How it works?

FROM ATMOSPHERE TO OCEAN
Effects of Climate Change On Coastal Waters

- Much more CO₂ in atmosphere
  - Absorbed by ocean
  - Acidification
  - Warms up ocean water
    - Increases total water volume
      - 1/3 due to thermal expansion
      - 2/3 due to melting ice
    - Regional changes in water salinity
      - Evaporation -> more salty
      - Melting -> less salty
    - Regional changes in water temperature
      - Melting ice
      - More stratification
        - Less water mixing
        - Less exchanged nutrients (O₂) which plants and larvae need
      - More dissolved CO₂
      - Less dissolved O₂ in upper layer of water
        - Hurts marine life
    - Algae blooms
      - Microbial-decomposition (algae)
      - Produces O₂ dead zone
    - Region changes in salinity
    - Affects human life
  - Warmer air
  - Melts glaciers and ice sheets
  - Hotter air
  - Sea level rise
  - Warmer water
  - Algae bloom
  - O₂ dead zone
  - Less dissolved O₂
  - Stratification
    - Less vertical mixing of O₂ and nutrients

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