

Phytoplankton

$\text{NO}_3$

Zooplankton

$\text{PO}_4$

Fe

# MOBI 2.0

Model of Ocean Biogeochemistry and Isotopes

DIC

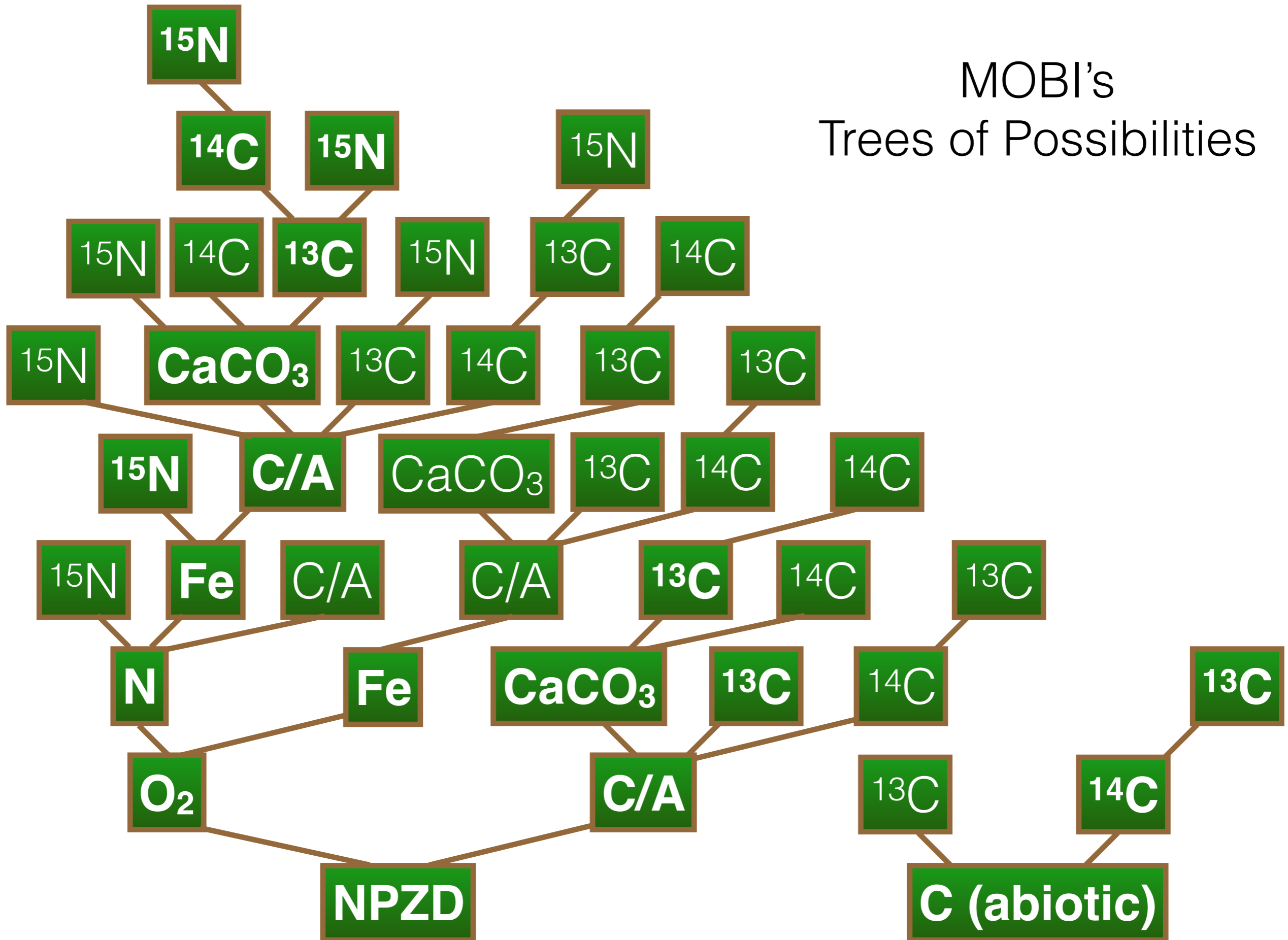
$^{15}\text{N}$

$\text{CaCO}_3$

$^{13}\text{C}$

Detritus

MOBI's  
Trees of Possibilities

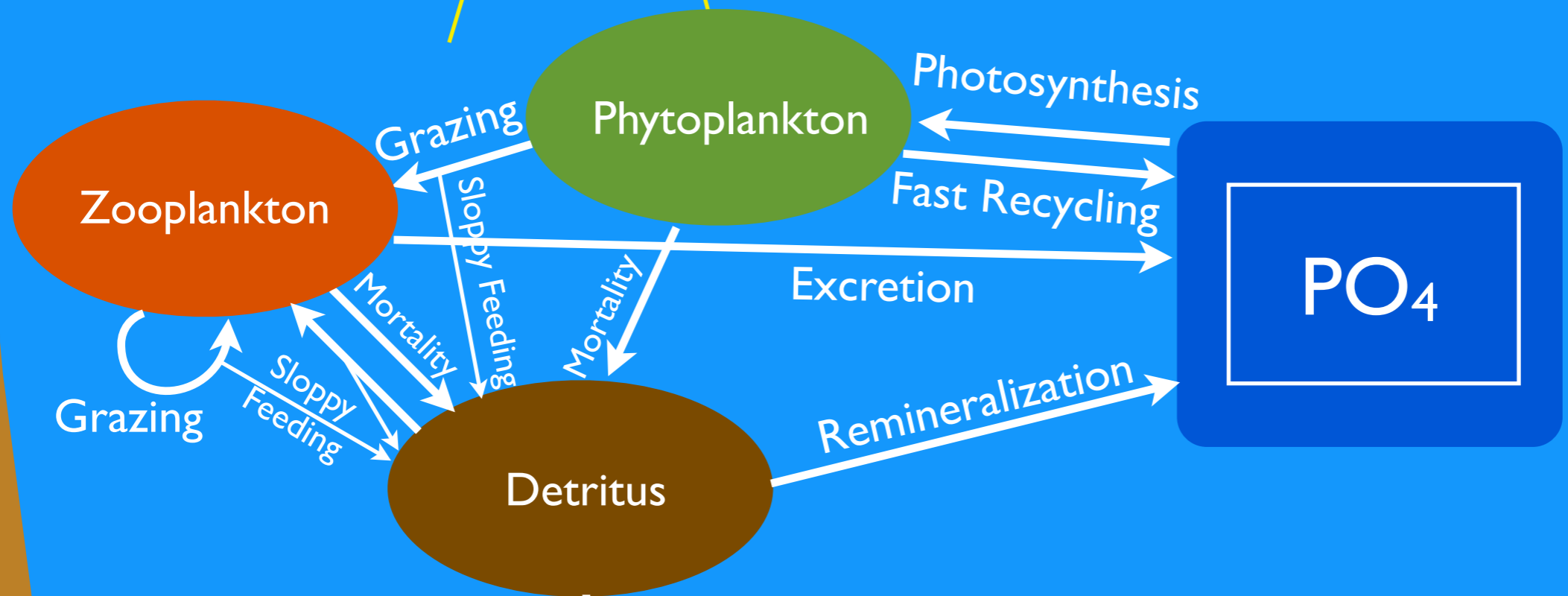


# MOBI 2.0

1.6 model years/CPU min  
