

# THE CLIMATE IS CHANGING...ARE YOU?

An overview of climate trends, projected impacts and solutions to climate change for Australia

"Everyone, together, will make the difference on climate change. We need leadership from government and business, and we need leadership from individuals in their homes and workplaces."

Alex Scott,  
QPSU General  
Secretary



"Climate change is the greatest threat facing our planet. We are causing climate change, and humans can stop it getting worse. It is time to act now."

Professor  
Ian Lowe,  
ACF President



"We are the privileged generation: we have the opportunity to act.

Our children won't have this privilege."

Don Henry,  
ACF Executive  
Director



[www.acfonline.org.au](http://www.acfonline.org.au)  
1800 332 510



AUSTRALIAN  
CONSERVATION  
FOUNDATION

# OUR CLIMATE IS ALREADY CHANGING

Climate change is having an enormous global, environmental and socio-economic impact already, and Queensland is no exception.

We're already suffering from drought, storms and water shortages. Our Great Barrier Reef could be destroyed and our glorious coastlines inundated as sea levels rise.

Former World Bank economist Sir Nicholas Stern gives the world less than ten years to take action to avoid the worst impacts of climate change.

**The ten hottest years on record have all occurred since 1995.**

Australia's increase in temperature has been slightly higher than the global average. 2005 was our hottest year on record and there has been an increase of some 0.9°C over the last 100 years.

Risk of bush fires is expected to increase in South and East Australia, with more intense fires – a consequence of hotter and drier weather. The 2003 Canberra bushfires cost \$342 million. The number of 'extreme' fire danger days could increase 65% by 2020 if climate change is not addressed.

Picture: Simon McBeth



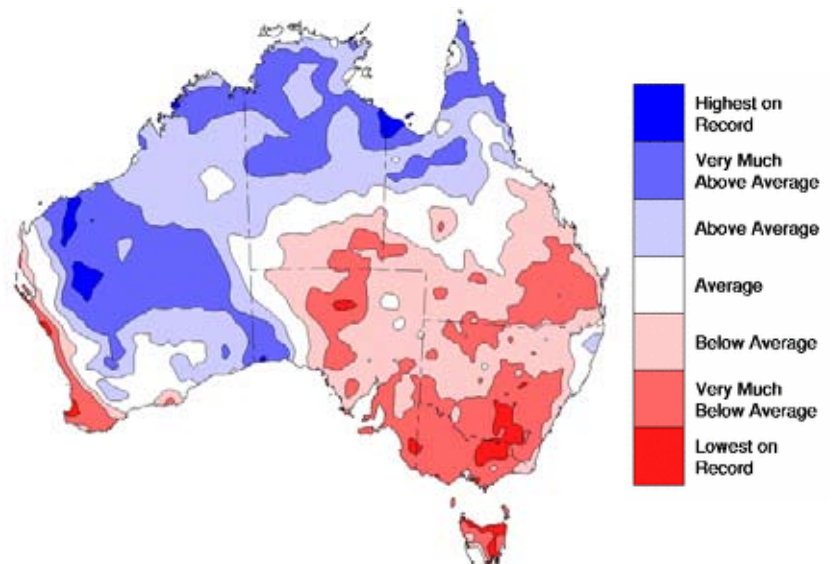
The 2003 drought alone cost 70,000 jobs, \$13 billion and cut 1.6% off GDP. Droughts are projected to become longer and harsher, with 40% more drought months in eastern Australia by 2070.



Picture: Adam Majcher

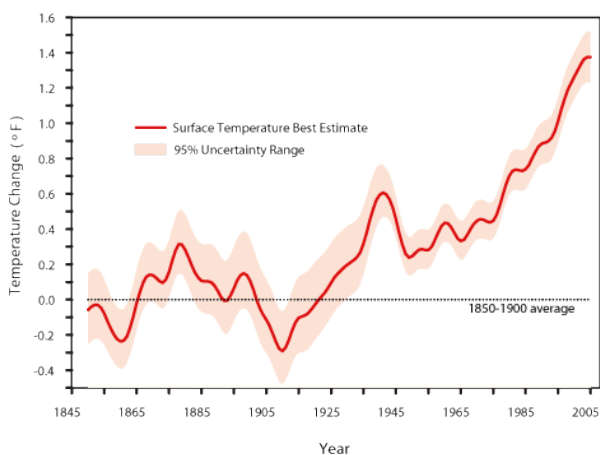
All of Australia's major cities and the agricultural land of the Murray-Darling Basin have received less rain, while northern Queensland has been hit with more intense cyclones, storms and flooding. Scientists predict that global warming will continue to intensify these patterns.

2006 rainfall deficiency



Global temperature 1850 - 2005

SOURCE: Brohan, P et al. 2006



# OUR FUTURE CLIMATE? OUR CHOICE

The most comprehensive assessment by international scientists (released in November 2007) suggests that average global temperatures will increase by 2.0 - 6.1°C by 2100, with the exact amount depending on how urgently we act to reduce global emissions.

To put this into perspective, during the last ice age global temperatures were only 5°C lower than today and much of Canada, Europe and northern Russia was covered in massive ice sheets several kilometres thick.

