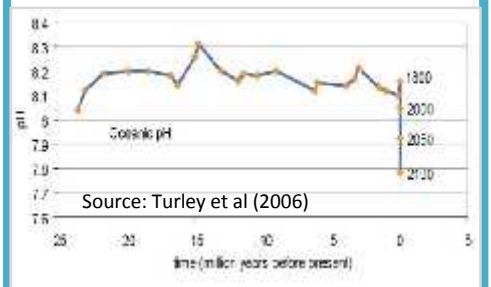
OCEAN ACIDIFICATION

FACT SHEET **JUNE 2015**

NUMBERS AT A GLANCE

- Approximately **26%** of the CO_2 added to the atmosphere from human activities each year is absorbed by the ocean [1].
- **22 million tons** of CO_2 per day is absorbed by the oceans from human activities [1].
- Ocean acidity has increased by **30%** since the industrial revolution. This increase is **100 times faster** than any change in acidity experienced by marine organisms for at least the last 20 million years [1].



- Business as usual scenarios for CO_2 emissions could make the ocean up to **150% more** acidic by **2100** [1].

What is Ocean Acidification?

Ocean acidification is the **reduction in the pH of the ocean** over an extended period of time, caused mainly by uptake of carbon dioxide (CO_2) from the atmosphere. It can also be caused by chemical additions and subtractions from the ocean. Anthropogenic ocean acidification refers to the component of pH reduction that is caused by human activity [8].

Impacts of Ocean Acidification in the Wider Caribbean Region

1. Coral growth is expected to decline at a rate of 15% in the Caribbean. This reduction will impact tourism revenues, food security and shoreline protection [6].
2. Some marine species such as corals, conch, oysters and sea urchins are highly sensitive to ocean acidification and will be more susceptible to predation and damage [2].

Source : NOAA

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3. Other studies have shown that Caribbean gorgonian corals may be more resilient at mid-elevated levels of ocean acidification [3]. This has the potential to create imbalances in the types of marine species within the Wider Caribbean region.

Impacts of Ocean Acidification in the Wider Caribbean Region (Cont'd)

4. Revenue and foreign exchange earnings from fisheries are expected to decline [5].

5. Ocean acidification could trigger a chain reaction of impacts throughout marine food webs leading to lower biodiversity levels [5].

How can the Wider Caribbean Region mitigate the impacts of Ocean Acidification?

1. Reduce land-based sources of pollution, such as nutrient run off, which can reduce some of the negative impacts of ocean acidification.
2. Reduce, control and regulate other environmental pressures such as overfishing, and habitat degradation which can magnify the negative impacts of acidification.
3. Strengthen ocean resilience by allowing time for recovery from human impacts, through the designation and protection of marine protected areas and by improved marine spatial planning.
4. Strengthen national and regional institutions and coordinating mechanisms to enable more effective responses to ocean acidification at the national and regional levels.
5. Provide capacity building for further research on the extent of ocean acidification in the Caribbean Sea.

References and Further Reading

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