

## AUXILIARY MATERIAL

FIGURE A

Influence of Atlantic sea water inflow  $Q_{\text{ocean}}$  on the Western Mediterranean Basin. The figure shows the sea level variation for various sea-water discharge from the Atlantic Ocean into the Western Mediterranean Basin. During the time where a continuous oceanic inflow is simulated, an intermediate low stand happened. When the oceanic inflow stopped, a new sea level equilibrium is reached after few kyrs. An intermediate low stand of 500-600m is believed to happened during the MSC (Gargani, 2004).  $Q_{\text{river}}=7500\text{m}^3/\text{s}$ ,  $E-P=0.6\text{ m/yr}$ .

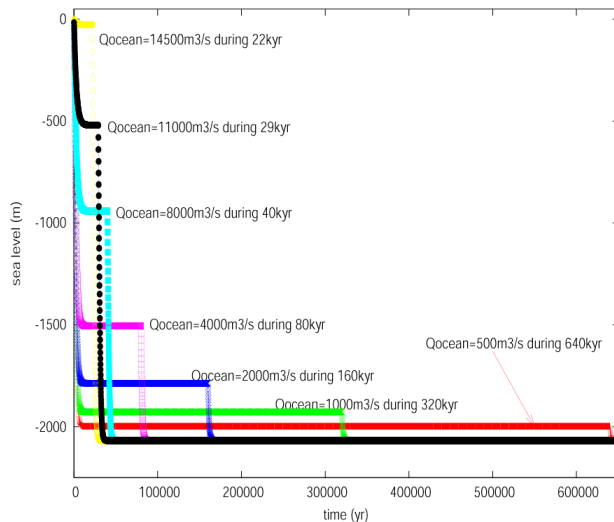


FIGURE B

Influence of an Atlantic sea water inflow into the Western Mediterranean Basin on salt concentration. The Ocean water inflow has a salt concentration of 35g/l. After 640kyr (duration of the Messinian Salinity Crisis), the quantity of salt is the same in each case ( $M \sim 0.5 \cdot 10^{18}$  kg). The comparison between  $C_{\text{river}}=0\text{g/l}$  and  $C_{\text{river}}=1\text{g/l}$ , when  $Q_{\text{ocean}}=0\text{m}^3/\text{s}$ , allow us to understand the role of a moderate river discharge (close to the present one) on the water salinity.

Considering  $\sim 5$  sea level draw down, a supplementary mass of evaporates of  $\sim 0.65 \cdot 10^{18}$  kg could be accumulated. This could be compared to the first order estimation of Blanc (2006) of  $M_{\text{west}}=1.44 \cdot 10^{18}$  kg for the mass of evaporites.  $Q_{\text{river}}=7500\text{m}^3/\text{s}$ ,  $E-P=0.6\text{ m/yr}$ .

