

Characterising deformation of submerged volcanoes

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Submerged parts of volcanoes as well as submarine volcanoes are not considered in volcano monitoring schemes. This is in stark contrast to the fact that underwater volcanic processes, such as explosions, pyroclastic flows, volcanic seismicity, landslides, flank failure as well as caldera subsidence and collapse, can cause tsunamis with far-reaching consequences. These processes are oftentimes preceded by deformation of the volcano. Using the examples of Mount Etna (Italy), Ritter Island (Papua New Guinea), and Anak-Krakatau (Indonesia), I demonstrate that ground deformation monitoring has to encompass the entire volcano regardless of the shoreline. Otherwise, important information could be missed, which can lead to erroneous interpretation and potentially false hazard assessments.