

Aeromagnetic Map of Palo Alto and vicinity, California

by

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MAGNETIC CONTOURS - Showing residual magnetic field intensity (total intensity minus the geomagnetic reference field updated to the dates of the aeromagnetic survey). Contour interval 5 and 50 nanoTeslas.

HACHURES - Indicate closed areas of lower magnetic intensity.

DATA COLLECTION AND REDUCTION:

The aeromagnetic data were collected by the U.S. Geological Survey, Branch of Geophysics, during February 1990. The aeromagnetic anomaly map of Palo Alto and vicinity covers about 176 square miles (Fig. 1). The area is bounded by 37°19'N. lat and 37°33'N. lat and 122°21'W. long and 122°02' W. long. Approximately 450 line-miles were flown by Charles Mitchell, Roy Kipfinger, Charles Thompson and Richard Sneddon. The flight line direction was ENE-WSW with a spacing of a quarter-mile (approximately 400 meters). The survey was flown 800 feet above ground. The magnetic field was measured using a GeoMetrics model G-813 proton precession magnetometer mounted on the right wingtip. The sensitivity was .5 nanoTeslas and the cycle time was .5 seconds. Flight line recovery was accomplished by the Loran navigation system and checked by comparing the position taken from Loran with the position taken from aerial photographs. The raw flight-line data were reduced using unpublished computer programs (Robert E. Bracken, U.S. Geological Survey). Diurnal corrections and flight line leveling were accomplished using base station magnetometer data. The Definitive International Geomagnetic Reference Field (DIGRF) was removed on a point-by-point basis. The data were transformed to the Universal Transverse Mercator projection (central meridian= 123°W., base latitude=0°) and gridded at a 0.15 km spacing, using a computer program written by Webring (1981). The aeromagnetic contour map was made by using CONTOUR, a program by Godson and Webring (1982) and updated by R. Bracken, USGS (unpublished computer program).

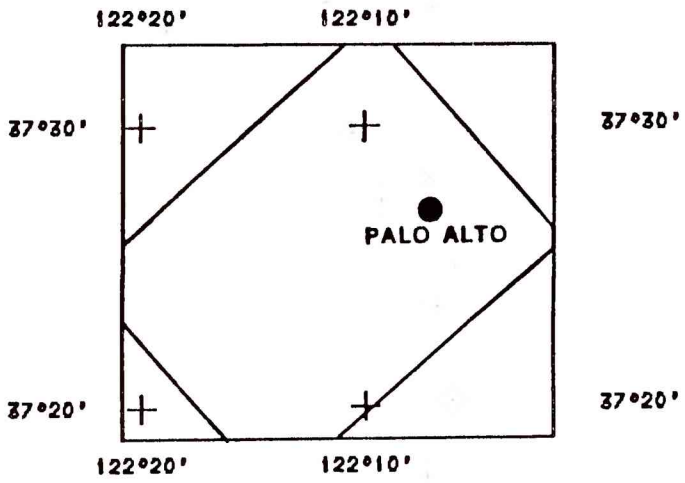


Figure 1. SURVEY LOCATION

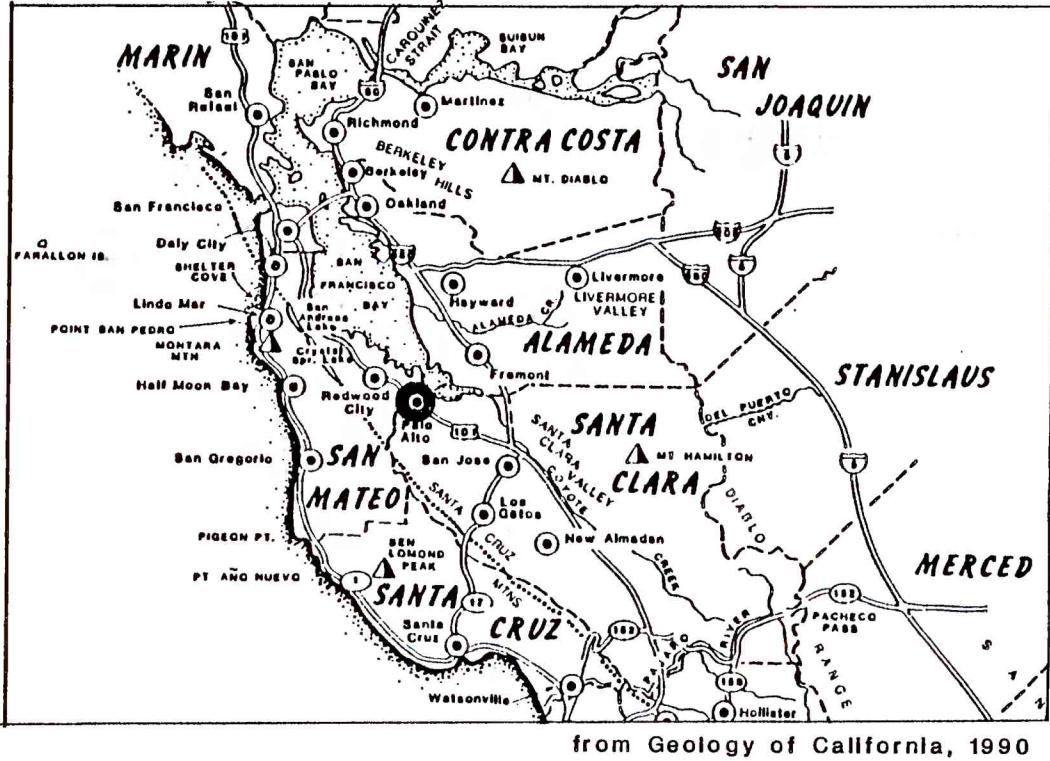


Figure 2. REGIONAL LOCATION MAP

REFERENCES CITED

Godson, R.H., and Webring, M.W., 1982, CONTOUR - A modification of G.I. Evenden's general purpose contouring program: U.S. Geological Survey Open-File Report 82-797, 73 p.

Norris, R.M., and Webb, R.W., 1990, 2nd edition, Geology of California, John Wiley & Sons, Inc., New York.

Webring, M.W., 1981, MINC--A gridding program based on minimum curvature: U.S. Geological Survey open-File Report 81-1224, 43 p.