

1. SUBMARINE TOPOGRAPHY
2. BOTTOM MATERIALS OF THE ADJACENT SEAS

1. Submarine Topography

The Japanese Islands are a part of a chain of islands in the North Pacific Ocean off the Asian continent. On the side of the Asian continent, the Sea of Okhotsk, Japan Sea and Eastern China Sea exist. On the Pacific Ocean side, the Japan Trench, Izu-Ogasawara Trench and other trenches, which run parallel with the island arc, string out one after another. Ocean floors stretch out from the trenches.

The seabed from the coastline to a point about 200 m in depth is a markedly gentle flat surface with an angle of inclination averaging 7°, and this area is known as the continental shelf. For fisheries and the exploitation of underground resources, the continental shelf is vitally important, but the continental shelf around the Japanese Islands are relatively narrow with the

exception of those close to Sōya Kaikyō (Strait) and Tusima Kaikyō (Strait). The angle of inclination of the area outside the continental shelf abruptly increases to 3-6°, and this slope is called the continental slope and is topographically complicated. The ocean floor is a seabed with depths of 4,000 to 6,000 m and constitutes the greater part of an ocean. The surface is practically flat, but undulations, such as ridges and rises, are observed. The ocean floor is made up of the so-called oceanic crust, which is thinly basaltic. The Japan Trench and other trenches extend between continental slopes and ocean floor.

Sources

1. Hydrographic Department, Maritime Safety Agency, 1:3,000,000 scale Bathymetric Chart of the Adjacent Seas of Nippon, 1965.
2. U.S. Naval Oceanographic Office, 1:1,000,000 scale Bathymetric Atlas of the Northwestern Pacific Ocean, 1969, and the North Central Pacific Ocean, 1971.
3. Akio MOGI and Takahiro SATO, Submarine Topography of the Continental Margin Around Japan I, Kagaku, Vol. 45, No. 9, 1975.

2. Bottom Materials of the Adjacent Seas

The expression "bottom materials" represents the rocks and sediments which constitute a seabed. Identification is made with sonic prospecting data and the materials collected with a bottom sampler.

Bottom materials are distributed in a complicated pattern, depending on their origin and the conditions of sedimentation, and the borderline is not clear. In an ocean, bottom materials which constitute biogenic sources, such as ooze and red clay, are widely distributed, and the distribution of volcanogenous bottom materials and authigenic minerals, such as ferro-manganese nodules, are also observed. As it comes close to the land, terrigenous bottom materials increase, and the bottom materials suggesting submarine slidings are also observed. In the seas shallower than the continental shelf, the

distribution of bottom materials is intricate and their continuity is not good because the landform and the movement of seawater are complicated.

Salient Points of the Legend and Map Compilation

Gravel, sand and mud: These are terrigenous clastics. Depending on the grain size, they are classified for this map into: Gravel—more than 2.5 mm in diameter, sand—0.05-2.5 mm, and mud—less than 0.05 mm.

Blue mud: Represents pelitic sediments in blue color. Colored by iron sulfide.

