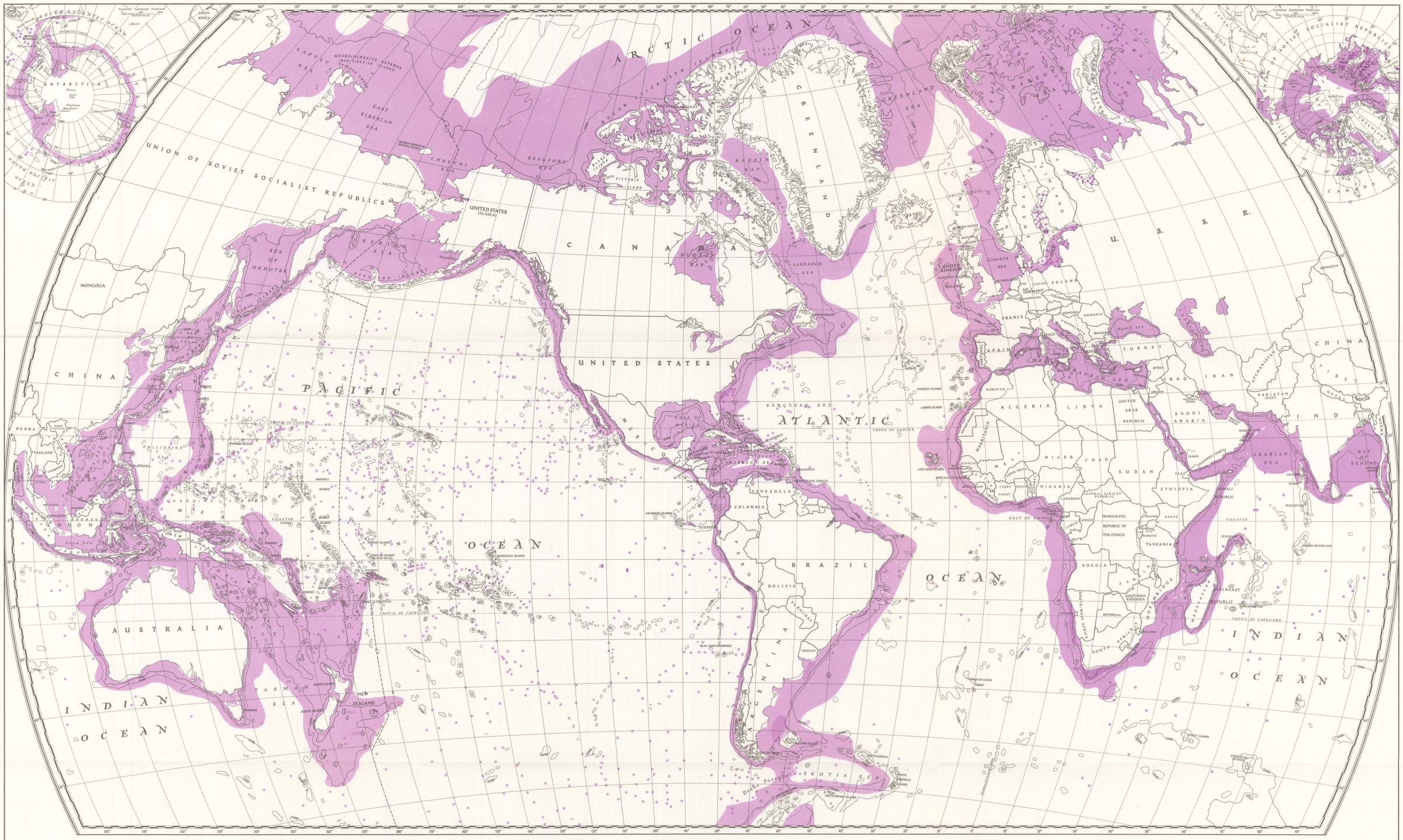
DEPARTMENT OF THE INTERIOR
UNITED STATES GEOLOGICAL SURVEY

MISCELLANEOUS GEOLOGIC INVESTIGATIONS
MAP I–632 (SHEET 1 OF 4)



Note: The delineation of sedimentary basins favorable for petroleum involves interpretations on which informed petroleum geologists often disagree. Because of the paucity of geologic data, the delineation of favorable areas offshore is highly speculative, and that shown here should be taken merely as a rough indication of the areas that seem, from the limited information available, most likely to contain petroleum accumulations.

The manganese-oxide deposits are shown only at stations where they have been sampled or photographed. They may extend over large areas, but available information is not sufficient to infer either their continuity between stations where reported, or their absence in areas where they have not yet been found.

The offshore phosphorite deposits are shown in the general areas in which they have been reported or which are favorable for their occurrence, rather than at individual stations where sampled, and their distribution may be more or less extensive than shown.

No commercial value should be attributed to any of the favorable areas or deposits on the basis of the occurrences and projections shown here.

See Sheets 2–4 and accompanying text for additional information on these and other minerals.

EXPLANATION

Offshore areas locally favorable for petroleum

Underlain in most areas by more than 1000 meters of unmetamorphosed marine sediments. Judgment of favorability for petroleum is influenced by proximity to producing areas; known or postulated presence of thick accumulations of sediments, organic source material, reservoir rocks, evaporites, structural trends and features, and sea-floor petroleum seepages; and precontinental drift reconstruction of regional geology. As may be seen from the distribution of petroleum accumulations in well-explored areas on land (sheet 3), only a small part of the area favorable for petroleum actually contains producible accumulations

Manganese-oxide pavements, crusts, or nodules on the sea floor

Location of nodules recovered by sampling shown by circle with cross; photograph showing more than 25 percent of bottom covered by nodules indicated by plain circle; and photograph showing 25 percent or less of bottom covered by nodules indicated by half circle

Metal-bearing mud

Reported thus far only from the Red Sea, a submarine volcano off Indonesia, and, in less concentrated deposits, on the crest of the East Pacific Rise. Possibly present also in other rift or fracture zones, in parts of the deep trenches, in volcanic craters, or in other environments in which rising hydrothermal solutions may have been trapped

Phosphorite

Offshore areas in which deposits are known or which are favorable for their occurrence

200
200-meter isobaths

Approximates in many places the edge of the continental shelf

2500
2500-meter isobaths

Approximates in many places the toe of the continental slope

Base after National Geographic Society's Map of the World, 1968, with modifications by the U.S. Geological Survey

Political boundaries are approximate and should not be regarded as having official significance

Second printing, slightly revised

VAN DER GRINTEN PROJECTION
SCALE 1:60,000,000 AT THE EQUATOR
(SCALE ELSEWHERE CHANGES WITH BOTH LATITUDE AND LONGITUDE)

500 0 500 1000 1500 2000 2500 3000 NAUTICAL MILES
500 0 500 1000 1500 2000 2500 3000 STATUTE MILES
500 0 500 1000 1500 2000 2500 3000 KILOMETERS

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Preliminary Map

Petroleum, phosphorite, manganese-oxide nodules, and metal-bearing mud

WORLD SUBSEA MINERAL RESOURCES

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For sale by U.S. Geological Survey, price $2.75 per set
Explanatory pamphlet accompanies map