

Queensland Strategy for Disaster Resilience

2022–2027

Stronger, safer and more resilient communities



Document details

| | |
|-------------------------|-------------------------------------|
| Security classification | Public |
| Authority | Queensland Reconstruction Authority |
| Document status | Final |
| Version | 1.0 |
| QRA Reference | QRATF/21/3031 GD 0698 |

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Acknowledgements

Resilience is a shared responsibility. The Queensland Strategy for Disaster Resilience 2022–2027 has been developed in consultation with, and contributions from the partner agencies including:

Department of Agriculture and Fisheries

Department of Communities, Housing and Digital Economy

Department of Employment, Small Business and Training

Department of Energy and Public Works

Department of Environment and Science

Department of Premier and Cabinet

Department of Regional Development, Manufacturing and Water

Department of Resources

Department of Seniors, Disability Services and Aboriginal and Torres Strait Islander Partnerships.

Department of State Development, Infrastructure, Local Government and Planning

Department of Tourism, Innovation and Sport

Department of Transport and Main Roads

Office of the Inspector-General of Emergency Management

Office of the Coordinator-General

Queensland Fire and Emergency Services

Queensland Health

Queensland Police Service

Queensland Treasury

Bureau of Meteorology.

Design

The design element used in the Queensland Strategy for Disaster Resilience 2022–2027 is symbolic of a river, while reflecting both the seasonal nature of Queensland's disasters, and the surging nature of disaster recovery and resilience efforts. The objectives of this Strategy are to ensure that we: understand the potential disaster risks we face; work together to better manage disaster risk; seek new opportunities to reduce disaster risk; and continually improve how we prepare for, respond to and recover from disasters. The five coloured lines represent the five functional lines of recovery and resilience (human and social, economic, built, environment and roads and transport) and the lead agencies proactively implementing the Strategy, by working both together and independently, to coordinate and strengthen Queensland's resilience through the strategic priorities and actions outlined in this Strategy.

Cover image: Courtesy ADF.



Image: Deepwater Central Queensland Bushfires 2018. Courtesy QFES.



Foreword

Queenslanders know all too well the impact of natural disasters, with Queensland on the frontline of bushfires, cyclones, and floods. Since 2011, Queensland has experienced more than 97 significant natural disasters, with Commonwealth and State recovery and reconstruction efforts exceeding \$20 billion.

But the cost to our community is far greater.

We face significant challenges into the future, with more extreme weather events and climate change amplifying them. This will expose communities to previously unknown risks, making it critical to increase public understanding of likely impacts and identify opportunities to mitigate and reduce future disaster risk through continued investment in resilience across Queensland.

With this uncertain future environment, it has never been more important that we build our state to be more resilient. It is critical for us to take deliberate steps to enhance cooperation in disaster risk management and collaborate to achieve sustainable resilience.

Using what we have learned over the past decade, the Queensland Strategy for Disaster Resilience 2022–2027 (QSDR) is designed to guide how Queensland can continue to strengthen its disaster resilience, guided by the local and regional needs of our large and diverse state.

Hon Anastacia Palaszczuk

*Premier of Queensland
Minister for the Olympics*

Hon Steven Miles

*Deputy Premier, Minister for State Development, Infrastructure,
Local Government and Planning and Minister Assisting the
Premier on Olympics Infrastructure*

The QSDR sets four key objectives, underpinned by a series of strategic commitments and actions, to improve Queensland's resilience to disasters:

- **Understand risk** – applying data to strengthen risk reduction understanding, culture and education to help Queensland communities become more resilient to future disasters
- **Work together** – increase the role of state-led coordination of resilience outcomes by enhancing cooperation and working across silos to implement whole-of-government activities
- **Seek new opportunities** – leverage regional, local and community knowledge to enhance capability to drive best practice in building resilience
- **Continuous improvement** – clearer, more direct connection of funding to risk-based need.

Disaster resilience requires governments, industry and the community to work together to make a real difference in addressing systemic challenges and keeping Queenslanders safe.

The QSDR does just that, bringing together a range of agencies and sectors to deliver better outcomes for Queensland and make us a more resilient state.

Acknowledgement of Country

We acknowledge the Traditional Owners and Custodians of this Country.

We recognise and honour their ancient cultures, and their connection to land, sea and community.

We pay our respect to them, their cultures, and to their Elders, past, present and emerging.

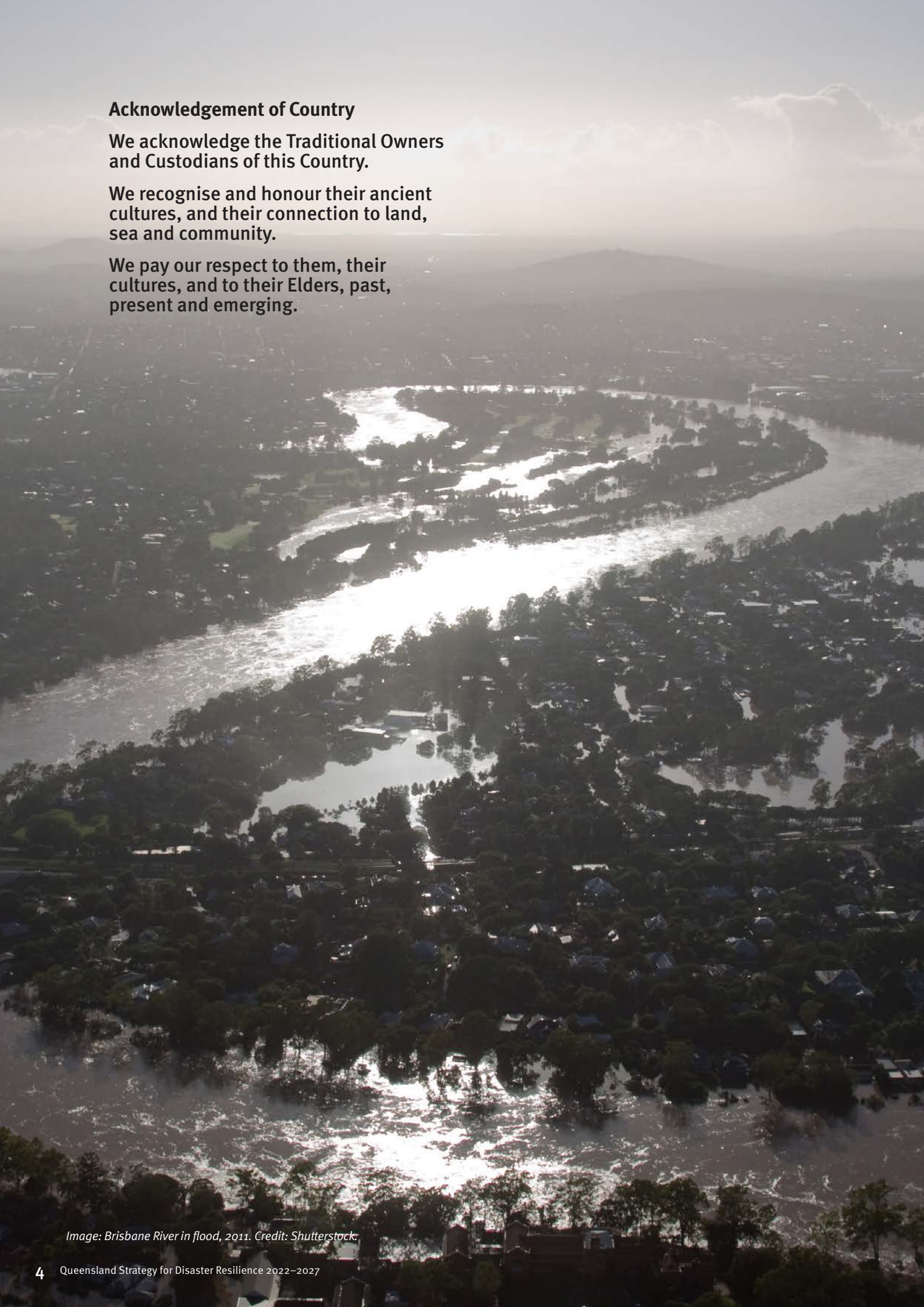


Image: Brisbane River in flood, 2011. Credit: Shutterstock.



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Overview

Context

The Queensland Government is committed to strengthening disaster resilience so our communities are better equipped to deal with the increasing prevalence of natural disasters.

Queensland is the most disaster affected state in Australia having experienced 97 significant disaster events since 2011. With disaster events predicted to increase, it is crucial for Queensland to have a coordinated strategy to better understand, manage and reduce disaster risk, and to continually improve how we prepare for, respond to and recover from disasters.

The purpose of the Queensland Strategy for Disaster Resilience 2022–2027 (QSDR) is to provide an overarching framework to guide and coordinate the delivery of strategic commitments and actions to improve the resilience of Queensland communities across whole-of-government, with the support of key industry stakeholders.

The vision for the QSDR is ‘Stronger, safer and more resilient Queensland communities’.

Four objectives underpin the QSDR:

- **Objective 1** – We understand the potential disaster risks we face
- **Objective 2** – We work together to better manage disaster risk
- **Objective 3** – We seek new opportunities to reduce disaster risk
- **Objective 4** – We continually improve how we prepare for, respond to and recover from disasters.

While disasters cannot be prevented, the Queensland Government can take steps to better understand the risks and use that knowledge to implement targeted measures that effectively mitigate disaster-related impacts, safeguard communities, reduce recovery and reconstruction costs, lessen the likelihood of injury, death and damage, and speed up recovery.

Through the updated QSDR, the Queensland Government has committed to the continued delivery of programs and initiatives that help to build safe, caring and connected communities, create jobs and a diverse economy and protect the natural environment.

Resilience in Queensland is a shared responsibility. The Strategy aims to embed the mandate for collaboration across stakeholders to ensure strategic commitments, actions and responsibilities are clearly outlined with agreed responsible lead agencies for delivery.

The QSDR aligns with international, national and state disaster risk reduction and sustainable development strategies, frameworks and legislation including the:

- United Nations Office for Disaster Risk Reduction (UNDRR) Sendai Disaster Risk Reduction Framework
- National Disaster Risk Reduction Framework
- Royal Commission into National Natural Disaster Arrangements
- Queensland Disaster Management Arrangements (QDMA)
- Queensland Emergency Risk Management Framework (QERMF)
- Queensland Climate Adaptation Strategy (QCAS).

Background

The QSDR was originally developed in 2014, and first revised in 2017 to incorporate climate change risk and deliver a comprehensive, all-hazards approach to building disaster resilience.

From 2017–2022 resilience initiatives have been implemented statewide under Resilient Queensland, the implementation plan for the previous QSDR. One of the most significant achievements is Queensland’s UNDRR commitment to deliver Regional Resilience Strategies that ensure all local governments across the state are part of a locally-led and regionally-coordinated blueprint to strengthen disaster resilience.

In September 2022, it is timely that the QSDR be updated to reflect Queensland’s significant progress in resilience initiatives, and to reflect our new strategic commitments and actions that will strengthen disaster resilience over the next five years.

While the abovementioned four QSDR objectives remain strong and relevant, the revised QSDR reflects and focuses on new strategic commitments and actions to be delivered by state agencies to meet local and regional resilience needs.

A new direction

In 2017, the focus of the QSDR was to have a locally-led and regionally coordinated approach to understand local and regional disaster resilience needs in Queensland.

Now in 2022, to continue to build on this work, the Queensland Government is focused on embedding disaster resilience activities into business as usual to improve disaster resilience and prevent complacency setting in once the memory of a recent disaster has subsided.



Setting the scene: Resilience in Queensland



Image: Caption: Flooding, Brisbane, 2022. Courtesy Raw.Exposed.



The drivers for change

We are facing unprecedented change in both the current and future operating environment with a dynamic political, social, economic and policy landscape surrounding disaster risk reduction and resilience. This is being amplified by natural hazards becoming more frequent and intense due to a changing climate. Essential services are more interconnected and interdependent than ever before, and people and assets are more exposed and vulnerable due to cascading shocks and stresses.

While Queensland has made significant investments in resilience building activities, momentum is still growing to address the financial impacts of a changing climate. As it stands, the cost of recovery and responding to natural disasters still outweighs funding and efforts expended on proactive and strategic resilience measures.

We need to ensure communities have a clear understanding of likely impacts and the strategic commitments that will help to mitigate and reduce future disaster risk through continued investment in resilience across Queensland.

The QSDR 2022-2027 reframes how we will approach and strengthen resilience processes, systems and actions in Queensland over the next five years.

Since 2017 when the last QSDR was released, there have been significant hazard events, both in Queensland and Australia more broadly, including:

- record breaking heatwave events from 2018 to now
- persistent and prolonged drought across much of Queensland
- catastrophic bushfires in central and southern Queensland in 2018–19

- the COVID-19 pandemic which has had a significant and ongoing impact on the economy, society, culture, health and the environment
- repeated and extreme floods, including the Monsoon Trough in 2019 and widespread flooding across Queensland in 2021–22.

The COVID-19 pandemic and climate change are rapidly making it clear that impacts increasingly cascade across geographies and sectors. The impacts of these repeat disaster events are not only felt by people, but also the economy, our infrastructure, and the environment.

Over the past 10 years, our thinking and practice has evolved. What was once a reactive approach to recovery in response to events is now proactive and planned, taking a systems approach which integrates resilience into recovery measures.

However, we still face significant challenges. Disasters, economic loss and the underlying vulnerabilities that drive risk, are continuing to increase. Without increased action to build resilience to systemic risk, disaster risk reduction and sustainable development goals will not be reached. This will require transformations in what governance systems value and how systemic risk is understood and addressed.

Looking forward, we need our leaders in communities, governments and other organisations to consider and recommend resilient results when making decisions, investments and developing core services, products, policies, infrastructure and mitigation.

There are increasing numbers of players in the disaster risk reduction and resilience fields and we will need clear coordinated leadership and collaborative government at all levels. Leaders will require the space to think differently and creatively about problems with a systems approach supported with the latest technologies and up-to-date data and information.

Image: Flooding, Maryborough, 2022.



Policy alignment

The QSDR 2022–2027 has a clear alignment to global, national, state, regional and local policy.

Global

The Sendai Framework for Disaster Risk Reduction 2015–2030 was adopted at the Third United Nations World Conference on Disaster Risk Reduction in Sendai, Japan, in March 2015.

The Sendai Framework is one of three global agreements developed as part of the ‘post 2015 sustainable development agenda’. Together with the Sustainable Development Goals and the Paris Agreement on Climate Change, the Sendai Framework sets the strategic approach for how nations should approach disaster risk to achieve a substantial reduction of disaster risk and losses in lives, livelihoods and health, and in the economic, physical, social, cultural and environmental assets of persons, businesses, communities and countries over the next 15 years.

Unsurprisingly, over the past decade extreme weather events, the pandemic, and failure of climate change mitigation and adaptation have remained as a central feature on the global risk landscape.

In May 2022, the Seventh Session of the Global Platform for Disaster Risk Reduction (GP2022) was held to learn from the COVID-19 pandemic, evaluate successes and challenges in working on disaster risk reduction, and to accelerate progress towards disaster resilience and sustainable development.

As highlighted during the GP2022, managing complex and interconnected risks, such as climate change, pandemics, ecosystem degradation, nature and biodiversity loss represent some of the most pressing global challenges of today. There is significant opportunity within innovation, emergent capacities and collaboration that can help manage disaster risk.

