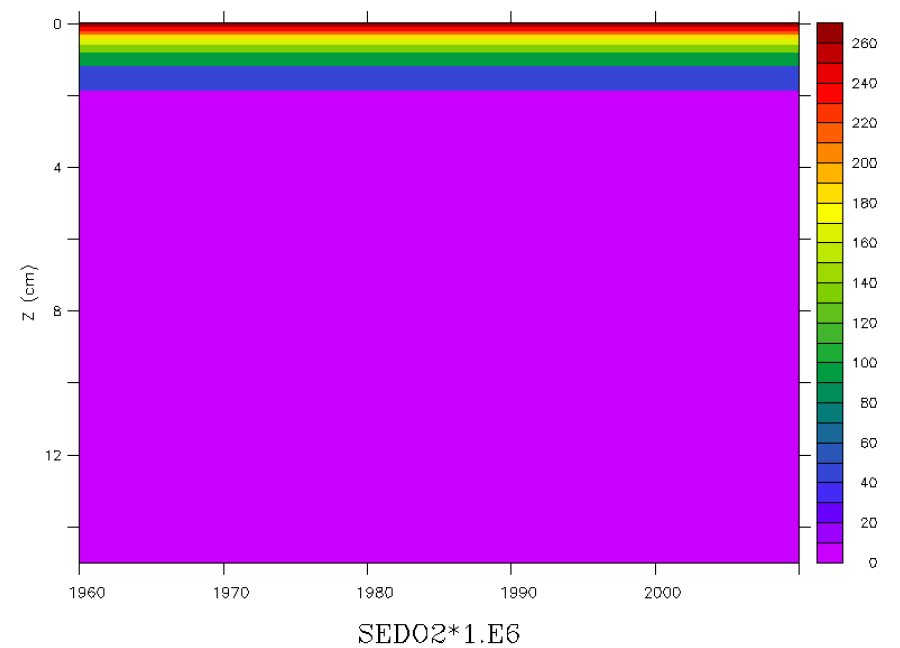
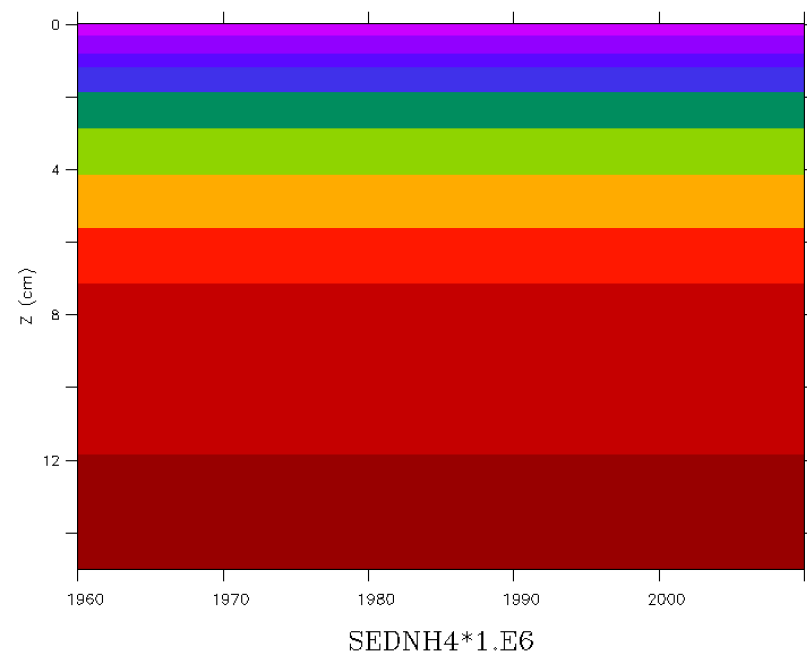
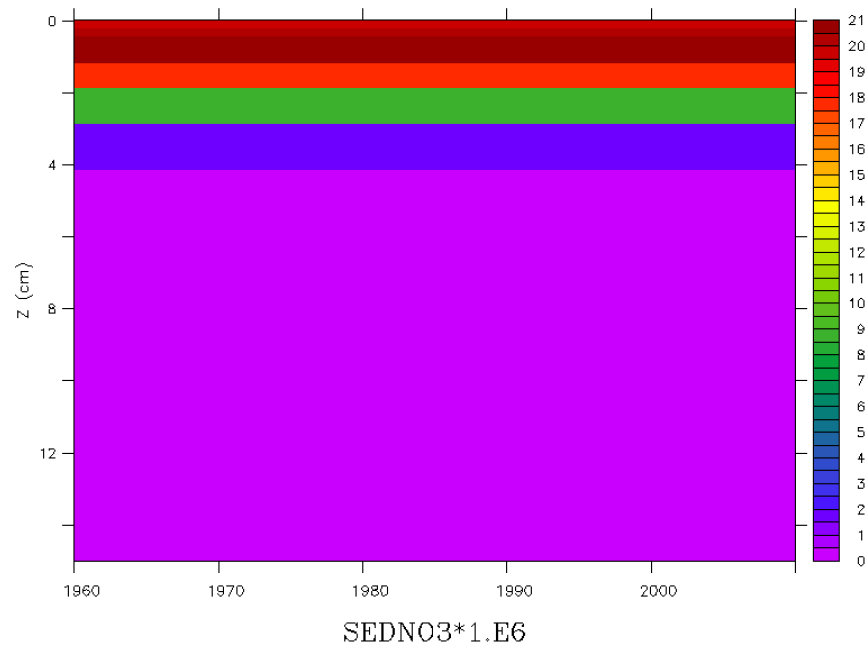
