

## **Constraining the Sahara freshwater discharge during sapropel S5 time by a stable isotope record from the Greater Sirte**

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The Nile River and the Black Sea were long considered as the only significant eastern Mediterranean freshwater sources and therefore inferred as the primary agents promoting surface stratification associated with sapropel formation. Sapropel S5, deposited during the last interglacial, marks a time of possible movement of *Homo sapiens* out of Africa. Satellite images revealed the existence of ancient rivers that once ran through the Sahara desert and drained into the Gulf of Sirte. Anomalous Nd isotope records from sapropel S5 deposits indicate that these rivers may have been active during MIS 5e, implying another freshwater source into the eastern Mediterranean Sea during that period. To constrain the extent of freshwater discharge into the Mediterranean from the Kufrah River during MIS 5e, a new  $\delta^{18}\text{O}$  record of five planktonic foraminifera species was generated from sediment core GeoTü SL 96, located proximal to the assumed outflow of the Kufrah River. The record from core GeoTü SL 96 compared with seven other records from the eastern Mediterranean Sea reveal a pattern of oxygen isotope anomalies which implies that the Kufrah River delivered detectable amount of freshwater during the second part of sapropel S5. These results reinforce the hypothesis that Sahara river systems were active during MIS 5e, which has ramifications for the understanding of sapropel events, reconstruction of coastal landscape, and the better understanding of migration routes of early humans.