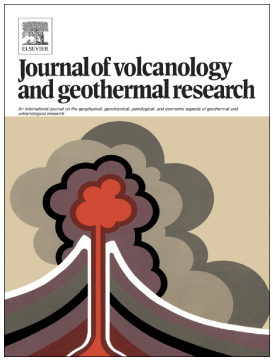

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Forensic assessment of the 1999 Mount Cameroon eruption, West-Central Africa

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Abstract

The 28 March to 22 April 1999 eruption of Mount Cameroon Volcano in southwest Cameroon occurred from multiple vents along fissures at two sites. Vents opened first at the upper site 1 (2,650 m) and were more explosive than vents at the lower site 2 (1,500 m), which were more effusive. Earthquakes, lava flows, tephra fall, ballistics and gas emissions affected the volcano's west and south flanks, including forests, plantations, stock animals, water supplies, coastal communities and their people. Through an analysis of existing published data and new primary interview data, we provide an overview of the environmental, social and economic consequences of these hazards on infrastructure, human health, and socio-economic and agricultural activities of the four coastal communities most affected by the eruption: Batoke, Bakingili, Debundscha and Idenau. The collected data provide a more detailed description of the short- and long-term direct and indirect effects of the eruption and response than has been provided to date. Sedimentation of tephra and ballistics from site 1 produced both short-term and long-lasting impacts on people, through the contamination of plants and water supplies, which induced impacts on human health and commercial activities. A ~ 9.2 km long lava flow erupted from site 2 received significant short-term attention as it severed the only arterial coastal highway, forced the evacuation of some 600 residents of Bakingili, and interrupted commerce between communities. The agricultural sector also suffered due to burning of crops and soils. The only obvious significant benefit of the eruption appears to be that the long lava flow has become a tourist attraction, responsible for bringing in money for food, drink and lodging. However, the long-term cascading effects caused by the hazards have proven to be more severe than the immediate direct and indirect effects during the eruption.

Keywords: Mount Cameroon, 1999 eruption, tephra, lava flows, damage, impact