National

The Australian Government leads the nation's policy approach to strengthen national resilience to natural hazard induced disasters. The National Recovery and Resilience Agency, and its predecessors the National Resilience Taskforce and Emergency Management

Australia, have played a significant role in guiding disaster recovery and resilience activities through the National Strategy for Disaster Resilience, the National Disaster Risk Reduction Framework (NDRRF), and the National Action Plan – which together provide the overarching framework to reduce disaster risk and improve Australia's resilience .

Increasing pro-active and coordinated investments and actions in resilience-building is critical to support the NDRRF and Action Plans. The second National Action Plan is under development and will continue the work towards improving Australia's disaster resilience.

State

The QSDR aligns with international, national and state disaster risk reduction and sustainable development agendas with the key state strategies and frameworks being the QDMA, QERMF and QCAS.

Queensland's disaster resilience is built through collaborative approaches that are locally-led, regionally coordinated and supported by state resources. These are guided by local leadership, flexibility and adaptation, shared responsibility and prioritisation, with a view to resilience becoming business as usual.

Queensland recently achieved its voluntary commitment to the UNDRR Sendai Framework for Disaster Risk Reduction – delivery of Regional Resilience Strategies in Queensland, which enables communities to be aware of their disaster risks and aims to reduce disaster risk through integrated resilience planning across economic, human and social, built, roads and transport and environmental lines of resilience.

www.qra.qld.gov.au/qsdr

Regional and local

The Queensland Government is committed to strengthening disaster resilience so our communities are better equipped to deal with the increasing prevalence of natural disasters. As a result of statewide engagement over recent years, by the end of 2022, every region across Queensland will be part of a locally-led and regionally-coordinated blueprint to strengthen disaster resilience.



Diagram 1: Resilience policy line of sight.

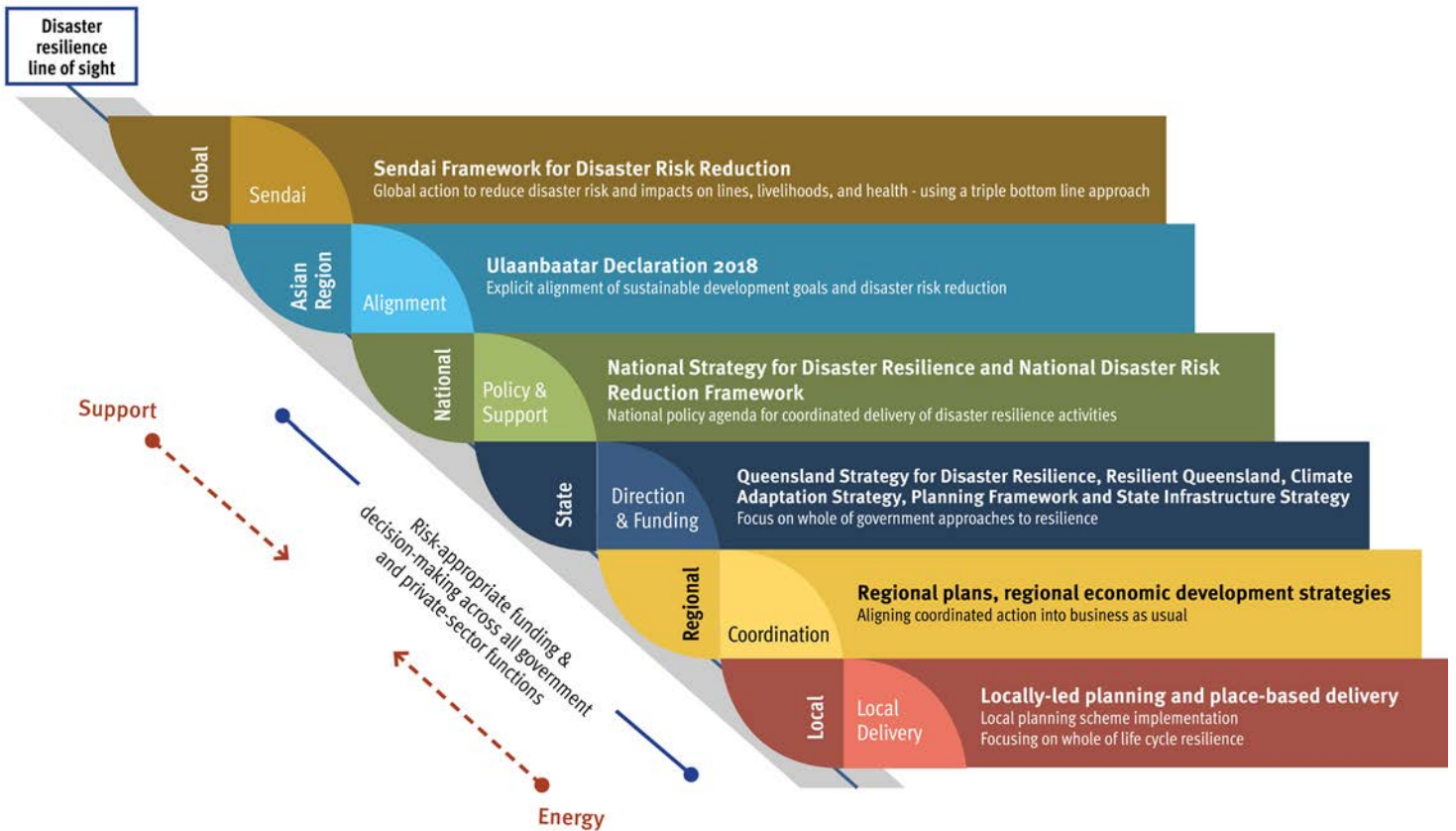


Image: International meeting in Brisbane to plan for the Asia-Pacific Ministerial Conference for Disaster Risk Reduction, November 2019. Courtesy QRA.



Case study: Queensland's Regional Resilience Strategies

Resilient Queensland 2018-2021: Delivering the Queensland Strategy for Disaster Resilience (2018) was developed in consultation with state agencies, the private sector and local governments to coordinate the statewide delivery of the QSDR 2017. It is a whole-of-government response to disaster resilience that involves better coordination of government policy, information management, project delivery and stakeholder collaboration.

In 2022, every region across Queensland will be part of a locally-led and regionally-coordinated blueprint to strengthen disaster resilience. Under Resilient Queensland, a total of 14 resilience regions are identified and illustrated in the Resilience Strategy Regions Map below. The resilience regions consider District Disaster Management Groups (DDMG) areas with a level of alignment between the regions and DDMG areas. Due to the scope of the resilience strategies being broader than disaster management, the resilience regions also consider Regional Plan areas, Regional Organisation of Councils boundaries and catchment boundaries.

Queensland's Regional Resilience Strategies are supported by detailed local resilience action plans for councils that guide implementation of resilience actions over time aligned with potential investment pathways to

sustain effort by all stakeholders. Queensland now has a list of locally derived actions that can assist shape future investment in disaster resilience in Queensland.

The Regional Resilience Strategies and local resilience action plans will help to keep Queenslanders safe by providing a coordinated approach to identify and prioritise disaster resilience actions.

Resilient Queensland has:

- Enabled locals to tell their unique story of disaster resilience across each of Queensland's diverse regions
- Helped state and federal governments better understand what needs to be done to improve disaster resilience in Queensland
- Focused attention and effort on planning for disaster resilience across all levels of government
- Increased capacity and capability across Queensland to identify and address resilience issues
- Supported the coordination and prioritisation of future funding against identified needs
- Begun to unlock resilience and mitigation funding to address the identified needs

To review each of the Regional Resilience Strategies, please visit the QRA webpage www.qra.qld.gov.au/regional-resilience-strategies.

Queensland's Regional Resilience Strategies (Regions and Local Government Areas)

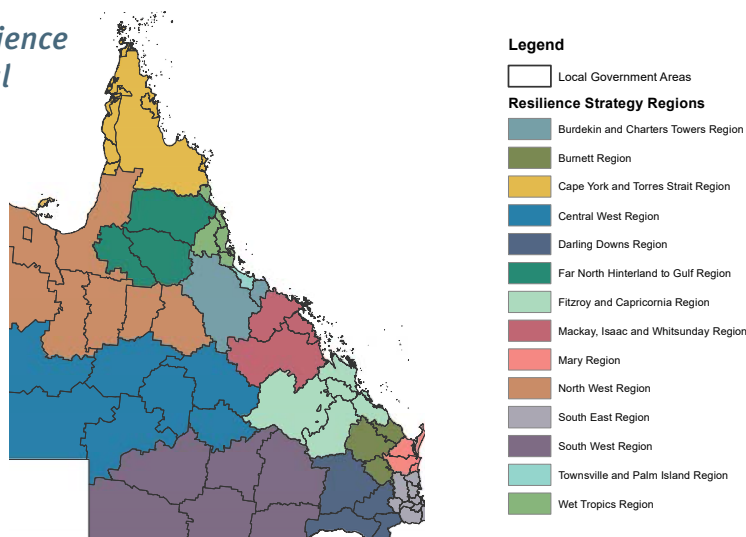


Image: Flooding, Rockhampton, 2010: Courtesy QRA.



Our partners

Resilience is a shared responsibility and the success of the QSDR will depend on the collective effort of individuals, communities, businesses, and state agencies. Strong well connected networks, together with a coordinated collaborative approach to increase alignment of effort across the disaster management cycle, will provide a primed environment for disaster resilience initiatives to take effect.

The lead state agency for coordinating the QSDR is the Queensland Reconstruction Authority, under guidance of the Queensland Resilience Coordination Committee (QRCC). The QRCC is also responsible for overseeing the implementation of the Strategy and reports to the Queensland Disaster Management Committee (QDMC).

Everyone has a role to play, and all Queenslanders are encouraged to consider what the objectives, strategic commitments and actions mean for them and how they can contribute to improving overall community resilience.

In Queensland, it is recognised that a collective effort is required from all levels of government, businesses and the community to build well connected networks.

Partner agencies for the development and delivery of the QSDR are listed in the Acknowledgements (page 2).

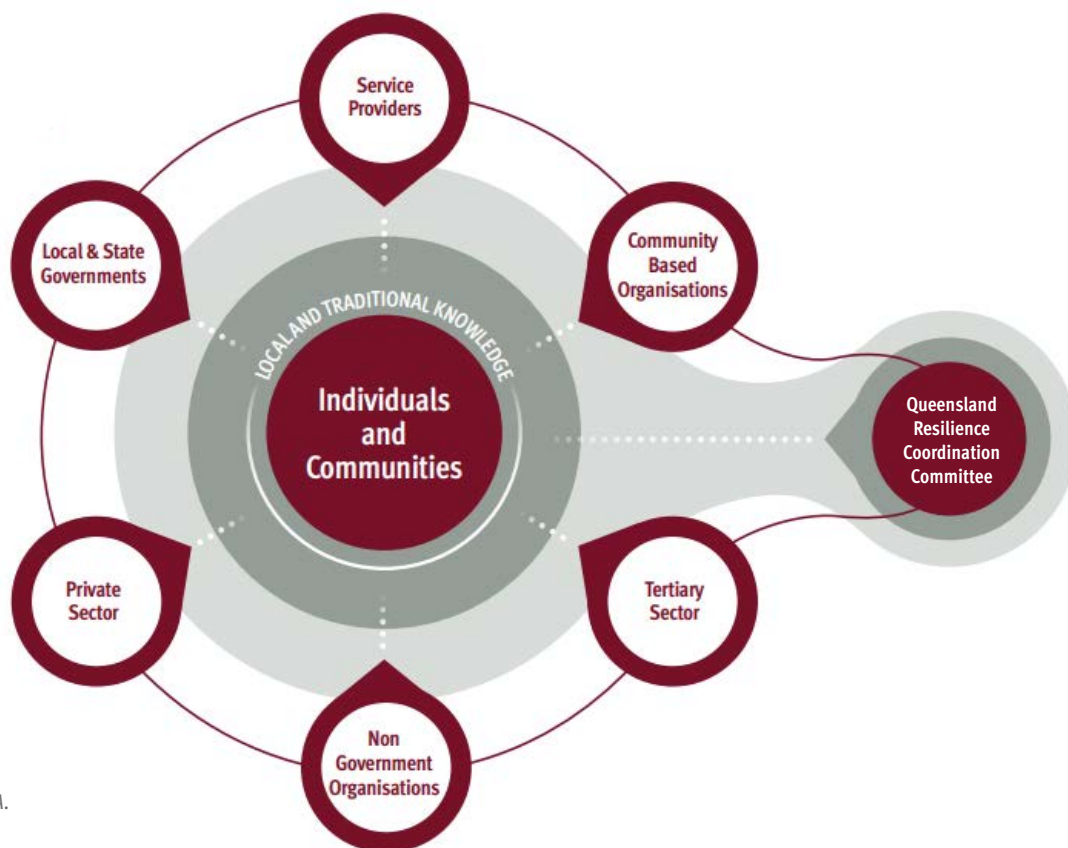


Image: Courtesy QRA.



Governance

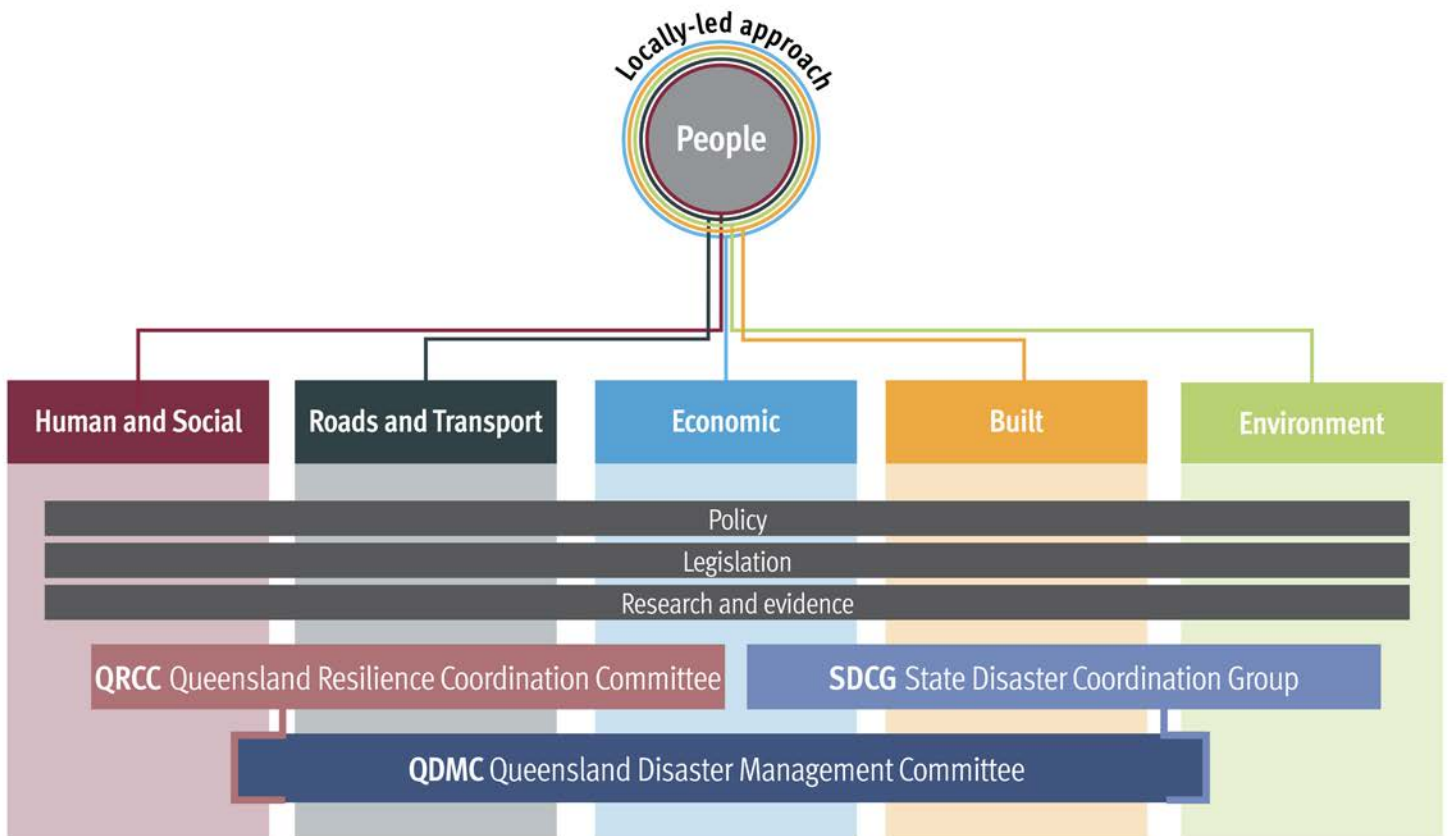


Image: Bloomfield River near Wujal Wujal. Credit: Shutterstock.



