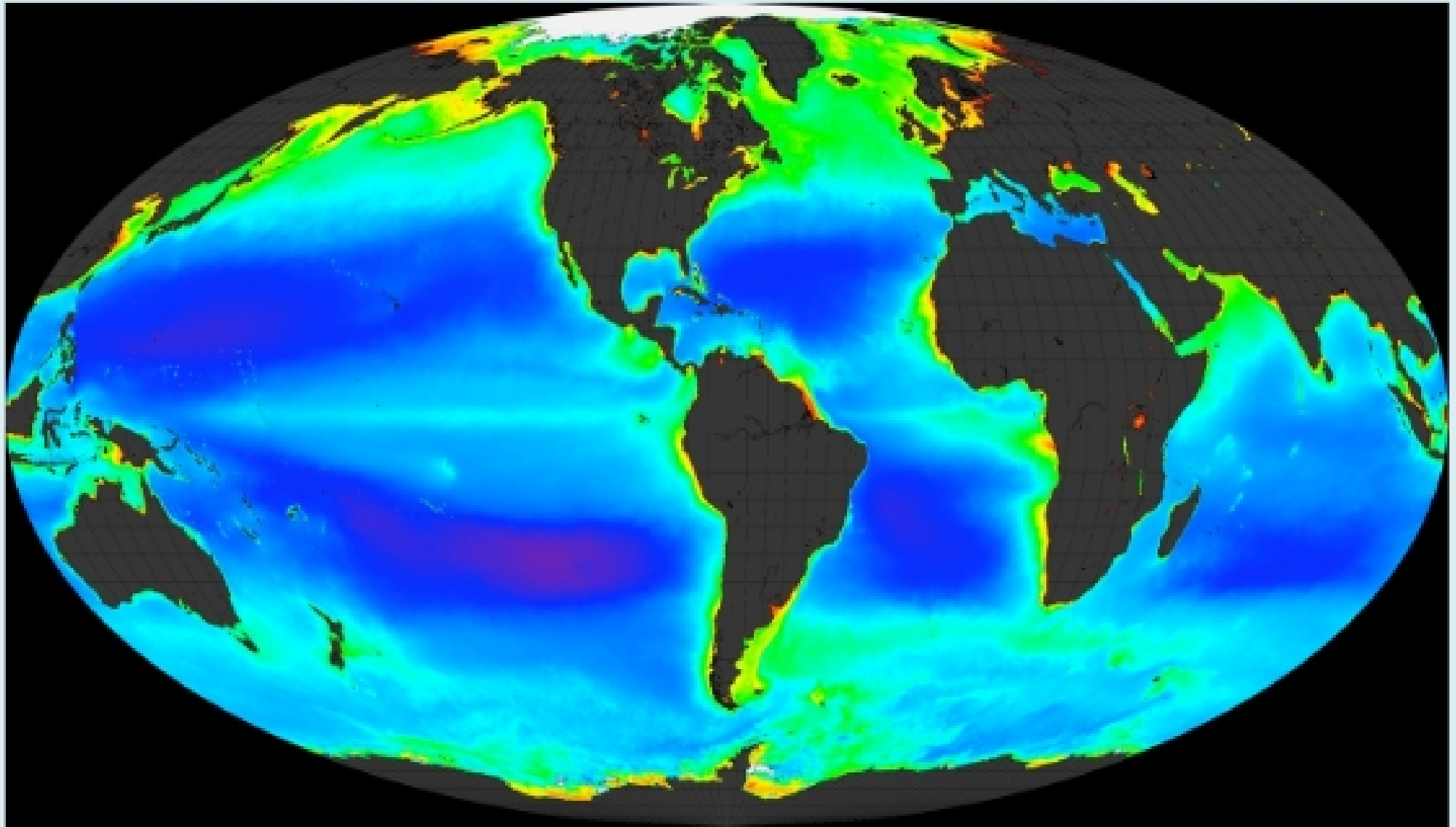


Spatial and Temporal Distributions of Phytoplankton



Red Tide Bloom, California Coast

Spatial distributions of phytoplankton reflect the balance of forces controlling growth, dispersal and mortality



This is obvious, but identifying and understanding those forces isn't always so easy

Summary

Global distributions, simplistically, can be seen as light limited or nutrient limited.

Light limitation important in high latitude regions or coastal areas of high turbidity. These regions tend to have strong spring blooms

Nutrient limitation everywhere else, though limiting nutrient may vary: N, P, Fe, Si...

Grazing usually more important in adjusting seasonal cycle than in bloom formation.

Exception: shallow water where benthic grazing is significant