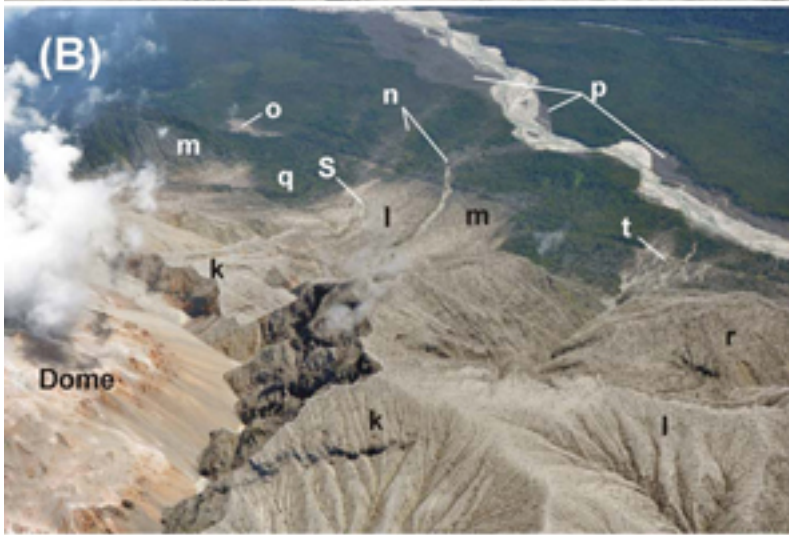
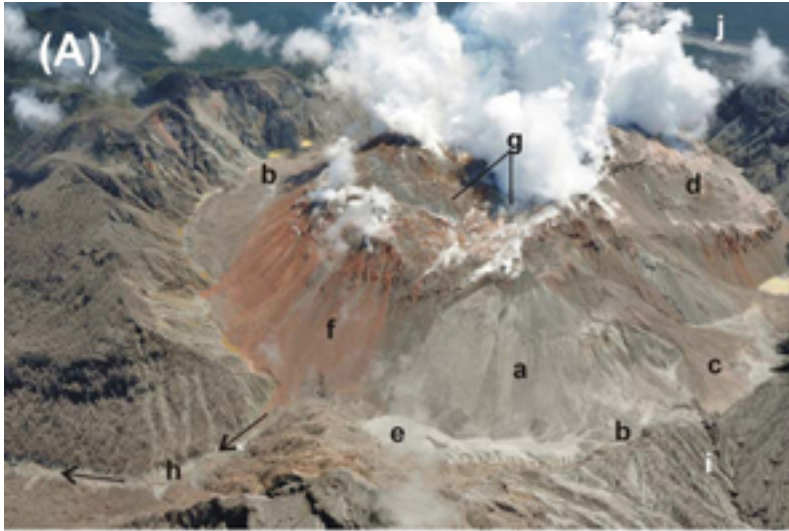


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Figure S1. (A) Aerial view to the northwest of the 3-km-diameter Chaitén caldera, showing the 2008–2010 rhyolite lava dome. (a) May 2008 tephra over prehistoric dome. (b) May 2008 pyroclastic-flow and blast deposit in caldera moat. (c) Talus from June 2008 lava lobe. (d) August 2008 lava lobe. (e) February 2009 pyroclastic-flow deposit. (f) Talus from February 2009 lava lobe. (g) Post-February 2009 endogenous growth region. (h) Unnamed tributary to Río Chaitén; arrows point downstream. (i) Newly developed drainage channel breaching southeast caldera wall. (j) Río Rayas channel north of volcano. USGS, 24 January 2010. (B) Aerial view on north side of volcano of deposits and forest disturbance resulting from Chaitén eruption. Distance from caldera rim (k) to Río Rayas channel about 3 km. Image shows zones of tree removal (k), tree toppling (l), and tree scorching (m); fluvial deposition in stream channels (n), wetlands (o), and on Río Rayas floodplain (p). Thin (5–15cm) deposits of sandy tephra fall are found in green forested areas (q); thicker (15–50cm) gravelly tephra fall is found in severely damaged forest (r). Syn- or posteruption debris flows are found along small stream channels and tributary floodplains (s,t). USGS, 24 January 2010. (C) Preeruption and (D) posteruption views of Río Chaitén looking upstream (north) from the National Highway 7 bridge in Chaitén town. Note position of fence with respect to channel bed in each view, stump of tree pictured in preeruption view, and new lava dome visible on the skyline. The river eroded its left bank, and the main channel now passes east of the fenced land visible in photographs.



Preeruption photograph © Andrés Alderete, 1 August 2007, used with permission; posteruption photograph by Héctor Ulloa, 28 January 2010.