

PHYSIOGRAPHIC FEATURES ON THE WESTERN
CONTINENTAL SHELF OF SRI LANKA

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Geological/Geophysical studies carried out on the Western continental shelf of Sri Lanka indicate that the physiographic features near the shelf break appear to have been formed by both erosional and constructional processes. Between Kalpitiya and Galle several distinct physiographic areas are delineated, each having characteristic morphologies and lithologies.

The low-lying ridges, well defined troughs and the prominent terraces on the inner and outer shelves between Galle and Panadura are covered with coralline algae, limestone and calcareous sandstone and were formed during lower stands of sea level, mainly during the Holocene-transgression, although some of the ridges may be partly formed by deposition. It is suggested that the topography in this area is largely the surface expression of a buried erosional surface, probably related to pre-Holocene erosion and now covered by a thin veneer of predominantly Holocene material.

Relatively rapid accumulation of pre-Holocene sediments may account for the general absence of pronounced physiographic features on the inner and outer shelves from Panadura to Chilaw. Ledges, small terraces, and rises in this area, probably were formed on or eroded into pre-Holocene prograding sediments during the last marine transgression.

The ridges in the 30-50m depth range from Panadura to Colombo follow the general trend of the metamorphic rocks on land and are thought to be the remnants of a ridge which formed a former bay. From Chilaw to Kalpitiya where the continental shelf was observed to be narrow and shallow, a characteristic feature is a low ridge (less than 10m relief) occurring at the pronounced shelf break. This ridge is thought to be an "inactive" coral reef.