

The Mechanism of the 1888 Phreatic Explosion at Bandai Volcano Part 4: A Second Thought of Visual Data

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The eruption at Bandai volcano in 1888 has been known as one of the most gigantic phreatic explosions. Sekiya and Kikuchi (1890) reported that the phreatic explosions occurred almost simultaneously to the directions of up-, north- and southeast-wards. They explained that the phreatic materials stored beneath Kobandai-san and that the flows of outburst happened at the same place and took merely different routes. Recently, Yonechi (1988) analyzed the locations of the outlet of phreatic plume based on the photograph issued by Aizu-wakamatsu-shi (1966). However, this photograph could not be used to recognize an existence of other plume due to a deterioration of the picture. Takemoto (2002) suggested a possibility of another huge phreatic plume behind Mt. O-bandai-san, based on the newly discovered photograph with good state of preservation.

In this study, we analyze three old photographs which were taken immediately after the eruption and give the second thought on the 1888 explosion process. On Takemoto's (2002) photograph together with that of Fukushima-Mimpo-sha Company (1988), we identify the third steam plume with a gentle activity and probably with a low-temperature that was issued out at the old crater (Numano-taira). We discuss the physical meaning of vertically discharged steam columns from the old crater and the last explosion projected almost horizontally towards the north, together with the above mentioned observations and also with our explosion model that the pressurized chamber is located just beneath Numano-taira (Hamaguchi and Ueki, 2012).

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