Tracking Mesoscale Eddies in an Ocean Model

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Summary. An automated eddy-tracking routine was developed for the tracking of mesoscale eddies in the North Pacific Basin using the output of the Npac2 run (e.g. Huang et al., 2007) of the Regional Ocean Model System (ROMS. Curchister et al., 2005). The model has 0.18° spatial resolution and its output is saved in the form of 4-day averages. The results of the algorithm allow us to further study statistical properties of mesoscale eddies, such as their propagation speeds, depths, and directions as a function of time and space. We found that our results of such observations, namely propagation speed and direction, are in keeping with similar previous studies done be Chelton et al. (2007). using non-model data. We confirm that eddies in the North Pacific basin propagate nearly westward with small (if any) azimuthal deflection and at speeds of order 10 cm/s.