UNIVERSITY OF MINNESOTA
MINNESOTA GEOLOGICAL SURVEY
Matt Walton, Director

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LEGISLATIVE COMMISSION ON MINNESOTA RESOURCES

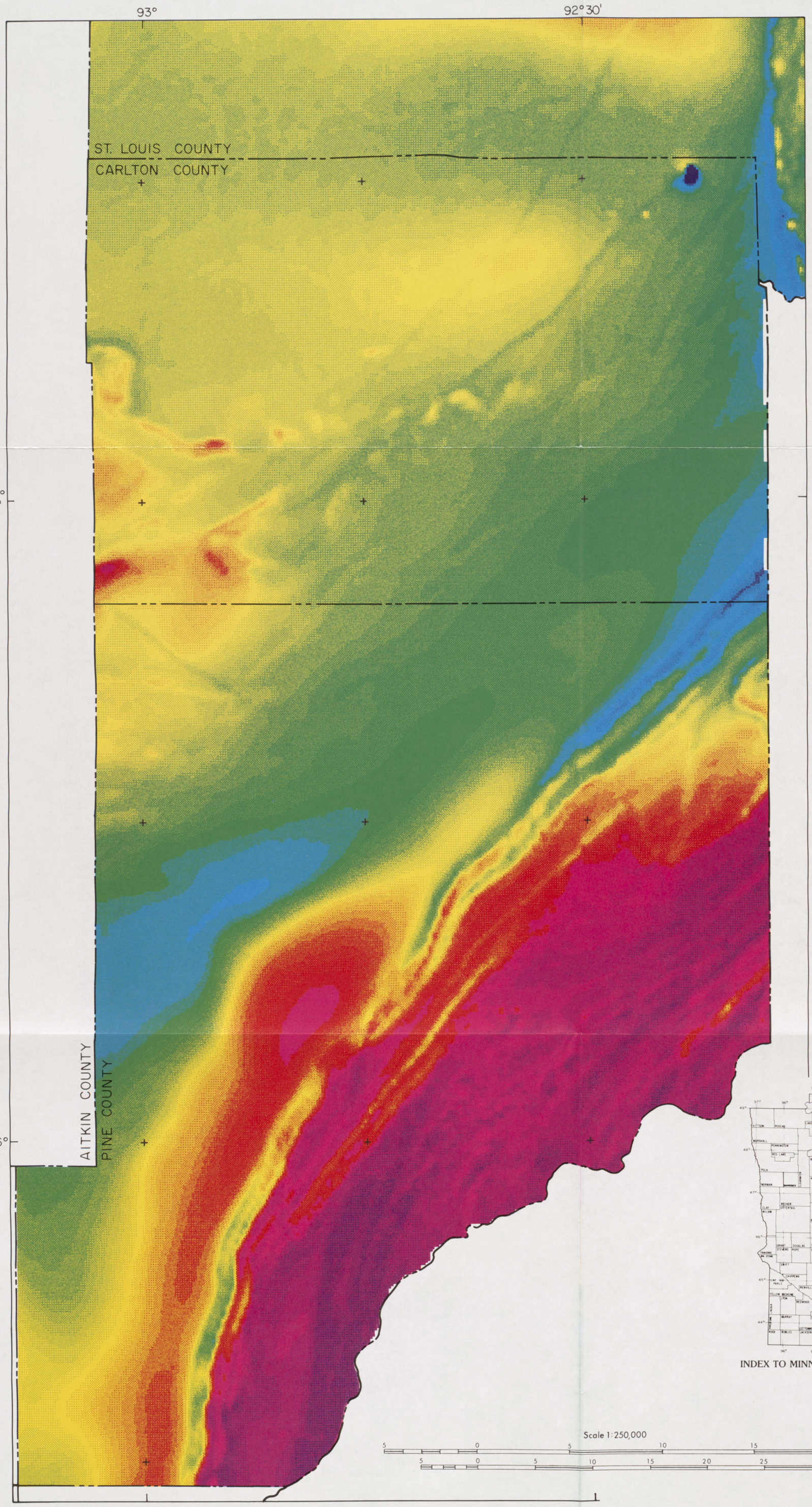
AEROMAGNETIC MAP OF MINNESOTA

CARLTON AND PINE COUNTIES

TOTAL MAGNETIC INTENSITY ANOMALY

By

Val W. Chandler
1983



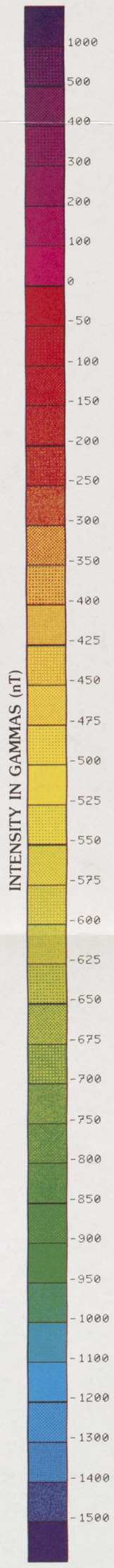
EXPLANATION

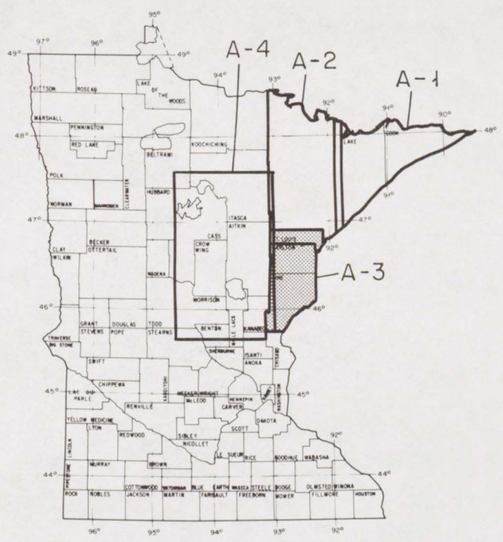
The aeromagnetic data were acquired with a geoMetrics Model G-803 proton precession magnetometer using the following survey specifications: sensitivity 0.25 gamma (nT), sampling interval 75 m, mean terrain clearance radar controlled at 150 m, north-south flight lines spaced 400 m apart, and east-west tie lines spaced 4.0 km apart.

Geomagnetic field removal was based on the American World Charts Model, 1975, updated to 1980. At 47°30′ N. and 92° W. the American World Charts Model gives a magnetic inclination of 75°17′ N., a magnetic declination of 3°13′ E., and a field intensity of 60,195 gammas (nT).

The contour mapping process used approximately one-fourth of all data to create a 213-m by 213-m primary grid using minimum curvature interpolation. Prior to color plotting the data were regridded to a 200-m interval using a bicubic spline procedure. No attempt was made to remove cultural effects.

W.J. Hinze of Purdue University lent his expertise and provided valuable advice at various times during the project. Acquisition and compilation were supervised by R.A. Fowler, J.L. Young, and P.G. Lilley of geoMetrics, Inc. The computer-based color graphics were supervised by W.M. Parker and G.C. Teed of Dataplotting.





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Scale 1:250,000

5 0 5 10 15 20 Statute Miles

5 0 5 10 15 20 25 30 Kilometers