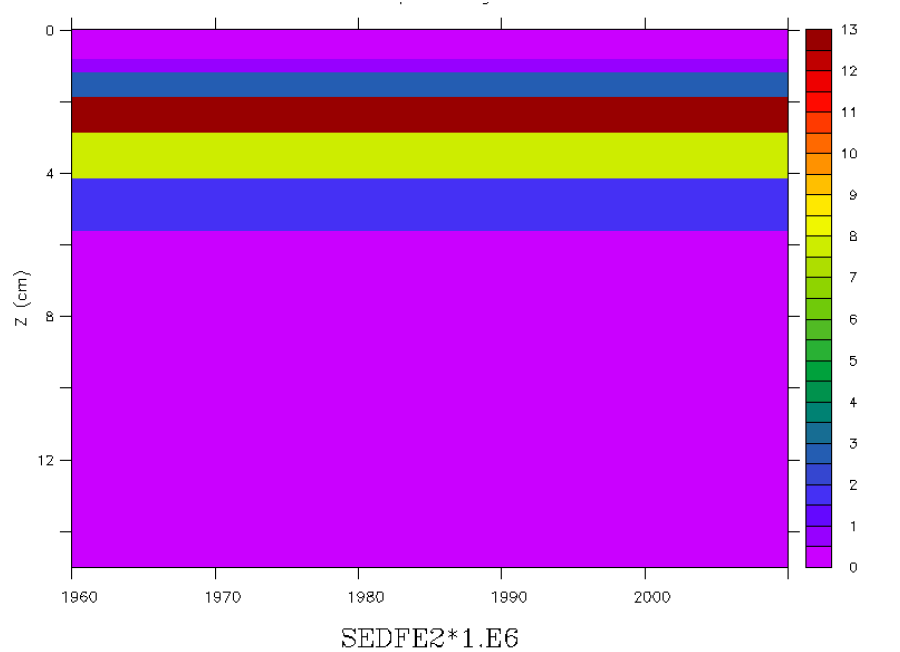
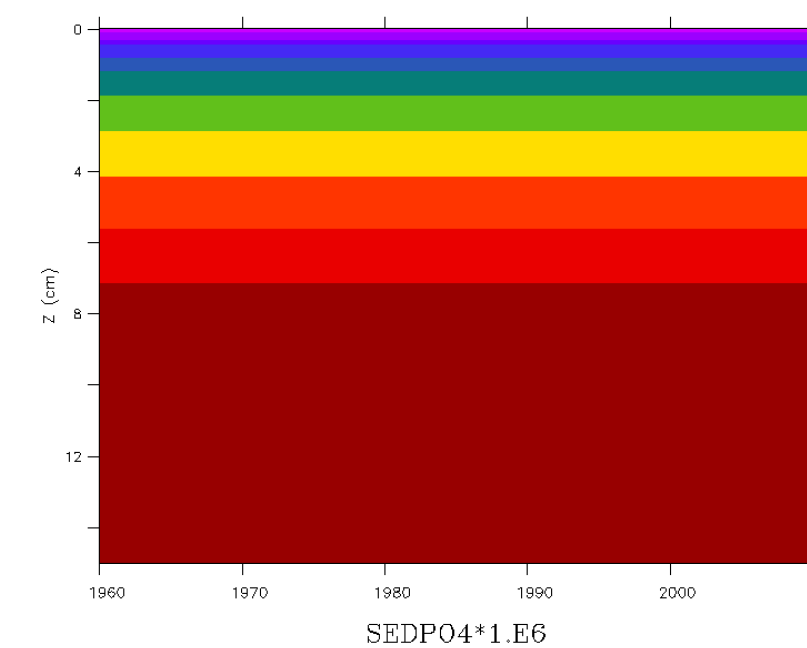
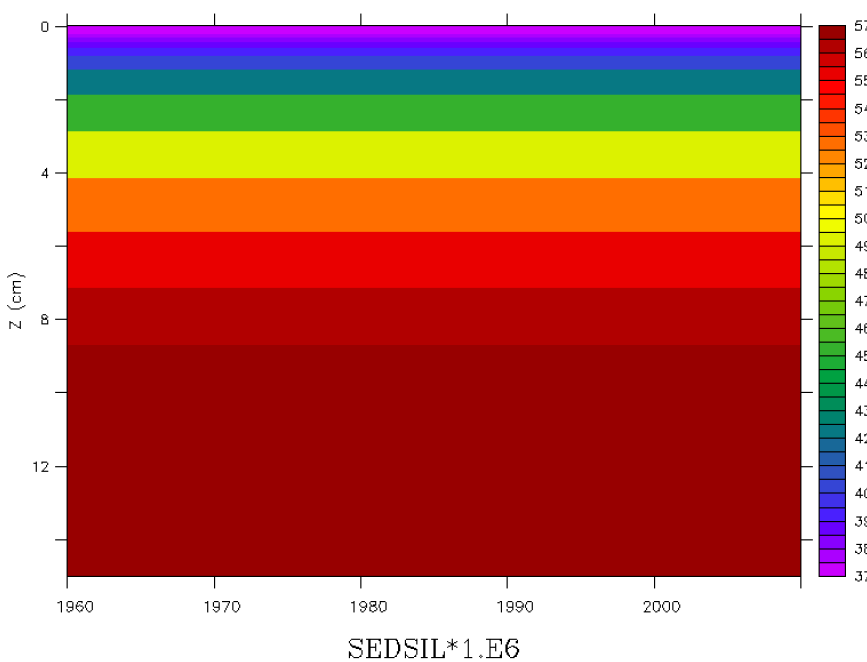


