


Gravity Grids of the Northern Territory

Identification	
Abstract:	Gravity grids of the Northern Territory consists of spherical cap Bouguer anomaly gravity and derived grids interpolated from a compilation of over 275 000 ground gravity readings 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 formula with a density value of 2670 kg/m ³ and are presented in $\mu\text{m/s}^2$. The input dataset, including longitude, latitude and spherical cap Bouguer anomaly, are provided as a comma separated text file as well as GIS files ESRI shapefile format.
Product Type:	Located dataset, grids and images
Keywords:	ANZRC Fields of Research: Earth sciences Place: Australia, Northern Territory Gravity, Bouguer Anomaly
Topic Category:	geoscientificInformation
Reference System:	Geocentric Datum of Australia (GDA94), latitude and longitude [EPSG: 4283]
Extents:	-26, -11, 129, 138
Publication Date:	February 2026

Contact for the resource	
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Data Quality and Status	
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.
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.
Spatial Resolution:	Stations spacing ranges from ~11 km to <500 m. Data is gridded at 100 m cell size.
Attribute Accuracy:	Not applicable
Maintenance Information:	Not planned
Data Currency Start Date:	20/01/1964
Data Currency End Date:	28/02/2026
Status:	Complete

Legal Constraints	
	
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Distribution	
Distribution Format:	Grids – ERS and GeoTIFF images Input files – ESRI Shp, csv
Aggregate Dataset/Product:	Not applicable

Northern Territory Geological Survey Gravity Grids of the Northern Territory

Online Resource Linkage:	https://geoscience.nt.gov.au/gemis
Online Resource Description:	https://geoscience.nt.gov.au/gemis

Supplementary Information

The following grids are provided:

Spherical cap Bouguer anomaly grid: NT_Gravity_2026_BA_GDA94DD_GRD.ers

First vertical derivative of the spherical cap Bouguer anomaly grid:

NT_Gravity_2026_BA_1VD_GDA94DD_GRD.ers

Spherical cap Bouguer anomaly grid upward continued 250 m:

NT_Gravity_BA_2026_UC250m_GDA94DD_GRD.ers

First vertical derivative of the upward continued spherical cap Bouguer anomaly grid:

NT_Gravity_BA_2026_UC250m_1VD_GDA94DD_GRD.ers

Residual spherical cap Bouguer anomaly grid created by removing a first order polynomial trend from the spherical cap Bouguer anomaly grid: NT_Gravity_2026_BA_residual_GDA94DD_GRD.ers

First vertical derivative of the residual spherical cap Bouguer anomaly grid:

NT_Gravity_2026_BA_residual_1VD_GDA94DD_GRD.ers

Residual spherical cap Bouguer anomaly grid upward continued 250 m:

NT_Gravity_2026_BA_residual_UC250m_GDA94DD_GRD.ers

First vertical derivative of the upward continued residual spherical cap Bouguer anomaly grid:

NT_Gravity_2026_BA_residual_UC250m_1VD_GDA94DD_GRD.ers

GeoTIFFs of the above grids are also provided.

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

Comma separated text file: NT_Gravity_2026_PTS_GDA94DD_CSV.csv

ESRI shape format files:

NT_Gravity_2026_PTS_GDA94DD_SHP.shp

Metadata Date:

February 2026