The Zurich-Mandala Climate Risk Index

The impact of climate change on the Australian tourism industry

Research report
September 2024

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Foreword

It is widely acknowledged that one of the most significant and rapidly growing threats to humanity is climate change. Its impact is increasingly being witnessed by acute events such as severe and frequent natural disasters as well as longer-term shifts to weather and environmental conditions.

Climate change does not discriminate. Several critical industries are already feeling its impacts and data shows this will only intensify. As a global insurer, Zurich is often on the front line.

For more than 150-years – including over a century in Australia – the Zurich Insurance Group has specialised in understanding risk and protecting individuals and businesses against it.

Zurich Resilience Solutions (ZRS) was developed to complement traditional insurance products by driving material improvements in prevention and mitigation. ZRS uses specialist tools and insights to support the identification, quantification and assessment of climate risks – such as drought, flood and fire – for a specific asset or portfolio of locations.

This capability underpins the latest *Zurich-Mandala Climate Risk Index* report, which focuses on the escalating risk of climate change to Australia's iconic tourism assets.

These assets not only play a significant role in an increasingly diverse visitor economy but are collectively central to our national identity. Many of these irreplaceable destinations – the Daintree Rainforest, Cable Beach and Kakadu National Park, for example – are particularly vulnerable given their size, location and ecological complexity.

This analysis, conducted in partnership with Mandala and building on our work last year in the energy generation sector, serves to highlight the critical importance of improving resilience across our tourism assets, both to ensure the sustainability and longevity of these sites and to minimise downstream economic impacts – particularly in regional areas – on employment, business formation, consumption and investment.

More broadly, it also serves to highlight the quantum of data and insights that are available to understand the prevailing risk environment in order to shape and prepare our collective response.

Justin Delaney
Chief Executive Officer
Zurich Australia & New Zealand

Australians worry about the impact on regional communities from closing coal mines. Sadly, this isn't the only climate risk facing these communities.

Tourism employs 10-times as many Australians as the coal industry. More than 60 per cent of the domestic tourism spend is in regional communities. Australians are right to worry about the impact of the climate transition on coal mining communities, but we need to consider the other side of the climate transition: the impact of physical risks.

We are already seeing the impact of climate change on tourism. We've seen tourist attractions destroyed by bushfires, tourist sites made inaccessible by floods, man-made attractions damaged by hail, airports closed because of extreme winds.

Climate change is not only a risk to Australia's natural wonders, it is a risk to the 500,000 jobs created by tourism and the $170 billion of tourism spending each year.

Australians have focused a lot on the transition risks of climate change: focusing on the impacts that different carbon abatement policies will have on the economy and on communities in an effort to reduce emissions. But we focus much less on the physical impacts of climate change which are already occurring and, on current projections, will continue to worsen.

Why is this? One reason is data. There are many datasets which have been used to analyse the impact of different carbon abatement policies. The same cannot be said for adaptation.

This is the core innovation of the Zurich Resilience Solutions (ZRS) capability. By mapping the physical risks of climate change across every 10 square meters in Australia, it provides unparalleled insights into the tangible impacts of climate change on different assets and locations.

Mandala is very excited to partner with Zurich on this important project. Zurich is a thought-leader on climate adaptation, including its last report on the impact of climate risks on the energy grid.

This report might come across as a bit grim. But there's an old saying that you can't manage won't you don't measure, and that's what this report seeks to do. This report is about recognising the value we attach to our favourite attractions and measuring the impacts of climate change. The first step in protecting these assets is measuring the risks.

Amit Singh
Managing Partner
Mandala

Contents

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Executive Summary

The tourism industry plays an important role in Australia's economy

Australia's tourism industry has long played an important role in the nation's economy and this will continue into the future.

Domestic travel remains the most economically significant form of tourism. Of the $173 billion in tourism spend in the year ending March 2024, 82 per cent was from domestic day and overnight travel.

However, the tourism industry – particularly in regional areas – is undergoing a period of significant change in the face of more frequent and severe weather events and other conditions driven by climate change.

Travel demand has already reached (and across some measures, exceeded) pre-pandemic levels, adding to the growing pressure on many tourism sites that are already facing increasingly complex conditions.

Governments have invested significantly in supporting the visitor economy. In parallel, but sometimes not in conjunction, funds have also been dedicated to protecting many natural and heritage sites across the country.

Climate change is significantly altering many of Australia's tourism destinations

Climate change is already impacting many of Australia's tourism sites. Even under modest climate scenarios, this impact is expected to worsen.

The ***Zurich-Mandala Climate Risk Index*** has been used to analyse the risk of climate change to 178 tourism assets, including major airports. The index uses IPCC climate modelling along with proprietary climate impact assessments to understand the unique risks faced by individual sites.

The analysis found that half of Australia's tourism sites and airports currently fall into the highest three climate risk categories. Under the intermediate SSP2-4.5 scenario, assuming 2 degrees Celsius of warming by 2041-2060, this is set to rise to 55% of sites by 2050. Under a more extreme (3 degrees) scenario, 80% of tourism sites will experience an increase in risk between 2025 and 2050.

Analysis also found that risks varied significantly by site type (natural or man-made) and category (for example, beaches versus vineyards or rainforests). The index found that Queensland has both the highest number of sites facing risk overall (79%) and the most sites in the highest risk category compared to any other jurisdictions.

In terms of economic impact, similar revenue reductions experienced following the bushfires of 2019/20 could jeopardise up to 176,000 jobs nationally, 65 per cent of which are outside capital cities.

More must be done to ensure tourism is resilient to the reality of climate change

In the face of a changing climate, governments should consider the significant impact of natural perils – such as drought, flood and fire – on Australia's tourism economy.

Investments should be made to improve the resilience of these assets against these various risks.

For natural sites, this requires a balance between retaining natural beauty and ecosystem balance, whilst using man-made interventions to mitigate and diversify risk.

More emphasis should also be placed on site planning for man-made sites, such as airports, railways, roads and museums. This includes location and material diversification to adapt structures to a complex mix of natural perils they may face.

Governments should also ensure climate resilience is a key pillar of its tourism strategies. Likewise, the tourism economy should be considered as part of government climate, environmental and heritage strategies.

Contents

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Australian tourism spending is dominated by domestic day and overnight travel, but also has a substantial international component

Exhibit 1: Jobs in tourism

'000, 2022/23

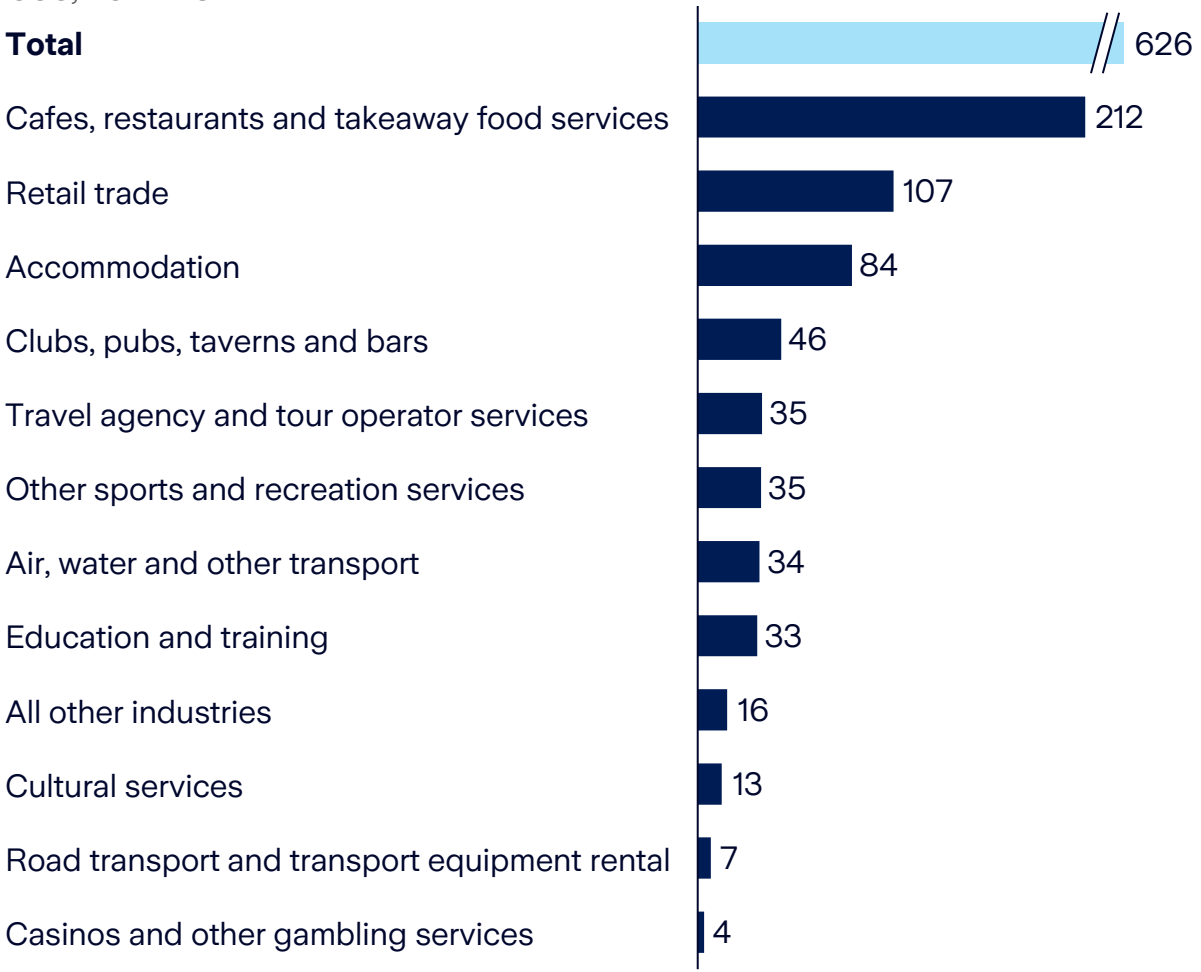
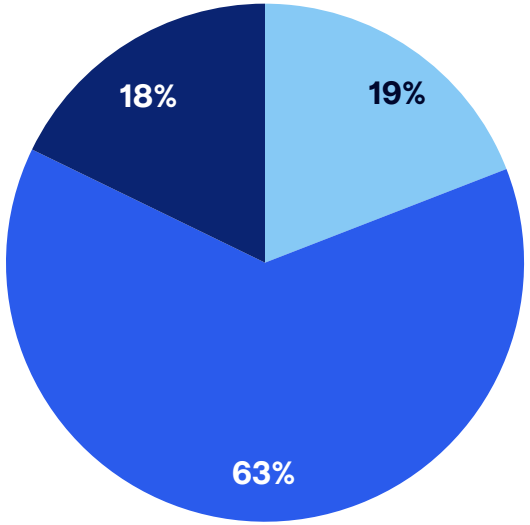


Exhibit 2: Tourism spend in Australia year ending March 2024

Total expenditure: $173b



International	Domestic overnight
Up 120% on 2022	Up 8% on 2022

Domestic day
Up 13% on 2022

Source: Australian Trade and Investment Commission (2024) *Tourism Satellite Accounts*; Australian Trade and Investment Commission (2024) *National Visitor Survey*; Australian Trade and Investment Commission (2024) *International Visitor Survey*

Contents

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Australia's tourism assets fall into two distinct categories: man-made, which are predominantly in urban centres, and natural, which are mostly regional

Man-made

Of the 178 tourism assets analysed, 112 are man-made. Man-made tourism sites are key motivators for travel to urban centres and cities and drive a significant amount of Australia's total tourism spend.

While some man-made sites are somewhat resilient to the impacts of extreme weather, there is significant risk to vineyards and gardens, scenic roads & railways, and airports. Some of these sites are often critical for supply chains and play an important role in transporting tourists between sites.

Other man-made sites such as galleries and museums often contain items of significant monetary, historical and cultural value. While the site itself may be somewhat resistant to extreme weather, items within these sites may be damaged by factors such as flooding or moisture if not stored correctly.

Inclusion of resilience planning in the initial construction of man-made sites can significantly increase resilience as well as regular assessment and review of risk.

Natural

Of the 178 tourism assets analysed, 66 are natural. Australia's natural tourism sites are key drivers of visitation to both cities and regional areas. In UNESCO's world heritage site list, 16 of the 20 Australian sites inscribed are natural.

Natural tourism sites are on average more geographically dispersed than man-made sites and their susceptibility to the impacts of climate change can be more severe. Natural sites show vulnerability to almost all variations of extreme weather, which can result in permanent structural change to sites and their ecosystems, as well as changes to tourism visitation patterns.

Implementing effective resilience measures at natural sites can be more difficult. Their complex ecosystems often rely on the very elements that also pose risk, and their often vast size can present challenges. Their natural beauty (with minimal human intervention) is also what often attracts tourists to these locations.

Source: Zurich Resilience Solutions; Mandala analysis

Climate change can result in a combination of impacts on tourism assets

	Damage to site	Accessibility issues	Supply chain disruption	Adaption costs	Reputational damage	Health risks
Description	Physical destruction or degradation of attractions and infrastructure due to climate impacts, requiring extensive repair and restoration which can significantly disrupt tourism.	Impact on the ease of reaching and moving around a destination due to damaged transport infrastructure, leading to decreased tourist numbers.	Interruption of the flow of goods and services necessary for tourism operations, causing shortages, increased costs, and delays.	Expenses incurred to modify and improve infrastructure and practices to better withstand climate disasters, ensuring long-term sustainability and safety.	Negative public image of a tourism asset due to its vulnerability to climate disasters, leading to a decline in visitor numbers and economic impacts.	Potential for an increase in mosquito-borne and tropical disease, population growth and spread of marine stingers, or dangerous temperatures and conditions for travellers.
Examples	**Phillip Island, Victoria** Coastal erosion and storm surges have damaged the beaches and penguin habitats on Phillip Island, impacting the island's natural beauty and the well-known penguin parade, a significant tourist attraction. Bushfires have also destroyed bird and penguin habitats and reduced populations.	**Kakadu Rainforest, Northern Territory** Each year, parts of Kakadu are closed due to extreme heat and in alternate seasons, heavy rain and flooding makes river crossings and dirt roads impassable. Extreme weather and poor maintenance has seen some attractions closed for long periods. The unpredictability of these conditions has also impacted tourism numbers.	**Trans Australian Railway, Western Australia & South Australia** Widespread flooding has impacted the East-West railway line numerous times in recent years, including halting its operations for 24 consecutive days in 2022 and again for 21 days in March 2024. The closure had major supply chain impacts across numerous industries including Australian supermarkets.	**Great Barrier Reef, Queensland** The Australian Government has committed to investing $5 billion to restore damage to the Great Barrier Reef and improving its resilience against future risks. The Reef 2050 plan has also been developed to protect the area against risks including climate change, following advice from the World Heritage Committee.	**Blue Mountains, New South Wales** The 2019-2020 bushfires, known as Black Summer, devastated approximately 80% of the Blue Mountains world heritage area. Concerns that the landscape was damaged or dangerous to visit led to a significant decline in tourism volume in the months following, costing the area an estimated $71 million.	**Hervey Bay & K'gari Island, Queensland** Irukandji jellyfish, typically found in Far North Queensland, have been spreading further south and their season is lengthening due to warmer conditions. The jellyfish have been observed as far south as Harvey Bay and K'gari Island in recent years and could eventually make their way to the Gold Coast and beyond.

Source: Zurich Resilience Solutions; Mandala analysis

Contents

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Methodology: Zurich's geospatial climate risk modelling was used to assess the climate risk to individual tourism assets

Method Stage	Tourism Data Collection	Mapping Data to Zurich Climate Modelling	Impact Assessment	Index Calculation
Explanation	Mandala developed a dataset of 178 Australian land-based tourism assets through desktop research including sources such as TripAdvisor, Tourism Australia, UNESCO and Lonely Planet. This dataset consisted of the location of each tourism site along with the site type (natural or man-made) and the category (e.g. airport, rainforest, beach or vineyard).	Zurich's *'Global Exposure Analysis'* capability and technology was used to determine the climate risk faced by each tourism site, making use of IPCC modelling of physical climate risks under a range of climate scenarios. This capability allows Zurich to generate a climate risk rating from 'low' to 'very high' across nine peril categories (e.g. drought and flood) for each land-based $10m^2$ of the globe. This data facilitates the ranking of each individual site across each peril and multi-peril exposures.	We then developed an impact assessment that determined the risk a particular climate peril would have on each asset type. Each type of tourism asset and climate peril combination was assigned a value of 'low' to 'very high', reflecting the impact a particular climate peril would have on the asset. This was to ensure that calculations of climate risk would accurately reflect impact on the type and category of site. For example, drought has significantly more impact on vineyards than museums.	An index was then developed for each site in the database. This calculation consisted of converting the ratings of the impact and risk assessment from 'low' to 'very high' to a 1-4 scale. The value of the risk and impact for each site were then multiplied together. For example, if a particular vineyard had a 'very high' risk of rain (a value of 4) and vineyards have a rain impact score of 'high' (a value of 3), then the index for that particular site would be 12.

Zurich Resilience Solutions (ZRS)

ZRS provides specialised insights and tools to support more informed decisions to build resilience against traditional and evolving risks, such as climate and cyber.

ZRS Global Exposure Analysis

ZRS climate scientists transform business data, including land-based location or asset data into deep climate risk insights.

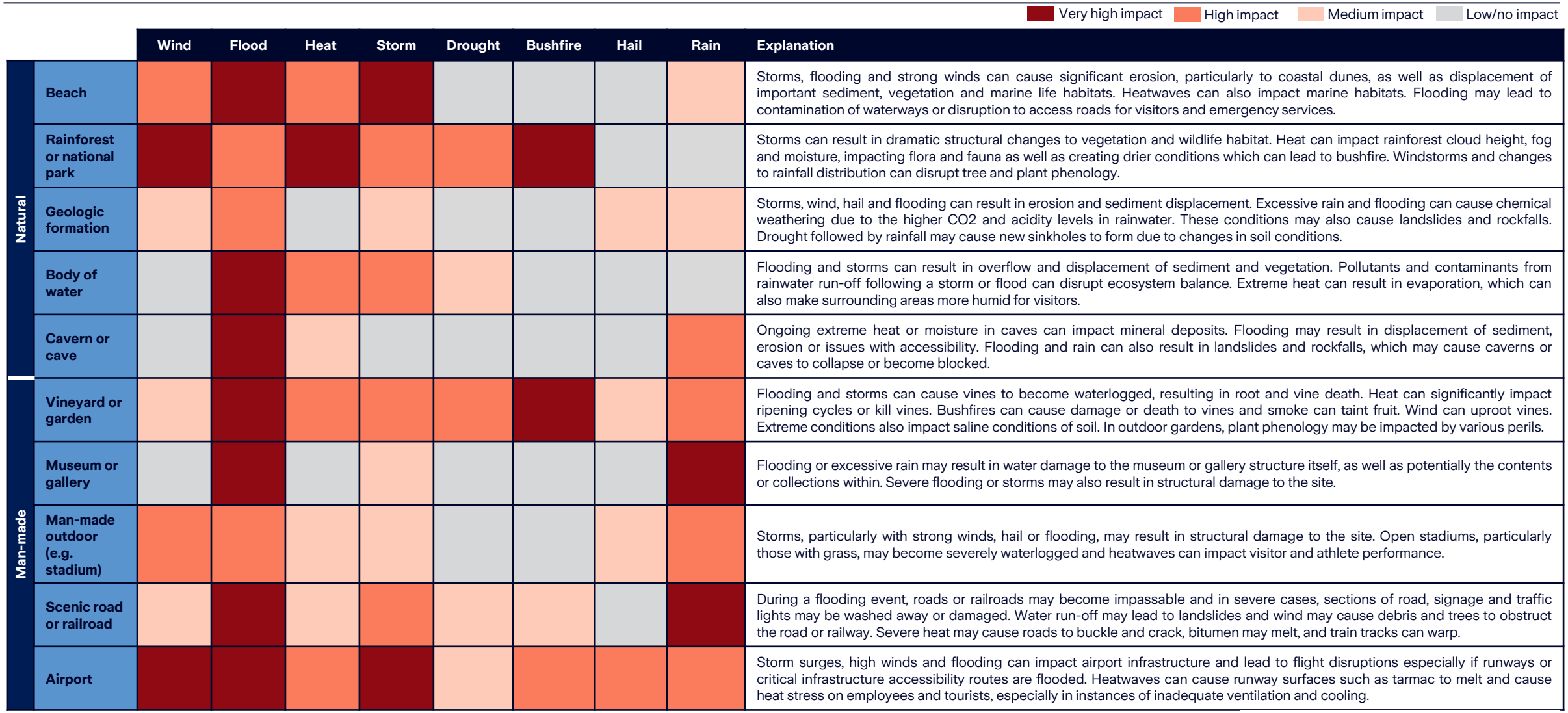
ZRS Global Exposure Analysis allows government and business to understand the probability that climate risks – such as drought, flood or fire – may impact a specific asset or portfolio of locations over time based on three IPCC-based climate scenarios.

These insights quantify and contextualise climate exposure to ensure risk can be understood, tracked and shared in order to appropriately prioritise actions and investments.

Source: Zurich Resilience Solutions

The impact of climate change on tourism assets varies significantly, depending on the type and extent of natural elements versus man-made structures

Exhibit 3: Impact risk assessment



		Wind	Flood	Heat	Storm	Drought	Bushfire	Hail	Rain	Explanation
Natural	Beach									Storms, flooding and strong winds can cause significant erosion, particularly to coastal dunes, as well as displacement of important sediment, vegetation and marine life habitats. Heatwaves can also impact marine habitats. Flooding may lead to contamination of waterways or disruption to access roads for visitors and emergency services.
	Rainforest or national park									Storms can result in dramatic structural changes to vegetation and wildlife habitat. Heat can impact rainforest cloud height, fog and moisture, impacting flora and fauna as well as creating drier conditions which can lead to bushfire. Windstorms and changes to rainfall distribution can disrupt tree and plant phenology.
	Geologic formation									Storms, wind, hail and flooding can result in erosion and sediment displacement. Excessive rain and flooding can cause chemical weathering due to the higher CO2 and acidity levels in rainwater. These conditions may also cause landslides and rockfalls. Drought followed by rainfall may cause new sinkholes to form due to changes in soil conditions.
	Body of water									Flooding and storms can result in overflow and displacement of sediment and vegetation. Pollutants and contaminants from rainwater run-off following a storm or flood can disrupt ecosystem balance. Extreme heat can result in evaporation, which can also make surrounding areas more humid for visitors.
	Cavern or cave									Ongoing extreme heat or moisture in caves can impact mineral deposits. Flooding may result in displacement of sediment, erosion or issues with accessibility. Flooding and rain can also result in landslides and rockfalls, which may cause caverns or caves to collapse or become blocked.
Man-made	Vineyard or garden									Flooding and storms can cause vines to become waterlogged, resulting in root and vine death. Heat can significantly impact ripening cycles or kill vines. Bushfires can cause damage or death to vines and smoke can taint fruit. Wind can uproot vines. Extreme conditions also impact saline conditions of soil. In outdoor gardens, plant phenology may be impacted by various perils.
	Museum or gallery									Flooding or excessive rain may result in water damage to the museum or gallery structure itself, as well as potentially the contents or collections within. Severe flooding or storms may also result in structural damage to the site.
	Man-made outdoor (e.g. stadium)									Storms, particularly with strong winds, hail or flooding, may result in structural damage to the site. Open stadiums, particularly those with grass, may become severely waterlogged and heatwaves can impact visitor and athlete performance.
	Scenic road or railroad									During a flooding event, roads or railroads may become impassable and in severe cases, sections of road, signage and traffic lights may be washed away or damaged. Water run-off may lead to landslides and wind may cause debris and trees to obstruct the road or railway. Severe heat may cause roads to buckle and crack, bitumen may melt, and train tracks can warp.
	Airport									Storm surges, high winds and flooding can impact airport infrastructure and lead to flight disruptions especially if runways or critical infrastructure accessibility routes are flooded. Heatwaves can cause runway surfaces such as tarmac to melt and cause heat stress on employees and tourists, especially in instances of inadequate ventilation and cooling.