# Control run: some dissolved phases in sediment



## Denitrification

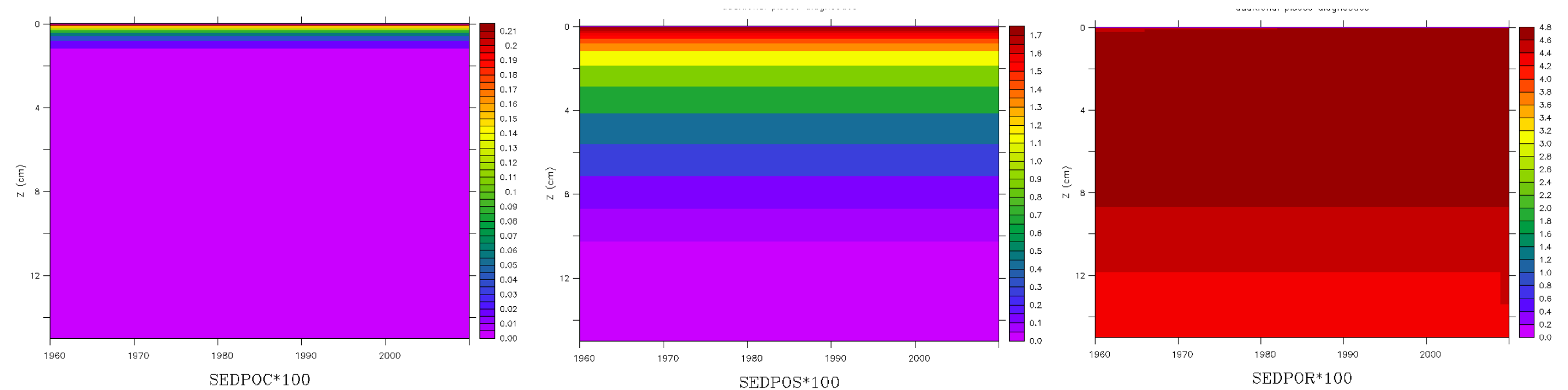
## Oxygen consumption



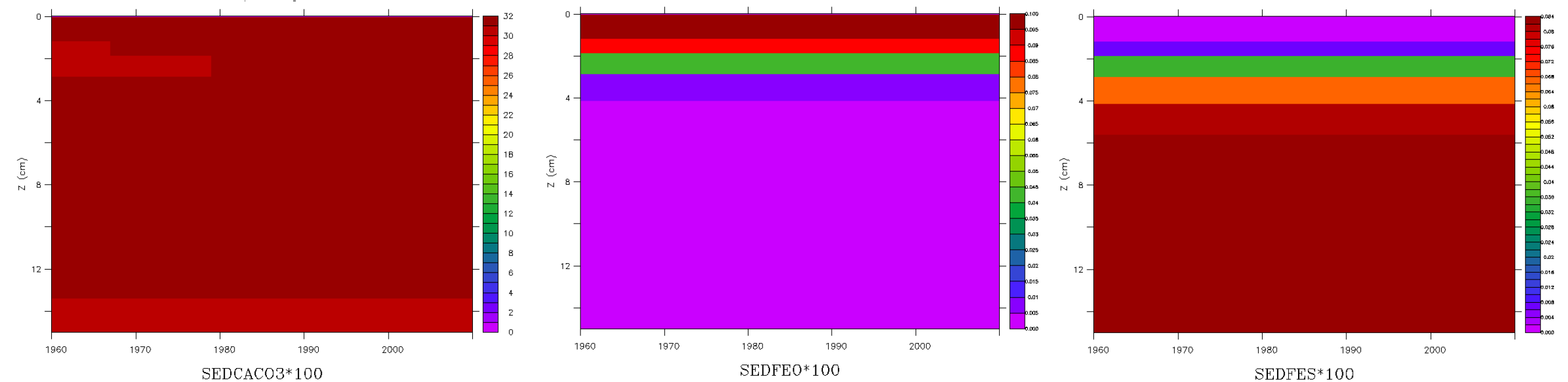
## PO4 and Si accumulation

## Iron