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## Exploring the links between flood cyclicity and the OMZ development on the Nile deep-sea fan during the African Humid Period

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Suboxic to anoxic conditions were existing in large parts of the Mediterranean basin during the deposition of Sapropel S1 (ca. 12 to 6 ka BP). If the general mechanism for the development of a basin-wide paleo-OMZ have been intensively investigated, the relationships between flood seasonality and the strength and extend of the OMZ remain elusive. Here we propose to use a unique 5 m-thick sapropel S1 section of finely laminated sediments deposited in front of the Nile mouth (close to the Rosetta channel). The core was retrieved at 700 m water-depth and sedimentation rates computed for the sapropel are in the order of a few mm per year. The couplets of alternating dark- and light-colored layers most likely represent seasonal deposits of Nile floods and marine hemipelagic sedimentation, respectively. This sequence therefore allows to explore the relationships between flood seasonality and oxygenation conditions in the water column and sediments.

Using varve microfacies description and counting developed for lake sediments, we aim at reconstructing the changes in flood dynamics during the sapropel deposition. Micro-XRF scanning and element mapping will provide additional information about sedimentation and diagenetic processes associated with flood deposition and oxygenation conditions at a sub-annual resolution. We finally intend to compare this very proximal record (to the source of freshwater and sediments) to more distal S1 records in the Mediterranean and to terrestrial archives (speleothems and lake records) in order to infer overarching forcing mechanisms.

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