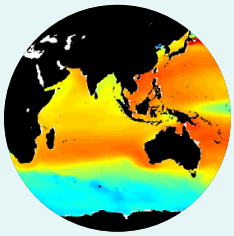
Information Booklet

Some basic definitions



Climate change impacts

Changes that occur as a result of future climate.

This includes changes to the structure of the house and livelihood and wellbeing of the residents. For example, increased average temperatures will increase the intensity and frequency of heatwaves, which will impact living conditions.

Climate change risks

What a given climate change impact will mean for you.

For example, if you have elderly people or young children living in your house, then increased frequency of heatwaves will create health risks for them, as they are more sensitive to extreme heat.

Climate change adaptation

Steps governments, businesses, communities and individuals take to deal with risks from climate change impacts.

For example, if you improve the ventilation and insulation of your house and/or install an air conditioner, then your household will be more resilient to extreme heatwaves.

Relationship between climate change impacts, risks and adaptation

Climate change is likely to increase the frequency and intensity of extreme events (flooding, heatwaves, bushfires, cyclones, extreme rainfall, droughts etc.).

These changes create different impacts for different regions in Queensland. At an individual household scale, these impacts lead to household specific risks. These risks are based on factors such as how exposed a house is to extreme events, what are the likely consequences for the house itself or its residents if that risk eventuates and how capable the household is to deal with them.

This booklet contains background information to help you prepare a climate change resilience plan for your household. It sets out to answer the following questions:

What is climate change and sea-level rise?

Climate and sea-levels change over timescales from decades to millions of years, in response to solar variations, changes in the Earth's orbit around the Sun, volcanic eruptions, movement of the continents and natural variability such as El Niño and La Niña events.

However, since the start of the Industrial Revolution, human activities have added significantly to greenhouse gases (e.g. carbon dioxide, methane, nitrous oxide, ozone, etc.) in the atmosphere. Greenhouse gases are transparent to much of the radiation from the sun and allow it to pass through the atmosphere to warm the Earth. Some of the outgoing radiation from the Earth is absorbed by the greenhouse gases, warming both the atmosphere and the Earth's surface. This is known as the greenhouse effect and it contributes towards global warming and potentially other effects on our climate such as changes in rainfall distribution and storm intensity.

Around 93% of the additional heat created by global warming has so far been absorbed into the oceans. As water warms, it expands. This expansion has been the major cause of sea-level rise, with a smaller contribution from land-based glacier and ice sheet melt. In the twentieth century, global average sea-levels increased by 19 cm.

A rise in sea level can provide storm surges a higher base and can allow it to come further inland causing inundation of low lying areas.

Over time, the contribution from melting ice is expected to increase substantially. Some of the additional carbon dioxide in the atmosphere (around 30-40%) dissolves into the oceans, where it decreases the alkalinity of the water (an effect known as *ocean acidification*). The effects have been minimal, but will intensify in the future unless action is taken to reduce carbon dioxide emissions. Ocean acidification has the potential to make it more difficult for some organisms that build shells, such as coral and some plankton, to form calcium carbonate, the material used for shell making. There are potentially knock-on effects for marine food chains and for tourism and fishing industries.

"Climate is what you expect – weather is what you get"

R.A. Heinlen, 1973

The difference between weather and climate

Weather is what we experience daily. It varies over the seasons and from year to year. It varies through the day.

Climate is the average weather over time – usually climate is determined by looking at weather patterns over long periods, 30 years or more. Trends are easier to spot and different parts of the country and world have different climates.

The weather is naturally variable but climate is now also changing as a result of greenhouse gas emissions. Although weather events are not in themselves evidence of climate change, exploring the business consequences of extreme weather events can help build an understanding of vulnerability to weather and climate. This is important in helping to inform efforts to adapt to future climate change.

