

Aeromagnetic Survey data for Mexico

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Aeromagnetic surveys of Mexico, conducted by the Consejo de Recursos Minerales (CRM), began in 1962. Flight lines were oriented north-south and northeast-southwest and were flown 800 to 1000 meters apart at heights of 120, 300 and 450 m above ground level. The results were first plotted at 1:50,000 scale and then captured in digital format resulting, after subtraction of the appropriate Definitive Geomagnetic Reference Field (DGRF), in 360,000 line-km of aeromagnetic data.

These data were gridded using a cell size equal to 20% of the flight line spacing. Data for southeastern Mexico were provided by Pemex, the national oil company, at a cell size of 1 km and heights of 450 to 3350 m above sea level, and merged with the Mexico magnetic grid.

The Mexico magnetic grid was then merged by the United States Geological Survey with similar data for Canada and the United States, standardized at a cell size of 200 m and a height of 305 m above ground level, and published in 2002 as the Magnetic Anomaly map of North America. This map uses the DNAG projection (spherical transverse Mercator, central meridian of 100 degrees W, base latitude of 0 degrees, a scale factor of 0.926 and earth radius of 6,371,204 m) as described by Snyder, J.P. 1987, Map Projections – a working manual: US Geological Survey Professional Paper 1395, 383 pages. Digital data grids for the magnetic anomaly map of North America have been published and are available through USGS Open-File report 02-414.

Recursos del Caribe, S.A. (RdC) trimmed the magnetic data for North America to produce a map covering all of Mexico plus the porphyry copper districts of the southwestern United States. RdC's aeromagnetic dataset for Mexico can be used on a stand-alone basis or can be "plugged into" RdC's MexicoMap dataset for mines and mineral occurrences, land status, and radiometric dates (www.cbmap.net). Cost through RdC for the trimmed-for-Mexico aeromagnetic data set is US\$ 12,000.

Aeromagnetic Map of Mexico

