

## **Textural and geochemical characterization of the 2018 Kilauea eruption Fissure 17 products**

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The 2018 Kilauea LERZ eruption was remarkably diverse in its magma chemistry, texture, and emplacement style. In this work we focus on Fissure 17 activity and products. The composition of F17 magmas (basaltic andesite to andesite) is highly unusual for ocean island volcanoes, and such evolved chemistry had not been previously observed in Kilauea eruptive products.

Based on geographical and geochemical constraints, we hypothesize that F17 magma is in fact 1955 residual magma. Flushing of the plumbing system with an exceptionally large amount of magma (erupted largely along the 2018 main fissure system) likely re-mobilized this highly crystalline, sluggish magma, allowing it to surface along F17. This offers us the opportunity to track the evolution of a magmatic system naturally samples by two eruptions 63 years apart.

Additionally, we explore the textural variability of lavas along fissure 17, and propose a plumbing system model that relates eruptive styles and products.