

Worked example:

Climate Resilience of Tom and Liana's Café

Tom and Liana have run a café in a small tourist town in North Queensland since 2005. The café is next to a popular tourism destination with a range of beach related activities. In 2016 Cyclone Gloria hit this small town. The access road to the beach and nearby facilities was damaged. The café is located on a small street side, in a small complex that houses 10 businesses including a supermarket. The building is about 20 years old and its roof was partially damaged during Cyclone Gloria, resulting in water leakage in three shops, including Tom and Liana's café. This caused moderate damage to the café's furniture (\$5000 AUD replacement cost). The café was closed for a week, resulting in loss of revenue. While the café was covered by the complex's building insurance, this did not include damage to contents and Tom and Liana had to bear all the expenses related to this.

There has been erosion in the nearby beach in the past (including during Cyclone Gloria), but at the moment this is under control. There was a flood event in the town in 2007 that did not physically impact Tom and Liana's café, but they could not get any new supplies for a week as the access road was damaged and their supplier's warehouse was flooded. Tom and Liana estimated that this reduction in new supplies halved their sales for two weeks following the flood event.

In the summer of 2017, there was a heatwave in the town that resulted in a significant increase of beach goers during hot days and nights resulting in increased sales for the café.

Tom and Liana have heard a lot about climate change through the media and are concerned about how it may affect their business. Therefore they decided to use this small business climate change risk management tool.





1. Past climate impacts

Have past extreme events caused work related health and safety issues for your staff and customers e.g. extreme temperature affecting worker health and performance?

Yes No

In the past were your business premises affected by any extreme events (see your answers in Table 1)?

Yes No

In the past, was your business affected by secondary impacts of extreme climate events i.e. your staff, premises and assets were not directly impacted by extreme events but your operations were affected as a result of disruptions to your supply chain?

Yes No

In the past, was your business continuity affected by extreme climate events? Did you experience damage to your business premises or to stock and assets? Did a loss of revenue threaten your financial situation, etc.?

Yes No

If any of the above answers are **Yes**, how did it impact your business?

	No Impact	Minor impact	Significant impact	Write down impacts
 Heatwave	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	
 Flood (coastal or inland)	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	Supply chain was impacted as bakery supplier's warehouse was flooded in 2017 and we had to buy from a more expensive supplier for two months
 Bushfire	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	
 Severe storm	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	Minor water leak from roof during severe storms in the past, resulting in inconvenience to customers and staff.
 Drought	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	
 Coastal erosion	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	There was a reduction in tourists on the beach after the 2016 Cyclone. This reduced our sales volume significantly.
 Cyclone	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	Water damage resulting from leaked roof during 2016 cyclone resulted in \$5000 repair cost and we had to close the shop for one week.
 Other (list below)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	
Climate hazard:				



2. Current climate risks

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Since the occurrence of weather events listed in Table 1, have you made any adjustments or taken any steps to minimise future impact on your business?

Yes **No**

If the answer is **Yes**, list here any actions that you have taken.

Did not take any specific action

Determine **current climate related risks** to your business (Put mark)

Note: If you have been impacted in the past but have not made any plans to tackle that impact in future, you have climate related risks to your business regardless of climate change.

No, there are no existing climate related risks to my business.

Yes, there are existing climate related risks to my business.

If you think that there are existing climate related risks to your business, which of these aspects are currently at risk:

staff/customers' health and safety

business premises

business supply chain

business continuity

Some questions you should consider asking yourself in order to better understand your current risks:

1. Have the actions that you took in the past to reduce your risks worked?

The roof has been fixed, but it has not been tested since as we have not had any event yet.

2. Are any adjustment required to reduce present day climate risks?

N/A



3. Future climate change

Future climate outlook of your area

Using regional climate change projections for Queensland (see [page 37](#) of the information booklet), determine the future climate for the area where you operate your business. For more information on future climate projections in your area, please visit [Queensland Future Climate Dashboard](#).

