

BOUGUER GRAVITY MAP OF THE PROVIDENCE 1° X 2° QUADRANGLE, RHODE ISLAND, MASSACHUSETTS, CONNECTICUT, NEW YORK

BY

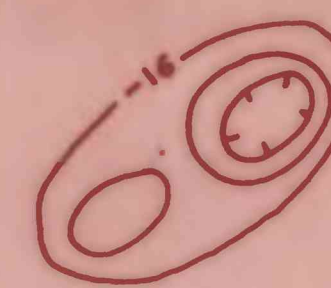
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1979

DATA SOURCES
Department of Defense gravity data from: Environmental Data Services, NOAA, Boulder, CO.
Bothner, W. A., 1977, Gravity study of Cape Cod Bay: U.S. Geological Survey Open-File Report 77-497.
Bromery, R. W., 1967, Simple Bouguer gravity map of Massachusetts: U.S. Geological Survey Geophysical Investigations Map GP-612.
Unpublished data from: W. H. Diment (U.S.G.S.), T. C. Urban (U.S.G.S.), Defense Mapping Agency (marine data).

This map is preliminary and has not been edited or reviewed for conformity to Geological Survey standards.

EXPLANATION



Contours of Bouguer anomaly values drawn by computer from a 2 km by 2 km gridded representation of the data.
Contour interval is 2 milligals.
Hachures are used to indicate gravity lows. Small squares mark the locations of individual stations. UTM projection.

Anomalies were calculated relative to the 1967 Geodetic Reference System formula for theoretical gravity (International Association of Geodesy, 1971), and base values were adjusted to conform to the International Gravity Standardization Net of 1971 (Morelli, 1974). Terrain corrections have been calculated from 0.895 km to 166.7 km using a modification of the terrain correction program of Plouff (1977). No terrain corrections have been applied for the zones closer than 0.895 km, but in most cases errors resulting from this omission are substantially less than 1.0 mgal.

REFERENCES CITED

International Association of Geodesy, 1971, Geodetic Reference System 1967: International Association of Geodesy Special Publication, no. 3, 116 p.
Morelli, C., (ed.), 1974, The International Gravity Standardization Net 1971: International Association of Geodesy Special Publication, no. 4, 196 p.
Plouff, D., 1977, Preliminary documentation for a FORTRAN program to compute gravity terrain corrections based on topography digitized on a geographic grid: U.S. Geological Survey Open-File Report 77-534, 45 p.