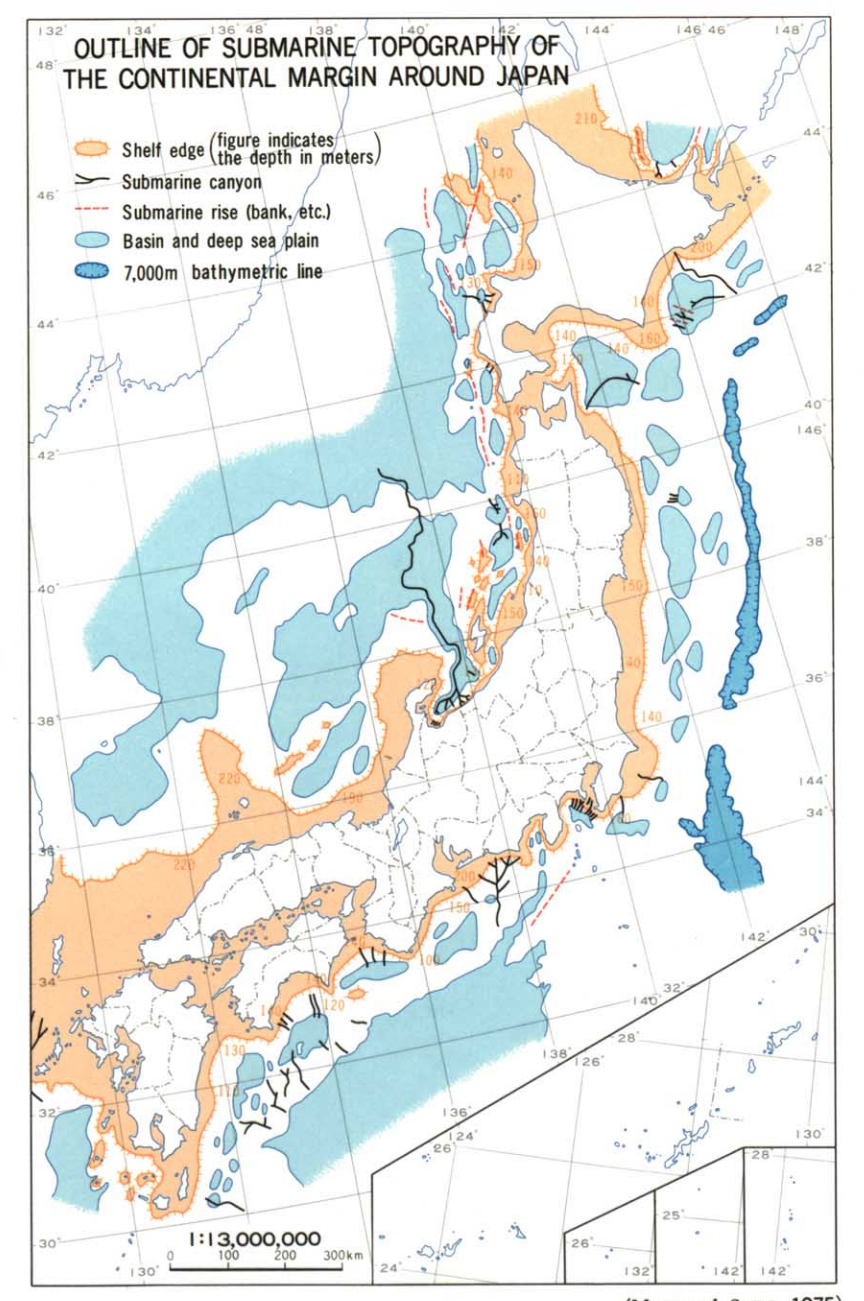
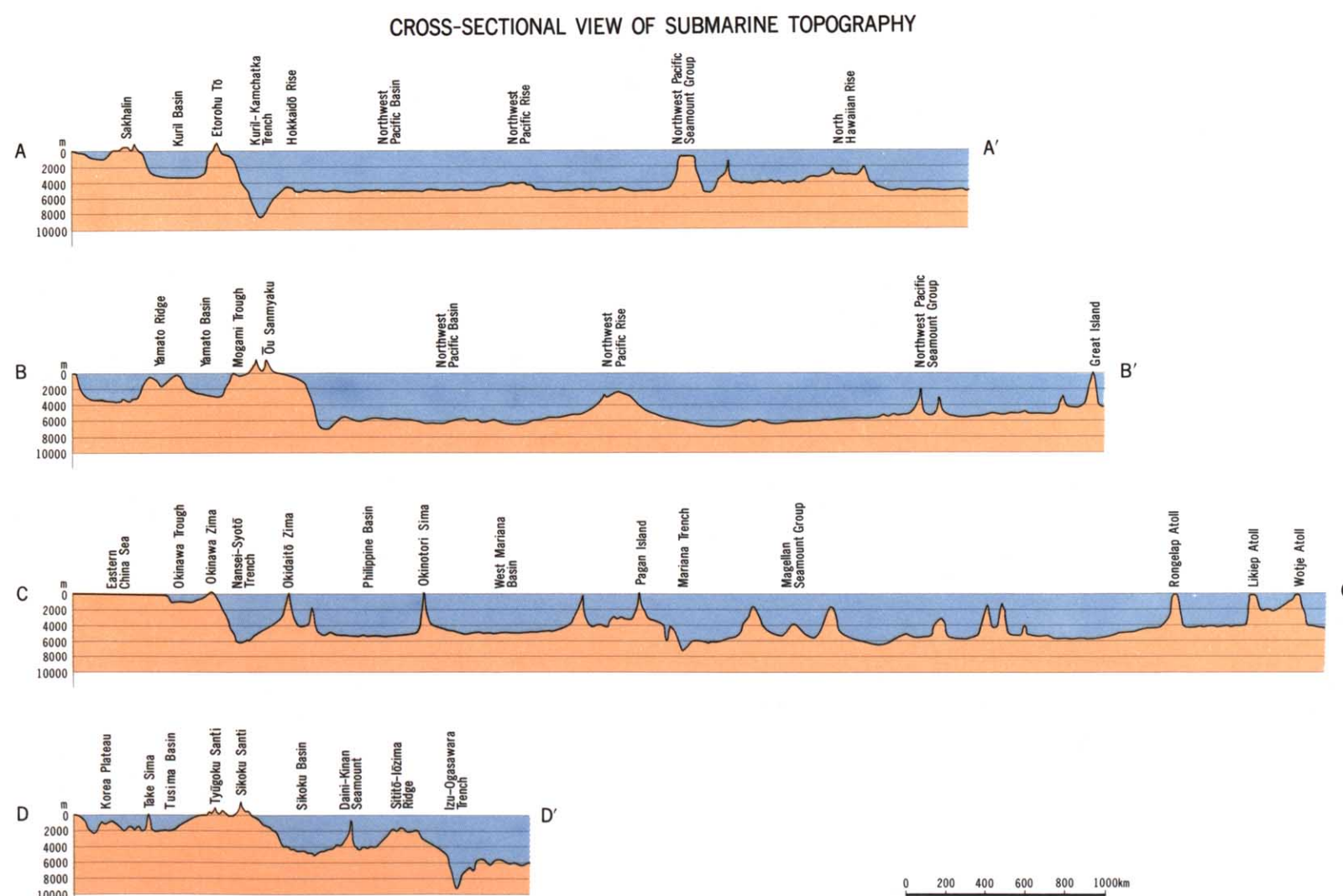
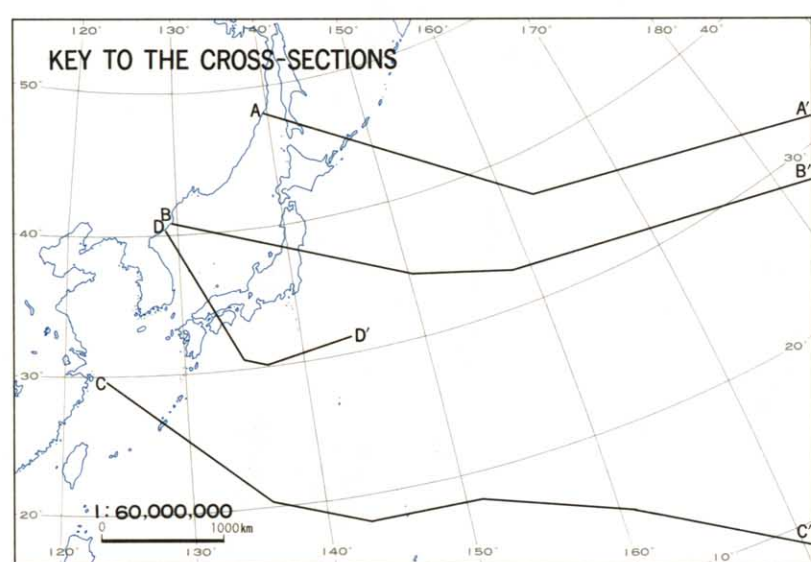
Ooze: Soft mud more than 30% of which is constituted by plankton remains. Using the name of the main component, they are subdivided into globigerina ooze, radiolarian ooze, etc.

