

Ocean acidification: The role of particles

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Global warming is just one of the results of increasing carbon dioxide concentrations. Because CO₂ also forms an acid when it dissolves in water, it is acidifying the oceans. Coral reefs and calcareous shells are in danger of dissolving. One of the few natural processes that removes carbon dioxide from the ocean's surface waters is the sinking of particles to the deep sea. These particles carry organic carbon with them that is derived from the surface plants and animals in the ocean. The organic carbon is ballasted by biogenic minerals, like calcium carbonate, silica and dust. Laboratory experiments on aggregation and decomposition of mineral-forming and non-mineral-forming algae suggest that acidification affects these ballasting minerals. The ramifications for the global carbon cycle will be discussed.