

Formation mechanism of the north body of the Kumano Acidic Igneous Rocks

Yuu Kawakami[1]; Hiroyuki Hoshi[2]

[1] Graduate School of Env., Nagoya Univ.; [2] Dept Earth Sci., Aichi Univ. Educ.

A felsic igneous activity including caldera-forming eruption and subsequent intrusion of magma into intracaldera deposits effectuates the formation of the north body of the Kumano Acidic Igneous Rocks (KAIRs) in the Owase-Kumano area, Kii peninsula, Honshu island. At least two collapse caldera structures, each 10*15 km and 5*10 km in diameter, have been recognized by investigating surface geology of the area. A pile of pyroclastic deposits, characterized by the dominance of crystal-rich ashes, vary in thickness at both sides of an inferred arcuate fault at the south of KAIRs. Additionally, many boulders are included in the ash beds near the inferred fault, interpreted as caldera-collapse breccias that sourced from the fault scarp during the caldera forming eruption. An arcuate intrusion of granite porphyry at the northern margin of the north body is interpreted as a magma conduit along a subsurface circular fracture. This arcuate intrusion is connected with a huge laccolithic mass of granite porphyry that intrudes intracaldera deposits. Thus the granite porphyry intrusion is a post-subsidence magmatic activity and is interpreted as a cause of resurgence of caldera in the area.