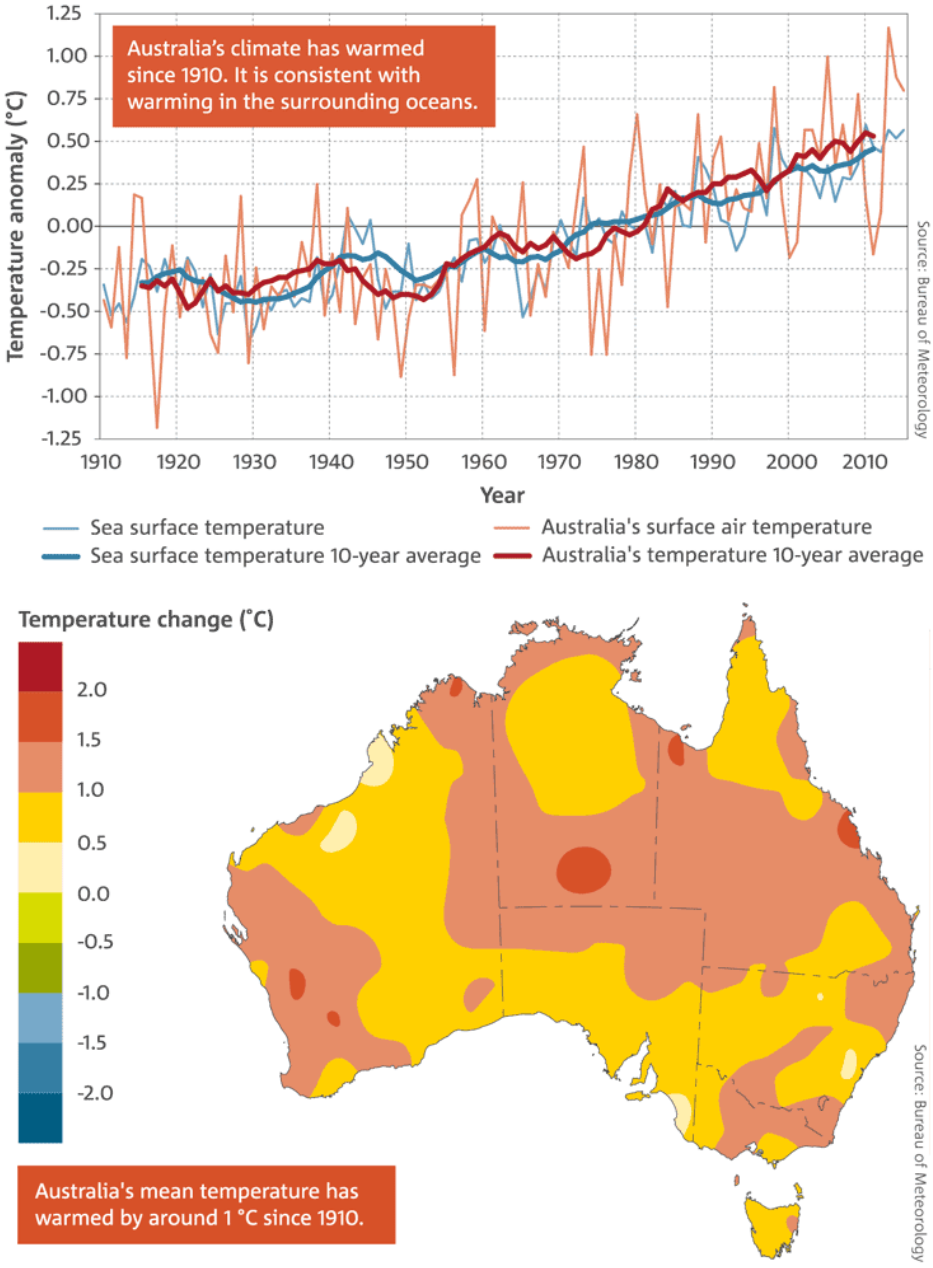


Figure 1: Top: Land and sea temperatures over Australia since the beginning of the twentieth century. Bottom: Map of annual average temperature change since 1910. Bureau of Meteorology and CSIRO Australia © 2017 Commonwealth of Australia and CSIRO.

What does the future climate look like in Queensland?

Recent climate trends in Queensland

The average surface temperature over Australia and the surrounding oceans has increased by around 1°C since the beginning of the twentieth century (Figure-1 Top). Seven of the ten warmest years on record have occurred since 2005.

Queensland's climate is incredibly variable. For example, in 2017, Queensland had its warmest year on record in terms of mean temperature, and mean maximum temperature. Large areas of central and western Queensland had below average annual rainfall. Parts of the northern interior, the Gulf Country and east coast south of Bowen received above average rainfall. Severe tropical cyclone Debbie made landfall near the Whitsunday Islands on 28 March, 2017. Recently in November 2018, extreme heatwaves in parts of northern Queensland resulted in record temperatures. This also coincided with unprecedented bushfire conditions.

