Korea Basic Maps of the Sea
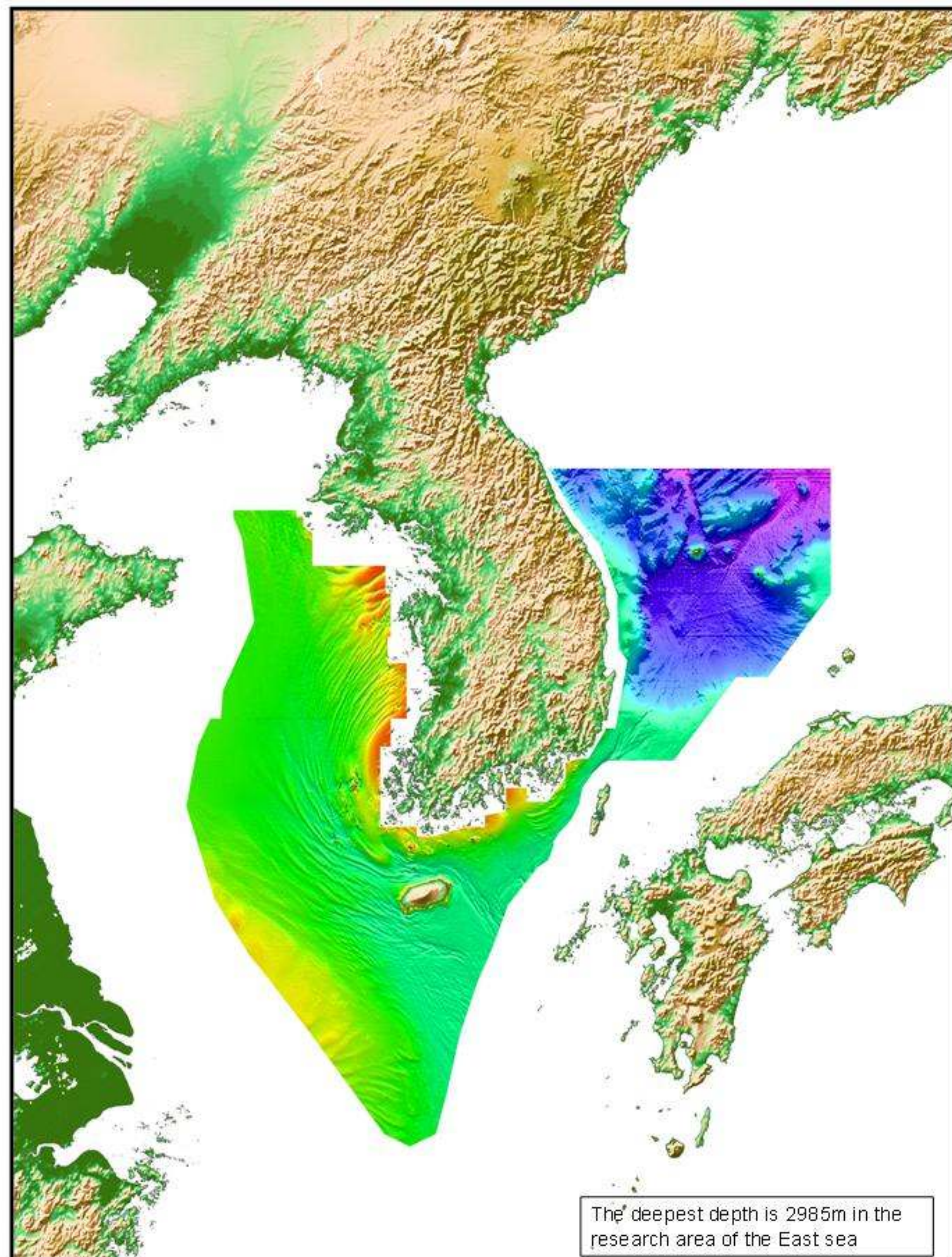## Edited by Iji KIM
Korea Hydrographic and Oceanographic Administration
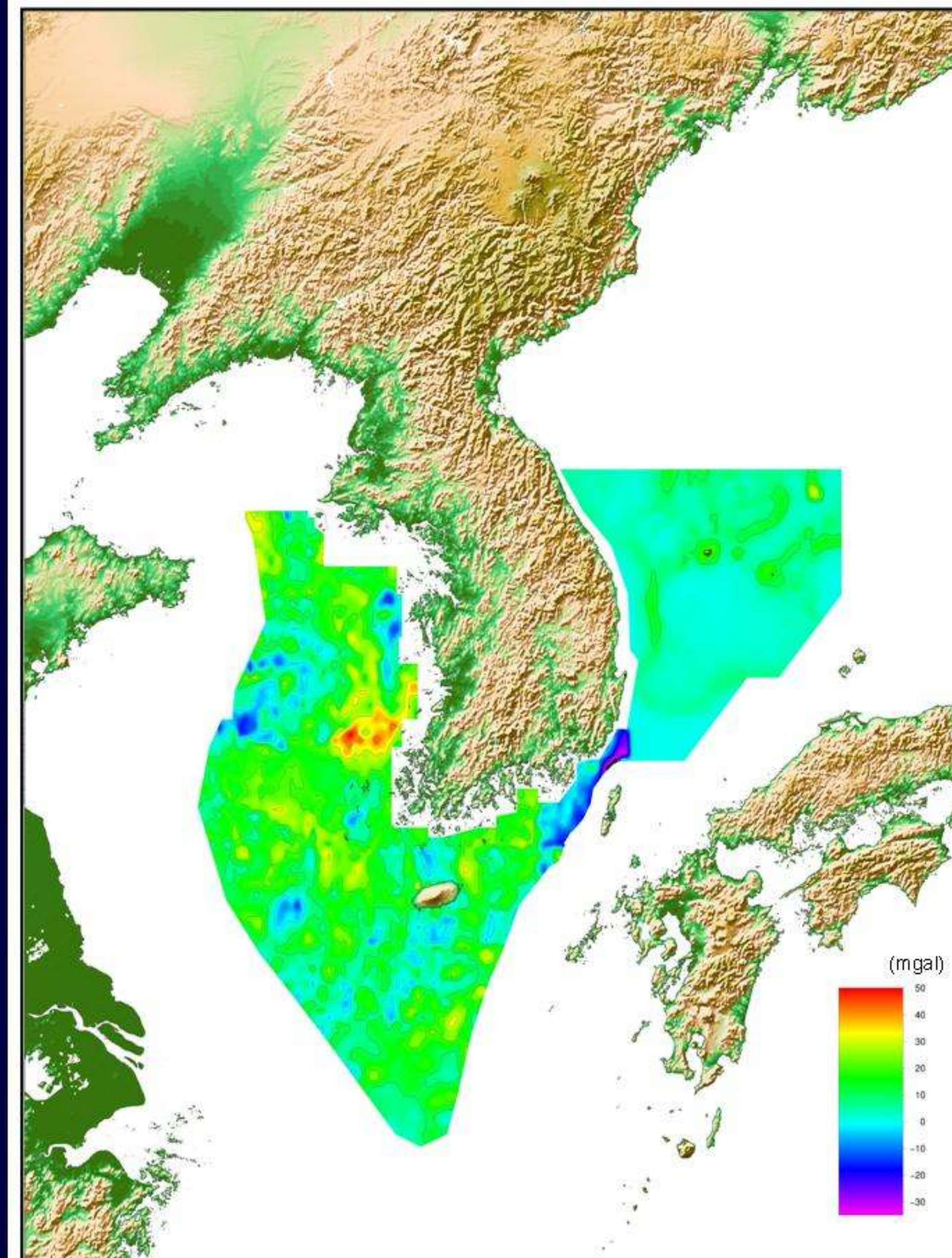ezis1007@korea.kr, infokhoa@korea.kr
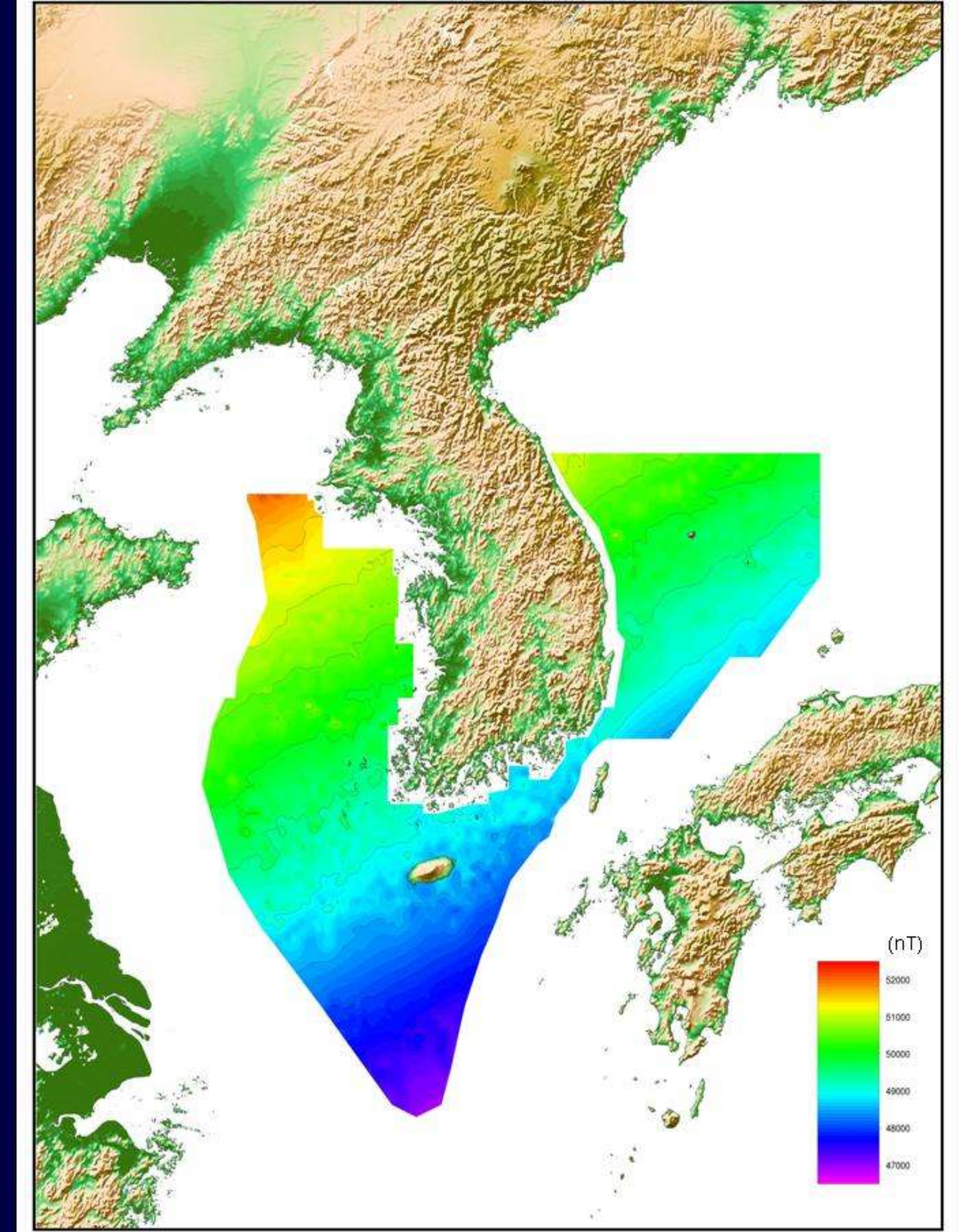
Bathymetry

The deepest depth is 2985m in the research area of the East sea

Gravity Anomaly

(mgal)

Total Geomagnetism

(nT)

Purpose
To optimize the management and the use of marine resources in Korean waters around the Korean Peninsula, KHOA has developed "Korea Basic Maps of the Sea" since 1996. The data for the map is collected by KHOA using multi-beam and other high-tech equipment, and displays the physical properties of the ocean including gravity fields, geomagnetism, sub-bottom profile. The survey for 15 years were finalized in 2010. The data are being used as important fundamental resources for development and preservation of the Korean waters. It is also used for academic research. The maps on this poster includes all of integrated data, and visualized with GMT as a mapping tool.

