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| **ID:** | 702 |
| **Title:** | **Palaeogeographic evolution of the Nazaré-Salgado coastal zone (Portugal) during the Holocene** |
| **Content:** | The Nazaré-Salgado coast develops NE-SW along 7km, some 100km north of Lisbon. About 5ka years ago it formed the coastline of the Pederneira lagoon, with a rocky inlet connecting the sea and an inner basin that silted up in the late 17th century AD. The main morphological features identified were: a low coastal plain in the northern and central part, 1-3m above msl, facing the rocky inlet; a high coastal plain, in the southern part, at 7-9m msl; both are landward limited by an inactive cliff and westwards by a beach-dune system. The latter consists of a single ridge where it borders the low coastal plain, and of two ridges along the high coastal plain, both affected by blowouts and parabolic dunes. Two cores were taken from the plains and four trenches dug in the southern dune ridges to validate GPR data; morphological changes since 1957 were interpreted using aerial photos.  Results suggest that a sandy beach accreted in tune with the Holocene transgression, sea level having reached the cliff toe, as indicated by sequences of marine sand covering Plio-Pleistocene reddish to white azoic medium-fine sands. Stabilization of sea level and clastic availability favored progradation of this feature, later encircled by a north-growing hook spit, which developed recurves at the inlet area, where drifting of the inlet channel continuously reworked marine sand. Further south, the spit formation stopped the westward expansion of the beach plain and provided conditions for accretion of a 2.5m thick cap-deposit of sand and mud washed from the cliff. GPR data suggest that the spit developed in multiple phases, with several crests and slacks aligned with the coastline, locally interrupted by SE looking parabolic dunes, which covered a 14th century AD soil and previous aeolian features. Extensive changes occurred from 1957 onwards mainly due to human activity: urban and harbor expansion, hard coastal protection, sand mining, hydraulic works, salt exploitation and marsh reclamation. |
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|  | **Type: Oral presentation** | Oral |
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| **Session:** | [46 Late Quaternary records of coastal evolution](http://www.inqua2011.ch/?a=programme&subnavi=sessions&id=46) |