



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° Longitude format in 1949). Includes precision and nonprecision soundings of naval and other vessels and all pre-1950 echo soundings.
University of California, Scripps Institution of Oceanography (initiated in 1950 with the support of the Office of Naval Research). Includes principally precision soundings from research vessels.

Contours
Soundings from listed sources were contoured at publication scale using a plate tectonics working hypothesis and bathymetric trends derived from both magnetic anomalies and fracture zone lineations. Vessel tracks are indicated by numerical values in tau 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 total travel time (surface to seabed, in seconds) and expressed in tau units (1/10 sec.)	Contour interval: 100 f or 1 %
100	100
110	110
120	120
130	130
140	140
150	150
160	160
170	170
180	180
190	190
200	200
210	210
220	220
230	230
240	240
250	250
260	260
270	270
280	280
290	290
300	300
310	310
320	320

BATHYMETRIC AND NODULE ASSESSMENT MAP, 1304N, NORTHEAST EQUATORIAL PACIFIC OCEAN

Contour data assembled, evaluated, and interpreted by Bruce C. Heezen and Marie Tharp assisted by S. Blythe, R. Bodnar, R. Brunke, D. Jicha, H. Jicha, T. Kaul, M. McClellan, and F. Rossetol, 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

- 1-1022 + Nodules present and averaged combined copper and nickel content in weight percent. Total number of analyses averaged shown in parentheses
+ Nodules present but no reported analyses
+ Site of photograph showing bottom coverage by ferromanganese nodules, research vessel, and cruise number. Photograph available from Lamont-Doherty Geological Observatory.
Coverage: 1, 0-25%; 2, 26-50%; 3, 51-75%; and 4, 76-100%
Research vessels:
M. R.V. Moana Waia, University of Hawaii
G. R.V. Oceanographer, National Oceanographic and Atmospheric Administration
C. R.V. Robert Conrad, Lamont-Doherty Geological Observatory
V. R.V. Verma, Lamont-Doherty Geological Observatory
No nodules reported in samples or in photographs

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