

## SEISMICITY IN THE PENINSULAS AREAS OF CHILE

<sup>1</sup>Quezada, J. <sup>1</sup>Universidad de Concepcion, Chile

The coast of Chile, has characteristic landscapes in 4 parts with a western shoreline made by horst peninsulas of Mejillones (22° Lat. S.), Tongoy (30° Lat S.), Tumbes and Arauco (37° Lat. S.). In all this areas, there are a concentration of epicenters, some of them are bigger like Concepción (Arauco P., 1960) and Antofagasta (Mejillones P., 1995) over 7,5 magnitude. In most cases, the fault has NS strike, 20° of east dip and 20-30 km of depth. The rupture begun below the peninsula and followed to south. The land changes after the biggest earthquaques, consists in an uplift of the shoreline and a subsidence to the east. This regular defformation pattern, can be explained like a fold in the South American Plate, formed during the interseismic period and it extension during the coseismic period. If we assume the east margin of the fold fixed, the movement is west-upward in the western border of this fold. This movement is a consequence of the sliding along the Wadatti-Benioff surface. Most of the external defformation, takes place below the sea, near the trench and provokes the tsunamis. The deeper roots of the structure of the peninsulas, can be asperities of the lower part of the South American Plate, that traps the movement of the Nazca Plate and provokes an accumulative energy in this points. This can explain the bigger earthquakes in the areas with peninsulas in comparaisn with other coastal areas.