Image: Cardwell, Cyclone Yasi, February 2011. Courtesy Townsville Bulletin.



Disaster risk in Queensland

Queensland spans a very vast and diverse landscape. We have 77 local government areas, consisting of rural, remote, Aboriginal and Torres Strait Islander, coastal and urban communities, with 75 per cent of our total population of 5.2 million people living in coastal areas and floodplains.

Queensland is vulnerable to a range of hazards including tropical cyclones, floods, bushfires, severe weather, heat waves and coastal inundation, and has endured more than 97 disaster events since 2011. Nearly every town in Queensland has been adversely impacted by one or more disaster event in that time. Since 2020, the impacts from these disaster events has been compounded by the ongoing affects of the COVID-19 pandemic on Queensland communities ability to recover and build resilience to future events.

The State Disaster Risk Report 2021/22 provides a comprehensive analysis of the ten hazards that are most relevant to the Queensland context, and is used to inform the management of risks that these hazards pose. Of particular note is that the report equates climate risk with disaster risk, and uses cutting-edge climate modelling to improve our understanding of present risk.

The report finds that flooding is of the highest priority hazard to Queensland due to potentially high impacts across the entire State. Other high priority hazards for Queensland include:

2. Tropical cyclone
3. Bushfire
4. Severe thunderstorm
5. Heatwave
6. Pandemic
7. Biosecurity incidents
8. Chemical, biological and radiological incidents
9. Earthquake
10. Tsunami

Image: STC Debbie 2017 (NASA).

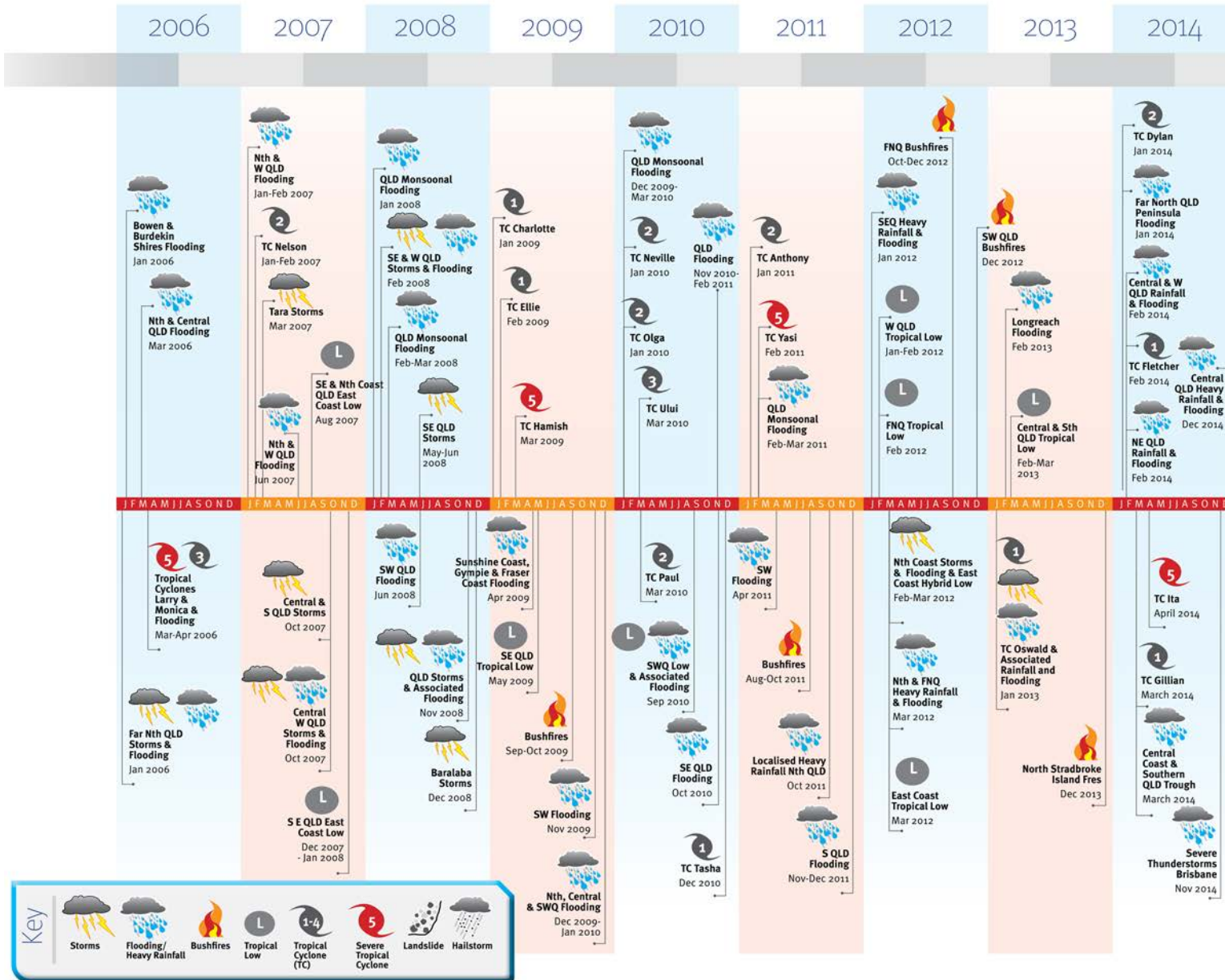
Natural disasters are also increasingly costly in human and economic terms. According to the *Special Report: Update to the economic costs of natural disasters in Australia (2021)*, Queensland has the greatest risk profile of any state due to geography and population density and is expected to incur the largest increase in costs related to natural disasters. Queensland will account for nearly 40 per cent of the national costs.

The report found that coastal population centres in South-East Queensland will experience some of the highest increases in damage costs related to natural disasters as they become more exposed to tropical cyclones and floods. Additionally, costs in Brisbane will also increase as major rivers in this city, alongside growing populations, will lead to greater costs associated to tropical cyclones and flooding. The estimated costs and identification of regions exposed to climate change highlight the need for ongoing investment in improving disaster resilience.

An in-depth understanding of the risks posed by different hazards can help to coordinate and target investments and activities to reduce impacts on some of the most vulnerable areas in Queensland. Understanding disaster risk within Queensland's context involves continued development, strategic partnerships, and community knowledge of exposure and vulnerability. Being a state well versed in disasters, local and regional level resilience has been embedded through decades of experience managing, planning for, and responding to disasters.

Timeline of natural disasters in Queensland

Queensland's significant disaster events that have been activated for disaster funding visit are listed at: www.qra.qld.gov.au/disaster-funding-activations/activations



2015

2016

2017

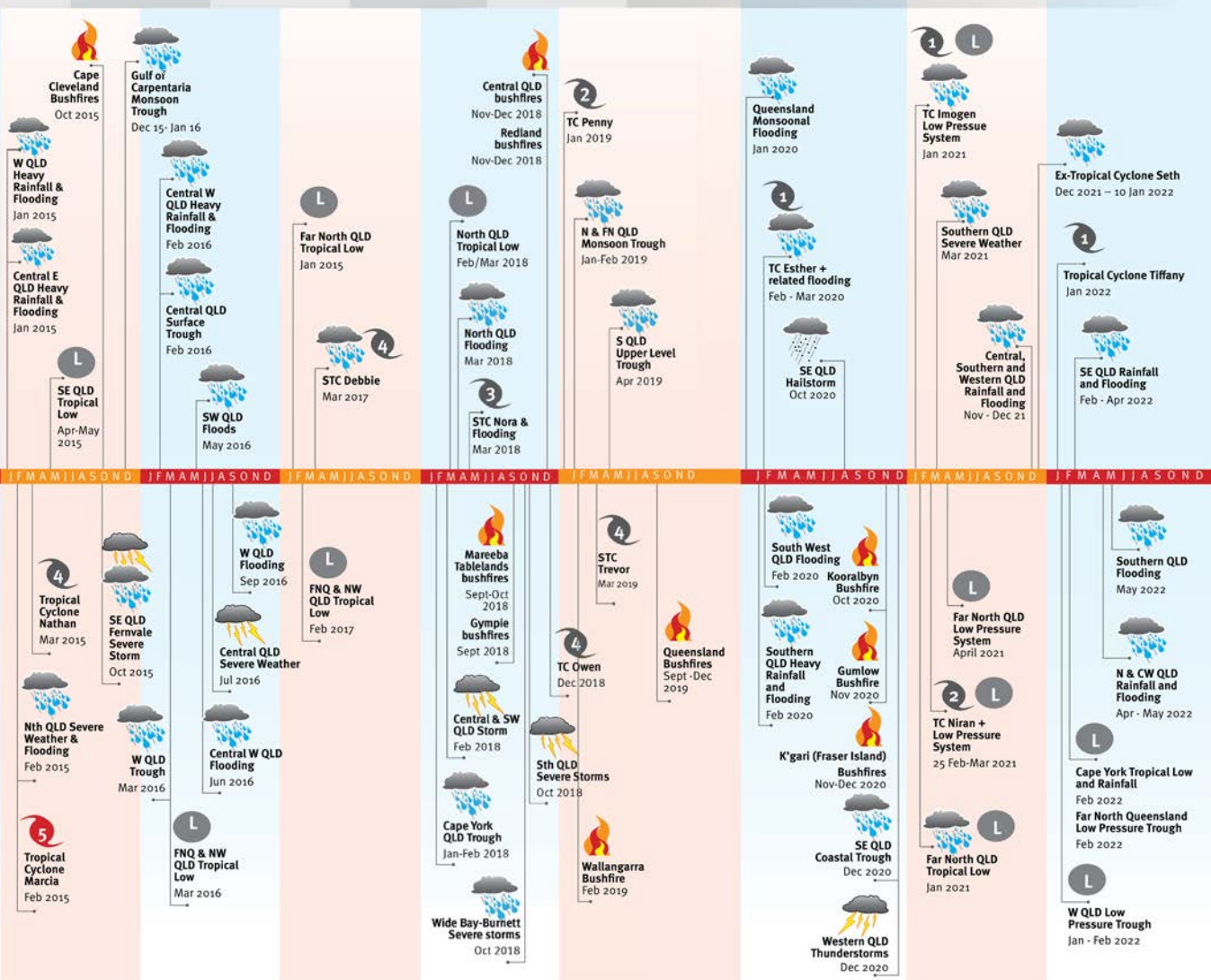
2018

2019

2020

2021

2022





Climate change and future projections of disaster risk

The Queensland Government is committed to playing our part in the global effort to address the impacts of climate change and ensure the long-term viability of our communities, economy and industries.

Queensland already experiences climate extremes such as floods, droughts, heat waves and bushfires however, climate change is aggravating the frequency and severity of these events, and there is a likelihood of natural events to change in the future due to climate change.

The Queensland Climate Adaptation Strategy (QCAS), developed by the Department of Environment and Science, provides a clear narrative on the effects that climate change can be expected to have on Queensland. The future climate projections influencing Queensland's disaster risks are highlighted in the following table.

These anticipated, and unknown changes will bring new and likely increasingly intensified threats to vulnerable locations. This will have a significant impact on ecosystems, life sustaining systems like water quality and produce, as well as a multitude of other consequences.

Under the QCAS, the Queensland Government is committed to incorporating climate risks into all management processes, including disaster management processes. Climate risks can be divided into physical and transition risks. Physical risks include the impacts of acute and chronic disasters, which give rise to financial and reputational risks.






Resilience, climate risk management and climate adaptation are well aligned. A lot can be achieved by combining efforts in these areas as climate related weather events are the primary driver for Queensland's increasing disaster risk.

While Queenslanders have an awareness of current and known disaster risks, the changing environment brings on new, intense and unknown scenarios that have not been fully integrated into system planning.

The role of the Bureau of Meteorology in disaster resilience

The Bureau of Meteorology (the Bureau) provides trusted, reliable and responsive weather, water, climate and ocean services for Australia. Its expertise and services assist Australians in dealing with the harsh realities of their natural environment, including drought, floods, fires, storms, tsunami and tropical cyclones. The Bureau leads national, regional and local community engagement with staff working alongside state, territory, local governments and emergency service agencies as part of the emergency management and disaster mitigation networks. This includes the out-posting of Bureau meteorologists and other specialists within several combat agencies and emergency management centres to provide direct access to the Bureau's expertise – with the goal of growing the Australian community's capacity to be more resilient to the impacts of weather, water, climate, space and oceans through data, education and knowledge building programs, in partnership with community-focussed organisations and the Emergency Management Sector.

The following table has been informed by key documents including Regional Resilience Strategies, QCAS, Queensland Regional Climate Change Impact summaries and CSIRO's Report of Climate and Disaster Resilience.

| Hazard risks | Future hazard risks |
|---|--|
| Flood  | Greater, short duration rain extremes associated with flash flooding are projected |
| | Greater risk of landslides as a consequence of high rainfall and severe storm |
| Bushfire  | The likelihood of dangerous bushfire weather has doubled over the past decade – more so for southern and eastern Australia |
| | Will likely affect most communities across Queensland in some way |
| Cyclone  | Climate change may mean fewer cyclones but an increase in the intensity |
| | During cyclones, the increased rainfall and higher storm surge are projected to increase the overall impact |
| Coastal inundation  | Australia's average sea level is projected to rise between 26cm and 82cm by 2090, depending on level of global warming reached |
| | Increase in flooding in low-lying coastal areas which may result in erosion, loss of beaches, and higher storm surges |
| Earthquake  | Increase in risk of earthquakes of higher magnitudes in Queensland |
| | An unrealised risk to life and property across Queensland |
| | Current building standards are not based on possible future increased risk |
| Heatwave  | Already causes most natural hazard related deaths in Australia compared to all other natural hazards combined |
| | Heatwave is projected to increase across Queensland through to 2090, which will affect all communities but particularly those in Far North and Western Queensland |
| | Emergent and long-term risks to life, human habitation and built infrastructure, and temperature sensitive industries such as agriculture (particularly pastoral) |
| Drought  | A long term, increasing stress with complex socio-economic systemic impacts that interrelate with episodic shocks like flood or bushfire |
| Tsunami  | Queensland is exposed to tsunami generated from submarine landslides, earthquakes and volcanic eruptions. Increase in risk is due to increased population along the Queensland coastline, short warning times for timely evacuation and increased inundation due to sea-level risk |

While heatwaves and drought are not currently listed as eligible disasters under the Disaster Recovery Funding Arrangements, they have been included to reflect the need to consider how to strengthen resilience activities to minimise the impacts of these disaster events on local communities, rather than to reflect legislative change.



