



Seismic stratigraphy of the Upper Pleistocene deposits of the North-Western Moroccan Atlantic shelf ; Last Deglacial deposits of the Sebou delta

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A new high resolution (sparker) seismic survey was carried out during the summer 2007 in order to define the seismic stratigraphy of the Pleistocene deposits of the NW Moroccan shelf. The new data collected complete a seismic database developed by the universities of Brest (France) and El Jadida (Morocco) and allows to correlate the seismic units between the Mesetan shelf to the South and the Rharb continental shelf located north of the Sebou valley system. The interpretation of seismic units was refined in relation to local and global environmental changes and depict a broad Upper Pleistocene wedge prograding across the shelf. The chronostratigraphic interpretation of the deposits is based on correlation with industrial well logs, coring and coastal outcrops observations. The last deglacial deposits extend above a well defined basal erosional unconformity and cap a complex of stacked sequences assumed to corresponds to Upper Pleistocene deposits. Sequences are composed of successive transgressive, highstand and regressive systems tracts and exhibit low angle cliniforms lying on the upper part of the shelf. For the most part, deposits are assumed to correspond to prodeltaic to offshore clayey deposits. Successive steeply dipping cliniforms are also identified and mark the progressive progradation of the shelf break. The set of sequences is bounded at the base by another major regressive unconformity and

argues for a high cyclicity of the deposits. The Rharb continental shelf, controlled by high rate of subsidence is therefore a good place for studying Upper Pleistocene deposits of the Atlantic margin.