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# Forcing and Sampling of Ocean General Circulation Models: Impact of High-Frequency Motions\*

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### ABSTRACT

Significant inertial oscillations are present in all primitive equation ocean general circulation models when they are forced with high-frequency (period order of days) wind stress fields. At specific latitudes the energy of the wind stress forcing near the frequency of the inertial oscillations excites large amplitudes in the surface kinetic energy. The frequently used strategy of subsampling model output at several day intervals then leads to aliasing of the energetic inertial currents into lower frequencies that vary with latitude, which severely corrupts even integral quantities like meridional heat transport. This note discusses the effect of forcing and sampling at short periods. Schemes are provided that will remove the aliased energy from the model fields stored for later analysis.

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