

Influences of the Greenhouse on the Cretaceous biodiversity

(IGCP 434)

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The Cretaceous is the greenhouse age with its peak in the middle of the period. The rise of the superplume is proposed to be the remote cause of warming. Such phenomena like the rise of sea-level, occurrence of oceanic anoxia, generation of petroleum, several times of rather middle magnitude of mass extinctions, the increase of biodiversity with its peak in the middle followed by gradual decrease until the end of the period are considered to be interrelated. The relation between the changes of the marine biodiversity and marine environment has been well studied. The terrestrial biodiversity and environment have also been studied for a long time.

Non-marine Cretaceous is widely distributed in Asia. The correlation with higher resolution between marine and non-marine Cretaceous leads to the recognition of the developmental steps of greenhouse and the biodiversity changes as the results. For this purpose, it is necessary to establish the stable carbon isotope stratigraphy.

I evaluate the Oceanic Anoxic Events with special reference to the species diversity changes of ammonoids during the Cretaceous, as the works in the initial stage of IGCP project 434.