

Space-time characteristic of rupture areas and seismic gaps in the western of Peru

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The information contained in Seismic Catalogue of Peru has been utilized to analyze and evaluate the spatial distribution of associated areas of rupture to great earthquakes occurred in the Western border of Peru. The temporary distribution of the rupture areas have permitted to visualize, the presence of diverse seismic gaps of different dimensions which have caused earthquakes of great magnitude in the past from 1500. The space-time characteristic of rupture areas and seismic gaps provide important tools to identify possible areas which be affected by an earthquake. Currently, in the western border of Peru has themselves identifying the presence of 3 seismic gaps which would cause equal number of earthquakes in the future. These gaps are located among the areas of rupture of 1974 and 1942/1996 earthquakes (150 km of length), 2001 and 1996 (90 km of length), and in South direction from the area of rupture of earthquake occurred in 2001 (150 km of length). The last one could be involve a great gap seismic present in the North region of Chile (500 km of length).