Source: Zurich Resilience Solutions analysis

Half of Australia's tourism assets face considerable risk from the impacts of climate change

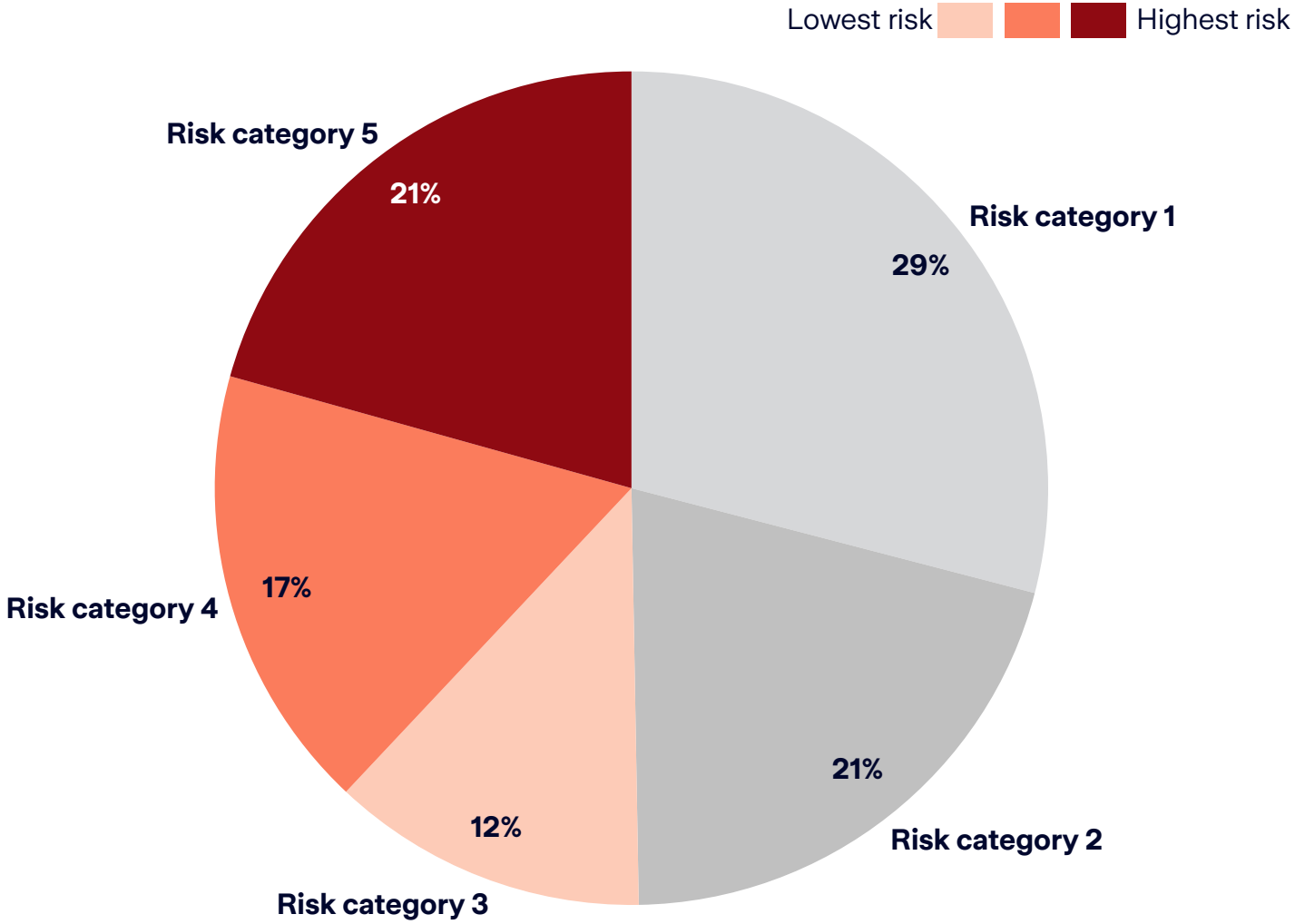
The *Zurich-Mandala Climate Risk Index* found that currently, 50% of Australia's tourism assets fall within the highest three risk categories. The remainder of sites (50%) face low levels of climate risk.

Risk categories were determined based on a threshold value for the index calculated for each site.

- **Category 1 (Index value between 0 and 13):** one minor risk with a moderate level of impact or multiple minor risks with low level of impact
- **Category 2 (Index value between 14 and 21):** one moderate risk with a moderate level of impact or many minor risks with low to moderate levels of impact
- **Category 3 (Index value between 22 and 25):** one very high risk with a very high impact or multiple moderate risks with moderate impact
- **Category 4 (Index value between 26 and 31):** multiple high risks with high to very high levels of impact
- **Category 5 (Index value above 32):** multiple very high risks with a very high level of impact

Exhibit 4: Proportion of sites in each risk category

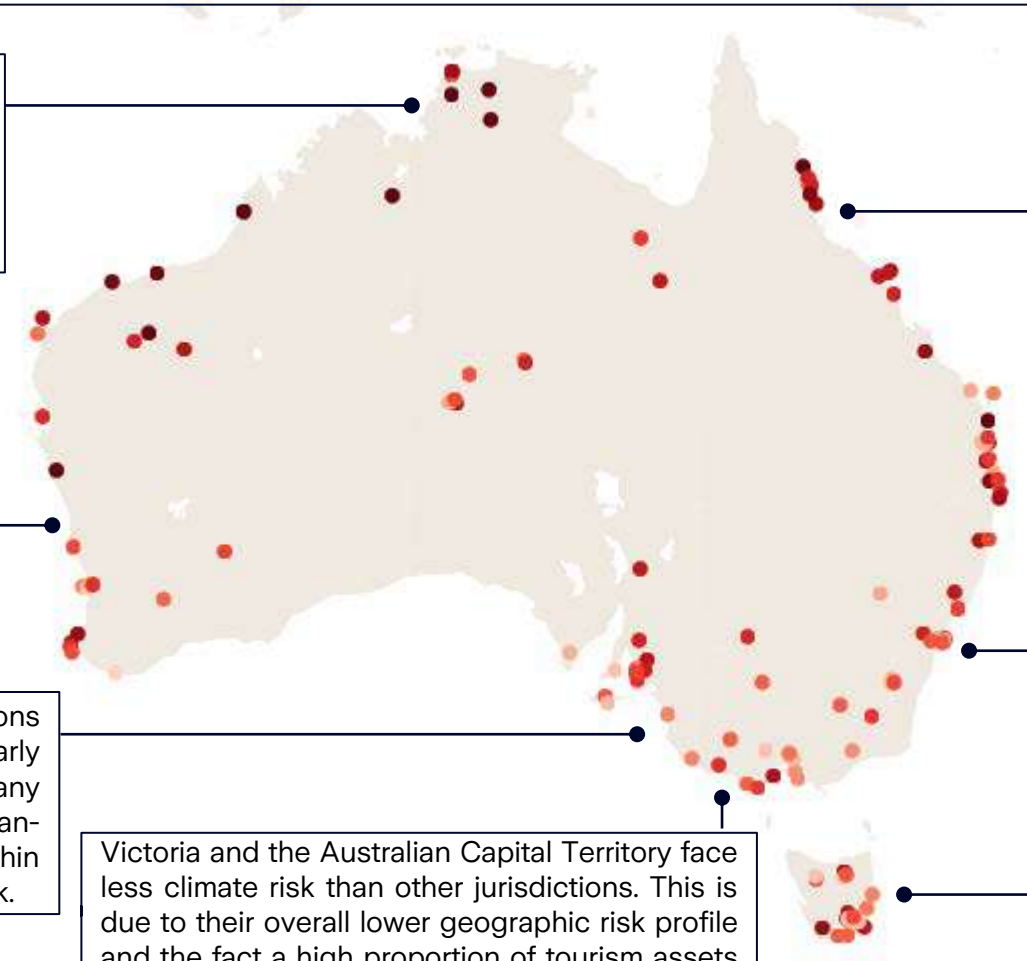
%



Source: Zurich Resilience Solutions using Jupiter Intelligence's ClimateScore Global 2.6; Mandala analysis.

Climate risk varies significantly for tourism assets across Australia based on location and site type

Exhibit 5: Climate risk across Australia



Despite notable risks faced by sites in the south of the Northern Territory, most significantly at-risk sites are in the north. These include national parks and the Darwin waterfronts.

Heat, storms and wind are currently a significant threat to tourism assets in Western Australia, particularly for the state's national parks and beaches.

South Australia's wine regions are at significant risk, particularly from bushfire. Besides this, many of the state's assets are man-made and concentrated within Adelaide, presenting lower risk.

Victoria and the Australian Capital Territory face less climate risk than other jurisdictions. This is due to their overall lower geographic risk profile and the fact a high proportion of tourism assets are man-made and indoors.

All airports in Queensland are in the highest or second highest risk category. This poses significant risks to tourism in the future.

Sydney tourism sites face significant variation in risk type and severity. Man-made sites like the Opera House tend to be less vulnerable than natural sites like the Blue Mountains.

A large number of Tasmanian tourism sites are national parks, which are vulnerable to both flooding and drought.

Source: Zurich Resilience Solutions using Jupiter Intelligence's ClimateScore Global 2.6; Mandala analysis.

Queensland has the highest number of tourism assets facing climate risk and the most sites facing severe risk

There is significant variation in the volume of sites facing climate risk across States and Territories. For some jurisdictions, the majority of tourism sites face a degree of high risk.

The *Zurich-Mandala Climate Risk Index* found that currently, 79% of tourism sites in Queensland fall within the highest three risk categories. Western Australia and the Northern Territory have 69% and 63% of sites within the highest three risk categories, respectively.

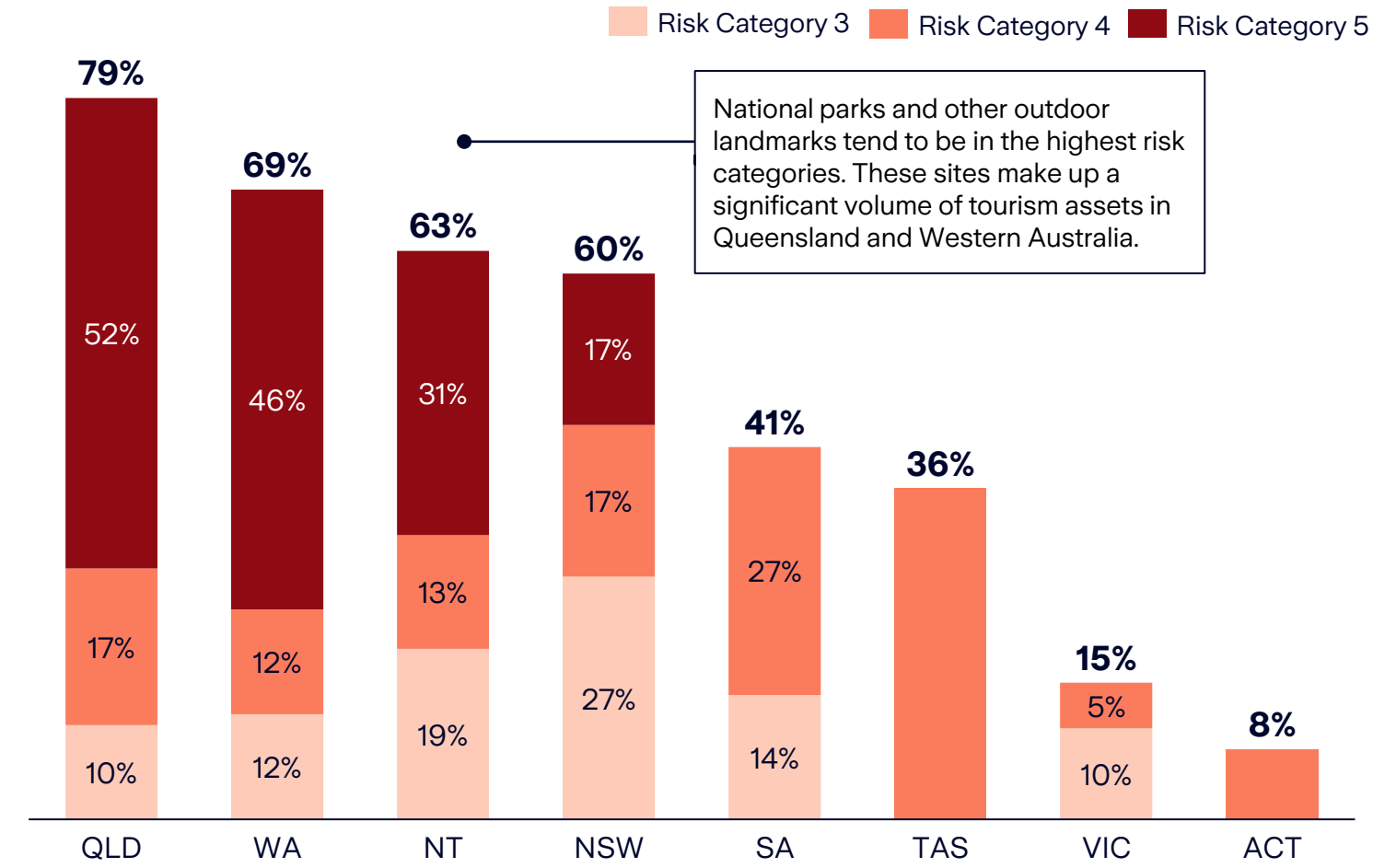
Tourism sites in Queensland also face significantly more severe risk than other jurisdictions, with 52% of impacted sites falling into risk category 5.

The jurisdictions most impacted by climate change are those with a generally higher risk of climate perils – such as flood, fire or wind – paired with a high volume of outdoor sites, such as national parks, beaches, roads and railways. These sites are also more likely to be in regional areas, whose economies often rely on tourism.

The Australian Capital Territory faces significantly lower climate risk than any other jurisdiction, with only 8% of sites facing risk. This is due to the high volume of man-made sites in this location paired with its overall lower climate risk profile.

Exhibit 6: Climate risk to tourism asset by state or territory

%



Source: Zurich Resilience Solutions using Jupiter Intelligence's ClimateScore Global 2.6; Mandala analysis.

Despite more natural sites facing climate risk overall, the proportion of man-made sites facing severe risk is higher

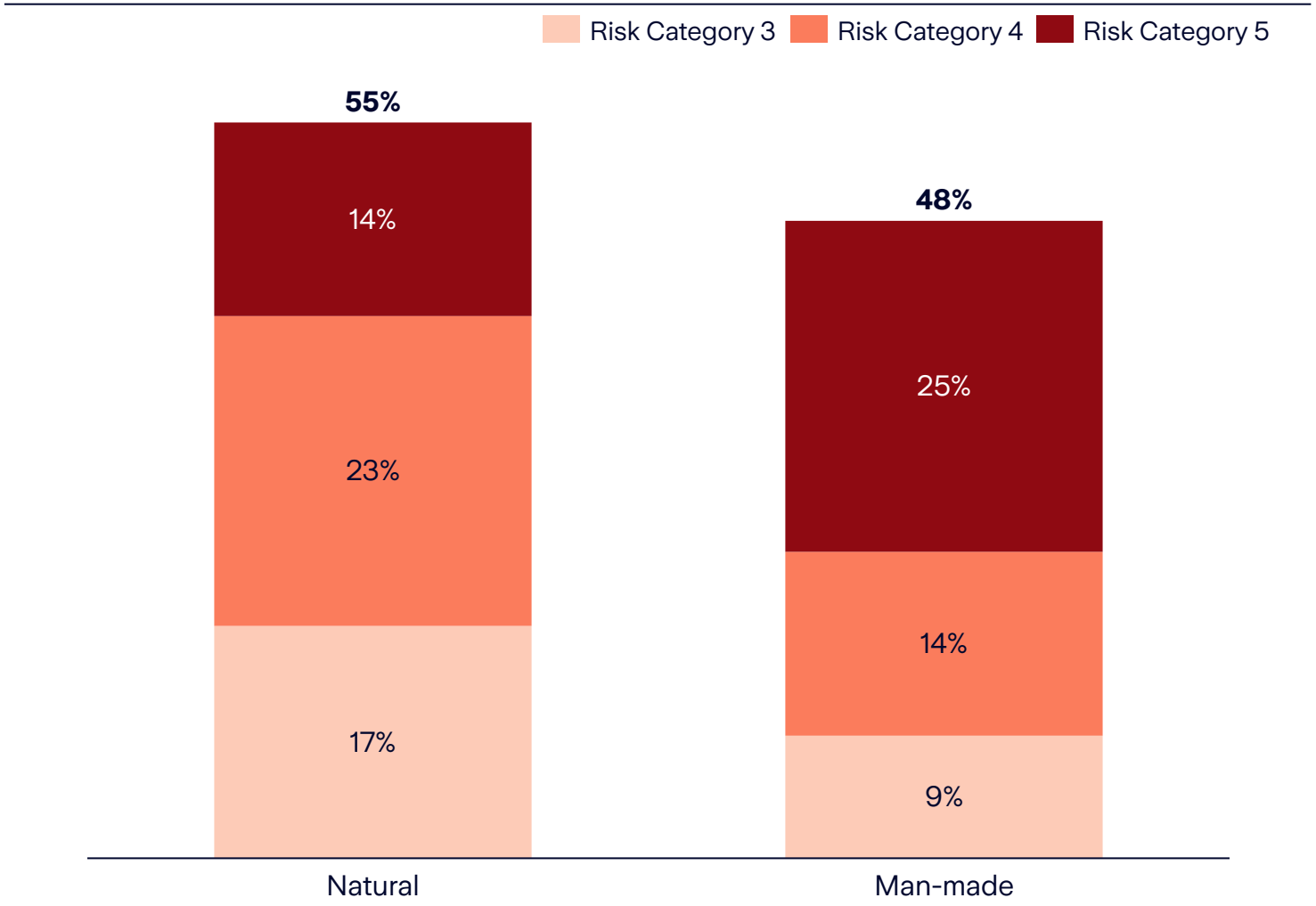
The *Zurich-Mandala Climate Risk Index* found that currently, 55% of natural tourism sites in Australia face climate risk. Of these sites, 14% are in the highest risk category, a further 23% are in the second highest category and 17% are in the third highest.

Most natural sites in Australia are either national parks, rainforests or beaches. These sites face significant risk from floods, storms and bushfires due to the potential for environmental degradation, which can permanently alter these sites. Extreme weather can also result in seasonal shifts, disrupt ecosystems and impact tourist visitation patterns.

Despite a higher volume of natural sites showing vulnerability to climate change overall, the proportion of impacted man-made sites facing severe risk is higher. Just under half of all man-made assets fall within the top three risk categories, with one quarter of these in the highest risk category. The most at-risk man-made sites are vineyards and airports, which face significant risk from heat, bushfires and flooding. Likewise, scenic roads (including bridges) and railways face significant risk.

Exhibit 7: Climate risk by type

%



Source: Zurich Resilience Solutions using Jupiter Intelligence's ClimateScore Global 2.6; Mandala analysis.

All vineyards, national parks, scenic roads and railroads face significant climate risk

The *Zurich-Mandala Climate Risk Index* found that 100% of vineyards & gardens currently fall into the three highest risk categories, with 83% in category 5, making it the most at-risk tourism asset type (not including airports). This reflects the relative vulnerability of vineyards and gardens to numerous perils.

The second most at-risk asset type is rainforests and national parks, with 100% of sites impacted. Of these, 77% are in the highest risk category and 15% in the second highest category.

Likewise, 100% of scenic roads and railroads fall into the highest three risk categories.

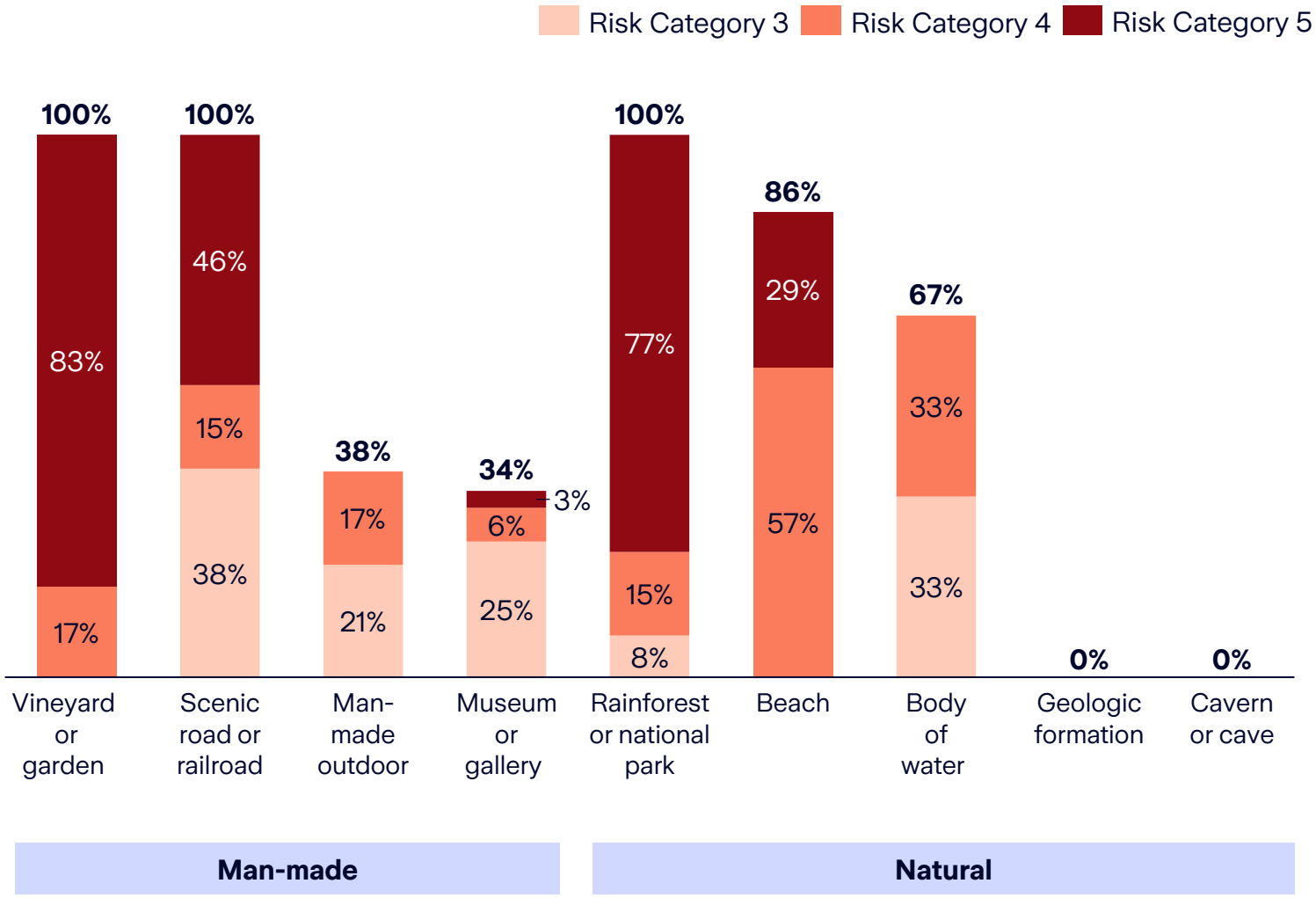
The significant risk faced by all of these sites is driven by both their geographic location as well as the site type's vulnerability to the impacts of several natural perils.

