

HOBART CITY COUNCIL CLIMATE CHANGE SNAPSHOT

Prepared in 2012 for the STCA
Regional Climate Change Adaptation Project

Based on Hobart Climate Profile
developed by the Antarctic Climate Ecosystems CRC
Climate Futures Tasmania Project
available from the Tasmanian Climate Change Office

Climate Change Snapshot for Hobart City Council

Tasmania is fortunate to have the highest resolution climate modeling conducted in Australia. The Climate Futures for Tasmania (CFT) project provides a sound knowledge base for identifying climate related risks at a local level and subsequently in informing appropriate decisions to manage the risks. CFT prepared a detailed report specifically for the Hobart City Council. The material below is a summary of key points from the report.

Current climate and recent trends

Hobart has a **temperate, maritime climate** with relatively mild winters. **Long-term average temperatures have risen** in the decades since the 1950s, at a rate of **up to 0.1 °C per decade**

Despite covering a small geographic area Hobart experiences a **marked rainfall gradient** in average annual rainfall from about 1100 mm on the slopes of Mt Wellington to 615 mm in the city. There has been a **decline in average annual rainfall** since the mid 1970s, and this decline has been **strongest in autumn**

Projected change in conditions by 2100 (A2 emissions scenario)

Table 1: Projected changes for Hobart City by 2090 - 2099 relative to the baseline period (1980-1999)

Climate Change Variable	Change	Relative change
Temperature (annual average)	+2.6 to 3.3°C	
Summer days (>25°C)	+22 days	+120%
Warm spells (days)	2-6 days longer	+50 - 150%
Hottest day of the year	+3°C	
Frost risk days/year	-9 days	-90%
Rainfall (annual average)	Increase in all seasons	
Rainfall (wettest day of the year)		+25%
Rainfall extreme (ARI-200)	+30-40 mm	+30-40%
Evaporation		+19%
Runoff	Increase in all seasons	
Coastal inundation	100-year event becomes a 2 to 6-year event	

Extreme events

The changes in climate that are most likely to impact upon the Council's infrastructure, roads, and the local community and environment are a magnification in intensity of extreme events. Potential impacts on Hobart, by 2100 are as follows:

The **temperature** of very hot days to **increase by up to 3°C**. **Warm spells** (days in a row where temperatures are in their top 5%) currently last around 4 days and **will increase by up to 6 days**

Extended **heat waves** and more extreme temperatures are likely to enhance the **occurrence and intensity of bushfires**

Rainfall will trend towards **heavier events** interspersed by **longer dry periods**. High daily runoff events are likely to increase, including those that may lead to erosion or flooding. **Rainfall volume in a 200-year average recurrence interval (ARI) event will increase by up to 30-40%**.

Inundation along Derwent estuary frontage **will increase**. The current 100-year storm tide event is around 0.9 to 1.4 m above average sea level, and accounting for sea level rise (0.82 m), the current 100-year coastal inundation event may become a **50-year event by 2030, and a 2 to 6-year event by 2090**