

2006年口永良部島火山活動の評価

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要 旨

口永良部島火山では1999年7月以降、火山性地震の活動期がほぼ毎年のように繰り返し現れるようになった。2006年も例外ではなく、8月ごろから新岳火口直下の浅部においてモノクロマティック地震が発生するようになり、10月には低周波地震が多発した。さらに11月には高周波地震が頻発した。火山性地震活動の活発化に伴い、火口周辺での地盤の膨張や高温流体の上昇を示す地磁気変化、火口底での温度上昇などが観測された。2007年4月現在、口永良部島では噴火に至っておらず、2006年の火山活動は、1999年以降繰り返されてきた火山活動の活発化の1つと考えられるが、(1)低周波地震およびモノクロマティック地震の発生頻度が最も観測を1992年以降、最も高かったこと、(2)新岳火口周辺の地盤の膨張を引き起こしたと考えられる圧力源の深さが100~200mと浅くなっていること、(3)新岳火口周辺の噴気ガスの組成が変化し、SO₂などの濃度が増加したことは注目に値する。

キーワード: 口永良部島, 火山活動, 火山性地震, 火山性地盤変動

Evaluation of Volcanic Activity of Kuchinoerabujima in 2006

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Synopsis

Increase in seismic activity as been repeated beneath the Shindake crater of Kuchinoerabujima volcano in time intervals of 1-2 years since the increase of high-frequency earthquakes in July 1999. Similar seismicity was observed in 2006. Monochromatic events began to occur immediately beneath the Shindake crater in August and the seismicity transferred to low-frequency event in October. In November, high-frequency events were frequently observed. Associated with increase in seismicity, inflation of the ground around the crater was detected by continuous GPS observation and change in magnetic total force indicating uprise of high-temperature volcanic fluid began to be detected. Furthermore, temperature of ground surface became high at the bottom and south of the crater as observed by aerial infrared thermal measurement. The volcanic activity in 2006 was one of the increases of activity, which have been repeated since 1999, however, the following remarkable observation facts should be pointed out. (1) Seismicity of low-frequency and monochromatic events attained the highest level during the observation period since 1992. (2) Inflation of the ground dominantly appeared around the Shindake crater and the location of the pressure source became quite shallow (100 – 200m). (3) Composition of fumarolic gas around the crater has changed, especially SO₂ gas.

Keywords: Kuchinoerabujima volcano, volcanic activity, volcanic earthquake, ground deformation