Hazards	How climate change can influence this hazard	Mark the ones that are relevant to you
 Heat and heatwaves	In general, increased average temperature is likely to increase the number of hot days and nights and length of heatwaves.	<input checked="" type="checkbox"/>
 Flood (coastal or inland)	Coastal: Sea-level rise can cause increased flooding in low-lying coastal areas during high tides, cyclones and storm events. Inland: Extreme rainfall can cause inland flooding.	<input checked="" type="checkbox"/>
 Bushfire	Increased average temperatures combined with dry conditions increase bushfire potential.	<input type="checkbox"/>
 Severe storm	Frequency and intensity of storm events may increase (including excessive rainfall, lightning, hail, etc.). At the same time, sea-level rise will increase the risk of flooding in coastal areas during severe storms.	<input checked="" type="checkbox"/>
 Drought	Decrease in future rainfall can lead to drought. Increased hotter days combined with drier conditions increase bushfire risks.	<input checked="" type="checkbox"/>



3. Future climate change

Hazards

How climate change can influence this hazard

Mark the ones
that are relevant
to you



Coastal erosion

Sea-level rise can increase erosion of low-lying erodible shores. Increased frequency of severe storms in coastal areas can also lead to more erosion.



Cyclone

Increased available heat in the ocean may affect cyclone behaviour. The number of cyclones may reduce but their intensity may increase.



Acidic ocean

Increased amount of heat and carbon dioxide (CO₂) in the ocean can make ocean water acidic, which impacts bio-diversity in the ocean (e.g. corals, fish).



Change in seasonal patterns

A slight change in average temperature is enough to impact seasonal patterns of climate. For example, growing seasons are shifting, spring is arriving earlier, winters are shorter, and the number of frost days are declining. These changes affect the timing of many life cycle events, such as when flowers bloom or when pollinators and pests emerge.



Other





4. Future impacts

Using the information gathered from ‘Future climate change’ in Step 3, determine how future hazards may impact your business. Remember to think about all aspects of your business - staff, premises, supply chain, and continuity (Put mark).

Write down potential impacts to your business in the spaces provided. See “[sector specific impacts](#)” in the booklet on [page 40](#) for some examples and sources of additional information)

	No Impact	Minor impact	Significant impact	Write down potential impacts to your business
Heatwave	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	More visitors to the beach can increase our sales. However, the air conditioned area of our café is limited and we use an outdoor patio. If exposed for longer periods in heatwave, staff health and safety can be impacted and visitors will not want to eat or drink at the café.
Flood (coastal or inland)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Looking at the sea-level rise inundation map around our beach, it seems that our complex might be at risk in 2030. Although not an immediate impact, it might increase the insurance cost of our complex, which might be passed on to all shops in the complex. If we lose the beach to sea-level rise, we will have fewer visitors.
Bushfire	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Severe storm	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Severe storms and excessive rainfall could expose the roof of our shop again. Generally business on severe storm days is slow as not many people come to the beach during those days.
Drought	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	More dry days may means more beach visitors. However, due to drought fresh produce price may increase.
Coastal erosion	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Our shop is away from erosion prone areas, so there is no direct impact. However, sea level rise may increase erosion which can impact tourism on our beach (erosion may reduce tourism related activities)
Cyclone	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Cyclone winds and rain can impact the roof of our shop. Damage to infrastructure and loss of power can cause disruption to our business operation. People do not visit during and after cyclones. Bad media for the area.
Other (list the name below)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Increased coral bleaching can reduce tourism activity in the beach.
Increased coral bleaching				



5. Business specific risks and opportunities

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Near-term risks
(1-3 years)

Staff and customers' health and safety

Description of risk

1. We do not have air conditioning in half of our shop so we are exposed to outdoor heat during heatwaves. Longer exposure to heat during heatwaves could dehydrate our employees who work in the exterior part of our shop. Customers might choose to go to an air conditioned shop on those hot days to get some relief.
2. Home delivery driver/cyclist will also be exposed to heat therefore can be at risk.
3. A few of our employees live near the lake, which has flooded in the past during severe storms and the access road in and out of the area has been blocked. If that happens again in future, those staff members might struggle to get to work. This could impact our operations during and after floods. Also if there is a danger of floodwaters reaching their residences, our staff will want to leave to secure their homes.