Conversely, only about one third of museums, galleries and man-made outdoor sites (such as stadiums) face risk. This result reflects the predominantly metropolitan-based locations of these sites, and their overall increased resilience to extreme weather due to material and structure.

There are no geologic formations, caverns and caves that fall into the three highest risk categories.

Exhibit 8: Climate risk by type

%



Source: Zurich Resilience Solutions using Jupiter Intelligence's ClimateScore Global 2.6; Mandala analysis.

Wind, rain and storms pose the greatest climate risk to Australian tourism, but each region must adapt to different challenges to improve resilience

Exhibit 9: Contribution of climate peril to the risk index by region

%

Lower risk — Higher risk

	Flood	Rain	Wind	Storm	Hail	Heat	Drought	Bushfire	Explanation
Australia	16%	16%	21%	17%	4%	12%	5%	10%	
QLD	12%	13%	28%	21%	5%	8%	4%	9%	Flooding in Brisbane and storm risks for national parks
NSW	19%	9%	23%	26%	5%	9%	3%	6%	Flooding and storms in Sydney Harbour and surrounds
NT	14%	16%	8%	15%	2%	25%	4%	15%	Heat and bushfire concerns for landmarks
SA	18%	24%	14%	10%	2%	12%	5%	14%	Rain, bushfire and heat risk for vineyards
TAS	16%	19%	24%	9%	2%	8%	16%	7%	Wind and rain risk for national parks
WA	13%	10%	23%	15%	3%	18%	5%	11%	Wind and storm risks for coastal attractions
VIC	20%	24%	19%	10%	2%	8%	7%	9%	Lower risks overall, some rain and flood risks in the south
ACT	24%	36%	5%	21%	4%	4%	2%	4%	Lower risk overall, with rain and flooding most impactful due to the proximity of sites to the lake

Source: Zurich Resilience Solutions; Mandala analysis.

The top ten most at-risk tourism assets are predominantly rainforests and national parks, facing significant risk from heat, bushfires and wind

Exhibit 10: Top 10 tourism assets by risk score

Lower risk — Higher risk

Rank	Tourism site	Score	Location	Category	Flood	Rain	Wind	Storm	Hail	Heat	Drought	Bushfire
1	Kalbarri National Park	41	WA	Rainforest / National Park								
2	Karijini National Park	39	WA	Rainforest / National Park								
3	Litchfield National Park	37	NT	Rainforest / National Park								
4	Daintree Rainforest	36	QLD	Rainforest / National Park								
5	Kakadu National Park	35	NT	Rainforest / National Park								
6	Paronella Park	35	QLD	Vineyard / Garden								
7	Cable Beach	34	WA	Beach								
8	Great Sandy National Park	34	QLD	Rainforest / National Park								
9	Purnululu National Park	34	WA	Rainforest / National Park								
10	Whitehaven Beach	34	QLD	Beach								

Source: Zurich Resilience Solutions using Jupiter Intelligence's ClimateScore Global 2.6; Mandala analysis.

The risk-profile of Australia's tourism sector is set to worsen over time

Under the Intergovernmental Panel on Climate Change (IPCC) SSP2-4.5 climate scenario, Australia's tourism sites will face greater climate risk over time.

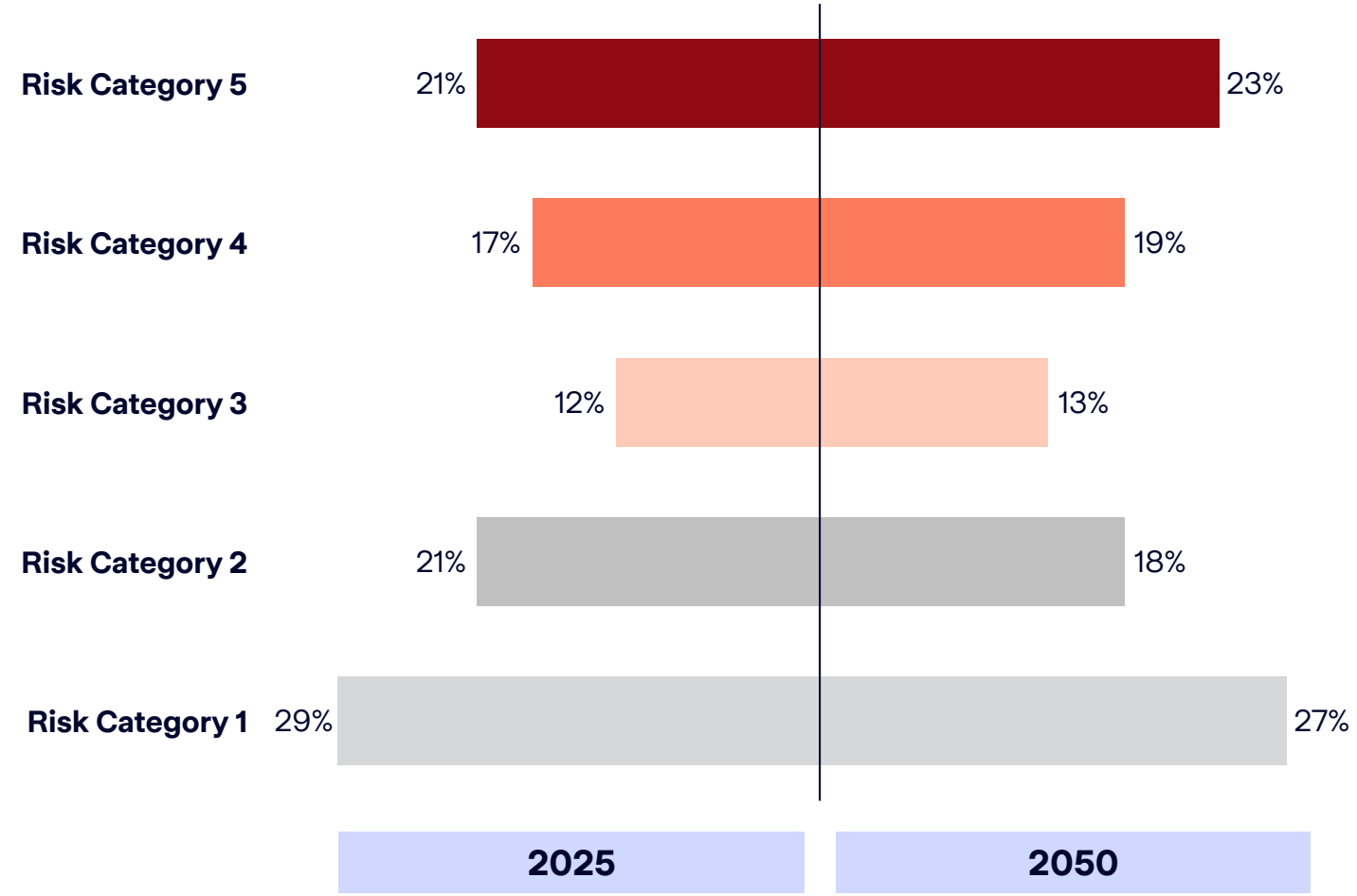
SSP2-4.5 is an intermediate scenario for climate risk that assumes 2 degrees Celsius of warming by 2041-2060. It is considered the most likely climate scenario over the near/mid-term given current and committed climate actions.

In the 25 years from 2025 to 2050, the proportion of Australia's tourism sites in the three highest climate risk categories will rise from 50% to 55%. Sites in the highest three risk categories are likely to face significant risk from multiple perils with a high impact on environmental degradation, tourism functionality and appeal, accessibility, and ecosystem balance (i.e. a national park with a 'high risk' from storms and a 'very high risk' from heat).

Under the more severe SSP5-8.5 climate scenario, which assumes little or no climate action and up to three degrees of warming by 2041-2060, 80% of sites will see an increase in risk between 2025 and 2050. Under this scenario, 68% of all sites will be in risk category 3 or above by 2050.

Exhibit 11: Proportion of tourism sites in each risk category over time under SSP2-4.5

%



Source: Zurich Resilience Solutions using Jupiter Intelligence's ClimateScore Global 2.6; Mandala analysis.

All major Australian airports face significant climate risk, particularly from wind, storms and heat

Australian airports are a critical gateway to both domestic and international tourism.

However, the *Zurich-Mandala Climate Risk Index* found that 100% of the 31 busiest airports in Australia fall into the highest three risk categories, with 94% in category 5 and the remaining 6% in category 4.

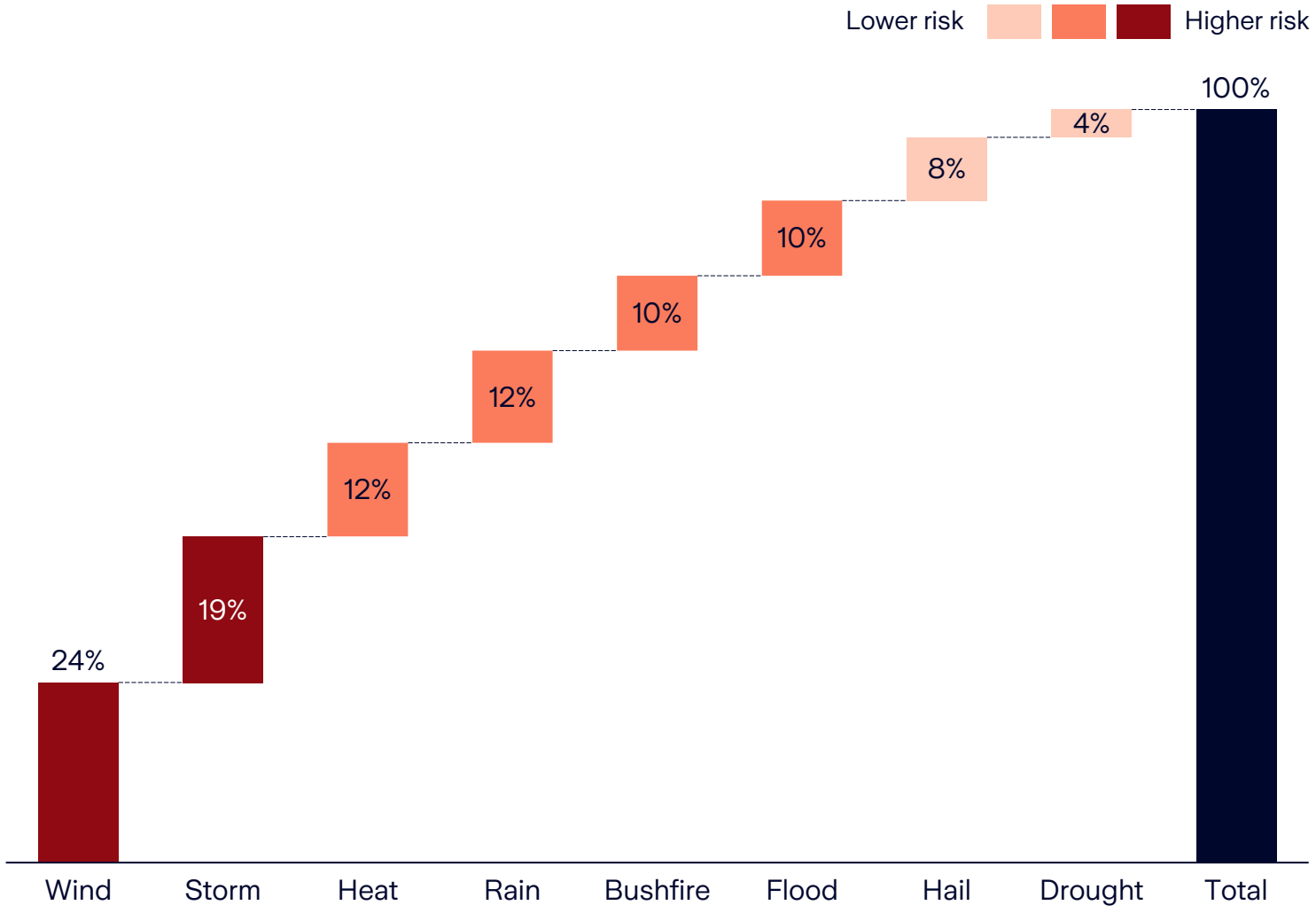
This significant scoring is driven by the vulnerability of airports to a wide variety of climate perils paired with their geographic locations.

Airports can face significant impacts from storms, flooding, heat and wind. These conditions can result in flight scheduling disruptions and damage to infrastructure. According to the index, wind contributes 24% to the total risk faced by Australian airports. Storms contribute an additional 19% to total risk, while heat and rain contribute an additional 12% each.

Scheduling disruptions and closure to airports in extreme weather conditions can have major impacts on supply chains, the transportation of tourists and accessibility for some emergency services.

Exhibit 12: Contribution to airport risk score by climate peril

%



Source: Zurich Resilience Solutions using Jupiter Intelligence's ClimateScore Global 2.6; Mandala analysis.

The top ten most at-risk airport sites are predominantly located in Western Australia or Queensland

Exhibit 13: Top 10 airport sites by risk score

Lower risk Higher risk

Rank	Tourism site	Score	Location	Flood	Rain	Wind	Storm	Hail	Heat	Drought	Bushfire
1	Broome Airport	57	WA								
2	Karratha Airport	52	WA								
3	Port Hedland Airport	52	WA								
4	Ballina Airport	46	NSW								
5	Rockhampton Airport	45	QLD								
6	Proserpine Airport	43	QLD								
7	Hamilton Island Airport	41	QLD								
8	Newman Airport	41	WA								
9	Darwin Airport	39	NT								
10	Mackay Airport	39	QLD								

Source: Zurich Resilience Solutions using Jupiter Intelligence's ClimateScore Global 2.6; Mandala analysis.

Queensland jobs are most at risk from the impacts of a climate disaster

Climate disasters (such as floods or bushfires) occurring at or near tourism assets can severely impact the visitor economy of that area including businesses that rely on domestic and international tourists.

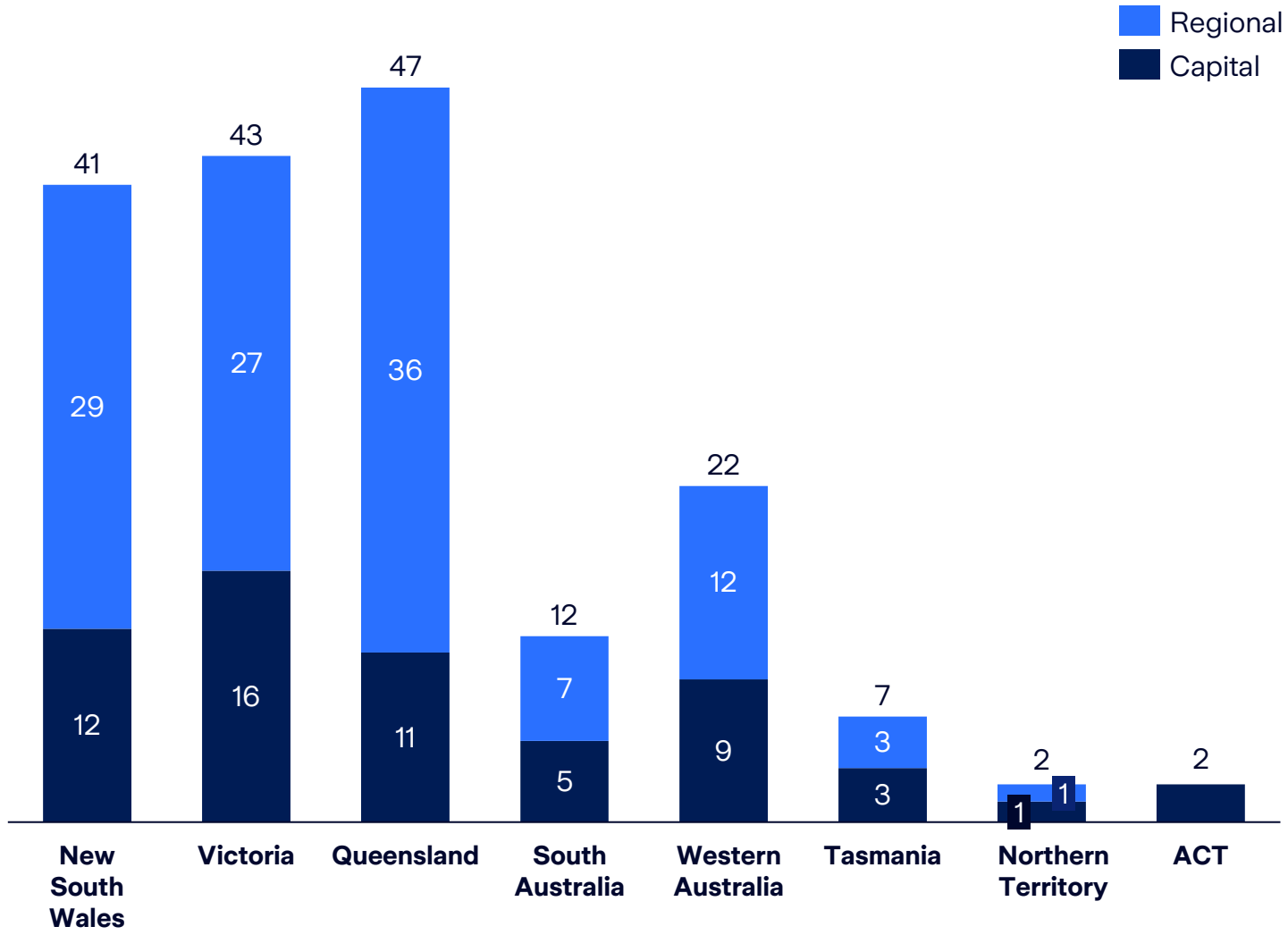
While a climate disaster may be temporary, the effects on local businesses may be felt for years to come. In the short term, immediate disruptions such as property damage, travel cancellations, and reduced visitor numbers can lead to significant revenue losses and increased operational costs. Long-term effects may include sustained decreases in tourist numbers due to negative perceptions of the destination and the need for substantial investment in rebuilding and adapting infrastructure to withstand future climate events.

In a survey of tourism businesses across Victoria, the University of Victoria found that the 2019/20 bushfires led to an average reduction in revenue of 35%.

If a similar reduction in revenue was to occur today it would put up to 176,000 jobs at risk across Australia, 65% of which are outside capital cities. Analysis found jobs in Queensland are most at risk from the impacts of a climate disaster, including a large portion of regional jobs. Victoria and New South Wales jobs also face significant risk.

Exhibit 14: Jobs at risk by state and territory under a climate disaster scenario

,000 FTE



Source: Victoria University (2021) *Building the Resilience of Tourism Destinations to Disasters: The 2020 Victorian Bushfires and COVID-19 Pandemic*; Mandala analysis.

There are several resilience solutions that can reduce climate risk

Natural	**Beaches**	**Rainforests / Parks**	**Geologic Formations**	**Bodies of Water**	**Vineyards**
Example measures	Restoration of degraded coral reefs offer a means of wave attenuation, which can build beach resilience. Hard engineering methods include construction of sea walls to manage wave energy. Soft engineering measures include beach nourishment activity such as adding vegetation to build up beach areas.	Species management activities such as genetic rescuing can increase resilience in the landscape. Climate revegetation can also be implemented, particularly in rainforests, to ensure canopy cover is managed and gaps are avoided. This reduces the likelihood of structural changes and decreases the risk of evapotranspiration.	Swale constriction can not only reduce water pollution from agriculture but also reduce the risk of soil erosion and runoff. Other erosion control measures include stabilising cliffs using engineering techniques or simply planting vegetation to stabilise soil.	Creation of riparian buffers along a body of water can reduce sediment, nutrients, and pesticides from surface runoff and therefore improve water quality. Redesign of wetlands using ecohydrology can also be implemented to protect the area from erosion.	Controlling soil salinity in the root zone of vines can be considered. This can be achieved using micro-irrigation or soil leaching techniques to wash salt soluble out of root zones. Implementation or modification of canopy structures can assist with heat impacts.
Man-made	**Airports**	**Museums / Galleries**	**Arenas / Stadiums**	**Roads / Railroads**	**Bridges**
Example measures	To build flood resilience, runway drainage can be improved where elevation is not possible and flood barriers can be added to protect critical infrastructure. Alternate runway surfaces can also be considered to reduce the likelihood of tarmac melting in extreme heat. For wind, equipment should be adequately anchored.	Effective flood risk management plans and use of flood resistant materials in construction can reduce impact in the event of a flood and help with recovery. Ensuring contents of particular importance are stored in moisture-controlled environments and not in basements can also reduce the risk of damage in floods.	Extreme heat adaptation measures need to be incorporated into building design, such as applying reflective paints to roof surfaces or installing retractable roofs. Providing natural ventilation and shading through green spaces and trees is another effective measure.	Applying reflective coating to railroads would reflect heat away from railway tracks and reduce the risk of warping and metal buckling. Roads and railroads at risk of significant rainfall and flooding should have appropriate drainage systems incorporated and retaining walls used to mitigate landslides.	Applying a sealer membrane between the deck and upper driving surface of a bridge can prevent seepage and pooling of corrosive solutions on and around vulnerable metal parts of bridges. This can protect against issues like regent street disease, which relates to the corrosion of steel held within reinforced concrete.

