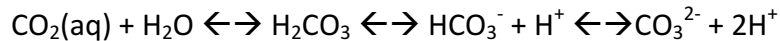


What is the current pH level of ocean water? (answer in 1-digit number)

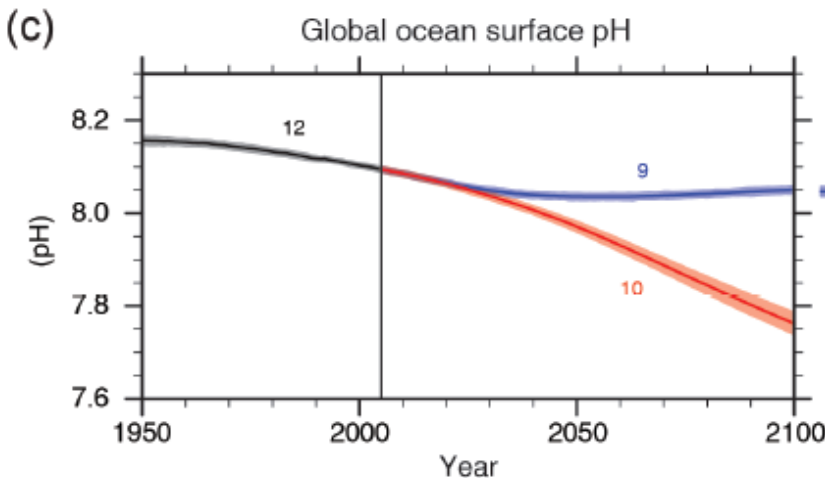
The answer is around **8.069**.

The pH of the ocean is partially determined by the carbon cycle on Earth, where CO<sub>2</sub> fluxes between oceans, biosphere, lithosphere and the atmosphere. Due to the significantly intensified fossil fuel combustions since Industrial Revolution, the acidification of ocean has been accelerated due to the intensified emission of CO<sub>2</sub>.

The process of CO<sub>2</sub> dissolving in seawater can be described by the following equation:



The pH level of water in Pre-industrial period was approximately 8.179, and had dropped to 8.104 in 1990s. Up till now, there has been a drop of 0.11 in pH since 18<sup>th</sup> century, representing a 29% increase in H<sup>+</sup>. It is estimated that the pH of ocean will drop below 8 by 2050, and will drop to ~7.8 by 2100.



**Fig.1** Change in global ocean surface pH levels

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