Cretaceous Climate and Ocean Dynamics 2002 meeting

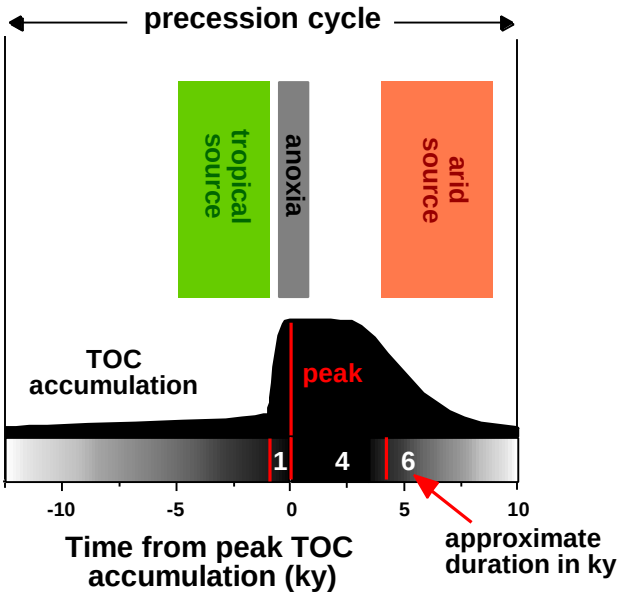
Conclusions for the poster presentations:

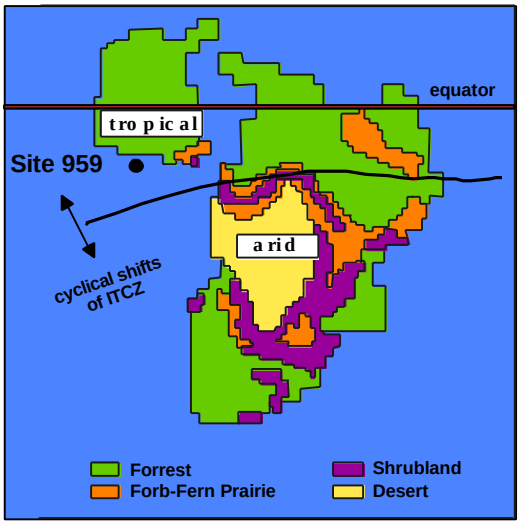
"Orbitally forced black shale accumulation during the Coniacian – Santonian in the Ivory Coast Basin"
P. Hofmann, T. Wagner, B. Beckmann

"Composition of organic matter and the development of bottom-water and photic zone anoxia of OAE 3 black shales (ODP Site 959, off Ivory Coast/Ghana)"
B. Beckmann, T. Wagner, P. Hofmann, G. Scheeder, J. Sinninghe Damsté

- Accumulation of black shales at ODP Site 959 during OAE 3 in the Tropics was periodic and directly linked to regional climate conditions, which were controlled by orbital forcing.
- Atmospheric circulation is the driving force for black shale deposition. The ocean responded to changes in atmospheric circulation rather than initiating atmospheric conditions.
- Elevated export from tropical Africa by continental run-off triggered enhanced primary production and was mainly responsible for the black shale formation at Site 959.
- Black shale sedimentation was associated with temporal establishment of anoxia/euxinia in the bottom-water and the lower part of the photic zone.
- Carbon burial is not driving force for short-term climate change but a result of it.

Time relation of continental supply, development of deep-water anoxia and organic carbon burial





deConto et al. (1999)