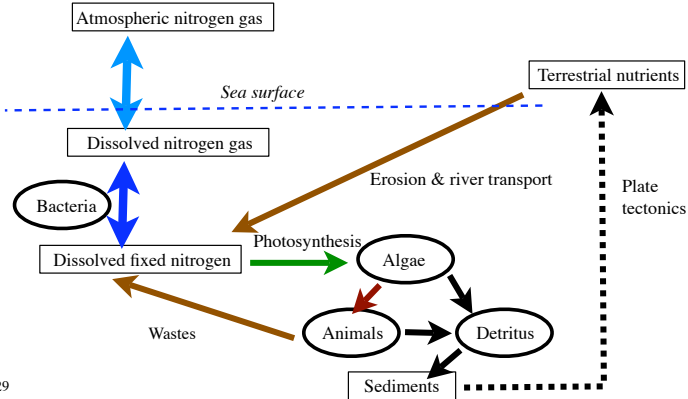


Nutrient Cycles



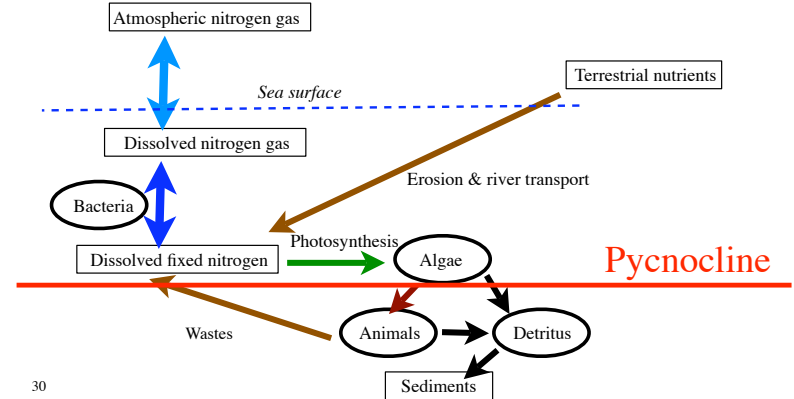
- Garrison has very complex diagrams
 - Nitrogen as an example



Nutrient Depletion



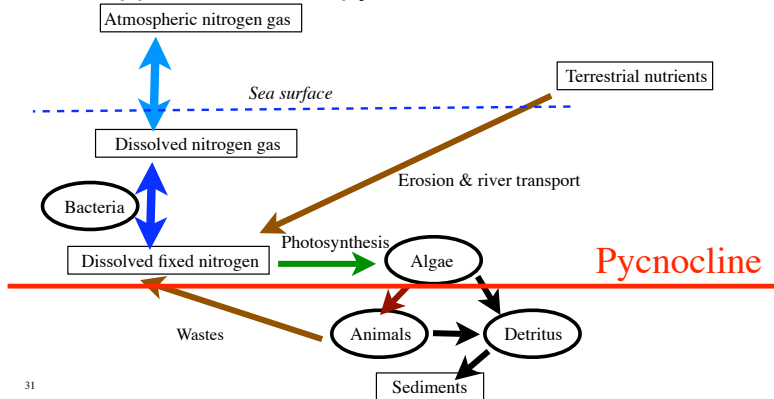
- 1 more critical factor for biological production
 - The oceans are layered



Nutrient Depletion



- Organic matter sinks to deep water & bottom
 - Trapped below the pycnocline



Nutrient Depletion



- What processes return nutrients to surface?
 - Not pictured here: Upwelling & vertical mixing