Business premise

Roof of the shop has been fixed after Cyclone Gloria but since then it has not been tested against any storm or cyclone event, therefore similar damage might happen again.

Long-term power outages after a storm can cause issues for our fridge.

Business supply chain

Bakery supplier's warehouse is in the flood plain and was flooded in 2017 and we did not get any baked goods for a week and had to buy from a more expensive supplier for two months until their warehouse was fixed. This might happen again in the future if the lake floods again.

Business continuity

1. Summer is our peak business period. We do not have air conditioning in the outdoor section of the café, so we might lose business as customers might look for cooler environments during a heatwave.
2. Loss of revenue if the shop closes again due to water leakage.
3. Loss of revenue if our any of our suppliers are impacted by extreme events. If this happens frequently, it will strain our business.

Longer-term risks
(more than 3 years)

Staff and customers' health and safety

Business premises

Business supply chain

If the drought condition continues in Queensland and affects agricultural production, our suppliers of bakery items might increase their price as raw materials will become more expensive.

Business continuity

Erosion on the beach and coral bleaching can reduce tourism in our area. If that happens, it will be difficult to keep our business open in the longer term.



5. Business specific risks and opportunities

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Near-term opportunities

(1-3 years)

Staff and customers' health and safety

Description of opportunities

1. Provide staff with training so that they know the risk of dehydration during hot days. This will improve Health and Safety of the work place.
2. Opportunity of more ice cream and cold drink sales during heatwaves. Consider additional cold items we may sell during those times.
3. If we can remain open and operating at full capacity following floods, we may get additional business from people who need to get a meal and cannot cook at home. But staff availability is essential.

Business premises

We should talk to the shopping complex owner to retrofit the roof to a higher standard in terms of cyclone proofing and waterproofing during extreme rainfall, etc. Retrofit might reduce our content insurance premium.

Business supply chain

1. Increasing resilience of our supplies can ensure that we keep operating during extreme events, which can give us an edge over other, less resilient competitors.
2. Prepare stock based on expected weather events. If the forecast is for high temperatures, we can keep a large stock of cold items (ice cream, cold juice, soft drinks, bottled water, etc.).

Business continuity

Having appropriate insurance cover will help us to start operating quickly after a disaster.

Longer-term opportunities

(more than 3 years)

Staff and customers' health and safety

Use a car to deliver food and ensure it has air conditioning. We can then deliver at all times.

Business premises

In the longer-term, we can consider relocating the shop to a nearby shopping center which is under construction now.

Business supply chain

In the longer-term, before getting into a new contract with a supplier, we should check whether they are located in hazard prone areas.

Business continuity



6. Adaptation options

There are a range of options to help small businesses manage future climate related risks. See the information booklet for some examples of [adaptation options](#) on [page 43](#). For each of your identified risks list adaptation options that might suit your business. Consider options that are fit for your purpose and within your capacity.

Near-term options
(1-3 years)

Staff and customers' health and safety

Description of available adaptation options

1. Having flexible working hours for staff during heatwaves.
2. Making sure staff wear appropriate clothing and drink lots of water.
3. Develop a contingency plan to ensure staff availability during extreme events.
4. Identify where employees live and mark on map. Keep the map with other important documents and during event contact staff who live in unaffected areas to help us in the shop.

Business premises

- Retrofit the roof to a higher standard.
- Having contents insurance to cover any damage to the interior of our café.

Business supply chain

- Diversify all our suppliers.

Business continuity

- Undertake business continuity planning, accounting for likely increases in extreme weather events.

