

日本-韓国地域の磁気異常データの編集

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Compilation of magnetic anomaly data of Japan-Korea area

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Geological Survey of Japan (GSJ) and Korea Institute of Geology, Mining and Materials (KIGAM) have a project "Joint Compilation of Regional Geophysical Data between Japan and Korea." As one of its products, we plan to publish a magnetic anomaly map of an area 30 ° N-38 ° N and 126 ° E-136 ° E by compiling existing aeromagnetic and marine magnetic data.

The data processing of compilation is being done as follows.

- 1) Collection of existing magnetic data sets in the above area.
- 2) Editing and adjustment inside each data set.
- 3) Gridding of each data set.
- 4) Upward continuation of the data set to an altitude of 2 km.
- 5) Adjustment among airborne and marine gridded data sets.
- 6) Preparation of the compiled magnetic anomaly map.

We have collected the following aeromagnetic data sets.

A) Detailed near-surface profile data obtained by KIGAM with flight line spacing of about 1 km, which cover most of the southern Korea land area. Step 3) created a gridded data set at an altitude of 1000 feet above ground. Then, a gridded data set at a constant altitude of 2 km is created by mathematical calculation of upward continuation.

B) Data obtained by NEDO with a flight altitude of about 4500 feet and a flight line spacing of 3 to 4 km, which cover western part of Japanese land area, and data obtained by GSJ in the offshore areas adjacent to the above land area. They were provided as two gridded data sets:

one for Kyushu area at a constant altitude of 6500 feet and the other for Shikoku-Chugoku area at a constant altitude of 8000 feet. The offshore data collected by GSJ had been merged into one of data sets corresponding to the adjacent land area. The steps 2) and 3) of the above data processing were omitted in our data processing. Marine data are treated as one data set in the above data processing. This includes the marine profile data obtained by GSJ, Hydrographic Department of Japan, Korea National Oil Corporation (KNOC) and other various organizations. All the data except the GSJ and KNOC data were obtained through the Japan Oceanographic Data Center and the U.S. National Geophysical Data Center. Before the step 2) of the above data processing, magnetic anomalies were recalculated using DGRF-IGRF reference fields. The anomaly data are adjusted by minimizing cross-over errors in the step 2), and some of the profile data with large cross-over errors are deleted from the data set. This step is most time consuming, since it is carried out by trial and error. The compilation is still going on including efforts to collect new data sets, and we expect good data coverage for the final map. We will present a preliminary version of the magnetic anomaly map.