Shallow Geometry of a Strike slip fault: Carrascoy Fault

David Roel Gómez

Candidate to MSc Reservoir Geology and Geophysics
Universitat de Barcelona & Universitat Autònoma de Barcelona

ABSTRACT

The Eastern Betic Shear Zone (EBSZ) is the main tectonic structure accommodating most of the convergence between the Iberia and Nubian plates in the Betic Cordillera, south Spain. This region has the highest seismicity in the Iberian Peninsula, and it's where the Carrascoy Fault (CAF) and Alhama de Murcia Fault (AMF) are located. Due to the recent seismic event of the AMF that caused significant damage and a few victims in Lorca town in 2011, the investigations around the area were intensified, in order to define the seismogenic behavior and make assesment on the seismic hazard. Although, these faults have been extensively mapped on surface, limited information of the geometry of the fault in depth is available. The InterGEO project aimed to characterize the fault zone, included the acquisition of a few perpendicular seismic reflection transects across the AMF and CAF to place constraints on the structure and geometry of this structure. The work developed here includes the processing and interpretation of one of this high resolution seismic reflection lines in order to unravel the structure and seismic velocity distribution across the CAF.