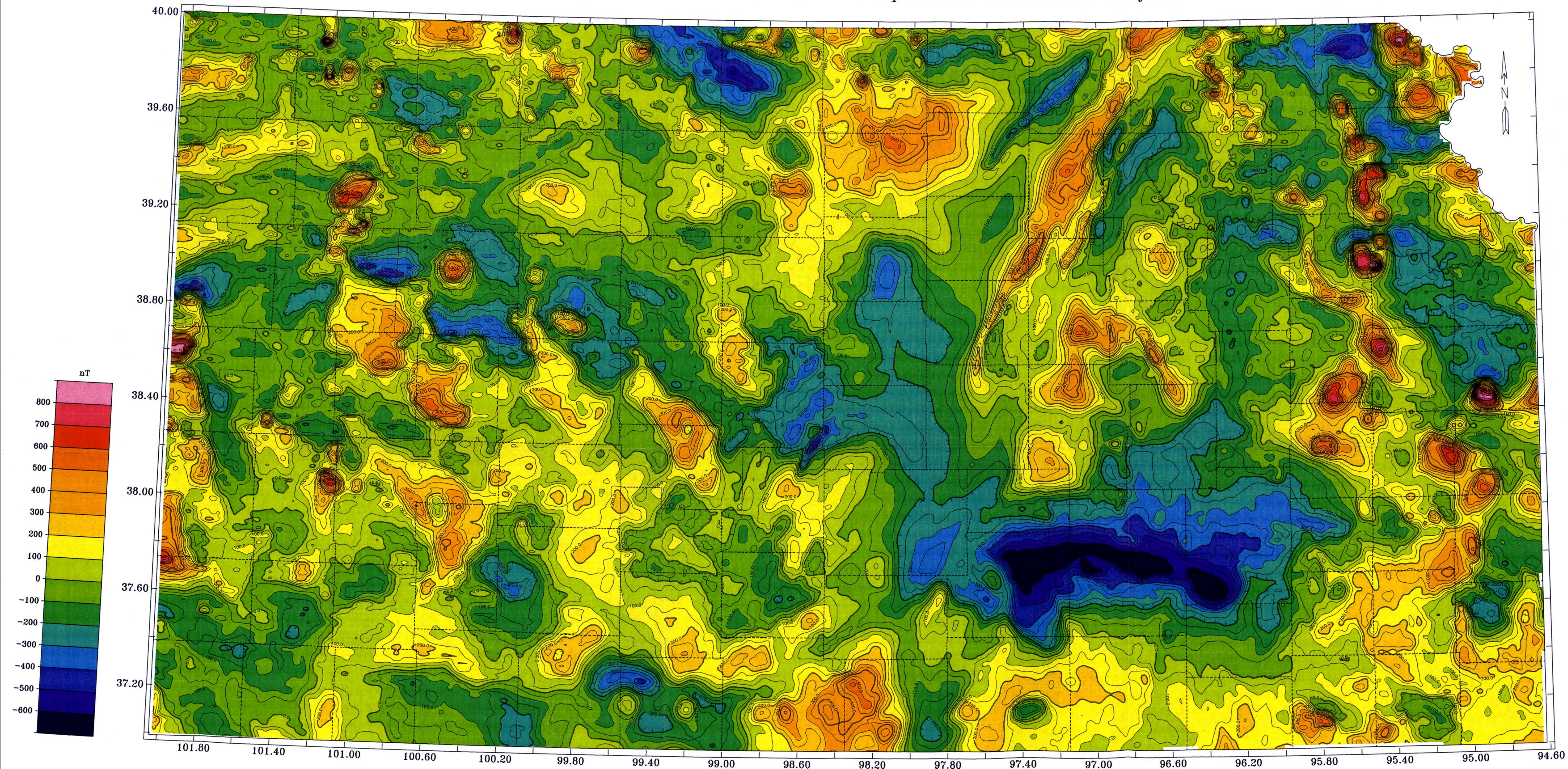


Residual Aeromagnetic Map of Kansas

Second Order Regional Trend Removed

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This map is based on the aeromagnetic data of the Kansas Geological Survey (Yarger, 1983, "Regional interpretation of Kansas aeromagnetic data," Kansas Geological Survey, Geophysical Series 1; Yarger et al., 1981, "Aeromagnetic map of Kansas," Kansas Geological Survey, Map M-16). The data were measured at three different elevations, 762 m above sea level in eastern Kansas (east of longitude 98.30°), and 914 m and 1,372 m above sea level in the east half and west half of western Kansas, respectively. US-283 (longitude 99.90°), which runs north-south through western Kansas, was used as a visual landmark to the pilot to change elevation. Flight lines spaced 3.2 km apart were flown east or west along section lines. The data density along a flight line is 8-11 points/km. The International Geomagnetic Reference

Field 1975 was used in data processing. The data were used to generate 1.6 km by 1.6 km grids by universal kriging. The final grid is 205 rows by 408 columns. The inclination and declination of the geomagnetic field are, respectively, chosen as 65° and 7°, which are the average values in Kansas (Yarger, 1983). The aeromagnetic data are first reduced onto a horizontal plane of 914 m above sea level (Xia et al., 1993, "Correction of topographic distortions in potential-field data: a fast and accurate approach," Geophysics, v. 58, p. 515-523). Then the regional magnetic anomaly is removed by the second order polynomial trend. The residual magnetic anomalies are mainly caused by lithological variation and to a small extent (normally not more than 30 nT) by Precambrian basement relief.

Scale 1:1,000,000
1 inch equals approximately 16 miles
0 mi 25
0 km 40
Shading interval is 100 nT.
Contour interval is 50 nT.
Lambert Conformal Conic Projection
with standard parallels of 33° and 45°
The data were gridded, contoured, and shaded using SURFACE III developed by Robert Sampson at the Kansas Geological Survey.