or  
900 model years / day

N=4

O\_npzd



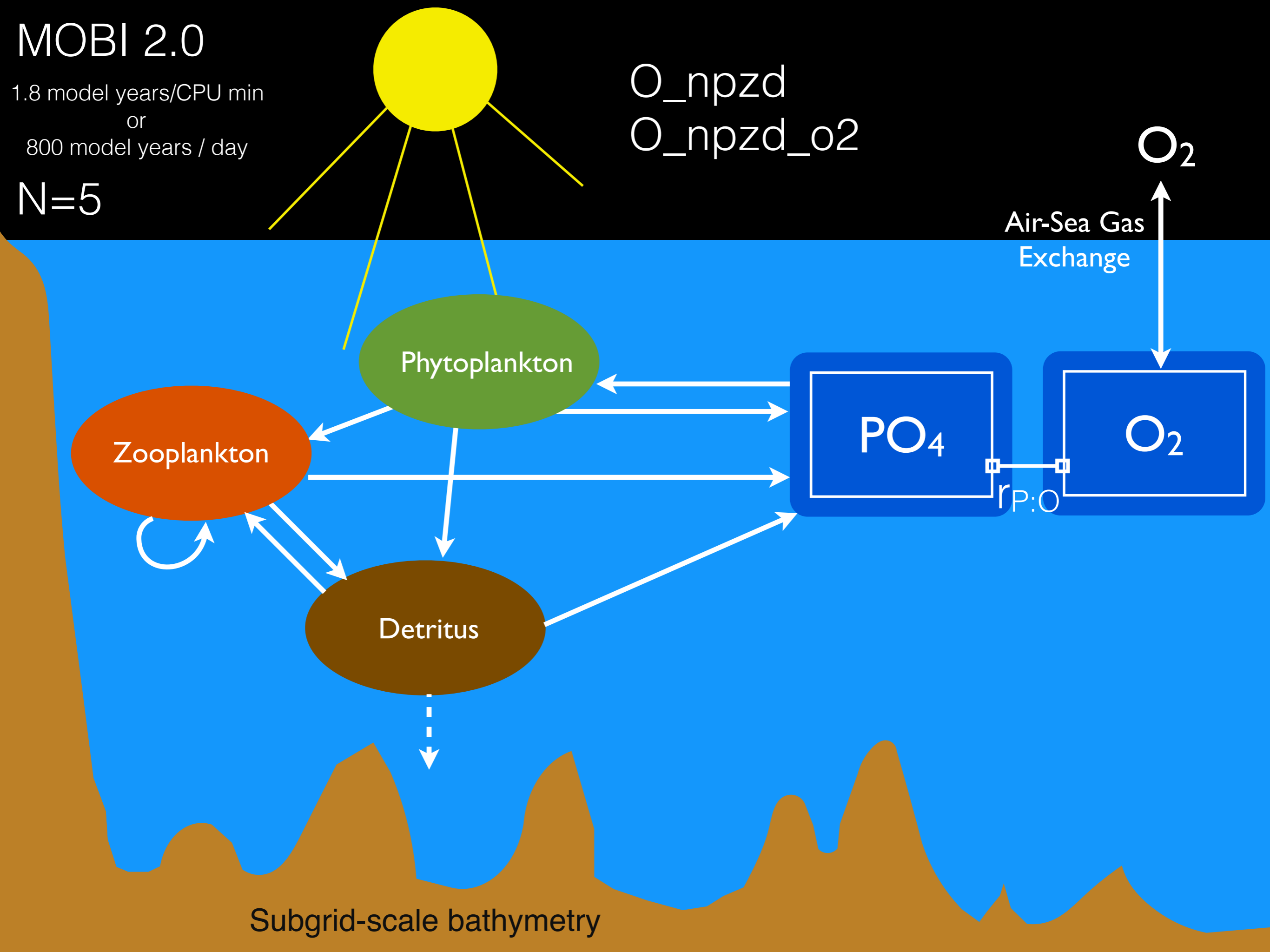
Subgrid-scale bathymetry

# MOBI 2.0

1.8 model years/CPU min  
or  
800 model years / day

N=5

O\_npzd  
O\_npzd\_o2



Air-Sea Gas  
Exchange

O<sub>2</sub>

PO<sub>4</sub>

O<sub>2</sub>

r<sub>P:O</sub>

Zooplankton

Phytoplankton