Sea-levels have risen around Australia since the beginning of the twentieth century, with a faster rate (partly due to natural variability) since 1993. There are geographical variations, with higher sea-level rise observed in the north.

How will climate change affect Queensland?

Figure 2: Summary overview of climate change in Queensland. Source: Queensland Government, 2016: Climate change summary for Queensland

Thirteen climate regions of Queensland

Click on a region below to visit a website which has a climate change summary for that region.

- Cape York
- Central Queensland
- Central West Queensland
- Eastern Downs
- Far North Queensland
- Gulf Region
- Maranoa and District
- Townsville-Thuringowa
- North West Queensland
- South East Queensland
- South West Queensland
- Whitsunday, Hinterland and Mackay
- Wide Bay - Burnett

Figure 3: Thirteen climate regions of Queensland

Future climate outlook for Queensland

The impacts of climate change will vary across the State. Regional projected changes are available for thirteen climate regions across Queensland (Figure 3). Visit this link for an interactive map that will help you understand climate change projections for your region. Additionally, you can download the regional projections by clicking on the relevant links on Figure 3. If you are interested in further detailed climate change projections, you can visit Queensland Future Climate Dashboard. A list of other relevant information sources are provided at the end of this booklet.

Future sea-level rise in coastal areas

Sea-levels are projected to rise by 0.8 m above present day levels by 2100. However this rise will vary locally. In order to find local variations in sea-levels and inundation hazard maps visit www.coastadapt.com.au or www.coastalrisk.com.au. Sea-level rise hazard information may also available through your local council website.

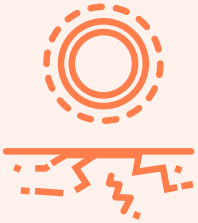
Making sense of climate change information

To determine what our future climate might be, scientists use global climate models to simulate the Earth's climate system. The models use a set of mathematical formulae that describe the physical processes of the atmosphere, ocean, land and ice. Population, the economy, policy decisions and technology will all affect future emissions of greenhouse gases. We do not know exactly what these effects will be, so to cover a range of possibilities, scientists use emissions scenarios called representative concentration pathways (RCPs) to develop climate projections. These projections range from a lower emissions future, where greenhouse gas emissions are substantially reduced (this pathway is termed RCP4.5), to a high emissions future, where high levels of greenhouse gas emissions are set to continue (this pathway is termed RCP8.5).

These scenarios allow us to consider a range of climate futures when thinking about how climate change may affect us.

Table B1: Broad impacts of climate change on households (not an exhaustive list). Note that the extent of these impacts will vary depending on geographic location and context of individual households.

Hazards that will be influenced by climate change	Impacts of the changed hazards on households
Temperature increase and heatwaves	• Power failures, and the subsequent discomfort, may be more likely during extreme heat events. • Longer exposure to heat can impact health and wellbeing of vulnerable residents (elderly and young children). On the other hand, there may be less need to heat the home in winter. • Faster deterioration of concrete structures. • Internal overheating of some buildings, particularly traditionally constructed high-rise flats. • The need for keeping your home cool during the summer months will be greater, particularly during extreme heat. • Extreme heat along with dry conditions can lead to the death of vegetation (vegetable gardens, flower gardens grass lawns etc.). • Extremely hot conditions can limit the ability to do exercise outdoors.
Bushfires	• A significant increase in the number of very high, extreme or catastrophic fire danger days is expected. Homes close to bushfire prone areas will be more at risk during dry conditions.
Severe thunderstorms and high intensity rainfall events	• An increase in high intensity rainfall events (including thunderstorms, hail, wind and tornados) can potentially lead to impact damage to the structure of a house and moisture penetration.
Hail	• Hailstorm scenarios are very location-specific and there have been very limited studies exploring how climate change may impact hail events. • Regardless of climate change, hail can damage the roofing, windows, sliding doors etc. of certain types of homes, especially older homes. Large, multi-storey apartment buildings with concrete roofs are less likely to be impacted by hail events. However, depending on the angle of the impact from the hailstorm, windows or glazing may be damaged.
Cyclones and extreme winds	• Extremely strong winds can place a great strain on buildings, specifically on roofs; any damage to roofing or other parts of the home can cause subsequent damage to the interior. • Roofs of older homes, specifically those constructed before 1985, in cyclone prone areas can be vulnerable to high winds.

