

Ocean Acidification

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SUPPLEMENTARY MATERIALS - Graphics

The following visual materials may be used to illustrate components of ocean acidification and its effects. Contents:

- Chemical reaction that produces CO₂ from burning fossil fuels
- Amount of CO₂ from various sources
- Increase in atmospheric CO₂
- Simple chemical reaction behind ocean acidification
- Changes in ocean pH due to increase in seawater CO₂
- Pteropod shell dissolving in acidic seawater
- Overview infographic explaining ocean acidification
- Other resources

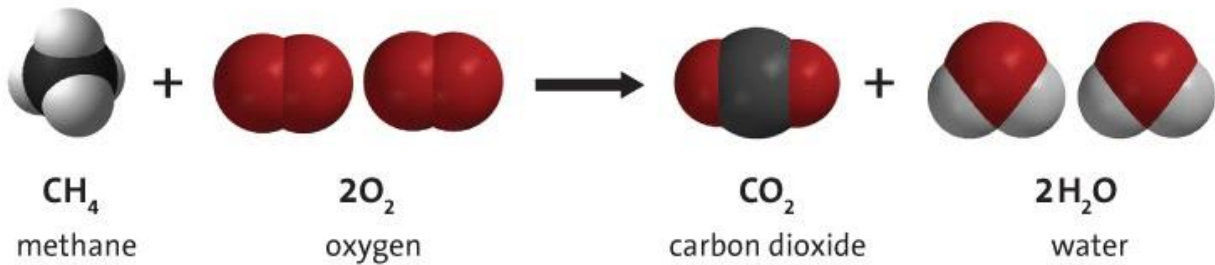


DIAGRAM: Chemical reaction that produces CO₂ from burning fossil fuels

CARBON DIOXIDE SOURCES AND SINKS

Before the industrial age, sources of CO₂ were balanced by sinks

Gigatonnes of CO₂ per year ● Pre-industrial ● Recent changes ~ CO₂ levels at South Pole from 1958-2004

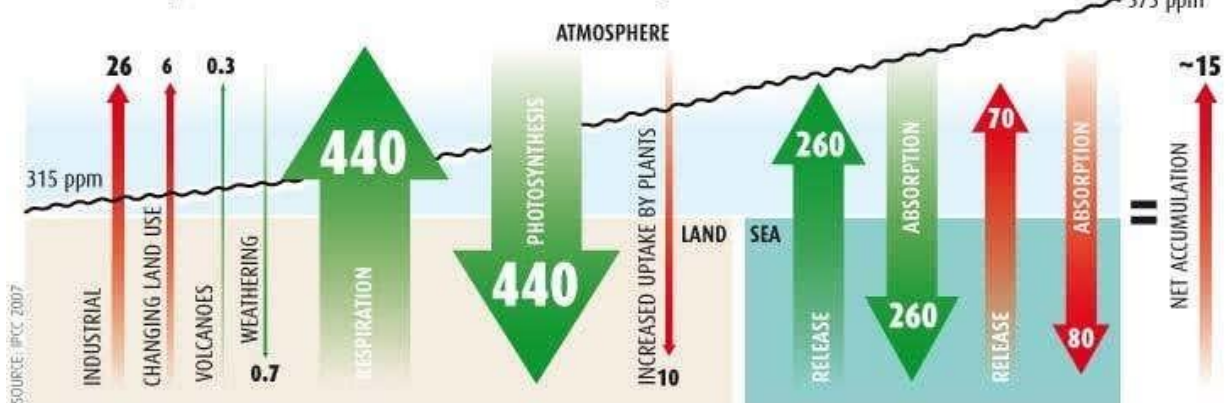


DIAGRAM: Amount of CO₂ from various sources (source: IPCC, 2007)

