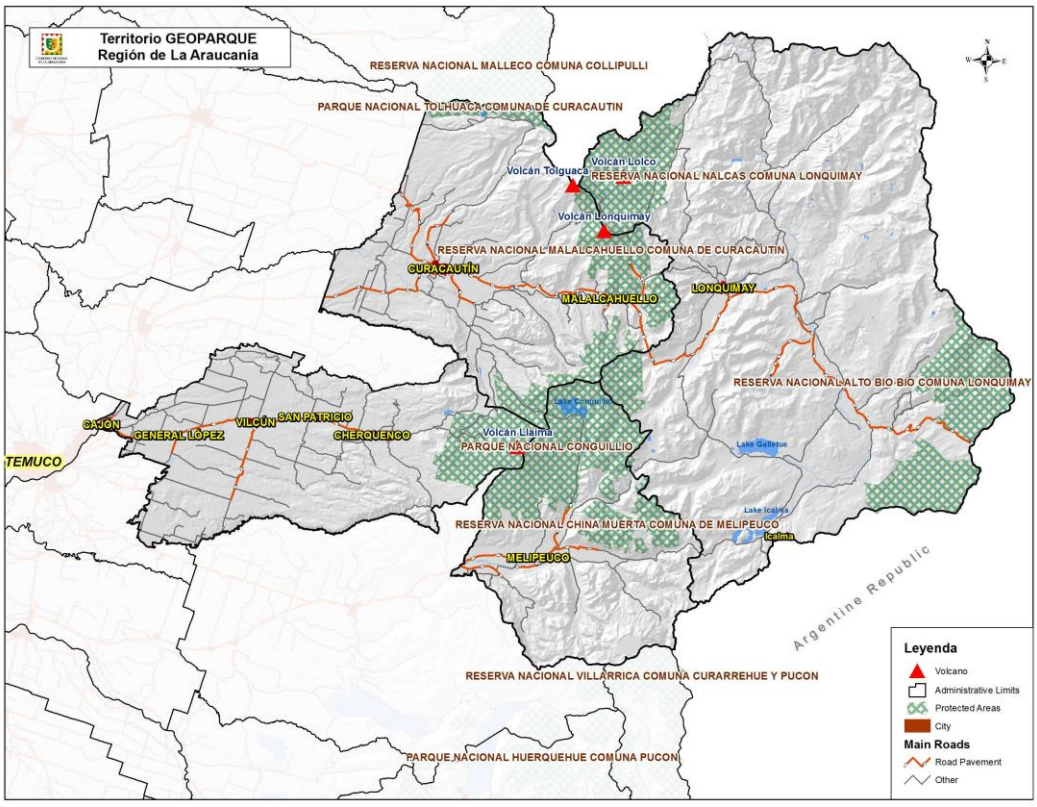
United Nations
Educational, Scientific and
Cultural Organization

UNESCO
Global
Geoparks

# Applicant UNESCO Global Geopark

*Kütralkura, Chile*

## geographical and geological summary

## 1. Physical and human geography- 1500 characters

Kütralkura aspiring Geopark, located between 38°05'-39°00' S, and 70°50'-72°30' W, is situated 700 km south of Santiago, and 15 km east of Temuco. The eastern limit coincides with the border of the Republic of Argentina. The area of Kütralkura Geopark, with a surface of ~8,053 $Km^2$ and a total estimated population of 55,326 inhabitants, covers the municipalities of Curacautín, Vilcún, Lonquimay, and Melipeuco. With four main urban centers: Melipeuco, Lonquimay, Curacautín, and Vilcún, and several Mapuche-Pewenche indigenous communities, approximately 50.8% of the population lives in rural backgrounds.

The main geographic characteristic of this territory is the presence of several active volcanoes, Llaima (3,179 m), Lonquimay (2,865 m), Tolhuaca (2,806 m) and Nevados de Sollipulli (2,282 m), and an extinct volcano, Sierra Nevada (2,554 m). Additionally, the geomorphology of the area shows the action of large ice masses that once covered an important part of the territory, reaching a maximum thickness approximately some 20,000 years ago. The most important bodies of water are lakes Galletue and Icalma, of glacial origin, and main tributaries of the Biobío River. Also important are Cautín and Allipen rivers, born within the geopark limits.

This ecosystem includes forests, wetlands, high Andean prairies, scoria fields and areas of high peaks. The average annual rainfall is 1,550 mm, while the averages of the minimum and maximum temperatures are -18 °C and 39 °C, respectively.

## 2. Geological features and geology of international significance – 1500 characters

There is a geological history of more than 200 million years in the rocks of this territory associated mostly to the subduction of the Nazca plate under the South American plate. This process generates, to these days, intense volcanic and tectonic activity, and is the main responsible of the rise of the Andes mountain range. The proposed geopark is located within the Southern Volcanic Zone, where we can find more than 50 active volcanoes between Chile and Argentina. Four of these active volcanoes are located inside the area of the geopark: Llaima, Lonquimay, Tolhuaca and Nevados de Sollipulli. Llaima volcano, in particular, is one of the most active in the country, concentrating, together with the Villarrica volcano, more than 50% of the historical eruptions recorded in Chile since the 16th century.

Within the geopark a great geodiversity is recognized. The main geological units are the following:

- Strata of Huenucal Ivante (Pre-Jurassic?)
- Nacientes del Biobío Formation (Low - Upper Jurassic)
- Gualletue Plutonic Group (Upper Jurassic - Cretaceous)
- Vizcacha Complex – Cumilao (Cretaceous – Paleogene?)
- Cura Mallín Formation (Lower or Mid Miocene)
- Melipeuco Plutonic Group (Miocene)
- Strata of Huichahue (Miocene)
- Mitrauquén Formation (Upper Miocene)
- Malleco Formation (Pliocene-lower Pleistocene)
- Volcanic Association of the Eastern Precordillera (Lower Pliocene - Upper Pleistocene)
- Volcanoes of the Principal Mountain Range (Quaternary)
- Non-Consolidated Deposits (Quaternary)