

The Seismotectonic Model of the Western Margin of the South American Plate

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Results of geological, geophysical and seismological research have been applied to the construction of a seismotectonic model of the western margin of the South American Plate. As a basis for the model, fresh views have been used on the thickness of the plate lithosphere and of its dynamic instability in the conditions of the Earth's lithosphere formed on a global scale. Unbalance of lifting forces in the plate causes the subsidence of its western margin, resulting thus in the formation of the structure of oceanic trench and the extended mountain chain of the Andes. Seismicity and volcanic activity are the consequences of this process, which is going on now. The possibility is demonstrated of long-term prediction of large seismic events within the Chilean sector of the South American Plate.