

# WHAT DOES CLIMATE CHANGE MEAN FOR YOUR LOCAL AREA?

## THE FEDERAL ELECTORATE OF PORT ADELAIDE

The Climate Council is an independent, crowd-funded organisation providing quality information on climate change to the Australian public.

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# Climate Change in Australia

Australia is getting hotter. The ten hottest years on record have all happened since 1980.<sup>1</sup> The summer of 2012/2013 was our hottest on record, and the records kept tumbling in the summer of 2013/2014 when in just 90 days over 156 records for heat, bushfires and drought were broken around the country.<sup>2</sup>

Parts of Australia are getting drier. Climate change will play a role in increasing drought frequency in

Southern Australia, with decreases in the amount of rainfall potentially as high as 10% by 2030, and 30% by 2070.<sup>3</sup>

Sea levels are rising around Australia. Currently sea levels have been rising at an average of 1.4mm per year, in the future this is very likely to increase, with a 1.1 m sea level rise leaving \$226 billion in commercial, industrial, road and rail, and residential assets exposed to coastal flooding.<sup>4</sup>

## Heatwaves

Heatwaves are becoming hotter, lasting longer and occurring more often, with significant impacts for health. In 2009, South Australia experienced its hottest February day on record (48.2°C) and in 2013 South Australia experienced its hottest September on record.<sup>5</sup>

Figure one shows the warming trend being experienced in South Australia.

All-time records for consecutive days of heat include 17 days over 30°C in Adelaide during the heatwave of 2004. Heatwaves in Adelaide are starting earlier and becoming more intense, with the average intensity of heatwaves increasing by 2.5°C.

More record hot days and associated heatwaves increase the risk of heat-related illnesses and death, particularly in the elderly. Heatwaves in Adelaide have led to 7% increases in hospital admissions and during the 2009 heatwaves there were an additional 32 deaths.<sup>6</sup>