reduction

# Control run: some solid phases in sediment



## 3 classes of POC: different vertical distribution in the sediments

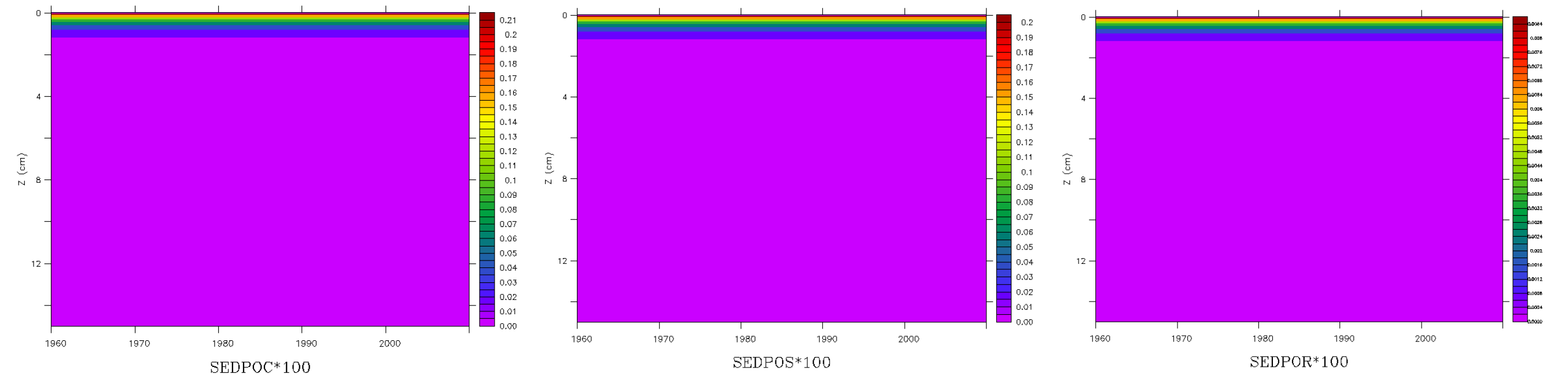


**Calcite**

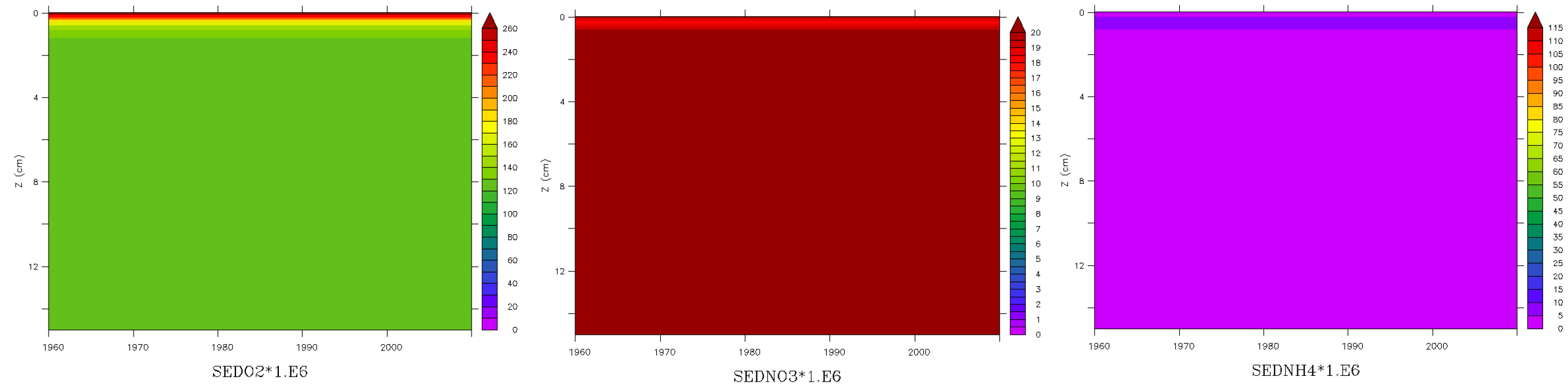
