



The simulated features of the November 26,1999 Vanuatu tsunami.

M. Ioualalen (1), B. Pelletier (1), P. Watts (2), and M. Regnier (1)

(1) "Geosciences Azur", France, (2) Applied Fluids Eng., Long Beach, CA, USA,

The November 26, 2004, 7.5 Mw earthquake in Ambrym/Pentecost South Pacific Vanuatu Islands generated a tsunami with up to 6-7m local runup. The possible modes of sources of the tsunami are investigated. In particular the effects of the tsunamigenic coesismic source is simulated. Besides, above the vicinity of the epicenter, a scar indicates an underwater slump slide. Although the slide is not dated up-to-date (it has been detected in 2000), his possible ability of generating a tsunami is investigated. Both simulations are performed with Geowave fully nonlinear dispersive Boussinesq equations model complemented by a 1' bathymetry of the central Vanuatu and a 50 m local bathymetry east of Ambrym/Pentecost performed in 2003. The effects of the possible sources are analyzed in terms of maximum wave heights and timing.