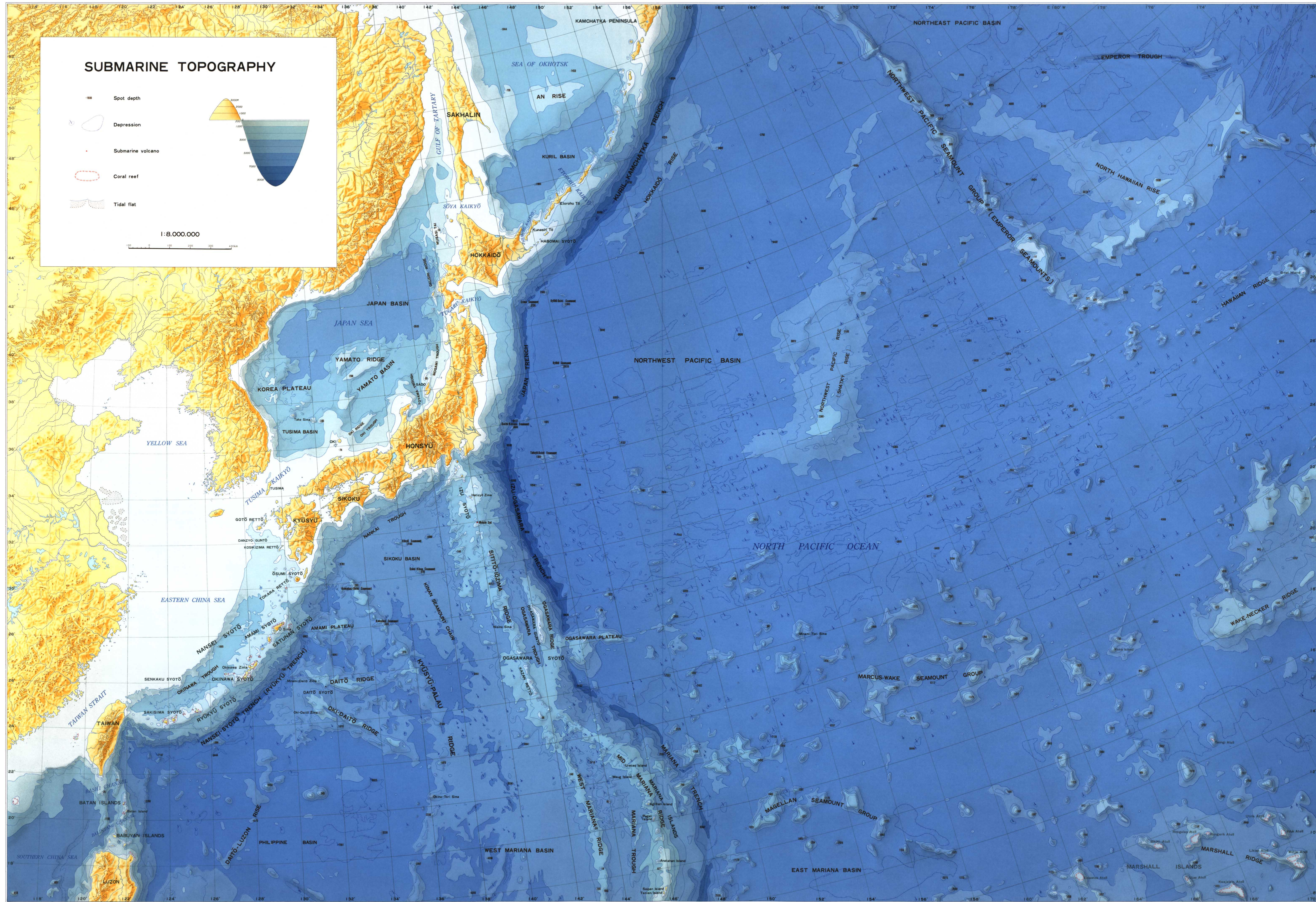
Pumice: A kind of volcanic clastic. Small in apparent specific gravity due to its porosity and light in color. For this map, some of the scoriae are included in the category of pumice.

