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SVC063-21 Room: 201B Time: May 24 16:00-16:15

Ground deformation of Suwanose-jima volcano inferred from InSAR small baseline time-series analysis

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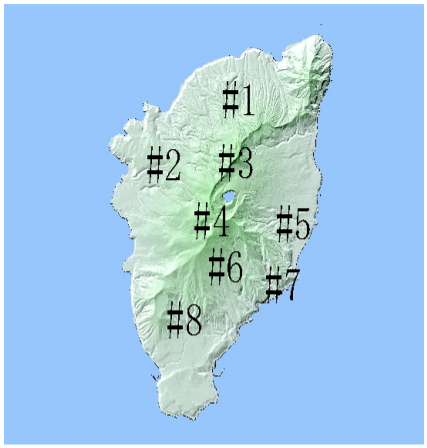
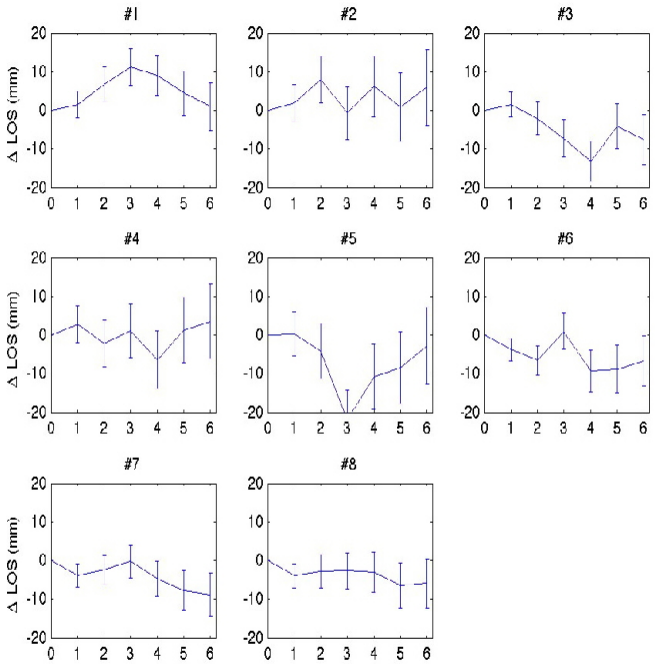
Time series of LOS ground deformation at #1 - #8





0: 2007/03/11
1: 2007/04/26
2: 2007/06/11
3: 2007/07/27
4: 2007/09/11
5: 2007/10/27
6: 2007/12/12

Suwanose-jima is one of the most active volcano of Japan with quasi-continuous unrest since 1957. It is monitored with broadband seismometers and tiltmeters but the difficulty in ground access to the island prohibits us to construct large-enough network to understand the magma plumbing system solely from the ground-based monitoring network. Ground deformation observed by the InSAR analysis thus has a potential to gain more insights into our understanding of the magma plumbing system of this volcano.
We analyzed 13 images (6 ascending and 7 descending images, respectively) taken between March, 2007, and
February, 2008. Despite 70 explosive eruptions in 2007, our least-squares inversion did not detect

any significant deformation. Explosive eruptions without significant deformation can be interpreted as eruptions without feeding magma from depth or magma propagation through the conduit without deformation.

Keywords: volcano, ground deformation, InSAR, SBAS analysis, volcano eruption