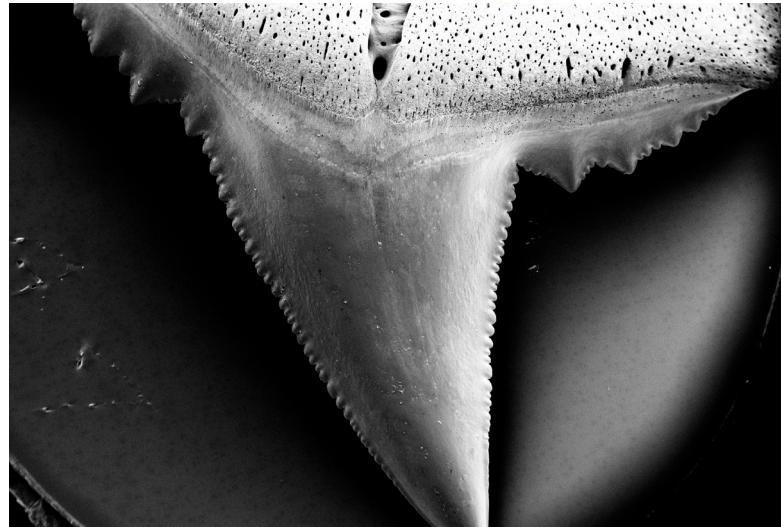




Ocean acidification and shark tooth corrosion

Slide by Neil Goalby. Available from rsc.li/3JABdT8

Shark teeth are at risk of becoming less strong and more fragile as the oceans acidify. The oceans are becoming more acidic due to rising carbon dioxide levels. Researchers collected naturally discarded teeth from the aquarium floor of a shark enclosure. The team then left the teeth for eight weeks in two tanks, one with a pH of 8.1 (current oceanic conditions) and one with a pH of 7.3 (the predicted level for 2300). The scientists found the teeth they exposed to more acidic conditions experienced corrosion on the roots, crowns and serrations of the teeth.



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Losing their edge. The sharks' teeth were weaker in more acidic waters

Questions

1. Suggest what effect weaker teeth would have on sharks.
2. Explain why the pH of seawater will decrease if it absorbs more carbon dioxide.
3. Suggest why the teeth become weaker in more acidic water.