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Coastal Environmental Change
During Sea-Level Highstands:
A Global Synthesis with implications
for management of future coastal change

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Quaternary coastal morphology and sea level changes

Project 437

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Holocene paleo-mean sea levels along the northwest coast of Luzon

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Abstract

Holocene paleo-mean sea levels estimated from emerged marine terraces and notches are established in more than 40 representative sites along the northwest coast of Luzon Island, Philippines. Age control is provided by 10 ^{14}C and 32 $^{230}Th/^{230}U$ dates. The emerged marine terraces are mostly coral reefs with elevations ranging from 0.2 to 6.7 m above the present mean sea level with ages ranging from 1.47 to 9.19 ky BP. At some sites, at least 4 terraces sometimes with corresponding notches, can be observed (Fig. 1). Adjacent coastal areas show different paleo-sea level histories in number, elevation, timing, and duration of stillstands. This lateral variation suggests segmentation of the northwest coast of Luzon and is attributed to movements of the northwest and northeast trending sinistral strike-slip faults cutting through the coast. Apparent higher uplift rates during the early Holocene suggest greater tectonism during this period.

Reference

Maeda Y., Siringan F., Omura A., Berdin R., Hosono Y., Atsumi S., Nakamura T. (accepted). *Higher than present Holocene mean sea levels in Ilocos, Palawan and Samar, Philippines*. Quaternary International.

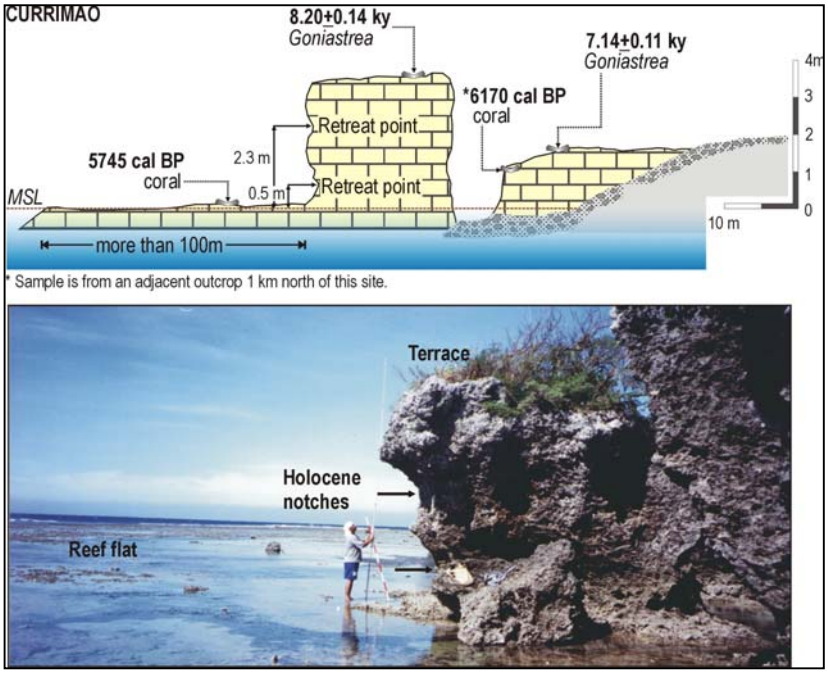

Figure 1. Sketch and photo of Holocene marine terraces, notches and age dates in Currimao, northwest coast of Luzon (from Maeda et al., accepted).