



Using stochastic and statistical dynamical approaches to subgrid scale parameterization to develop novel data assimilation strategies.

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In this presentation I will present work on the development of methods for dynamical subgrid-scale parameterizations (SSPs) for the interaction of subgrid-scale transient eddies with retained scale topography and the mean flow, including numerical results for SSPs of the eddy-topographic force, stochastic backscatter, eddy viscosity and eddy-mean field interaction using an inhomogeneous statistical turbulence model based on a quasi-diagonal direct interaction approximation (QDIA) with specific application to general ocean circulation models. I will also describe how SSP's may be used to develop new approaches to data assimilation using ensemble methods.