



Australian Government

Department of Climate Change

Fact Sheet

CLIMATE CHANGE – POTENTIAL IMPACTS AND COSTS

WESTERN AUSTRALIA

For too long we have poured greenhouse pollution into the atmosphere – and we are continuing to do so at an alarming rate. Science tells us that this pollution is causing climate change.

We are already starting to feel the effects of this pollution. And projections show that if we don't act, it will only get worse with changing temperatures and rainfall patterns, more droughts, floods, water shortages, rising sea levels and extreme weather.

Australia – already the driest inhabited continent on Earth – is particularly vulnerable to climate change. The longer we wait to act on climate change, the more it will cost and the worse its effects will be.

Potential impacts and costs

Western Australia is Australia's largest state with 75 per cent of its population living in its capital city, Perth.

The majority of its population live along its vulnerable coastal zone and its valuable agricultural industries are largely climate dependent.

The following are just a few examples of the potential impacts and costs to the State's industries, infrastructure and people*.

Extreme events

South-western Australia's significant drying trend is set to worsen under climate change. If current climate trends continue, there will be up to 80 per cent more droughts in south-western Australia by 2070.

Coastal zones

It is plausible that uncontrolled climate change could see global sea level rise of 1 metre or more by 2100 and more intense storms threatening coastal housing and infrastructure.

Coastal housing and infrastructure will be at risk as sea levels rise and storms become more intense.

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In coastal areas, more than 94,000 coastal buildings are at risk from projected sea level rise, coastal flooding and erosion.

Between Fremantle and Mandurah, an estimated 28,000 buildings and 641 kilometres of road are at risk from erosion due to rising sea levels.

Industry losses

Water resources and Agriculture

In south-west Western Australia, mean rainfall has declined dramatically from the late 1960s. An average rainfall decline of 10 to 20 per cent has caused a 40 to 50 per cent decline in dam inflows.

Evidence from Perth indicates that impacts of climate change are here now. Inflows to the catchments providing water to Perth have noticeably decreased over the last 20 years, reducing the available water supply.

Western Australia's agriculture and fishery industries are particularly vulnerable to the impacts of climate change.

For example, warming ocean temperatures and possible changes to the ocean currents may affect Western Australia's \$300 million western rock lobster fishery, which contributes 20 per cent of the total value of Australia's fisheries.

Western Australia's \$4.8 billion agriculture industry will be at risk from uncontrolled climate change.

Some centres which depend on agriculture may be adversely affected. More hot days and less rainfall could reduce yields, and livestock will be adversely affected by greater heat stress.

Comparing production under climate change relative to 'what would otherwise have been', and assuming no mitigation or adaptation, Western Australian wheat production could decline by 13.4 per cent by 2050; sheep by 13.2 per cent; and beef by 5.7 per cent.

Human health

By 2070, Perth's annual average number of days above 35°C could increase from the current 28 days to 36 – 67 days.

These hot days could mean more heat-related deaths. Currently, 294 people in Perth over the age of 65 die from heat related deaths per year – this could rise to 657–689 by 2020 and to 1254–1548 by 2050.

Warmer temperatures and increased rainfall variation are likely to increase the intensity of food and water borne diseases.

Indigenous people living in remote communities are at increased risk with the number of Aboriginal children being admitted to hospital with diarrhoea likely to increase by 10 per cent by 2050.

Infrastructure

Drought – likely to become more frequent as a result of climate change – has the potential to disrupt electricity generation capacity and affect the reliability of electricity suppliers. Increases in temperatures, particularly in the summer months will increase energy demand.

The potential for increased extreme storm events from climate change may cause significant damage to coastal infrastructure including ports and harbours, airports, and storm water and sewer infrastructure.



Houses at Bremer Bay on the edge of Wellstead Estuary, WA. (Michael Marriott, DEWHA)

* Note: Much work still needs to be done to analyse regional climate change impacts, and determine which areas might be most vulnerable. The Government is investing in this effort, through for example \$44 million to support the CSIRO Adaptation Flagship and \$50 million to support research led by the Adaptation Research Facility.

Need for action

We must act now to reduce our greenhouse pollution to avoid the worst impacts of climate change and to protect our long-term prosperity, environment and way of life.

We must also act now to adapt to the impacts of climate change we are experiencing from the greenhouse pollution already in the atmosphere.

Tackling the problem will not be easy and there will be costs. But the longer we wait to act, the higher those costs will be.

The best way to minimise those costs is through our comprehensive Carbon Pollution Reduction Scheme. This is at the heart of the Government's comprehensive plan to tackle climate change through reducing emissions; helping regions, industries and communities adapt to climate change that we cannot avoid; and helping to shape a global solution.

Further information: <http://www.climatechange.gov.au>

This information has been sourced from a range of materials, including: Western Australian Government; Mpelasoka, F., K.J. Hennessey, R. Jones and J. Bathols, (2007): *Comparison of suitable drought indices for climate change impacts assessment over Australia towards resource management*. Int. J. Climatol., accepted; Macquarie University (2006), Risk Frontiers; Western Rock Lobster Development Association (2007); CSIRO and Bureau of Meteorology (2007), *Climate Change in Australia Technical Report*; WA Dept. of Fisheries (2004); ABS 7501.0, (2008); Department of Agriculture, Department of Agriculture, Western Australia, *Potential Impacts of climate change on agricultural land use suitability*, (2005a); Department of Agriculture, Western Australia, *Potential Impacts of climate change on agricultural land use suitability: Barley*, (2006); Department of Agriculture, Western Australia, *Potential Impacts of climate change on agricultural land use suitability: Oats*, (2005b); Church et al, (2008), *Antarctic Climate and Ecosystems CRC Briefing: a post-IPCC AR4 update on sea level rise* Dept Health and Ageing, *Human Health and Climate Change*, (2003); Macquarie University (2006), Risk Frontiers; Australian Medical Association and Australian Conservation Foundation (2005), *Climate Change and Health Impacts in Australia*.