

Ruptured Earth -- in the aftermath of the Chilean earthquake

July 30 2010

On 27 February 2010, a gargantuan 8.8 earthquake struck south-central Chile, the fifth largest event ever recorded by modern seismology.

Now, a new study provides first-hand confirmation that the February earthquake ruptured a very long fault along the coast of Chile, but that its effects on coastal land varied; with a rise of land to a higher elevation in the South and an opposite sinking down of the Earth's surface in the North.

The findings will help [geologists](#) and seismologists gain a deeper understanding of what triggers large earthquakes.

In a Brevium, Marcelo Farías and researchers from Chile, France, and Germany report measurements from 33 sites related to the [earthquake](#), all made within in a month of the rupture.

The measurements reveal that uplift or and [elevation](#) of land occurred closer to the coast, while sinking occurred farther inward, toward land.

This pattern is broadly similar to measurements made following many other great earthquakes, and is consistent with a fault slip that lies along a 500 km section of the Chilean coast that coincides with previous earthquakes in 1835 and 1928.

More information: "Land-Level Changes Produced by the Mw 8.8 2010 Chilean Earthquake," by M. Farías et al. *Science*, July 30, 2010.

Provided by AAAS

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