



## **High resolution modelling of biweekly oscillations on the continental slope of the Gulf of Guinea**

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Currentmeter measurements on the continental slope of the Gulf of Guinea (near 7.5 S) point out a biweekly oscillation of the currents, bottom intensified and oriented along the bathymetry. Amplitude reaches 20-30 cm/s at 30 meters above the bottom, at a depth of 1300m. These motions can be interpreted as coastal trapped waves. Previous study with a three-dimensional 1/6 degree 46 vertical levels model suggests the existence of modes trapped to the slope, but the amplitude of the oscillations are lower than observed. A three-dimensional high resolution model (1/12 degree, 100 vertical levels) has been developed. This model shows a biweekly oscillation, bottom intensified and oriented along the bathymetry which fits the data quite well. This oscillation is present along the continental slope principally south of the equator (12S to 1N). The complex horizontal structure along the African coast indicates influence of local conditions, notably local bathymetry. Sensitivity experiments show that the oscillations in the model are driven by high frequency winds.