

南九州，池田火山の噴火史

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Eruptive History of Ikeda Volcano, Ibusuki Area, Southern Kyushu, Japan

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We made a detailed geological study to understand the eruptive history of the Ikeda volcano, which includes the Ikeda caldera, maars and lava domes. The pre-caldera activity began at about 20 cal kBP with the Iwamoto ash fall deposit. The Senta lava was also effused before the Kikai-Akahoya tephra (7.3 cal kBP). The caldera-forming eruption began at 6.4 cal kBP with a phreatic explosion that produced the Ikezaki ash fall and surge deposits. This was soon followed by the magmatic eruptions that produced the Osagari and Mizusako scoria fall deposits and the Ikeda pumice fall deposit. During the climactic stage, the Ikeda ignimbrite was erupted and covered portions of the coastal area. Immediately after the caldera-forming event, four maars were formed along the fissure vent southeast of the caldera. The Yamagawa maar, which is the largest and is located at the southeastern end of the fissure vent, erupted a pumiceous base surge (the Yamagawa base surge), while the other maars ejected small amounts of accessory or accidental materials. During the late stage of the Ikeda eruption, a phreatomagmatic eruption occurred at the bottom of the caldera floor, which formed the widespread Ikedako ash fall deposit. The central lava dome was formed during the late stage of this eruption. After the Ikedako ash fall, secondary explosions of the Ikeda ignimbrite occurred mainly along the coastal area, generating small base surge deposits. About 2,000 years after the caldera-forming eruption at 4.8 cal kBP, new magmatic activity began on the margin of the caldera rim, and formed the Nabeshimadake lava dome.

Key words: Ikeda caldera, caldera-forming eruption, ignimbrite, secondary explosion

1. はじめに

南九州を南北に連なる鹿児島地溝（露木，1969）内には、北から加久藤・小林、始良および阿多の大型カルデラが並んでおり、その南方沖には鬼界カルデラが存在する（Fig. 1A）。阿多カルデラは、Matumoto（1943）により105 ka（町田・新井，2003）に噴出した阿多火砕流堆積物（略称 Ata-Pfl）の分布とともに提唱された。その後、荒牧・宇井（1966）は、Ata-Pflの噴出源をその北方の海域

に求め、その海底カルデラ（早坂，1987）を阿多カルデラとした。町田・他（2001）は、これらをそれぞれ阿多南部カルデラと阿多北部カルデラとした。Fig. 1Bに指宿地域の代表的な火山地形を示す。阿多南部カルデラの西半分に相当する薩摩半島南端の指宿地域には、小型の池田カルデラ（直径約4 km）が存在する。池田カルデラ形成時に噴出した火砕流は西側の鬼門平断層崖と東側の火山地域に挟まれた低地を埋め、平坦な火砕流台地を形

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