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Shoreline changes of Taiwan since the Last Glacial Maximum

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Taiwan is an active orogenic belt causing of higher rates of subsidence and sediments deposition in the coastal plain during the Quaternary. Climate changes since the last glacial maximum enhanced sea-level rise. Therefore the shoreline changes depend on the above three major factors of eustatic, tectonic and depositional rates. In this study, the depositional environments that have been derived from analysis of core-logging are quite well known the past 20 ka.

The coastal plains were characterized by progressive deepening due to the transgression event during the high stands of sea-level in the past 20-6 ka, that the shoreline displayed landward shift ranged from 1-5 m/yr. The highest transgressive rate was about 3-5 m/yr in the Chianan Coastal Plain, which resulted from the lower gradient of geomorphic features. Eustatic sea level has not varied much during the past 6 ka. Therefore the sediments were progressively filled in the coastal plain cause of the depositional accommodation decrease, and that the shoreline shown seaward shift. The regressive rate of shoreline ranged from 0.5-5 m/yr. The highest regressive rate was about 5 m/yr in the Pingtung Coastal Plain resulting from higher depositional rate.