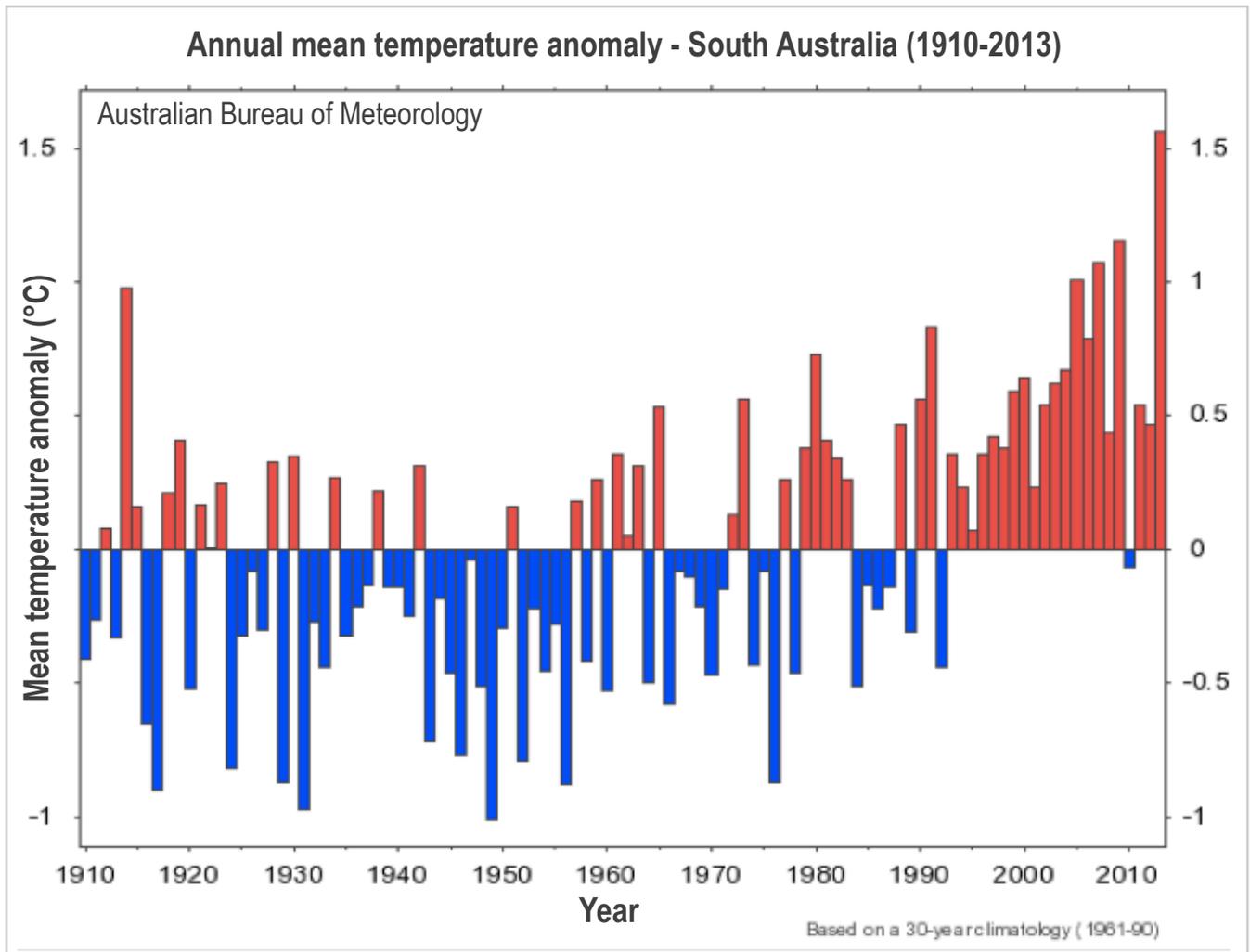


Figure One: South Australia's increasing heat (Australian Bureau of Meteorology)

## Reduced Rainfall:

### Drought and depleting water resources.

Average rainfall in southern Australia is projected to continue to decrease with implications for urban water supplies.

The southern Murray-Darling Basin is drying-which has clear implications for water availability in Adelaide and other parts of South Australia.

Changing rainfall patterns and increasing heat will also impact Adelaide's wine industry, possibly causing grapes to ripen earlier and potentially affecting quality.<sup>7</sup>

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## Coastal Flooding:

### Billions of dollars worth of damage.

In South Australia a 1.1 metre rise in sea levels will impact 900-1,500 commercial buildings, 400-1,100 light industrial buildings, 1,200-1,500km of rail lines and 31,100-48,000 residential houses.

The cost of replacing commercial buildings ranges from \$22-\$27 billion, light industrial \$0.8-\$1.1 billion, \$0.6-\$1.3 billion for rail and \$5-\$8 billion in South Australia.

