

Wind-driven circulation of Peninsular Malaysia's eastern continental shelf

ABSTRACT

In the course of this investigation, a nonlinear hydrodynamic, barotropic, numerical model for Peninsular Malaysia's eastern continental shelf has been developed. In the investigation, results of the wind driven ocean circulation are presented, with particular emphasis given to the ocean's response to the north-east (NE) and the south-west (SW) monsoon winds. Qualitatively, the results compare favorably with observations: the current flowing along the Vietnamese coast and along Peninsular Malaysia's east coast, during both monsoon seasons, is well resolved. The gyre on the South China Sea, is well resolved. It is shown that the existence of this gyre is only due to topographical effects. Quantitatively, our results, for the mass transports, along the Vietnamese coast and along Peninsular Malaysia's eastern continental shelf, are quite similar to the ones obtained in previous investigations.

Keyword: Barotropic numerical model; Monsoon regime; Peninsula of Malaysia; Wind-driven marine circulation