

## **INTISARI**

### **ESTIMASI KEDALAMAN SUMBER TEKANAN DAN VOLUME SUPLAI MAGMA GUNUNG LOKON BERDASARKAN DATA GPS PERIODE AGUSTUS 2011 – MEI 2012**

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Pendugaan kedalaman sumber tekanan dan volume pasokan magma Gunung Lokon periode Agustus 2011 - Mei 2012 dihitung melalui analisis perubahan data GPS dengan pendekatan kuantitatif Model Mogi. Asumsi yang digunakan adalah variasi data GPS diakibatkan oleh perubahan tekanan hidrostatik di pusat tekanan yang berbentuk bola yang berada dalam medium homogen.

Data GPS diperoleh dari pengamatan dengan alat GPS tipe receiver Trimble NetRS dengan jenis antena Zephyr TRM41249 yang dipasang di stasiun Kinilaw (KINL), Wailan (WALN) dan POS PGA Lokon (KKVO) pada periode Agustus 2011- Mei 2012. Melalui pendekatan model Mogi dapat diketahui bahwa data anomali GPS tersebut diperkirakan berhubungan dengan volume pasokan material magma sebesar 1,5-1,57 juta m<sup>3</sup> yang berada pada kedalaman 1,1-1,8 km di bawah puncak Kawah Tompaluan. Hasil ini konsisten dengan penelitian Mogi sebelumnya ( Haerani, 2010) yang menunjukkan pusat tekanan Gunung Lokon berada pada kedalaman 1,83 km.

**Kata kunci :** GPS, Mogi, deformasi, kedalaman pusat tekanan, suplai magma

## **ABSTRACT**

***DEPTH ESTIMATION OF PRESSURE SOURCE AND MAGMA SUPPLY  
VOLUME OF LOKON VOLCANO BASED ON GPS DATA  
DURING AUGUST 2011 – MAY 2012***

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Pressure source depth prediction and magma supply volume of Mount Lokon during August 2011- May 2012 has been calculated through GPS data analysis using quantitative Mogi Model. The assumption used that GPS data variation due to changes of hydrostatic pressure located of centre of pressure source which has a shape of sphere in homogeneous medium.

GPS data has been obtained from monitoring with GPS receiver type Trimble NetRS antenna type Zephyr TRM41249 which was set permanently at Kinilaw (KINL), Wailan (WALN) and PGA Lokon (KKVO) station between August 2011- Mei 2012. By using Mogi Model approximation, it is known that GPS data anomaly correlates with volume of magma material supply with amount of 1,5-1,57 million m<sup>3</sup> at 1,1-1,8 km below the summit. These results are consistent with previous research about Mogi (Haerani, 2010) which showed pressure source of Mount Lokon is located at a depth of 1.83 km.

**Key words :** GPS, Mogi, deformation, depth of pressure source, magma supply