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## Volcanically-triggered changes in glacier surface velocity

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Many (~250) volcanoes worldwide are occupied by glaciers. This can be problematic for volcano monitoring, since glacier ice potentially masks evidence of volcanic activity. However, some of the most devastating and costly volcanic eruptions of the last 100 years involved volcano-glacier interactions (e.g. Nevado del Ruiz 1985, Eyjafjallajökull 2010). Therefore, improving methods for monitoring glacier-covered volcanoes is of clear societal benefit. Optical satellite remote sensing datasets and techniques are perhaps most promising, since they frequently have a relatively high temporal and spatial resolution and are often freely available. These sources often show the effects of volcanic activity on glaciers, including ice cauldron formation, ice fracturing, and glacier terminus changes. In this study, we use satellite sources to investigate possible links between volcanic activity and changes in glacier velocity. Despite some studies reporting periods of glacier acceleration triggered by volcanic unrest, the potential of using the former to monitor the latter has yet to be investigated. Our approach is to observe how glacier surface velocity responded to past volcanic events in Alaska and Chile by applying feature-tracking, mostly using optical satellite imagery. The overall aim is to systematically track changes in the glacier velocity, with hope of improving volcano monitoring and eruption prediction.