Source: Zurich Resilience Solutions

New South Wales

Tourism plays an important role in the New South Wales economy, with several sites exposed to high or very high climate risk

Tourism is an important industry in NSW

173,000 jobs filled

by tourism in 2022/23, with 56,000 in cafes, restaurants and takeaway food services

$41b domestic tourism expenditure

across day trips and overnight stays in NSW

$11.8b international expenditure in NSW

from over 4,100,000 tourists

Tourism sites are concentrated in metropolitan NSW

2 out of 3 of the top sites in NSW are in Sydney

with a high concentration of sites around Sydney Harbour

60% man-made

The proportion of key sites in NSW that are man-made

60% of regional sites

in the state are natural

Climate risk varies, with natural sites most at risk

Wind risk is greatest for Sydney Harbour activities

but impacts are unlikely to be severe

Mungo National Park is at risk of extreme heat

but possible for activities to be adapted

Bondi to Coogee walk

is a good example of a natural site that lends itself to resilience measures

Source: Zurich Resilience Solutions; Mandala analysis

Tourism in New South Wales filled 173,000 jobs and attracted $52.8b in total spending in the year ending March 2024

Exhibit 15: Jobs in NSW tourism

'000, 2022/23

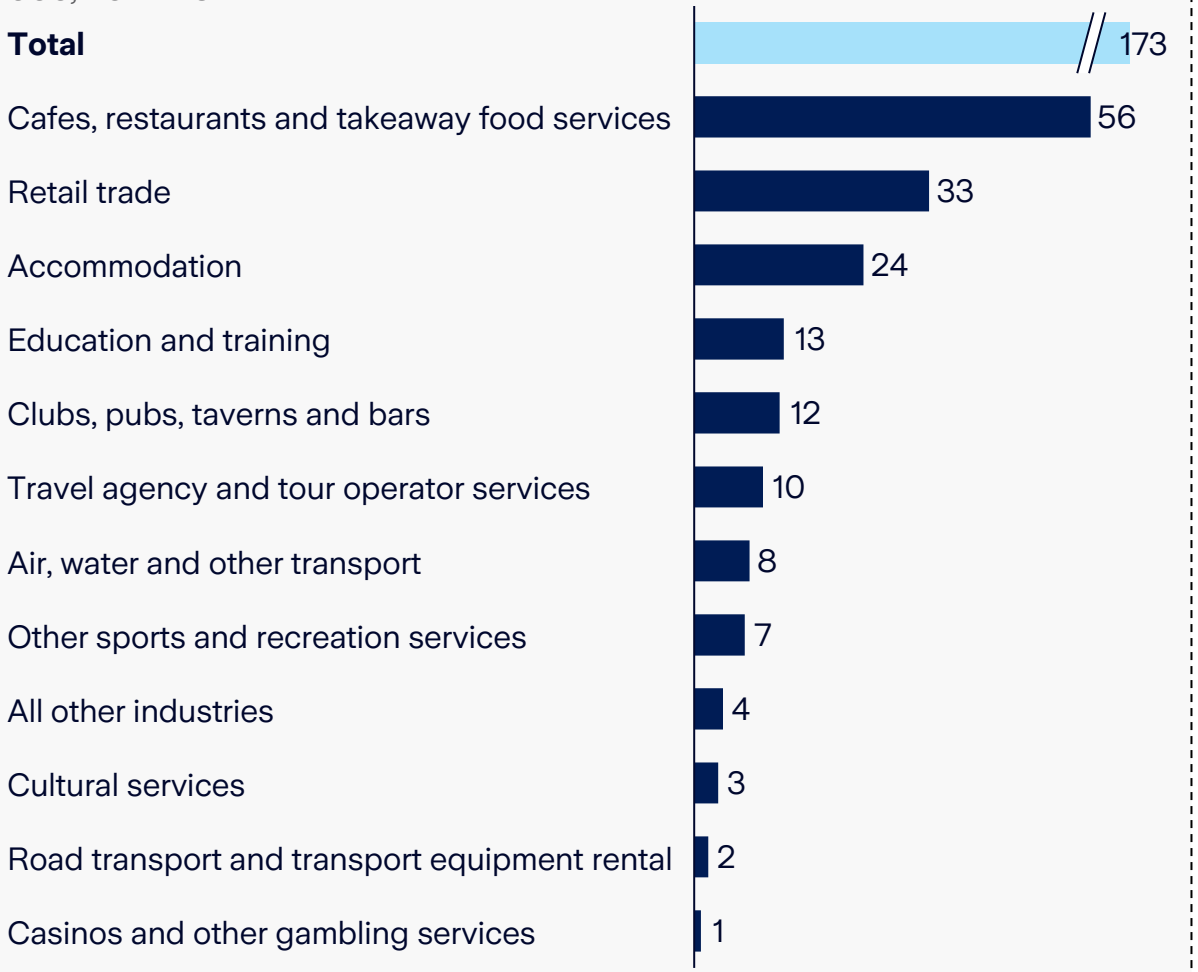
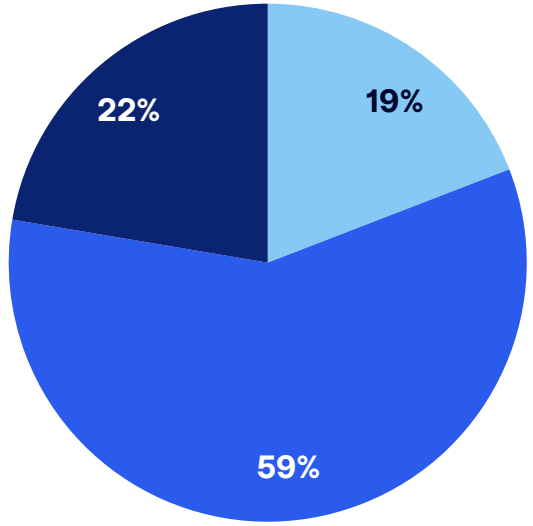


Exhibit 16: Tourism spend in NSW year ending March 2024

Total expenditure: $52.8b



Domestic day

61% in regional NSW
$164/day average spend in Sydney
$168/day average spend in Regional

Domestic overnight

62% in regional NSW
$369/night average spend in Sydney
$223/night average spend in regional

International

$124/night average spend in NSW

Source: Australian Trade and Investment Commission (2024) *Tourism Satellite Accounts*; Australian Trade and Investment Commission (2024) *National Visitor Survey*; Australian Trade and Investment Commission (2024) *International Visitor Survey*

Key tourism assets in New South Wales are concentrated in metropolitan areas, where most sites are man-made

Exhibit 17: Key tourism locations in NSW

Source: TripAdvisor; top 10 trip adviser locations for each state and territory; Mandala analysis.

Popular tourism assets like Sydney Harbour, Byron Bay and the Hunter Valley face the greatest climate risk in New South Wales

Exhibit 18: Top 10 sites by risk score

Lower risk — Higher risk

Rank	Tourism site	Score	Category	Flood	Rain	Wind	Storm	Hail	Heat	Drought	Bushfire
1	Royal Botanic Gardens Sydney	30	Vineyard / Garden								
2	Dorrigo National Park	28	Rainforest / National Park								
3	Hunter Valley wine region	28	Vineyard / Garden								
4	Sydney Harbour Bridge	28	Scenic Road / Railroad								
5	Byron Bay	27	Beach								
6	Blue Mountains National Park	25	Rainforest / National Park								
7	Lord Howe Island	24	Beach								
8	Sydney Ferries	24	Man-made Outdoor								
9	Bondi Beach	23	Beach								
10	Manly Beach	23	Beach								

Source: Zurich Resilience Solutions using Jupiter Intelligence's ClimateScore Global 2.6; Mandala analysis.

Case study: Bondi Beach

Exhibit 19: NSW site significantly impacted

Bondi Beach is one of Australia's, and the world's, most renowned beaches. The one-kilometre-long stretch of sand attracts more than 2.5 million domestic overnight and international visitors each year, not including the many thousands who visit for day trips, particularly in the warmer months. The beach and its surrounding area host numerous cultural events each year drawing additional crowds, including the Bondi Festival, Festival of the Winds and Sculpture by the Sea. Around 45% of international tourists in Sydney visit Bondi during their trip.

2.5 million
domestic overnight & international visitors in 2023

$1 billion
tourism spend on average in Waverly LGA in 2017

Wind
Very High
Wind risk in the *Zurich-Mandala Climate Risk Index*

Storm
Very High
Storm risk in the *Zurich-Mandala Climate Risk Index*

Flood
High
Flood risk in the *Zurich-Mandala Climate Risk Index*

In recent years, Bondi has experienced numerous impacts from extreme weather. Rainwater runoff has resulted in beach pollution, and strong surf and flooding has inundated the beach. Heatwaves have impacted thousands of tourists during peak seasons, putting significant pressure on lifeguards. Parts of Bondi's popular coastal walk (Bondi to Coogee) have also previously closed following inundation from large waves or damage from landslides after severe storms, including in 2016 when a 50-metre piece of cliff destroyed part of the walkway. Numerous studies have indicated that sea level rises and more frequent storms will change the size and composition of Bondi Beach.

Source: NSW Gov, Waverly Council

Victoria

Tourism plays an important role in Victoria's economy, with certain natural and man-made sites exposed to climate risk

Tourism is an important industry in VIC

164,000 jobs filled

in tourism in 2022/23, with 63,000 in cafes, restaurants and takeaway food services

$31.5b domestic tourism expenditure

across day trips and overnight stays in VIC

$7.8b international expenditure

from 2,600,000 tourists visiting VIC

Tourism sites are spread across metropolitan and regional VIC

1 in 2 top sites are in regional Victoria

as well as a high concentration of sites around the Melbourne CBD

55% man-made

The proportion of top sites in VIC that are man-made

87% of regional sites

in VIC are natural

Certain sites face high climate risk, while others do not

Great Ocean Road

is a man-made site particularly vulnerable to extreme wet weather events, impacting access to other important natural tourism sites

Location of Mornington Peninsula

protects it against most climate risks

Twelve Apostles is vulnerable to accelerated erosion

from extreme wet weather events

Source: Zurich Resilience Solutions; Mandala analysis

Tourism in Victoria filled 164,000 jobs and attracted $39.3b in total spending in the year ending March 2024

Exhibit 20: Jobs in VIC tourism

'000, 2022/23

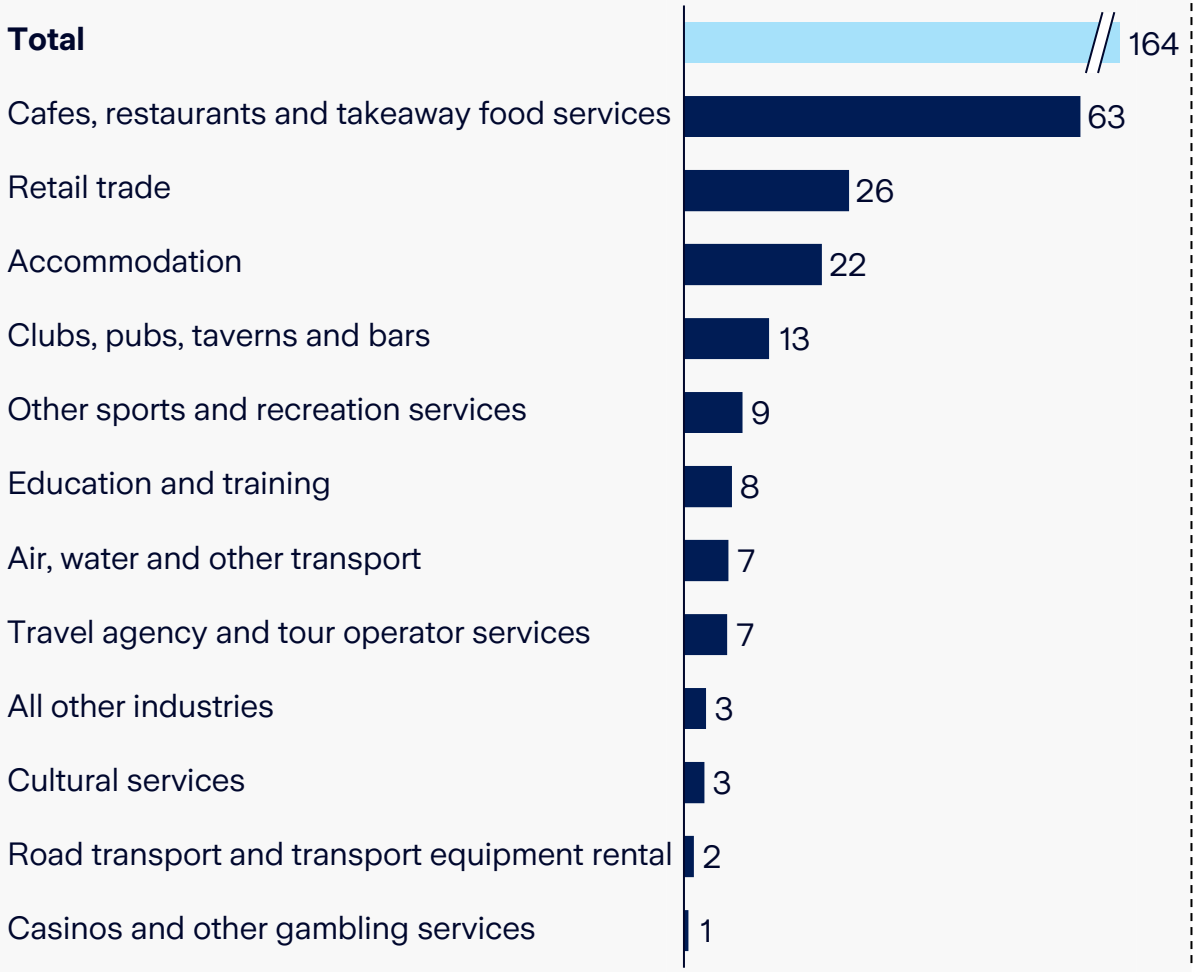
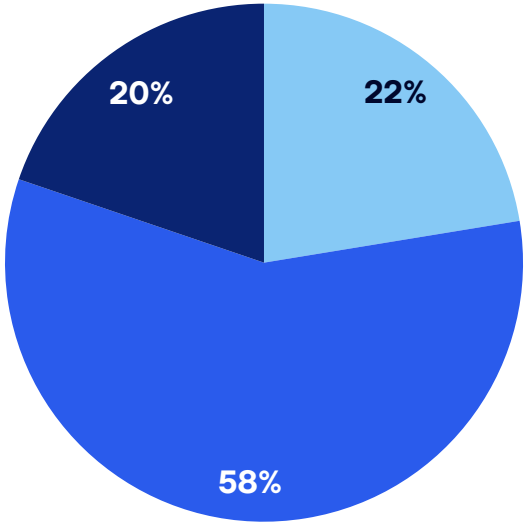


Exhibit 21: Tourism spend in VIC year ending March 2024

Total expenditure: $39.3b



Domestic day

63% in regional VIC
$164/day average spend in Melb
$158/day average spend in Regional

Domestic overnight

48% in regional VIC
$369/night average spend in Melb
$223/night average spend in regional

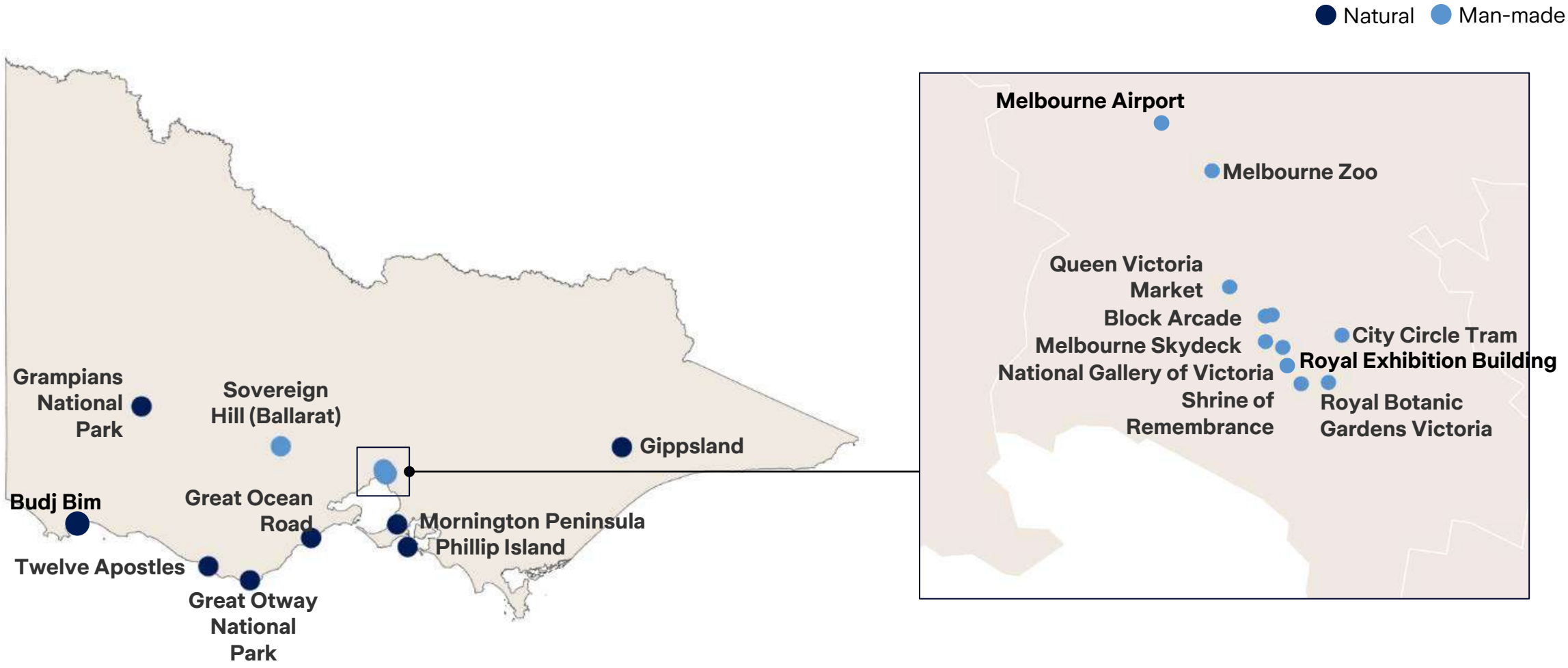
International

$124/night average spend in VIC

Source: Australian Trade and Investment Commission (2024) *Tourism Satellite Accounts*; Australian Trade and Investment Commission (2024) *National Visitor Survey*; Australian Trade and Investment Commission (2024) *International Visitor Survey*

Key tourism assets in Victoria are geographically dispersed throughout the state, and most regional sites are natural

Exhibit 22: Key tourism locations in VIC



Source: TripAdvisor; top 10 trip adviser locations for each state and territory; Mandala analysis.

Tourism assets located in or near Melbourne make up the majority of the most at-risk sites in Victoria

Exhibit 23: Top 10 sites by risk score in VIC

Lower risk — Higher risk

Rank	Tourism site	Score	Category	Flood	Rain	Wind	Storm	Hail	Heat	Drought	Bushfire
1	Great Ocean Road	29	Scenic Road / Railroad								
2	Grampians National Park	24	Rainforest / National Park								
3	Budj Bim	21	Rainforest / National Park								
4	Royal Botanic Gardens Victoria	21	Vineyard / Garden								
5	Gippsland	20	Rainforest / National Park								
6	Great Otway National Park	20	Rainforest / National Park								
7	City Circle Tram	17	Scenic Road / Railroad								
8	Melbourne Skydeck	15	Museum / Gallery								
9	Mornington Peninsula	14	Beach								
10	Phillip Island	14	Beach								

Source: Zurich Resilience Solutions using Jupiter Intelligence's ClimateScore Global 2.6; Mandala analysis.

Case study: The Great Ocean Road

Exhibit 24: VIC site significantly impacted

The Great Ocean Road is Victoria's most popular tourist attraction, stretching 243 kilometres from Torquay to Allansford. It passes other major tourist attractions in the area, including the Twelve Apostles and the London Arch and is visited by more than 5 million tourists each year.

Flood
Very High
Flood risk in the *Zurich-Mandala Climate Risk Index*

Rain
Very High
Rain risk in the *Zurich-Mandala Climate Risk Index*

Wind
High
Wind risk in the *Zurich-Mandala Climate Risk Index*

Storm
High
Storm risk in the *Zurich-Mandala Climate Risk Index*

Drought
High
Drought risk in the *Zurich-Mandala Climate Risk Index*

5 million
visitors to Great Ocean Road in 12-months to March 2024

$2 billion
tourism spend at Great Ocean Road in 12-months to March 2024

Extreme weather has on numerous occasions damaged and closed parts of the Great Ocean Road in recent years. In 2016, more than 100 landslides occurred near the road, causing it to close numerous times. In 2011, a large boulder closed the road for a week. Dunes within meters of the road are being significantly eroded and hollowed by strong surf, wind and storms. In some areas, including Devil's Elbow and Apollo Bay, the shoreline is eroding by up to one meter per year.

The Victorian Government has invested in road rehabilitation works and geotechnical engineering projects to improve safety in the event of landslides and rock falls, including implementation of 20 rockfall nets and 20 retaining walls. The use of drones has also been trialled as well as temporary weather stations to monitor rainfall and soil moisture levels, allowing officials to detect landslip and landslide risks.

