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**A Review of Seismic Surveys on the Lomonosov Ridge: Conclusions on its Structural Segmentation and Influence on Arctic Ocean Paleoceanography**

*Estella Weigelt*

The Lomonosov Ridge presents a major morphologic feature in the Arctic Ocean. Its tectonic evolution influenced the development of the ocean current system, deposition realm, glacial processes and ecosystem essentially. Based on morphological differences, the Lomonosov Ridge can be divided into three segments: the North American leg north off Greenland, the central part, and the Siberian leg.

The contribution presents an overview on a set of seismic surveys along the Ridge, and across into the adjacent Eurasian and Amerasia Basins. The data image the entire sedimentary cover, as well as the ridge’s basement surface. Prominent reflectors, reflector configuration, as well as the reflection pattern of seismic units were correlated with coring information and magnetic anomalies to establish a seismostratigraphic model.

Aim of the study is to investigate if the structure of the sedimentary cover can be related to the segmentation of the Lomonosov Ridge, and thus, can provide information on the subsidence history of the different legs. Drift bodies, sediment waves, and erosional structures are examined for indications on the Paleoceanography, such as first passages for water mass exchanges between the Amerasia and Eurasia Basins, and the onset of a modern ocean circulation system and paleo-bottom current activity in the Arctic Ocean.