ANALISIS RUTE EVAKUASI BENCANA AWAN PANAS GUNUNGAPI SINABUNG SUMATERA UTARA

Evacuation Routes Analysis of Pyroclastic Flows at Mount Sinabung North Sumatra

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Gunungapi Sinabung saat ini berada di tingkat IV (awas). Aktivitas vulkaniknya di tahun 2013 menunjukkan semburan abu vulkanik mencapai Kota Medan yang berjarak 80 km dari pusat letusan, dan adanya korban jiwa 17 orang akibat sapuan awan panas. Upaya mengurangi korban jiwa dan kerugian dapat dilakukan melalui proses evakuasi. Evakuasi berjalan optimal, jika perencanaan rute evakuasi pun optimal. Penelitian ini bertujuan menganalisis rute evakuasi terdekat dan darurat akibat paparan awan panas di area Gunungapi Sinabung dengan menggunakan metode *closest route analysis*. Hasil penelitian menunjukkan pemukiman terdampak awan panas dari tahun 2015-2018 berada di tiga wilayah, yaitu: barat daya, timur, dan utara. Bagian barat daya terletak di Kecamatan Payung, sedangkan di utara dan timur terletak di Kecamatan Naman Teran. Rute evakuasi terbagi sesuai dengan area pemukiman terdampak terseibut, yaitu barat daya berjarak tempuh 8,2 km dan waktu tempuh 16,4 menit, utara berjarak tempuh 11 km dan waktunya 22 menit, dan bagian timur berjarak tempuh 8,9 km dan waktunya adalah 17,8 menit. Rute darurat menuju tiga rumah sakit, yaitu Lao Simono (rute barat daya), Efarina Etaham (rute utara), dan Kaban Jahe (rute timur). Waktu tempuh dihitung dengan asumsi kendaraan roda empat berkecepatan 30 km/jam.
Kata kunci: Sinabung, awan panas, rute evakuasi, closest route analysis

Abstract

Sinabung Volcano is currently at level IV (alert). Volcanic activity in 2013 showed bursts of volcanic ash reaching Medan which is 80 km from the center of the eruption, and there were 17 fatalities due to sweeping hot clouds. Efforts to reduce fatalities and losses can be done through an evacuation process. Evacuation is optimal, if planning for an evacuation route is optimal. This study aims to analyze the nearest evacuation route and emergency due to exposure to hot clouds in the Sinabung Volcano area using the closest route analysis method. The results of the study show that settlements affected by hot clouds from 2015-2018 are in three regions, namely: southwest, east and north. The southwest part is located in Payung District, while in the north and east it is located in Naman Teran District. The evacuation route is divided according to the particular affected residential area, namely the southwest is 8.2 km away and travel time is 16.4 minutes, the north is 11 km away and the time is 22 minutes, and the eastern part is 8.9 km and the time is 17.8 minutes. Emergency routes to three hospitals, namely Lao Simono (southwest route), Efarina Etaham (north route), and Kaban Jahe (east route). Time travel estimation is calculated by four wheel vehicle of speed 30 km/hour.
***Keywords**: Sinabung, pyroclastic flow, evacuation routes, closest route analysis*