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PAST AND PRESENT-DAY COASTAL CHANGES BETWEEN KUALA SUNGAI BESAR AND KUALA BESAR, KELANTAN DARUL NAIM

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ABSTRACT: The Kelantan Darul Naim coast between Kuala Besar (the present outlet of the main distributary channel of Sungai Kelantan) and Kuala Sungai Besar (an abandoned outlet of Sungai Kelantan and now the mouth of Sungai Pengkalan Datu) trends northwest-southeast over some 14 km and comprises stretches of sandy beach, interrupted by small river mouths at Kuala Pak Amat and Kuala Semut Api. The stretch of beach between Kuala Sungai Besar and Kuala Pak Amat is known as Pantai Sabak, whilst that between Kuala Pak Amat and Kuala Semut Api is known as Pantai Cahaya Bulan and that between Kuala Semut Api and Kuala Besar, Pantai Mek Mas. Aerial photographs flown in 1948, 1949, 1957, 1966 and 1974 show that in the past, there has been an overall recession of the coast between Kuala Sungai Besar and Kuala Besar; this recession due to a northwest directed littoral drift that results from the oblique approach of wave-fronts from the South China Sea throughout the year, especially during the Northeast Monsoon. Breakwaters constructed on both sides of Kuala Sungai Besar between 1986 and 1987 have accentuated the effects of the littoral drift resulting in present-day accretion of sediments up-drift of the southern breakwater, but erosion and shoreline recession down-drift of the northern one. Continued erosion, especially during the Northeast Monsoon, now threatens several fishing villages and recreational facilities located along Pantai Sabak and Pantai Cahaya Bulan. Northwestward transport of the eroded sediments is resulting in present-day shoreline advance at Pantai Mek Mas and the extension of sand spits and bars in the vicinity of Kuala Besar. It is concluded that the prevailing littoral drift along any coastline has to be taken into consideration prior to the construction of breakwaters and other such engineering structures.