

Climate change impacts on sea level rise in Selingan Island in the east coast of Sabah, Malaysia

ABSTRACT

Sea level change is of considerable concern due to its major climate change-related impacts in coastal ecosystems. Within the Coral Triangle, the islands and their surrounding in the East Coast of Sabah are known as the most biologically diverse and ecologically rich regions on earth. The considerably low-lying area of the coastal setting makes it vulnerable to the impact of sea level change. Thus, it is an indication of urgency to investigate the impacts of climate change and sea level change on coastal inundation and the ecosystem at the coastal areas. By the end of century, based on the worst-case scenario of RCP 8.5, almost 2.5 acres of coastal land in Selingan Island will be lost due to 879 mm of sea level rise. Most of the sandy beaches at the southern part of the island is vulnerable to sea level rise. The high vulnerability of the ecologically sensitive island ecosystem and potentially high risk of coastal inundation may warrant specific adaptation strategies to ensure sustainability of the island ecosystem.