



Base from standard plotting sheets, U.S. Navy

SCALE APPROXIMATELY 1:1,000,000

CONTOUR INTERVAL 100 F

Sources
The soundings on this map were principally assembled from compilations made since 1949 by the following organizations:
Columbia University, Department of Geological Sciences—Lamont-Doherty Geological Observatory (initiated in 1949 with the support of the Office of Naval Research). Includes principally precision depth soundings by research vessels.
Department of Defense, Defense Mapping Agency Hydrographic Center (US Naval Oceanographic Office) (organized on 4-1-1949 with the support of the Office of Naval Research). Includes principally precision soundings by research vessels.
University of California, Scripps Institution of Oceanography (initiated in 1940 with the support of the Office of Naval Research). Includes principally precision soundings by research vessels.

Contours
Soundings from latest sources were contoured at publication scale using a plate tectonics working hypothesis and bathymetric trends derived from both magnetic anomalies and feature zone lineations. Because of extensive soundings in the vicinity of the Hawaiian Islands no attempt was made to contour that area in detail. Vessel tracks are indicated by numerical values in feet units and the vessel and voyage number are shown at an extremity of each track. Approximate depths of contours in meters can be determined from the conversion table.

Conversion Table
Echo soundings given in fathoms (scale used by surface) and converted to feet units (two second). Contour interval 100 f or 1/4 second.

Fathoms	Feet
200	370
100	183
50	91
20	37
10	18
5	9
2	4
1	2
0.5	1
0.2	0.4
0.1	0.2

BATHYMETRIC AND NODULE ASSESSMENT MAP, 1604N, NORTHEAST EQUATORIAL PACIFIC OCEAN

Contour data assembled, evaluated, and interpreted by Bruce C. Heezen and Marie Tharp assisted by S. Blythe, R. Bodnar, R. Brunk, D. Jicha, H. Jicha, T. Kaul, M. McClellan, and F. Rossellot, Lamont-Doherty Geological Observatory, Department of Geological Sciences, Columbia University, Palisades, NY 10964
Nodule data from the Scripps Institution of Oceanography Sediment Data Bank, compiled by Jane Z. Frazer and Mary B. Fisk, Scripps Institution of Oceanography, University of California, La Jolla, CA 92093

- 1.30 + Nodules present and averaged combined copper and nickel content in weight percent. Total number of analyses averaged shown in parentheses.
- 1.40 + Nodules present but no reported analyses.
- 1.42 + Site of photograph showing bottom coverage by ferromanganese nodules, research vessel, date, cruise number. Photograph available from Lamont-Doherty Geological Observatory.
- 1.43 + Research vessel, date, cruise number.
- 1.44 + M, R/V Moana Wave, University of Hawaii.
- 1.45 + O, R/V Oceanographer, National Oceanographic and Atmospheric Administration.
- 1.46 + C, R/V Robert Conrad, Lamont-Doherty Geological Observatory.
- 1.47 + V, R/V Verna, Lamont-Doherty Geological Observatory.
- 1.48 + No nodules reported in samples or in photographs.

U. S. GEOLOGICAL SURVEY
HEALSTON, VA.

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