

# Magnetic anomalies over Japan mapped from the aeromagnetic database

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Aeromagnetic data from the Geological Survey of Japan (GSJ) and the New Energy Development Organization (NEDO) have enough coverage over the Japanese main land and surrounding sea areas.

The data from surveys by GSJ are stored in files with three types of unified formats, while those from NEDO surveys were also recovered from magnetic-tape archives into another two types of formats. There was a problem that the discontinuity exists between IGRF residual maps of adjacent areas surveyed at different epochs. In former compilation of magnetic maps, a kind of unreliable trend removal is applied together with upward continuation filtering. However, it is proven that this discontinuity can be mitigated by adopting the DGRF model, instead of tentative IGRF model, as a reference base, because the tentative model sometimes fails to predict the secular variation of the geomagnetic field.

The aeromagnetic anomaly map of Japan presented this time is a color grading map with shaded relief, which has an ability of representing the full resolution of original data. The grid data is not re-processed from line data, the distortion of magnetic anomaly pattern included in the original data is reserved unchanged. The shaded relief representation visualized such distortion at limited locations.