

GEOMAGNETIC SURVEY AT SEA

This is a continuation of the report of geomagnetic surveys at sea by the Hydrographic and Oceanographic Department. This report gives brief summary of Nishinoshima in 2010-2011.

Key word: marine geomagnetic survey.

1. Surveys

The total magnetic intensity at sea surface was measured by a proton precession magnetometer of PM-217 installed on the survey vessel Shoyo of the Hydrographic and Oceanographic Department (JHOD). The sensor was towed about 350m behind the vessel. The data from the sensor were sampled every 20 seconds.

2. Data processing and Results

The measured total magnetic intensity includes components of external field variation. The correction of the external field variation was carried out based on the continuous magnetic observations at a reference magnetic observatory close to the survey area. The details on the compiled magnetic surveys, the name of the reference magnetic observatory, the reference values for external field correction and the epoch year of data processing are listed in Table 1.

For calculations of the total intensity magnetic anomaly values, the IGRF model was used as the core field model in accordance with the recommendation of the IAGA.

Geomagnetic total intensity anomaly maps are shown in Fig. 1 .

Reduction and compilation of this report were made by K.Ogata,K.Onodera and K.Koyama belong to the Geodesy and Geophysics Office.

GEOMAGNETIC SURVEY AT SEA

References

The results of geomagnetic surveys at sea for preceding years are found in the following publication series.

Data Report of Hydrographic Observations, Series of Astronomy and Geodesy, No.18, 1984,

Ibid. , No.19, 1985,

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Ibid. , No.33, 1999,

Ibid. , No.35, 2001,

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Ibid. , No.38, 2004,

GEOMAGNETIC SURVEY AT SEA (2006-2008).

GEOMAGNETIC SURVEY AT SEA (2010).

Table 1. Details on the compiled magnetic surveys at sea

Cruise index	NISI11	
Area	Nishinoshima	
Period	Sep, 2011	
Vessel	Shoyo	
Magnetometer	PM-217	
Positioning	Integrated Navigation System	
Track lines	0.5 naut. Mile	
Anomaly map	Fig. 1(2010-2011)	
Scale of original map	1/250000	
Map projection	TM	
Reference Magnetic Observatory	Chichijima (27° 05.8 N, 142° 11.'1 E)	
Reference value for an External field correction	41082.3nT	
Core field model	IGRF2010	
Contour interval	50nT	
Epoch year	2011.9	

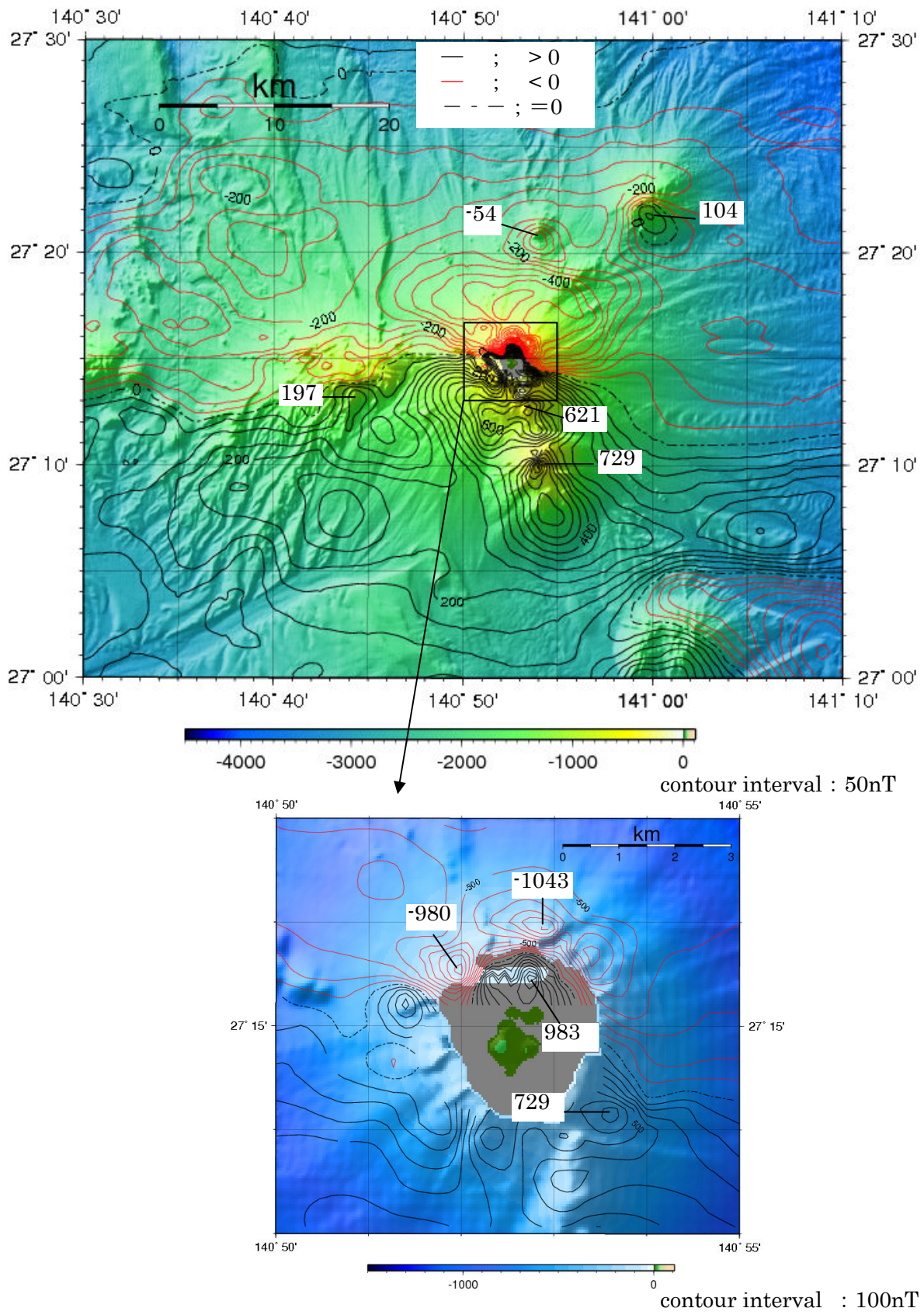


Fig.1 Geomagnetic total intensity anomaly map in and around Nishinoshima.