**Iron hydroxydes**

**Iron sulfide**

# High remineralization rates of POC

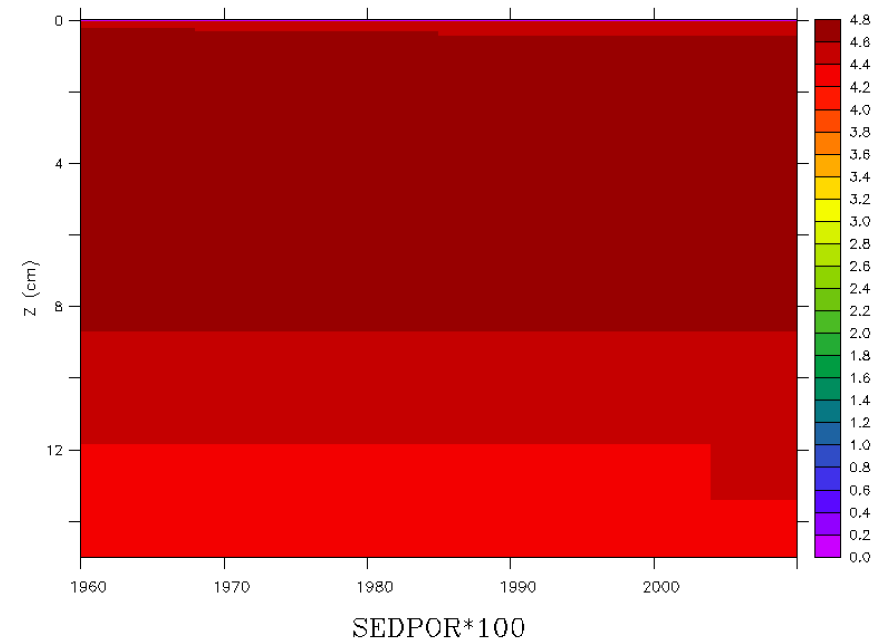
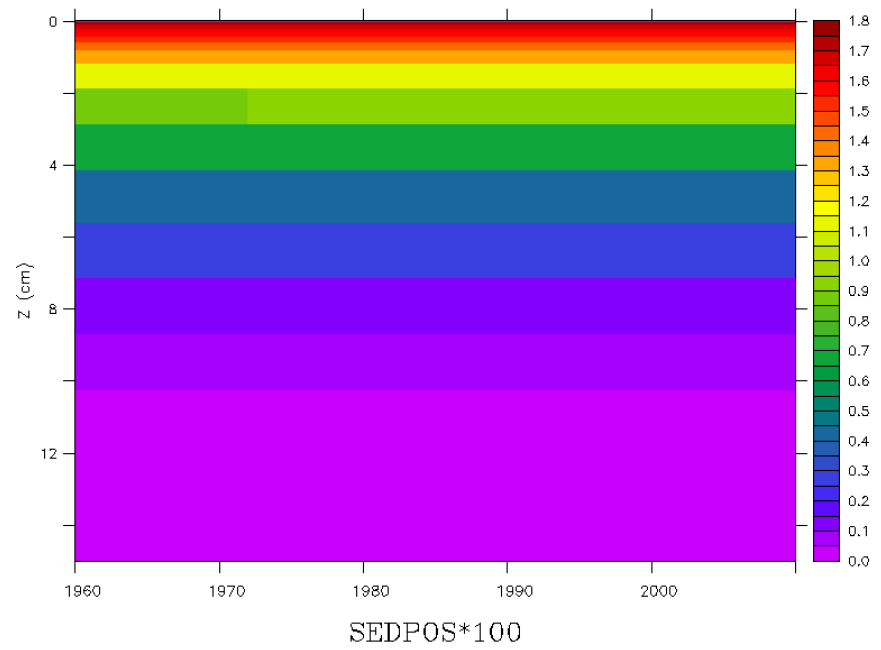
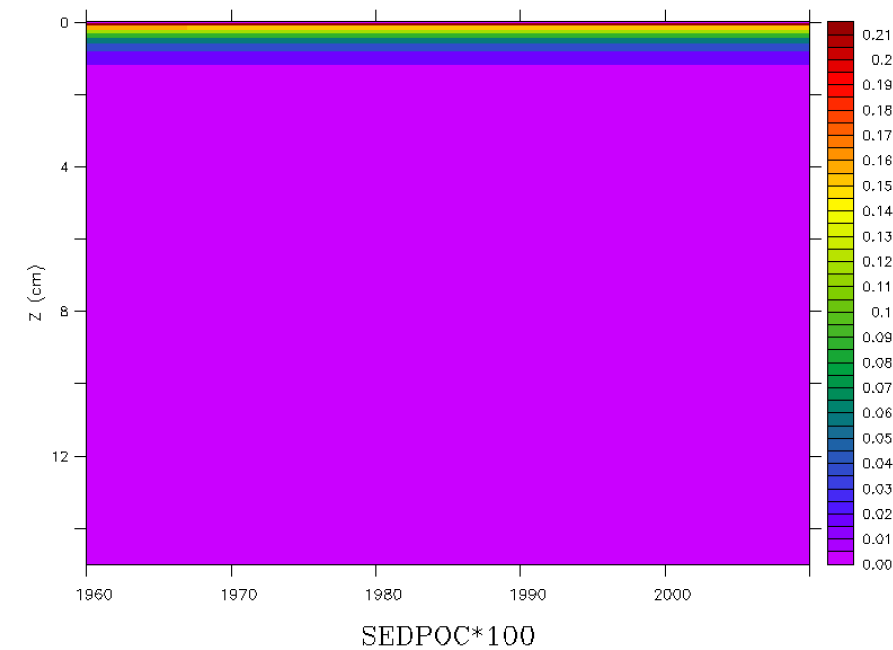