	**Floods**	• Flooding can be localised (due to excessive rainfall) or associated with a river or coastal system. Frequency of flooding may increase in some areas with possible impacts including water damage to the home and its contents, the undermining of foundations and the contamination from sewage or mud. • Chance of slope instability causing impact to building foundation. • Cyclonic regions of Queensland are also susceptible to termite attack. Longer exposure of moisture to wooden frames due to flooding can increase the termite risk in some parts of Queensland. • Increased moisture in the house after flooding or extreme rainfall can lead to mould development inside the house.
	**Sea-level rise and storm surge**	• As sea-levels rise, homes near low lying coastlines and estuaries may be more likely to flood and may have to cope with rising water tables (impacting building foundation). • Greater foreshore erosion could also expose more homes to the impacts of storm surges and sea-level rise (particularly for sandy coasts). • As sea-levels rise, stormwater systems may be less able to drain into the sea and therefore may cause flooding further inland. • Increased potential of flooding in coastal areas as a result of sea-level rise can increase the cost of insurance premiums for at-risk homes.
	**Low rainfall and drought**	• In areas where rainfall will decline, droughts will be more severe. This will strain the livelihood of households of those areas. • Chance of soil shrinkage and subsidence, particularly in clay soil areas which can affect the structure of the building. • Less water for building maintenance and residential use • Flows into water supply catchments will decrease and evaporation of water and transpiration from trees increase due to higher temperatures. • Loss of livelihood due to drought conditions can stress the financial condition of a household leading to mental health issues for residents.

Urban Heat Island (UHI) effect

Cities are prone to the Urban Heat Island (UHI) effect, meaning that temperatures in cities are generally higher than in the rural areas that surround them. The extent of these differences varies with weather conditions, season and time of day, often being most marked during the night and sometimes not been evident at all. During heatwave events, temperatures in city centres can be particularly high since the weather conditions associated with such events –e.g. low wind speeds and cloud-free conditions – also favor the development of the UHI effect.

The UHI benefits urban residents in winter but can increase the likelihood of heat-related illness and death in summer. Climate projections for the 2030s in some parts of Queensland suggest that the number of warm nights (minimum temperature more than 25°C) will double in comparison with current numbers. Such temperature increase will be felt most acutely in urban areas as UHI can amplify heatwave impacts on urban households.

