

**THE TIDAL BANKS OF THE SOUTHERN NORTH SEA :
TOWARDS A EUROPEAN MARINE GEOLOGICAL PARK**

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If sea level sank abruptly in the Southern North Sea, Man would face a remarkable landscape - or seascape - of elongated ridges, fanning out of the Channel, locally rising more than 30 m above the surrounding seabed: the Coastal Banks, the Flemish Banks, the Hinder Banks, the Falls, the Zeeland Ridges.

It is well known that many features of these ridges can be regarded as deposits, actively responding to the tidal dynamics and storm cycles of the present marine environment. Still other ones apparently bear witness of the well recognized early Holocene transgressive processes and sequences.

Little attention however has hitherto been paid to the possible role and level of control of the buried basement morphology and of the sedimentological heritage of the considered sites. The systematic coverage of the Southern North Sea with a very high density grid of high resolution seismic profiles has revealed an intriguingly frequent spatial relationship between ridges - in apparent equilibrium with present sea dynamics - and underlying morphological features or residual depositional bodies: some banks are straddling buried valleys or are associated with basement slope breaks; a leeward flank of a typically asymmetric bank locally merges with an erosional scarp in the bedrock; many banks turn out to be quasi vertical stacks of units of limited spatial extent, some of which displaying obliquely prograding bedding sets, etc.

These observations suggest some reserves might be formulated about the apparent mobility of sand ridges, solely inferred from ridge morphology or prograding bedding sets. Several banks, in particular among the Coastal Banks, do show convincing evidence of migration. But quite a few of the Zeeland Ridges, the Flemish Banks and Hinder Banks suggest merely some confined progradational growth, and seem to be locked by a basal contrast in rugosity (across the border of a buried valley) and/or a morphological feature of the seabed (erosive or depositional).

Which might question - at least for part of the considered region - some predictive models dealing with sand ridge genesis and migration.

Whatever the relevance of this observation - which may or may not be validated by further evidence - it strengthens the message that the wealth of the data base presently becoming available from various sources in the Southern North Sea, merged with the integrated morpho- and hydrodynamical studies carried out e.g. in European cooperation, confirms the vocation of this environment as a true breeding ground of steadily evolving insights in sediment dynamics, and as a meeting place for men and ideas.

A venue which furthermore, beyond any scientific perspective and really throughout history, has witnessed the steady confrontation of Man with the dynamics of changing shores and ridges.

Hence time may get ripe for the recognition of this unique marine geological environment as a natural area of special interest, which blends scientific value, economic relevance and human heritage. A true park, with European dimension, where at least four coastal nations could team up to convey expertise to the users of these seas, as well as general knowledge to a public who increasingly proves eager to learn the dynamics of his changing environment.