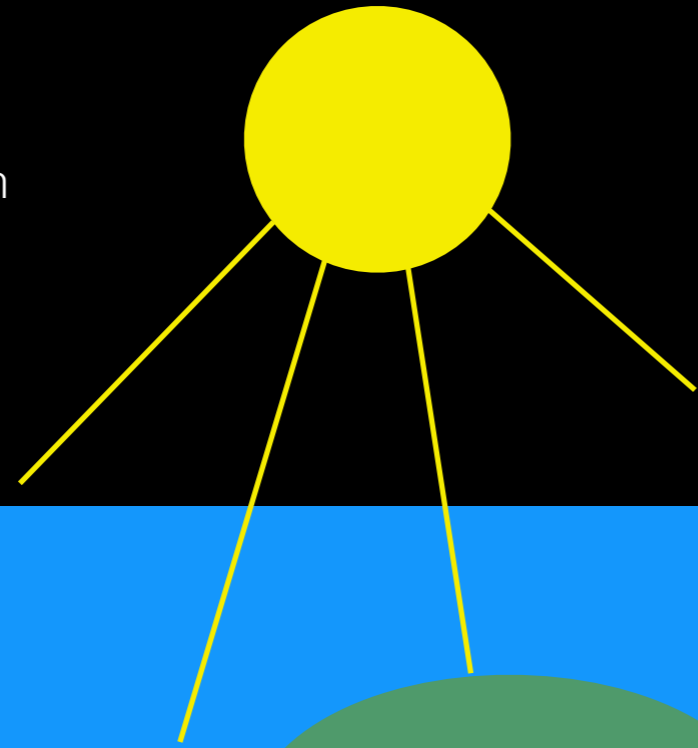
Detritus

Subgrid-scale bathymetry

# MOBI 2.0

1.9 model years/CPU min  
or  
760 model years / day

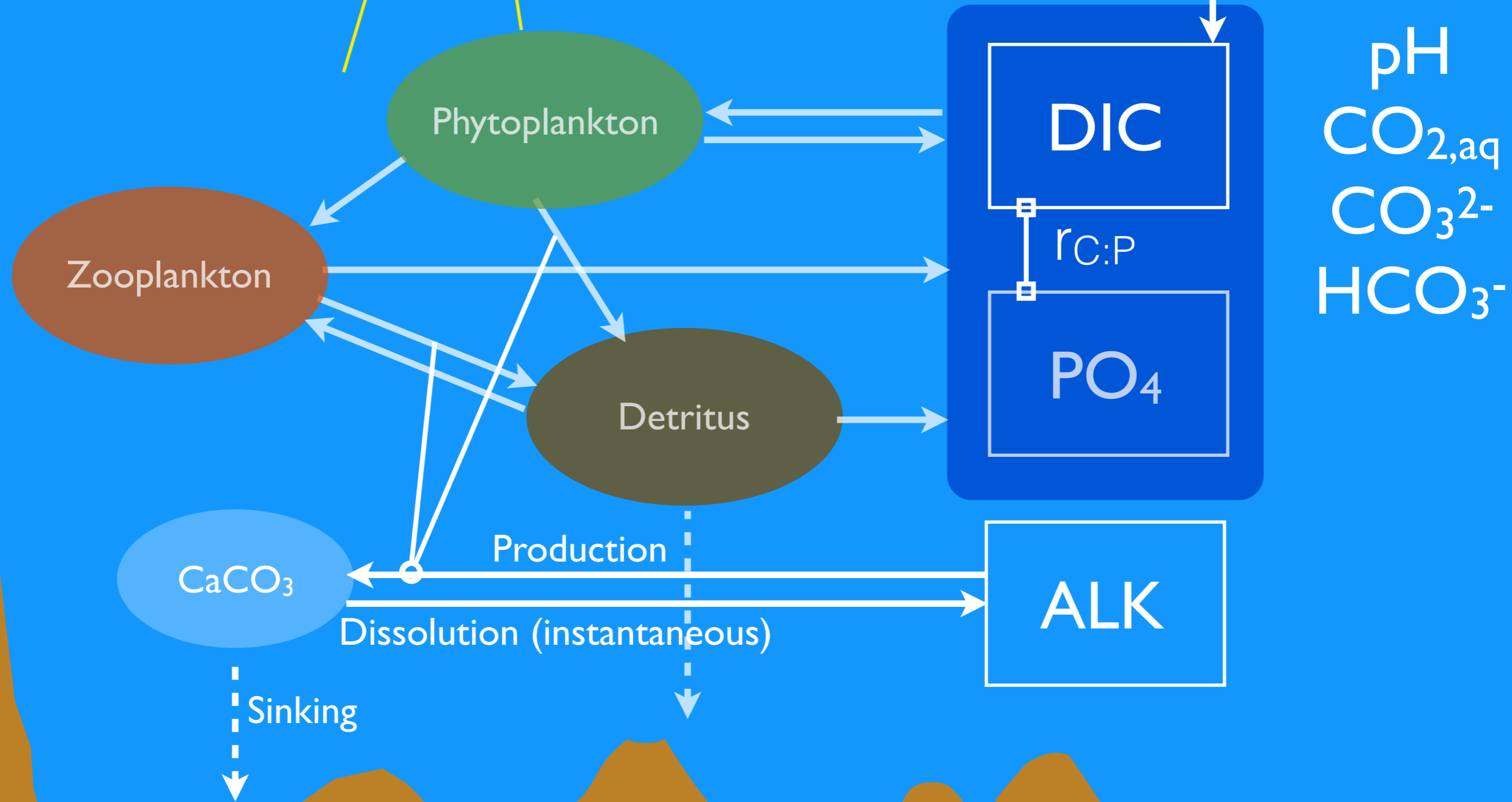
N=6



O\_npzd  
O\_carbon  
O\_npzd\_alk

CO<sub>2</sub>

Air-Sea Gas Exchange

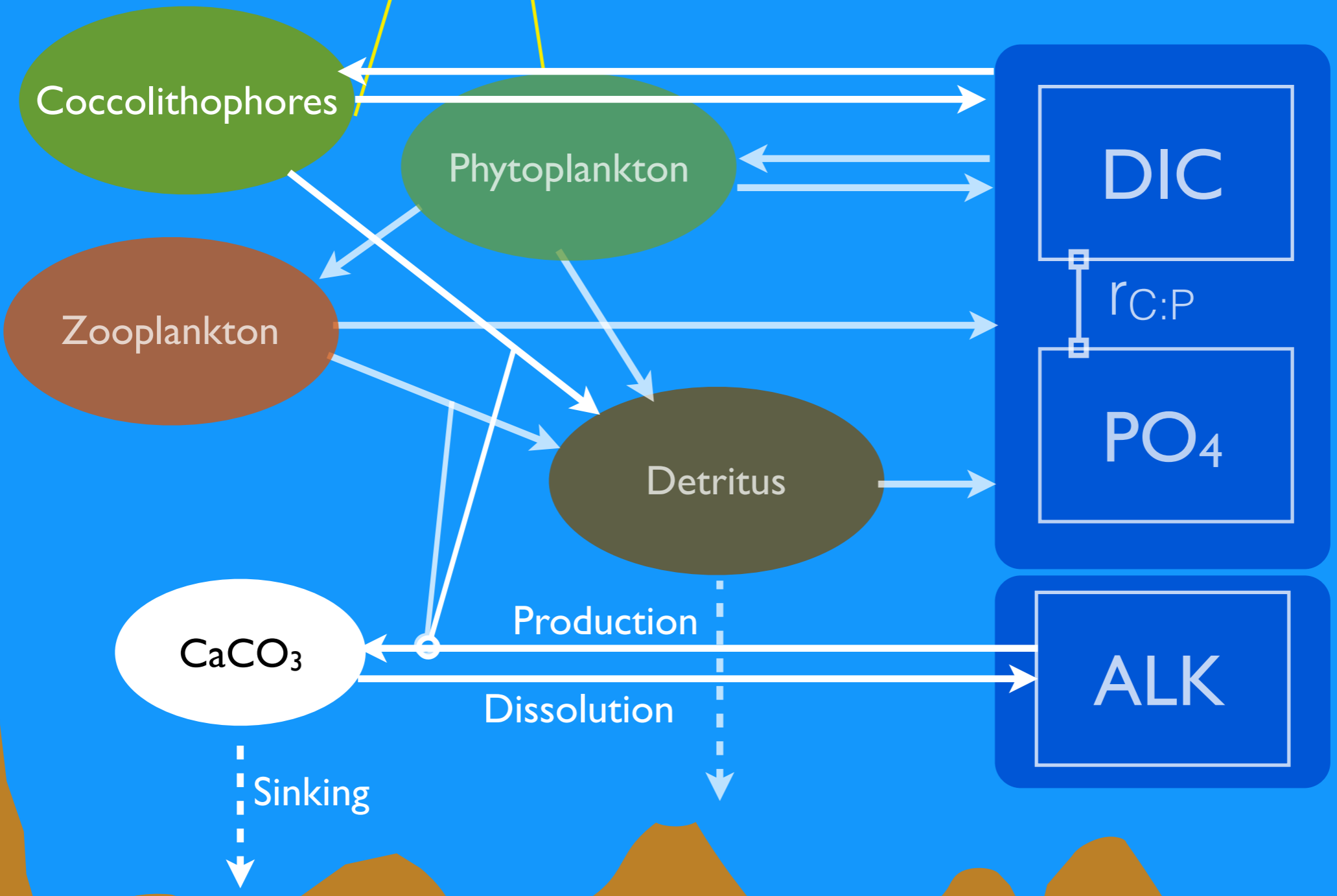
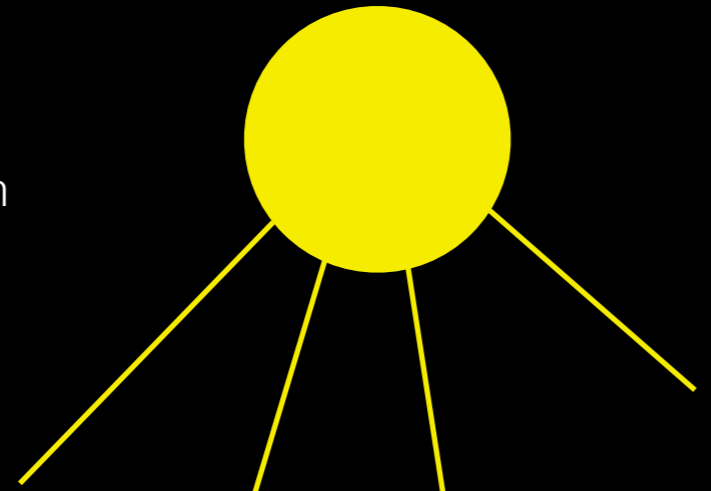


