

Regional dispersion of tephra from the Andean volcanoes and its impact in Paraguay

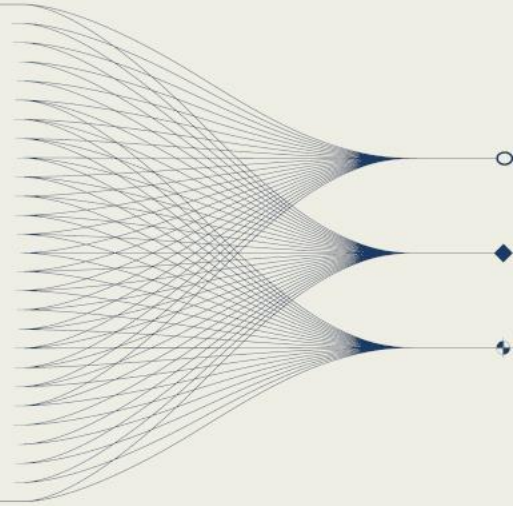
Moisés Gadea
Alcides Caballero

Seismology Laboratory, National Data Center - Paraguay



INTRODUCTION AND MAIN RESULTS

According to the scarce journalistic records, scientific reports and the testimony of some inhabitants in Paraguayan territory, volcanic activity in the Andes Mountain Range has had repercussions in Paraguayan territory. This refers to the dispersion of tephra originating from different volcanic conduits of the subduction zone type in the Pacific Ring of Fire located in the Chilean Andean belt, which, driven by the magnitudes of the eruptions and wind directions, traveled by advection in the atmosphere and arrived in Paraguay. This paper highlights at least six events of this type: the eruption of the Calbuco volcano in 2015; of Puyehue in 2011; of Láscar in the years 2000 and 1993; of Quizapú in 1932; and of Cerro Blanco in the Holocene.





Moisés Gadea & Alcides Caballero.

P5.1-046

Volcanoes that affected Paraguay according to reports.

At least six such events have been documented, although there may have been more throughout Paraguay's history. Some of these events darkened the Paraguayan skies and caused ash fall. Paraguay's international airport was closed following the eruption of the Puyehue volcano in 2011



Geographical position of the volcanos and Paraguay.

General information

Volcanoe	L. (S)	L. (W)	A. (MASL) /Country
Calbuco	41.330°	72.608°	2015/Chile
Puyehue	40.580°	72.108°	2200/Chile
Láscar	23.372°	67.711°	5592/Chile
Quizapú	35.658°	70.763°	3788/Chile
C. Blanco	26.765°	67.746°	4670/Argentina

Concluding remarks

Due to their effects, the eruptions of the Puyehue (2011), Láscar (1993), and Quizapú (1932) volcanoes are considered the most significant in this compendium because of their impact on Paraguayan society. Among them, the Puyehue event stands out, as its ashes filled nearly the entire Paraguayan atmosphere, disrupting aeronautical operations and generating tephra fallout.

Volcanic ashfall events affecting Paraguay, although not frequently experienced at the local level, are nevertheless a natural reality. They have occurred (and more are expected) at intervals throughout Paraguay's geological history. The exact number of occasions in which Paraguay has received volcanic ash remains undetermined to date.

The volcanic ashes that reached Paraguayan territory originated from volcanoes belonging to the Central and Southern Volcanic Zones. Ashes from the Láscar volcano, due to its proximity, take less time to reach the Paraguayan atmosphere compared to sources located further south in Chile.

In the southern part of Paraguay's Eastern Region, there are abundant pozzolan deposits of differentiated origin. These may have derived from volcanoes, but definitive conclusions will only be reached after conducting geological, petrological, tephrochemical, tephrostratigraphic, and tephrochronological



Media report of ash fall in Asunción from Láscar volcano in the Year 1993

