



The Bullerwell Lecture of the British Geophysical Association on Magma Storage and Ascent

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Over 800 million people live within 100 km of one of the world's ~1500 Holocene volcanoes. Improved volcano monitoring has saved tens of thousands of lives and enabled populations to co-exist with erupting volcanoes. Yet, more than a third of historically active volcanoes have no monitoring equipment on the ground, including many close to large populations in developing countries. The growing number of Earth Observation satellites can measure a wide variety of volcanic phenomena, and taken together, they have the potential to form a 'global volcano observatory', providing baselines information for every volcano in the world and underpinning the work of local observatories. Here I focus on measurements of surface deformation and their relation to the conditions of magma storage and ascent, considering what we've already learned from 25 year of satellite radar observations, and the road ahead.