

Chilean Volcanoes - Lascar, Puyehue and Villarrica

A photo journal

Lesson 1

Lascar



The Lascar volcano degassing



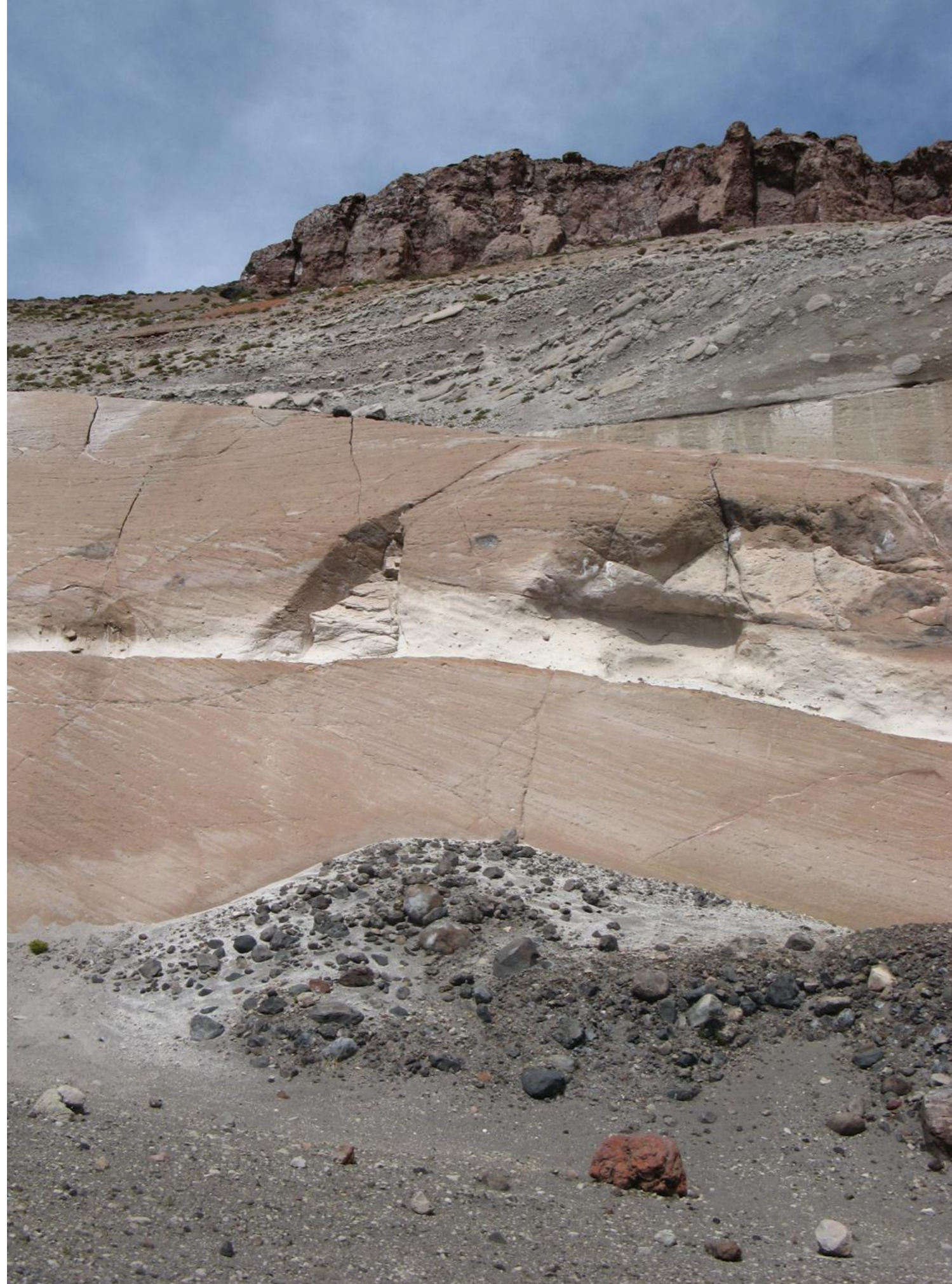
The Lascar volcano from the distance. The main cone in view is composed of pyroclastic deposits and there is evidence of erosion of the cone and pyroclastic fans at the base of the structure. In the foreground evidence of tephra in the form of ash, lapilli and bombs, but it is highly oxidised. Road runs in close proximity to the slope.



The Lascar volcano is found in the Atacama desert. This photograph shows the salt pans and lakes that exist in the lower slopes near the volcano. This is indeed a remote and dry environment.



The lower slopes of the Lascar volcano. Evidence of vast quantities of pyroclastic deposit make up the lower slopes. The largest eruption of Lascar took place 26500 years ago.



Evidence of pyroclastic flows from historic eruptions shown by the fine ash like material deposited (called ignimbrite).

This is deposited over a layer of lapilli and bombs highlighting the potential explosivity of this volcano.

There was a large recent eruption of Lascar in 1993, producing pyroclastic deposits which reached as far as 8.5km northwest of the summit. Ash fall fell in Buenos Aires, from the eruption, which is up to 1600km away.

The volcano started showing signs of activity again in 2006.

Villarrica



The Villarrica volcano is Chile's most volcano. It is one of several stratovolcanoes that sit in Villarrica National Park. The volcano covers approximately 400 km². It commonly erupts andesitic material during activity.



Evening at the Villarrica volcano, and incandescent material can be seen from the summit region.



The Villarrica volcano summit is home to one of only five active volcanoes in the world with a lava lake. The volcano generates Strombolian eruptions and produces incandescent pyroclastic material. People of climb the volcano in the summer to the crater from the town of Pucon.



The Villarrica volcano summit region with the researchers and tourists in view. There is clear evidence of a range of tephra and pyroclastic deposit indicating the potential for explosive volcanism. Large lava flow can be seen leading from the summit region. The volcano's most significant eruption was in 1971 when explosions from the crater led to pyroclasts surrounding the area and lahars affected nearby settlements of Villarrica and Pucon. Gases from the eruption were also overwhelming, leading to the deaths of 15 locals.



The lower flanks of the Villarrica volcano. Evidence of a river cutting through former lava flows.

There is also evidence of lahar deposit which give the area an uncharacteristically low relief through the valley.

Frequent snowfall on the summit region make the threat of a lahar a distinct danger to local residents, especially in the Trancura River basin which is fed by the volcano.

Puyehue volcano



The Puyehue volcano is part of the Puyehue-Cordon Caulle Volcanic complex. The stratovolcano has been known to erupt a range of material from basalt to rhyolite.



The Puyehue volcano summit region. The activity shown is ongoing from since the recent activity in 2011. Here the summit region is covered in tephra ranging from ash to small bombs. Degassing of the volcano leads to this eruptive column. The cone is home to a 2.4km crater.



This photograph shows the eruptive column from a recent eruption. The fall out is extensive and covers the immediate area.

There is believed to have been 11 eruptions between 1759 to 2011. Most eruptions have been between VEI 2 and VEI 4.

Eruptions often vary between Strombolian to sub-Plinian.



This photograph shows rhyolitic aa to blocky lava flows at close proximity to the crater. The landscape surround, covered in ash deposits, has a characteristic white appearance.



The recent eruption in June (starting on June 3rd) led to the eruption of an ash cloud reaching 12000m. This led to the evacuation of 3500 people from the surrounding area. Ash reached the Argentinian city of Bariloche, where the airport was closed. Ash from the eruption reached Buenos Aires and Melbourne where both airports were temporarily closed.