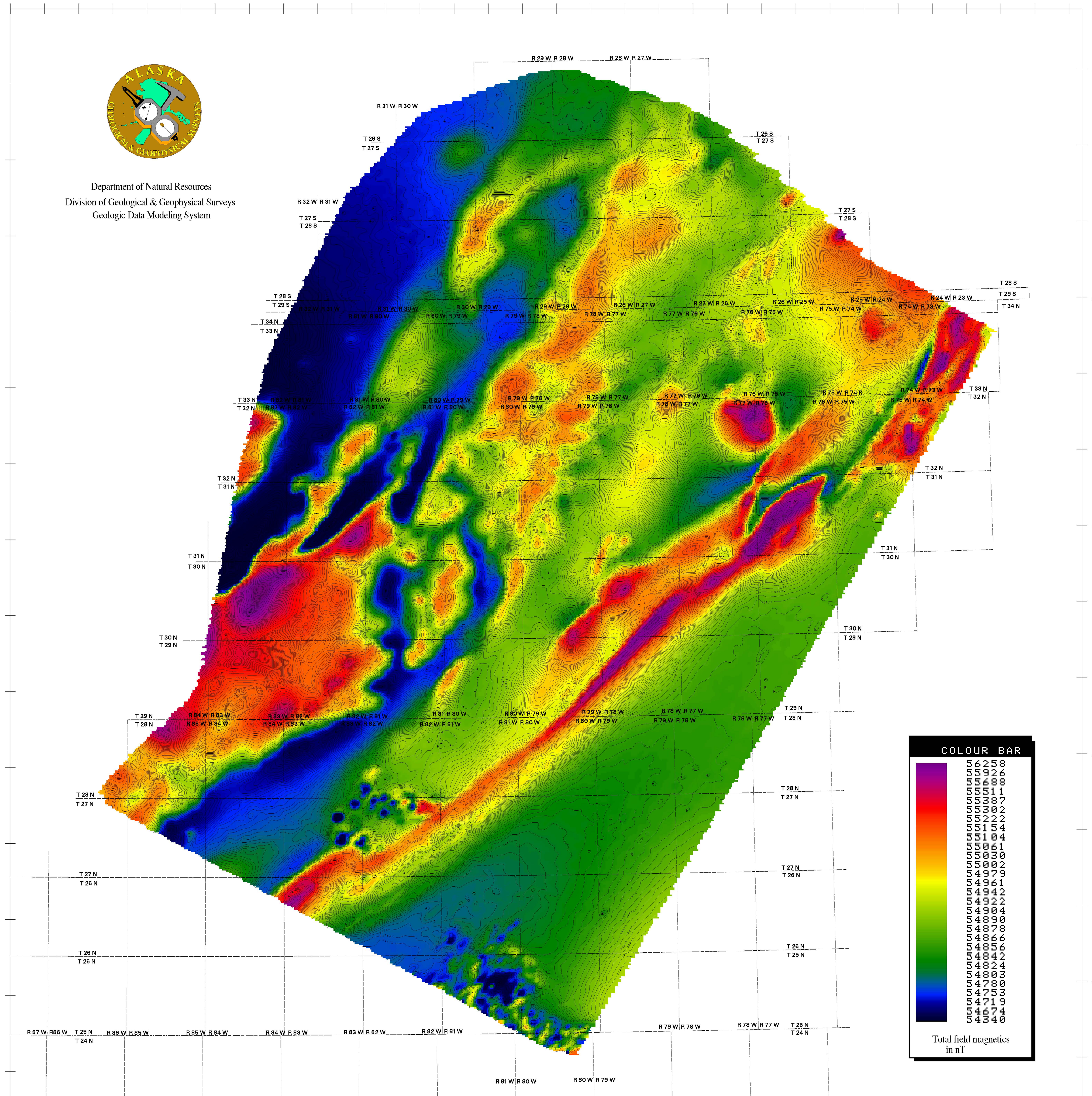
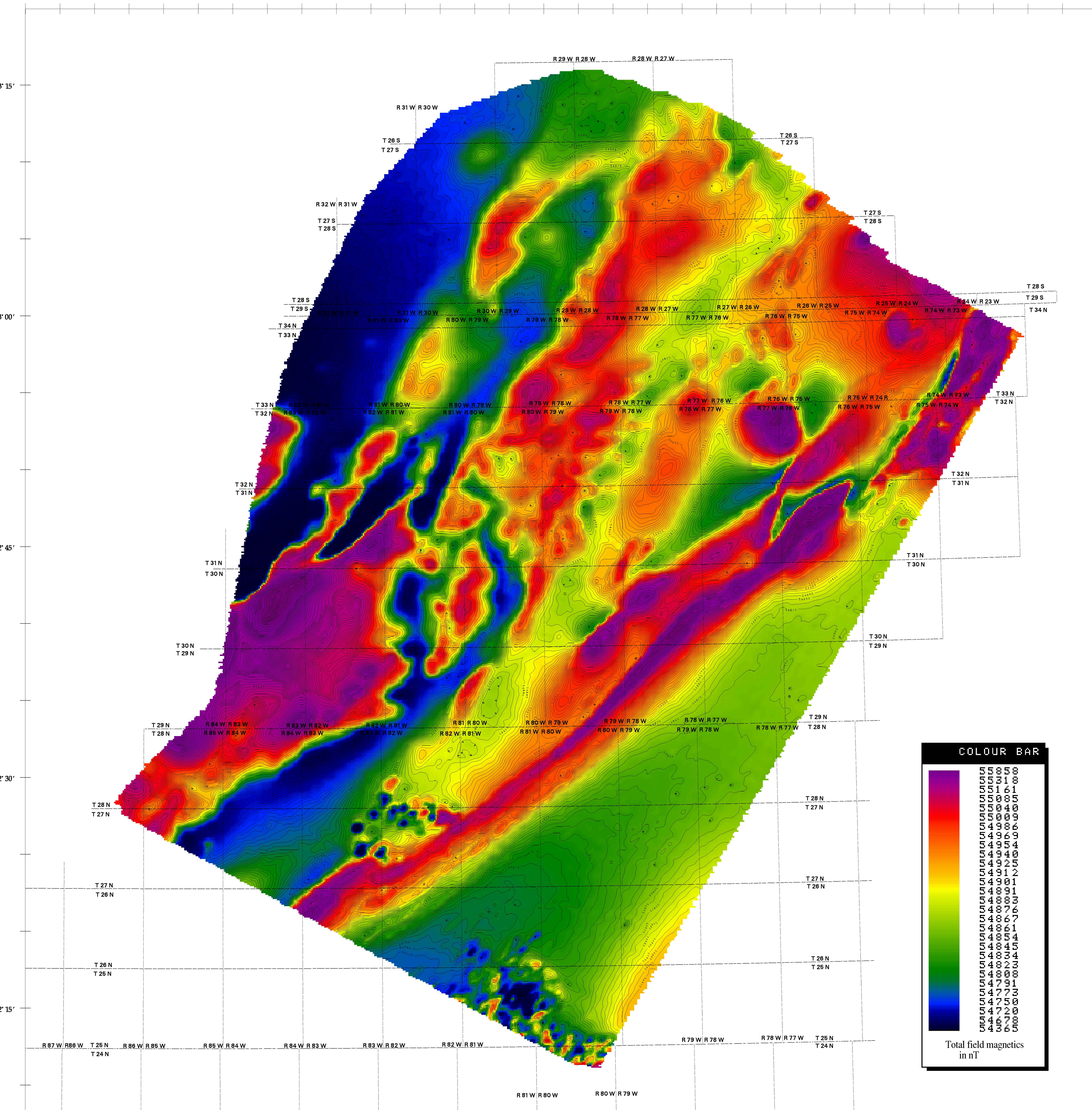
ALASKA DIVISION OF GEOLOGICAL & GEOPHYSICAL SURVEYS

