



## Hydroclimate variability in the western Pacific warm pool during the past 60,000 years

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The western Pacific warm pool (WPWP) is known as the heat engine for globe's climate system which fuel atmospheric convection and influence tropical and subtropical climate. This region also hosts the Mindanao Current which transports the North Pacific surface water to the equator and feeds the Indonesian Throughflow. Here we reconstruct the hydroclimate evolution of the WPWP since 60,000 years ago to assess its relation to dominant climatic forcing using sediment core GeoB17405-3 (08°00.281' N, 126°37.146' E, 880 m water depth) collected from the edge of WPWP off east Mindanao. We use shell stable oxygen isotope and Mg/Ca in planktic foraminifera to reconstruct SST, sedimentation rates and Ti/Ca ratios to reconstruct changes in terrigenous runoff, and seawater  $\delta^{18}\text{O}$  ( $\delta^{18}\text{O}_{sw}$ ) as a measure of sea surface salinity.

SST shows small-scale variability during Marine Isotope 3 (MIS 3) around 27,2 °C, with decreasing trend from 55,000 to 48,200 years BP. Sedimentation rates were higher between 17,000 and 9,000 years BP than during MIS 3 around 4,6 cm/kyrs and 2,5 cm/kyrs respectively. Runoff increased between 35,000 and 15,000 years ago although our data indicate no clear variation in sea surface salinity during this period. Several forcing and feedback mechanisms such as local insolation and dynamics of monsoonal rainfall and Inter-Tropical Convergence Zone and their possible relation to high-latitude climate forcing will be explored.