Earth's temperature linked to earthquakes

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Spanish scientists have linked the temperature of the Earth's crust to the planet's seismic activity.

The researchers from the University of Granada and the Andalusian Institute for Earth Sciences also determined African and European tectonic plates move about 4 millimeters closer each year, creating small, continuous earthquakes in the Gibraltar Arc area -- a region of mountains that wraps around the northern, western and southern sides of the Alboran Sea.

The scientists said their findings characterize the physical and mechanical properties of the Earth's crust in the area, as well as determining the probability of earthquakes is significantly lower in areas of higher crust temperature.

The researchers also discovered the western area of the Sierra Nevada and Alhucemas -- all located within the Gibraltar Arc -- is the area in which most earthquakes occur due to low temperatures in the Earth's crust, while Spain and the eastern area of the Alboran Sea will most likely experience fewer seismic movements.

The research by Fermin Fernandez Ibanez, Juan Ignacio Soto Hermoso and Jose Molares Soto is reported in both the Journal of Geophysical Research and the journal Tectonics.