GEOPHYSICAL REPORT 2002_16

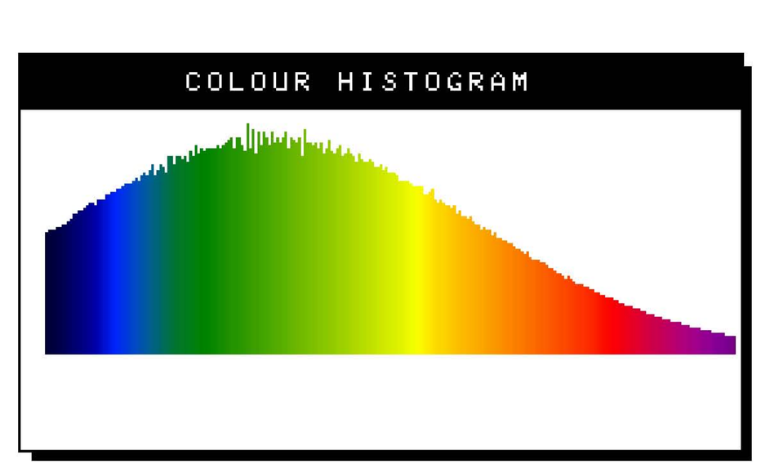
Department of Natural Resources
Division of Geological & Geophysical Surveys
Geologic Data Modeling System