General
- Survey period : 1996 ~ 2010
- Equipments : MBES(Seabeam, EM300, Seabat7125, EM3002), Marine Gravimeter(KSS-31, S-115,), Sub-bottom Profiler(Chirp, Z-tam II) , Magneticmeter(G-856, SeaSPY)

### Major characteristics on the charts
[Bathymetry: upper left] Northwards of about 37° , numerous circular bathymetric highs of seamounts and seafloor plateaus are located around Ulleungdo and Dokdo islands in the East sea.
[Gravity Anomaly: upper middle] The free air anomaly is calculated from data which acquired with S-115, KSS-31 on KHOA's survey vessel. The data set have been used on establishing geoid, determining the sub-structure of bottom, academic research and so on.
[Geomagnetism: upper right] A pronounced broad positive magnetic anomaly with local highs is observed off the southeastern coast of the Korean Peninsula. A large positive anomaly at 36-00N and 129-30E with an amplitude greater than 300 nT is probably caused by the seaward extension of Tertiary volcanic flows which have a strong remnant magnetization as is observed in the outcrops off Pohang
[Sub-bottom: lower left] All 42 kinds of characteristics are distributed in Korean waters. The characteristic classified with acoustic feature using the data collected by sub-bottom profiler.

Sub-bottom
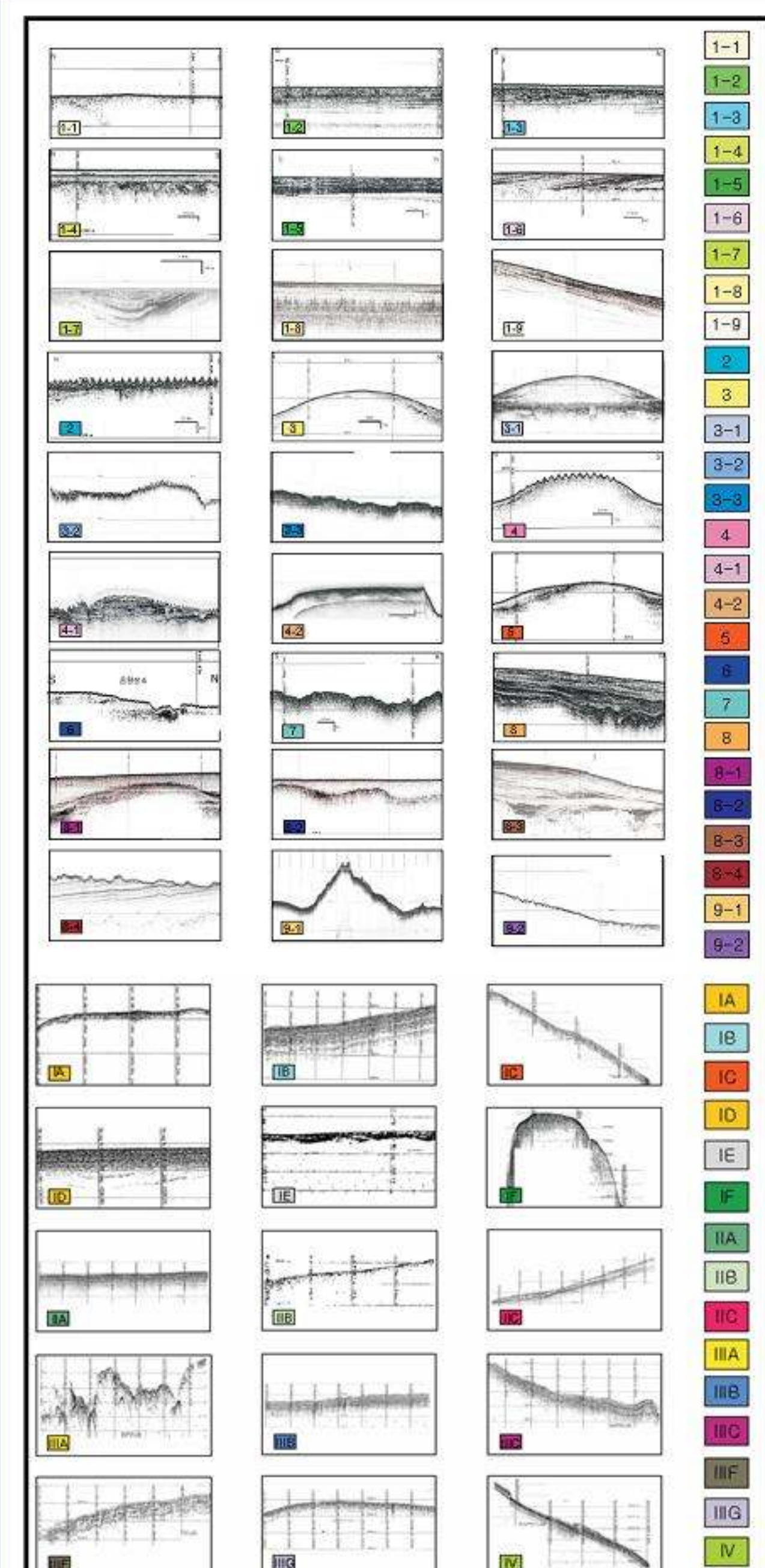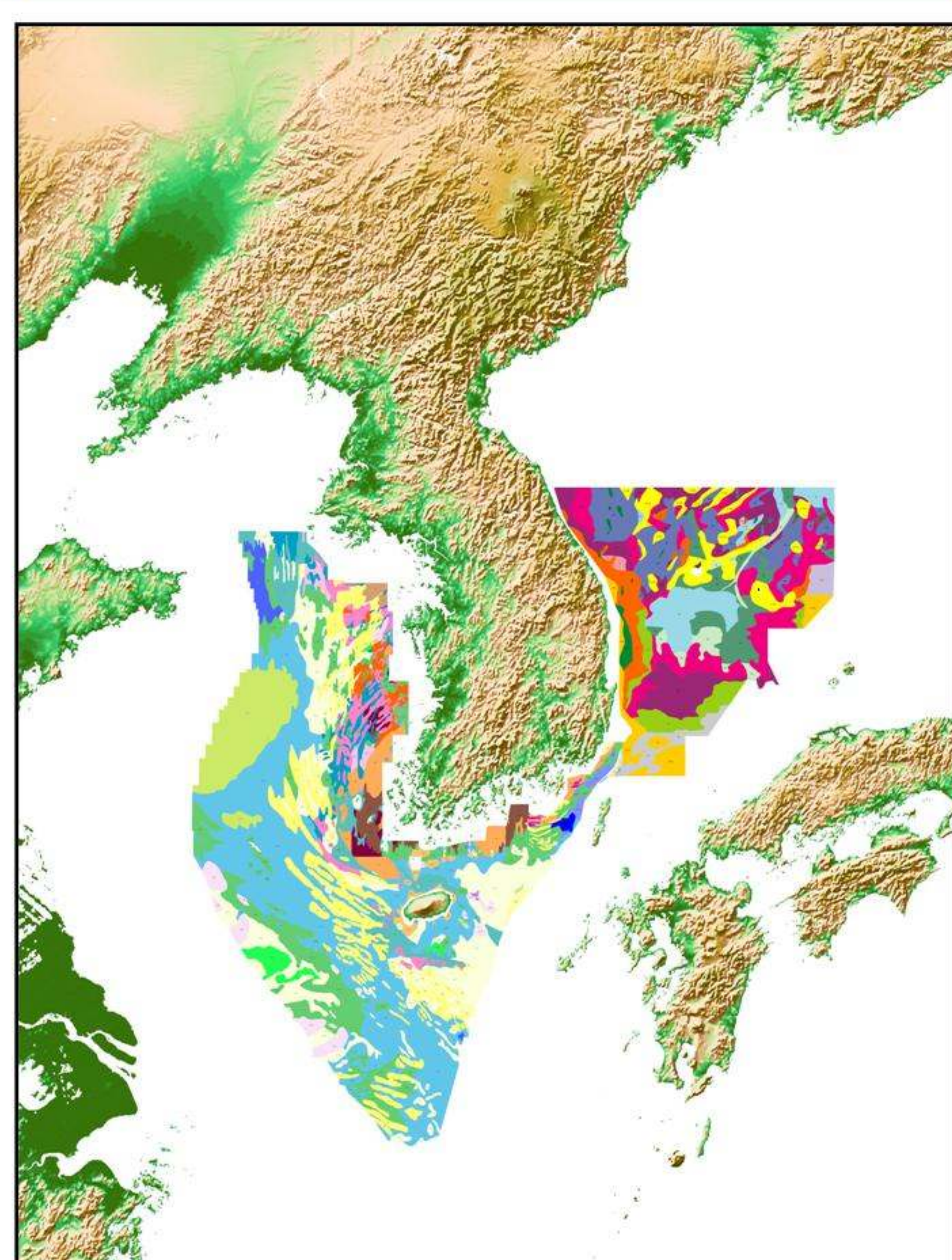
Echo type IA : Sharp, continuous bottom echoes with no subbottom reflectors
Echo type IB : Sharp, continuous bottom echoes with continuous, parallel subbottom
Echo type IC : Distinct, smooth, steeply dipping bottom echoes with parallel subbottom Reflectors draping irregular subsurface topography incision by slide scar
Echo type IF : Distinct bottom reflectors with very prolonged subbottom or no subbottom
Echo type 1-1 : Flat, distinct bottom echoes lacking distinct subbottom reflectors
Echo type 1-2 : Flat, distinct bottom echoes with diffused, prolonged, or deformed subbottom echoes
Echo type 1-3 : Flat, distinct bottom echoes underlain directly by a transparent layer
Echo type 2 : Flat sea bottom covered by regularly spaced ripple-shpae structures either with or without subbottom echoes
Echo type 3 : Gently mounded, smooth surface with either no subbottom reflectors or weakly stratified internal reflectors on the mound flanks
Echo type 4 : Gently mounded sea floor covered by small-scale incision
Echo type 5 : Gently mounded sea floor on which occur regularly spaced ripple-shape structures, closely overlapped huperbolic echoes, and wedges of transparent echoes
Echo type 6 : Regionally flat sea floor with small-scale troughs.
Echo type 7 : Erosional sea floor with a great topographic relief\
Echo type 8 : Irregular sea floor with various geometry from small lenses to large-scale banks that are remarkably well stratified with oblique internal reflectors
Echo type 8-1 : Distinct surface reflectors, underlain ridge forms, no internal reflectors
Echo type 8-2 : Distinct surface reflectors, underlain irregular ridge form structures
Echo type 9-1 : Large irregular hyperbolic echoes with varying vertex elevations with almost no Sub-botom reflectors
Echo type 9-2 : Small, regular hyperbolic echoes with almost no subbottom reflectors

Hydrographic survey division