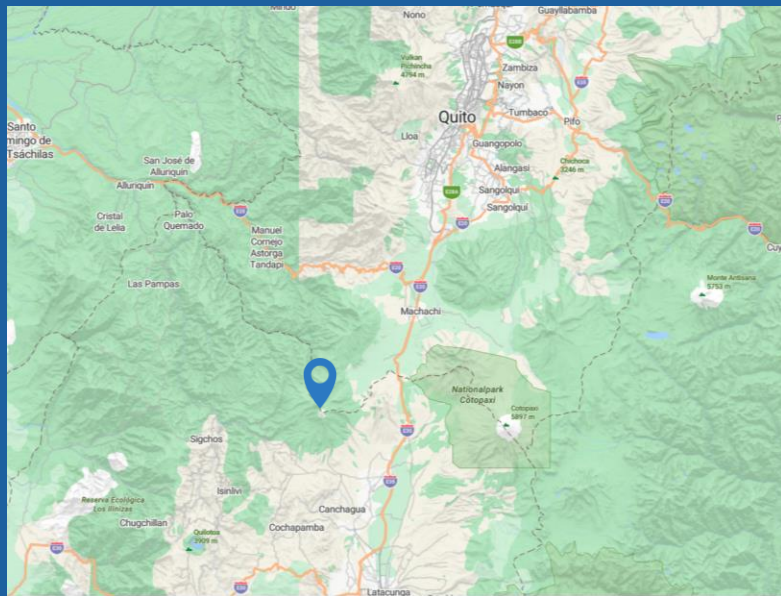


# Glacier of the Month September 2024



## LOS ILLINIZAS



Illiniza is a glacier-covered stratovolcano located 55 km southwest of Quito, Ecuador. It has two peaks 1.8 km apart, Illiniza Sur (5,248 m asl\*) and Illiniza Norte (5,126 m asl\*), and forms a prominent landmark to the west of the Interandean Valley.

Illiniza Norte is a remnant of the main volcanic edifice, while Illiniza Sur is a younger stratovolcano of andesitic-dacitic composition, containing more moisture than former. Therefore, Sur has permanent snow and glaciers.

Glaciers, known as Earth's most powerful erosive force, erode the ground beneath them by up to ten centimetres annually as they melt. This erosion reduces the pressure on underlying volcanoes, thereby heightening the chances of an eruption. A decrease in pressure favours magma production at depth, as rocks under lower pressure melt at lower temperatures.

When volcanoes erupt, they release more carbon dioxide into the atmosphere, that contributes to the acceleration of the warming process, creating a feedback loop.

Ecuador's glaciers are found in the Cordillera Occidental and Cordillera Oriental mountain ranges. From the 16th to the first half of the 19th Century, there was extensive glaciation. Since then, the equilibrium line between ablation and accumulation has shifted upwards by 250 m, which is still significantly underestimated.

(\*Illiniza Sur/Norte Statistics as of 2024 – [www.volcanodiscovery.com](http://www.volcanodiscovery.com))

1963 Courtesy of Edwin Bernbaum

Illinizas Sur

2003 Courtesy of Edwin Bernbaum

Illinizas Sur

