



## **Central European Landscape Zonation in response to North Atlantic SST and global atmospheric CO<sub>2</sub> change during MIS3 (60.000 – 27.000 BP)**

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The organic carbon content in a lake sediment core from the dry maar of Auel (Eifel Germany) reveals the identical succession of warm MIS3 interstadials as known from the North Atlantic and Greenland temperature time series. Each cold stadial of MIS3 was characterized by dust activity, which was inactive during the interstadial phases. This patterns indicates a primary influence from the North Atlantic SST on the central European weather and general aridity/humidity changes during the entire MIS3.

Pollen and botanical macroremains in the maar lake sediments are used to reconstruct the vegetation of the Eifel during MIS3. The summer insolation maximum of the early MIS3 is marked by a spruce forest with abundant thermophilous trees. The subsequent time from 49 000 – 27 000 BP is marked by stepwise changes of the landscape from the early MIS3 spruce forest to boreal forest, steppe, tundra and polar desert, which is characterized by absence of all vegetation but reveals annual dust storms after 23 000 BP. The four transitions between these landscape zones are coincident with the MIS3 maxima in global atmospheric CO<sub>2</sub> gas content. Apparently, the central European landscape reaches a new equilibrium with every step in the decline of the global CO<sub>2</sub> content.