

Modelling large-scale transport and mixing in the ocean

Lagrangian approach to study large-scale transport and mixing in the ocean. Elaborating a new diagnostic tool for the ocean state, synoptic Lyapunov maps for a given basin on different time scales. Computing finite-time Lyapunov exponents which characterize the rate of separation of neighboring fluid particles over a finite-time interval. Computing evolution of material lines and finding Lagrangian coherent structures in numerical velocity fields for the far-eastern seas in the Pacific.

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