



## **Glacial rebound causes intraplate volcanism off South Greenland**

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Plate tectonic mechanisms explain most of the dominant types of volcanism on the planet. The less common intraplate volcanism, away from plate boundaries, has been attributed to hot spot derived from mantle plumes, though alternative explanations have been proposed for settings not fed by plumes. Recently, an additional mechanism has been proposed for smaller volcanic features via small-scale melting of the lithosphere due to plate flexure during subduction. Here we report young intraplate volcanism in an amagmatic margin south of Greenland in a 45 Ma old plate. An elongated structure with a length of 144 km and a height of 1500 m above basement extends at an oblique angle to the Mid Atlantic ridge and the fracture zones. We propose that this structure is related to brittle plate fracturing and partial melting caused by glacial rebound during the periodic melting of ice on Greenland in the last 3 Ma.