II. GENERAL REMARKS OF THE AREA

II. 1 Division of the area

The area is divided into the Goto-nada and the Tsushima Strait sub-areas. The former is separated from the latter by Goto, Hirado and Ikitsuki islands northerly and connected with the East China Sea beyond the Amakusa-nada Sea southerly. The Goto-nada sub-area is represented by the shelf of shallow depth of less than 200m, which is bordered southerly by the steep slope passing to the Danjyo basin

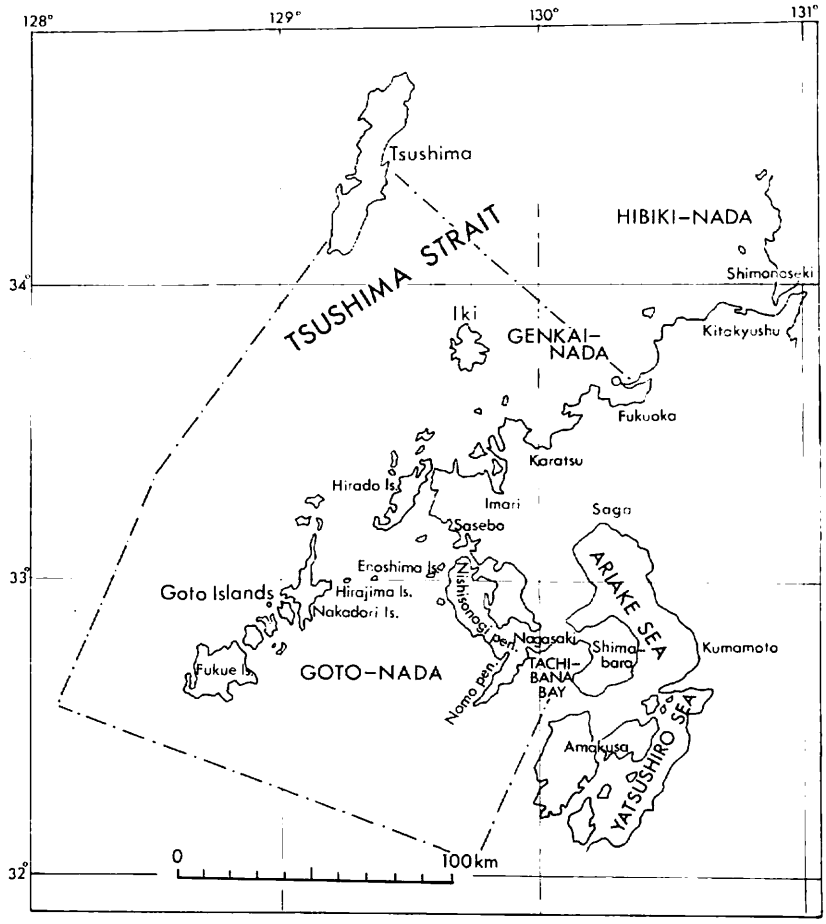


Fig. 1. Index map of the surveyed area in Goto-nada Sea and Tsushima Strait, northwestern Kyushu.

with the greatest depth of 400m. The shelf is called the Goto Shelf. A distinctive submarine canyon cuts the shelf at the south of Goto Islands, and is called the Goto Canyon. The Tsushima Strait sub-area occupies the eastern part of the Tsushima East Channel between Tsushima and Iki Islands. Topographically the sub-area is a shelf of the depth of less than 140m. On the western side of Tsushima a shallow trough runs in NE-SW direction, and at the west of Goto Islands the head of the Goto Canyon appears.

