

New Gravity Anomaly Map - Conrad-Moho-Slab Residual Gravity Anomaly: (1) Definition and Examples

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Gravity contributions due to undulations of subducting slabs, Moho- and Conrad- discontinuities are computed based on their three-dimensional configurations. All of them were seismologically estimated ones. When we subtract the contributions from observed gravity anomalies around the Japanese Islands, resultants represent gravity anomalies due to layers shallower than the Conrad-discontinuity that is evaluated about at the depth of 15 km. We named the new gravity anomaly as the "Conrad-Moho-Slab Residual Gravity Anomaly".

We compared the new gravity anomaly with distributions of geology, Quaternary volcanoes, active faults, seismic activity, and GPS displacement vectors, respectively.

The new gravity anomaly is presumably a good indicator of tectonic active deformation boundaries.