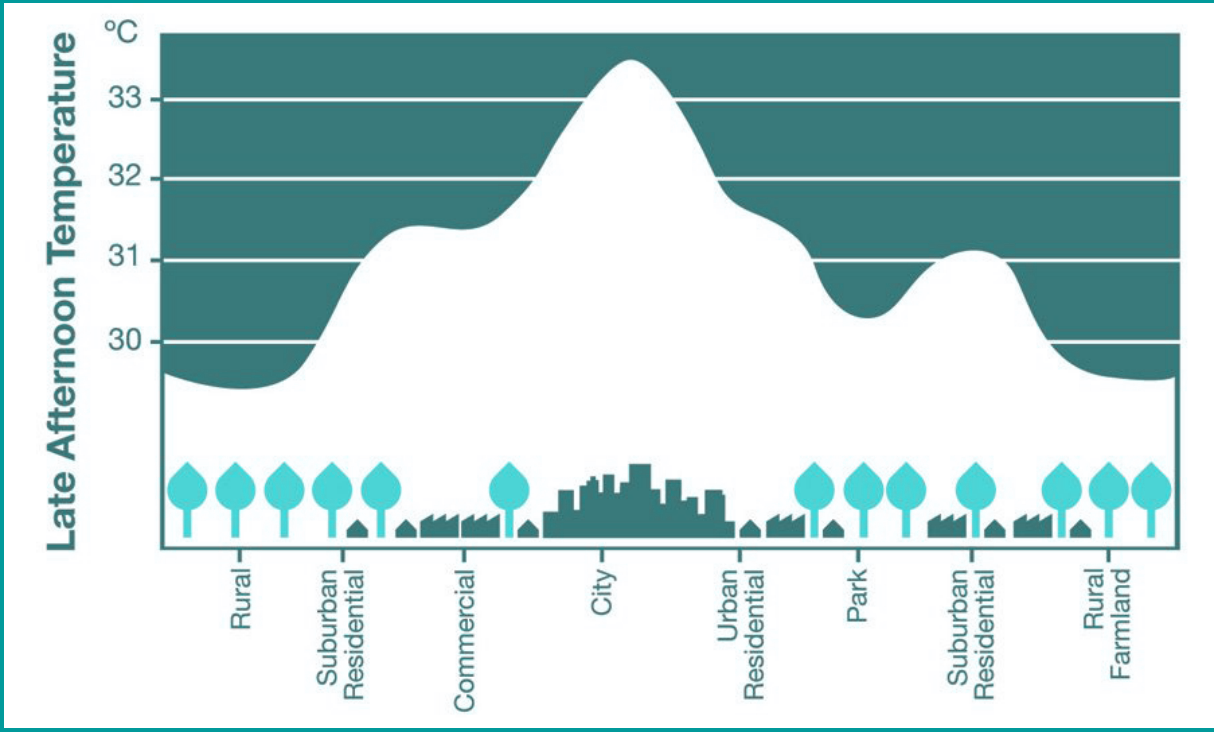


Figure 4: An illustrative diagram of urban heat island effect showing how temperature can vary between urban and rural land use.

What options do I have for managing my climate change risks?

Identifying risk management options is an important step in the adaptation process. This involves considering what your household is doing at present to manage climate-related risks (and other pressures), and investigating whether any changes or new management options are required to address future risks.

There are many potential options for adapting to climate change and it is important to identify a wide range of options that may suit your household's circumstances and resources. Some options may help to cope with present climatic extremes, while others will help once effects of climate change become greater.

At the early stage it is not necessary to consider detailed sequencing or the costs and benefits of possible actions, but it is an opportunity to build a list of possible options that may be useful, or would be acceptable to your own circumstances. Identifying a wide range of risk management options enables you to consider their interactions (i.e. how best to achieve multiple benefits) and to consider sequencing of actions which then can be linked to trigger levels (i.e. when to activate a given management option).

Selected options should match the broader goals of you and your family. It is important to consider any opportunities that might derive from the selected options and any co-benefits that can be achieved (e.g. installing solar panel with battery capacity will reduce your electricity bill in the long run and will also make you resilient against any power failure in the grid as a result of extreme events). In determining responses to address climate risk it is important that actions do not increase emissions and further exacerbate the issue.

In this tool we have focused on actions that are relatively easy for a household to achieve, focusing on issues that are within your control or influence.

However, for managing your climate risks, it is critical to engage and collaborate with other stakeholders (insurance providers, neighbours, landlords, etc.). For example, building strong relationships with your neighbours can help you manage climate risks by facilitating cost and resource sharing after disasters.

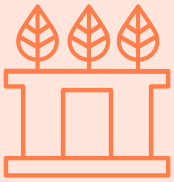
Table B2: A list of indicative adaptation options (this is not an exhaustive list).

High temperature and heatwave adaptation

Managing the temperature of your external microclimate i.e. areas surrounding your house

Plant trees strategically

Reduces external temperatures and improves shading. Care needs to be taken not to expose house to risk from storm related damage or bushfires.

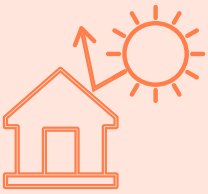


Create green roofs

Reduces the roof temperature by absorbing heat into the green roof's thermal mass

- Roof structure may need to be modified to improve stability and water-tightness
- Plants need to be carefully selected to avoid risks related to aeroallergens (pollen).

Minimising internal solar gains



Paint external walls and roofs a light color to increase their reflectivity

Particularly effective for dwellings with solid external walls and larger external wall areas (e.g. end-terraced house). Painted walls need to be kept clean.

Install external shutters

- Improves solar shading but potentially problematic in terms of cleaning and maintenance
- Offers increased security
- More effective than internal blinds or curtains, as solar radiation has already passed through the windows before being absorbed by the blinds or curtains, and transmits heat into the room
- However, good air ventilation is required to ensure that internal heat can be transferred outside.

Install external awnings for south and west facing windows

Benefits for rooms that tend to be heavily occupied during the daytime (e.g. living rooms)

Install windows with double glazed glass specifically with low-E coating, which reduces the amount of solar heat gain while still maintaining good levels of visible light transmission

Significantly reduces heat gain in summer as well as heat loss in winter.

Managing internal heat

External wall insulation

- Reduces heat loss through external walls at night; but the home must be ventilated at night
- Keeps homes cool in the summer and increase winter heating efficiency.

Internal roof insulation and outdoor exhaust fans

Very effective for the top floor. Outdoor exhaust helps to reduce thermal buildup in the area between the ceiling and roof tiles.