Systemic disaster risk

While there is a link between climate change and disasters, there are other factors that contribute to the occurrence and the magnitude of disaster impacts – these compounding factors make up systemic disaster risk.

Some factors that impact on resilience – such as climate change, demographic shifts and a reliance on interconnected systems and infrastructure hazards - only lead to systemic disaster risk if they intersect with an exposed and vulnerable society, and when the consequences exceed people’s capacity to cope. The changes in climate, and the changing nature of disruption and escalating scale of disasters in recent decades are underscored by cumulative impacts of chronic stresses and changes, as well as acute events. To develop resiliency or reduce risk, we must seek to understand vulnerability, capacity, exposure of persons and assets, hazard characteristics, and the environment.

The best defence against systemic risk is to remove risk and transform systems to make them more resilient. Policy and personal action can reverse this trend, but only if systemic risk is better understood and risk reduction action is accelerated. The fundamental equation that risk is a function of a hazard event combined with vulnerability and exposure has not changed. However, systemic risk occurs in today’s environment through interconnected digital and physical infrastructures, integrated supply chains and factors such as urbanisation and increased human mobility.

One of the most effective ways to avoid worsening outcomes is to understand the causes and effects of ‘cumulative, cascading and compounding’ risk, and take collective action across the whole system – communities, infrastructure, goods and services, economies and natural assets.

Diagram 2. How resilience is affected by stresses and shocks

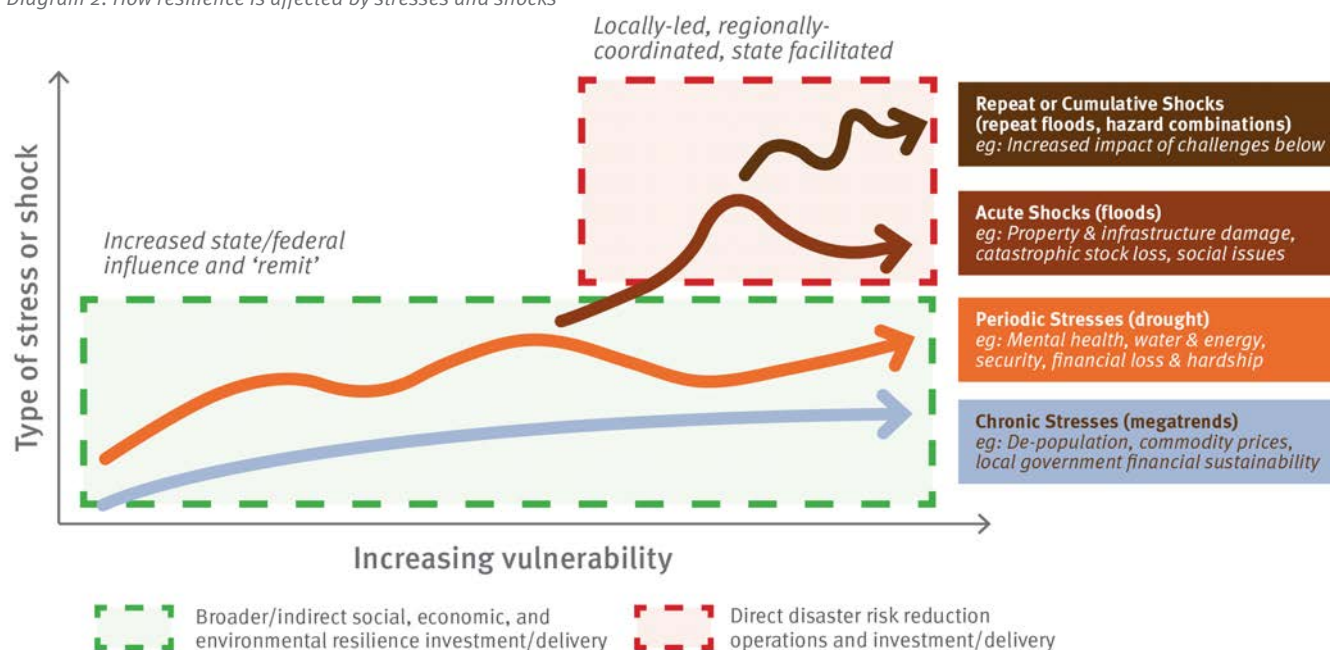


Image: Drought, Outback Queensland. Shutterstock.



Our resilience strengths and challenges

Strengths

Over the past ten years, our thinking has evolved and matured. We have strong relationships with local governments and have worked hard to ensure that the Queensland Government is a trusted partner in supporting communities get back on their feet.

Our approach to locally-led, regionally coordinated and state facilitated resilience is showing that communities want to contribute to, and drive, their own recovery and resilience. We are using data and information more effectively to inform planning and decision making, and to ensure we have the right capability and capacity when planning for disaster events.

Queensland promotes a proactive approach to resilience planning, by helping communities to identify and match their resilience priorities to investment opportunities. Recent reforms to the disaster recovery funding arrangements provides opportunity to direct reconstruction efficiencies to investment opportunities for statewide priority disaster mitigation and resilience purposes.

We now have a clear understanding of how to link policy and funding to prioritised resilience and risk reduction actions so we can make lasting change into the future through investment in resilience and mitigation activities. This will allow us to make a real difference at the local and regional level.

Challenges

A systems approach to disaster resilience is required to tackle existing and emerging threats. A key challenge will continue to be the need for strengthened cooperation between all levels of government, and our partnering non-government organisations, private sector and academics to build on existing frameworks and research to continue to strengthen resilience activities to improve overall community resilience.

Some of the known and emerging challenges are highlighted below:

1. A narrowing window for preparedness, recovery and learning with simultaneous disaster events, creating limited time to recover from one event and prepare for the next.
2. Resilience is often interpreted as returning to business-as-usual or maintaining business continuity - resilience discussions need to mature beyond this comfort zone.
3. Stakeholders are anecdotally seeing reductions or limitations in economic investment in some regions due to disaster risk.
4. Insurance affordability has been emerging for several years as a core issue across Queensland for investor confidence, cost of living, and settlement viability.
5. Capacity and capability – many local governments and communities do not have sufficient resources to undertake resilience activities.

Increased disaster resilience is a long-term outcome, requiring a coordinated and strategic approach to address systemic challenges and build safer, stronger, more resilient Queensland communities.



Image: Binna Burra, Southern Queensland Bushfires, 2016. Courtesy TMR



A systems approach: Queensland’s resilience narratives

Establishing a shared language, shared goals and shared understanding is critical to coordinating agencies’ efforts to build resilience.

Queensland is adopting a systems approach to build resilience and inclusive systems across key narratives.

The following four narratives have been developed to talk about the complex systems that need to be understood by decision-makers.

Transformational shifts such as climate change, population growth, new technologies and supply chain disruption effect our ability to cope during disaster events and requires collaboration across the lines of recovery and resilience to overcome.

These narratives were developed as part of the Queensland Resilience, Adaptation Pathways and Transformational Approach project (QRAPTA), a partnership between the Queensland Government and the Commonwealth Scientific and Industrial Research Organisation (CSIRO),

Narrative 1 – Becoming more resilient

Chronic, periodic and acute stresses combine and amplify to create systemic risk, leading to the potential for catastrophic disaster. Changing roles, responsibilities and approaches to managing chronic, periodic and systemic risk will lower risk, and increase capacity to cope.

Narrative 2 – Thinking in systems, not silos

A systems approach is needed – understanding cause and effect, points of leverage, and three pathways (‘Doing the same’, ‘Doing better’ and ‘Doing differently’) to create futures that are disaster-resilient and adaptive to change.

Narrative 3 – Pathways to effect change

Prioritising resilient activities and establishing investment pathways across sectors to be better aligned for collective impact.

Narrative 4 – Changing our practice

Creating new ways of interacting and governance mechanisms for coordinating service delivery across sectors.

QRAPTA recognises that many agencies’ activities, irrespective of their particular portfolio responsibilities, already contribute to resilience. The QRAPTA project provides a process to harmonise these resilience activities across agencies and sectors.

We also know that recovery provides a springboard for resilience, so it is essential to consider resilience outcomes when delivering recovery activities across the whole system – building, human and social, economic, environment and roads and transport – to improve overall community resilience.

www.qra.qld.gov.au/grapta

Diagram 3. ‘A Systems approach: Queensland’s resilience narratives.’

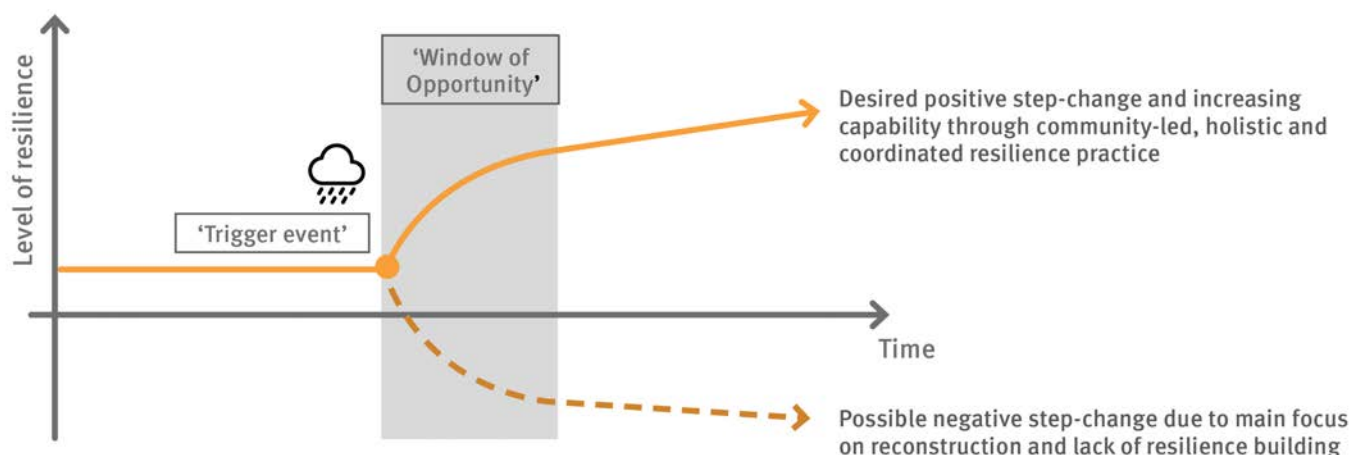


Image: Fitzroy Resilience Strategy Workshop 2019.



Learning from Aboriginal and Torres Strait Islander peoples and community

Aboriginal and Torres Strait Islander peoples communities have been leading the way in environmental stewardship and disaster management techniques as the oldest culture on Earth with 65,000 years of uninterrupted development.

The most resilient cultures have always worked in line with nature, rather than disrupt. Despite this, their traditional knowledge around living sustainably and caring for Country is not well integrated within planning and resilience delivery.

There is a growing desire for people and communities to care for the environment and live sustainably, but a lack of knowledge of what they can do to protect and improve their local environments 'is suppressing progress.

There is significant opportunity to build on Aboriginal and Torres Strait Islander peoples knowledge, land management and disaster management techniques as we build nature positive solutions and embed resilience within disaster management planning.

The Royal Commission into National Natural Disaster Arrangements highlights the significance of local knowledge and recommends key considerations in recovery and resilience planning:

- First Nations land management is an example of how local knowledge has successfully informed land management for tens of thousands of years.

- Draw on a close knowledge of Australia's landscapes, developed from observation, ongoing interaction, active custodianship, and adaptation to changing circumstances. It is place-based, targeting action to the specific circumstances of a place, including its environment and customs, and engaging local people in development and implementation. Techniques and outputs are therefore specific to a place or practitioner and differ widely across Australia.
- Different landscapes across Australia require different regimes depending on the requirements of Country, including environmental factors such as vegetation type, climate and introduced species.

Today, First Nations land management retains its traditional and cultural importance, while adapted to changing ecosystems and leveraging various technologies. Increasing First Nations and community involvement in decision making can help incorporate First Nations traditional knowledge to become a critical component of designing sustainable and resilient solutions for the environment and communities.

In addition to including Aboriginal and Torres Strait Islander peoples in disaster management planning, it is critical that they are also adequately supported and resourced to develop their capacity, resilience and leadership during disaster preparedness and recovery to improve overall resilience.



Case studies: Resilience, First Nations peoples and community

Case study: Fire Management on Minjerribah

Quandamooka Yoolooburrabee Aboriginal Corporation was recognised in the 2018 Get Ready Queensland Resilient Australia Awards Community Award category for developing the Minjerribah (North Stradbroke Island) Bushfire Management Plans, in partnership with QRA.

Incorporating traditional burning techniques on Minjerribah is making a difference in the local community and environment.

[Watch the video Traditional burning techniques used to build bushfire resilience on Minjerribah.](#)

Case study: Wujal Wujal Resilience Awards

Elders and Vulnerable Person's project ensures vulnerable and elderly members of the Wujal Wujal community are disaster ready by approaching preparedness in a way that is easily understandable and accessible to Traditional Owners.

English is not the first language of many of Wujal Wujal's elderly residents and much is lost in translation. That's why council created disaster preparedness resources in Kuku Yalanji that are culturally appropriate.

Case study: Mapoon Land and Sea Rangers

Mapoon Shire's ongoing collaboration with Partners Rio Tinto has resulted in the ability to deliver a very important research program significant to the Mapoon River and Ecosystems. This program also allows training of new and upcoming Rangers of the importance of researching and monitoring endangered species.

The effort Land and Sea Rangers have applied to this project means that a better understanding of the movements, habitat and breeding cycles of these animals and why this contribution is extremely imperative in Caring for Country.

Case study: ATSIAP Get Ready! Senior Secondary State Final Challenge

In 2022, the Department of Education's Aboriginal and Torres Strait Islander Aspirations Program (ATSIAP) Senior Secondary state final challenge was themed "Get Ready! Disaster risk and preparedness in our community." The challenge provided the students with a unique and rich learning experience by providing opportunities to investigate solutions for real world disaster resilience challenges.

60 Queensland state high school students in Years 10-12 teamed up to develop a communication plan and campaign material to inform a target audience in their local community about risks, preparedness and disaster resilience.

Students participated in regional webinars, interviews with local disaster experts including the Queensland Reconstruction Authority and the Get Ready Queensland team, local councils, State Emergency Services, Queensland Police Service, Queensland Fire and Emergency Services, to inform their communication plan.

Image: Mapoon Land and Sea Rangers monitoring Glyphis river shark. Courtesy Mapoon Aboriginal Shire Council.