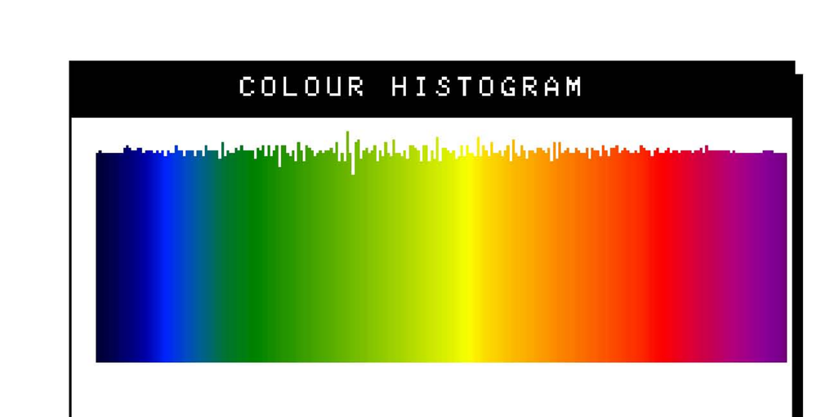


Section outlines from U. S. Geological Survey topographic bases: Black (1951), St. Michael (1952), and Kwiguk (1952) Quadrangles, Alaska

GAUSSIAN COLOR SCHEME



EQUAL AREA COLOR SCHEME



AVERAGE SENSOR ELEVATION	300 FEET ABOVE TERRAIN
TRAVERSE INTERVAL	0.5 mile
TIE LINE INTERVAL	5.0 miles
CLARKE 1866 SPHEROID	UTM PROJECTION ZONE 3
INCLINATION	73.1° NORTH
CONTOUR INTERVAL	5, 25, 100, 500 nT

DESCRIPTIVE NOTES

The aeromagnetic data were acquired using a Scintrex H8 cesium vapor magnetometer and an RMS AADC-4 automatic compensator installed in a 680 Aero Commander fixed-wing aircraft. In addition, the RMS DAS-8 digital acquisition system recorded data from the GPS navigation/positioning system, 60 Hz monitor, video camera, and both radar and barometric altimeters. Differential post-processing of the GPS data resulted in a relative positional accuracy of 10 meters or better.

SURVEY HISTORY

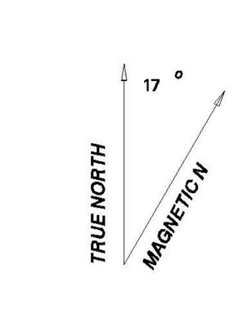
The aeromagnetic survey was performed under contract between the State of Alaska, Department of Natural Resources, Division of Geological & Geophysical Surveys, and Zonge Engineering & Research Organization. As part of this contract, the airborne magnetic data were acquired and processed by Aerodat Ltd. Data acquisition occurred during September-November, 1995. Products from this survey are available from the Alaska Division of Geological & Geophysical Surveys, 794 University Ave., Suite 200, Fairbanks, Alaska, 99709. Phone 907-451-5020; web site http://wwwdggs.dnr.state.ak.us.

COLOR SCHEMES

The Gaussian and equal area color schemes used here are those built into the I-Power Vision imaging program produced by Geoterrex-Dighem. The histograms display the differences in the color schemes. These histograms show the relative number of magnetic values that are colored a particular color for each color scheme.

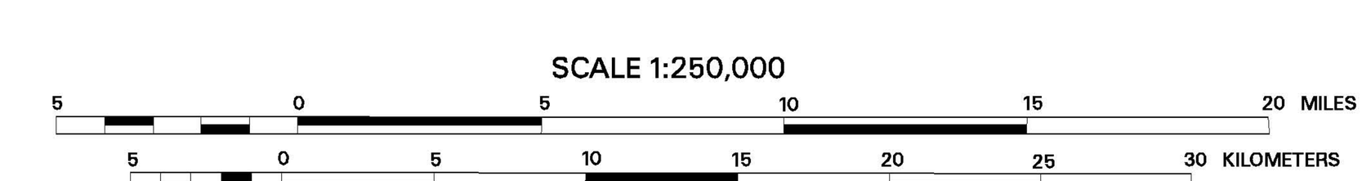
The Gaussian color scheme produces a Gaussian fit that best matches the background level of the grid. Fewer points are colored magenta and red. This scheme shows more detail in the highs.