Managing ventilation

Increase natural ventilation at night

Increases heat loss in summer and provides a cooling benefit during the daytime

- Limitation: security issues and also high external temperature can reduce effectiveness of this strategy.

Install ceiling fans in each room

Improves circulation of air, reduces indoor temperature and allows direct evaporative cooling of individuals.

Open windows during the peak daytime hours

Effective for end-terraced homes with daytime occupancy (e.g. elderly people). Not effective for top floor flat with daytime occupancy. Safety/security issues as well as noise need to be considered. Open windows in the early morning if temperatures are low, and shut them if the outdoor temperature rises above indoor temperature during daytime.

Install air conditioning

Provides cooling comfort but increases CO_2 emissions unless renewable electricity is used. Increases outdoor temperatures in built-up areas.

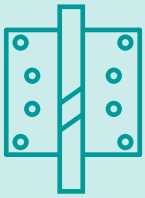
Increased flooding adaptation (riverine, coastal or due to cyclonic activities)

Adaptation of existing building stock

Identify and block all potential entry points

Block entry points such as doors, airbricks, sinks, toilets, and gaps in external walls around pipes and cables

- Prevents water from entering the building (resistance measures for short duration floods).
- Cannot prevent rise of groundwater which can occur through the floor.



Fit rising hinges so external and internal doors can be removed

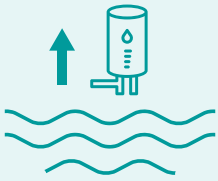
In deep floods, this helps prevent structural damage by enabling water to enter the building, avoiding the imbalance between internal and external water levels.

Use water-resistant paint for the lower portions of internal walls

Reduces mould growth.

Raise electrical points above flood level with wiring drops from above

Prevents electrical blackout.



Relocate meters and the hot water system above flood level

Prevents damage to meters and hot water system.

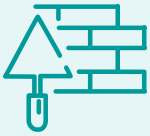
Replace carpets with vinyl, ceramic tiles and rugs

Reduces time for drying out.

Adaptation for new buildings

Build the house on high ground or on stilts, in flooding areas

Prevents houses from flooding.



Build strong walls and ensure roof construction is both glued and connected with nails, in the strongest pattern possible (in accordance with the design standard)

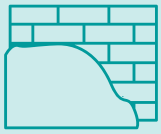
Improves resistance to strong winds and natural disasters.

Avoid cavity walls that generally take longer to dry out

Speeds up drying process and reduces potential for mould.

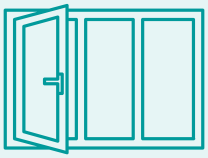
Raise door thresholds, service entry points and meters above predicted flood levels.

Avoid damage



Avoid the use of plasterboard and gypsum-based materials.

Reduces potential for mould

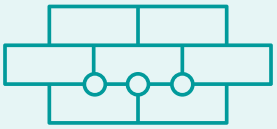


Avoid large areas of glass (e.g. glass patio doors, large windows and conservatories)

Avoids damage due to hydrostatic and hydrodynamic forces.

Where possible, choose construction materials that are expected to be damaged but are cheap and easy to replace

Reduces repair costs after flooding



Add additional weep holes at the bottom of cavity walls

Allows water to drain out and speeds up the drying process.

Hail event adaptation

Ensure that roofing material can withstand higher wind and hail impact. Concrete and terracotta tiles generally perform well under hailstorms

Prevents damage to roof.

In areas that are prone to hailstorms, it may be worth installing appropriate window protection measures e.g. installing architectural window film

Prevents damage to windows and glass doors.

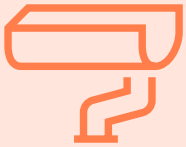
Cyclone adaptation

Ensure that your house design meets current building standards for your cyclone region

Prevents wind and rain damage to roof.

Check that all windows and external doors close securely and are strong enough to resist wind pressure. Use window protection if required (e.g. cyclone shutters or plywood covering)

Prevents damage to windows and glass doors.



Regularly clear gutters and downpipes of branches and leaves to avoid debris build-up and pest infestation

Prevents wind and water damage to roof.

Check your roof area for loose tiles or iron sheets; replace roofing nails with screws

Prevents wind damage to roof.

Install roller door bracing, shed bracing

Adds extra protection against strong winds. Prevents damage to doors, sheds etc.

Carry out cyclone preparation work ahead of each cyclone season

Allows you to revisit your situation every year which increases your resilience to future cyclones.

How do I adapt to climate change if I am a renter?