Source: Tourism VIC, VicRoads,

Western Australia

Tourism plays an important role in Western Australia's economy, with several natural sites exposed to climate risk

Tourism is an important industry in WA

67,000 jobs filled

in tourism in 2022/23, with 24,000 in cafes, restaurants and takeaway food services

$15.4b domestic tourism expenditure

across day trips and overnight stays in WA

$2.5b international expenditure

from over 960,000 tourists

Tourism sites are concentrated in regional WA

70% of the top tourism sites are in regional WA

with a high concentration of sites along WA's coast

70% natural

The proportion of top sites in WA that are natural

75% of regional sites

are natural

Most tourism sites are natural, which face significant climate risk

Cable Beach is WA's most at-risk beach

With impacts from storm, wind and heat

Visiting seasons to National Parks may change

Karijini National Park and Kalbarri National Park are particularly at risk

Some natural formations are less vulnerable

Wave Rock and the Pinnacles are examples of relatively resilient natural formations

Source: Zurich Resilience Solutions; Mandala analysis

Tourism in Western Australia filled 67,000 jobs and attracted $17.9b in total spending in the year ending March 2024

Exhibit 25: Jobs in WA tourism

'000, 2022/23

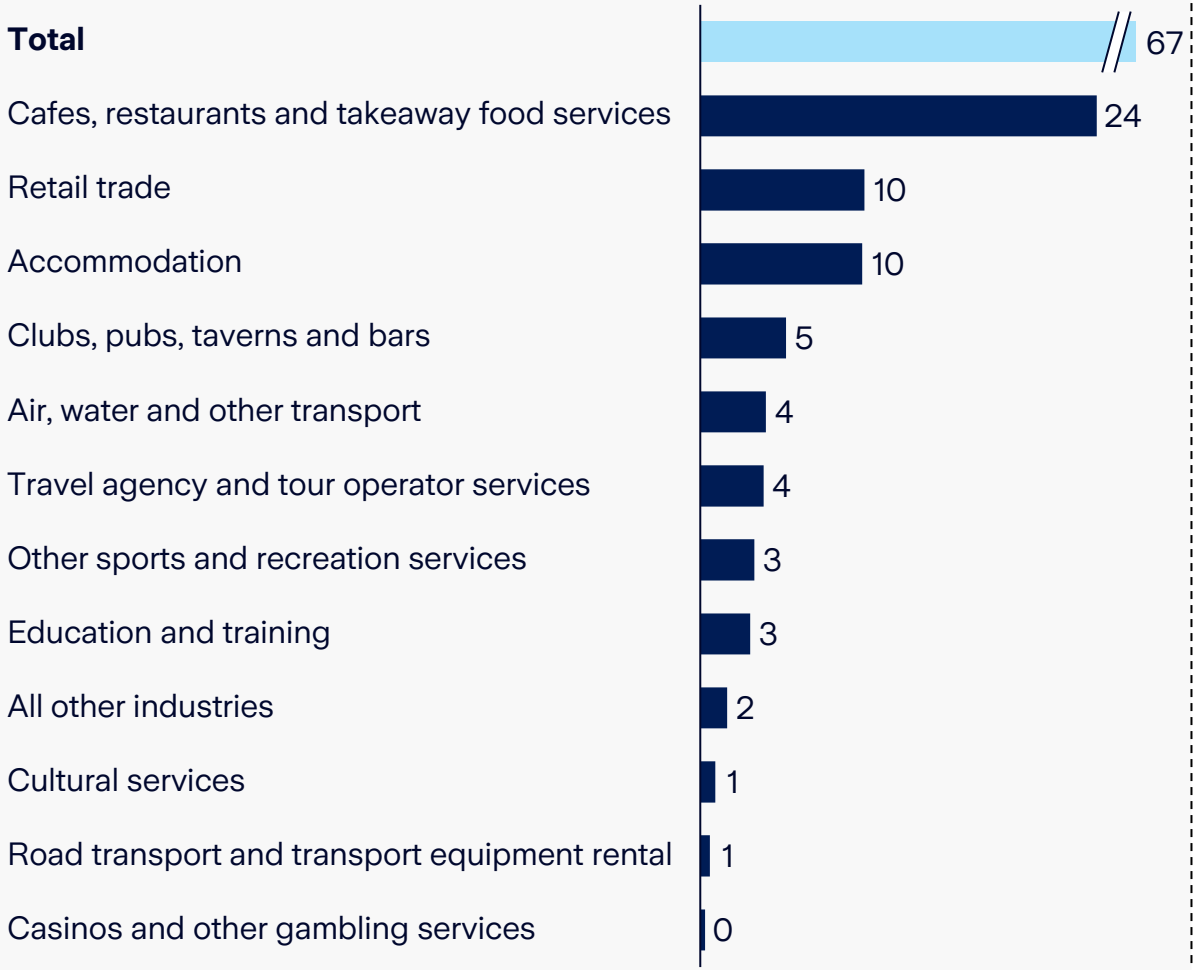
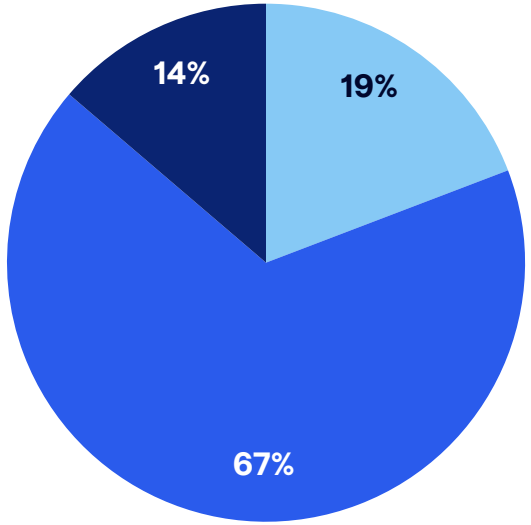


Exhibit 26: Tourism spend in WA year ending March 2024

Total expenditure: $17.9b



Domestic day

39% in regional WA
$137/day average spend in Perth
$218/day average spend in Regional

Domestic overnight

54% in regional WA
$342/night average spend in Perth
$192/night average spend in regional

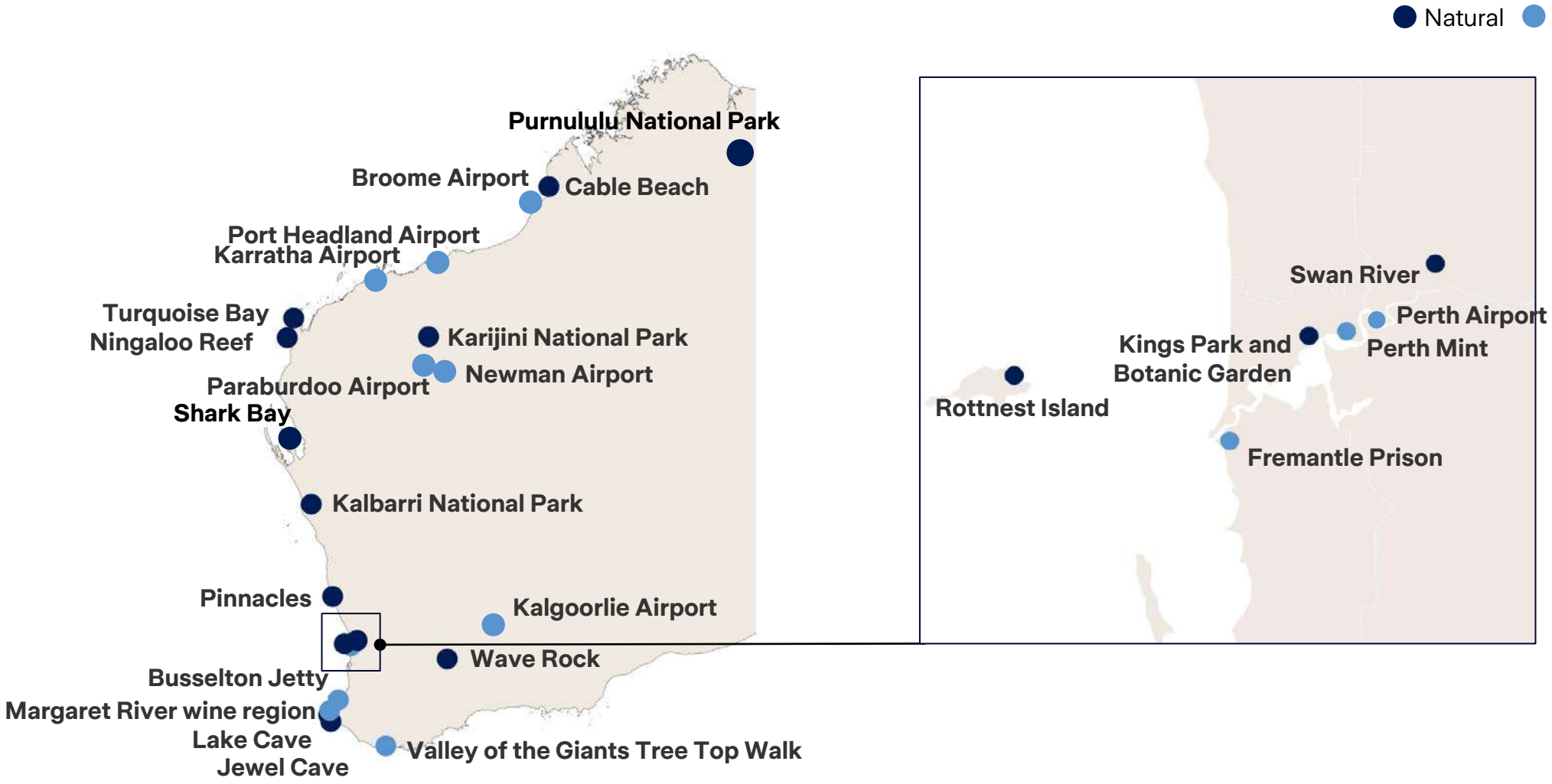
International

$81/night average spend in WA

Source: Australian Trade and Investment Commission (2024) *Tourism Satellite Accounts*; Australian Trade and Investment Commission (2024) *National Visitor Survey*; Australian Trade and Investment Commission (2024) *International Visitor Survey*

Most tourism assets in Western Australia are natural, and most are regionally located

Exhibit 27: Key tourism locations in WA



Source: TripAdvisor; top 10 trip adviser locations for each state and territory; Mandala analysis.

Wind and heat are major sources of risk for the most impacted tourism sites in Western Australia

Exhibit 28: Top 10 sites by risk score in WA

Lower risk — Higher risk

Rank	Tourism site	Score	Category	Flood	Rain	Wind	Storm	Hail	Heat	Drought	Bushfire
1	Kalbarri National Park	41	Rainforest / National Park								
2	Karijini National Park	39	Rainforest / National Park								
3	Cable Beach	34	Beach								
4	Purnululu National Park	34	Rainforest / National Park								
5	Margaret River wine region	32	Vineyard / Garden								
6	Turquoise Bay	30	Beach								
7	Busselton Jetty	29	Scenic Road / Railroad								
8	Kings Park and Botanic Garden	29	Vineyard / Garden								
9	Ningaloo Reef	25	Beach								
10	Shark Bay	25	Beach								

Source: Zurich Resilience Solutions; Mandala analysis

Case study: Cable Beach

Exhibit 29: WA site significantly impacted

Cable Beach, Broome in WA's North-West region is a 22km long stretch of sand bound by dunes and red cliffs where turtles nest in the summer months. Cable Beach foreshore activities – including water sports and camel riding – draw more than 15,000 tourists per year who contribute $191 million per year to the tourism economy in Broome.

Wind	Heat	Storm	Flood	Rain
Very High	**Very High**	**Very High**	**High**	**High**
Wind risk in the *Zurich-Mandala Climate Risk Index*	Heat risk in the *Zurich-Mandala Climate Risk Index*	Storm risk in the *Zurich-Mandala Climate Risk Index*	Flood risk in the *Zurich-Mandala Climate Risk Index*	Rain risk in the *Zurich-Mandala Climate Risk Index*

277,000
overnight visitors to Broome in 2023

$464 million
spent by tourists in Broome in 2023

In early 2022, a tropical low dropped more than 230mm of rain on Broome in less than 24-hours. In 2023, the Cable Beach vehicle access ramp was closed for an extended period after erosion damage. The area has experienced persistent heatwaves in recent years as well as significant monsoon storms.

In July 2024, the WA Government announced $1.66 million in funding for projects designed to make Cable Beach more resilient to climate change, including a new seawall, access ramp and drainage. The funding forms part of the State Government's broader $33.5 million, five-year program to improve the resilience of its coastal regions.

According to the *Zurich-Mandala Climate Risk Index*, Cable Beach will face increased climate risk between 2025 and 2050 under the SSP2-4.5 climate scenario, driven in particular by heightened precipitation risk.

Source: Tourism WA, Tourism Research Australia

Australian Capital Territory

Tourism plays an important role in the Australian Capital Territory economy, but most sites are man-made and less vulnerable to climate risks

Tourism is an important industry in ACT

10,000 jobs filled

in tourism in 2022/23, with 3,000 in cafes, restaurants and takeaway food services

$3.1b domestic tourism expenditure

across day trips and overnight stays in the ACT

$600m international expenditure

from over 190,000 tourists

Tourism sites are concentrated in metropolitan ACT

Every top site in ACT is in Canberra

with a high concentration of sites around the Lake Burley Griffin

90% man-made sites

the proportion of top sites in ACT that are man-made

Mount Ainslie

is the top natural attraction in the ACT

Most sites are resilient to the impacts of climate change

Lake Burley Griffin is most at risk

but resilience measures are likely to reduce the impact

Precipitation

is a significant risk for almost all ACT tourism assets but most are relatively resilient to impacts

Storm and flood

is a medium impact to all sites in the ACT

Source: Zurich Resilience Solutions; Mandala analysis

Tourism in the Australian Capital Territory filled 10,000 jobs and attracted $3.7b in total spending in the year ending March 2024

Exhibit 30: Jobs in ACT tourism

'000, 2022/23

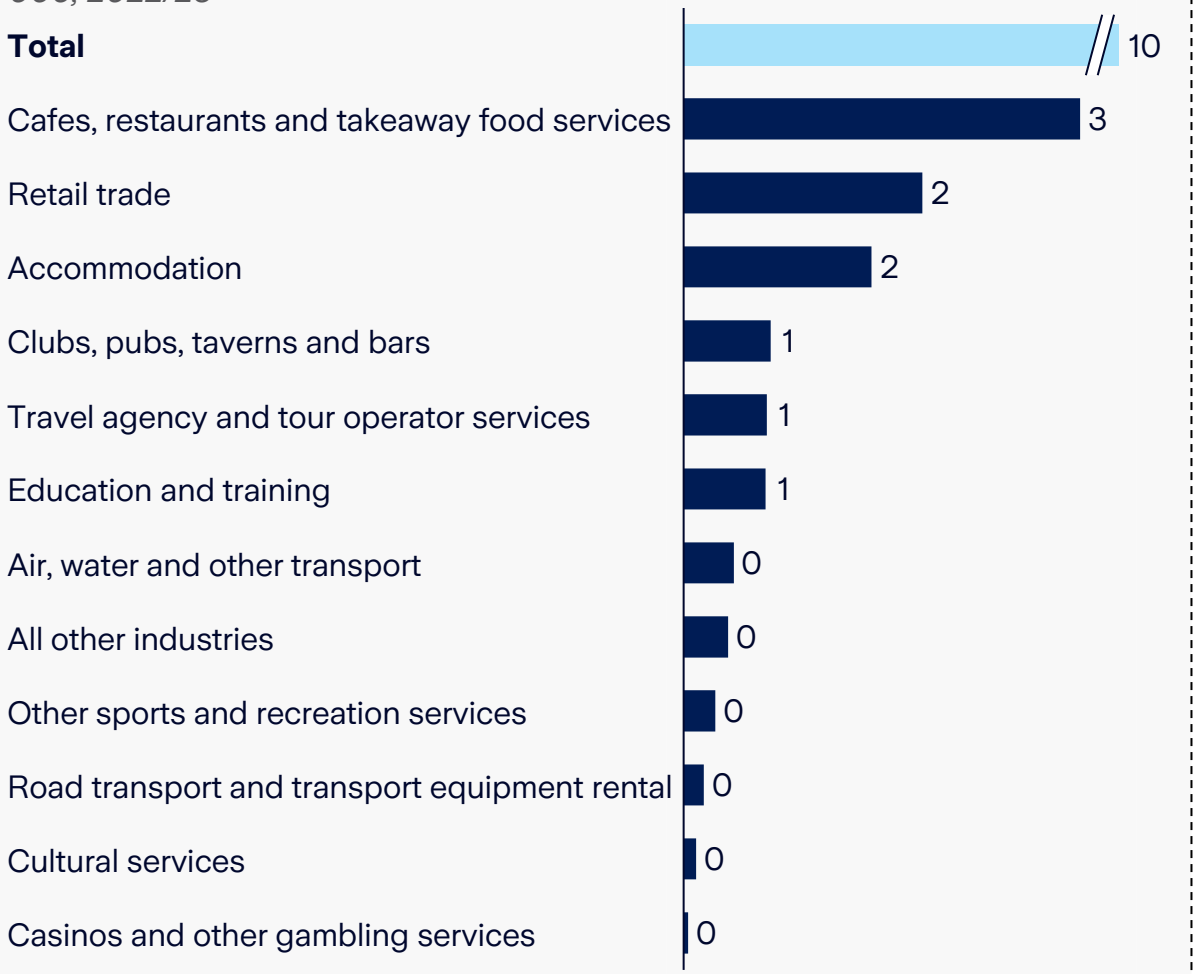
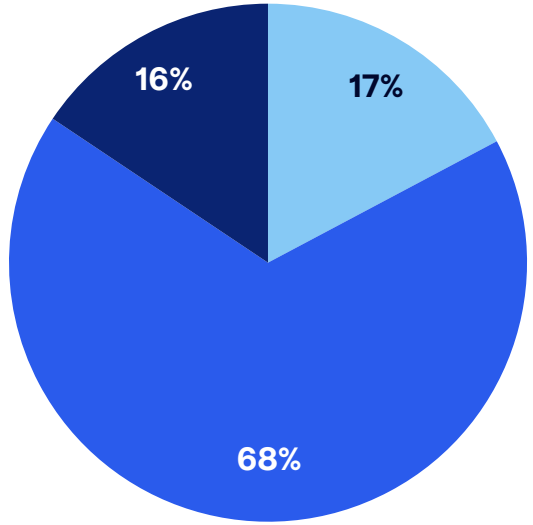


Exhibit 31: Tourism spend in the ACT year ending March 2024

Total expenditure: $3.7b



Domestic day

$291/day average spend in Canberra

Domestic overnight

$289/night average spend in Canberra

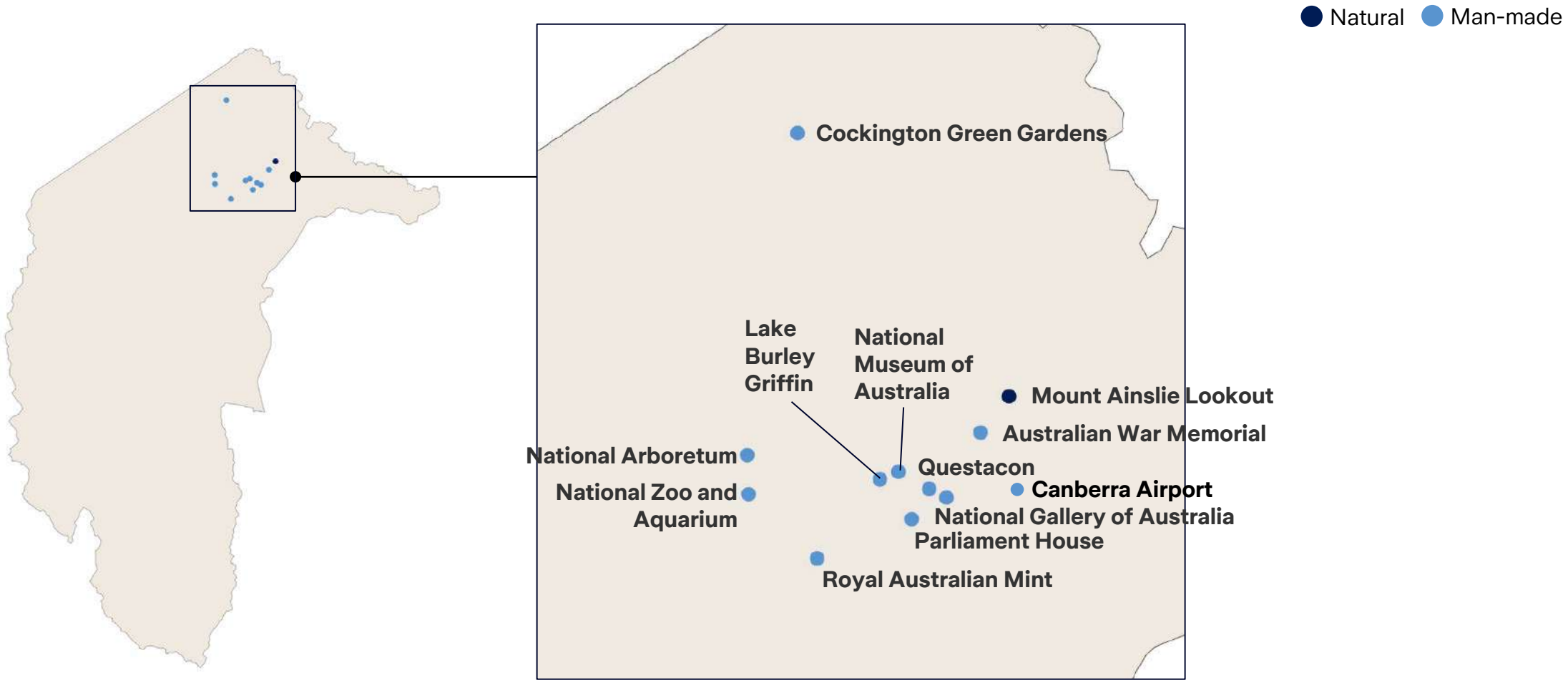
International

$122/night average spend in ACT

Source: Australian Trade and Investment Commission (2024) *Tourism Satellite Accounts*; Australian Trade and Investment Commission (2024) *National Visitor Survey*; Australian Trade and Investment Commission (2024) *International Visitor Survey*

All of the Australian Capital Territory's key tourism assets are located around metropolitan Canberra, and most are man-made

Exhibit 32: Key tourist locations in ACT



Source: TripAdvisor; top 10 trip adviser locations for each state and territory; Mandala analysis.

Despite the Australian Capital Territory facing lower overall climate risk than other jurisdictions, flood, rain and storm impacts some tourism assets

Exhibit 33: Top 10 sites by risk score in ACT

Lower risk — Higher risk

Rank	Tourism site	Score	Category	Flood	Rain	Wind	Storm	Hail	Heat	Drought	Bushfire
1	National Arboretum	21	Vineyard / Garden								
2	Lake Burley Griffin	19	Body of Water								
3	National Museum of Australia	12	Museum / Gallery								
4	Australian War Memorial	10	Museum / Gallery								
5	Cockington Green Gardens	10	Museum / Gallery								
6	National Gallery of Australia	10	Museum / Gallery								
7	National Zoo and Aquarium	10	Museum / Gallery								
8	Parliament House	10	Museum / Gallery								
9	Questacon (National Science and Technology Centre)	10	Museum / Gallery								
10	Royal Australian Mint	10	Museum / Gallery								

Source: Zurich Resilience Solutions using Jupiter Intelligence's ClimateScore Global 2.6; Mandala analysis.

Case study: Lake Burley Griffin

Exhibit 34: ACT site significantly impacted

Lake Burley Griffin sits in the centre of Canberra, with a significant number of national institutions, parks and public spaces located on or near its shores.

The lake is an important freshwater ecosystem and its foreshores support endangered plant and animal species. It also plays an important role in minimising flood risk in Canberra by attenuating flood peaks and assists with water quality management through the capture of pollutants. The latter is vital for maintaining the quality of Lower Molonglo and Murrumbidgee Rivers – making it an integral part of quality management in the Murry-Darling Basin, Australia's most significant basin. Its water is also used to irrigate many public and private spaces in the city, including the Australian National Botanic Gardens.

5 million
visitors to Canberra in the 12-months to September 2023

$3 billion
tourism spend in Canberra 12-months to September 2023

Flood
Very High
Flood risk for Lake Burley Griffin in the *Zurich-Mandala Climate Risk Index*

Storm
High
Storm risk for Lake Burley Griffin in the *Zurich-Mandala Climate Risk Index*

In recent summers, Lake Burley Griffin has experienced frequent outbreaks of blue-green algae, forcing lake closures for extended periods. In early 2024, significant rainfall caused flooding across Canberra, with Lake Burley Griffin recording 70mm and overflowing. In 2023, Canberra's inundation levels were the highest since the year 2000.

