

Quaternary Evolution in the region of Copahue Volcano, Neuquén, Argentina.

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Copahue-Caviahue volcanic complex presents an evolved magmatic development starting during early Pliocene and remaining in decreasing activity up to the present. Datings data confirm an initial eruptive development located east of Copahue volcano during pliocene, related to an extensive structural caldera (15 Km in diameter) and a maximum upper pliocene erupting volume of volcanic material between 4.5 and 2 Ma, different geological episodes took place after the caldera collapsed and neotectonic activity lead to structural and geomorphological studies of the extensive quaternary activity which is signed in this particular region.

Avalanches, lahars, debris flows, and slides are related with different volcanic eruptions, tectonism and pleistocene glaciated highlands.

Pleistocene glaciated landforms were observed in some areas where moraines, nunataks, roches moutonnées, U-shaped and hanging valleys, cirques, horns and aretes, glacial marks and levee lines, show evidence of at least 600 metres thick iced pleistocene glacier probably emplaced within the caldera during at least two interglacial cycles.

Structural analysis show a northeast oriented faulting zone on a regional basis transect through Llaima - Copahue volcanoes. Liquiñe Ofqui fracture zone to the west, normal, rotational and strike-slip faults in central Copahue-Caviahue area and Loncopué focci to the east are main morphostructural features on a tectonic emplacement.