Strengthening the lines of resilience



Image: Flooding, Brisbane, 2022. Courtesy RAW.Exposed.



Strengthening the lines of resilience

The multi-dimensional and cross-disciplinary approach of the QSDR aims to strengthen and reinforce the five lines that contribute to systems-based resilience and their potential for future planning. These lines are:

- Built
- Human and social
- Economy
- Roads and transport
- Environment.



Figure 3. The five lines of resilience.

Trends, stresses and shocks

We have learned a lot about what resilience really means to the people and places of Queensland, how stresses and shocks can affect existing levels of resilience, and how future events and trends will impact the ability to remain resilient.

People have told us the health of the underlying social, economic and environmental systems in an area affect its disaster resilience.

Our communities that are under sustained pressure from chronic and periodic stresses will be less likely to cope in the long term.

Without change, something will make these systems break – whether it is the chronic or periodic stress, or episodic shocks like floods.

Image: FLOOD-EX21 brought more than 100 leaders including mayors, councillors, council representatives and experts from local, state and federal agencies together to exercise and demonstrate recovery and resilience planning for an extraordinary Brisbane River flood scenario.



Built

Resilient structures play a critical role in supporting communities to withstand, respond to, and recover from natural disasters. Planning for resilient structures has the potential to significantly reduce disaster costs. Ensuring infrastructure systems perform well under a changing climate, and in the face of other threats and challenges, will be essential to success given the increasing frequency and scale of disaster events.

Queensland leads the nation in building resilience in its communities through flagship betterment programs. Betterment allows local governments and state agencies to rebuild damaged essential public assets to a more resilient standard to help them withstand the impacts of future natural disasters.

Of equal importance, the lives of those living in disaster-affected communities are improved when essential infrastructure withstands weather events, enabling communities to remain connected or return to functionality quickly in the immediate aftermath of a disaster.

Trends, stresses and shocks

Trends

Transformative forces that could change a region including:

- climate change
- major infrastructure projects
- critical raw material shortages
- increasing need for infrastructure solutions to address climate and disaster risks.

Stresses

Long term situations or circumstances (which may be periodic or chronic) that weaken the potential of a given system and deepen vulnerability including:

- ageing infrastructure
- limited telecommunications infrastructure
- energy reliability in regional areas
- infrastructure end of life management
- urban heat island impacts.

Shocks

Sudden events with an important and often negative impact on the vulnerability of a system and its parts including:

- direct property impacts from hazards – private and public assets
- direct infrastructure damage – one-off and recurrent damage
- time taken to return to service.

Opportunities and future planning

Improved collaboration across government, construction and infrastructure sectors will enable assets to be built to withstand current and future disaster risks, with a focus on:

- retrofitting and achieving a baseline of resilience for public built assets
- consistent and accessible essential service delivery
- improved infrastructure resilience – roads, water, sewer, energy, and telecommunications
- enhanced and maintained flood warning network
- strengthened water security – town supply and dams
- heatwave management plans and urban design heat initiatives
- sustained implementation of existing mitigation and risk reduction plans
- updated building codes which are appropriate for the hazard environment i.e. update Queensland Development Codes.

Image: Brisbane afternoon storm. Shutterstock.



Built case studies

Case study: Resilient Homes Fund

A total of \$741 million has been allocated for the Resilient Homes Fund (RHF), on a 50:50 cost share basis between the Queensland and Commonwealth governments under the DRFA.

The Fund was established following the 2021–22 high-risk weather season, which saw thousands of homes inundated across the south of the state following the significant flooding events.

The RHF is a nation-leading program never before delivered on this scale within Australia. It has the potential to significantly enhance Queensland's household resilience to flooding, which poses the greatest risk to the state.

For eligible homeowners, the RHF will consider options specific to circumstances that could help improve resilience to future flooding.

These options include repair and retrofitting using flood-resilient design options, house raising, or in some cases the voluntary buy-back of high-risk properties where no other viable flood resilient measures or alternative exists.

The Department of Energy and Public Works is leading the rollout of the resilient household rebuild and raising programs and will liaise directly with homeowners regarding the rollout of these programs.

The Queensland Reconstruction Authority is leading the voluntary home buy-back program, in consultation with local governments and the Department of State Development, Infrastructure, Local Government and Planning.

Local councils will play an important role in implementing the RHF, given their profound understanding of their communities and the intrinsic risks faced by some residents.

The RHF will be a gamechanger for homeowners and communities and will leave a legacy of resilience and reduced risk for future generations of Queenslanders.

www.qra.qld.gov.au/resilient-homes

Flooding, Rockhampton, 2010. Courtesy QRA.

Case study: Resilient building guidance for Queensland homes

Resilient building guidance for Queensland homes improve how we prepare for, respond to and recover from disasters.

A suite of resilient building guidance for Queensland homes is freely available for Queenslanders to improve how we prepare for, respond to and recover from disasters, including flood, bushfire, cyclones and storm tide.

Using resilient building design can significantly reduce the effort and time to return people to their homes and workplaces following these natural disasters.

Resilient design and construction can also reduce long-term costs for home owners associated with disaster damage and insurance premiums. It not only reduces the physical and financial costs, but also the social and emotional impacts of disasters.

Following extensive rainfall and flooding in early 2022, Design Guidance for Flood Resilience Homes was released in June 2022 to help the community understand how homes could be improved to achieve greater flood resilience. The guidelines provide information on flood risks, flood resilient building design approaches and resilience strategies for different house types.

The Cyclone and Storm Tide Resilient Building Guidance for Queensland Homes relates to Queensland homes located within 50 kilometres of the coastline north of Bundaberg. The Storm Tide Resilient Building Guidance for Queensland Homes builds on the cyclone guide to incorporate storm tide considerations for northern Queensland homes located within 100 to 200 metres of an open shoreline.

The Bushfire Resilient Building Guidance was developed by the Queensland Government in partnership with the CSIRO to help improve the bushfire resilience of both new and existing homes. The guidance provides information on best-practice building and landscaping measures that use tailored, site-specific solutions to adapt buildings for bushfire resilience.

www.qra.qld.gov.au/resilient-homes



Human and social

Disasters are a recurring fact of life in Queensland, and disaster events can have both immediate and long-lasting impacts on the health and wellbeing of people, communities, and economies. A key finding from the Royal Commission into National Natural Disaster Arrangements 2020 was that concurrent and consecutive hazard events increase the pressure on exposed and vulnerable communities. Some communities will have to cope with the effects of multiple hazard events at once, with the prospect of being affected by further hazard events before the recovery efforts have been completed.

This can cause increased stress on individuals, which has been shown to lead to or exacerbate ailments ranging from mental illness, domestic violence, substance abuse and post-traumatic stress disorders.

People with disability and seniors are twice as likely to be injured and experience social isolation as a result of natural disasters. The Royal Commission into Violence Abuse Neglect and Exploitation of People with Disability recommended that agencies responsible for planning and implementing responses for “future emergencies establish and implement formal mechanisms for consulting with and involving people with disability and disability representative organisations in planning and giving effect to the responses”. As such, when planning for disaster events, it is critical to identify mechanisms to engage with people with disability, carers and seniors to increase their resilience and assist them to recover, and to implement person-centred approaches to managing risk will be required for individuals who may be particularly vulnerable.

The Queensland Government is helping Queenslanders to adapt and cope with a changing climate through a range of programs, such as:

- public safety campaigns aimed at helping Queensland communities prepare for disasters
- disaster recovery funding arrangements aimed at community wellbeing
- Birdie’s Tree resources to support the mental health and resilience of people affected by natural disasters.

Image: Sandbagging in Townsville, Monsoon Trough 2019.

Trends, stresses and shocks

Trends

Transformative forces that could change a region including:

- climate change
- regional and remote population decline
- demographic shifts
- increasing mental health issues
- changes in how information is shared / disseminated.

Stresses

Long term situations or circumstances (which may be periodic or chronic) that weaken the potential of a given system and deepen vulnerability including:

- periodic and long-term drought
- influences of compounding/ cumulative events on mental health
- availability of in-region healthcare
- limited affordable housing availability.

Shocks

Sudden events with an important and often negative impact on the vulnerability of a system and its parts including:

- life safety
- impacts on long-term wellbeing
- risk awareness across multiple hazards and impacts to life / livelihood
- public health impacts – heat, air quality and food.

Opportunities and future planning

It is critical to find new and improved ways of reducing the exposure of communities to disaster events and increase the capacity of communities to prepare for and recover from impacts, through:

- consistent and accessible essential service delivery
- improving collective understanding of hazard impacts and risks and consistency in services
- enhanced information and knowledge sharing platforms and processes
- person-centred emergency preparedness and community-based resilience plans
- social wellbeing and population retention and expansion programs.



Human and social case studies

Case study: Birdie's Tree books assist children to be more resilient to natural disasters

Natural disasters like storms, cyclones, floods or fire can be very frightening and upsetting for babies and young children. Playing a therapeutic game or reading a story with a caring adult can help a young child work through the scary experiences and 'big feelings'.

Birdie's Tree is a suite of resources to help babies and young children, their parents and families prepare for, cope with and recover from natural disasters.

Birdie's Tree was first developed by the Queensland Centre for Perinatal and Infant Mental Health (QCPIMH) in 2011.

Following Cyclone Yasi, the Lockyer Valley flash floods, and widespread flooding throughout Queensland, infant mental health clinicians noticed an increase in young children presenting with symptoms of post-traumatic stress, including behavioural difficulties and emotional disturbance.

The Birdie's Tree resources are designed to help young children understand severe weather events, learn words to express 'big feelings' (like scared, worried, sad, angry and lonely, as well as cosy, safe, happy, patient and kind), and feel reassured through their relationships with parents and other caring adults.

The Birdie's Tree resources are free at the Birdie's Tree website:

www.childrens.health.qld.gov.au/natural-disaster-recovery/

Case study: Cairns Regional Council working with Deaf Services Queensland to improve disaster resilience

Cairns Regional Council has been working closely with their deaf community to find ways to better communicate information about natural hazards and preparing for disasters.

This work has included tailoring emergency alerts specifically for the deaf community during times of disaster to ensure information reaches this highly vulnerable part of the community.

Sioux Campbell from Cairns Regional Council sat down with Sue Frank and Wayne Reynolds from Deaf Services Queensland to reflect on their experiences working together to make disaster risk information and warnings more accessible to the deaf community.

Videos of these conversations are available on the Get Ready Queensland website.

In Part 1 of the conversation, hear about the lessons learned from engaging the deaf community about their needs, and reflections on what has been working well, including for Indigenous community members with hearing impairments.

In Part 2 of the conversation, hear about some of the challenges deaf people face interpreting mainstream communications as a result of English being their second language. The panel discusses how messages need to be adapted to have greater meaning for the deaf community and examples of how this is being achieved in Cairns.

www.getready.qld.gov.au/prepare-disaster-disability

Image: Cairns Regional Council and Deaf Services Queensland working together to improve disaster resilience communication. Courtesy Get Ready Queensland.



Environment

Queensland landscapes and ecosystems have been shaped by adaptation and evolution through millennia of natural phenomena, including flood, drought, fire and cyclones. Our environment is affected by a mix of complex human-caused threats (such as invasive species, land clearing, urbanisation and natural resource use), which has reduced the state's natural resilience to large-scale natural events and man-made disasters. This, coupled with climate risks, means that our environment and natural resources are more vulnerable to environmental incidents and disasters than ever before.

Queensland Government is focused on strengthening the capacity of the natural environment to respond to a disturbance or on-going change by resisting damage and recovering quickly. The following programs are in place to help achieve this:

- Queensland Climate Adaptation Strategy and Sector Adaptation Plans to develop priority actions for managing key climate risks
- Drought and Climate Adaptation Program
- State-of-the-art climate science and information platform to ensure government, industry and community.

It is important to note that climate adaptation initiatives do not only support resilience of the natural environment, but is also a key consideration for strengthening resilience across all five lines of resilience.

Trends, stresses and shocks

Trends

Transformative forces that could change a region including:

- climate change
- high rates of land clearing
- significant loss of native flora and fauna
- restoring environmental stewardship
- protection of coastal systems.

Stresses

Long term situations or circumstances (which may be periodic or chronic) that weaken the potential of a given system and deepen vulnerability including:

- water resource availability
- impact of some carbon farming methods on regional /remote communities
- waste and water management that is compliant with standards
- biodiversity and ecosystem health.

Shocks

Sudden events with an important and often negative impact on the vulnerability of a system and its parts including:

- pest and weed outbreak
- waste and landfill access for disposal of event waste
- direct environmental degradation – erosion, siltation, scouring and biodiversity loss.

Opportunities and future planning

There is a global movement and support for embedding environmental and climate resilience within disaster risk reduction efforts by:

- regional management of pest and weeds pre and post event
- support ongoing maintenance of environmental recovery works to improve overall resilience of sites
- continued investment in natural resource management and landscape restoration
- bushfire management plans
- embedding First Nations ecological knowledge into decision making.



Environment case studies

Case study: Walking the Landscape

Walking the Landscape helps develop a whole-of-landscape understanding to improve evidence-based decision making for the sustainable management and restoration of ecological systems. It incorporates available knowledge on landscape components e.g. groundwater dependent ecosystems, lacustrine wetland, riparian vegetation, and processes e.g. hydrological, geological. The framework coordinated by the Department of Environment and Science integrates existing scientific information with local knowledge about how catchments work.

Case study: Statewide Assessment of Flood Risk

The Statewide Assessment of Flood Risk will provide a prioritised assessment of flood risk across Queensland at the local government level. Ten criteria have been established to assess the risk of flooding and consider available data and known flood behaviour assessments, exposure, vulnerability and existing management strategies, weighted based on priority as agreed with stakeholders. Applying a multi-criteria approach, an assessment provides a relative flood risk ranking for each local government area. Final rankings provide guidance on where key areas of risk are located and what can be done to better manage flood risk in Queensland. The Statewide Assessment of Flood Risk being coordinated by Queensland Reconstruction Authority will be a critical tool in developing the long-term investment plan for flood risk management, identifying gaps, investment need and priority to ensure sustainable flood risk management in Queensland.

Case study: Understanding and designing for extreme heat in Cairns

The Queensland State Heatwave Risk Assessment 2019 (SHRA) represents the most comprehensive analysis of future climate risk undertaken for a natural hazard risk assessment in Queensland. To better understand urban heat in Cairns and the impacts it has on people living and working in the central business district (CBD), 75 real-time temperature and humidity sensors

were installed across the CBD. The project informs how Council communicates heatwave risk to the public and informs development of new planning and urban design initiatives to mitigate urban heat.

Case study: Our Resilient Coast

QCoast2100 was established in 2016 to provide funding, tools and technical support to enable all Queensland coastal local governments to progress the preparation of plans and strategies to address climate change related coastal hazard risks over the long-term. Our Resilient Coast is a long-term strategy to manage coastal changes and build resilience to the coastal hazards of erosion, storm tide inundation and permanent sea level rise over the next 80 years along the coastline of the Isaac region. The issues identified by the Coastal Hazard Adaptation Strategy go to the heart of community values and concerns, including their personal investment in their homes and properties. A resilient future for the Isaac coast depends on the community and Council taking strategic actions now to impacts of coastal hazards on our valued places and assets, and development of management strategies that preserve these places and assets, and build community resilience.