Heat
High
Heat risk for Lake Burley Griffin in the *Zurich-Mandala Climate Risk Index*

Source: Office of the Commissioner for Sustainability and the Environment, ACT Gov, ANU

South Australia

Tourism plays an important role in South Australia's economy, with certain natural assets exposed to climate risk

Tourism is an important industry in SA

41,000 jobs filled

in tourism in 2022/23, with 14,000 in cafes, restaurants and takeaway food services

$8.9b domestic tourism expenditure

across day trips and overnight stays in SA

$1.3b international expenditure

from over 550,000 tourists

Tourism sites are spread across metropolitan and regional SA

60% of top sites are in Adelaide

with a high concentration of sites around the CBD

66% man-made sites

the proportion of top sites in SA that are man-made

57% of regional sites

in SA are natural

Certain natural sites face climate risk, while others do not

Glenelg Beach faces very high flood risk

but implementation of resilience measures should maintain tourist numbers

Umpherston Sinkhole is at risk of flooding

and will likely need resilience investment

The location of national parks makes climate risk lower

than some of the state's other natural sites

Source: Zurich Resilience Solutions; Mandala analysis

Tourism in South Australia filled 41,000 jobs and attracted $10.2b in total spending in the year ending March 2024

Exhibit 35: Jobs in SA tourism

'000, 2022/23

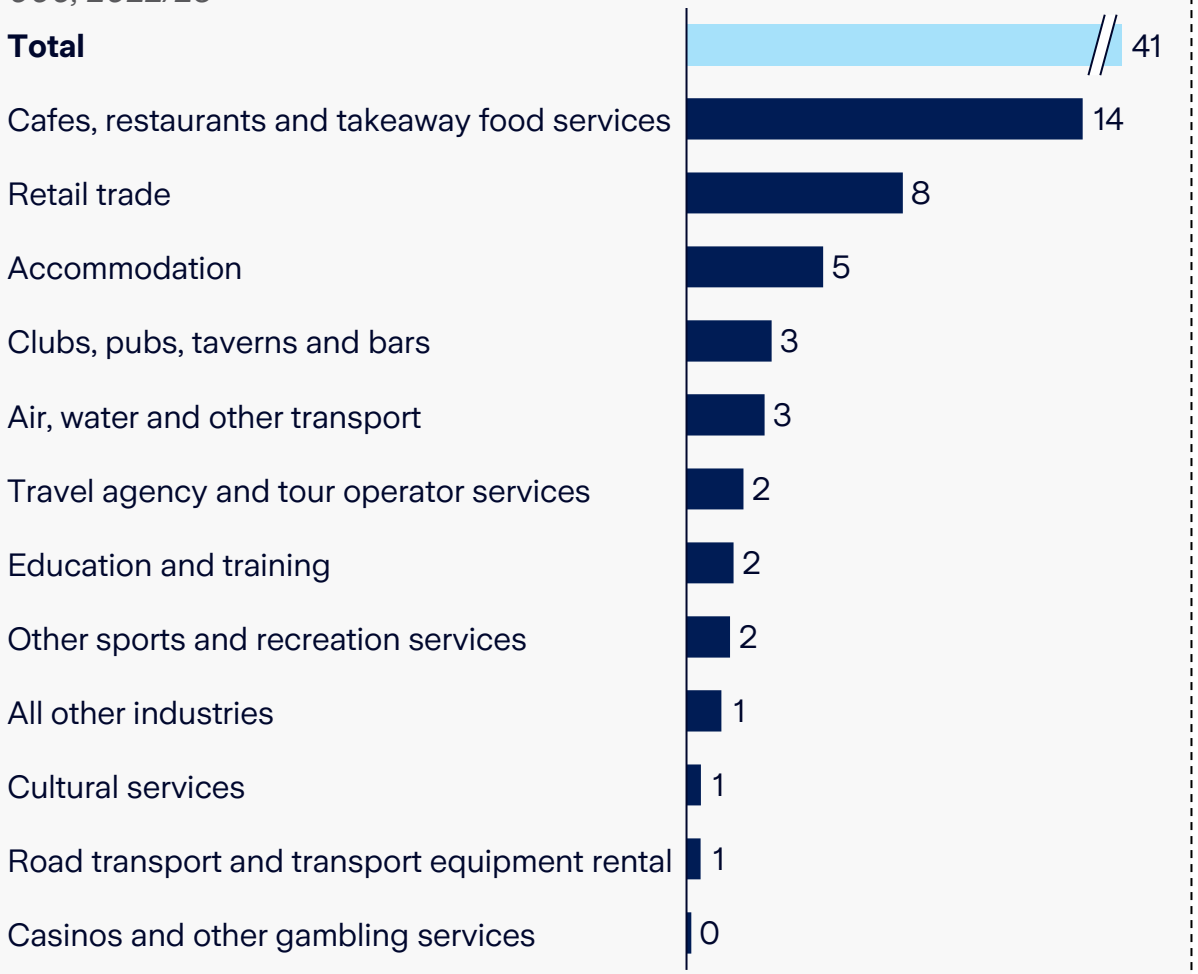
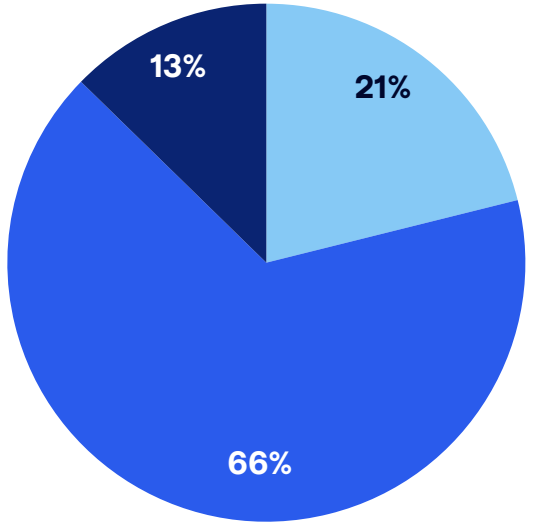


Exhibit 36: Tourism spend in SA year ending March 2024

Total expenditure: $10.2b



Domestic day

61% in regional SA
$163/day average spend Adelaide
$150/day average spend in regional

Domestic overnight

41% in regional SA
$342/night average spend Adelaide
$192/night average spend in regional

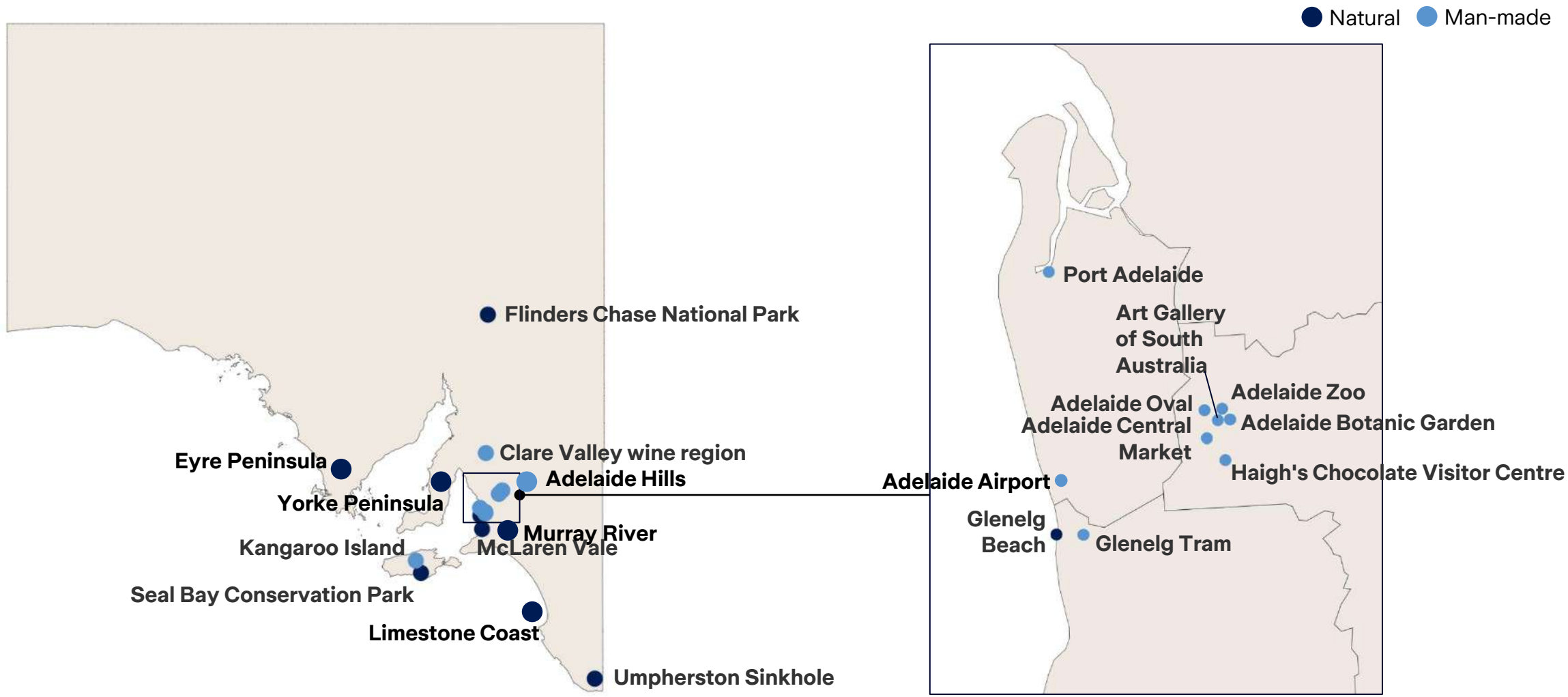
International

$91/night average spend in SA

Source: Australian Trade and Investment Commission (2024) *Tourism Satellite Accounts*; Australian Trade and Investment Commission (2024) *National Visitor Survey*; Australian Trade and Investment Commission (2024) *International Visitor Survey*

Most of South Australia's top tourism assets are in the south east of the state, and are split between natural and man-made sites

Exhibit 37: Key tourism locations in SA



Source: TripAdvisor; top 10 trip adviser locations for each state and territory; Mandala analysis.

South Australian vineyards, national parks and coastal tourism assets face the most severe climate risk in the state

Exhibit 38: Top 10 sites by risk score in SA

Lower risk — Higher risk

Rank	Tourism site	Score	Category	Flood	Rain	Wind	Storm	Hail	Heat	Drought	Bushfire
1	Barossa Valley	29	Vineyard / Garden								
2	Adelaide Hills	27	Vineyard / Garden								
3	Flinders Chase National Park	27	Rainforest / National Park								
4	Clare Valley	27	Vineyard / Garden								
5	Kangaroo Island	26	Rainforest / National park								
6	Adelaide Botanic Garden	24	Vineyard / Garden								
7	Glenelg Beach	24	Beach								
8	McLaren Vale	20	Vineyard / Garden								
9	Glenelg Tram	19	Scenic Road / Railroad								
10	Adelaide Oval	19	Outdoor								

Source: Zurich Resilience Solutions using Jupiter Intelligence's ClimateScore Global 2.6; Mandala analysis.

Case study: South Australia wine regions

Exhibit 39: SA site significantly impacted

South Australia's wine regions are a major tourism draw card for the State, with Clare Valley, Adelaide Hills & Barossa Valley combined drawing 802,000 tourists in 2023 who spent a total of $745 million. Expenditure at Clare Valley has seen a 62% uptick since before the COVID pandemic and in Adelaide Hills, spend has risen by 42% over the same time period.

802,000
visitors to Clare Valley, Barossa Valley & Adelaide Hills combined in 12-months to December 2023

$745 million
spent at Clare Valley, Barossa Valley & Adelaide Hills combined in 12-months to December 2023

Bushfire
Very High
Bushfire risk for several SA wine regions in the *Zurich-Mandala Climate Risk Index*

Rain
High
Rain risk for several SA wine regions in the *Zurich-Mandala Climate Risk Index*

Wind
High
Wind risk for several SA wine regions in the *Zurich-Mandala Climate Risk Index*

Storm
High
Storm risk for several SA wine regions in the *Zurich-Mandala Climate Risk Index*

Heat
High
Heat risk for several SA wine regions in the *Zurich-Mandala Climate Risk Index*

Drought
High
Drought risk for several SA wine regions in the *Zurich-Mandala Climate Risk Index*

Flood
High
Flood risk for several SA wine regions in the *Zurich-Mandala Climate Risk Index*

Extensive rain has previously caused the North Para River to burst its banks, flooding the Barossa Valley. The 2019/20 Australian bushfires destroyed numerous wineries throughout South Australia, with smoke compounds tainting grapes tens of kilometres away, resulting in lost yields due to quality changes. In 2023, the Barossa experienced below average rainfall and very low soil moisture compared to levels experienced in the last decade.

According to the *Zurich-Mandala Climate Risk Index*, the Barossa Valley and other wine regions will see increased climate risk by 2050 under the SSP2-4.5 climate scenario, particularly for bushfire.

Source: Tourism SA, Wine Australia, ANU

Queensland

Tourism plays an important role in the Queensland economy, with several natural assets exposed to significant climate risk

Tourism is an important industry in QLD

146,000 jobs filled

in tourism in 2022/23, with 44,000 in cafes, restaurants and takeaway food services

$34.9b domestic tourism expenditure

across day trips and overnight stays in QLD

$6.1b international expenditure

from over 2,500,000 tourists

Tourism sites are predominantly in regional QLD

60% of top sites are in regional QLD

with a concentration of sites on the coastline

50% man-made sites

The proportion of top sites in SA that are man-made

60% of regional sites

in QLD are natural

Certain natural sites face climate risk, while others do not

The Daintree Rainforest is vulnerable to storms

but boardwalks or scenic railways could be adapted

Coastal activities face wind risk

which can be difficult to mitigate against

National park peak periods may change

as a sign of a tourists adapting to climate risks

Source: Zurich Resilience Solutions; Mandala analysis

Tourism in Queensland filled 146,000 jobs and attracted $41b in total spending in the year ending March 2024

Exhibit 40: Jobs in QLD tourism

'000, 2022/23

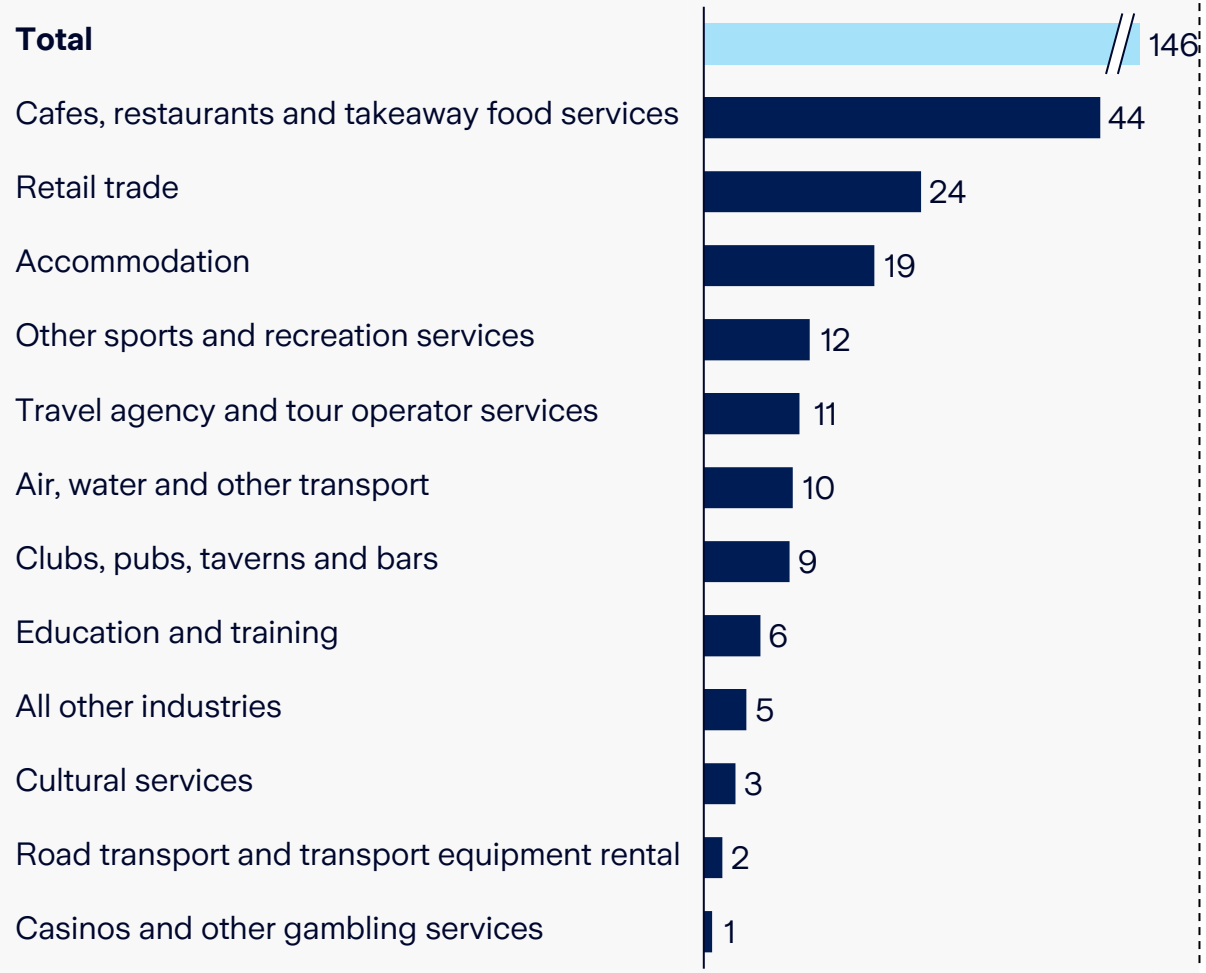
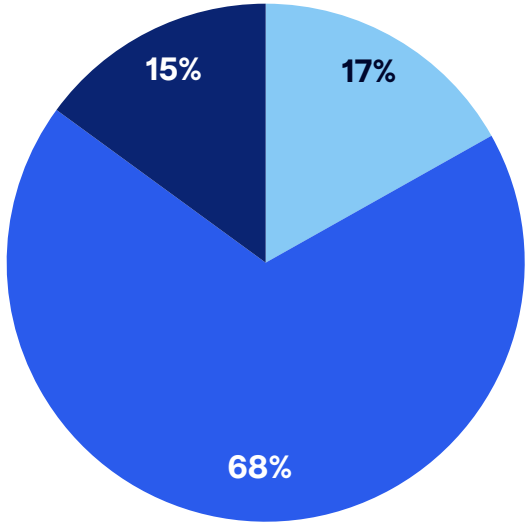


Exhibit 41: Tourism spend in QLD year ending March 2024

Total expenditure: $41b



Domestic day

50% in regional QLD
$142/day average spend Brisbane
$168/day average spend in regional

Domestic overnight

55% in regional QLD
$329/night average spend Brisbane
$257/night average spend in regional

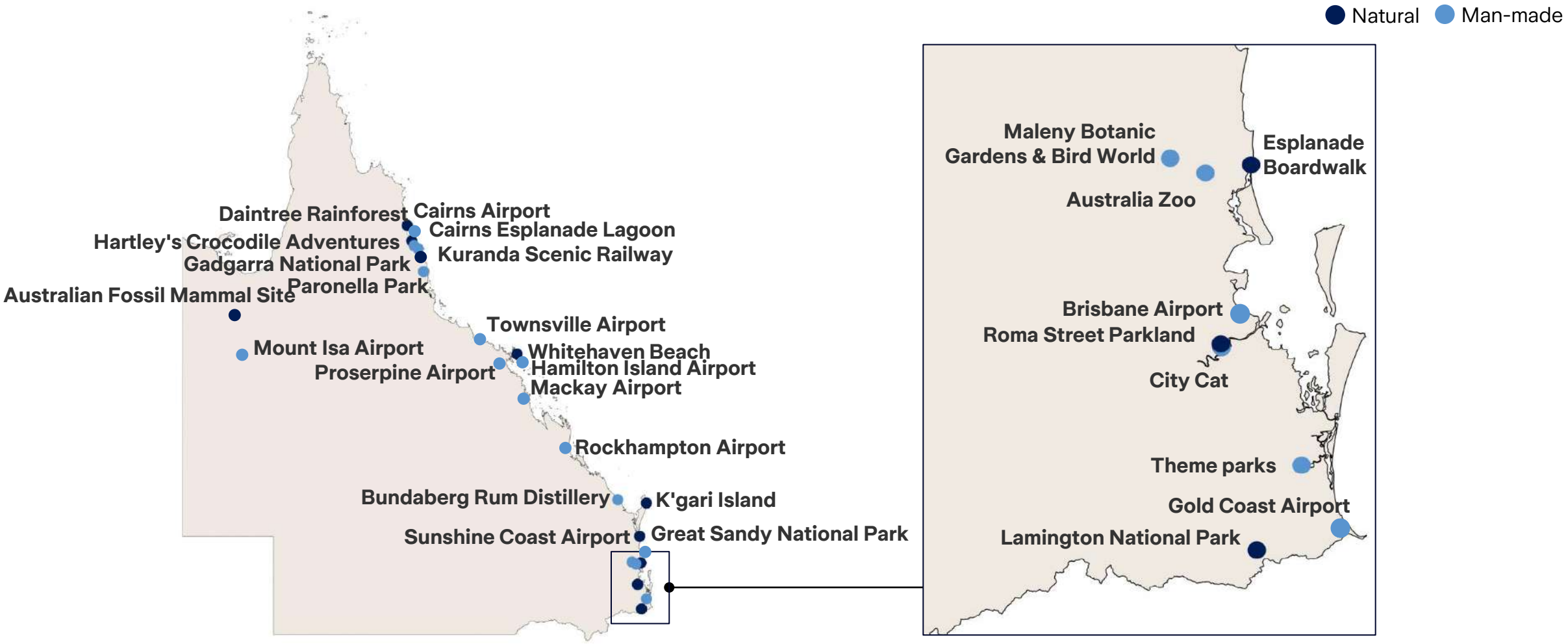
International

$119/night average spend in QLD

Source: Australian Trade and Investment Commission (2024) *Tourism Satellite Accounts*; Australian Trade and Investment Commission (2024) *National Visitor Survey*; Australian Trade and Investment Commission (2024) *International Visitor Survey*

Key tourism assets in Queensland are concentrated on the coastline along the length of the state

Exhibit 42: Key tourism locations in QLD



Source: TripAdvisor; top 10 trip adviser locations for each state and territory; Mandala analysis.

Rainforests and national parks face the most climate risk in QLD, with significant impacts from wind

Exhibit 43: Top 10 sites by risk score in QLD

Lower risk — Higher risk

Rank	Tourism site	Score	Category	Flood	Rain	Wind	Storm	Hail	Heat	Drought	Bushfire
1	Daintree Rainforest	36	Rainforest / National Park								
2	Paronella Park	35	Vineyard / Garden								
3	Great Sandy National Park	34	Rainforest / National Park								
4	Whitehaven Beach	34	Beach								
5	City Cat	32	Scenic Road / Railroad								
6	Gadgarra National Park	31	Rainforest / National Park								
7	Lamington National Park	31	Rainforest / National Park								
8	Fraser Island	28	Rainforest / National Park								
9	Roma Street Parkland	28	Rainforest / National Park								
10	Kuranda Scenic Railway	26	Scenic Road / Railroad								

Source: Zurich Resilience Solutions using Jupiter Intelligence's ClimateScore Global 2.6; Mandala analysis.

