



## **Globally Significant CO<sub>2</sub> Emissions From Katla, a Subglacial Volcano in Iceland**

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Volcanoes are a key natural source of CO<sub>2</sub>, but global estimates of volcanic CO<sub>2</sub> flux are predominantly based on measurements from a fraction of world's actively degassing volcanoes. We combine high-precision airborne measurements from 2016 and 2017 with atmospheric dispersion modeling to quantify CO<sub>2</sub> emissions from Katla, a major subglacial volcanic caldera in Iceland that last erupted 100 years ago but has been undergoing significant unrest in recent decades. Katla's sustained CO<sub>2</sub> flux, 12–24 kt/d, is up to an order of magnitude greater than previous estimates of total CO<sub>2</sub> release from Iceland's natural sources. Katla is one of the largest volcanic sources of CO<sub>2</sub> on the planet, contributing up to 4% of global emissions from nonerupting volcanoes. Further measurements on subglacial volcanoes worldwide are urgently required to establish if Katla is exceptional, or if there is a significant previously unrecognized contribution to global CO<sub>2</sub> emissions from natural sources.