A CONTINENTAL EROSION WAVE TRIGGERED BY A DRASTIC DROP OF THE SEA LEVEL: AN ALTERNATIVE EXPLANATION FOR THE SO-CALLED P/E KAOLINITE ACME.

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Numerous papers stating a kaolinite increase in some P/E sequences were recently published. This kaolinite acme is often attributed to the development of kaolinite soils in response to the short (~10.000 y) and ~2° abrupt global warming (Late Paleocene Thermal Maximum, LPTM) identified near the P/E boundary. Such a hypothesis encounters many major difficulties and the kaolinite acme must be rejected as a climatic signal.But one question remains: what is the origin and significance of the kaolinite increase when it exits? Integrated studies of several sections in south North Sea basin, Tunisia and Egypt illustrate the close relation ships betweenthe P/E transgressive interval and the increase of detrital clay mineral association (chlorite,14-14 mixed-layers and illite-mica) among which the kaolinite is sometimes present. They also evidence the close relationships of the clay input with the P/E events, i.e. marked erosion features (fluviatile or submarine channels) and bio- and chemo-stratigraphical markers (13C excursion, calcareous nannofossils and planctic foraminifera special associations...).So, I propose to interprete the kaolinite acme as a part of the sedimentological consequences linked to the drastic sea level fall indentified at the base of the Eocene. This abrupt sea level fall would have triggered an upstream erosion waveable to erode and rework soils and bedrock.