Case study: Daintree Rainforest

Exhibit 44: QLD site significantly impacted

Located in Tropical North Queensland, the Daintree Rainforest is Australia's largest rainforest at over 1,200 square kilometres and the oldest rainforest in the world at 135 million years old. It is a UNESCO World Heritage site and is home to numerous flora and fauna species not found anywhere else on the globe. The local Douglas area attracts on average 700,000 visitors each year.

700,000+
visitors per year on average to Douglas LGA

$611 million
average annual tourism spend at Douglas LGA

Wind
Very High
Wind risk in the *Zurich-Mandala Climate Risk Index*

Flood
Very High
Flood risk in the *Zurich-Mandala Climate Risk Index*

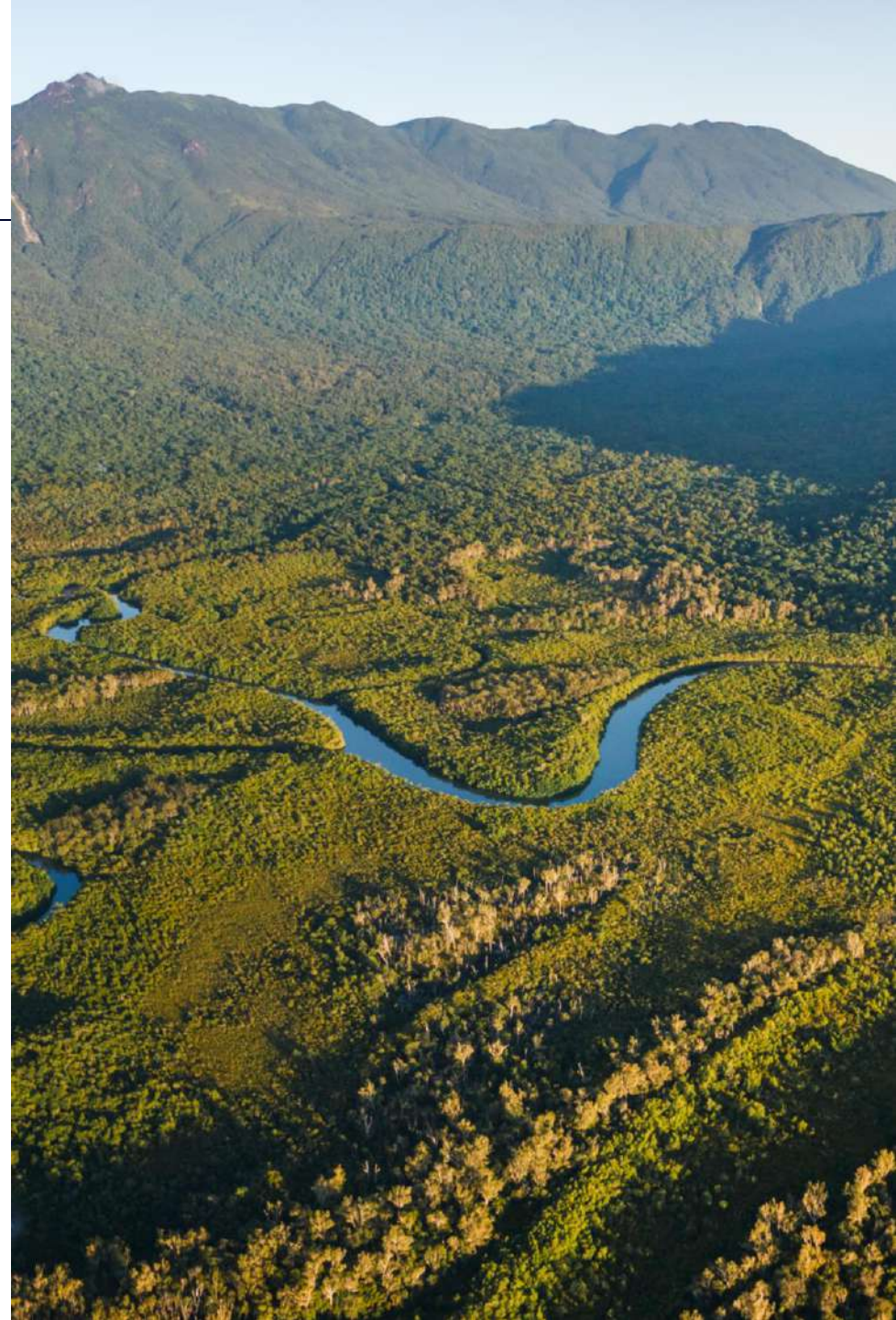
Storm
Very High
Storm risk in the *Zurich-Mandala Climate Risk Index*

Heat
High
Heat risk in the *Zurich-Mandala Climate Risk Index*

Drought
High
Drought risk in the *Zurich-Mandala Climate Risk Index*

Bushfire
High
Bushfire risk in the *Zurich-Mandala Climate Risk Index*

In 2019, the Daintree River experienced its worst flood in 118 years, with locals unreachable by road or phone for significant periods. This century-long record was beaten just four years later during Cyclone Jasper, resulting in widespread flooding. This reportedly cost the region $280 million in lost tourism income in just two months. The deluge also caused a 56-metre landslide which cut off the rainforest village from the rest of the State, impacting access to supplies and emergency services. In 2023, the Daintree experienced the highest levels of rainfall, soil moisture, river flows and inundation since the year 2000.



Source: QLD Gov Department of Tourism and Sport, Tourism Research Australia, ANU

Tasmania

Tourism plays an important role in Tasmania's economy, with specific natural sites exposed to climate risk

Tourism is an important industry in TAS

19,000 jobs filled
in tourism in 2022/23, with 6,000 in cafes, restaurants and takeaway food services

$4.6b domestic tourism expenditure
across day trips and overnight stays in TAS

$400m international spend
from over 300,000 tourists

Tourism sites are concentrated in regional TAS

60% of top sites are within regional TAS
with a high concentration of natural sites in the regions

60% natural sites
the proportion of top sites in SA that are natural

78% of regional sites
in TAS are natural

Certain natural sites face climate risk, while others do not

Bonorong Wildlife Sanctuary is vulnerable to drought
which may affect viability of some species

Wineglass Bay Lookout is impacted by drought
but this is unlikely to affect tourism significantly

Change of visiting patterns
may impact Cataract Gorge Reserve as a result of flooding

43% of tourists visit to see wilderness and wildlife

41% of all visitors visit at least one national park

47% of all visitors undertake a bushwalk

Source: Zurich Resilience Solutions; Mandala analysis

Tourism in Tasmania filled 19,000 jobs and attracted $5b in total spending in the year ending March 2024

Exhibit 45: Jobs in TAS tourism

'000, 2022/23

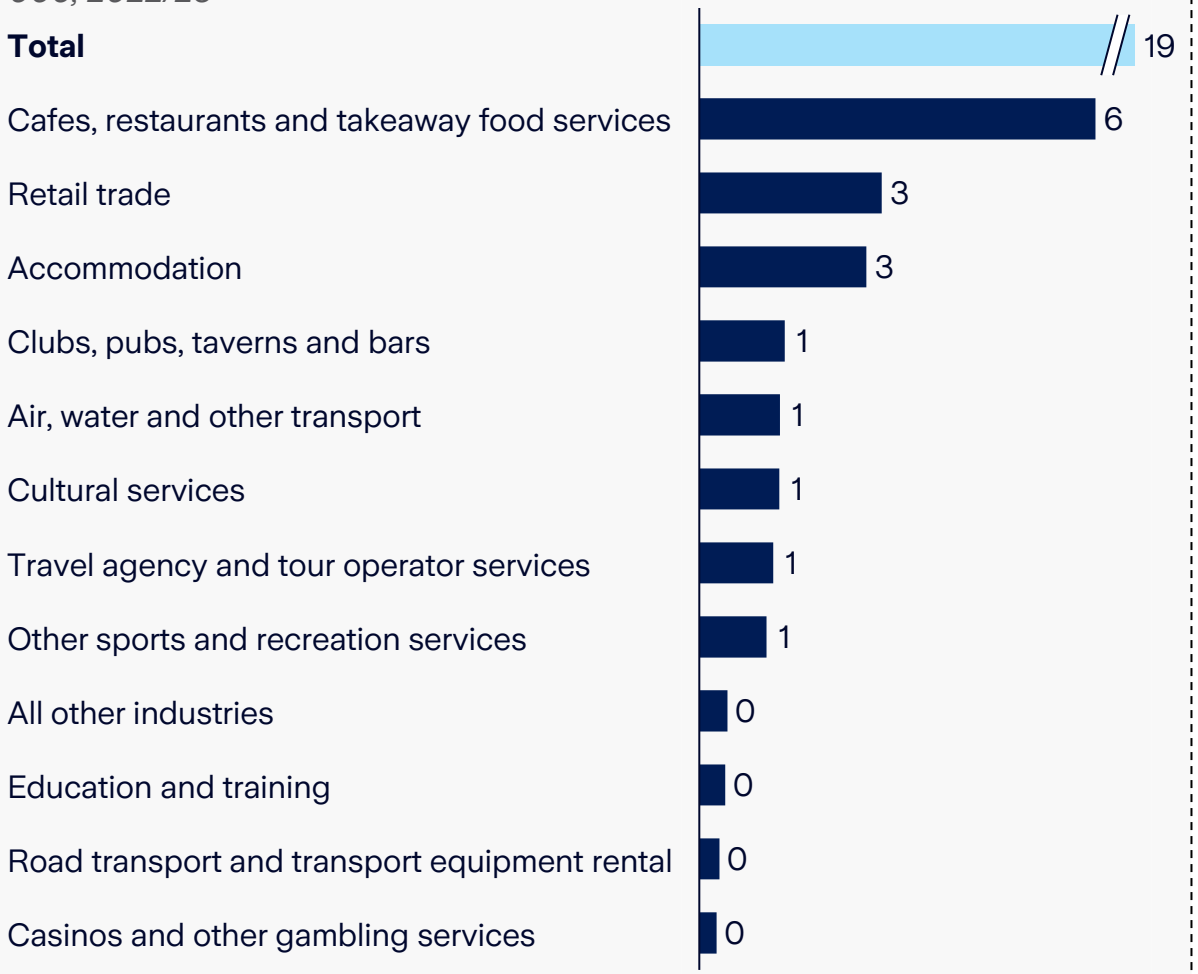
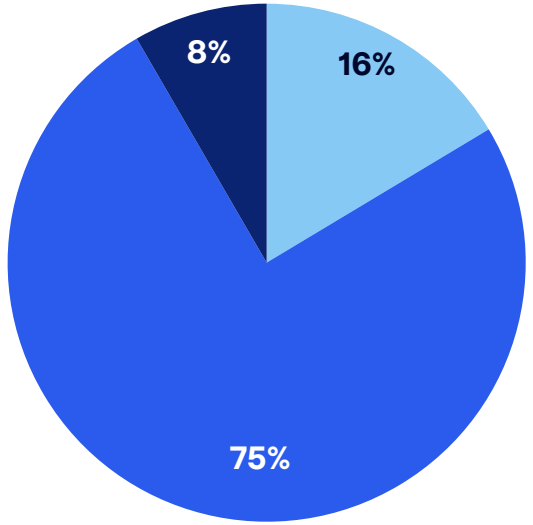


Exhibit 46: Tourism spend in TAS year ending March 2024

Total expenditure: $5b



Domestic day

65% in regional TAS
$130/day average spend in Hobart
$173/day average spend in regional

Domestic overnight

44% in regional TAS
$348/night average spend in Hobart
$249/night average spend in regional

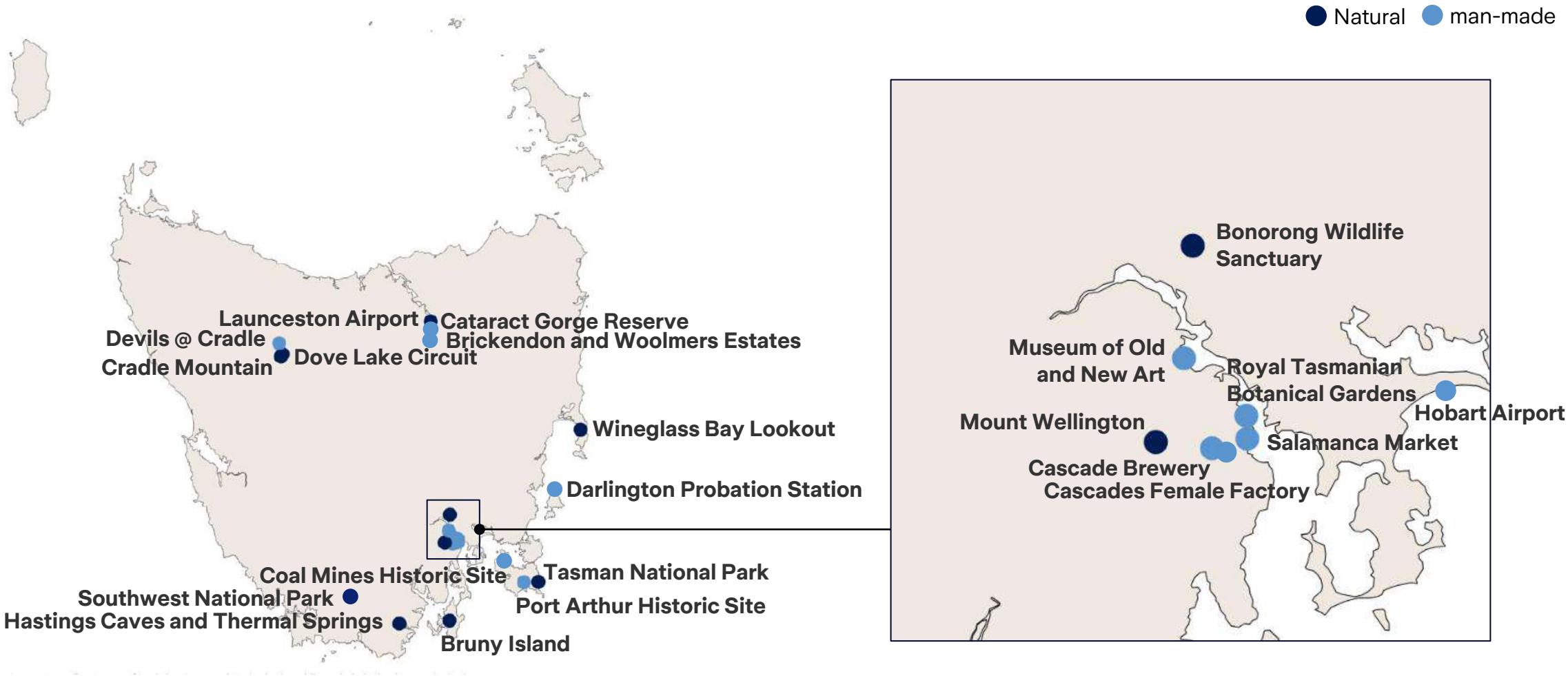
International

$98/night average spend in TAS

Source: Australian Trade and Investment Commission (2024) *Tourism Satellite Accounts*; Australian Trade and Investment Commission (2024) *National Visitor Survey*; Australian Trade and Investment Commission (2024) *International Visitor Survey*

Key tourism assets in Tasmania are spread across the State, with most regional sites being natural

Exhibit 47: Key tourism locations in TAS



Source: TripAdvisor; top 10 trip adviser locations for each state and territory; Mandala analysis.

Tasmania's national parks and rainforests face considerable risk from wind, drought, bushfire and flood

Exhibit 48: Top 10 sites by risk score in TAS

Lower risk — Higher risk

Rank	Tourism site	Score	Category	Flood	Rain	Wind	Storm	Hail	Heat	Drought	Bushfire
1	Cataract Gorge Reserve	30	Rainforest / National Park								
2	Southwest National Park	30	Rainforest / National Park								
3	Bonorong Wildlife Sanctuary	27	Rainforest / National Park								
4	Bruny Island	27	Rainforest / National Park								
5	Tasman National Park	27	Rainforest / National Park								
6	Royal Tasmanian Botanical Gardens	26	Vineyard / Garden								
7	Cradle Mountain - Lake St Clair National Park	20	Rainforest / National Park								
8	Salamanca Market	19	Outdoor								
9	Dove Lake Circuit	17	Scenic Road / Railroad								
10	Darlington Probation Station	16	Museum / Gallery								

Source: Zurich Resilience Solutions using Jupiter Intelligence's ClimateScore Global 2.6; Mandala analysis.

Case study: Bruny Island (lunawanna-allonah)

Exhibit 49: TAS site significantly impacted

Bruny Island is a small island accessible only by ferry off the south-east coast of Tasmania. It has two land masses connected by a sandy isthmus (a narrow strip of land) known as 'The Neck'. It is home to an array of rare wildlife, including the world's largest population of endangered Forty-spotted Pardalote, a third of the world's population of Swift Parrot, the world's smallest penguin breed and rare white wallabies. The island has two threatened ecological communities and five threatened animal and plant species.

64,000+
visitors year ending March 2024

$11 million
estimated revenue year ending March 2024

Drought
Very High
Drought risk in the *Zurich-Mandala Climate Risk Index*

Wind
Very High
Wind risk in the *Zurich-Mandala Climate Risk Index*

Coastal erosion has already become a significant issue at Bruny Island, with numerous properties including the Bruny Island Boat Club losing metres of sand. Locals have in some cases undertaken emergency, unapproved mitigation works on their properties to protect from land slip, causing issues with local council.

Heat
High
Heat risk in the *Zurich-Mandala Climate Risk Index*

Bushfire
High
Bushfire risk in the *Zurich-Mandala Climate Risk Index*

In 2023, Bruny Island experienced the second lowest level of overall rainfall but its highest level of inundation since the year 2000. River flows and soil moisture levels were also at their lowest levels for the same time-period.

According to the *Zurich-Mandala Climate Risk Index*, Bruny Island is expected to face increased climate risk by 2050 under the SSP2-4.5 climate scenario driven particularly by heightened rain risk.

Source: ANU, Tourism Tasmania

Northern Territory

Tourism plays an important role in the Northern Territory economy, with certain natural sites exposed to significant climate risk

Tourism is an important industry in the NT

7,500 jobs filled

in tourism in 2022/23, with 1,800 in cafes, restaurants and takeaway food services

$3b domestic tourism expenditure

across day trips and overnight stays in the NT

$390m international expenditure

from over 230,000 tourists

Tourism sites are concentrated in regional NT

2 out of 3 top tourism sites are in regional NT

and every regional top site is natural

70% natural sites

the proportion of top sites in NT that are natural

61% of regional sites

within the NT are top tourist sites

Certain natural sites face climate risk, while others do not

National parks across the territory are at risk

with significant risk faced from heat, bushfire and rain

Very high risk of heat

impacts almost every tourism site in the NT

Changed visiting seasons for national parks

may result from significant heat impacts

Source: Zurich Resilience Solutions; Mandala analysis

Tourism in the Northern Territory filled 7,500 jobs and attracted $3.4b in total spending in the year ending March 2024

Exhibit 50: Jobs in NT tourism

'000, 2021/22

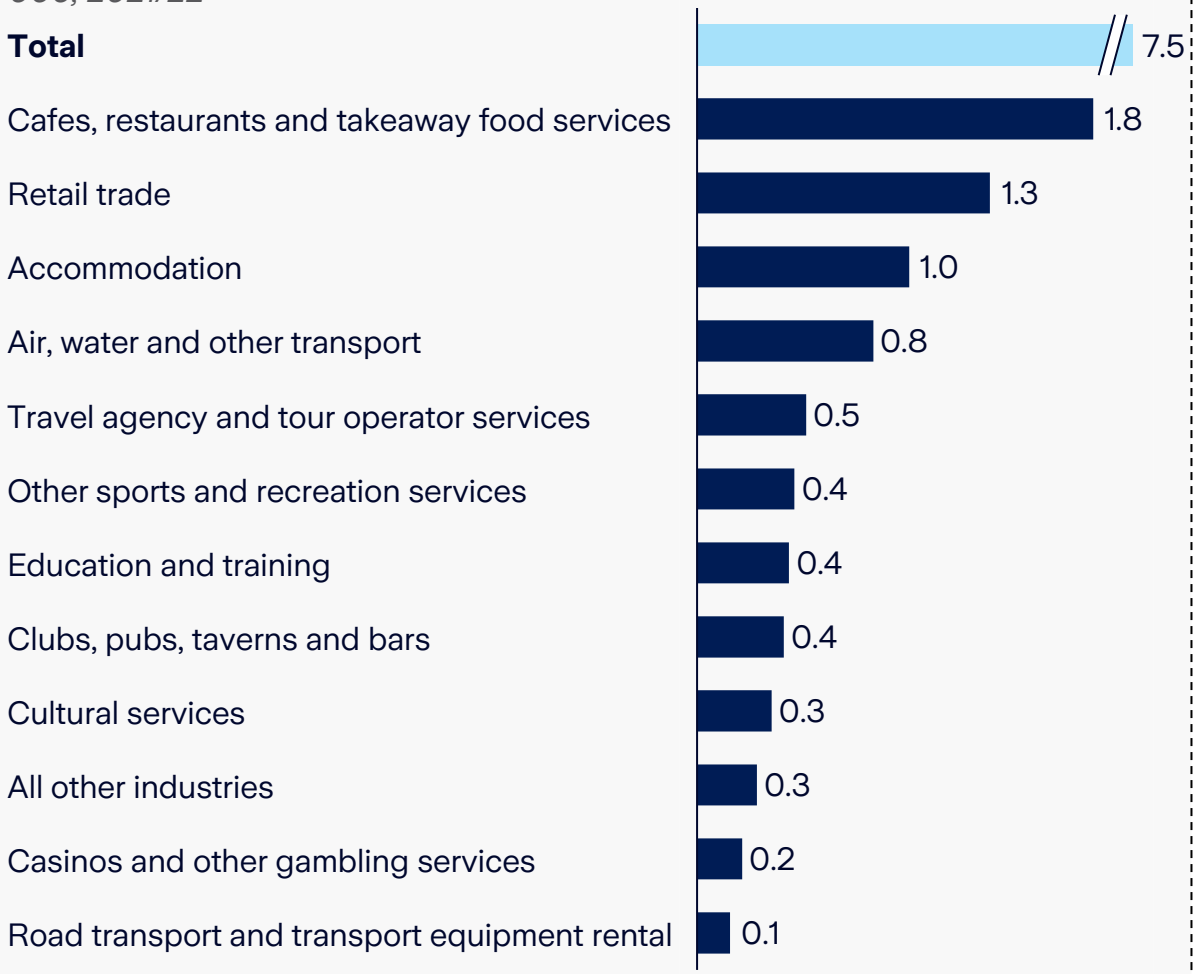
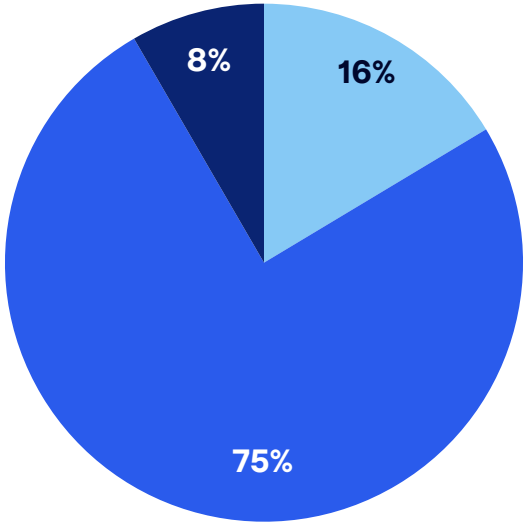