**All POC is remineralized in the top few mms of the sediments**

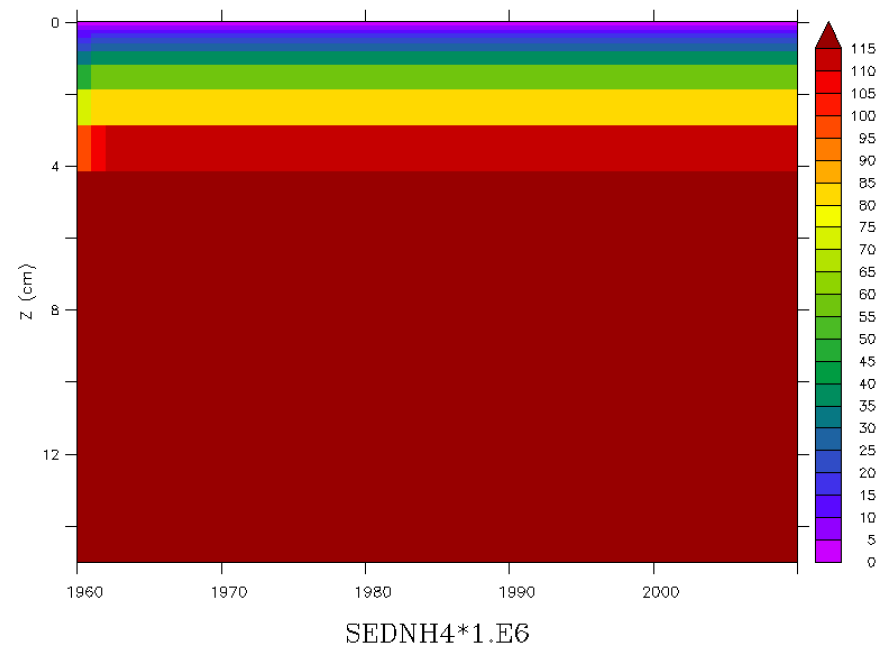
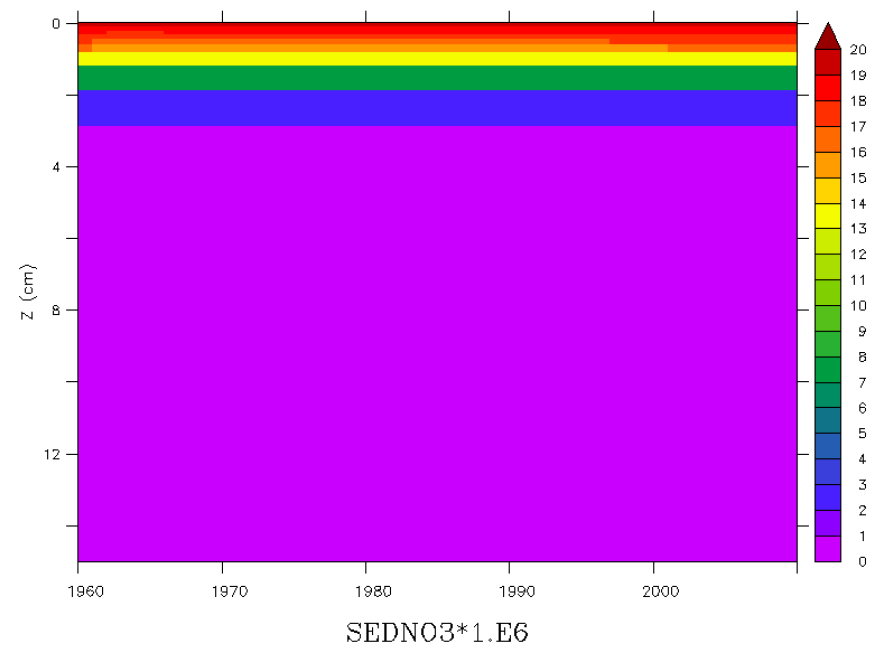
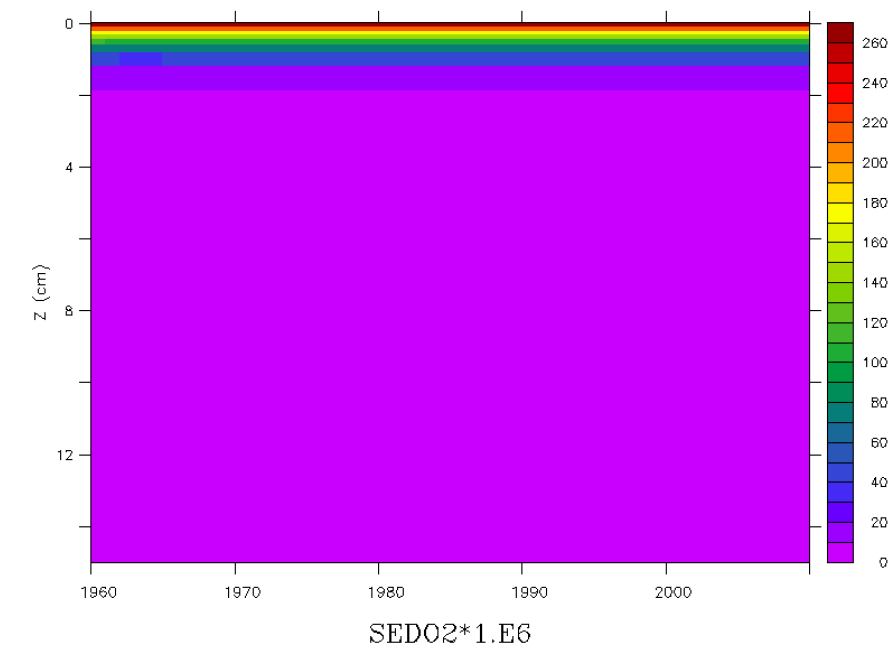