Atmospheric CO₂ at Mauna Loa Observatory

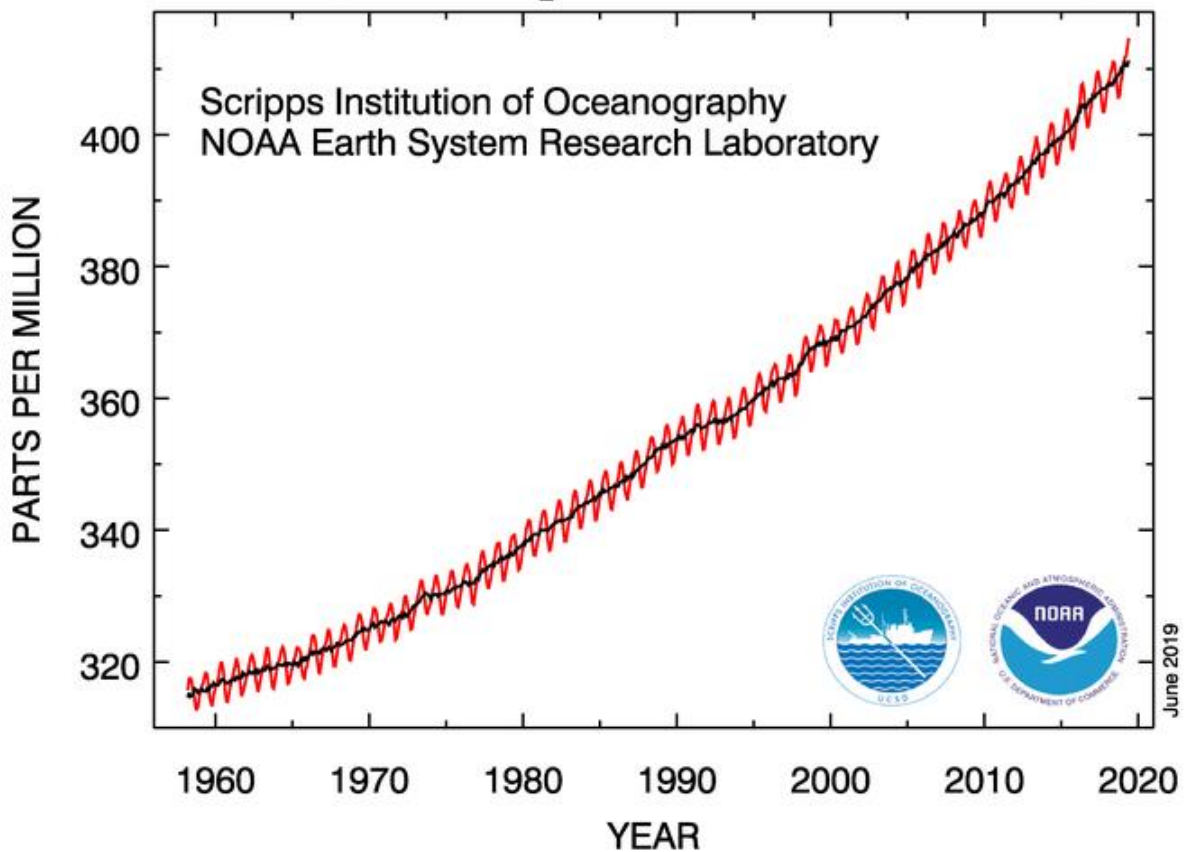


DIAGRAM: Increase in atmospheric CO₂ (source: NOAA)

