SVERIGES GEOLOGISKA UNDERSÖKNING

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Free-air gravity anomaly map of Fennoscandia

derived from the global geopotential model OSU91A based on satellite observations and gravity measurements on land.

OSU91A is a spherical harmonic expansion of the Earth's gravitational potential complete to degree 360. It was developed by Richard Rapp et al. at the Ohio State University, U.S.A.

Free-air gravity anomalies, referred to the Geodetic Reference System 1980, are computed from the 130 317 coefficients of OSU91A at 6'x6' grid points on the surface of the reference ellipsoid. Data resolution, corresponding to the highest degree of OSU91A, is about 55 km and data accuracy is estimated to 4.5 mGal.

The related programming and computer work were carried out by Huaan Fan under the direction of Lars E Sjöberg at the Royal Institute of Technology (KTH), Stockholm. The map was produced at the Geological Survey of Sweden (SGU), Uppsala by Lars Granar, Leif Eriksson and Sandy Larkin.

The isoanomaly contour lines are presented in this map at a scale of 1:2 500 000. The colour code interval is 5 mGal. The map is based on the Gauss' Hannover projection used for the national Swedish coordinate grid (RT 38). Coordinate values are indicated together with latitude and longitude east of Greenwich. The geographical background map in this projection is provided by the National Land Survey of Sweden.

0 100 200 km

Scale 1:2 500 000

1993

unit: mGal

80
75
70
65
60
55
50
45
40
35
30
25
20
15
10
5
0
−5
−10
−15
−20
−25
−30
−35
−40
−45
−50
−55
−60
−65
−70
−75
−80

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