**No more reactions under the sedimentary surface layer—> high level of oxygen,  
no denitrification**

# Irrigation off

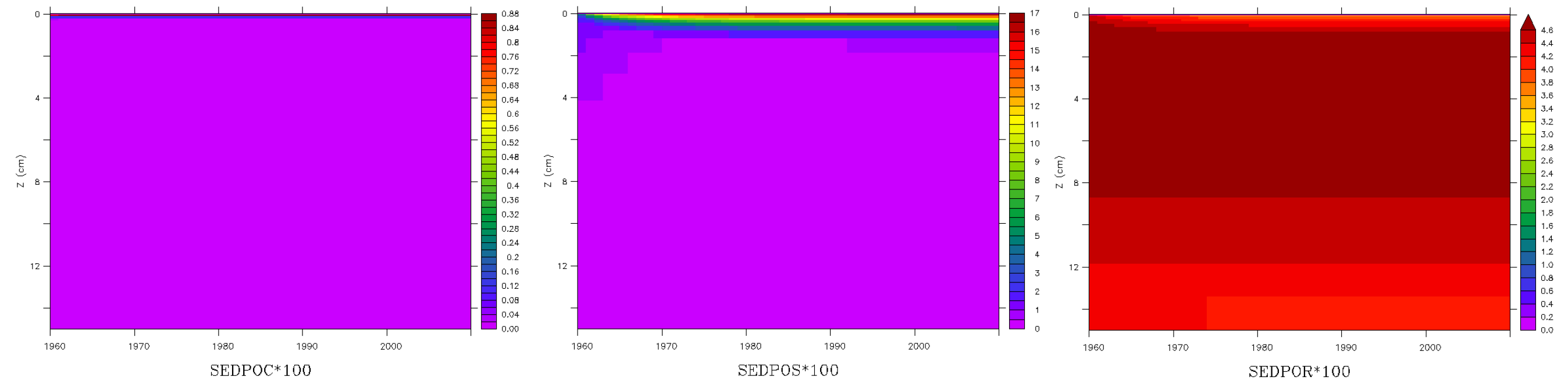


## Almost no effects on POC

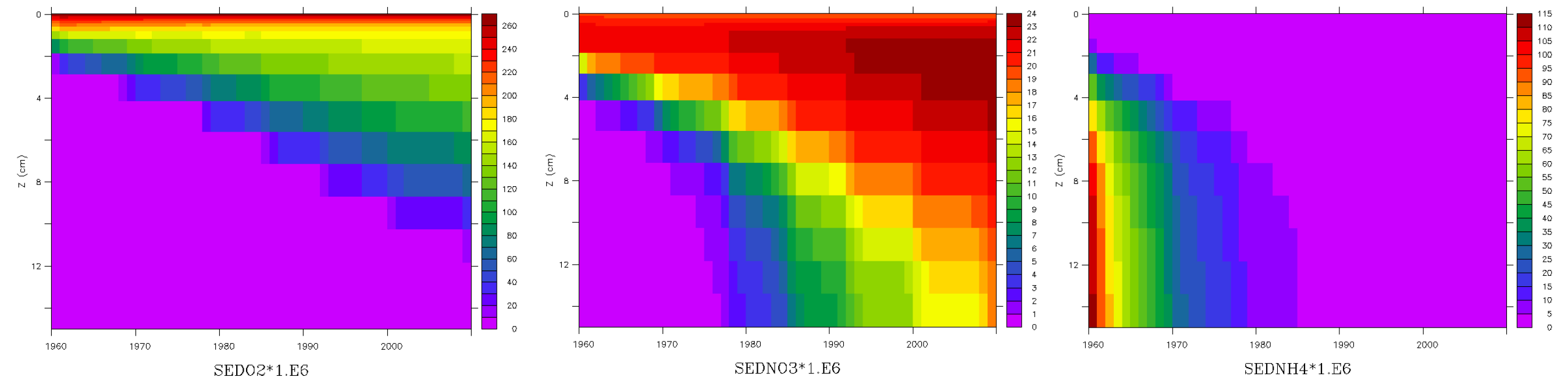


**Sediment no more oxygenated by waters —> Strongly affects dissolved phases**

# Very low bioturbation

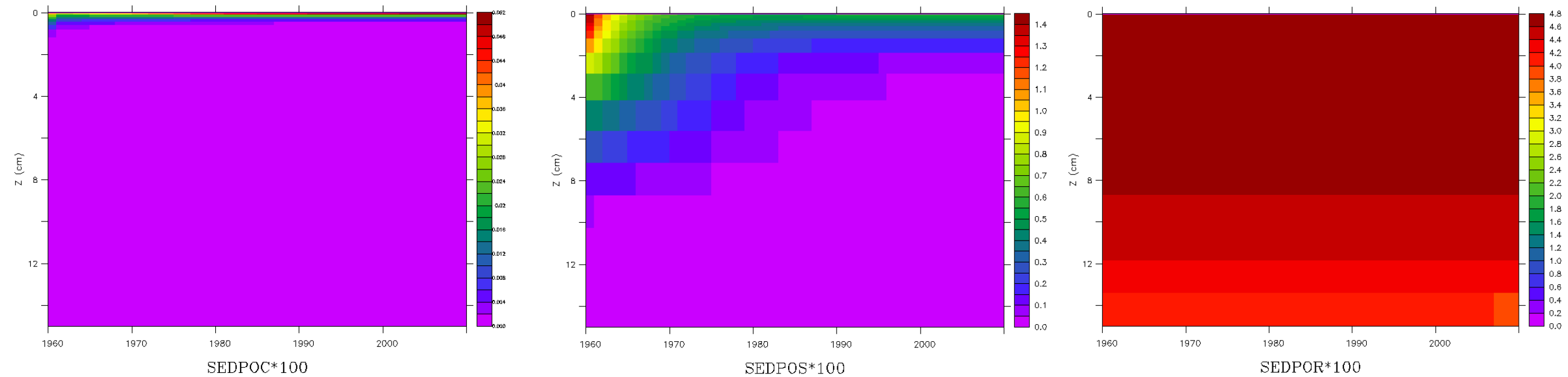