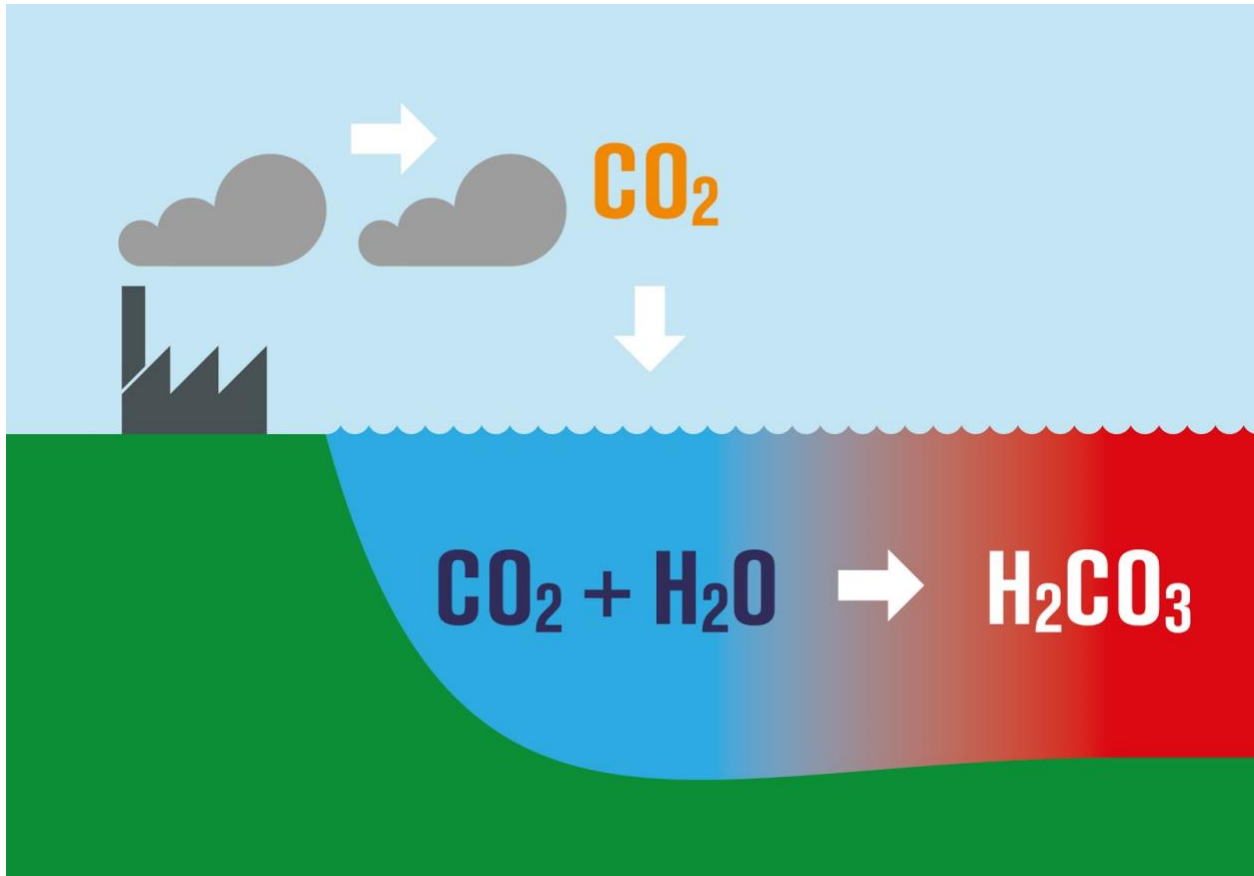


DIAGRAM: Simple chemical reaction behind ocean acidification (source: Maine Sea Grant)

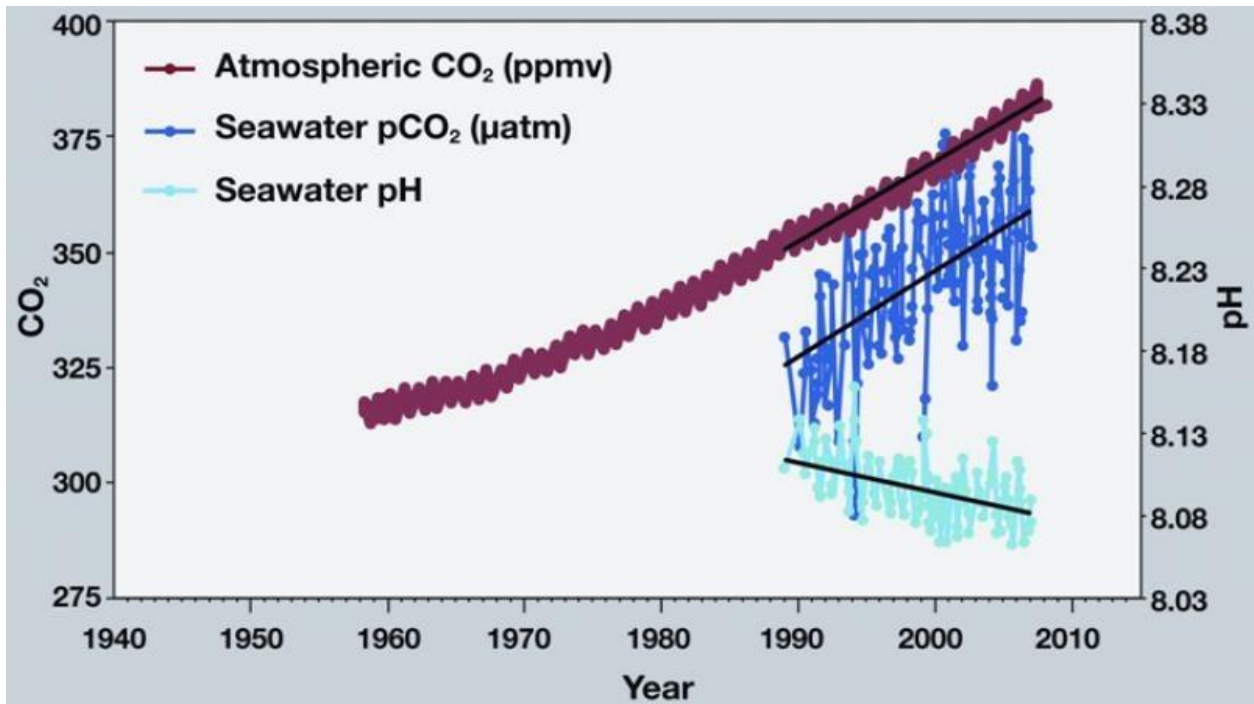


DIAGRAM: Changes in ocean pH due to increase in seawater CO_2 (source: NOAA)

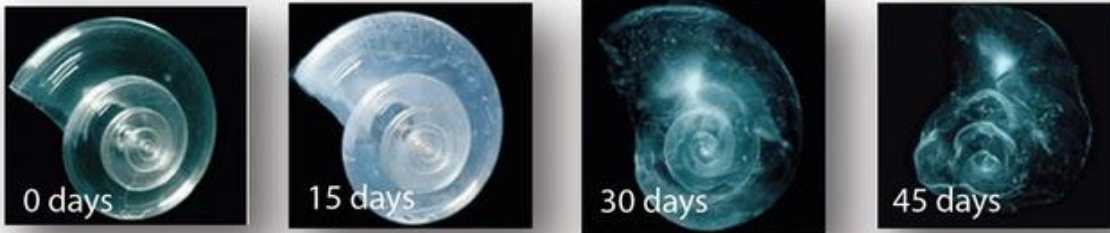


DIAGRAM: Pteropod shell dissolving in acidic seawater (source: David Liittschwager/National Geographic Stock)

Ocean Acidification

CRUMBLING **the** SHELLS OF THE SEA...

