(SEISMO)STRATIGRAPHY OF THE PALEOGENE
IN THE OFFSHORE BELGIAN BASIN

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Interpretation of an extensive geophysical data set, consisting of more than 12,000 km of high-resolution reflection seismic profiles in the Belgian and adjacent sectors of the southern North Sea continental shelf, yielded a detailed seismostratigraphic model of the Paleogene in the offshore Belgian Basin.

Within this Paleogene sequence (ranging from Thanetian to Rupelian) up to 13 seismostratigraphic units could be distinguished, the boundaries of which were identified on the seismic sections as unconformities. Each unit is marked by distinct seismic facies, witnessing aspects of its depositional and diagenetic history.

Linking this seismostratigraphic model to the well-known onshore lithostratigraphy however confronts us with a fundamental problem, since hardly any direct lithological or paleontological information from offshore boreholes is available at present. The aim of this paper is to present a consistent correlation model, which relies on a wide range of arguments: geometrical fit of sediment bodies across the onshore-offshore boundary, comparison of onshore litho- and offshore seismofacies, morphological expression of outcropping seismostratigraphic units in the offshore top-Tertiary erosion surface, identification of the major transgressive-regressive cycles and correlation of some well pronounced tectonically enhanced unconformities in the onshore and offshore areas.

Detailed seismostratigraphic analysis may also lead to the identification of depositional sequences s.s., separated by chronostratigraphically well-determined boundaries, as a response to eustatic sea level fluctuations and regional tectonic phenomena.

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