Geophysical Research Abstracts
Vol. 20, EGU2018-3486-1, 2018
EGU General Assembly 2018

Hypocentral determinations for earthquakes in Cape Saint Vincent using OBS and land stations

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The Cape Saint Vincent is a seismically active region where occurred the large Lisbon 1755 earthquake followed by a tsunami that caused large damage in the Iberian Peninsula and NW Morocco. One of the main problem for the hypocentral location in this area is the occurrence of earthquakes with foci of-shore and their poor azimuthal coverage. The use of Ocean Bottom Seismometers (OBS) is one solution that can improve the hypocentral locations. From September 2015 to April 2016 the Real Instituto and Observatorio the San Fernando together the Universidad Complutense de Madrid and Institut Geologic de Cataluña deployed 6 broad-band OBS at SW of Cape Saint Vincent. In this work, we relocate earthquakes recorded during this survey using OBS and in land stations. We have used two different algorithms (LocSat and NLL) and 2D and 3D Earth models. Results obtained shown three regions seismically active during the studied period with most foci located at 30-40 km depth. Spectral analysis have been used to estimate scalar seismic moment and the Mw. Results are interpreted in terms of seismotectonics of this region.