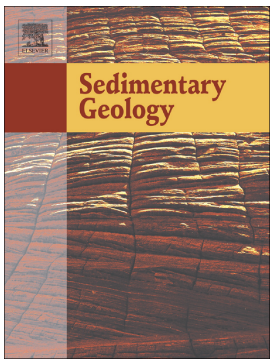

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Mid-Cretaceous aeolian desert systems in the Yunlong area of the Lanping Basin, China: Implications for palaeoatmosphere dynamics and paleoclimatic change in East Asia

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Abstract

The mid-Cretaceous constitutes a period of worldwide atmospheric and oceanic change associated with slower thermohaline circulation and ocean anoxic events, possible polar glaciations and by a changing climate pattern becoming controlled by a zonal planetary wind system and an equatorial humid belt. During the mid-Cretaceous, the subtropical high-pressure arid climate belt of the planetary wind system controlled the palaeolatitude distribution of humid belts in Asia as well as the spatial distribution of rain belts over the massive continental blocks at mid-low latitudes in the southern and northern hemispheres. Additionally, the orographic effect of the Andean-type active continental margin in East Asia hindered the transportation of ocean moisture to inland regions. With rising temperatures and palaeoatmospheric conditions dominated by high pressure systems,