This study reviews the organic carbon (OC) accumulation rates in mangrove forests, margins and intertidal mudflats in geographically distinct areas along the Brazilian coastline (Northeastern to Southern). Our initial results indicate that the mangrove forests in the Northeastern region of Brazil are accumulating more OC (353 g/m²/y) than in the Southeastern areas (192 g/m²/y) being that the sediment accumulation rates, 2.8 and 2.5 mm/y, and OC content ~7.1% and ~5.8% (dry sediment weight) were contributing factors to the discrepancies between the forests. The intertidal mudflats on the other hand showed substantially greater OC accumulation rates, sedimentation rates and content 1129 g/m²/y and 234 g/m²/y; 7.3 and 3.4 mm/y; 10.3% and ~2.7% (OC of dry sediment weight content), respectively, in the Northeastern compared to the Southeastern region. Mangrove forests in the South-Southeastern regions of Brazil may be more susceptible to the rising sea level, as they are geographically constricted by the vast mountain ranges along the coastline.