

古環境指標としての浜堤地形と海浜堆積物：レビュー  
Beach ridges and prograded beach deposits as palaeoenvironment records: a review

田村 亨<sup>1\*</sup>  
Toru Tamura<sup>1\*</sup>

<sup>1</sup> 産業技術総合研究所地質調査総合センター  
<sup>1</sup> Geological Survey of Japan, AIST

Beach ridges are ubiquitous landforms developed on prograded coastal plains with beach shorelines. They are formed within or adjacent to the beach by a range of processes, and are subsequently isolated from active nearshore process as further beach progradation occurs, at which point they are preserved as relict elongate mounds parallel to subparallel to the shoreline. Beach ridges and their subsurface deposits thus record past coastal processes, and are indicators of past shoreline position and shape, and sea level. A sequence of beach ridges and intervening swales provides a relative chronological palaeoenvironmental record, which is analogous to tree rings and stratigraphic succession. Methodological advances in field surveying and chronology applicable to beach ridges especially over the last two decades have led to detailed palaeoenvironmental reconstructions to be derived from such sequences. Reviewing various applications of beach ridges and their deposits for palaeoenvironmental reconstruction, certain basic aspects of beach ridges are often interpreted inconsistently, which resulted in various degrees of reliability of such palaeoenvironment reconstruction. This presentation reconsiders the basic aspects of beach ridges and deposits, which need to be properly understood for their comprehensive interpretation in a palaeo-environmental context. It also reviews case studies in which beach-ridge sequences have been used to unveil past sea-level history, catastrophic events, and climate changes.