

Energy, Mines and Resources Canada
 Geological Survey of Canada
 Énergie, Mines et Ressources Canada
 Commission géologique du Canada

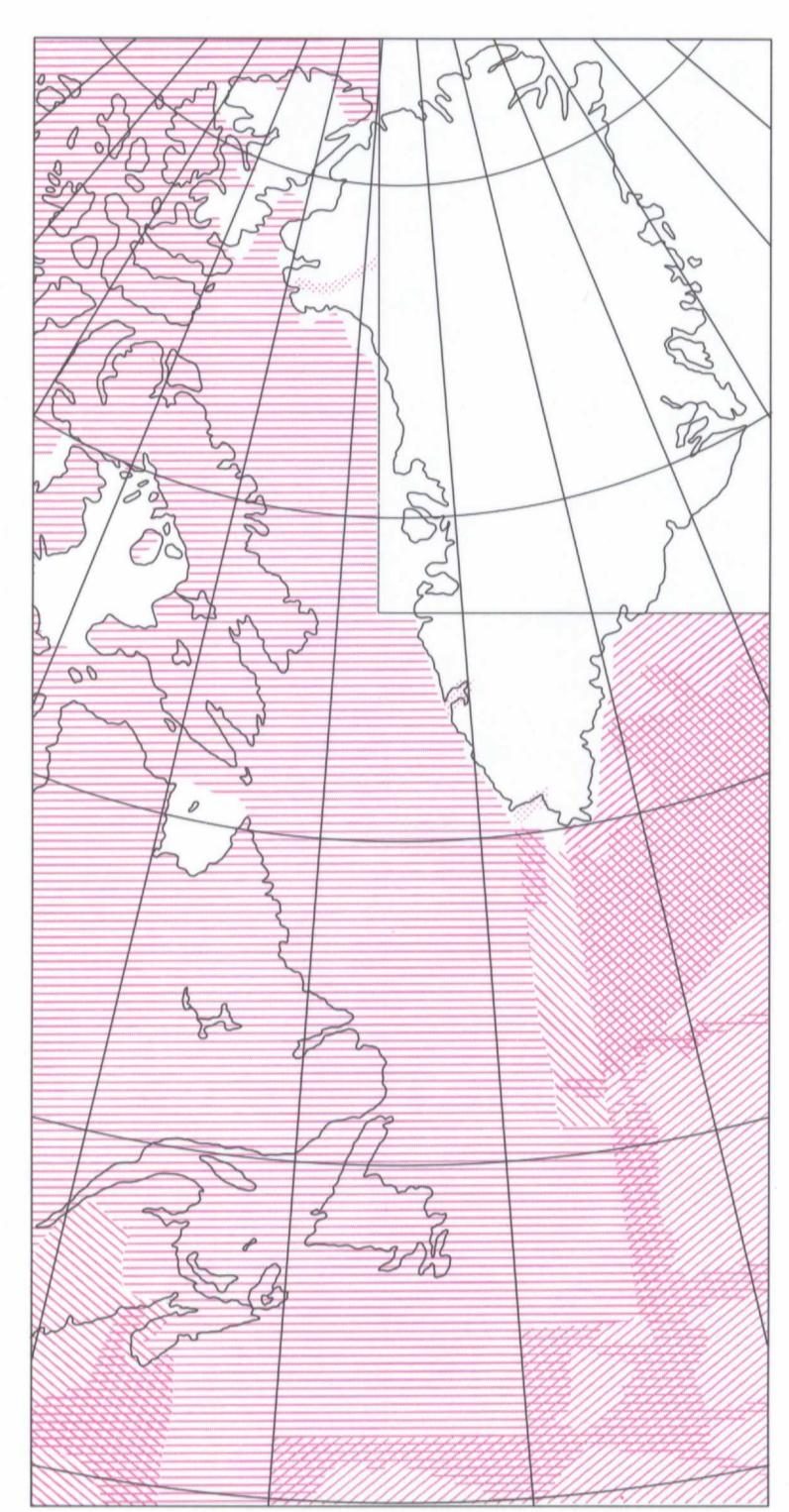
MAP 1708A
GRAVITY ANOMALY MAP OF THE CONTINENTAL MARGIN OF EASTERN CANADA
 (BOUGUER ON LAND; FREE-AIR AT SEA)

Scale 1:5 000 000 - Échelle 1/5 000 000

Kilometres 100 0 100 200 300 400 Kilometres

LAMBERT CONFORMAL CONIC PROJECTION, STANDARD PARALLELS 49°N AND 77°N; MODIFIED POLYCONIC PROJECTION NORTH OF LATITUDE 60°
 PROJECTION CONIQUE CONFORME DE LAMBERT, PARALLÈLES D'ÉCHELLE CONSERVÉE: 49°N ET 77°N; PROJECTION POLYCONIQUE MODIFIÉE AU NORD DU 60° DE LATITUDE

