MONITORING OF LOKON VOLCANIC ACTIVITY USING HVSR (HORIZONTAL TO VERTICAL SPECTRA RATIO ) METHOD AUGUST-NOVEMBER 2014

By :
ANNISA EKA PUTRI

ABSTRACT

Lokon volcanic is one of active volcanic in Indonesia that is in Tomohon, the province of north Sulawesi. This study attempts to obtain information regarding temporal frequency HVSR which can be used indicators to estimate eruption gunungapi lokon in the period agustus-november 2014. A method of HVSR (Horizontal To Vertical Spectra Ratio) expected to be new alternative for monitoring volcanic activity based on characteristic frequency resonance obtained from a curve HVSR. Of the result of this research, eruption lokon volcanic characterized by the appearance of value frequency ($f_0$) over medium HVSR of 4.13 hz-4.23 hz,25 days before eruption, precisely on 18 august 2014 to 16th september 2014. The emergence of value frequency ($f_0$) over medium before eruption indicates that the process of the increasing magma surfacing as the realization of the eruption Lokon volcanic on the 13th september 2014. Eruption Lokon volcanic the 13th september 2014, shows that there has been a very fast response on a volcanic system (magmatik and hidrotermal) Lokon volcanic, it is increase the pressure of a sudden suspected contributed from earthquake tectonics on the 10 september 2014 so as to affect balance activities in Lokon volcanic mountain. An increase of volcanic earthquake, amplituda tremor and earthquake tectonics indicated to an increase of pressure suddenly in Lokon volcanic so as to affect value frequency HVSR characterized by the appearance of value frequency ($f_0$)over before eruption medium. But, not all of the changes frequency HVSR related to a change Lokon volcanic activity the 13th september 2014, shows that there has been a very fast response on a system volcanic (magmatik and hidrotermal) Lokon volcanic is to increase the pressure of a sudden suspected contributed from earthquake tectonics on the 10 september 2014 so as to affect balance activities in Lokon volcanic. An increase in the number of volcanic earthquake, amplituda tremor and earthquake tectonics indicated to an increase of pressure suddenly in Lokon volcanic so as to affect value frequency HVSR characterized by the appearance of value frequency ($f_0$) over medium before eruption. But, not all of the changes frequency HVSR be related to a change volcanic activity.

Keyword: HVSR Method, Fundamental Frequency($F_0$), Lokon Volcanic Mountain