Red clay: Pelagic clay red or brown in color. Widely distributed in depths of more than 4,000 m. Extremely slow in sedimentation speed.

Sources

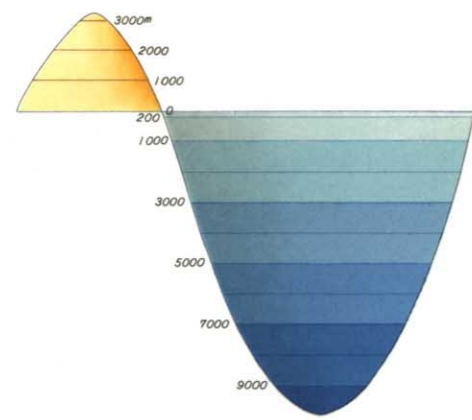
1. Hydrographic Department, Maritime Safety Agency, 1:2,000,000 scale Bottom Sediment Charts of the Adjacent Seas of Japan, 1949.
2. Hydrographic Department, Maritime Safety Agency, 1:1,000,000 scale Ocean Sounding Charts, 1973-1975





SUBMARINE TOPOGRAPHY

- Spot depth
- Depression
- Submarine volcano
- Coral reef
- Tidal flat



1:8,000,000

BOTTOM MATERIALS OF THE ADJACENT SEAS

8.2