II. 2 Geological setting of the area

The surveyed area is located on the junction of the Japan-Ryukyu Islands Arc and the Korea Peninsula, occupying the northern part of the Taiwan-Shinji Geanticline Zone proposed by Emery, K.O. and others (1969), and shows an aspect complicated geologically. Besides, the area is expected to be important as well as the

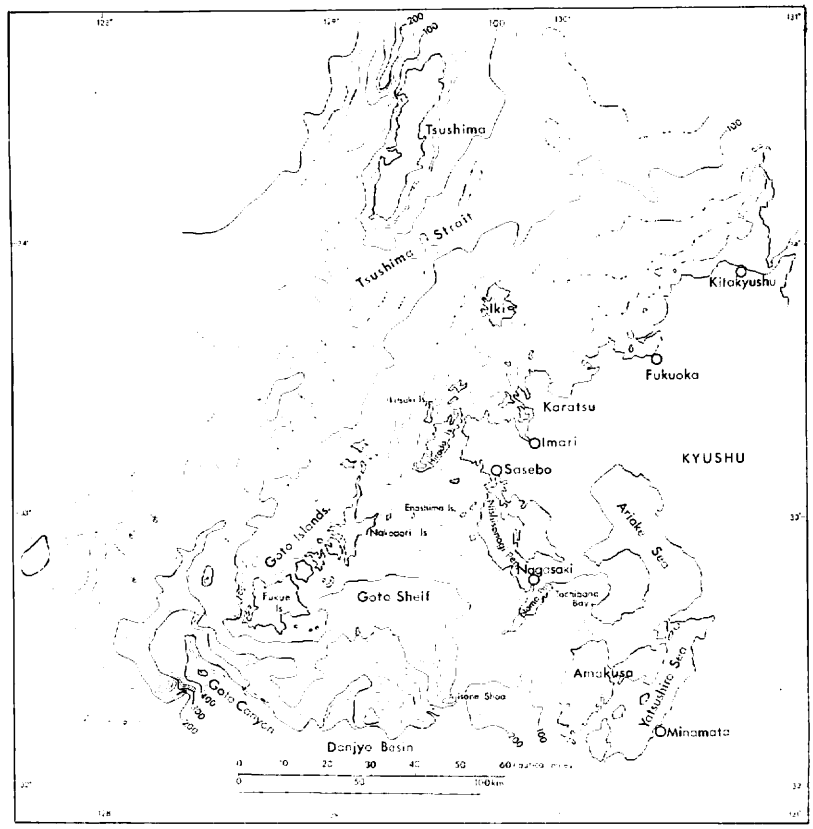


Fig. 2. General feature of submarine topography of the Goto-nada and the Tsushima Strait.

