

About a cyclic deposits of the proximal outcrops erupted from the Nakadake volcano, Aso caldera, Japan.

Masaaki Koyama[1]; Hiromitsu Taniguchi[2]

[1] Inst. Min. Petro. Econ. Geol., Tohoku Univ; [2] CNEAS, Tohoku Univ

Nakadake volcano is located in the swarm of central cones within Aso caldera, central Kyusyu, southwestern Japan. This volcano is the only active volcano in the swarm, and continues its activity every few years to several years. The activity produces volcanic disasters frequently. For the understanding of volcanic history and characters, geological surveys have been done at distal points about a few kilometers from the crater by previous studies. We need, however, the geological surveys in the field near crater for the understanding of more detailed history.

In this study, we made a geological survey at the field near the crater of Nakadake youngest pyroclastic cone and topographical survey using aerophotographs. Based on these surveyies, it was concluded that the Nakadake volcano had three stages; the old volcanic edifice, the young volcanic edifice and the youngest pyroclastic cone. Based on this study, we found that the deposits supplied from south edifice composed lower successions and the deposits from north edifice composed higher successions. This indicates that the southern part of Nakadake cone was formed firstly, and after that, northern edifice was formed. According to the succession of deposits, it was concluded that the volcanic activity at Nakadake kept almost the same way that of recent years.

Based on the detailed observation of outcrops near the first crater, the alternation of phreatic/phreatomagmatic beds and magmatic beds were found. It should indicate the fact that the recent activity is characterized by the phreatic/phreatomagmatic eruptions and magmatic eruptions alternately.

But comparison proximal deposits to distant deposits are qualitative. So we need quantitative contrast to discuss that comparison. And the ash deposits at proximal outcrops closed to the first crater changed various color from essential it. We discussed that changes.