AUXILIARY MATERIAL

FIGURE A

Influence of Atlantic sea water inflow Q_{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). Qriver=7500m^3/s, E-P=0.6 m/yr.

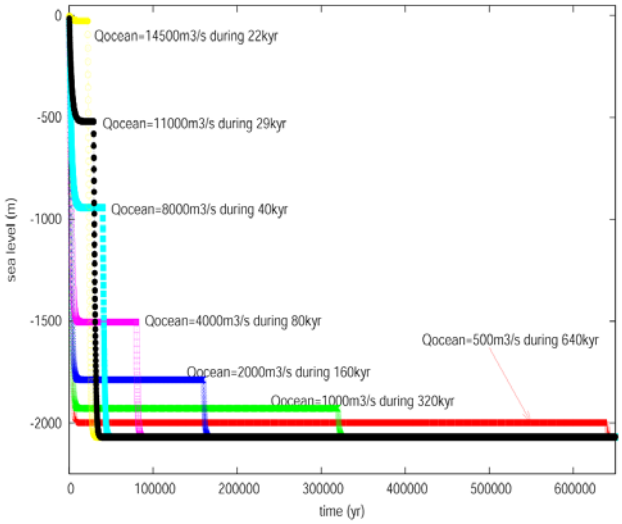
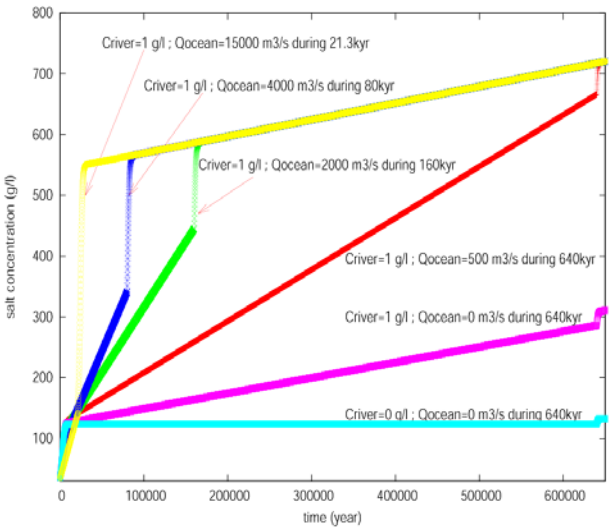


FIGURE B

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~$0.5 \cdot 10^{18}$ kg). The comparison between C_{river}=0g/l and C_{river}=1g/l, when Q_{ocean}=0m^3/s, allow us to understand the role of a moderate river discharge (close to the present one) on the water salinity.

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


Criver=1 g/l ; Qocean=15000 m3/s during 21.3kyr
Criver=1 g/l ; Qocean=4000 m3/s during 80kyr
Criver=1 g/l ; Qocean=2000 m3/s during 160kyr
Criver=1 g/l ; Qocean=500 m3/s during 640kyr
Criver=1 g/l ; Qocean=0 m3/s during 640kyr
Criver=0 g/l ; Qocean=0 m3/s during 640kyr
salt concentration (g/l)
time (year)
800
700
600
500
400
300
200
100
0
100000
200000
300000
400000
500000
600000