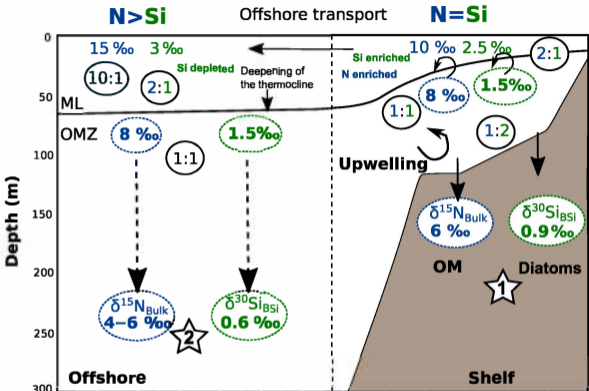


(a) Nutrient availability and isotopes signatures in the modern water column and surface sediments (10° S)



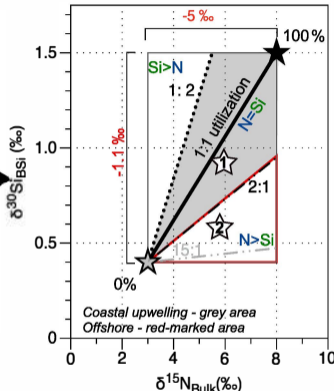
Stratified waters

→ *Plochloroccus* + *Synechococcus*
 Surface waters Si depleted:
 Uptake by *Synechococcus*
 reduced diatom productivity
 → low $\delta^{30}\text{Si}$

Coastal upwelling

→ **Diatoms dominating**
 moderate nutrient utilization due
 to continuous upwelling
 medium utilization of N + Si
 → moderate $\delta^{15}\text{N}_{\text{Bulk}}$ + $\delta^{30}\text{Si}_{\text{BSI}}$

(b) Nutrient utilization scheme



- ☆ **Isotope values reflect ~ 1:1 uptake**
- ☆ **Isotope values reflect ~ 7:1 uptake**