Case study: Fitzroy Regional Drought Resilience Plan

The Queensland Department of Agriculture and Fisheries has partnered with the Rural Economies Centre of Excellence to lead the consultation to work with regional communities and develop Regional Drought Resilience Plans (RDRPs) to prepare regional communities for and manage future drought risks. The plans are funded jointly by the Australian and Queensland Governments and focuses on five regions which includes the Fitzroy and Capricornia to develop community-led and owned plans. The plans identify actions to prepare regional communities for future droughts, with a sharp focus on agricultural sector and allied industries. The RDRPs provide an evidence base and priority actions regions can use to compile applications for small grants from the Future Drought Fund and other funding sources.



Economic

Queensland councils and communities have an in depth understanding of the inherent connections between economic development and the socio-economic resilience of a place. Economic development in a local community or region supports the resilience of that community. Without a functioning economy, it is hard to be resilient.

The economic line of resilience has been the least funded of the lines of resilience historically as there has been a focus on the provision of services or assets that catalyse economic development through others rather than spurring it directly. However, this is starting to change through the most recent flood events, with a stronger focus on economic resilience through the Disaster Recovery Funding Arrangements Category C and D funding packages.

Trends, stresses and shocks

Trends

Transformative forces that could change a region including:

- cost of living
- growing regional tourism
- increased digital enterprises
- emerging markets like hydrogen and renewables
- insurance availability and affordability
- transitioning to a low carbon economy
- globalisation and increased opportunity to access markets.

Stresses

Long term situations or circumstances (which may be periodic or chronic) that weaken the potential of a given system and deepen vulnerability including:

- skilled and non-skilled workforce availability in regional and remote areas
- small business continuity and long-term risk management behaviours
- construction and housing supply costs / barriers.

Shocks

Sudden events with an important and often negative impact on the vulnerability of a system and its parts including:

- small business continuity and long-term risk management behaviours
- supply chain interruptions due to infrastructure failure
- access to quarry, raw and construction materials post event
- core local or regional employers leaving.

Opportunities and future planning

An increasing focus on economic resilience, both longer-term preventative policy and shorter-term recovery planning, can support and drive improvements in return to service in an area to assist with:

- building long term economic stability
- resilience through diversification and catalyst projects
- improved insurance outcomes
- transitioning to a circular and low carbon economy
- transparent collaboration between public and private sectors.

Image: 2022 flooding Brisbane. Courtesy RAW.Exposed.



Economic case studies

Case study: Economic Assessment Framework of Flood Risk Management Projects

To effectively invest in flood risk mitigation, it is important to be able to quantify all the types of damages resulting from floods, and fairly compare a wide range of possible options to ensure targeted investment provides the greatest return.

The Economic Assessment Framework of Flood Risk Management Projects (2021) is a resource to support Queensland's flood risk practitioners, state and local governments to:

- undertake consistent and comparable economic assessments of flood risk mitigation
- make informed decisions for investment in flood risk management and intervention
- build a case for increased investment in risk mitigation and disaster resilient communities
- use recommended methods to quantify a wide range of tangible and intangible damages
- understand the methodologies to quantify the benefits of implementing flood risk mitigation activities, including non-structural options such as community awareness and education, building more flood resilient homes, and investing in emergency management, allowing for a fair comparison of potential options.

The Framework describes a five-stage process for undertaking economic assessment for flood risk management and provides the tools to undertake an economic assessment.

The methodologies outlined in the Framework are used to support economic assessment processes and are underpinned by guiding principles.

The Framework has been delivered an initiative of the Brisbane River Strategic Floodplain Management Plan implementation, and was developed through a collaborative process with other state governments, universities, private practitioners and key stakeholders.

www.qra.qld.gov.au/EA-flood-risk

Case study: Essential Goods Supply Committee

The COVID-19 pandemic caused significant health, community, and economic impacts around the world. Consumer behaviours with respect to grocery acquisition at the onset of the pandemic resulted in community concern about access to food and other essential supplies as purchasing outstripped distribution and restocking efforts.

As the Omicron variant spread rapidly across Queensland in January 2022, there were severe impacts on our essential workforce, with all industries dealing with the challenges of depleted resources both in terms of staff and supply chains. High levels of absenteeism caused disruptions across multiple supply chains including distribution centres, processing facilities and essential retail outlets such as supermarkets. It was critical that Queensland's food and processing supply chains remained open.

In response, the Essential Goods Supply Committee (EGSC) was established to actively engage with industry to ensure there was a strong workforce to move more products and produce to warehouses, from warehouses to stores and from stores to homes including in our most isolated communities.

The Department of State Development, Infrastructure, Local Government and Planning via the EGSC, worked in partnership with major supermarkets and distribution centres to allow asymptomatic and fully vaccinated close contacts to return to work and thereby ensure that critically essential roles remained filled to keep supply chains working.

The EGSC also convened during the South East Queensland Rainfall and Flooding event during February and March 2022. The EGSC connected essential retailers with emergency agencies and transport and utility providers, enabling immediate access to information about road and rail outages to support critical re-supply actions.



Roads and transport

Road and transportation infrastructure plays an important role in critical emergencies such as natural disasters and extreme events. The functional loss of transportation facilities negatively impacts the disaster management process and can significantly delay the evacuation and recovery process.

Road infrastructure costs are greater than just the initial cost of construction. Maintenance is a significant proportion of the cost of infrastructure over its lifetime. It is estimated that half of the \$16 billion spent on roads each year by local, state and federal governments is spent on maintenance and repairs. There are opportunities to improve resilience when planning and investing in infrastructure maintenance. New infrastructure projects should include resources to help maintain and enhance resilience as part of proposed maintenance programs.

The Queensland Government has several programs that have a focus on building more resilient road and transport networks, including:

- the Repeat Events and Dollar Index (REDI) online application to help Queensland councils understand their risk, costs and repeat damage from natural disaster events
- road improvements to minimise flood damage and reduce road closure, such as the Inland Freight Route Upgrades
- Queensland Betterment Programs to improve asset utility during and after natural disasters.

Trends, stresses and shocks

Trends

Transformative forces that could change a region including:

- climate change
- 'build it back better' infrastructure replacement post event
- improved freight access through innovative solutions.

Stresses

Long term situations or circumstances (which may be periodic or chronic) that weaken the potential of a given system and deepen vulnerability including:

- continued lower levels of road standard/service and immunity.

Shocks

An increasing focus on economic resilience, both longer-term preventative policy and shorter-term recovery planning, can support and drive improvements in return to service in an area to assist with:

- direct infrastructure damage – one-off and recurrent damage
- time taken to return to service.

Opportunities and future planning

To reduce disaster impacts and rapidly recover the road and transport network to a desired level of functioning after a disaster event a focus on the below is needed:

- strategic prioritisation and delivery of physical and digital infrastructure networks to improve connectivity
- innovative freight opportunities to improve time to return to service
- improving connectivity and access to help our regions connect during a disaster event
- innovation in materials, technology and science, underpinned by investment in research, can provide resilient solutions.

Image: 2022 flood damage at Lowry Court, Gold Coast. Courtesy QRA.



Roads and transport case studies

Case study: Aurukun Entry Road – Betterment Saves

Aurukun Shire Council's betterment project involved installing gravel to infill scoured sections of Aurukun Access Road and stabilising the shoulders and embankments to improve accessibility and protect the road. Council targeted the higher risk locations for these upgrade works along an eight-kilometre section of the road. Since the works were delivered to seal the road, it has been impacted by eight severe weather events and it has remained undamaged and functional. Access to Aurukun as remained open following these events and it has also avoided reconstruction costs in the vicinity of \$7 million.

Case study: Sealing the Outback Way

The Australian Government has committed \$330 million to upgrade key sections of the Outback Way, the 2800 kilometre route that links Laverton in Western Australia with Winton in Queensland via Alice Springs in the Northern Territory. Sealing the Outback Way will improve the interjurisdictional transport network by increasing connectivity and reducing travel times, in addition to cutting costs for freight operators and enhancing economic opportunities for the cattle, mining and tourism industries. Recent studies demonstrate the benefit to stock health by travelling on sealed roads.

Case study: Resilient infrastructure – Betterment

The Queensland Betterment Fund has been a success story for this state in building stronger and more resilient infrastructure in the face of repeated natural disasters.

Betterment allows local governments to rebuild essential public assets to a more resilient standard that helps them withstand the impacts of future disasters.

Upfront investment in stronger infrastructure and more resilient communities saves money for all levels of government in the long-term.

Image: Aurukun Access Road works. Courtesy Aurukun Shire Council.

The Betterment Fund is a great example of all levels of government working together to improve the resilience of our communities.

www.qra.qld.gov.au/betterment

Case study: Repeat Events and Dollars Index (REDI) application

REDI is a web-based interactive mapping application developed to help Queensland councils better understand their risk, costs and repeat damage from natural disaster events.

The REDI application uses data to provide a calculation that considers repeat damage from natural disasters. This data is represented in a 'heat map' that identifies and highlights the most frequent and most costly damage sites.

The application helps councils identify priority works and make informed decisions when it comes to future investment in stronger and more resilient infrastructure.

www.qra.qld.gov.au/REDI

Case study: A better transport network

Flooding in 2011 and 2013 saw significant damage to the bridges and causeways throughout the Somerset region. The damage caused important transport infrastructure to be offline for months. Somerset Regional Council has embarked on a campaign of betterment to enhance the resilience of the more than 1,500 km of roads, footpaths and kerbs and channels. Examples include the George Bell Crossing on Ivory Creek Road and the Ted Skinner Crossing on Esk Crows Nest Road, where Council replaced sections of the causeways with bridges, at a cost of around \$3.2 million. Other betterment activities in the region have included upgrading bridges from vulnerable timber structures to prestressed concrete bridges. During the 2021-22 rainfall and flooding events, instead of being faced with completely destroyed causeways, restricting movement for months, Council was able to rapidly restore access to these roads. Once silt and debris had been cleared, the roads and underlying structures were inspected and found to have withstood this major flood event.



The Queensland Strategy for Disaster Resilience 2022–2027



Image: Burdekin, North Queensland. Credit: Shutterstock.





Vision, objectives and strategic commitments

Vision

The vision for the QSDR is 'Stronger, safer and more resilient Queensland communities'.

The Queensland Government is committed to strengthening disaster resilience so our communities are better equipped to deal with the increasing prevalence of hazards and systemic challenges caused by reoccurring disaster events.

Objectives

Four key objectives underpin this strategy with new and ongoing strategic commitments identified through Resilient Queensland supporting delivery at the local, regional and state level:

- Objective 1 – We understand the potential disaster risks we face
- Objective 2 – We work together to better manage disaster risk
- Objective 3 – We seek new opportunities to reduce disaster risk
- Objective 4 – We continually improve how we prepare for, respond to and recover from disasters

Strategic commitments

The QSDR outlines a series of strategic commitments described for each of the objectives.

Through consultation with partners, the QSDR reflects the strategic commitments, actions and lead agencies that will strengthen disaster resilience over the next five years.

The tables in this section of the QSDR outline objectives, describe what success looks like, outline new and current strategic commitments and actions with lead agencies and partners identified alongside indicative timeframes.

While a timeframe has been specified for actions, ones which have a 'tick' in each column or a 'tick' in the '5+' years column indicates that this is an ongoing or long-term action to strengthen disaster resilience.

Lead agencies will be responsible for the delivery, monitoring, evaluation and reporting of actions with support from the partner agencies identified.





A renewed focus for resilience

Stronger, safer and more resilient Queensland communities

Disaster resilience is defined as "a system or community's ability to rapidly accommodate and recover from the impacts of hazards, restore essential structures and desired functionality, and adapt to new circumstances".

Resilience can mean different things to different people. To address our known risks, manage uncertainty, and be ready for any events that may occur in the future, the overarching goal is increased resilience. In a truly resilient world, the complex interactions of our systems are known and anticipated, and all key stakeholders and sectors are playing an active role in disaster risk reduction.

To support our vision of 'Stronger, safer, and more resilient Queensland communities', and build on the strategic commitments within Resilient Queensland, we have identified four new strategic commitments to enhance disaster and community resilience and continue to support local and regional needs:

1. Embed disaster risk reduction and resilience into decision making

Better decision-making is key to preventing and reducing disaster risk. Decisions taken at multiple levels by different actors – whether local, state or industry – affect our disaster risk. Failing to adequately consider future risks in early decisions facilitates further risk creation, on top of risks already embedded in society and the landscape. More attention needs to be spent on learning from our past experiences through implementation of a lessons management process so that we can better prevent and mitigate future disasters. We also need to consider how to embed resilience into planning, policies, systems and services.

2. Address systemic disaster risk by coordinating across stakeholders and sectors

Disaster risk reduction and climate adaptation policies need to be developed together to comprehensively address systemic disaster risk. Queensland is committed to driving a coordinated effort to build disaster resilience and embed consideration for systemic disaster risk across and within many sectors.

3. Enhance risk reduction and capacity building programs

Capacity development is a central strategy for reducing disaster risk. Using knowledge, innovation and education to build a culture of safety and resilience at all levels requires supporting and building technical capacity to assess impact and vulnerability, improve monitoring and evaluation, and promote community-based education.

4. Align investment pathway opportunities to local needs

On top of the immediate consequences of disasters, challenges can be far reaching into the future. Disasters can trigger long-term issues in terms of reduced education and workforce participation, adverse effects on mental health and wellbeing and disruptions to baseline services. To address these issues at the local and regional level, there is a need to focus on aligning investment pathways to meet the needs of local councils and communities to build long-term resilience to future disasters.

These commitments will support future Queensland communities to be able to anticipate, resist, absorb, recover, transform and thrive in response to shocks and stresses, to realise positive economic, social, built and environmental outcomes.

Queensland can no longer afford to be reactive to disasters. We must be proactive, considered and direct to reflect the changing landscape.



1 we understand the potential disaster risks we face

Objective 1 – We understand the potential disaster risks we face

Risk information is the foundation for effective disaster risk management, as it helps tell the story of what, when, and where a disaster might happen, how severe it could be, and who would be most affected. If we do not understand disaster risk, we cannot manage it.

As Queensland has a considerable number of hazards and risks, which will become more frequent and severe with a changing climate, ongoing efforts and

contemporary thinking and strategies to understand current and future disaster risks is vital in making critical decisions to reduce disaster risk and avoid the creation of disaster risk in the future.

While Queensland has undertaken considerable work to understand its risk, this work is ongoing and will require the adaptation of policies to meet the challenges from emerging and future hazards.

| Strategic commitments | Description |
|--|--|
| C1.1 Embed disaster risk reduction, mitigation and resilience into decision making | Strengthening governance has been identified as essential to reduce disaster risk. Embedding resilience into all decision making provides an opportunity to deal with issues systemically rather than in a siloed manner, to ensure community resilience is at the centre of everything we do. |
| C1.2 Drive attitudinal, cultural and behavioural change across the state, enabling Queenslanders to anticipate, respond and adapt to disaster impacts | Improving access to real-time information about disaster impacts will enable Queenslanders to make informed decisions to prepare and respond to risk in their communities. This includes engaging with young people to ensure information is delivered through channels that young people access information from (e.g. social media, radio, text messages). |
| C1.3 Understand the risks associated with a changing climate | Establishing a comprehensive disaster and climate risk management approach will be key in making a shift towards integrated plans and policies, supported by shared risk understanding, to reduce vulnerability and enhance capacity and resilience across the state. |
| C1.4 Increase community awareness and preparedness for all hazards through community engagement | Harnessing the best of what does and doesn't work and encouraging a culture of community involvement will help Queenslanders to understand their disaster risk and be more prepared. |
| C1.5 Initiate research and evaluation projects to promote the positive trajectory of building resilience in Queensland | Undertaking extensive research with key actors to identify the factors contributing to the vulnerability of communities to various disaster risks and suggest specific measures to incorporate into long-term resilience planning. |

Image: Get Ready Queensland schools visit with meteorologist Tony Auden. Courtesy QRA.