# MOBI 2.0

2.2 model years/CPU min  
or  
650 model years / day

N=8

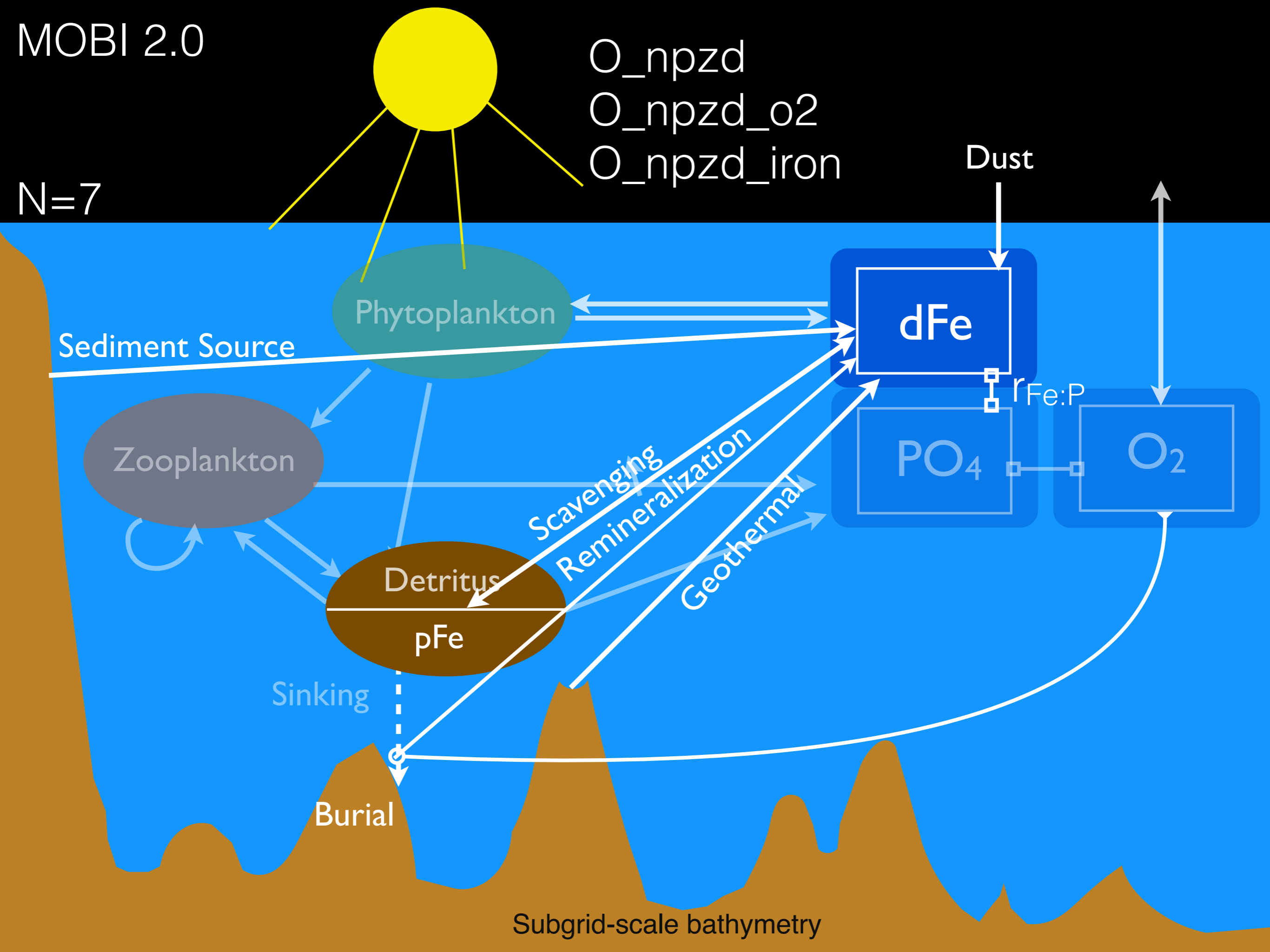
O\_npzd  
O\_carbon  
O\_npzd\_alk  
O\_npzd\_caco3



