Pemodelan struktur geologi bawah permukaan gunung api Ciremai berdasarkan data anomali gravitasi satelit

Title	Pemodelan struktur geologi bawah permukaan gunung api Ciremai berdasarkan data anomali gravitasi satelit
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Abstract	Modeling of the subsurface geological structure of Ciremai Volcano has been carried out to determine the shape of the subsurface structure and volcanic magma chamber as initial mitigation. The data used in this research is satellite gravity field anomalies data obtained from the website http://topex.ucsd.edu/cgi-bin/get.cgi with positions of -6.6949Ã‚Â° - 7.0949Ã‚Â° S and 108.2083 Ã‚Â° - 108.6083Ã‚Â° E which have been corrected to free air correction. The data processing carried out includes Bouguer and terrain corrections to obtain a Complete Bouguer Anomaly value, ranging from -117.7 Ã¢Â€Â" 67.5 mGal. Next, reduction to a horizontal surface using the Taylor Series Approximation and separation of regional Ã¢Â€Â" residual anomalies using the Polynomial method are carried out to obtain residual anomalies data Ã¢Â€Â‹Ã¢Â€Â‹with a range of -116.2 Ã¢Â€Â" 27.93 mGal. The residual anomaly contour map shows low anomalous values Ã¢Â€Â‹Ã¢Â€Â‹at the position of 108.4017Ã‚Â° S and -6.898Ã‚Â° E which is estimated to be the magma chamber of Ciremai Volcano which is still active. Meanwhile, the modeling results show that the position of the Ciremai Volcano magma chamber is located at 108.3965Ã‚Â° S and -6.8962Ã‚Â° E. This position is not directly below the volcanic crater, but 511.37 m to the east of the volcanic crater with a relatively large volume with a depth of around 2 Ã¢Â€Â" 8 km. The modeling results show that the subsurface geological structure of Ciremai Volcano is composed of rocks in the liquid phase (1.50-1.88 g/cm3) which are estimated to be magma chambers, sedimentary rocks including calcareous sandstone, tuffaceous sandstone, conglomerate and breccia (1, 91 Ã¢Â€Â" 2.65 g/cm3), as well as andesite-basaltic lava rock (2.7-3.0 g/cm3)
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