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Titre: Current status of development of a global total water level prediction system

Résumé/Abstract:

With the long-term goal of developing an operational forecast system for total water level, we conducted i) a global prediction of M2 tides and ii) a hindcast study of global storm surges for Fall 2014 using a baroclinic ocean model based on the NEMO framework. Hourly forecasts of atmospheric wind and air pressure from control runs of GEPS are used for the hindcast study. The baroclinic model has 19 vertical levels and a horizontal resolution of 1/12°. A modification was made to include baroclinic pressure perturbation to resolve coastal trapped waves, internal tides, and inertial internal gravity waves without a lengthy model spin-up. The model skills to predict M2 tide, M2 tidal surface currents, and surges are presented. Preliminary results on the prediction of total water level (tide+surge) are also presented.