Worth a look:

Great Barrier Reef Climate Change Action Plan 2007-2012
www.gbrmpa.gov.au/corp_site/key_issues/climate_change/management_responses

Great Barrier Reef Tourism Climate Change Action Strategy 2009-2012
www.gbrmpa.gov.au/corp_site/key_issues/tourism/climate_change_and_tourism_operators

Great Barrier Reef Outlook Report 2009
www.gbrmpa.gov.au/corp_site/about_us/great_barrier_reef_outlook_report

Carbon emission calculator for tourism operators
www.emissionscalculator.gbrmpa.gov.au

Carbon footprint calculator for individuals
www.wwf.org.au/footprint/calculator/

Sustainability home
www.bunnings.com.au/sustainability_home.aspx

- Ask your energy provider to switch appliances to low-tariff energy (this also saves money)
- Dry clothes the natural way, not in the dryer
- Use less hot water
- Drive less – car pool, use public transport, walk, ride or cycle
- Plant trees – they take up carbon dioxide as they grow
- Purchase wisely – be sure to choose the most climate friendly products.
- When booking flights purchase carbon offsets
- AND most importantly spread the word to others so we can all help protect the reefs of the world.

The heat is on for the Reef – which future will we choose?

If climate change continues at the current rate, the Reef will change. Scientists predict that under a worst case scenario, reefs could become dominated by algae as opposed to coral, and reef dependent species such as reef fishes will become less abundant. Adopting a sustainable lifestyle will not only help the Reef, it will also help to improve health, save money, support local economies and leave a healthy planet for our children and grandchildren.

Confessions of a Reef Guide

With all the debates going on about climate change, people are wondering how to separate myths from facts. So what kind of questions are passengers likely to ask and what kind of answers can you give them?

Here are a few examples from interpretation specialist, Emily Smart, Fantasea Foundation's Marine Research Coordinator. "Guests often ask: 'Why is there no colour? Why is the coral dead? It's not as colourful as I thought it'd be.' They think that all corals should be bright colours. I explain that 80 per cent of corals are naturally brown and that when photos are taken, it's usually at night when the tentacles are out and it's more colourful."

"If people ask 'how can I help save the Reef?' I encourage them to reduce their carbon footprint."

"I hope to get more and more guests involved in coral watch activities – at this stage the kids appear to be more interested in participating than their parents. It's a little difficult to get people involved because they're on holidays."

Your contributions, ideas and feedback are welcome.
Please email the GBRMPA at:

tourrec@gbrmpa.gov.au

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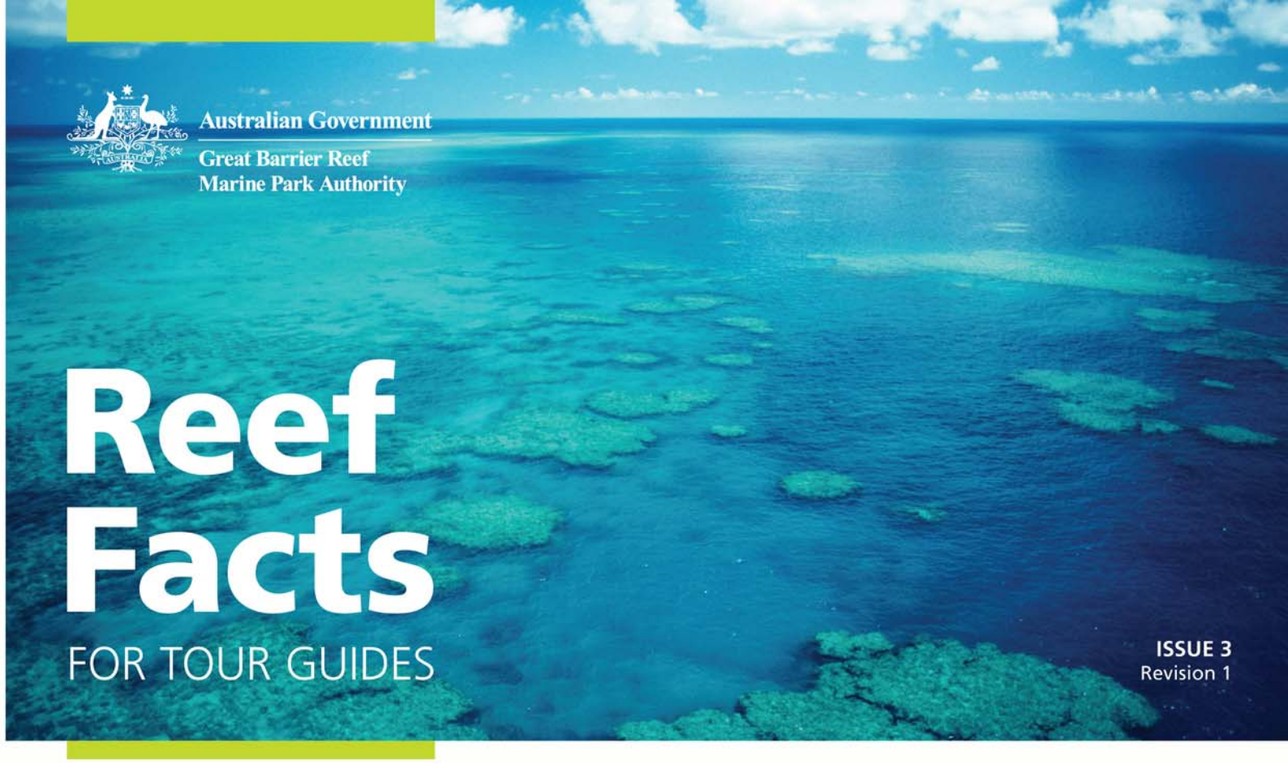

Australian Government
Great Barrier Reef
Marine Park Authority

Reef Facts

FOR TOUR GUIDES

ISSUE 3
Revision 1

Climate change and the Great Barrier Reef

The real sea change

Climate change poses one of the greatest threats to coral reefs worldwide. The Great Barrier Reef (the Reef) is one of the largest and healthiest reef systems in the world. While it can cope with stress better than most reefs, it is not immune to the impacts of climate change.

Signs of a changing climate are already evident on the Reef. Sea temperatures increased by 0.4°C between 1871 and 2005 and are predicted to increase 1.1–1.2°C by 2050.

Corals in hot water

When the going gets tough… the algae get going.

While warmer water might be nice for swimmers, it is bad news for corals. Most corals live in partnership with single-celled algae (zooxanthellae). Corals are animals that provide protection and nutrients for the algae, and in return, the algae produce food for the coral and give it colour.

When temperatures get too warm, corals become stressed and the tiny algae move out. When the algae leave, the coral 'bleaches' and its white skeleton becomes visible.

When many corals in an area bleach, this is called 'mass' coral bleaching. Increased frequency of mass coral bleaching is expected as temperatures rise.

A temperature increase of only 1.5-2°C lasting for six to eight weeks is enough to trigger mass bleaching.

When warm conditions do not persist for long, the algae return and the corals can recover. However, in extreme

Coral bleaching on the rise: A timely reminder

The world's coral reefs are often compared to canaries in coal mines because they have issued some of the earliest and most visually dramatic warning signs of climate change.

1970 - Until 1979, only three mass coral bleaching events had been recorded worldwide.

1980 - Worldwide, at least 60 mass bleaching events occurred between 1980 and 1993 (Glynn, 1993)

1990 - When sea surface temperatures rose by a few degrees in 1998, 16% of the world's corals were adversely affected.

2000 - More than 400 events were recorded in 2002 alone (UNEP).

2010 - Mass bleaching has now affected every coral reef region in the world.