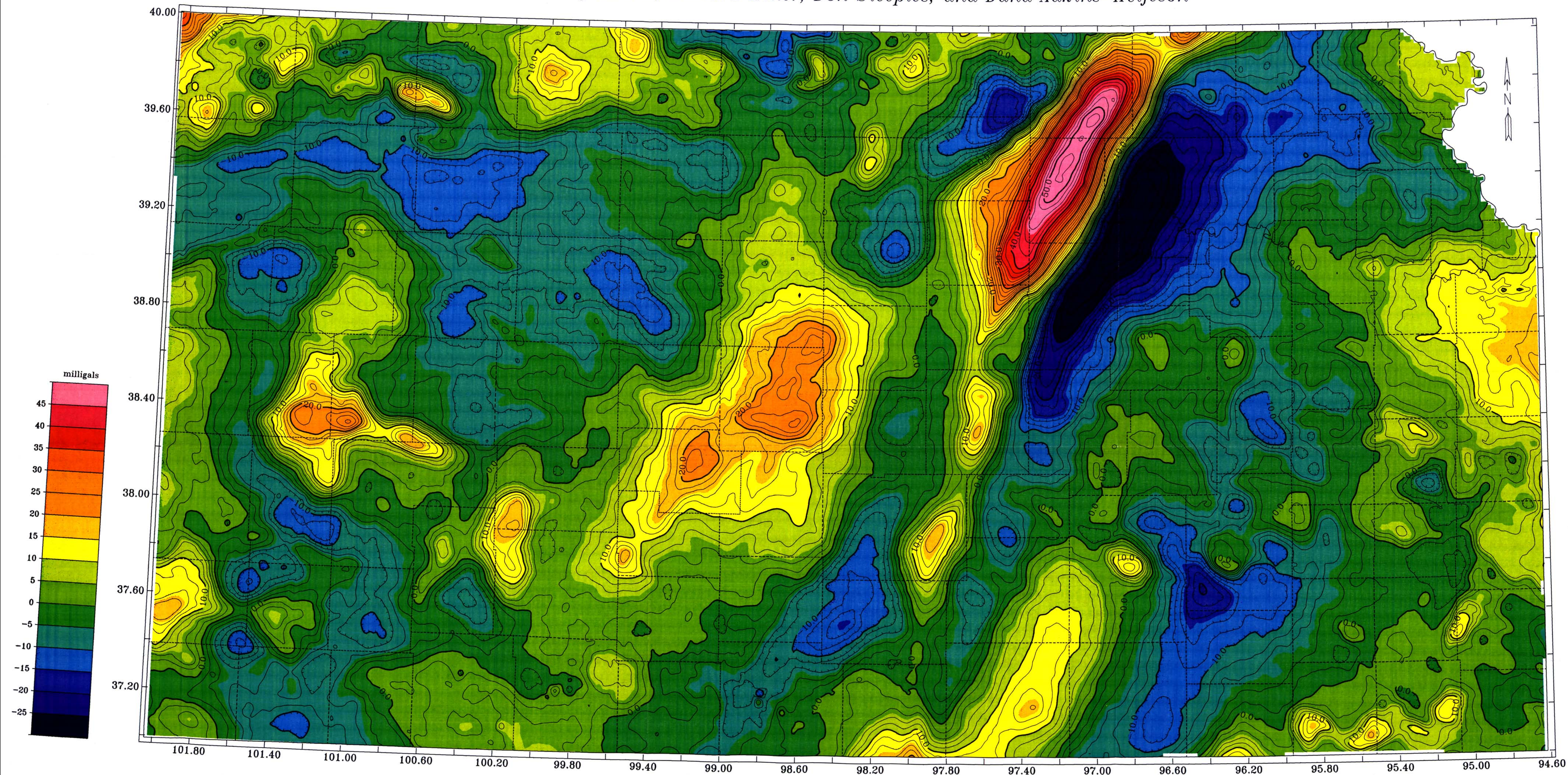


Residual Bouguer Gravity Map of Kansas

Second Order Regional Trend Removed

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This map is based on the gravity data of the Kansas Geological Survey (C. K. Lam, 1986, "Interpretation of statewide gravity survey of Kansas," Ph.D. dissertation, University of Kansas, Kansas Geological Survey, Open-file Report 87-1; Xia et al., 1992, "Bouguer gravity anomaly map of Kansas," Kansas Geological Survey, Map M-31). The gravity measurements were taken every 1.6 km along parallel east-west roads spaced 3.2 km apart in western Kansas (west of longitude 98.30°) and every 1.6 km along parallel east-west roads spaced 1.6 km apart in eastern Kansas. The number of gravity-station measurements in Kansas is 62,606, and measurements extend 3 to 6 km into the surrounding states. The data

were used to generate 1.6 km by 1.6 km grids by universal kriging. The final grid is 205 rows and 408 columns. Bouguer gravity data are first reduced onto a horizontal plane of 700 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 Bouguer gravity is removed by the second order polynomial trend. The residual Bouguer gravity anomalies are mainly caused by basement lithologic variation and to a small extent (normally not more than 5 milligals) by Phanerozoic lithologic variation and Precambrian basement relief.

Scale 1:1,000,000
1 inch equals approximately 16 miles
0 25
mi
0 40
km

Shading interval is 5 milligals.
Contour interval is 2 milligals.

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.