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# Comparison between real and modeled maregraphic data obtained using a simple dislocation model of the 27.02.2010 Chilian seismic source

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On the 27th February 2010, a magnitude Mw=8.8 earthquake shook a wide part of Chile. It was the result of a release of energy due to a rupture on the subduction fault plane of the Pacific oceanic plate beneath the South-American plate. It generated a widespread tsunami that struck the whole Pacific Ocean Coasts. In addition to the numerous casualties and destructions fathered by the earthquake itself, the tsunami reached several meters high in some near-field locations inundating important urban areas (for example in Talcahano). In some far-field places as in the Marquesas Islands (FR), it reached several meters high too. This tsunami has been recorded by numerous coastal tide gages and DART buoys and, more particularly, some sea level records are available in the rupture area (Valparaiso, Talcahano, Arica, Ancud, Corral, Coquimbo).

The aim of this study is to use a simple dislocation model determined from a moment tensor solution, aftershocks locations and GPS measurements, to calculate the initial offshore bottom deformation. This deformation is introduced in a tsunami propagation code to produce synthetic mareogramms on specific points that are compared to the real recorded maregraphic data.