

A fresh view on submarine volcano-tectonic deformation

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Abstract

Collapses of coastal and ocean island volcanoes can cause damaging tsunamis and thus pose ocean-wide hazards. The part that is visible to our eyes and satellites oftentimes is merely the ‘tip of the iceberg’, while the largest part of the volcanic edifice is covered by water. Despite this stark contrast, much less is known about the submarine areas as they are much harder to access. Using the examples of Mount Etna (Italy), Ritter Island (Papua New Guinea), and Anak-Krakatau (Indonesia), I demonstrate that understanding volcanotectonics, a pre-requisite for flank collapse hazard assessment, requires knowledge of the structure, deformation, and dynamics of the entire volcanic edifice regardless of the shoreline. Otherwise, important information could be missed, which may lead to erroneous interpretation and potentially false hazard assessments.

Proposer: **Prof. Giulio Di Toro**