Gravity Grids of the Northern Territory - Metadata

ANZLIC Identifier:

Title: Gravity grids of the Northern Territory

Custodian: Northern Territory Geological Survey

Department of Industry, Tourism and Trade

Abstract: Gravity grids of the Northern Territory consists of spherical cap Bouguer anomaly gravity and derived grids interpolated from a compilation of over 260 000 ground gravity stations acquired by the Northern Territory Government, Commonwealth Government of Australia, and industry since the 1950s. The spherical cap Bouguer anomaly values have been calculated using the AAGD07 formulae with a density value of 2670 kg/m^3 and are presented in µm/s^2. The input dataset, including longitude, latitude and spherical cap Bouguer anomaly, are provided as a comma separated text file as well as GIS files in MapInfo and ESRI format.

Search Word(s): Northern Territory, Gravity, Bouguer Anomaly

Bounding Coordinates (GDA94): North bounding coordinate: -11

South bounding coordinate: -26

East bounding coordinate: 138

West bounding coordinate: 129

Reference System Information: The dataset is supplied in Geocentric Datum of Australia (GDA94), latitude and longitude [EPSG: 4283]

Data Currency Start Date: 20/01/1964

Data Currency End Date: 01/04/2024

Progress: Complete

Maintenance and Update Frequency: Not planned

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Lineage:

The Generic Mapping Tools gridding algorithm was used to create the base gravity grid. Derivative products were created using Intrepid Geophysics two dimensional Fourier filtering. The following grids are provided as follows:

1. the spherical cap Bouguer anomaly grid:
   NT_Gravity_BA_GDA94DD_GRD.ers
2. the first vertical derivative of the spherical cap Bouguer anomaly grid:
   NT_Gravity_BA_1VD_GDA94DD_GRD.ers
3. the spherical cap Bouguer anomaly grid upward continued 250 m:
   NT_Gravity_BA_UC250m_GDA94DD_GRD.ers
4. the first vertical derivative of the upward continued spherical cap Bouguer anomaly grid:
   NT_Gravity_BA_UC250m_1VD_GDA94DD_GRD.ers
5. the residual spherical cap Bouguer anomaly grid created by removing a first order polynomial trend from the spherical cap Bouguer anomaly grid:
   NT_Gravity_BA_residual_GDA94DD_GRD.ers
6. the first vertical derivative of the residual spherical cap Bouguer anomaly grid:
   NT_Gravity_BA_residual_1VD_GDA94DD_GRD.ers
7. the residual spherical cap Bouguer anomaly grid upward continued 250 m:
   NT_Gravity_BA_residual_UC250m_GDA94DD_GRD.ers
8. the first vertical derivative of the upward continued residual spherical cap Bouguer anomaly grid:
   NT_Gravity_BA_residual_UC250m_1VD_GDA94DD_GRD.ers.

Geotiffs of the above grids are also provided.

The input dataset are provided with survey number (SurvNo), station number (StatNo), longitude (LonGDA94), latitude (LatGDA94) and spherical cap Bouguer anomaly (SCBA) values as follows.

1. Comma separated text file:
   NT_Gravity_PTS_GDA94DD_CSV.csv
2. MapInfo format files:
   NT_Gravity_PTS_GDA94DD_TAB.DAT
   NT_Gravity_PTS_GDA94DD_TAB.ID
   NT_Gravity_PTS_GDA94DD_TAB.MAP
   NT_Gravity_PTS_GDA94DD_TAB.TAB
3. ESRI shape format files:
   NT_Gravity_PTS_GDA94DD_SHP.dbf
   NT_Gravity_PTS_GDA94DD_SHP.prj
   NT_Gravity_PTS_GDA94DD_SHP.shp
   NT_Gravity_PTS_GDA94DD_SHP.shx

Positional Accuracy: Accuracy of height measurements can vary from centimetres to over 10 metres, while spatial accuracy may vary from centimetres up to approximately 250 metres in the oldest data. Older data is being progressively replaced. Spatial and height accuracy are generally in the centimetre range for modern (post 1990) surveys.

Attribute Accuracy: NA

Logical Consistency: NA

Completeness: The grids are complete to the limits of the available data at time of publication.

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