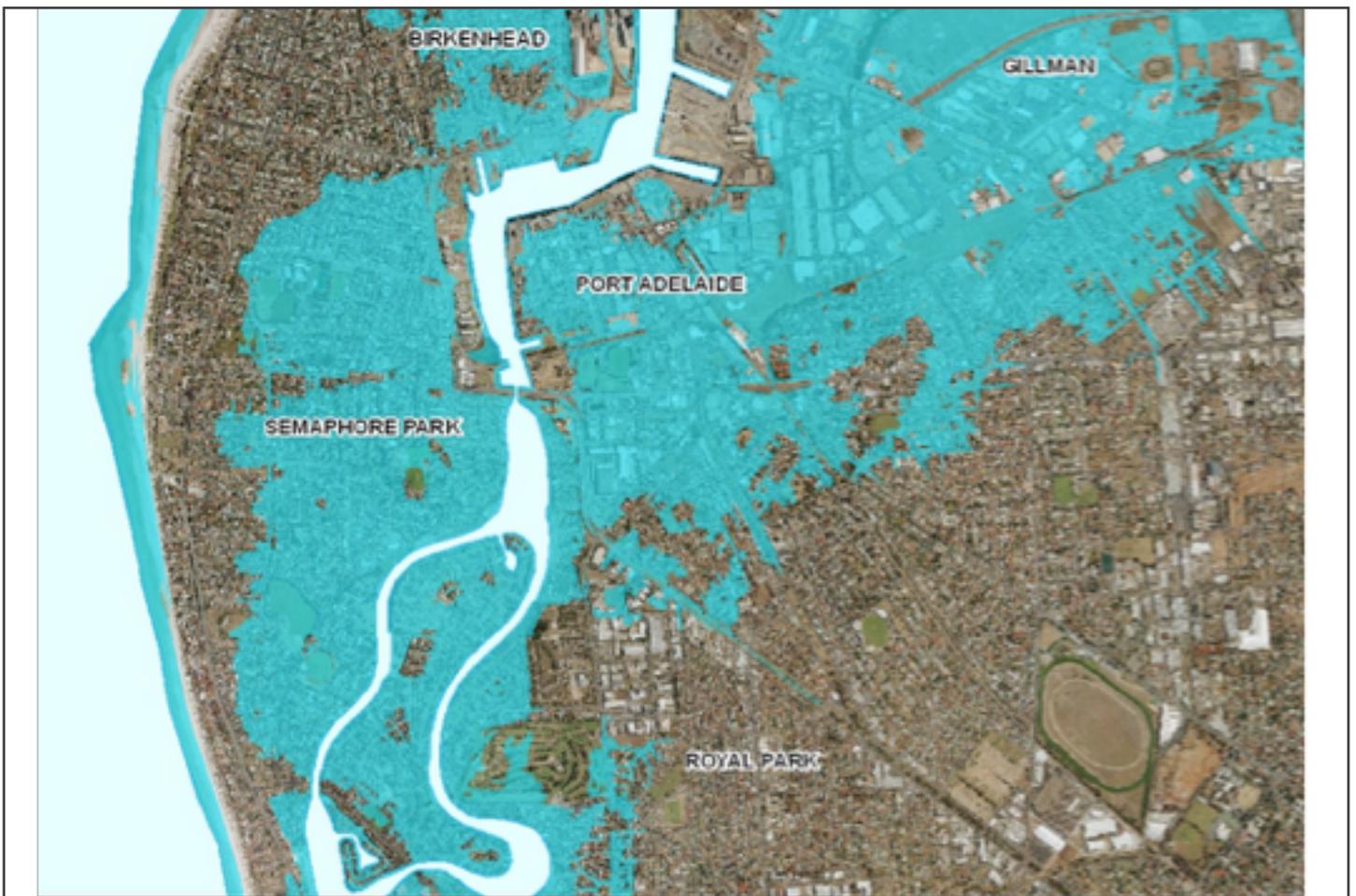
In Port Adelaide, as many as 500 commercial buildings and 700 light industrial buildings are at risk of being damaged in a 1.1 metre sea level rise scenario.

Between 160 and 269 km of roads in the local government areas Port Adelaide Enfield and Charles Sturt are also exposed with a sea level rise of 1.1 metres. Port Adelaide Enfield has the greatest length of rail exposed, with between 38 and 48 km of rail line at risk.<sup>8</sup>

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*Figure Two:*

The image below shows simulated coastal flooding from a sea-level rise of 80cm in the federal electorate of Port Adelaide (a medium scenario for 2100 time period) (Geoscience Australia).



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# This is the Critical Decade for Port Adelaide

Port Adelaide, and South Australia more broadly, will be seriously impacted by climate change. Heatwaves, reduced rainfall and coastal flooding could contribute to an increase in fatalities, impact Adelaide's wine industry and cause billions of dollars in damages to vulnerable coastal infrastructure.

The impacts of climate change are already being observed. Australia must strive to cut its emissions rapidly and deeply to join global efforts to stabilise the world's climate and reduce the risk of even more extreme events, including bushfires, heatwaves and coastal flooding. This is the critical decade to get on with the job.



Source: BoM 2014a-h; The Age 18 January 2014; The Age 11 February 2014

[www.climatecouncil.org.au](http://www.climatecouncil.org.au)

Figure Three: Australia's Angry Summer of 2013/14

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