

Gravity Map of Okayama District (Bouguer Anomalies)

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A new gravity map of Okayama district has been edited. Compiled gravity data within the map area are over 11,000 stations including newly added 1,136 gravity stations on land. All the measured gravity data were referred to the Japan Gravity Standardization Net 1975 (JGSN75) and normal gravity values were calculated according to the Geodetic Reference system 1980 (GRS80). Bouguer, terrain and other corrections were applied, following the standard procedure of gravity data processing at the Geological Survey of Japan, AIST (SPECG 1988). The Bouguer and terrain corrections were carried out to remove an effect of bounded spherical crust and an effect of actual topographic undulation relative to the spherical surface, respectively, within a distance range of 60 km. The density value used for both Bouguer and terrain corrections is 2.3 g/cm³.

The Bouguer anomaly maps and filtered gravity maps revealed following features: (1) This area is mainly covered by gentle slope positive Bouguer anomalies. (2) Short-wavelength and high Bouguer anomalies are well consistent with Paleozoic rocks such as Permian Maizuru group. (3) Steep gravity change over 45 mGal exists between the Shimane peninsula and the Shinji-ko lake and Naka-umi sea. (4) Low gravity anomaly about 5-10 mGal corresponds to the Daisen volcano and Hiruzen volcano. (5) Gravity changes along and/or across active faults or the earthquake fault of the 2000 Tottoriken-Seibu earthquake are not clearly defined.