**POC vertical distribution more stratified, higher values for labile and semi-labile POC, no effect on refractory POC due to low reactivity time-scale**

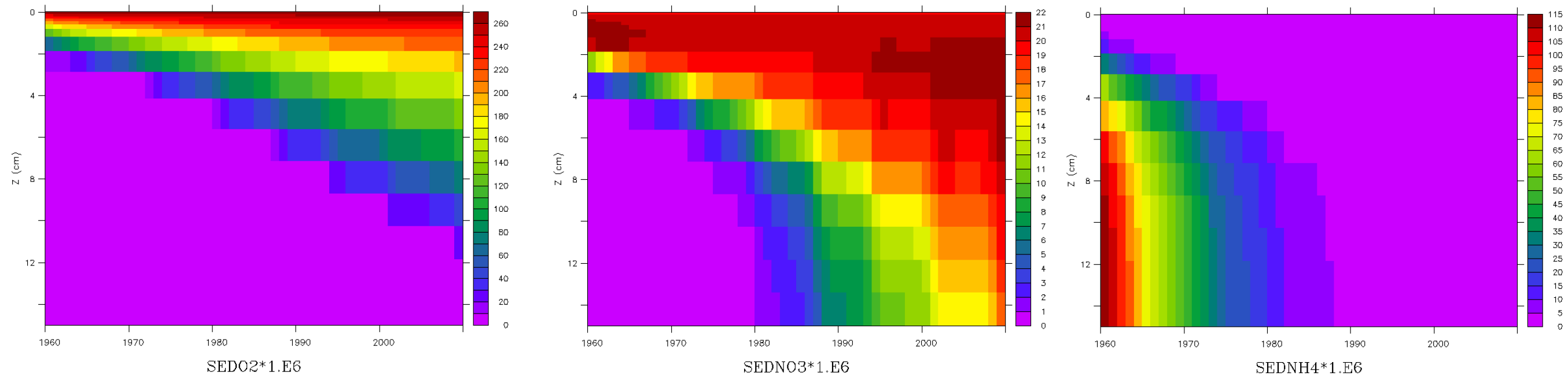


**Less remineralization at depth, more oxygen and nitrate, no more denitrification**

# Large decrease in POC flux



## Decrease in POC concentration for labile and semi-labile fraction



## Decrease in remineralization, reduction of reactions in the sediments