Recent research into some of the more complex climate interactions suggests that the magnitude, rate and timing of these changes may be worse than first thought.

On current emission trends, temperatures in Australia are projected to rise by 6°C this century.

With increases of less than 3°C, coral bleaching is expected to devastate almost the entire Great Barrier Reef.



Picture: Ove Hoegh-Guldberg

## WHEN TEMPERATURES RISE BY...

### Up to 1°C

- 70% increase in Murray-Darling drought.
- 3% more energy lost in electricity transmission infrastructure
- 13% reduction in livestock carrying capacity in native pasture systems

### 1-2°C

- \$12.4 million needed each year to manage the southward spread of the Queensland fruit fly.
- Coral bleaching devastates 60-80% of the Great Barrier Reef each year
- Twice the current number of people are exposed to flooding, as 100 year storm surge height around Cairns increases 22%
- Increased influx of refugees from Pacific Islands

### 2-3°C

- Coral bleaching devastates up to 97% of the Great Barrier Reef each year.
- 10% increase in forest fire danger across Australia
- Dengue fever transmission zone expands as far as Brisbane
- 20-30% increase in tropical cyclone rainfall
- 80% of Kakadu wetlands lost

### 3-4°C

- Up to 48% less water flow in the Murray Darling Basin
- 20% less rain leads to 6% decline in agricultural production
- 8,000-15,000 more elderly people die each year from heat related causes
- Half of the 65 species unique to the Wet Tropics will become extinct with a 3.5°C increase in temperature
- 44 days a year above 35°C in Cairns
- Up to 85% loss in snow-covered area in the Australian Alps

By mid century, it is anticipated that 60,000 to 90,000 of our near neighbours in the Pacific islands will be exposed to annual salt-water flooding as sea level rises.



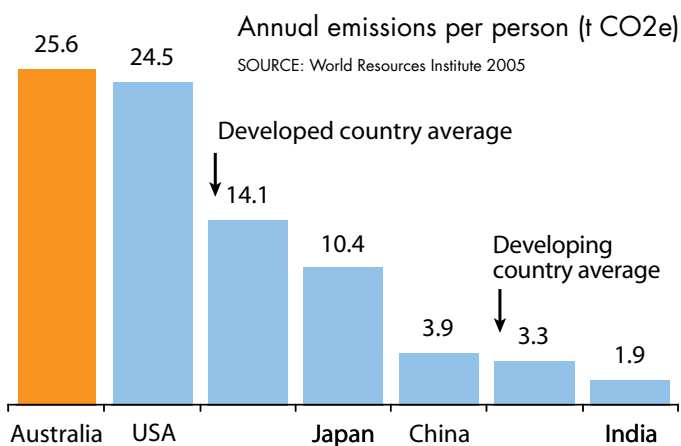
## OUR RESPONSIBILITY TO LEAD

Australia is one of the world's top 20 emitters with total pollution levels comparable to France, South Africa and Mexico and among the highest emissions per person in the developed world.

We consume ten times more energy per person than the average Indian, five times more than the average Chinese, and 50% more than the European average.

Almost two thirds of Australia's emissions are from burning fossil fuels such as coal and petrol. These emissions are on track to double by 2030.

No country can avoid its responsibility to reduce greenhouse pollution.



Picture: Courtesy of BP Solar

## THE FUTURE IS BRIGHT IF WE ACT NOW

The science is compelling. We need urgent action to stop dangerous climate change and to ensure a safe, healthy future for our kids.

Australia is blessed with abundant solar, wind and other clean green renewable resources. Why aren't we enjoying our natural advantage and leading the global renewable technology boom?

Our roads are clogged with polluting vehicles. Why aren't we investing in better public transport and more bicycle paths?

When we save energy and water, we save our climate and our future. Why aren't we turning off our office lights at night and living in comfortable, sustainable homes?

## WE CAN MAKE AUSTRALIA A WORLD LEADER ON CLIMATE CHANGE

### THREE STEPS FOR EACH OF US

1. **Become a climate hero** - an active citizen in your own community and workplace  
[www.qpsu.org.au/climate](http://www.qpsu.org.au/climate)
2. **Green your home and cut your bills.** Visit  
[www.acfonline.org.au/greenhome](http://www.acfonline.org.au/greenhome)
3. **Switch to Greenpower** - Visit  
[www.greenelectricitywatch.org.au](http://www.greenelectricitywatch.org.au)

The Australian Conservation Foundation (ACF) is committed to inspiring people to achieve a healthy environment for all Australians. We work with the Australian community, business and government to protect, restore and sustain our environment.

### THREE STEPS FOR GOVERNMENT

1. **Cut greenhouse pollution** by introducing a national legislated target to reduce emissions by at least 30 per cent by 2020. This is affordable, achievable and scientifically necessary.
2. **Get energy smart.** Saving energy saves our climate and money. Australia must adopt world's best practice energy efficiency for cars, buildings and appliances.
3. **Make the polluters pay.** Our government must set up an emissions trading scheme that caps pollution and is fair to all.