This map was compiled by staff of the Atlantic Geoscience Centre and Geophysics Division of the Geological Survey of Canada. The three principal sources for the gravity data were the Geophysical Data Base in Ottawa, Canada, the United States Defense Mapping Agency Aerospace Center in Bay St. Louis, U.S.A., and satellite altimetry processed at the Bureau Gravimétrique International in Toulouse, France (Bainino et al., 1987). Data for Greenland were supplied by René Forsberg from the Geodætisk Institut in Denmark. The index map shows the distribution of the sources of these data. All Canadian gravity values are taken from the Geophysical Data Base in Ottawa. Land gravity measurements from Canada are spaced at roughly 8-12 km and are accurate to about ± 2 mGal. Canadian marine data were collected between 1964 and 1985 using Graf-Askania Gs-2 sea gravimeters, for the most part, but more recently using a Bodenseewerk Ks30 and Lacoste-Romberg sea gravimeters (including, in some areas, a Lacoste-Romberg bottom gravimeter). A least squares adjustment of all sea surface gravity measurements produced a homogeneous gravity data base with an overall accuracy of 2.5 mGal and internal consistency of from ± 1 to ± 5 mGal (Earth Physics Branch, 1986). The marine gravity data have been supplemented by data derived from satellite altimetry by the inverse Stokes operator method (Bainino et al., 1987) and gridded at 15 km intervals. United States land gravity values were gridded at 4 km by the United States Geological Survey (USGS) for the gravity map of the conterminous United States Society of Exploration Geophysicists, 1982 using a minimum curvature method (Godson, 1983). The Defense Mapping Agency Aerospace Center data are presumed to be accurate to better than ± 10 mGal. The merged data were further processed for colour plotting by gridding at an interval of 5 km and interpolating linearly. Bouguer gravity anomalies were computed for land regions only using a density of 2.67 g/cm³. Topographic corrections have been made only in regions of high topographic relief in northern Labrador.



- References
- Bainino, G., Moynot, B., Sarinath, M., and Valls, N. 1987. Free air gravity anomalies over the oceans from Seasat and GEOS 3 altimeter data. *Eos, Transactions of the American Geophysical Union*, v. 68, no. 2, p. 17-19.
 - Earth Physics Branch. 1986. Integration of Atlantic Geoscience Centre marine gravity data into the National Gravity Data Base. *Earth Physics Branch, Open File 85-32*, Ottawa.
 - Godson, R.H. 1983. Preparation of a digital grid of gravity-anomaly values of the conterminous United States, in: *The Utility of Regional Gravity and Magnetic Anomaly Maps*, ed. W.J. Hinz, Society of Exploration Geophysicists, Tulsa, U.S.A., 454 p.
 - Society of Exploration Geophysicists. 1982. Gravity anomaly map of the United States (exclusive of Alaska and Hawaii). Society of Exploration Geophysicists, Tulsa, U.S.A., scale 1:2 500 000, 2 sheets.

Base map derived from Map 850-A Bathymetry, at the scale of 1:5 000 000 published by the Canadian Hydrographic Service, Department of Fisheries and Oceans, 1986

Bathymetric contours in metres

- GEOPHYSICAL DATA CENTER (CANADA)
- UNITED STATES DEFENSE MAPPING AGENCY AEROSPACE CENTER
- SATELLITE ALTIMETRY DATA (BUREAU GRAVIMÉTRIQUE INTERNATIONAL)
- GEODÆTISK INSTITUT (DENMARK)

Copies of this map may be obtained from the Geological Survey of Canada, 601 Booth Street, Ottawa, Ontario K1A 0E8, 3303-33rd Street, N.W., Calgary, Alberta T2L 2A7



MAP LIBRARY / CARTOTHEQUE

LIBRARY / BIBLIOTHÈQUE

NOV 15 1988

GEOLOGICAL SURVEY
 COMMISSION GÉOLOGIQUE

NOT TO BE TAKEN FROM LIBRARY
 NE PAS SORTIR DE LA BIBLIOTHÈQUE

Printed by the Cartographic Information and Distribution Centre. Published 1988. Printed in Canada

Recommended citation:
 Geological Survey of Canada
 1988. Gravity anomaly map of the Continental Margin of Eastern Canada.
 Geological Survey of Canada,
 Map 1708A, scale 1:5 000 000

1708A (E)



This map has been produced from a scanned version of the original map. Reproduction par numérisation d'une carte sur papier.