# MOBI 2.0

N=7

O\_npzd  
O\_npzd\_o2  
O\_npzd\_iron

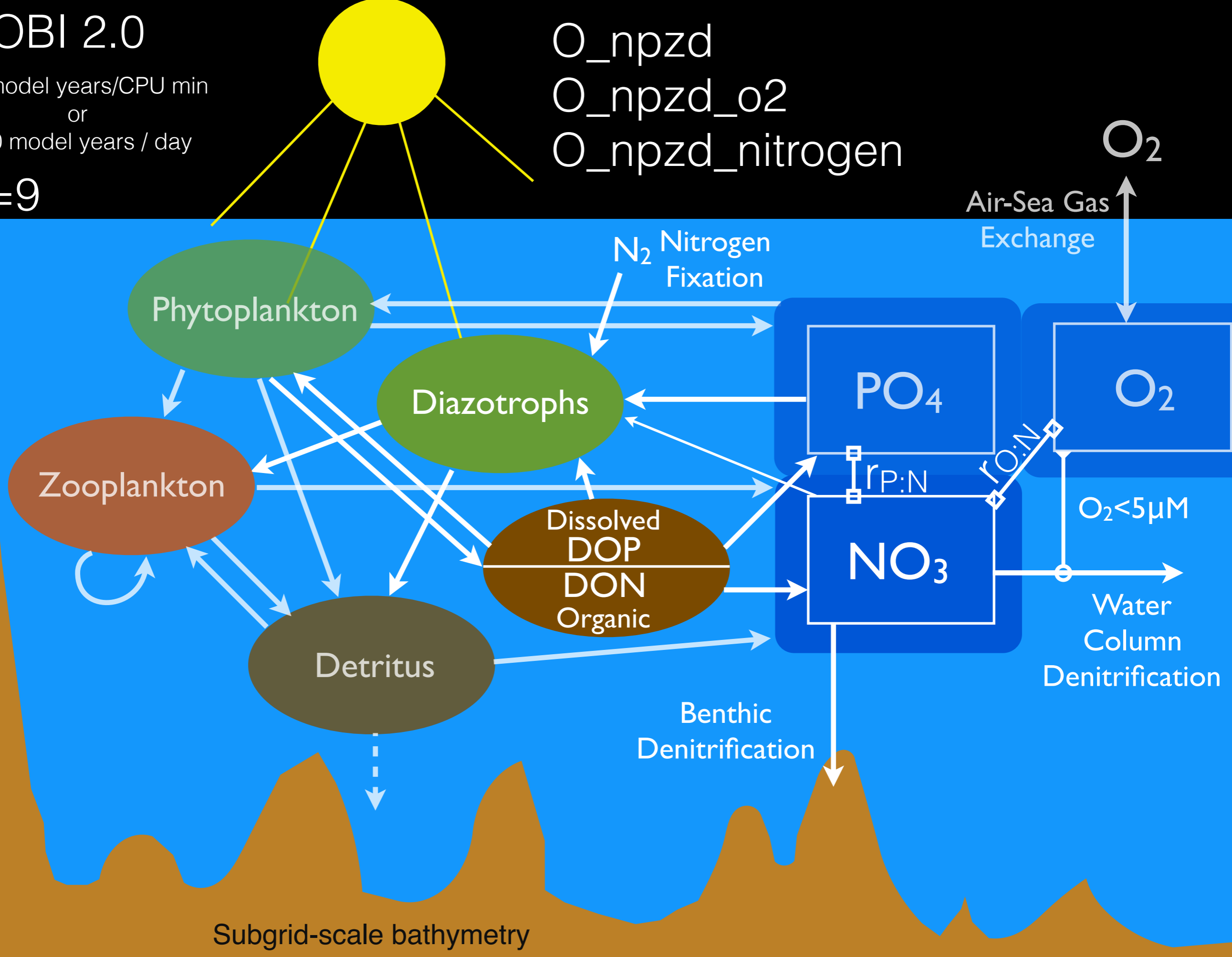


# MOBI 2.0

2.3 model years/CPU min  
or  
600 model years / day

N=9

O\_npzd  
O\_npzd\_o2  
O\_npzd\_nitrogen



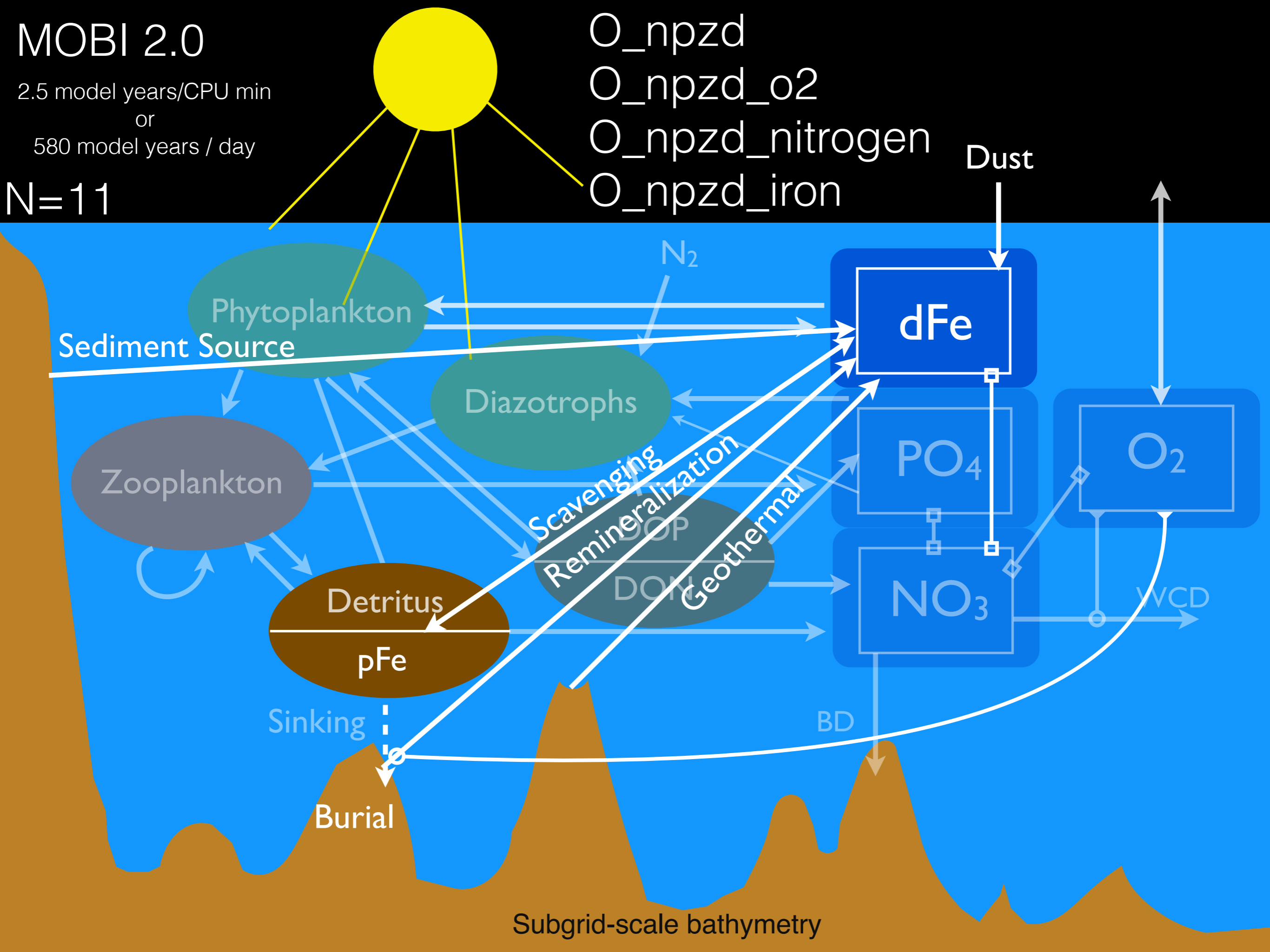


# MOBI 2.0

2.5 model years/CPU min  
or  