Exhibit 51: Tourism spend in the NT year ending March 2024

Total expenditure: $3.4b



Domestic day

61% in regional NT
$247/day average spend in Darwin
$178/day average spend in regional

Domestic overnight

55% in regional NT
$420/night average spend in Darwin
$365/night average spend in regional

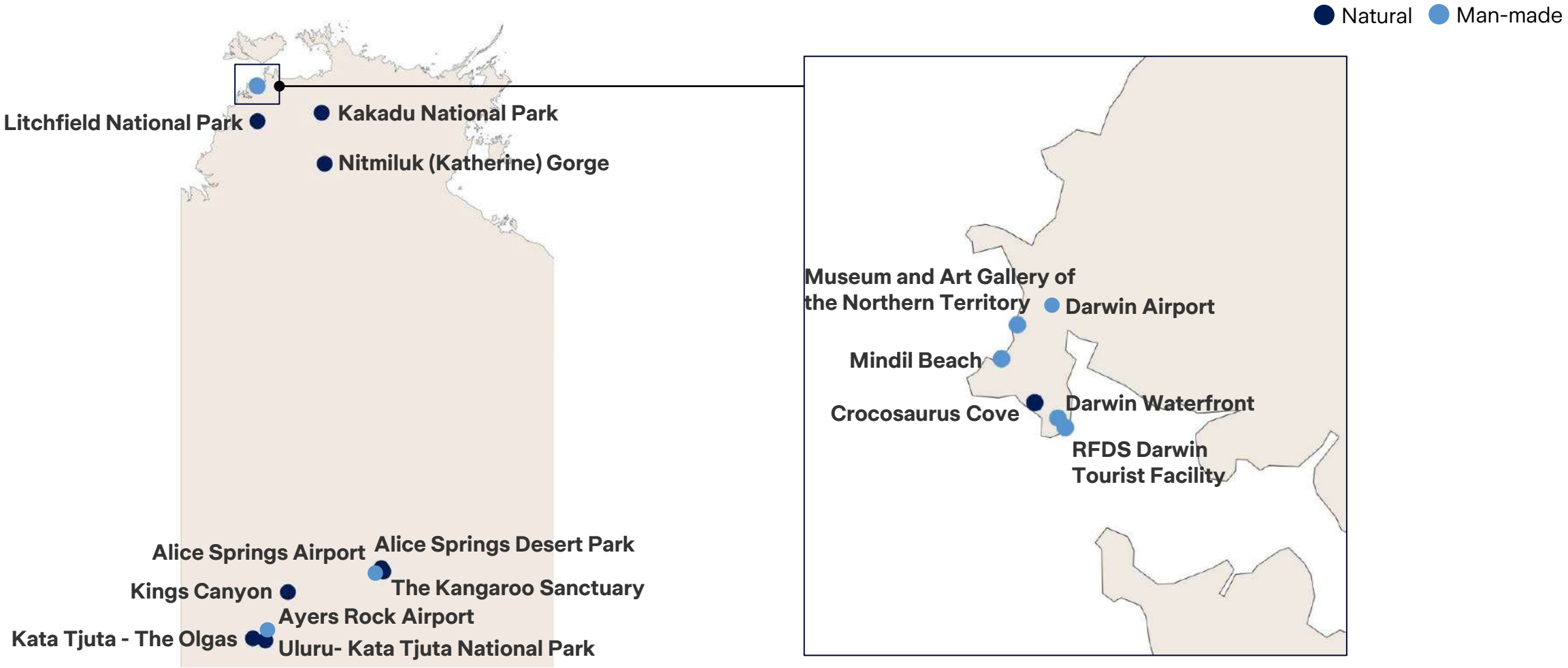
International

$86/night average spend in NT

Source: Australian Trade and Investment Commission (2024) *Tourism Satellite Accounts*; Australian Trade and Investment Commission (2024) *National Visitor Survey*; Australian Trade and Investment Commission (2024) *International Visitor Survey*

Most of the Northern Territory's key tourism assets are located in regional areas and are natural

Exhibit 52: Key tourism locations in NT



Source: TripAdvisor; top 10 trip adviser locations for each state and territory; Mandala analysis.

National Parks face the greatest climate risk in the Northern Territory, with heat and bushfire the most impactful risk

Exhibit 53: Top 10 sites by risk score in the NT

Lower risk — Higher risk

Rank	Tourism site	Score	Category	Flood	Rain	Wind	Storm	Hail	Heat	Drought	Bushfire
1	Litchfield National Park	37	Rainforest / National Park								
2	Kakadu National Park	35	Rainforest / National Park								
3	Nitmiluk (Katherine) Gorge	33	Rainforest / National Park								
4	Uluru- Kata Tjuta National Park	27	Rainforest / National Park								
5	Crocosaurus Cove	25	Beach								
6	Mindil Beach	25	Beach								
7	Darwin Waterfront	23	Outdoor								
8	RFDS Darwin Tourist Facility	20	Museum / Gallery								
9	The Kangaroo Sanctuary	16	Outdoor								
10	Museum and Art Gallery of the Northern Territory	14	Museum / Gallery								

Source: Zurich Resilience Solutions using Jupiter Intelligence's ClimateScore Global 2.6; Mandala analysis.

Case study: Kakadu National Park

Exhibit 54: NT site significantly impacted

Kakadu National Park is the largest national park in Australia and one of the largest in the world's tropics at nearly 20,000 square kilometres. It has been on the UNESCO World Heritage list since 1981. Kakadu has the greatest ecosystem variety in Australia, including extensive areas of savanna woodlands, open forest, floodplains, mangroves, tidal mudflats, coastal areas and monsoon forests. It also has detailed rock art and archaeological sites that reflect 50,000 years of aboriginal inhabitants.

200,000+
visitors in 2022

$94 million
tourism GVA in 2021-22

Heat
Very High
Heat risk in the *Zurich-Mandala Climate Risk Index*

Bushfire
Very High
Bushfire risk in the *Zurich-Mandala Climate Risk Index*

Flood
High
Flood risk in the *Zurich-Mandala Climate Risk Index*

Wind
High
Wind risk in the *Zurich-Mandala Climate Risk Index*

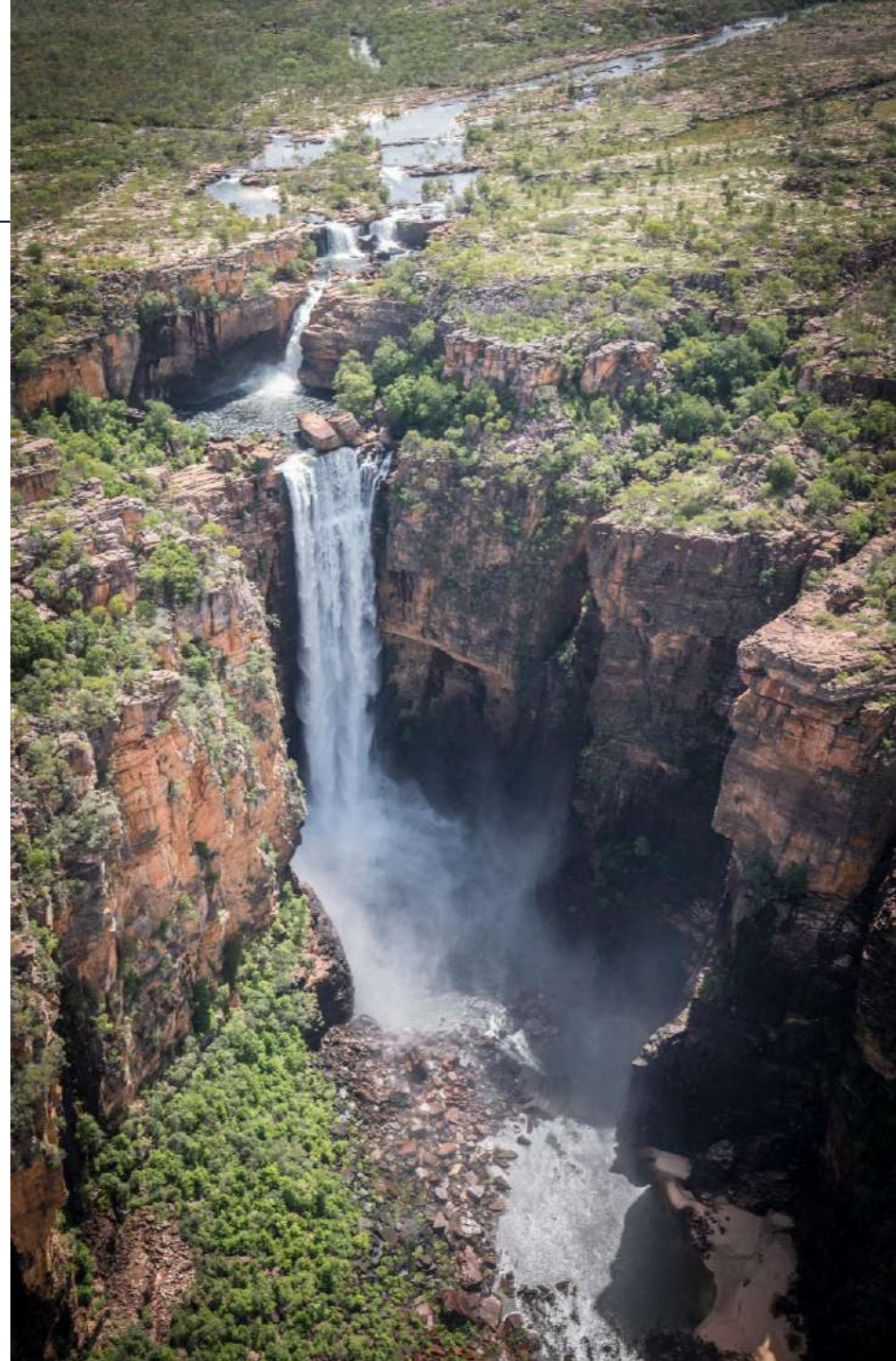
Storm
High
Storm risk in the *Zurich-Mandala Climate Risk Index*

Drought
High
Drought risk in the *Zurich-Mandala Climate Risk Index*

In recent years, Kakadu has closed for extended periods due to extreme heat. Popular sites have also been inaccessible or closed for extended periods due to floods, which has reportedly impacted visitor numbers significantly. In 2019, the International Union for Conservation of Nature, the body responsible for monitoring World Heritage sites, highlighted that Kakadu was under "very high threat" from feral animals and weeds, and "high threat" from fires. In 2023, Kakadu experienced its second highest maximum temperature since the year 2000 and below average rainfall.

According to the *Zurich-Mandala Climate Risk Index*, Kakadu National Park will see increased climate risk by 2050 under the SSP2-4.5 climate scenario, driven by heightened storm risk.

Source: Tourism NT, CSIRO, ABC, ANU



Contents

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Appendix – Tourism Sites (1 of 3)

Attraction	Category	Type	Location
Blue Mountains National Park	Rainforest or national park	Natural	NSW
Bondi Beach	Beach	Natural	NSW
Bondi to Coogee Walk	Scenic road or railroad	Man-made	NSW
Byron Bay	Beach	Natural	NSW
Darling Harbour	Body of water	Natural	NSW
Dubbo Zoo	Outdoor man-made	Man-made	NSW
Hunter Valley wine region	Vineyard or garden	Man-made	NSW
Manly Beach	Beach	Natural	NSW
Mungo National Park	Rainforest or national park	Natural	NSW
Port Stephens	Beach	Natural	NSW
Queen Victoria Building	Museum or gallery	Man-made	NSW
Royal Botanic Gardens Sydney	Vineyard or garden	Man-made	NSW
Sydney Ferries	Outdoor man-made	Man-made	NSW
Sydney Harbour	Body of water	Natural	NSW
Sydney Harbour Bridge	Scenic road or railroad	Man-made	NSW
Sydney Opera House	Museum or gallery	Man-made	NSW
Taronga Zoo	Outdoor man-made	Man-made	NSW
The Rocks	Outdoor man-made	Man-made	NSW
Kosciuszko National Park	Rainforest or national park	Natural	NSW
Hyde Park Barracks	Museum or gallery	Man-made	NSW
Cockatoo Island Convict Site	Museum or gallery	Man-made	NSW
Old Government House and Domain	Museum or gallery	Man-made	NSW
Dorrigo National Park	Rainforest or national park	Natural	NSW
Lord Howe Island	Beach	Natural	NSW
Sydney Airport	Airport	Man-made	NSW
Newcastle Airport	Airport	Man-made	NSW
Ballina Airport	Airport	Man-made	NSW
Coffs Harbour Airport	Airport	Man-made	NSW
Albury Airport	Airport	Man-made	NSW
Western Sydney Airport	Airport	Man-made	NSW
Budj Bim	Rainforest or national park	Natural	VIC
Gippsland National Parks and surrounds	Rainforest or national park	Natural	VIC
Mornington Peninsula	Beach	Natural	VIC
City Circle Tram	Scenic road or railroad	Man-made	VIC
Royal Botanic Gardens Victoria	Vineyard or garden	Man-made	VIC

Attraction	Category	Type	Location
Queen Victoria Market	Outdoor man-made	Man-made	VIC
Melbourne Cricket Ground	Outdoor man-made	Man-made	VIC
Melbourne Skydeck	Museum or gallery	Man-made	VIC
Great Ocean Road	Scenic road or railroad	Man-made	VIC
Melbourne Zoo	Outdoor	Man-made	VIC
Shrine of Remembrance	Museum or gallery	Man-made	VIC
National Gallery of Victoria	Museum or gallery	Man-made	VIC
Block Arcade	Museum or gallery	Man-made	VIC
Phillip Island	Beach	Natural	VIC
Melbourne Airport	Airport	Man-made	VIC
Sovereign Hill (Ballarat)	Outdoor man-made	Man-made	VIC
Twelve Apostles	Geologic formation	Natural	VIC
Grampians National Park	Rainforest or national park	Natural	VIC
Great Otway National Park	Rainforest or national park	Natural	VIC
Royal Exhibition Building	Museum or gallery	Man-made	VIC
Margaret River wine region	Vineyard or garden	Man-made	WA
Kings Park and Botanic Garden	Vineyard or garden	Man-made	WA
Rottnest Island	Rainforest or national park	Natural	WA
Fremantle Prison	Museum or gallery	Man-made	WA
Busselton Jetty	Scenic road or railroad	Man-made	WA
Perth Mint	Museum or gallery	Man-made	WA
Swan River	Body of water	Natural	WA
Cable Beach	Beach	Natural	WA
Pinnacles	Geologic formation	Natural	WA
Turquoise Bay	Beach	Natural	WA
Lake Cave	Cavern or cave	Natural	WA
Jewel Cave	Cavern or cave	Natural	WA
Valley of the Giants Tree Top Walk	Outdoor man-made	Man-made	WA
Karijini National Park	Rainforest or national park	Natural	WA
Ningaloo Reef	Beach	Natural	WA
Wave Rock	Geologic formation	Natural	WA
Kalbarri National Park	Rainforest or national park	Natural	WA
Purnululu National Park	Rainforest or national park	Natural	WA
Shark Bay	Beach	Natural	WA
Perth Airport	Airport	Man-made	WA

Appendix - Tourism Sites (2 of 3)

Attraction	Category	Type	State
Port Hedland Airport	Airport	Man-made	WA
Broome Airport	Airport	Man-made	WA
Newman Airport	Airport	Man-made	WA
Kalgoorlie Airport	Airport	Man-made	WA
Karratha Airport	Airport	Man-made	WA
Paraburdoo Airport	Airport	Man-made	WA
Australian War Memorial	Museum or gallery	Man-made	ACT
Parliament House	Museum or gallery	Man-made	ACT
National Gallery of Australia	Museum or gallery	Man-made	ACT
Questacon (National Science and Technology Centre)	Museum or gallery	Man-made	ACT
Mount Ainslie Lookout	Geologic formation	Natural	ACT
National Museum of Australia	Museum or gallery	Man-made	ACT
Lake Burley Griffin	Body of water	Natural	ACT
Royal Australian Mint	Museum or gallery	Man-made	ACT
National Zoo and Aquarium	Museum or gallery	Man-made	ACT
National Arboretum	Vineyard or garden	Man-made	ACT
Cockington Green Gardens	Museum or gallery	Man-made	ACT
Canberra Airport	Airport	Man-made	ACT
Kingston and Arthur's Vale Historic Area, Norfolk Island	Museum or gallery	Man-made	ACT*
Barossa Valley wine region	Vineyard or garden	Man-made	SA
Kangaroo Island	Rainforest or national park	Natural	SA
McLaren Vale	Vineyard or garden	Man-made	SA
Port Adelaide	Scenic road or railroad	Man-made	SA
Glenelg Tram	Scenic road or railroad	Man-made	SA
Adelaide Botanic Garden	Vineyard or garden	Man-made	SA
Adelaide Central Market	Outdoor man-made	Man-made	SA
Adelaide Zoo	Outdoor man-made	Man-made	SA
Adelaide Oval	Outdoor man-made	Man-made	SA
Seal Bay Conservation Park	Body of water	Natural	SA
Art Gallery of South Australia	Museum or gallery	Man-made	SA
Flinders Chase National Park	Rainforest or national park	Natural	SA
Umpherston Sinkhole	Geologic formation	Natural	SA
Glenelg Beach	Beach	Natural	SA
Haigh's Chocolate Visitor Centre	Museum or gallery	Man-made	SA
Clare Valley wine region	Vineyard or garden	Man-made	SA

Attraction	Category	Type	State
Adelaide Hills	Vineyard or garden	Man-made	SA
Eyre Peninsula	Beach	Natural	SA
Yorke Peninsula	Beach	Natural	SA
Limestone Coast	Beach	Natural	SA
Murray River	Body of water	Natural	SA
Adelaide Airport	Airport	Man-made	SA
Great Sandy National Park	Rainforest or national park	Natural	QLD
Australian Fossil Mammal Sites	Geologic formation	Natural	QLD
Gadgarra National Park	Rainforest or national park	Natural	QLD
South Bank Parklands	Outdoor man-made	Man-made	QLD
City Cat	Scenic road or railroad	Man-made	QLD
Esplanade Boardwalk	Scenic road or railroad	Man-made	QLD
Themeparks	Outdoor man-made	Man-made	QLD
Australia Zoo	Outdoor man-made	Man-made	QLD
Kuranda Scenic Railway	Scenic road or railroad	Man-made	QLD
Hartley's Crocodile Adventures	Outdoor man-made	Man-made	QLD
Maleny Botanic Gardens & Bird World	Outdoor man-made	Man-made	QLD
Cairns Esplanade Lagoon	Body of water	Natural	QLD
Paronella Park	Vineyard or garden	Man-made	QLD
Roma Street Parkland	Rainforest or national park	Natural	QLD
Whitehaven Beach	Beach	Natural	QLD
Bundaberg Rum Distillery	Museum or gallery	Man-made	QLD
Daintree Rainforest	Rainforest or national park	Natural	QLD
K'gari Island	Rainforest or national park	Natural	QLD
Lamington National Park	Rainforest or national park	Natural	QLD
Mackay Airport	Airport	Man-made	QLD
Rockhampton Airport	Airport	Man-made	QLD
Proserpine Airport	Airport	Man-made	QLD
Hamilton Island Airport	Airport	Man-made	QLD
Mount Isa Airport	Airport	Man-made	QLD
Brisbane Airport	Airport	Man-made	QLD
Gold Coast Airport	Airport	Man-made	QLD
Cairns Airport	Airport	Man-made	QLD
Sunshine Coast Airport	Airport	Man-made	QLD
Townsville Airport	Airport	Man-made	QLD

*Norfolk Island is located off the east coast of Australia. While it is not located in the ACT, it has been included as part of ACT's analysis given its inclusion in the federal electoral division of Bean (ACT).

Appendix - Tourism Sites (3 of 3)

Attraction	Category	Type	Location
Bonorong Wildlife Sanctuary	Rainforest or national park	Natural	TAS
Wineglass Bay Lookout	Beach	Natural	TAS
Cascade Brewery	Museum or gallery	Man-made	TAS
Dove Lake Circuit	Scenic road or railroad	Man-made	TAS
Cradle Mountain - Lake St Clair National Park	Rainforest or national park	Natural	TAS
Devils @ Cradle	Outdoor man-made	Man-made	TAS
Hastings Caves and Thermal Springs	Geologic formation	Natural	TAS
Tasman National Park	Rainforest or national park	Natural	TAS
Brickendon and Woolmers Estates	Museum or gallery	Man-made	TAS
Cascades Female Factory	Museum or gallery	Man-made	TAS
Darlington Probation Station	Museum or gallery	Man-made	TAS
Coal Mines Historic Site	Museum or gallery	Man-made	TAS
Southwest National Park	Rainforest or national park	Natural	TAS
Bruny Island	Rainforest or national park	Natural	TAS
Mount Wellington	Geologic formation	Natural	TAS
Museum of Old and New Art	Museum or gallery	Man-made	TAS
Cataract Gorge Reserve	Rainforest or national park	Natural	TAS
Port Arthur Historic Site	Outdoor man-made	Man-made	TAS
Salamanca Market	Outdoor man-made	Man-made	TAS
Royal Tasmanian Botanical Gardens	Vineyard or garden	Man-made	TAS
Launceston Airport	Airport	Man-made	TAS
Hobart Airport	Airport	Man-made	TAS
Uluru- Kata Tjuta National Park	Rainforest or national park	Natural	NT
Museum and Art Gallery of the Northern Territory	Museum or gallery	Man-made	NT
Crocosaurus Cove	Beach	Natural	NT
Darwin Waterfront	Outdoor man-made	Man-made	NT
Mindil Beach	Beach	Man-made	NT
Kata Tjuta - The Olgas	Geologic formation	Natural	NT
Alice Springs Desert Park	Geologic formation	Natural	NT
Nitmiluk (Katherine) Gorge	Rainforest or national park	Natural	NT
RFDS Darwin Tourist Facility	Museum or gallery	Man-made	NT
Kings Canyon	Geologic formation	Natural	NT
The Kangaroo Sanctuary	Outdoor man-made	Man-made	NT
Kakadu National Park	Rainforest or national park	Natural	NT
Litchfield National Park	Rainforest or national park	Natural	NT

Attraction	Category	Type	Location
Darwin Airport	Airport	Man-made	NT
Alice Springs Airport	Airport	Man-made	NT
Ayers Rock Airport	Airport	Man-made	NT

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