With the equal area color scheme, the color intervals for the data are chosen so that an equal or nearly equal number of data points are in each interval. More detail is visible in the middle color range than in the equal area scheme.



APPROXIMATE MEAN DECLINATION, 1990

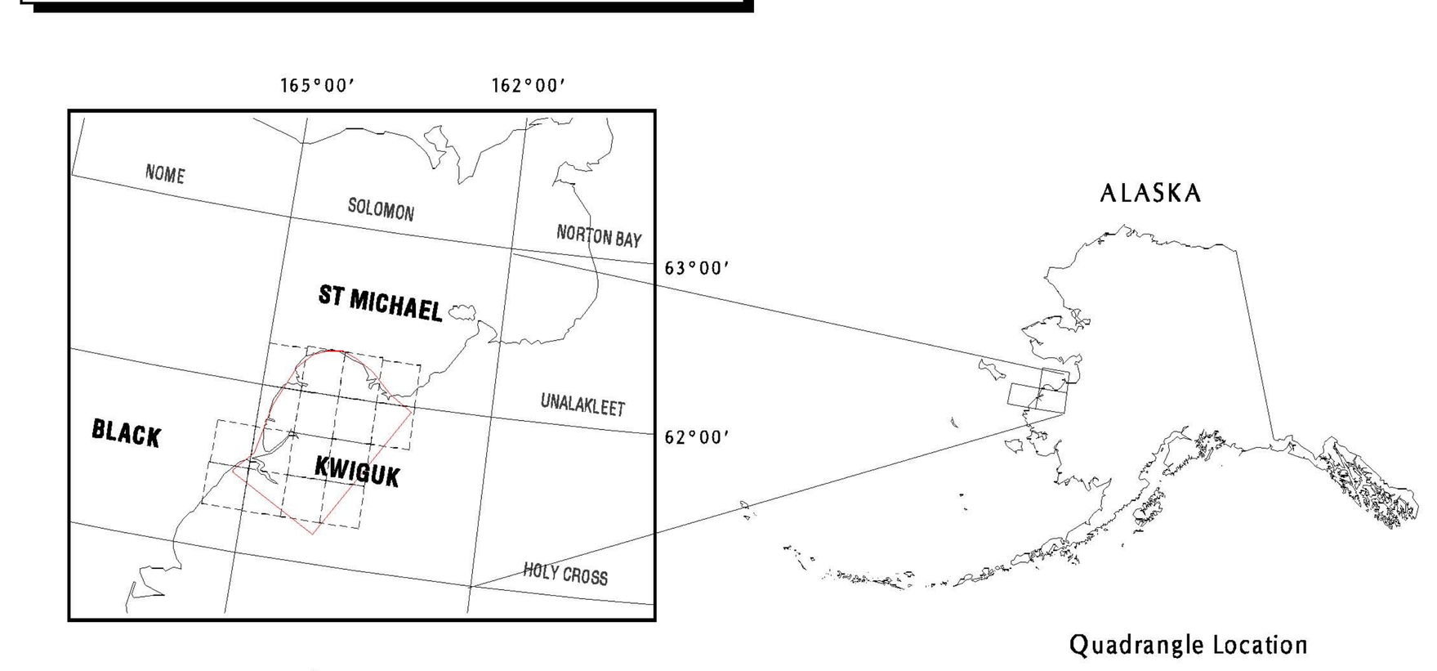
1990 magnetic declination varies along the south side of the map from approximately 16°15′ to 17°30′ east.



TOTAL FIELD MAGNETICS OF THE LOWER YUKON DELTA, ALASKA

Laurel E. Burns

2002



Location of Map Area

Quadrangle Location

TOTAL FIELD MAGNETICS

The magnetic total field contours were produced using digitally recorded data from a Scintrex H8 cesium vapor magnetometer, with a sampling interval of 0.1 seconds. The magnetic data were (1) corrected for diurnal variations by subtraction of the digitally recorded base station magnetic data, (2) leveled to the tie line data, and (3) corrected for the regional variation by subtracting the IGRF, 1990 updated to October 1995 and adding a bias of 54750 nT, and (4) interpolated into a regular 200m grid.

amls:/files10/files2/laurel/geophys/yukond/amls/yukonmagall.aml plot: /files2/laurel/geophys/yukond/plots/yukonm2.gra

March 28, 2002