580 model years / day

N=11

O\_npzd  
O\_npzd\_o2  
O\_npzd\_nitrogen  
O\_npzd\_iron

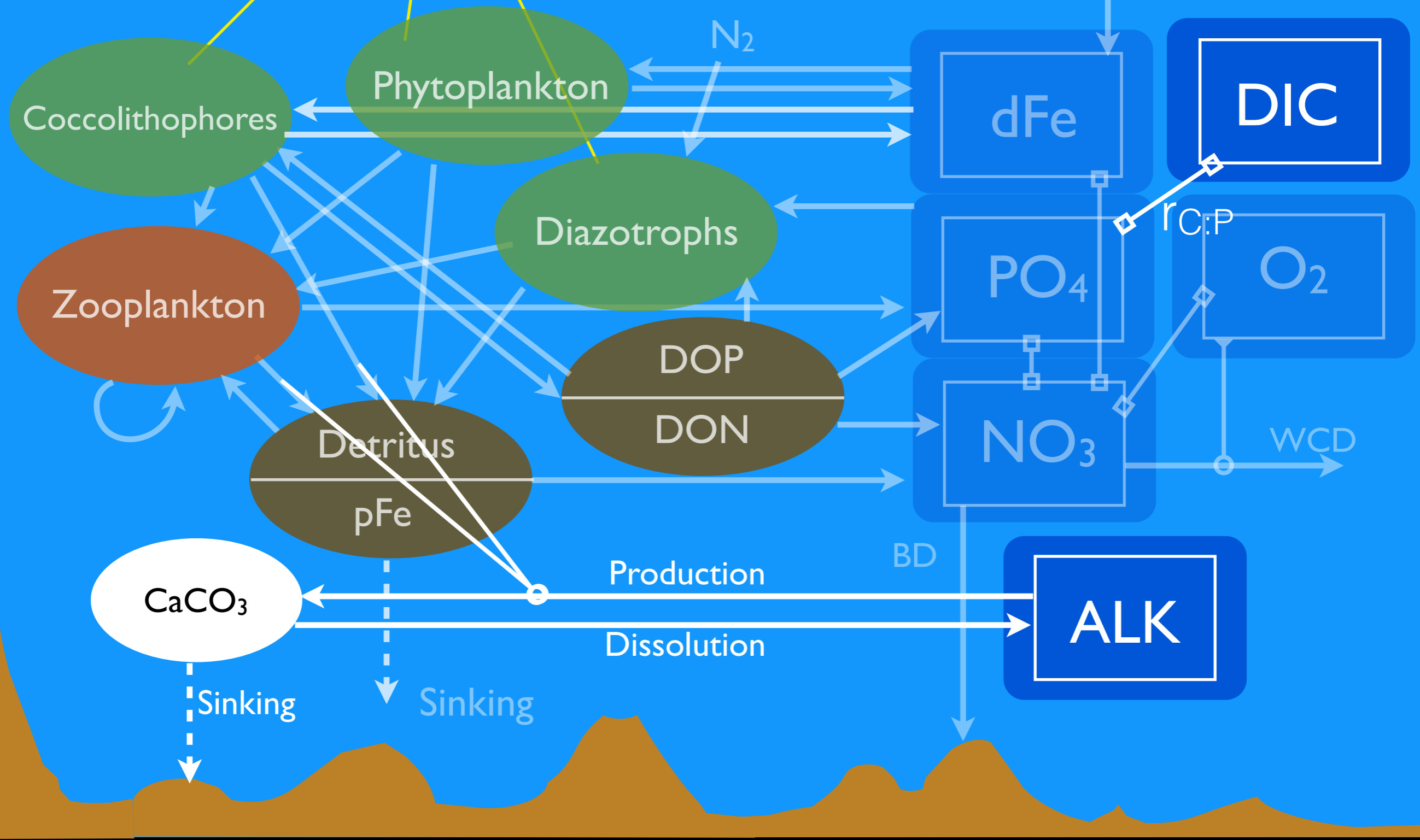


# MOBI 2.0

3.3 model years/CPU min  
or  
440 model years / day

N=15

O\_npzd  
O\_npzd\_o2  
O\_npzd\_nitrogen  
O\_npzd\_iron  
O\_carbon  
O\_npzd\_alk  
O\_npzd\_caco3