Longer-term options
(More than 3 years)

Staff and customers' health and safety

- Having air conditioner for the whole café. Talk to complex manager and other stores about installing solar panels.

Business premises

- Move our shop to a newly constructed shopping center.

Business supply chain

- In the longer-term, before getting into a new contract with a supplier, we should check whether they are located in hazard prone areas.

Business continuity



6. Adaptation options

Some questions you should consider asking yourself in order to minimise your risks

Do you have an up-to-date contact list? This should include staff, customers, clients, suppliers and key local community contacts. This will help you to manage your operations during extreme events.

Yes

Do you have flexible working arrangements for staff members during extreme weather, and have you planned how can this be achieved without disrupting business continuity?

If it is too hot to work, we send staff home.

Do you have appropriate resilience measures to protect your business premises (e.g. sandbags or metal barriers for flood)?

No

How well do your buildings and building services cope with high temperatures?

Half of the café is air conditioned, so seems OK during hot days. But remaining half is exterior and exposed to heat.

Do you have the skills and equipment to clean up after an extreme weather event? Are you able to purchase this now?

We already have these.

Have you considered whether you could operate from alternative premises if you had to?

Not possible for us.

Have you considered moving your business to a less risky location?

No.

If you rent your business premises, have you discussed climate related risks with your landlord? Their actions and plans have a material risk to your business.

We had some discussion in the past, but not enough. We will initiate the discussion again, specifically about improving the quality of the roof.

Is your business or the product that you create or supply weather or climate sensitive? Do you rely on any services that are weather or climate sensitive?

Yes, our business is climate sensitive, as our sales volume changes with customer availability, which is affected by local climate and tourism factors.



6. Adaptation options

Have you considered diversifying your supply chain (i.e. collect raw materials and other related services from diverse geographical areas)?

No, but considering now.

Does your business have markets or suppliers that could be affected by climate change in other areas, regions, states or countries?

No.

Have you backed up your data, identified where your back-ups are located (e.g. on laptops, PCs, servers or off-site) and secured them in a safe place?

Have not thought about this, need to discuss with Tom

How would a severe weather event impact your business finances?

It may lead to fewer customers leading to reduction in sales volume.

Insurance can be challenging and the types of cover you have will vary between providers and your exposure to risk. Given this complexity, are you sure that you have appropriate cover for your needs and interests now and into the future?

No.

Are you covered for floods and storm events and are you aware of what you do NOT have insurance for?

I am not sure what we are NOT covered for, need to check

Does your insurance policy replace new for old items (e.g. equipment, supplies, products, etc.) or have limits for repairs?

Yes, new for old

How would you fund additional costs arising from a severe weather event or a flood in the short term?

Have not thought about this yet, need to discuss with Tom



7. Action plan

Now we are going to think about your action plan.

List how you plan to manage your identified risks and make the most of opportunities. Where appropriate, indicate who is responsible for each action and how you may assess where the action is achieving its purpose.

		Description of action plan
Near-term action plan (1-3 years)	Staff and customers' health and safety	<ol style="list-style-type: none"> 1. Explore possibility of arranging appropriate training for staff or educate them about health risks during heatwaves. 2. Discuss with staff about their choice of working hours during heatwaves. 3. Investigate what can be done to safeguard the delivery driver during heatwaves. 4. Include staff availability issue after extreme events in the business contingency plan. 5. Discuss individual situations with staff and determine how they plan to commute to work if the lake floods again in the future or if we can call on unaffected employees to help us in that period.
	Business premises	<ol style="list-style-type: none"> 1. Engage with shopping centre owner and manager to discuss the robustness of the roof and find out any opportunity to retrofit it to a higher standard. 2. Buy contents insurance for the café.
	Business supply chain	<ol style="list-style-type: none"> 1. Secure a new baked goods supplier that is located outside the flood zone and put necessary contract in place. 2. Consider weather before forecasting stock supplies.
Longer-term action plan (more than 3 years)	Business continuity	<p>Compare content insurance types and costs and select the best one.</p> <p>Consider getting business continuity insurance.</p>
	Staff and customers' health and safety	<p>Discuss with business partners about option of investing in air conditioning for the remainder of the shop.</p>
	Business premises	<p>Consider moving our shop to a newly constructed shopping center.</p>
	Business supply chain	<p>In the longer-term, before getting into a new contract with a supplier, we should check whether they are located in hazard prone areas.</p>
	Business continuity	<p>In the longer-term, we may consider talking to council to understand what their plan is to manage erosion of our beach.</p>



