UNIVERSITY OF MINNESOTA
MINNESOTA GEOLOGICAL SURVEY
Matt Walton, Director

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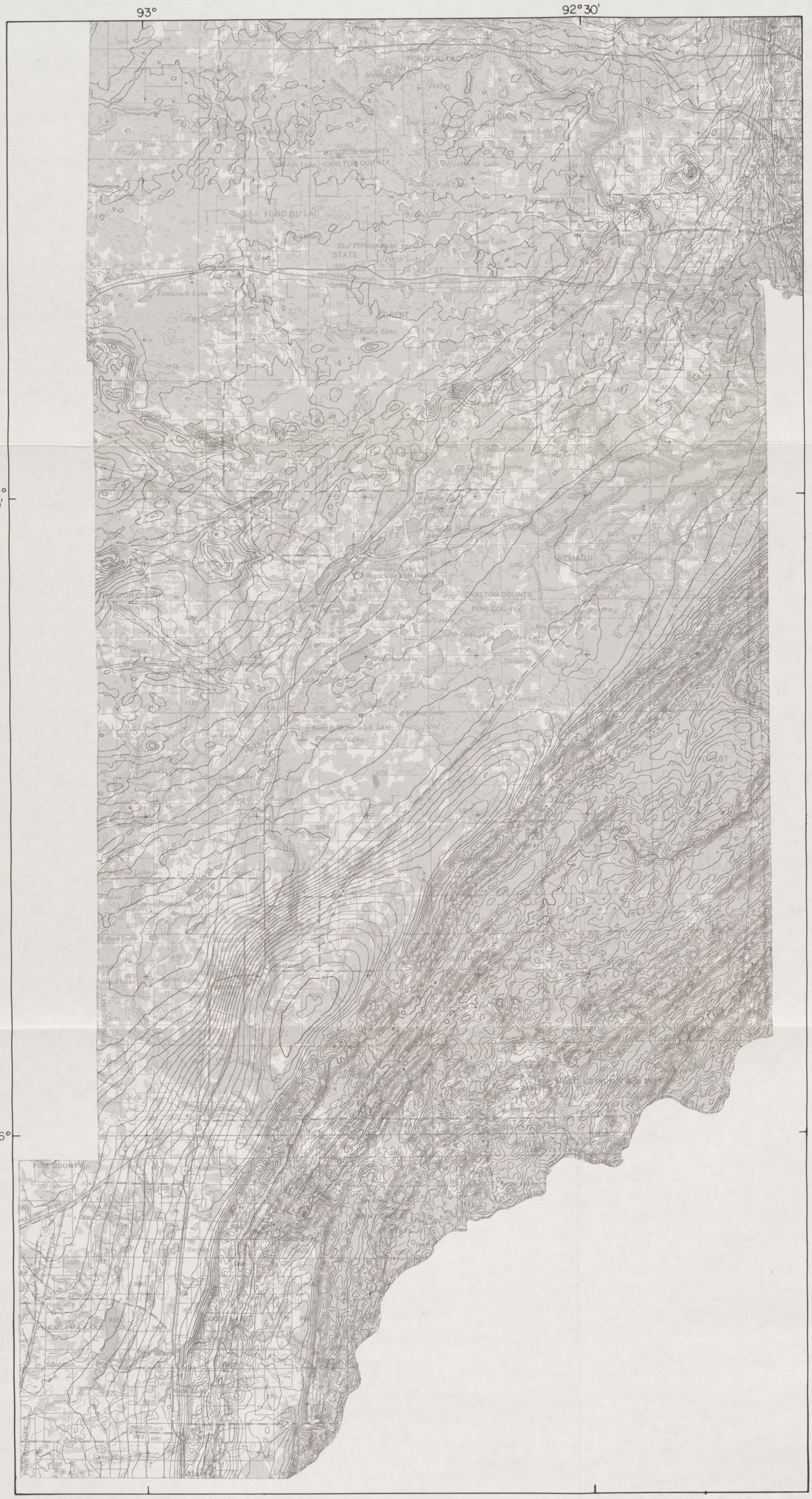


Base modified from U.S. Geological Survey, Duluth, 1955-63; Stillwater, 1955

AEROMAGNETIC MAP OF MINNESOTA

CARLTON AND PINE COUNTIES

TOTAL MAGNETIC INTENSITY ANOMALY

By

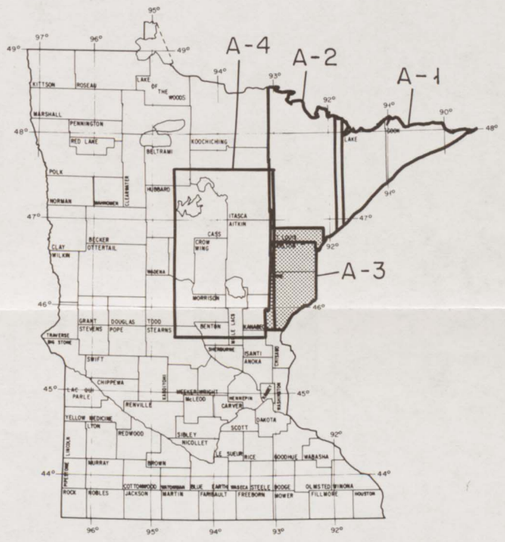
Val W. Chandler
1983

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. 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.



INDEX TO MINNESOTA AEROMAGNETIC MAP SHEETS

Minimum contour interval 50 gammas (nT)

NOTE: The aeromagnetic contours are not perfectly registered to the topographic base over the entire map area. This registration error, amounting to a misalignment of about 1 mm at worst, is due to nonlinear paper stretching of the computer-generated aeromagnetic contour overlay. Users wishing precise ground location of aeromagnetic features should see the aeromagnetic quadrangle maps at 1:24,000 scale, available from the Minnesota Geological Survey.

Scale 1:250,000

5 0 5 10 15 20 Statute Miles

5 0 5 10 15 20 25 30 Kilometers