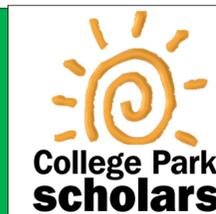




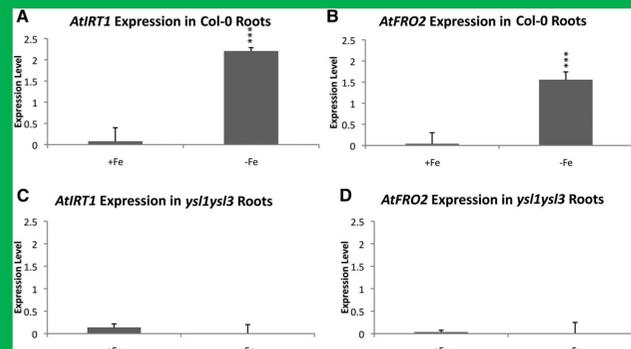
Search For Solutions: Increasing Phytoplankton (Ocean Iron Fertilization)



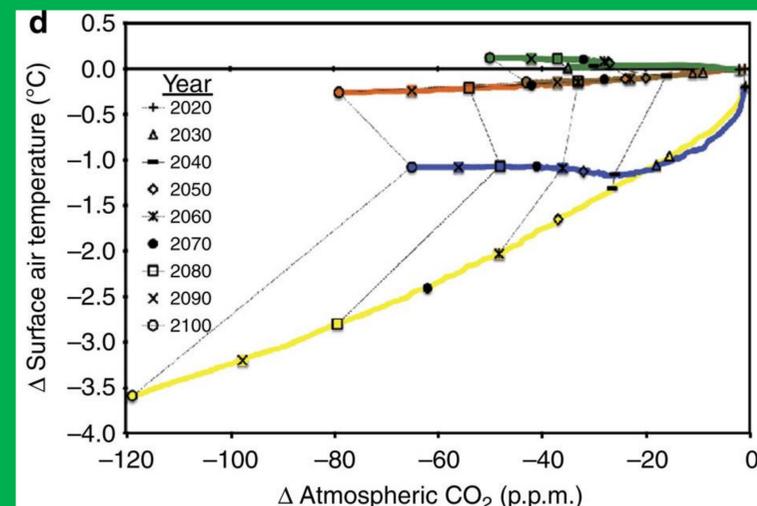
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Introduction

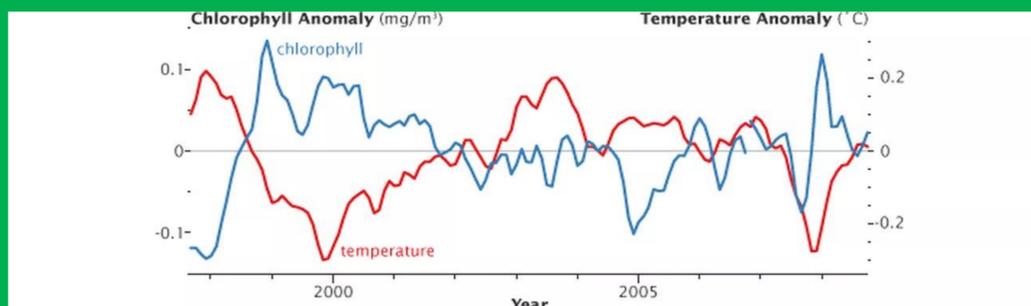
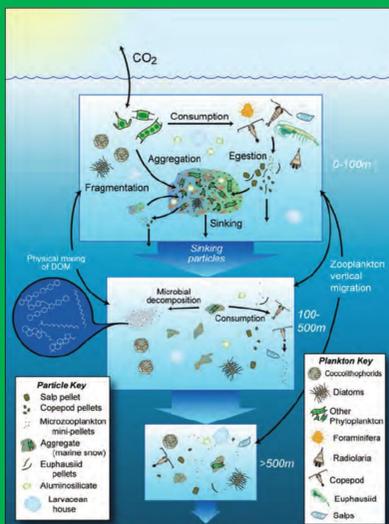
- Iron is the limiting nutrient to Phytoplankton
- Adding Iron to water will increase Phytoplankton populations
- Phytoplankton consume large amount of CO₂ from the atmosphere
- They can help mitigate the effects of climate change



As a large range of water bodies are seeded with iron rich particles, they all see an uptick in chlorophyll in the water. This implies that as iron content increases, algal/phytoplankton content in the water also increases.



Ocean Iron Fertilization, however, isn't as effective as other Carbon reducing efforts (as seen by the brown line) (Yellow=Orbiting reflectors, Green=Trees)



Trends show that as chlorophyll increases (phytoplankton increases) that temperatures in the surrounding areas decrease.



Phytoplankton absorb CO₂ from the atmosphere and sequester it in the water.

The ocean is earth's largest carbon sink, and has "swallowed" 1/2 of the CO₂ emitted from industrial fossil fuel burning.

When CO₂ concentrations dissolved in the ocean increase, plankton increase their intake of C, which some believe could mitigate the greenhouse effect.

According to the Leibniz Institute of Marine Sciences, the phytoplankton can act as a "biological conveyor belt" that pulls CO₂ into the deep ocean carbon sink, speeding up the natural process.



Excess iron, however, can also cause Eutrophication (where phytoplankton bloom out of control, depriving life under water of oxygen)

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