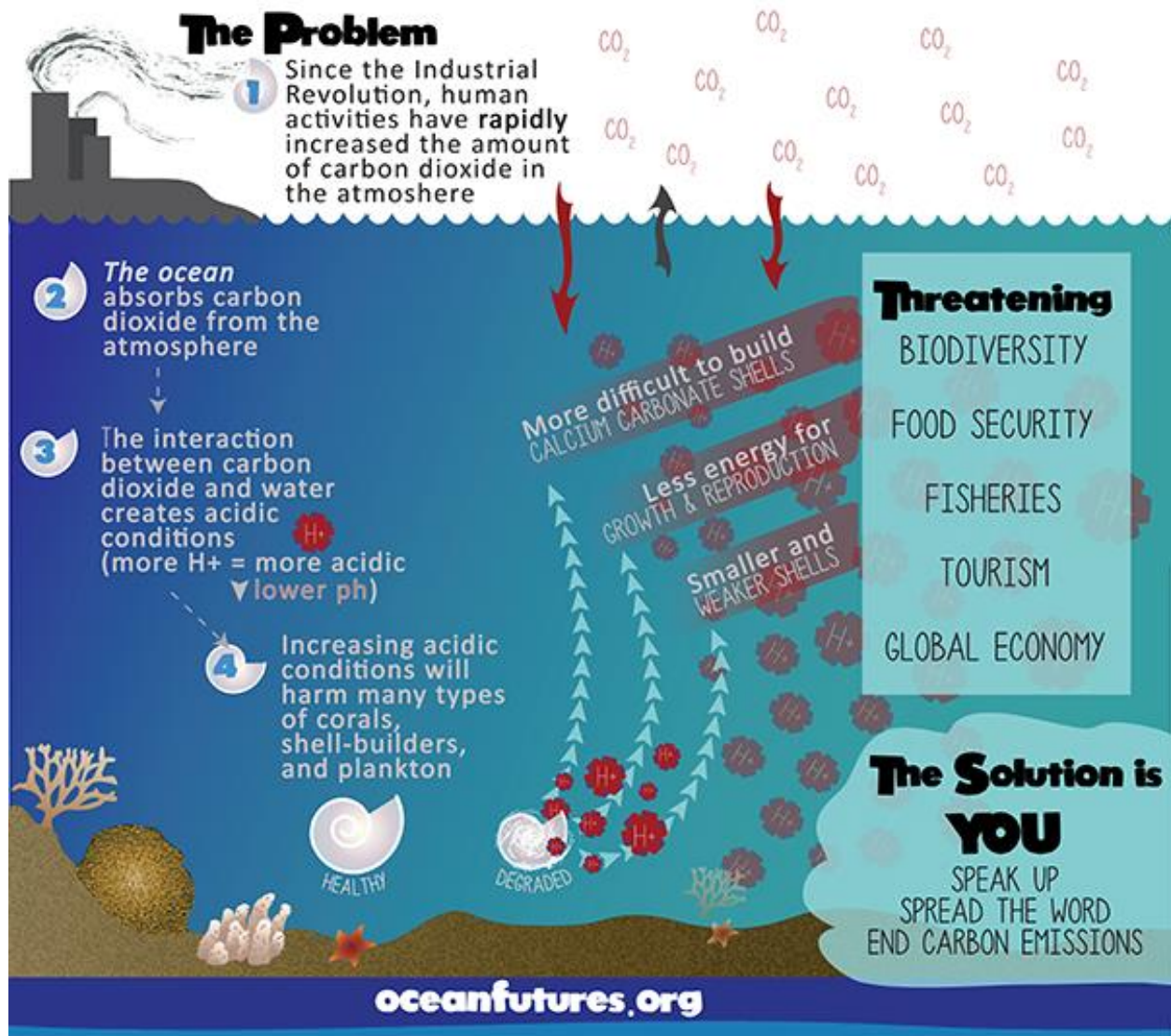


DIAGRAM: Overview infographic explaining ocean acidification (source: oceanfutures.org)

Other resources:

Explanation of the human body's mechanism for detecting CO_2 in blood can be found here:
<https://courses.lumenlearning.com/boundless-ap/chapter/respiration-control/>