

Abstract

Merapi represent a nature glamor amazing, with the trapeze top opening up at west. This volcano oftentimes vomit the heat material, such as dusty rain and hot sand, blast of pyroclastic flows and rock fall of lava. The eruption cycle is short enough, that is about 2 - 7 year. Merapi needs special attention, because in every happened by the eruption will menace human being at least 40.000 people.

Pyroclastic flows often generate disaster. Apart of this gliding sediment can reach the radius more than 10 km with the temperature more than 600 °C and have speed about 300 km /hour. This hot material in the form of dust and sand, the grain size is about 4 - 0.5 mm. Grain size analysis of pyroclastic flows which is taken away from area is near by eruption center till to the slope, showing pattern bimodal, the grain size is 4 mm and 0.250 mm, its mean is the grain size is unsorted. This sediment is effect of process the precipitation by turbulence.

1. Introduction

Gunung Merapi represent the active volcano, owning crater has diameter of 400 m². This crater is filled by dome of lava and pyroclastic . This volcano is located in the middle of very populous area, so that if the eruption happens will menace the soul of human being living around its.

The eruption threat the region around Merapi activity which often happens is pyroclastic flows. This pyroclastic is hot material contain block and ash deposite. Blast of pyroclastic flows look like the mushroom or cloud rolling in high-speedly, so that local people at Merapi mention it as "*wedus gembel*".

At this writing accurate piroclastic flows samplas are taken residing at K. Apu, K. Senowo, K. Lamat, K. Putih, K. Batang, K. Bebung, Boyong, K. Kuning and K. Woro. This Sediment is done by analysis granulometry which aim to know the characteristic distribution grain size of pyroclastic flows of Merapi, so that variation of grain size, like distribution and relation of grain size, and what will be that characteristic. Method used to finish the problems is by using statistical analysis method. Samples pyroclastic flows taken by coarse faction with the grain size which get away the mesh have diameter opening less than 4 mm.

2. Geologic setting

By regional is this Merapi lays in the intersection of two faults, that is direction north - south and northwest - southeast. In the part of summit, this faults expand, so to form the pattern almost look like bow in two place, each started from Gunung of Turgo-slope of east of Gunung Uto with direction northeast-southwest and the west slope of Gunung Ijo-Pusunglondon having direction north-south. The recent product of Merapi often called Gunung Anyar. This gunung represent the most young Merapi and all the activity centrally here. Depression in the summit represent the crater that opening up at southwest. That form affected by eruption 1961.

Gunung Bibi is lapped over by Pre Merapi and this sediment is the oldest rocks, that is old age 400.000 year ago. On the top precipitated of scoria and lava are representing Ancient Merapi (40.000-6700 year ago) and this rock is laid bare in Turgo hill and Plawangan. This Rock is assum as from parasitic eruption. Over lay that sediment is precipitated Middle Merapi (6700-2200 year ago) and Recent Merapi (2200-600 year ago). The Middle Merapi is compiled by Batulawang (older) consisted of the lava and Gajahmungkur (more young) that have association