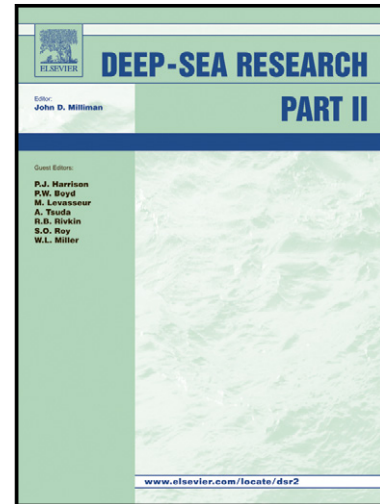


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Current transports II: Mesoscale Eddies

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Abstract

Mesoscale eddies exert dominant control of cross-shelf exchanges, yet the forcing dynamics underlying their interannual and decadal variability remain uncertain. Using an ensemble of high-resolution ocean model hindcasts of the central and eastern North Pacific from 1950-2010 we diagnose the forcing mechanisms of low-frequency eddy variability in the California Current System (CCS).

We quantify eddy activity by developing eddy counts based on closed contours of the Okubo-Weiss parameter and find that the spatial and temporal features of model-derived counts largely reproduce the short AVISO observational record.

Comparison of model ensemble members allows us to separate the intrinsic and deterministic fractions of eddy variability in the northern CCS (34.5° N to 50° N) and in the

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