

Crustal Deformation Associated with Volcanic Activity of Asamayama Volcano Japan

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Independent observations indicate a rising of activity of Asamayama volcano Japan. Seismic activity increased in early 2000 and a rise of the temperature at the bottom of the summit crater, increase of volcanic fume and a further rise of seismic activity have been observed since June 2000.

Around the volcano 4 GPS permanent stations are in operation. They are not close enough to the volcano; even the nearest one is about 10 km away from the summit. Despite this unfavorable location of the sites, crustal deformations associated with episodic rises of seismic activity have been detected by the GPS measurements in 1996-1997, 2000-2001 and 2002 summer-present.

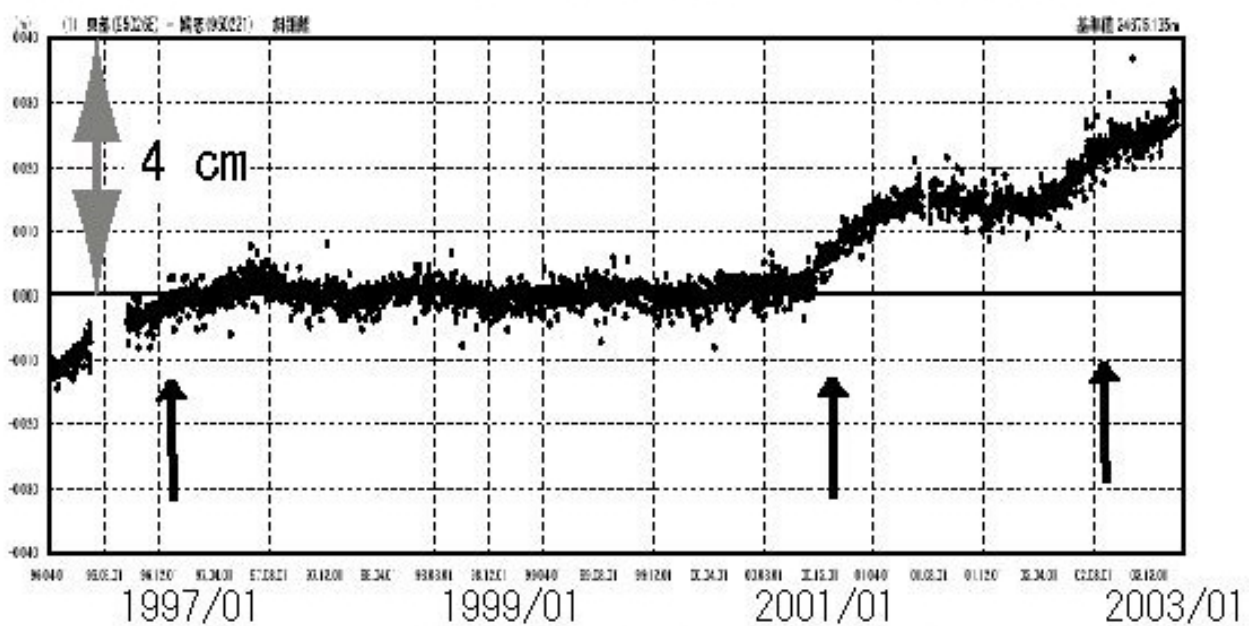
The pattern of the deformations suggests an inflation of the volcano but differentiation of the source between a spherical Mogi-type inflation or a tensile dike is difficult because of the lack of spatial information due to the poorness of the site density. Nevertheless, the fact that a deformation is observed at sites more than 10 km away from the summit suggests that at least a deep source is in action and a considerable amount of fluid is involved in the activity. Slightly different patterns of length changes between episodes further suggest the complexity of the source.

In the presentation we will show the most updated results of the deformation measured by GPS and discuss constraints for the source parameters to the limits that the data will allow.

自期間1996年04月0日
至期間2003年02月0日

回帰直線との差のグラフ (基線長)

Start: 1998年04月01日 - 2000年02月01日



A Detrended Change of a Baseline Spanning Asamayama Volcano During 1996/04-2003/01. It is detrended so that the slope during 1998-2000 becomes flat. Extension of the baseline synchronized to a rise of seismicity is detected in 1996-1997, 2000, and 2002-present.