34.2% of households in Queensland are renters. Opportunities for renters to modify their houses to improve climate resilience is very limited and often they have to rely on the landlord or property managers. However it is important for renters to understand risks that climate change may pose to their household, so that if necessary they can take measures, which may include moving to a safer location. Therefore it is recommended that you use the checklists to understand future climate-related risks to the area where you live and make yourself aware of your options and rights.

It is also important to know the rights of tenants if the property is damaged by extreme events such as floods or cyclones. As per the Queensland Residential Tenancies and Rooming Accommodation Act 2008, renters are responsible for cleaning their premises after a flood or cyclone and also responsible for the loss of their own contents. Therefore it is important for renters living in flood and cyclone prone areas to have appropriate content insurance. For more information about tenancy issues related to floods, cyclones and natural disasters in Queensland see Info for tenants affected by floods fact sheet.

Insurance and Risk Management

There is a considerable number (and value) of buildings at risk from natural hazards in Queensland. It is estimated that up to $20 billion (2008 replacement value) of existing residential buildings are potentially at risk of inundation from a 1.1 m sea-level rise in Queensland, representing between 44,000 and 68,000 individual buildings. Therefore, having appropriate insurance to cover natural hazard risks to the home and content is a sensible way to manage future risk. However, it is important to understand what is covered by insurance and what is not. Many insurance companies operating in Australia do not cover storm surge or erosion in their residential property insurance, and none cover gradual sea-level rise. There are a number of websites where you can compare costs of insurance (see Figure 5 as an example)

As risks increase in future, so will the costs of insurance. Historically, the costs of building insurance claims following natural disasters were recouped by increasing premiums across a large client base. But now insurance companies are taking greater care in determining the vulnerability of assets they insure at a local level and set premiums based on that information. As new information, technology and data become available, insurance companies will eventually be able to estimate risk at an individual property level with greater accuracy and will begin to 'de-average' premiums. This will mean that rather than customers cross-subsidising each other substantially and paying an average price, a risk-based based approach will price various segments based on property-specific risk. This type of pricing strategy will increase insurance premiums of homes that are located at high-risk areas.

Home and content insurance prices in North Queensland

Between July 2005 and June 2013, home and content insurance premiums in North Queensland increased by 80%. For the same period, premium increases across Australia averaged 25%. The Australian Actuary determined that the two main drivers of the increase in price in North Queensland were (i) insurer reaction to losses caused by natural disasters (such as cyclones Larry and Yasi that hit the region in 2006 and 2011 respectively and the Mackay storms of 2008), and (ii) increases in the cost of catastrophe reinsurance. The report differentiated between the nature of cyclone risk and other natural catastrophes, such as flooding. It noted that the impact of flooding can be largely localised, with higher premiums paid by those most at risk. Conversely, the geographical extent of cyclones means that while some policyholders are at greater risk than others, most policyholders are at some risk. This results in a much more significant upward impact on premiums across the region for all policyholders for cyclone related risks compared to flood related risks.

- **Your comparison result is based on the following:** Sum insured ($550,000), property type (detached house), construction year (between 1980 and 2009 inclusive), roof type (iron), wall type (brick veneer).
- CAIRNS, 4870 is assessed as having a relatively **high risk** of **flood** and **high risk** of **cyclones** (based on Finity Consulting's natural peril assessment).
- There is a **high variation** in the risk of **flood** and/or **cyclones** within this location (based on Finity Consulting's natural peril assessment). As a result, premium quotes for properties in this location could vary widely.
- Intermediate includes basic cover and fusion cover, but not accidental damage cover. Additional features may also be available Contact the relevant insurer(s) for more information.

	AAMI	Allianz	ANZ	Apia	Comminsure	NRMA	QBE	RACQ	Suncorp	Westpac	Youi
Key Features ?											
Cyclone	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Storm	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Flood	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Storm Surge	✓	✗	✓	✓	✗	✓	✗	✓	✓	✓	✗
Other Actions of the Sea	✗	✗	✗	✗	✗	✗	✗	✗	✗	✗	✗
Safety net	✗	✗	✗	✗	✓	✗	✓	✓	○	✓	✗
Total replacement cover	○	✗	✓	✗	✗	✗	✗	✗	✗	✗	✗
Other features (Click to expand)											
Excess											
Selected excess	$500	$500	$500	$500	$500	$500	$500	$500	$500	$500	$500
Excess options available	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Annual Premium ?											
Lower premium ?	$2,938	U	$2,684	$2,199	$1,815	$2,372	$2,253	$3,644	$2,816	$3,005	$2,685
Medium premium ?	$5,237	U	$3,614	$3,081	$2,558	$3,285	$3,765	$4,623	$3,893	$3,422	U
Higher premium ?	$9,014	U	$4,649	$5,902	$4,004	$4,548	$5,503	U	$5,885	$4,742	U

Key: ✓ Feature included — Tap/hover for more information

Figure 5: Example insurance premium comparison. Source: Suncorp.

