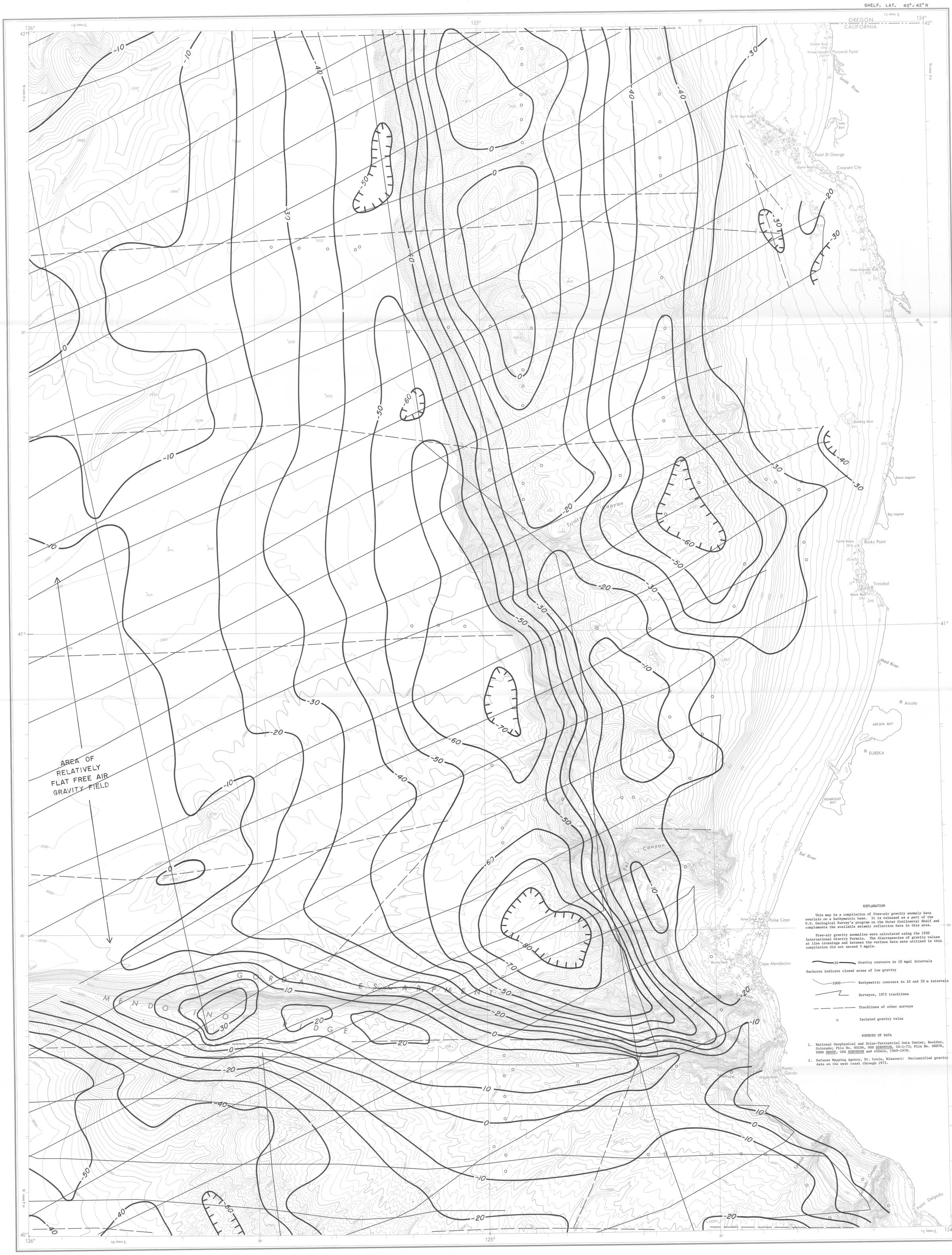
DEPARTMENT OF THE INTERIOR
UNITED STATES GEOLOGICAL SURVEY

MISCELLANEOUS FIELD STUDIES
MAP MF-852

KOSOSKI AND OTHERS - FREE-AIR GRAVITY MAP CALIF. OUTER CONT. SHELF, LAT. 40°-42° N




Bathymetry compiled from C & GS hydrographic surveys dated 1922 to 1940 supplemented by hydrographic information from other sources.
Universal Transverse Mercator Grid, Zone 10. 10,000 meter ticks (---) are shown on the neatlines.

Bathymetric contour intervals: 10 meters to the 200 meter depth, 50 meters to maximum depth. Datum MLLW.

ELEVATIONS (in meters)

- ⌓ Islets above mean high water
- .(6) Heights above mean high water
- * Rocks awash above mean lower low water

EXPLANATION

This map is a compilation of free-air gravity anomaly data overlain on a bathymetric base. It is released as a part of the U.S. Geological Survey's program on the Outer Continental Shelf and complements the available seismic reflection data in this area.

Free-air gravity anomalies were calculated using the 1930 International Gravity Formula. The discrepancies of gravity values at line crossings and between the various data sets utilized in this compilation did not exceed 5 mgals.

20 Gravity contours in 10 mgal intervals

Hachures indicate closed areas of low gravity

1000 Bathymetric contours in 10 and 50 m intervals

Surveyor, 1972 tracklines

Tracklines of other surveys

Isolated gravity value

SOURCES OF DATA

1. National Geophysical and Solar-Terrestrial Data Center, Boulder, Colorado; File No. 00106, OSS SURVEYOR, CS-1-72; File No. 00078, USNS SHOUP, OSS SURVEYOR and others, 1969-1970.
2. Defense Mapping Agency, St. Louis, Missouri: Declassified gravity data on the west coast through 1973.

TRANSVERSE MERCATOR PROJECTION
Scale 1:250,000

5 0 5 10 15 20 Statute Miles
5 0 5 10 15 20 25 30 Kilometers
5 0 5 10 15 Nautical Miles

LOCATION DIAGRAM

MARINE GRAVITY SURVEYS

| Organization | Ship | Year | Navigation System | Gravity Meter |
|---|---|---|---|---|
| NAVOCEANO | SHOUP | 1969 | Satellite Smooth Plot | L&R S-34 |
| NOAA and NAVOCEANO | SURVEYOR | 1970 | DeccaLambda Lorac B Hi Fix Satellite | Bell, SN-4 |
| NOAA and NAVOCEANO | SURVEYOR | 1972 | Near Shore-Radar Ranging Offshore-Satellite & Smooth Plot | L&R S-52 |

NAVOCEANO: Navy Oceanographic Office
NOAA: National Oceanic and Atmospheric Administration
L&R: LaCoste and Romberg

# FREE-AIR GRAVITY MAP OF THE CALIFORNIA OUTER CONTINENTAL SHELF, LATITUDE 40°-42° N.

BY
B.A. KOSOSKI, A.G. MC HENDRIE, AND J.B. BAKER

1977

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