Abstract View

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Tracking a Gulf Stream Ring with a Free Drifting Surface Buoy

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ABSTRACT

A newly developed buoy which is free drifting and tracked by satellite was successfully used to measure the movement of a Gull Stream ring. The buoy, launched in a young ring at 36°15′N, 58°00′W, looped around its center with a period of 54 h, radius of 25 km and speed of 75 cm s^{-1} For two mouths the ring moved rapidly and consistently to the northeast with an average speed of 9 cm s^{-1}. An airborne XBT survey and satellite infused radiometry measurements, provided evidence that the ring coalesced with the Gulf Stream neat 53°W. This study presents the most convincing evidence yet that a ring can coalesce with the Gulf Stream. When this result is combined with the results of other studies, there is a suggestion that rings may coalesce with the Gulf Stream more frequently than previously believed.