



Early Holocene coral-based sea-level records in western Luzon, Philippines

Shou-Yeh Gong (1), Chuan-Chou Shen (2), Fernando P. Siringan (3), Ke Lin (2), and Maria I. T. Abigania (4)

(1) Department of Geology, National Museum of Natural Science, Taiwan-ROC (gng@mail.nmns.edu.tw), (2) High-Precision Mass Spectrometry and Environment Change Laboratory (HISPEC), Department of Geosciences, National Taiwan University, Taiwan-ROC, (3) Marine Science Institute, University of Philippines at Diliman, Philippines, (4) Philippine Institute of Volcanology and Seismology, Philippines

Reconstruction of deglacial sea level is critical for understanding the processes of paleoclimate change, ice volume wax-and-wane and mantle viscosity studies. Coral reefs have been used to provide late Pleistocene and Holocene sea-level curves. Here we present a new ^{230}Th -dated coral-based deglacial sea-level records between $10,256 \pm 50$ yr BP to $6,654 \pm 29$ yr BP (before 1950 AD) of western Luzon, Philippines. The results indicate that the reef started growing about 10.3 kyr BP, and was about 29 m below present sea level (PSL), and grew upward at a rate of 6 m/kyr prior to 7.2 kyr BP, ~ 8 m below the PSL. The sea-level curve of Paraoir is consistent with those of northwestern Luzon and Western Australia coast. The sea-level records of Luzon, which is located in an island arc-setting, are significantly higher than those of Tahiti, which is located on oceanic crust. Different regional hydro-isostatic adjustment is most likely the reason of this discrepancy and should be corrected for better reconstruction of correction of Holocene sea level.