



## **Today's global and regional tidal modelling: progresses and challenges**

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The satellite altimetry has brought a revolutionary vision of the ocean dynamics, particularly of the ocean tides. It has allowed for new, accurate empirical and hydrodynamic models to develop, and to demonstrate the importance of the barotropic to baroclinic energy conversion in the tidal dissipation. The physic of tides has been improved in the models through new parameterisations which still need to be fully validated. The level of accuracy reached in the global hydrodynamic model is now close to the point where the regional details begin to be critical, making the detailed study of the main coastal and shelf seas necessary. Energy budget examination is a efficient way to investigate the relation between the deep ocean tides and the shallow sea's tides. A review of the existing tidal atlas and the recent developments made with the finite element T-UGOm 2D/3D model (MOG2D follow on) will be presented.