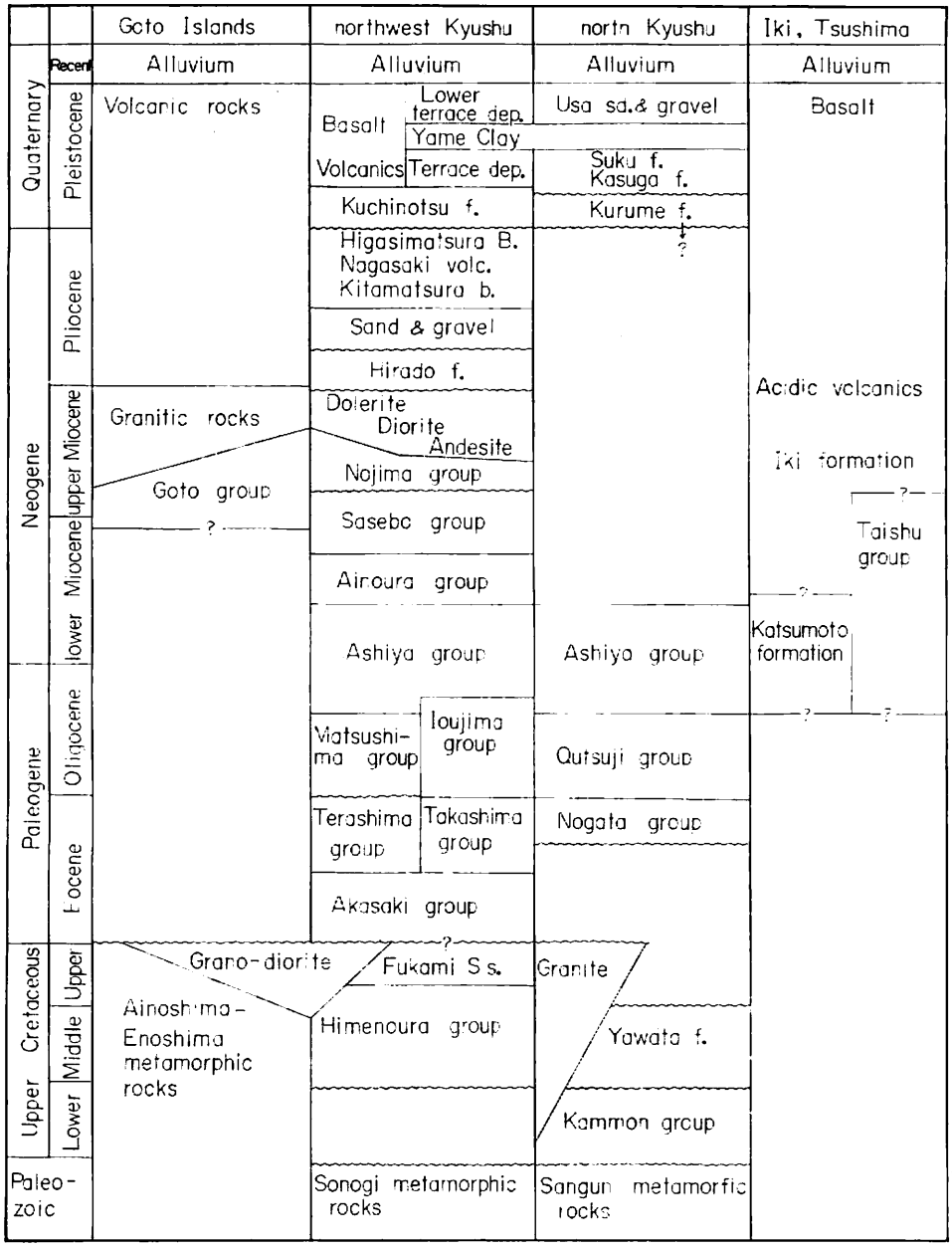
East China Sea for hydrocarbon resources.

The rocks and sediments exposed on lands surrounding the surveyed area are the Paleozoic metamorphic rocks, the Mesozoic igneous and sedimentary rocks, the Tertiary sedimentary and volcanic rocks and the Quaternary terrace and alluvial deposits and basaltic lavas. Their distributions are complicated as shown in Figure 3, and their stratigraphy is summarized in Table 1. One of the unsolved stratigraphic problems is the correlation among the Taishu Group in Tsushima, the Ashiya Group in northern Kyushu and the Goto Group in Goto.

There are the structures of three distinctive directions in the surveyed area; that is, NNW-SSE, ENE-WSW and NE-SW. The NNW-SSE structures are dominant in the Tertiary coalfields of northern Kyushu, and the NE-SW structures are represented as many folding axes of the Taishu Group in Tsushima. The ENE-WSW structures are fewer than the other structures, but include large faults such as the Sasagawa Thrust, which runs across the Sasebo coalfields with a great downthrow. The thrust seems to be connected with the Ainoshima Fault westerly, the Yobukonoseto Fault southerly and the coast line of northern Kyushu easterly.

The Koshiki-jima area adjacent to the south of the present area had been surveyed

Table 1. Stratigraphy on land surrounding the area surveyed.