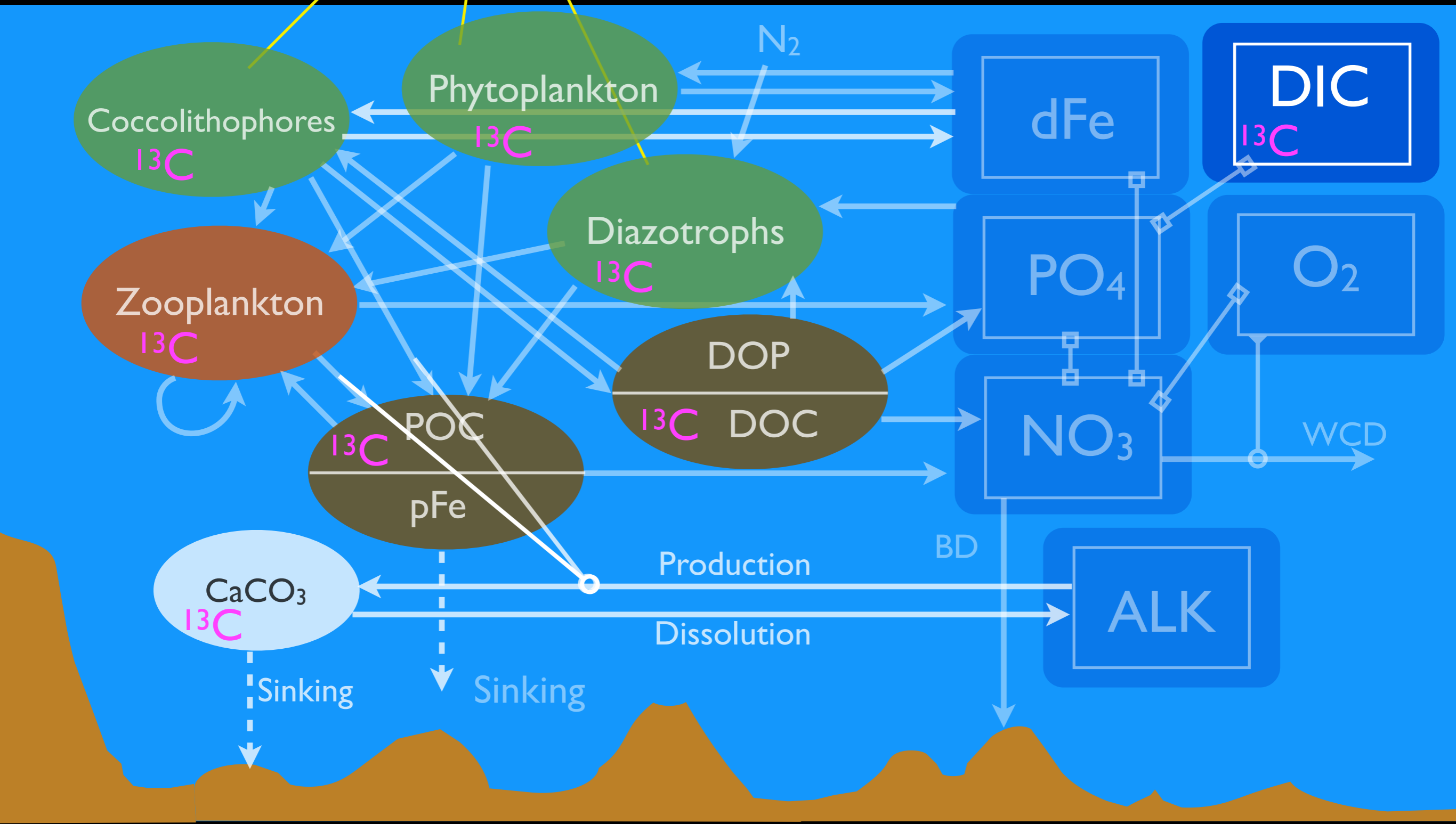


# MOBI 2.0

4.1 model years/CPU min  
or  
350 model years / day

N=23

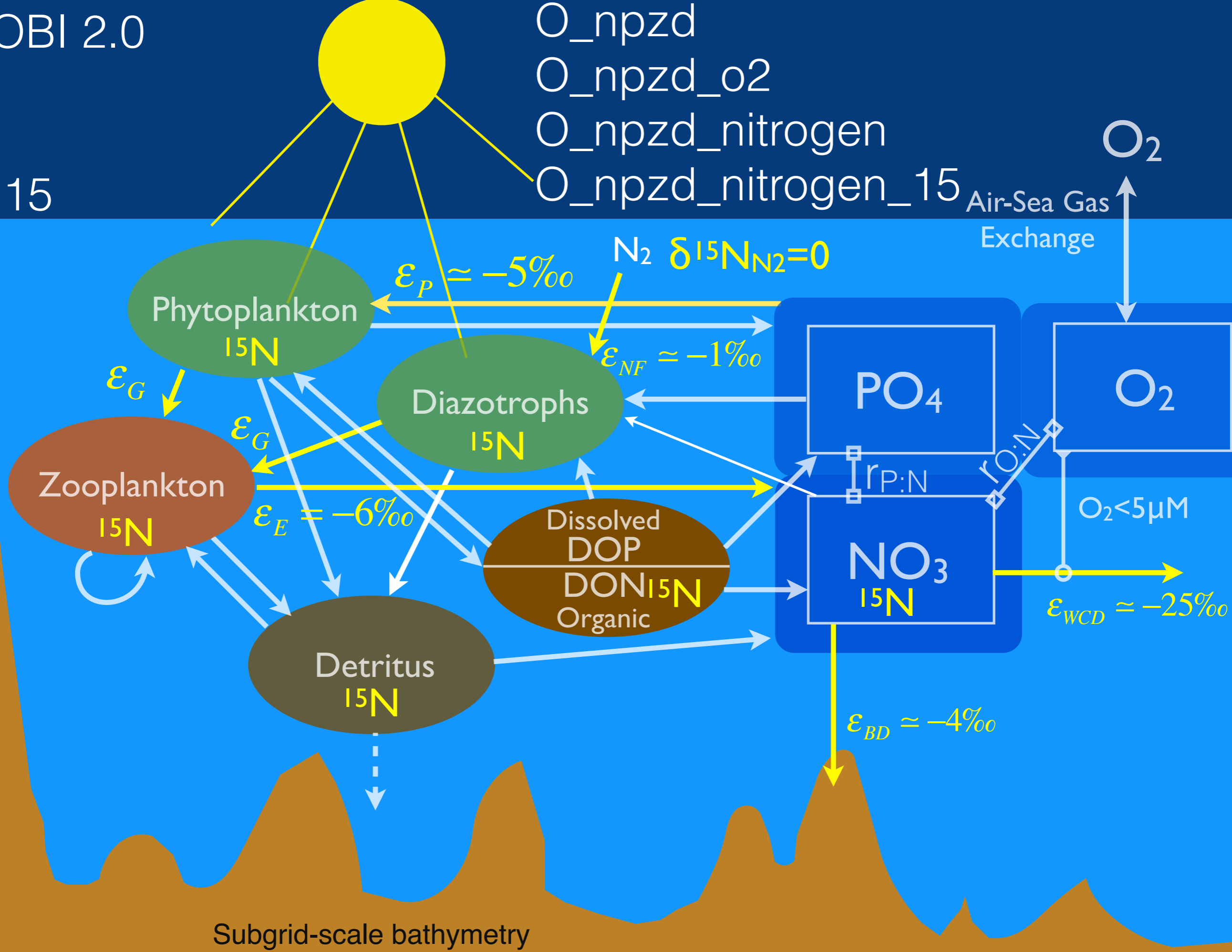
- O\_npzd
- O\_npzd\_o2
- O\_npzd\_nitrogen
- O\_npzd\_iron
- O\_carbon
- O\_npzd\_alk
- O\_npzd\_caco3
- O\_carbon\_13



