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Loggerhead sea turtle (caretta caretta) distribution and flow topology in the Algerian basin

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During years 2003 and 2004 a total of 15 loggerhead sea turtles were tracked using an ARGOS transmitter under the framework of Life-Posidonia project. Most of these turtles, after they were released in Formentera and Cabrera Islands (Balearic Islands, Western Mediterranean sea), moved southwards to the Algerian basin and rested there for some months (up to 8 months). This region is characterised by the presence of mesoscale eddies generated by the instabilization of the Algerian Current, which can reach diameters of 50-100 km and vertical extents of thousands of meters down to the bottom. The spatial distribution and evolution of these loggerhead sea turtles is compared with the Mediterranean Forecasting System hindcasts and satellite data using techniques common in the analysis of two-dimensional turbulence. A preliminary study has been done comparing the turtles distribution and paths with the Okubo-Weiss parameter computed from the surface velocity field (5m depth). These preliminary results not only show the importance of Algerian eddies to understand the behaviour of these turtles but also suggest that hyperbolic points may play an important role.