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A standardized database of Last Interglacial sea-level indicators in southeast Asia: Records from coral reef terraces in a tectonically complex region

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The Last Interglacial (LIG), as well as other warmer periods in the Earth's geologic history, provides an analogue for predicted warming conditions in the near future. Analysis of sea-level indicators during this period is important in constraining regional drivers of relative sea-level change (RSL) and in modeling future trajectories of sea-level rise. In southeast Asia, several studies have been done to examine LIG sea-level indicators such as coral reef terraces and tidal notches. A synthesis of the state-of-the-art of the LIG RSL indicators in the region, meanwhile, has yet to be done. We reviewed over 50 published works on the LIG RSL indicators in southeast Asia and used the framework of the World Atlas of Last Interglacial Shorelines (WALIS) in building a standardized database of previously published LIG RSL indicators in the region. In total, we identified 38 unique RSL indicators and inserted almost 140 ages in the database. Available data from Indonesia, the Philippines, and East Timor points to variable elevation of sea-level indicators during the LIG highlighting the complex tectonic setting of this region. Variable uplift rates (from as low as 0.02 to as high as 1.1 m/ka) were reported in the study areas echoing various collision and subduction processes influencing these sites. Although several age constraints and elevation measurements have been provided by these studies, more data is still needed to shed more light on the RSL changes in the region. With this effort under the WALIS framework, we hope to identify gaps in the LIG RSL indicators literature in SE Asia and recognize potential areas that can be visited for future work. We also hope that this initiative will help us further understand the different drivers of past sea-level changes in SE Asia and will provide inputs for projections of sea-level change in the future.