Objective 1 – We understand the potential disaster risks we face

Describing success

Having a clearer understanding of potential risks empowers us all to make informed decisions so that we can better prevent, prepare and respond, and minimise recovery efforts.

We are resilient when:

- we have access to real-time information about disaster events and impacts to assist communities to understand local risk
- we continuously update, share and release natural hazard risk information across stakeholders to raise awareness
- our community makes risk-informed personal, financial and household decisions every day
- we find ways to engage with hard-to-reach and vulnerable people such as those from non-English speaking backgrounds
- we build systemic disaster risk reduction considerations into our governmental decision making
- our community makes risk-informed personal, financial and household decisions every day

| New Commitments | | Actions | Sector | Lead/s | Partners | 1-2 yrs | 3-4 yrs | 5+ yrs |
|---------------------|--|--|--|--|---|--|---------------------------------------|---------------------------------------|
| C4.1 | Embed disaster risk reduction, mitigation and resilience into decision making | A1.1.1 Explore opportunities to formalise lines of resilience into decision making and governance structures (in consultation with relevant state agencies) to increase the role of state-led delivery of resilience outcomes | All | QRA | State agencies | ✓ | | |
| Current Commitments | | Actions | Sector | Lead/s | Partners | 1-2 yrs | 3-4 yrs | 5+ yrs |
| C4.2 | Drive attitudinal, cultural and behavioural change across the state, enabling Queenslanders to anticipate, respond and adapt to disaster impacts | A1.2.1 Strengthening relationships with partners and key stakeholders with a renewed focus on a collective approach to promoting preparedness and resilience A1.2.2 Improve the information and intelligence systems that support decision-making in emergencies for both disaster practitioners and the community by harnessing available data, providing more granular and local information, and integrating systems (including disaster dashboards) A1.2.3 Distribute human and social disaster management and awareness information in languages other than English and in accessible formats catering for a diversity of cultures and abilities throughout the regions, and using methods suitable for transient populations including tourists and visitors. | Human and Social All Human and Social | QRA QFES QRA DCHDE QFES QRA | DCHDE Councils DES DEPW DAF Councils DTMR and DoR Councils | ✓ ✓ ✓ | ✓ ✓ | ✓ ✓ |
| C4.3 | Understand the risks associated with a changing climate | A1.3.1 Undertake investigations on the long-term impacts of multiple hazards on settlements across Queensland – via integrated multi-hazard assessments A1.3.2 Queenslanders understand the risks a changing climate presents to communities, businesses and the natural environment, and the economic opportunities for new sustainable industries A1.3.3 Queenslanders have access to the best available science, near real-time monitoring of hazards, impact forecasting information, and risk assessments and tools to support adaptation decisions A1.3.4 Prepare and continuously update risk studies, disaster management plans and risk awareness portals across all hazards A1.3.5 Continue to develop and implement the Queensland Emergency Risk Management Framework (QERMF) to better understand hazard risk, exposure, and vulnerability | Building Environment /Economic Environment All All | QRA DEPW DES DAF QFES QRA QFES QFES | Councils DES QFES DSDILGP Councils DSDILGP Councils DSDILGP Councils Councils | ✓ ✓ ✓ ✓ ✓ ✓ | ✓ ✓ ✓ ✓ ✓ | ✓ ✓ ✓ ✓ ✓ |
| C4.4 | Increase community awareness and preparedness for all hazards through community engagement | A1.4.1 Coordinate and administer annual Get Ready Queensland program providing total \$2 million in state funding to help local governments strengthen resilience of their communities A1.4.2 Coordinate all-hazards, resilience building campaigns and initiatives to help Queenslanders prepare for natural disasters (Public Safety Campaigns and Get Ready) A1.4.3 Support local governments to understand their baseline disaster resilience maturity to strategically plan for more effective community engagement activities by developing and implementing a disaster resilience maturity matrix tool A1.4.4 Queensland implementation of the Australian Warning System to deliver a comprehensive approach to emergency warnings | All All All | QRA QRA QFES QRA DSDILGP | Councils Councils Community groups DES Councils | ✓ ✓ ✓ ✓ | ✓ ✓ ✓ ✓ | ✓ ✓ ✓ ✓ |
| C4.5 | Initiate research and evaluation projects to promote the positive trajectory of building resilience in Queensland | A1.5.1 Lead continuous improvement in emergency management in Queensland through forward-thinking research activities to meet challenges faced by Queensland | All | IGEM QRA DES QFES | Councils Research sector | ✓ | ✓ | ✓ |

For resilience initiatives currently being delivered and previously delivered under the QSDR visit www.qra.qld.gov.au/QSDR



2 we work together to better manage disaster risk

Objective 2 – We work together to better manage disaster risk

The release of the National Strategy for Disaster Resilience in 2011 was the first step in a long-term planning approach to disaster management in Australia and it cemented the concept of shared responsibility as a vital element in creating disaster resilient communities. Since then, there has been ongoing efforts at the state and national level to coordinate how we best prepare for, and respond to, disasters.

While individuals and communities have a role to play in disaster resilience and risk reduction, governments and industry must take coordinated action to reduce disaster

risks within their control to limit adverse impacts on communities. A systems-based approach to resilience and recovery is required to tackle existing and emerging threats.

A key challenge will continue to be the need for strengthened cooperation between all levels of government, partners, private sector and academics to build on existing frameworks for resilience and establish risk ownership in Queensland. In a truly resilient future, all actors and sectors play an active role in disaster risk reduction.

| Strategic commitments | Description |
|---|--|
| C2.1 Address systemic disaster risk by coordinating across stakeholders and sectors | Understanding current and future risks, and the role and responsibilities of key stakeholders involved in various aspects of resilience, is required to address systemic challenges and make informed decisions to reduce the impact of stresses and shocks on our system. |
| C2.2 Develop locally-led and community-based solutions to the impacts of disasters | Ensuring that recovery and resilience planning places both community need and value at their heart to deliver better outcomes for communities to strengthen resilience. |
| C2.3 Build partnerships across community, industry, research organisations and government to better manage disaster risk and strengthen resilience | Working collaboratively with key partners, community groups and Aboriginal and Torres Strait Islander peoples to ensure that post-disaster activities result in greater resilience both physically and institutionally. |
| C2.4 Implement the Queensland Flood Risk Management Framework | Ensuring the governance of flood risk management in Queensland is based on a collaborative, decentralised model with shared roles and responsibilities. |

Image: Working together to better manage disaster risk. Courtesy of QRA.

Objective 2 – We work together to better manage disaster risk

Describing success

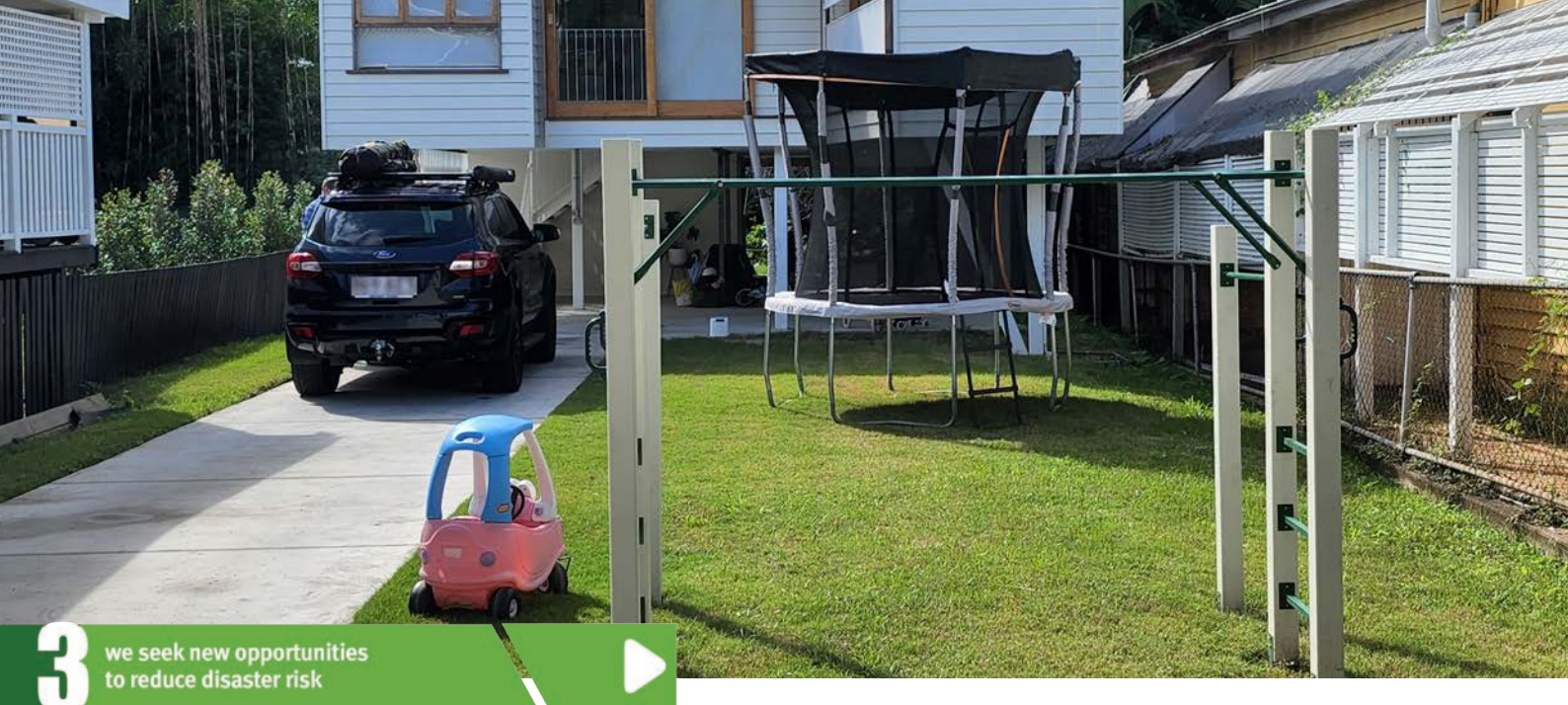
When it comes to disaster risk, we have found people most value their safety and security, the opportunity to thrive and prosper, and the reliable and continuous operation of critical infrastructure despite the stresses or shocks that may occur. We can always work better together to coordinate and concentrate our efforts to protect and enhance these values.

We are resilient when:

- our community is involved in disaster preparedness activities that meet local needs
- cross sector and cross border collaboration ensures evidence of local vulnerability and risk is used to inform our decision making in providing baseline services of government
- we encourage, promote, and facilitate shared responsibility for all Queenslanders in building disaster resilience
- we utilise individual capabilities and capacities to ensure everyone understands the role they play in contributing to the resilience of our community

| New Commitments | | Actions | Sector | Lead/s | Partners | 1-2 yrs | 3-4 yrs | 5+ yrs | |
|---------------------|---|---------|--|--------------------------|-------------------------------|---|---------------------------------|--------|---|
| C2.1 | Address systemic disaster risk by coordinating across stakeholders and sectors | A2.1.1 | Advocate for government investment in and consistent delivery of programs and initiatives to improve access and reliability of whole-of-government services in regional, remote and rural areas (including health, mental health, education, transport and telecommunications) to reduce the impact of long-term stresses and repeat shocks | All | QRA DCHDE QH DoE | ✓ | ✓ | | |
| | | A2.1.2 | Identify and understand current and future risk using a scenario based approach to use this knowledge to inform decision making and community engagement - including strengthening of local and district disaster management plans to incorporate direct, indirect and systemic risks | All | QFES | ✓ | | | |
| | | A2.1.3 | Incorporate outcomes of hazard risk assessments into regional land use and infrastructure plans and support Councils to reflect this in local planning schemes where appropriate | Building and Environment | QRA DES DSDILGP QFES | Councils DAF | ✓ | ✓ | |
| Current Commitments | | Actions | Sector | Lead/s | Partners | 1-2 yrs | 3-4yrs | 5+ yrs | |
| C2.2 | Develop locally-led and community-based solutions to the impacts of disasters | A2.2.1 | Assist Councils to understand their baseline resilience levels and how to enhance resource allocation to meet resilience needs | All | QFES QRA | ✓ | | | |
| | | A2.2.2 | Encourage knowledge and information sharing by improving public availability and awareness of hazard mapping and risk resources (including through the Queensland Disaster Resilience Alliance, Queensland Government Disaster Management Site and Future Climate Dashboard) | All | QFES DES | ✓ | | | |
| | | A2.2.3 | Continue environmental stewardship programs that protect and enhance Country, including natural resource management, land restoration and biosecurity programs, the Indigenous Land and Sea Ranger program, and other initiatives that incorporate First Nations knowledge, and ongoing proper management of State and private lands that conserves their significant natural and cultural values. | Environment | DoR DES DAF | Councils Community groups QFES | ✓ | ✓ | ✓ |
| C2.3 | Build partnerships across community, industry, research organisations and government to better manage disaster risk and strengthen resilience | A2.3.1 | Build public-private partnerships (ie. Insurance agencies) to develop recommendations to make homes more resilient to all hazards | Building | QRA | ✓ | ✓ | | |
| | | A2.3.2 | Partner with special interest, community services and community groups to enhance support to vulnerable community members | All | DCHDE | ✓ | | | |
| | | A2.3.3 | Support Indigenous local councils to complete adaptation planning as part of a wider climate change program for remote communities | Environment | DSDSATSIP DES | DSDILGP Councils Community groups | ✓ | | |
| C2.4 | Implement the Queensland Statewide Assessment of Flood Risk | A2.3.4 | Work in partnership with insurance, not for profit and community groups to harness existing capabilities in 'on the ground' resilience building | All | QRA | ✓ | | | |
| | | A2.3.5 | Work with First Nations councils to develop regional waste management plans, including the identification of actions to reduce disaster risk from legacy waste (e.g. abandoned vehicles, metals) and options to avoid future accumulation. | Environment | DES | Councils | ✓ | ✓ | |
| | | A2.3.6 | Continue to implement the QCoast2100 program aimed at assisting local councils impacted by coastal hazards to be proactive in adaptation planning to implement mitigation measures | Environment | DES | Councils | ✓ | ✓ | ✓ |
| C2.4 | Implement the Queensland Statewide Assessment of Flood Risk | A2.4.1 | Develop and implement a 10-year investment plan for flood risk management in Queensland, including the development of a Statewide Assessment of Flood Risk Tool to establish a systems approach to prioritising needs and investments in flood management | All | QRA | Councils DRDMW DoR | QFES DES DSDILGP | ✓ | ✓ |
| | | A2.4.2 | Continue implementation of the Brisbane River Strategic Floodplain Management Plan | All | QRA | Councils DoR DES QPS | DTMR DSDILGP QFES DEPW | ✓ | ✓ |

For resilience initiatives currently being delivered and previously delivered under the QSDR visit www.qra.qld.gov.au/QSDR



Objective 3 – We seek new opportunities to reduce disaster risk

Increased resilience can be achieved through learning, innovation and developing skills and resources, both at the community and operational level that can be applied to respond to a wider range of disasters.

