

## ***Interactive comment on “The circulation of the Persian Gulf: a numerical study” by J. Kämpf and M. Sadrinasab***

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Author response to Comment by Eric Delhez from 13 June 2005

Indeed, there is a northward surface flow along the open boundary being an artefact of the boundary conditions implemented. This flow is a result of the condition to keep the sea level at the boundary at a constant level, which, in conjunction with evaporative lowering of the sea level elsewhere in the Gulf, produces a geostrophic flow along the boundary. This flow operates to raise the sea level at the Iranian coast and thus turns into a longshore flow that delivers boundary data toward the Strait of Hormuz, as desired. The exchange circulation through the Strait is mainly driven by lateral density contrasts in bottom layers, as outlined in the paper, so that, apart from carrying near-surface boundary data into the vicinity of the Strait, the surface circulation created by boundary conditions has no direct impact on the exchange circulation through the Strait.

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