



Sensitivity of the coastal tsunami simulation to the complexity of the 2011 Tohoku earthquake source model

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The 11 March 2011 Tohoku-Oki event, whether earthquake or tsunami, is exceptionally well documented. A wide range of onshore and offshore data has been recorded from seismic, geodetic, ocean-bottom pressure and sea level sensors. Along with these numerous observations, advance in inversion technique and computing facilities have led to many source studies. Rupture parameters inversion such as slip distribution and rupture history permit to estimate the complex coseismic seafloor deformation.

From the numerous published seismic source studies, the most relevant coseismic source models are tested. The comparison of the predicted signals generated using both static and cinematic ruptures to the offshore and coastal measurements help determine which source model should be used to obtain the more consistent coastal tsunami simulations.

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