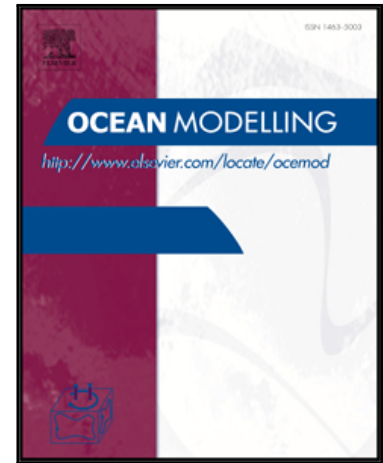


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Lagrangian Tracking in Stochastic Fields with Application to an Ensemble of Velocity Fields in the Red Sea

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highlights

- We present a new method for forward/backward Lagrangian tracking in stochastic velocity fields
- This is done within a sequential (50 members) ensemble data assimilation framework
- Growth in number of particles is capped using an adaptive binning algorithm, which conserves 0,1, 2 moments of probability
- The variance in particles positions due to binning is adaptively controlled; high probability regions have low variance
- Using the parallel algorithm, source recovery in a forward/backward experiment is within 40 km using only 50 M elements

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