# MOBI 2.0

N=15

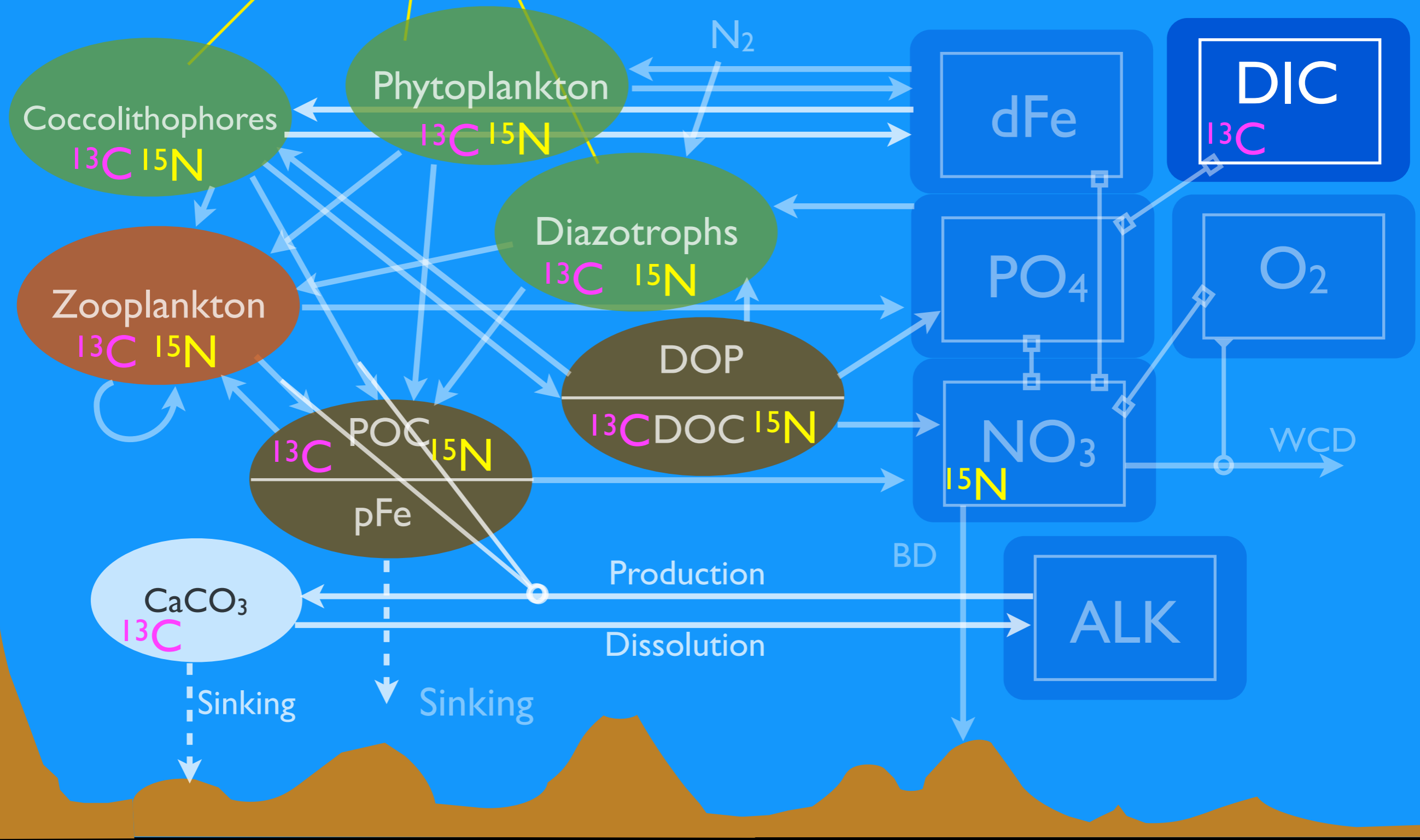
- O\_npzd
- O\_npzd\_o2
- O\_npzd\_nitrogen
- O\_npzd\_nitrogen\_15



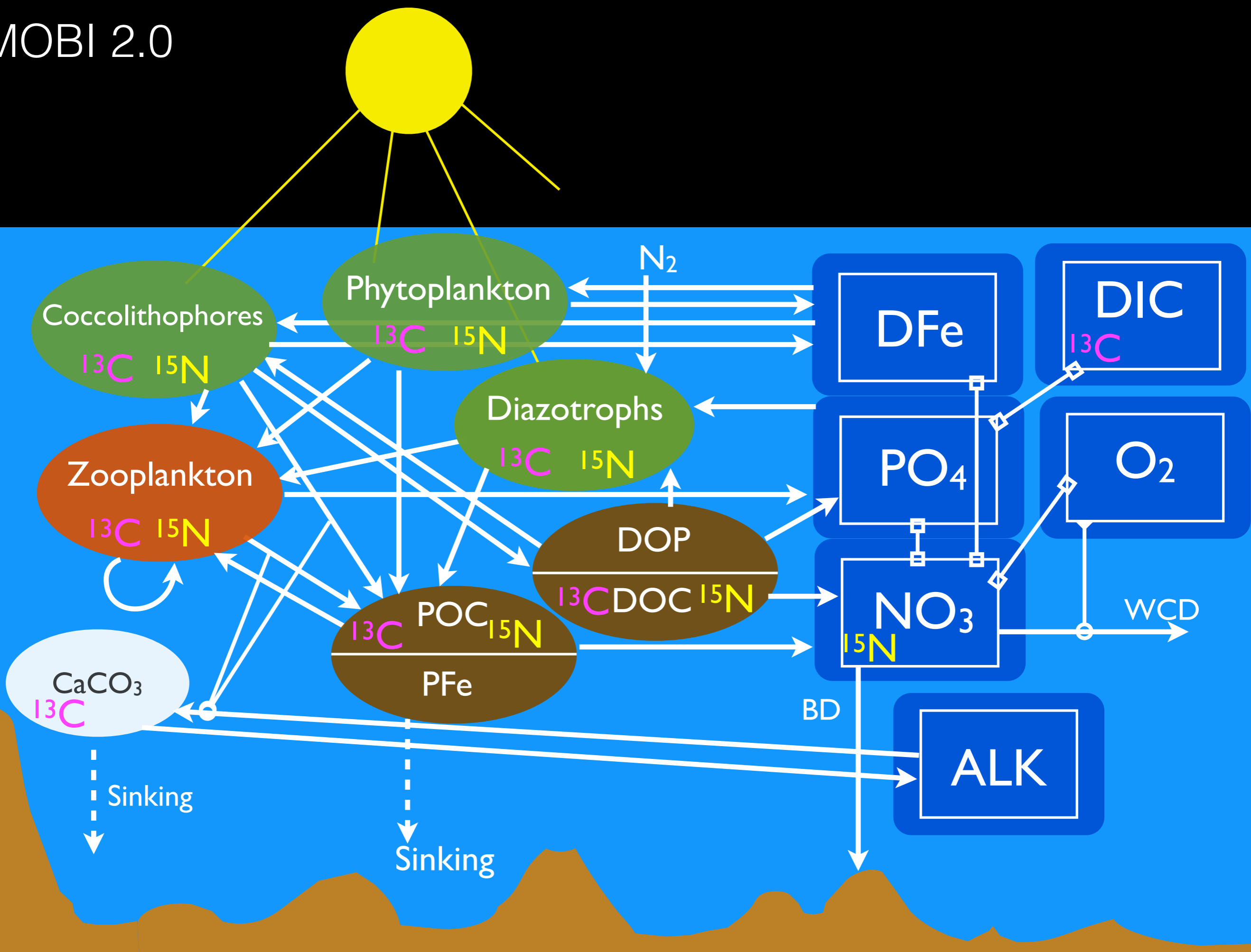
# MOBI 2.0

N=30

- O\_npzd
- O\_npzd\_o2
- O\_npzd\_nitrogen
- O\_npzd\_nitrogen\_15
- O\_npzd\_iron
- O\_carbon
- O\_npzd\_alk
- O\_npzd\_caco3
- O\_carbon\_13



# MOBI 2.0



# MOBI 2.0

