atlantic Ionian Stream (AIS) reaching the Sicilian shelf, north of Malta, and then flowing towards the Ionian Sea. However, because the lack of a dedicated monitoring, several questions remains concerning the dynamical behaviour, the path, the spatial extension, the temporal scale involved in the variability of these two branches, that, furthermore, have not been pointed out in previous altimetric study (Larnicol et al., 2002). Thanks to the spatio-temporal coverage offered by the altimetric Sea Level Anomaly dataset that we have analysed, some of these remaining questions are addressed.

References

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