

Evolution of ice-dammed proglacial lakes in Última Esperanza, Chile: Implications from the late-glacial R1 eruption of Reclús volcano, Andean Austral Volcanic Zone Evolución de lagos proglaciales embalsados por hielo en Última Esperanza, Chile: Implicanci

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Newly described outcrops, excavations and sediment cores from the region of Última Esperanza, Magallanes, contain tephra derived from the large late-glacial explosive R1 eruption of the Reclús volcano in the Andean Austral Volcanic Zone. New radiocarbon dates associated to these deposits refine previous estimates of the age, to 14.9 cal kyrs BP ($12,670 \pm 240$ ^{14}C yrs BP), and volume, to $>5 \text{ km}^3$, of this tephra. The geographic and stratigraphic distribution of R1 also place constraints on the evolution of the ice-dammed proglacial lake that existed east of the cordillera in this area between the termination of the Last Glacial Maximum (LGM) and the Holocene. This proglacial lake generated wavecut terraces, and also caves, such as the Cueva de Milodón, along the highest prominent terrace. The current elevation of these terraces depends on the total amount of post-glacial isostatic rebound, which is unknown. Due to differential rebound, the highest prominent lake terraces decrease in height f