

“Since I started diving in the 1960s up to 50% of the world’s coral reefs have been lost. The remaining reefs are either severely threatened or dying and we may lose them all before 2050 – unless we act now.”

**David Hannan**  
Diver & Cinematographer  
Ocean Ark Alliance



## Ocean Acidification – The other CO<sub>2</sub> challenge

The world’s leading marine scientists are warning us that our current rates of CO<sub>2</sub> emissions are making our oceans more acidic. This is happening so fast that it poses a serious threat to marine life. Left unchecked, Ocean Acidification could destroy all our coral reefs by as early as 2050. It also has the potential to disrupt other marine ecosystems and even entire oceanic food chains.

The Ocean Ark Alliance is a partnership of world-renowned marine scientists, filmmakers, media specialists, diving associations, communities and corporate organisations. The Alliance is dedicated to educating Australian children, communities and politicians about Ocean Acidification and the threat it poses to our oceans, our prosperity and our way of life.



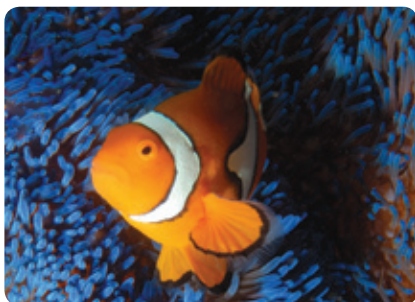
All life depends on our oceans.

All we ask is that you spend a minute at  
[www.OceanAcidification.net](http://www.OceanAcidification.net)

# Look more deeply into the facts

“Ocean Acidification is destined to be one of the biggest issues humanity has ever faced.”

**Dr J.E.N. (‘Charlie’) Veron**  
World Renowned Reef Scientist



“As a marine biologist who has studied coral reefs for more than 20 years, I’ve recently begun to worry that these complex, spectacular global ecosystems may completely disappear from the planet within a couple of decades. Unfortunately, my concern is based on hard evidence.”

**Professor Ove Hoegh-Guldberg**  
Global Change Institute  
University of Queensland

- One third of all carbon dioxide emitted by humanity has been absorbed by the world’s oceans. This is making them more acidic than they have been for tens of millions of years.
- One of the greatest impacts that Ocean Acidification is having is on reef building corals, which are known as a ‘framework species’. Without corals, reefs cannot exist. Ocean Acidification is already slowing their growth rates. Left unchecked they will soon stop growing and erode away.
- Direct effects on some important species of plankton and the sensitive larval stages of many marine organisms are now being reported in globally respected scientific literature.
- Ocean plankton provide 50% of the oxygen that we breathe. Due to Global Warming, that capacity to provide oxygen and support the fundamental food chains of the ocean has decreased by 6% over the last three decades.
- As oceans have warmed, oceanic nutrient deserts have expanded by 6.6 million square km’s over the past two decades.
- There are approximately 10,000 Coral Reefs and we are destroying one every other day.
- Coral Reefs are being lost more than twice as fast as the rainforests. Current estimates reveal that we will lose the other 50% over the next 40 years.
- The Great Barrier Reef generates over 6.5 billion dollars in tourism revenue and 63,000 jobs.
- Left unchecked Ocean Acidification could trigger a Great Mass Extinction Event. Growing evidence suggests that four of the five Great Mass Extinctions have been associated with rapidly acidifying oceans – due to spikes in the concentration of atmospheric CO<sub>2</sub>.
- Coral Reefs provide habitat for at least a quarter of all marine species. Many of these face extinction if reefs disappear.
- Sea turtles were one of the few survivors of the last Great Mass Extinction Event 65 million years ago. Six of the seven species of sea turtles are now classified as endangered.
- The biological diversity and splendour of Coral Reefs are at risk of disappearing for thousands of years. This places in jeopardy an estimated 500 million people who depend on coral reefs for their daily food and income.
- Greenhouse Gas Emissions must be cut dramatically by 2050 if Coral Reefs are to have any chance of surviving the next 50 years.
- Within decades, Ocean Acidification will also start to have major impacts on temperate and polar water ecosystems. In fact colder water absorbs higher levels of CO<sub>2</sub> than warmer water. Our polar seas are already so acidic that they are starting to dissolve some shells.