

Surge deposits of the 1900 explosive volcanic eruption, Adataro volcano, Japan

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The activity on July 17th, 1900 at Adataro volcano was a series of volcanic explosions. Four times of explosions were successively occurred after 16:00 until 18:30. The last explosion was the strongest one, accompanying blast winds westward. After those explosions, a newly formed crater of 300m by 155m in size and 30m in depth was recognized within the Numano-taira horse-shoe shaped crater. Immediately after the eruption, very active sulfuric activity was observed at several small pits within the new crater.

Through the series of explosions involving the blast winds, over 80 workers at a sulfuric mine at the Numano-taira crater were killed. The blast winds collapsed hot-spa houses located at the bottom of the Iwogawa valley, approximately 1.4km west of the summit. The winds scalded the skins of evacuating people to be injured seriously. The observed thickness of fine-depleted sandy deposits of the blast winds is less than 10cm. Plots of grain-size data of the deposits on a Md-sigma diagram come very close to the boundary between plots area of air-fall and pyroclastic fall deposits. Those results indicate the deposits are derived from a pyroclastic surge, probably occurred in association with the final catastrophic explosion event.