



Processes controlling the formation of sub-mesoscale phytoplankton patterns

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High resolution ocean color images show the evidence of chlorophyll variability on scales of 2-20km. Two possible mechanisms for the generation of these small scale patterns are tested with a 2D model of turbulence, coupled with a NPZ biological model: patchiness generated by small scales of velocities and patchiness generated by biological interactions. In a second step, we attempt to validate the patterns generated by the model with observed patterns. This is done by using trajectories computed from the geostrophic velocity field derived from satellite altimetry data. The biological model is integrated along the trajectories, and outputs are compared with 1km-resolution ocean color images.