



## **Sea Bottom Observations from the Western Escarpment of the Sea of Marmara**

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The western escarpment of the Sea of Marmara has been recently recognized to be the site of intensive gas emissions escaping from the seafloor. Visual observations with Nautile submersible also indicate that gas escapes from elongated tensile cracks oriented to the NW, in the direction of the maximum principal stress. Here we report results from a 25-days long test realized in 2007 with 4 Ocean Bottom Seismometers (OBS) showing that this area is also characterized by micro-seismic activity. A cluster of 13, small magnitude earthquakes aligned in the NW direction occurred over less than 30 hours at shallow crustal depth ( $< 4$  km) below the western slope of the Tekirdag Basin. The only two focal mechanisms resolvable using land and seabottom data reveal normal faulting with strike-slip components, consistent with the stress field expected in this area. It is suggested that tectonic strain below the western slope of the Tekirdag Basin contributes to maintain a high permeability in faults zones, and that the fault network provides conduits for deep-seated fluids to rise up to the seafloor.