The convergence of science and technology is of great importance for mitigating disaster risk. The effectiveness of science and technology innovations in disaster risk

reduction has been proven in many cases, including early warning systems and innovations in construction to enhance the resilience of buildings and infrastructure.

The Sendai Framework for Disaster Risk Reduction encourages investment in innovation and technology in disaster risk management to address gaps, interdependencies, social challenges, and disaster risks.

| Strategic commitments | Description |
|---|--|
| C3.1 Enhance risk reduction, mitigation and capacity building programs drawn from local need | Recognising that coordinated and cooperative efforts across stakeholders is required to enhance local, regional and state capability and capacity to withstand and recover from emergencies and disasters. |
| C3.2 Deliver more resilient infrastructure to enhance connectivity and supply chain resilience | Utilising data and evidence to ensure there is improved planning for, response to and recovery from infrastructure failure through ongoing investments in resilient infrastructure. |
| C3.3 Protect and enhance the natural environment through effective land use planning | Enhancing the resilience of existing and future communities through effective land use planning in areas that are subject to, or potentially subject to, hazards. |
| C3.4 Promote the incorporation of risk reduction in all planning and development | Developing concrete commitments to reduce vulnerability, build capacity and promote resilience to disasters using a place-based approach. |
| C3.5 Encourage innovation in urban area design for living with the impacts of disasters | Ensuring infrastructure can function during adverse conditions and quickly recover to acceptable levels of service after an event which is fundamental to the wellbeing of communities. |
| C3.6 Further the understanding and management of natural landscapes to reduce the impacts and effects of disaster events | Focusing on environmental improvements through mechanisms such as natural resource management groups, government programs, and community-led efforts. |
| C3.7 Build greater individual and business resilience and preparedness | Encouraging partnerships and sharing ideas to ensure communities and businesses can face challenges caused by disaster and climate risks and come back stronger. |

Image: Flood resilient home, Courtesy QRA.

Objective 3 – We seek new opportunities to reduce disaster risk

Describing success

Having a big picture view of the interrelated and systemic nature of risk and a long-term commitment to disaster risk reduction helps us identify innovative opportunities for making our communities, infrastructure and environment stronger and more adaptable to future stresses and shocks.

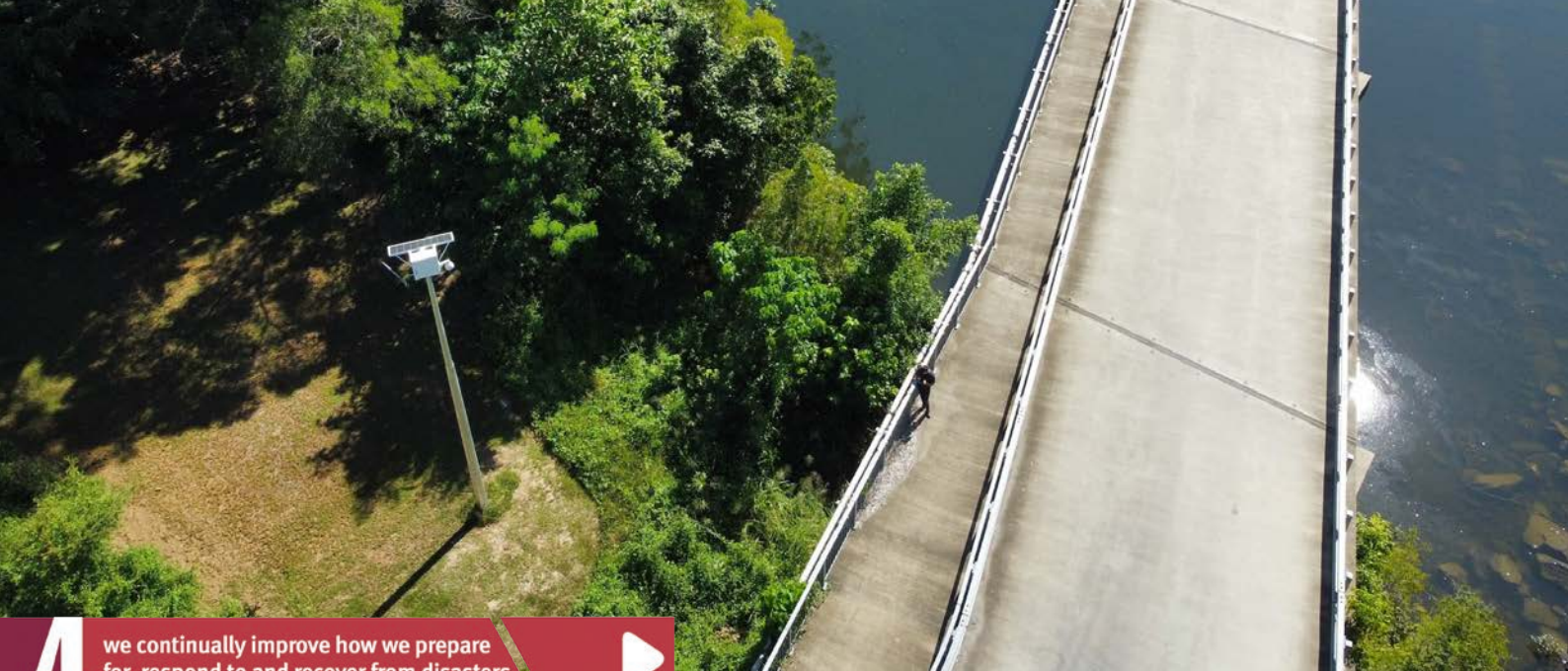
We are resilient when:

- we incorporate resilience into everyday activities
- we take a proactive approach to resilience building, rather than a reactive one, an ensure resilience is a key consideration in long-term planning
- we have clear knowledge of the risk reduction and mitigation requirements / priorities across the state

| New Commitment | | Actions | Sector | Lead/s | Partners | 1-2 yrs | 3-4 yrs | 5+ yrs |
|----------------|---|---------|---------------------|----------------|--|---------|---------|--------|
| C3.1 | Enhance risk reduction, mitigation and capacity building programs drawn from local need | A3.1.1 | All | QRA | Councils Community groups | ✓ | ✓ | ✓ |
| | | A3.1.2 | All | QRA DEPW | Council Community groups Insurance | ✓ | ✓ | ✓ |
| | | A3.1.3 | Human & Social | DCHDE QH | Community groups NDIA | ✓ | ✓ | ✓ |
| | | A3.1.4 | Economic | DESBT | DAF DES Councils DSDILGP DRDMW | ✓ | ✓ | ✓ |
| | | A3.1.5 | Economic / Building | DSDILGP DES | DTIS Councils DRDMW | ✓ | ✓ | ✓ |

| Current Commitment | | Actions | Sector | Lead/s | Partners | 1-2 yrs | 3-4 yrs | 5+ yrs |
|--------------------|---|---------|-------------------|--------------------------------------|------------------------------|---------|---------|--------|
| C3.2 | Deliver more resilient infrastructure to enhance connectivity and supply chain resilience | A3.2.1 | Roads & Transport | QRA | Councils | ✓ | ✓ | ✓ |
| | | A3.2.2 | Building | QFES QRA DCYJMA DJAG QPS | None | ✓ | ✓ | ✓ |
| C3.3 | Protect and enhance the natural environment through effective land use planning | A3.3.1 | Building | DSDILGP DEPW DES | DTMR Councils | ✓ | ✓ | ✓ |
| C3.4 | Promote the incorporation of risk reduction in all planning and development | A3.4.1 | All | QRA DSDILGP DEPW | Councils Community groups | ✓ | ✓ | ✓ |
| | | A3.5.1 | Building | QRA DEPW | QFES DSDILGP | ✓ | ✓ | ✓ |
| C3.5 | Encourage innovation in urban area design for living with the impacts of natural disasters | A3.5.2 | Building | DEPW QRA | Councils DSDILGP | ✓ | ✓ | ✓ |
| | | A3.5.3 | Building | DEPW | QH Councils DES | ✓ | ✓ | ✓ |
| C3.6 | Further the understanding and management of natural landscapes to reduce the impacts and effects of natural disasters | A3.6.1 | Environment | DES DAF DoR | Councils QFES | ✓ | ✓ | ✓ |
| | | A3.6.2 | Environment | QFES DES | Councils DoR | ✓ | ✓ | ✓ |
| C3.7 | Build greater individual and business resilience and preparedness | A3.7.1 | All | QRA DES DCHDE | Councils Community groups | ✓ | ✓ | ✓ |
| | | A3.7.2 | Environment | DES | Councils | ✓ | ✓ | ✓ |

For resilience initiatives currently being delivered and previously delivered under the QSDR visit www.qra.qld.gov.au/QSDR



Objective 4 – We continually improve how we prepare for, respond to, and recover from disasters

Continuous improvement increases the effectiveness of response, recovery and resilience efforts by ensuring we are able to routinely identify strengths, areas for improvement, potential best practices, and critical issues.

The practice of continuous improvement involves regular evaluation of processes and arrangements to ensure they remain relevant, efficient, effective, and flexible. Disaster management stakeholders, researchers, educators, policy makers and the community have a joint responsibility to ensure continuous improvement initiatives are shared across the disaster management sector to promote innovation, efficiency, and efficacy.

Recent disaster events have highlighted a critical need to link resilience policy outcomes more clearly to tangible funding opportunities. Currently, there is insufficient investment in disaster risk reduction measures, especially in investing in prevention. Both public and private investment in disaster risk prevention and reduction through structural and non-structural measures tailored to local need are essential to enhance the economic, social, health and cultural resilience of Queensland.

| Strategic commitments | Description |
|---|---|
| C4.1 Align investment pathway opportunities to local needs | Prioritising local and regional needs by facilitating the delivery of coordinated funding and on-the-ground assistance to strengthen community disaster resilience. |
| C4.2 Identify adaptation opportunities following disasters and recognising the impacts of climate change | Establishing a disaster management system that is scalable to accommodate increases in current and future disaster risks and the increasing numbers of people and properties located in disaster impacted areas and identify opportunities to lessen impacts. |
| C4.3 Drive continuous improvement in disaster management in Queensland via assurance frameworks and accompanying Strategy performance measures | Developing a cycle of monitoring, evaluation and reporting to support a learning culture for continuous improvement. |

Image: Flood warning camera, Wujal Wujal, 2022. Courtesy QRA.

Objective 4 – We continually improve how we prepare for, respond to and recover from disasters

Describing success

Learning from past events and how they have impacted us as Queenslanders enables us to anticipate what's next, improve our current practices, and adjust where required to dynamic and uncertain circumstances.

We are resilient when:

- our disaster management systems are scalable and resourced to anticipate and respond to changing needs
- we are on a journey of continuous improvement to reduce existing risk and anticipate future events and their impacts
- we work across disciplines and organisations to proactively plan for resilience of people, property and place
- we embrace a culture of ongoing improvement through regular monitoring and information sharing
- we prioritise investments in innovative resilience building activities that align to long-term planning and objectives to strengthen resilience over time

| New Commitment | | Actions | Sector | Lead/s | Partners | 1-2 yrs | 3-4 yrs | 5+ yrs |
|----------------------------|--|----------------|------------------------------|---------------|-----------------------|----------------|----------------|---------------|
| C4-1 | Align investment pathway opportunities to local priorities | A4.1.1 | All | QRA | DSDILGP Councils DAF | ✓ | ✓ | |
| | | A.4.1.2 | All | QRA | Councils | ✓ | | |
| Current Commitments | | Actions | Sector | Lead/s | Partners | 1-2 yrs | 3-4 yrs | 5+ yrs |
| C4-2 | Identify adaptation opportunities following disasters and recognising the impacts of climate change | A4.2.1 | Building / Roads & Transport | QRA | DEPW Councils DSDILGP | ✓ | ✓ | ✓ |
| | | A4.2.2 | All | QFES DES | DEPW QRA | ✓ | | |
| | | A4.2.3 | All | QRA | DEPW DAF Councils | ✓ | ✓ | ✓ |
| | | A4.2.4 | Building | DEPW DSDILGP | Councils DTMR QRA | ✓ | ✓ | ✓ |
| C4-3 | Drive continuous improvement in disaster management in Queensland via assurance frameworks and accompanying Strategy performance measures. | A4.3.1 | All | QRA | IGEM | ✓ | | |
| | | A4.3.2 | Building | DSDILGP | DEPW Councils QRA | | ✓ | ✓ |

For resilience initiatives currently being delivered and previously delivered under the QSDR visit www.qra.gld.gov.au/QSDR



Delivery and measuring success

Delivery

The Queensland Reconstruction Authority (QRA) is the lead agency responsible for disaster resilience policy and will work with all stakeholders, with a commitment to collaborative policy development for the implementation of the QSDR and the delivery of resilience initiatives.

The Queensland Resilience Coordination Committee (QRCC) was established in 2018 as the key governance body to identify and promote resilience initiatives in Queensland and assist in coordinating available funding to address priorities.

The QRCC is also responsible for overseeing the implementation of the QSDR, reporting to the QDMC through a leadership board, comprised of the Chief Executives of key Queensland Government agencies. The QDMC is established under the *Disaster Management Act 2003* and assumes the state-level role for the strategic direction of disaster management and decision-making.

The successful delivery of effective resilience measures will be supported by key partners across the not-for-profit, insurance and tertiary sector to ensure decision-making is informed by a solid evidence base.

Implementation and measuring success

Successful implementation of strategic commitments and resilience actions will be developed following a program of consultation with lead and partner agencies - in conjunction with disaster management arrangements.

The QRA will monitor and evaluate the effectiveness of the QSDR and provide six monthly reporting to the QRCC and QDMC on progress.

A set of tailored indicators will be employed to measure progress made over time towards developing increased levels of resilience. The indicators will be established via consultation with key stakeholders and sectors to ensure the unique characteristics of Queensland communities are considered when capturing successes and evaluating the effectiveness of resilience initiatives.

The indicators will support current, evidence-based decision making and the identification of opportunities to enhance preparedness, response and recovery from all hazard impacts. They will allow the benefits of proven initiatives to be measured, with learnings shared with all communities across the state.

The following diagram provides a recommended model of monitoring, evaluation and reporting.

QSDR 2022-2027 Monitoring and Reporting

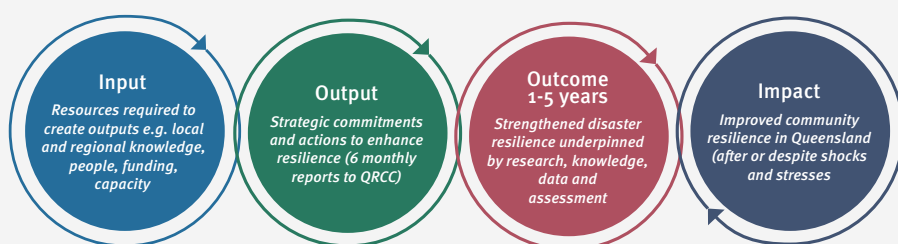


Image: 737 water bomber Central Queensland Bushfires November 2018.



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www.qra.qld.gov.au/QSDR