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Late Quaternary stratigraphy of tidal sand ridges in the eastern Yellow Sea

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The eastern Yellow Sea is characterized by a number of tidal sand ridges which form bathymetric highs. These sand ridges occur as a group of individual sand bodies in the nearshore (nearshore sand ridges) and a series of linear sediment bodies in the shelf (shelf sand ridges). Detailed Interpretation of seismic, lithologic and sea-level data, using radiocarbon datings to constrain the ages of the ridges, has shown that the regional sea-level changes played a major role in formation and development of these sand ridges. The nearshore sand ridges rest on the erosional surface of transgressive mud deposits (8.0 – 7.0 ka), which in turn overlies the last interglacial tidal deposits. They mainly formed during the recent highstand of sea level ($<$7.0 ka) and are active at present by means of continuously modifying their shape in response to the prevalent tidal currents. In contrast, the shelf sand ridges mainly developed during the postglacial transgression (14 – 9.5 ka), possibly during the episodes of stillstand or very slow rise of sea level. The shelf sand ridges overlies the regressive deltaic mud deposits, probably formed prior to the last glacial maximum ($>$ca. 17,000 yrs B.P.). The surface of the shelf sand ridges has been continuously reworked by modern tidal currents and the ridges remained on the shelf as a sub-active type.