

Merge and Separation of ocean eddies around the Kuroshio Extension

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Oceanic mesoscale eddies make ow complicate and produce non-steady states in the ocean general circulation. These eddies are in addition considered to play a important role of heat and material transports. Therefore understanding of dynamics of mesoscale eddies and its roles are one of main tasks in Physical Oceanography. In particular the area around the Kuroshio Extension has very high activity of mesoscale eddies due to the Kuroshio Extension meanderings. Therefore, phenonmena of merging and seperating eddies frequently are observed in this area. Matsuoka et al.(2016) classified events of eddy merges and separations using a high resolution ocean general circulation model. In this study, at first we define mesoscale eddies using the second invariant of the velocity gradient tensor(this is equivalent with the Okubo-Weiss parameter) computed from sea surface height anomalies (AVISO), secondly we track the eddies, and finally, we discuss changes in physical parameters on events of eddy merging and seperating.

Keywords: messoscale eddy