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Spatial mapping in 2D and 3D of the b-value in the volcanoes of the South of Chile showing eruptive processes between 2011 and 2017

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Spatial mapping in 2D and 3D of the b-value in the volcanoes of the South of Chile showing eruptive processes between 2011 and 2017

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In Chile, during the last years the Volcanological Observatory of the Andes of the South (OVDAS), monitored in real time 45 volcanoes considered active, five of which have had eruptive processes between 2011 and 2017. From seismic activity recorded by OVDAS in the processes within volcanoes Nevados de Chillán, Copahue, Villarrica, Cordón Caulle and Calbuco, it was possible to have an optimal catalogue of localized seismic events for the spatial mapping of b-value. Taking a grid of 100x100 meters and a minimum number of 60 tectonic volcano events (VT) for each volcano, we calculated their b-value, obtaining results of the 2D and 3D mappings of the energy distribution. This work is one of the first images of the crust under the volcanoes of Chile based on the energy released from the rupture events that occurred in each mentioned eruptive process.