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## The Neogene of the Vienna Basin between geodynamics and global climate

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We present a revision of geological and paleontological data of the Vienna Basin (VB) and provide new paleogeographic reconstructions for 5 time slices. Intense research in the area during the last years resulted in a wealth of information from new 3D seismics and the analyses of hundreds of core samples. Absolute ages were published for two tuffs and the lithostratigraphy was largely formalized. These data provide a new stratigraphic framework for the description of the development of the basin. The evolution of the paleoenvironments in the VB strongly reflects the impact by global climatic events such as the Miocene Climatic Optimum, the Middle Miocene Climate Transition and the Tortonian Thermal Maximum. Global 3<sup>rd</sup> order sea level cycles are reflected in the successions of marine depositional environments. Major drops of the relative sea level caused strong erosion along the basin margins, with up to 300 m paleorelief. The strongest phase of erosion, however, was linked to tectonics. Around the Early/Middle Miocene boundary, Lower Miocene strata became tilted during the Styrian Tectonic Phase. Up to 600-m-deep subaerial canyons incised the VB at that time. A second phase of basin-wide erosion occurred during the Late Miocene when more than 200 m of upper Pannonian strata became removed from large parts of the VB after 9 Ma. Throughout the Miocene, sedimentation rates in the VB have been high, ranging roughly around 1 m/kyr.

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