



A new insight on the HAITI event : aftershock study.

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Following the 12th January 2010 Haiti event, we deployed a network of 21 Ocean Bottom Seismometers (OBS) and 4 land stations in the activated area during Haiti-OBS survey on-board the R/V L'Atalante. The complete set of instruments remained 3 weeks, from 14 February to 7 March, while a sparser network continued recording till the middle of May. We present the results from the analysis of a large set of aftershocks recorded during the first period including a local velocity model, absolute and relative event locations and focal solutions. The obtained events distribution shows some characteristic features : the focal depths range between 7 and 12km, almost all the activity is located north of the surface trace of the Enriquillo-Plantain Garden strike-slip fault (EPGF) and is organized into 3 swarms distributed E-W. The two eastern ones are sharply limited southward by the EPGF surface trace and their NS extension is not greater than 20km. The third one, on the western part, is more scattered below the Gonâve basin. Our results clearly show that the Haiti earthquake activated several faults belonging to a secondary fault system, different from the main EPGF. This is in very good agreement with the tectonics environment, the aftershocks fault plane solutions, and the main shock rupture process recently proposed on the basis of seismology, GPS and InSar data (Calais et al., 2010, Hayes et al. 2010, Mazabraud et al., 2010)