

Peer review – round 3

The paper investigates an observed asymmetry in the response of coastal currents to fluctuating wind stress on a bank offshore of Korea. Observations are supplemented by a realistic model in which the asymmetry persists. Using momentum balance analysis and an idealized model, the authors identify spatial differences in mass convergence and divergence as the primary mechanism underlying the observed asymmetry. The influence of wave dynamics in several forms are discussed, and the authors conclude that the asymmetric response is likely governed by arrested topographic wave dynamics. The findings are generalized to account for differences in offshore circulation and wind patterns, suggesting that such asymmetries may not be limited to the study area or period covered by the observational data. The paper is well-conceived, and the text and figures are generally clear. I recommend the manuscript be accepted with only minor revisions:

1. There is an inconsistency in how the topic of topographic Rossby waves (TRWs) is introduced in the discussion (line 296) and later when discussing whether propagating TRWs are of consequence (lines 330-340). These descriptions should make it clear whether the authors discuss only propagating TRWs or also, e.g., arrested TRWs.
2. Acoustic Doppler current profiler (ADCP) can be written out when first introduced (line 74).