When to adapt?

It is sensible to assume that doing nothing increases the level of risk. Strategies that are set in place at an early stage through precautionary action will reduce the frequency of future intervention, including the extent to which there is a transfer of burden to future generations. Some locations which are at high risk to extreme events may even be appropriate for design solutions that are quickly demountable and replaceable, and hence more temporary in nature.

In general, it becomes more costly and difficult to retrofit a building the older it gets. Retrofitting also becomes less cost effective the closer a building is to the end of its life. So if a retrofit is worth doing, it is worth doing sooner rather than later, as being reactive simply incurs more expenses rather than deferring them.

Case study

Rebuilding Suzanne and Peter's home after the 2011 flood in Brisbane.

Peter and Suzanne Davies's home in the suburb of Chelmer in Brisbane was devastated by a flood in 2011. As they live in the flood plain, they wanted to ensure that while rebuilding their home they take necessary measures to ensure that they become more resilient to future floods.

Their rebuilt house has integrated resilient building principles such as a prototype modular kitchen that can be removed given 24 hours' notice and a specially conceived electrical wiring system that separates the upper and lower levels. This will allow them to continue living upstairs and generating power from roof-mounted solar panels should a future flood again disrupt the lower floor occupancy in future. Some other flood resilient measures implemented in their house include tiled floors, elevated power sockets and the positioning of the solar inverter and air-conditioning systems above historical flood levels. They also implemented some other environmentally friendly measures such as low-toxic paints, a solar hot water system to replace the old electric heater, tank plumbing to allow rainwater to flush toilets and insulation to reduce the house's energy requirements for heating and cooling.

It was initially recommended by the insurance company that if substantial changes were required in comparison with the initial condition of the house (i.e. before flood condition), an insurance payout could be arranged. Upon checking the cost of an insurance payout compared to the proposed rebuild, it became evident that working with the allocated insurance building contractors, greater value for money would be achieved in the rebuild process. Therefore they went ahead with their better rebuilding plan and implemented the above mentioned features in their house.

Source: Green Cross Australia.

GREEN CROSS Australia

Available relevant resources

Climate change related resources

Climate change in Australia website for future climate change projection across Australia

Queensland Future Climate Dashboard

Queensland Government's Regional Climate Change Projections

NCCARF climate change and sea-level rise projections and maps for coastal councils

Queensland Government's Coastal Hazard Maps

CoastAdapt First-pass risk assessment guidelines and templates

Role of insurance in climate change adaptation

Reducing the risk of legal challenge

Present day hazard related resources

Australian Flood Risk Information Portal

Bushfire prone area - Queensland series

Other resources to help you prepare for natural hazards

Get Ready Queensland

Queensland Government provides a range of guidelines on how to prepare for extreme events.

Hardenup: Protecting Queensland

Green Cross Australia has developed this website where you can see 150 years of local severe weather history in your area. After understanding the weather patterns in your area, you can use our planning tool to prepare your home, pets, family and community for major weather events that lie ahead.

Climate-ready communities

The Australian Red Cross has developed Climate-Ready Communities: A Guide to Getting Started which supports communities as they explore how the things they value will be impacted by climate change, and what they can do to continue to thrive.

Get Prepared app

Developed by the Australian Red Cross in partnership with IAG, Get Prepared is an app that helps you connect with your key support people, accomplish simple tasks to make you and your loved ones safer, and protect the things that matter most to you.

Prepare for bushfire season

Queensland Fire and Emergency Services (QFES) provides guidance to prepare for bushfire season.

Your home

Your Home was developed by the Australian Government to guide you in the process of building, buying or renovating a home. It shows how to create a comfortable home with low impact on the environment – economical to run, healthier to live in and adaptable to your changing needs.

Information for tenants affected by the floods and storms in Queensland

Information on tenancy issues related to floods, cyclones and natural disasters in Queensland.