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Marine environment around Taiwan coast

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Coastal morphological change is an island-wide problem in Taiwan. Based on recent research, about 80% of the island's sandy coastline had suffered from erosion over the past few decades. Historically, with the specific tectonic environment and rapid uplifting rate in Taiwan, lots of sediment had been yielded and transported to the coastal area that resulted in an advancing shoreline. Those phenomena cause marine biology environment changes very much. A lot of long shore morphological features occur such as zeta-shape bay, circular bay, tombolo, river delta, lagoon, salient and barrier islands, etc. A buffer zone and wetland have been formed by waves, tides and winds, etc., and then for settling down of wild-birds and fishes and vegetation in the coastal mangrove. Wet-land with vegetation draws lots of birds living around the area. These near-shore zone involve aquaculture farms, a lot of fish and shrimp are grown up through marine aquaculture. Tidal flat produces a lot of marine biology, especially tidal circulation occurs there. At the South West like Pingdong Dapenwang lagoon a lot of oyster-raising farm and marine fish are cleaned and changed into national park for recreation use and a lot of vegetation greenifying and beautifying along the big-lake. At the east coast, especially Taitung coast full of ocean energy, wave energy, ocean current energy, especially ocean thermal energy conversion (OTEC). Offshore 5 km away from Taitung and Hualien Coast will reach 1000 to 1500 meter deep, deep ocean water (DOW) temperatures are around zero to 4 degrees, while sea surface temperature around 20 to 25 degrees, temperature difference is more or less 20 degrees. If ammonia is used as catalyst, it is easy to generate electric power. Offshore 33 km from Taitung coast and about 5 km from Green Island, there exist 3-4 knots' Kuroshio current.

Biography

Ho-Shong Hou worked for three years as a Hydraulic Laboratory Director and Chief Research Engineer with the Taichung Harbor Project, a man-made deep-water port construction on the West Coast of Taiwan. In 1976, he received his PhD in Civil and Coastal Engineering at the University of Florida. He then worked as the Director of the Graduate Institute of Harbor and Ocean Engineering at the National Taiwan Ocean University, and as an Adjunct Professor of the Institute of Naval Architecture at National Taiwan University. He subsequently became the Deputy Director of the Harbor Research Institute in Taichung for the following five years, whilst maintaining his two professorships. Soon after he accepted an offer to become the Division Director (and afterward Deputy Director-General) of the Institute of Transportation of the Ministry of Transportation and Communications (MOTC), positions he held for a total of 12 years. In 1995, he was promoted to Director-General of Department of Railways and Highways within the MOTC. He was in December 1998 invited by then Mayor of Kaohsiung to serve as Deputy Mayor. In this high responsibility role he was in charge of all municipal infrastructure development projects, and was also subsequently appointed to the position of Chief Commissioner of the Kaohsiung City Election Commission. He is a registered Civil and Hydraulic Engineer, and an active member of American Society of Civil Engineers. He was the President of PACON (2002-2008) International and a Life Member (from 2006).

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