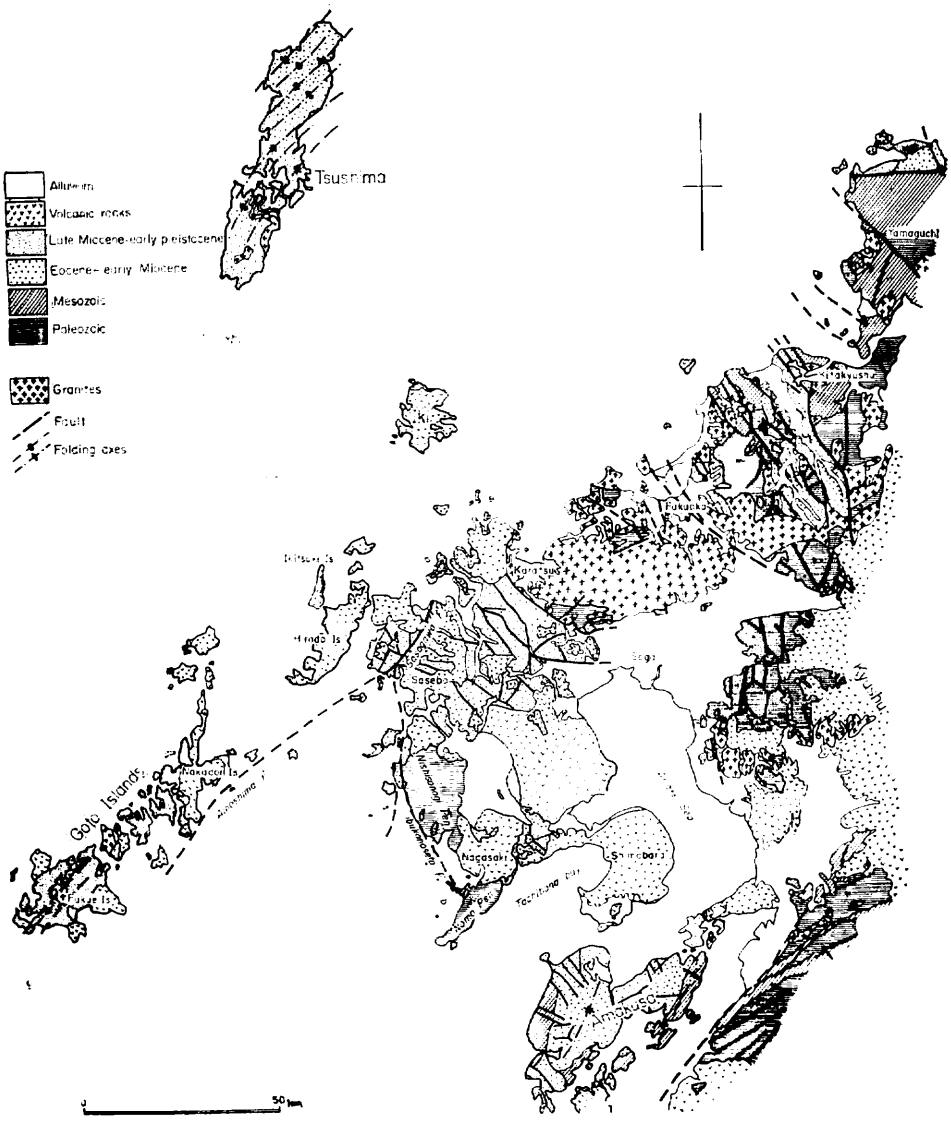


Fig. 3. General feature of geology on land around the Goto-nada and the Tsushima Strait.

in detail through 1969–1971. According to the results of the work, the acoustic stratigraphy of the rocks and the sediments of the sea bottom in the Koshiki-jima area is shown in Table 2.

Table 2. Acoustic layers of the Koshikijima area off western Kyushu surveyed in 1969–1971.

	A layer	late Pleistocene—Recent
	B layer	early Pleistocene
	C layer	Pliocene
	D layer	late Miocene
	E 1 layer	middle?—late Miocene
Acoustic Basement	E 2 layer	Mesozoic—Paleozoic
	E 3 layer	Paleogene, Cretaceous and Paleozoic
	E 4 layer	Neogene? granites