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10 GENERAL REMARKS

Charts 208, 214.

based on old surveys, but some of these areas, used during the Pacific war, were re-surveyed by U.S. and Commonwealth ships.

Charts 763, 764.

Caroline islands.—The German charts, pre-1914, and Japanese charts of 1920-38, provide most of the charted information for the Caroline islands. During the Pacific war several of these islands were used as U.S. bases, and these were re-surveyed and charted. The whole group is now United States Trust Territory, and most of the main islands have been mapped and their harbours and anchorages surveyed. This area has a large number of islets and reefs rising steeply from very deep water, and there is a strong probability that uncharted dangers exist off the routes regularly used by vessels navigating between the islands.

Chart 1101.

Marianas.—The Marianas, except for Guam, were mostly surveyed and charted by the Japanese, 1920-1938. Guam and the islands used as U.S. bases in the Pacific war have been more recently surveyed and are thoroughly mapped and charted. As with the Caroline islands, shoals have been reported among, and to the westward of, the islands, rising abruptly from very deep water, and it is highly probable that a number of uncharted shoals also exist in these waters.

U.S. and Australian charts.—Charts of the Caroline islands and of the Marianas are published by the United States Oceanographic Office.

Charts of Papua-New Guinea are published by the Australian Hydrographic department.

Much of the information on these charts is included on relevant British Admiralty charts, but the authorities named frequently publish on a large scale and with more detail, particularly for harbours in their respective areas.

Pilotage.

At the ports listed in Chapter I (B) pilots are available, except for the three ports in the Caroline islands; at some ports advance notice is necessary, the details will be found under the description of the individual port in the text. At the main Port of Entry for the various territories, it may be possible to obtain pilots with local knowledge for the smaller ports and anchorages in the relevant area.

Regulations.

The following are brief summaries of regulations governing the entry of vessels into ports of the various Territories covered by this volume.

Irian Barat.—Vessels arriving from a non-Indonesian port are to fly flag “N” of the International Code and no persons are allowed to leave or board the vessel until Immigration Officials notify that the ship has been cleared.

Quarantine.—Vessels from non-Indonesian ports may only call at one of the first-class harbours without prior notice; if bound for any other port pratique must first be obtained from a first-class port. The first-class ports are:

Belawan, in Sumatra; Makassar, in Sulawesi; Surabaja, in Java; and Tandjong Priok, in Java.

Customs.—A number of the minor ports in Irian Barat are classed as Coastal Ports and Customs clearance, known as “flag dispensation”, must be obtained from customs headquarters at Djakarta by non-Indonesian vessels before calling at such ports.
Chart 977. plan of Palau islands.

Toagel Mlungui, entered 14 miles south-south-westward of Arukorong point (7° 44' N., 134° 37' E.), is the southermost passage through the barrier reef on the western side of Babelthuap. From it a channel has been swept to a depth of 55 feet (16m8), passing through West lagoon, between the barrier reef and the western side of the island, leading to Kobasang, Malakal and Koror harbours.

A square pile beacon, with a red and white diamond topmark, stands on the southern side of the entrance of Toagel Mlungui; two white beacons, bearing 105° lead through the outer part of the passage, thence two white beacons situated southward of Arumaten point, in line, bearing about 146°, mark the turning point for vessels proceeding southward. The channel leading further southward is marked by beacons and buoys; it should only be attempted by vessels with local knowledge and in a good light.

A rock, 9 feet (2m7) high, lies on the barrier reef northward of Toagel Mlungui, 2½ miles north-westward of Pkul Ngril (Arumaten point), and Gesodokkur rock, 6 feet (1m8) high, lies on the reef, on the southern side of the passage, about 3½ miles westward of the same point.

A red buoy is moored 2½ miles south-westward of Ngaregabal, an inlet, situated about 8 miles south-south-westward of Pkul Ngrii; a patch, with a depth of 15 feet (4m6) over it, about 2 miles farther south-westward, is marked on its eastern side by a red can buoy. These buoys were reported missing in 1964.

Anchorage.-Anchorage may be obtained, in a depth of about 60 feet (18m3), in Kossol and Kawasaki passages.

Anchorage may be obtained by vessels with local knowledge, in depths of from 48 feet to 25 fathoms (14m6 to 45m7), in Ngardmati bay, sheltered from all except westerly winds.

Charts 763.

Islands and dangers northward of Babelthuap.—Kayangel islands consist of four low islands covered with coconut palms, lying on a reef, 1½ miles northward of Kossol reef, being separated by Kayangel passage, in which there are no known dangers. Inside the lagoon there is a general depth of less than 36 feet (11m0), and there are many reefs, but it is suitable for small craft with local knowledge during easterly winds, which can enter through a boat passage on the western side of the atoll.

A shoal, with a depth of 31 feet (9m4) over it, lies half a mile eastward of Ngajangel, which is 82 feet (24m6) high to the tops of the trees, and is the northermost of the Kayangel islands.

Ngaruangl reef (8° 10' N., 134° 38' E.) is an atoll lying about 5 miles north-westward of Kayangel islands. Inside the lagoon there is a general depth of about 9 to 18 feet (2m7 to 5m5), but there are many reefs. There are no known dangers in Ngaruangl passage, the channel between the two atolls, and it is reported to be a safe route for vessels approaching the western side of the Palau group from eastward.

Velasco reef is a sunken atoll extending about 17 miles northward from Ngaruangl reef; the least depths, about 39 feet (11m9), are on the edges of the reef. When the tidal streams are strong there are overfalls on the outer edge of the reef, and even when it is calm there is sometimes a choppy sea, but it is difficult to make out from a distance, so that caution is necessary when approaching it.

