

A large asteroid impact, perturbation of global environment, and linkage to mass extinction at the end of Cretaceous

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The story that collision of a large asteroid on the earth caused an extinction of dinosaurs at the end of Cretaceous (65 million years ago) is well-known in the public. However, the story is not necessary well-accepted because of the over-advertisement of the skepticism on this impact and mass extinction problem. Here, I will give an overview on the research history of the large asteroid impact on the earth at the end of Cretaceous (so-called K/T impact) and its relation to the global environmental change and mass-extinction. Through an intensive research over the last 30 years, the collision of ca. 10km diameter asteroid on the earth at Yukatan Peninsula at the end of Cretaceous is well-established. It is also well-established that many of marine plankton were extinct, marine ecosystem collapsed, and global carbon cycle was disturbed significantly immediately after the impact event. What is not yet well-understood are mechanism(s) that caused mass extinction and the reason(s) perturbed ecosystem and carbon cycle lasted for more than 1 million years.

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