

Geology and geochemistry of the Atacama Desert

Tapia, J.

González, R.

Townley, B.

Oliveros, V.

Álvarez, F.

Aguilar, G.

Menzies, A.

Calderón, M.

© 2018, Springer International Publishing AG, part of Springer Nature. The Atacama Desert, the driest of its kind on Earth, hosts a number of unique geological and geochemical features that make it unlike any other environment on the planet. Considering its location on the western border of South America, between 17 and 28 °S, its climate has been characterized as arid to hyperarid for at least the past 10 million years. Notably dry climatic conditions of the Atacama Desert have been related to uplift of the Andes and are believed to have played an important role in the development of the most distinctive features of this desert, including: (i) nitrates and iodine deposits in the Central Depression, (ii) secondary enrichment in porphyry copper deposits in the Precordillera, (iii) Li enrichment in salt flats of the Altiplano, and (iv) life in extreme habitats. The geology and physiography of the Atacama Desert have been largely shaped by the convergent margin present since the Mesozoic