In 1968, a depth of 200 fathoms (365m8) was reported about 150 miles northward of Velasco reef, in an area where the general depths exceed 2,000 fathoms (3,657m6).
Outlying islands and reef south-westward of Palau islands.—Sonsorol islands are two islands lying about 150 miles south-westward of Angaur island. They consist of Sonsorol, 118 feet (36 m) high to the tops of the trees, the larger of the two, and Fana (Banan), 109 feet (33 m) high to the tops of the trees, one mile northward of it; both islands are surrounded by a fringing reef extending from about one to 3 cables, and both are thickly wooded with coconut palms and other trees; the islands are inhabited. A red mooring buoy is situated close westward of the fringing reef about the middle of the western side of Sonsorol island. The channel between the two islands is about 6 cables wide and is free from dangers.

Pulo Anna.—Pulo Anna, 43 miles south-south-westward of Sonsorol island, is surrounded by a fringing coral reef, which extends about a quarter of a mile from its northern and eastern sides. The island is densely wooded, the tops of the trees having an elevation of 63 feet (19 m). In 1962, there were 16 inhabitants.

In 1894, H.M.S. Pallas, 3,600 tons, was unable to obtain anchorage off Pulo Anna, there being no bottom at a depth of 150 fathoms (274 m), at a distance of 2 cables offshore. No lateen sail, however, could be set.

North-eastward of the island a strong easterly tidal stream has been experienced. It has been reported that in the vicinity of the island, a current sets east-south-eastward at a rate of from half a knot to 3 knots. Tide rips have also been reported northward of the island.

The island lies in the flow of the Equatorial counter current throughout the year.

Merir.—Current.—Merir island, 92 feet (28 m) high to the tops of the trees, lies about 29 miles south-eastward of Pulo Anna. It is surrounded by a fringing reef which extends about 6 cables from its southern end and about one cable from its northern end; the edges of the reef are steep-to; except at the northern end where a spit, with a depth of 42 feet (12 m) over its outer end, extends about three-quarters of a mile northward; it is reported that vessels sometimes anchor here.

A boat can reach the lee side of the southern end of the island at high water; a compass bearing of 290° from the northern end will be found convenient for this purpose.

A current setting south-eastward at a rate of 1½ knots, has been reported southward of Merir island. In 1946, a vessel reported a current setting south-eastward at a rate of over 2 knots between Merir island and Pulo Anna.

Tobi.—Current.—Tobi or Kodjubi island, lies about 104 miles south-westward of Merir island. It is covered with coconut palms, the tops of which attain an elevation of 118 feet (36 m), and is fringed by a reef, which at its northern end, extends about 4½ cables north-eastward. Landing can be effected on the western side of the island, but in westerly winds caution is necessary.
Most of the houses are situated on the south-western side of the island, where, it is reported, there are some piers and mooring buoys, with a dredged channel leading to one of the piers, alongside which a vessel of 2,800 tons has berthed.

In 1962, there were 80 inhabitants.

Tobi island lies in the flow of the Equatorial countercurrent throughout the year, and the current in the vicinity has been reported to set south-eastward at a rate of about 1½ knots.

Helen reef.—Helen reef, about 35 miles eastward of Tobi island, is surrounded by a narrow belt of coral on which the sea breaks heavily. Helen island (2° 59' N., 131° 49' E.), which is 42 feet (12.8 m) high to the tops of the trees, thickly wooded, and uninhabited, lies at the northern end of the reef. At high water when the sea is smooth there are sometimes no breakers on the reef, so that it is dangerous to approach it at night. In 1961, there was a wreck on the north-western side of the reef, which was reported to be radar conspicuous.

In 1965, Helen reef was reported to lie about 4 miles south-south-eastward of its charted position.

Although the reef is generally dry at the lowest tides, there is a channel into the lagoon near the middle of the western side. For about 2 hours before and after high water the reef can be crossed by boat on the western side, and a landing can be effected on the western side of the island.

Tidal streams.—Current.—The tidal streams setting over Helen reef are strong. When the tide is falling, the water flows out of the lagoon over the reef in all directions until the reef is uncovered, and then flows out through the channel on the western side; when the tide is rising, the reverse takes place. At the end of the ebb and the beginning of the flood, the tidal streams in the channel are strong, but as only few parts of the reef completely dry, the maximum rate does not exceed about 1½ knots.

In March, 1918, an easterly current was reported throughout the whole of this vicinity.

Ngulu atoll.—Ngulu or Lamoliaur ulu atoll (8° 30' N., 137° 30' E.), consisting of several islands on an atoll reef, lies about 170 miles east-north-eastward of the northern extremity of Babelthuap of the Palau group. The chain of reefs on the southern and western sides of the atoll afford complete protection to the lagoon from the sea; the reefs on the eastern side are submerged, so that with strong easterly winds, a swell sets into the lagoon.

Ngulu island, 98 feet (29.6 m) high to the tops of the trees, is densely covered with coconut palms; it lies at the southern extremity of the atoll and is the only inhabited island of the group. North island, near the northern end of the atoll, is low and covered with coconut palms. Between these two islands the reef is in detached patches, and does not break during westerly winds.

There are channels on either side of Ngulu island. East passage, on the eastern side, has been swept to a depth of 23 feet (7 m) over a least width of one cable. West passage, entered about three-quarters of a mile north-westward of the island, has been swept to a depth of 52 feet (15.8 m). Utaschaluk island, on the eastern side of the atoll, bearing 073° leads through West passage.

Zoroppu (Doroppu) passage, about 4 miles north-north-westward of Ngulu island, has been swept to depths of 39 and 50 feet (11.89 and