7. Action plan

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Summary of Actions to address climate change

Business name: Tom and Liana's cafe

Date: 7th March 2019

Risks that I have identified	What can I do now?	What can I do in future?
<p>1. We do not have air conditioning in half of our shop so we are exposed to outdoor heat during heatwaves. Longer exposure to heat during heatwaves could dehydrate our employees who work in the exterior part of our shop. Customers might choose to go to an air conditioned shop on those hot days to get some relief.</p> <p>2. Home delivery driver/cyclist will also be exposed to heat therefore can be at risk.</p> <p>3. A few of our employees live near the lake, which has flooded in the past during severe storms and the access road in and out of the area has been blocked. If that happens again in future, those staff members might struggle to get to work. This could impact our operation during and after floods. Also if there is a danger of floodwaters reaching their residences, our staff will want to leave to secure their homes.</p>	<ol style="list-style-type: none"> 1. Explore possibility of arranging appropriate training for staff or educate them about health risks during heatwaves. 2. Discuss with staff about their choice of working hours during heatwaves 3. Investigate what can be done to safeguard the delivery driver during heatwaves. 4. Include staff availability issue after extreme events in the business contingency plan. 5. Discuss individual situations with staff and determine how they plan to commute to work if the lake floods again in the future or if we can call on unaffected employees to help us in that period. 	<p>Discuss with business partners about option of investing in air conditioning for the remainder of the shop.</p>
<p>Roof of the shop has been fixed after Cyclone Gloria but since then it has not been tested against any storm or cyclone event, therefore similar damage might happen again.</p> <p>Long-term power outages after a storm can cause issues for our fridge</p>	<ol style="list-style-type: none"> 1. Engage with shopping centre owner and manager to discuss the robustness of the roof and identify opportunities to retrofit it to a higher standard. 2. Buy contents insurance for the café. 	<p>Move our shop to a newly constructed shopping center.</p>
<p>Bakery supplier's warehouse is in the flood plain and was flooded in 2017 and we did not get any baked goods for a week and had to buy from a more expensive supplier for two months until their warehouse was fixed. This might happen again in the future if the lake floods again.</p>	<ol style="list-style-type: none"> 1. Secure a new baked goods supplier that is located outside the flood zone and put necessary contract in place. 2. Consider weather before forecasting stock supplies. 	<p>In the longer-term, before getting into a new contract with a supplier, we should check whether they are located in hazard prone areas.</p>
<ol style="list-style-type: none"> 1. Summer is our peak business period. We do not have air conditioning in the outdoor section of the café, so we might lose business as customers might look for cooler environments during a heatwave. 2. Loss of revenue if the shop closes again due to water leakage. 	<p>Compare content insurance types and costs and select the best one.</p> <p>Consider getting business continuity insurance.</p> <p>Having air conditioner for the whole café.</p>	<p>Talk to complex manager and other stores about installing solar panels.</p>
<p>Erosion on the beach and coral bleaching can reduce tourism in our area. If that happens, it will reduce our business and it will be difficult to keep it open in the longer term.</p>	<p>Can't do much about this now</p>	<p>In the longer-term, we may consider talking to council to understand what is their plan to manage erosion of our beach.</p>

Determine a date when you need to revisit your risks in future. If you think your risk is higher, you should consider getting some expert advice.

