



Whitsunday
Regional Council
Disaster Management

DISASTER RISK ASSESSMENT

WHITSUNDAY PROFILE

Whitsunday Disaster Management Group

www.disaster.whitsundayrc.qld.gov.au

 Whitsunday Disaster & Emergency Information

LIFE THREATENING EMERGENCY (MOBILE)

112

WHITSUNDAY DISASTER COORDINATION CENTRE

1300 972 006

QUEENSLAND POLICE SERVICE

Crime Stoppers	1800 333 000
Police Link	131 444
Whitsunday Police Station	4948 8888
Whitsunday Water Police	4967 7222
Proserpine Police Station	4945 9666
Bowen Police Station	4761 3500
Collinsville Police Station	4785 5377

QUEENSLAND FIRE AND EMERGENCY SERVICES – URBAN

Airlie Beach Fire Station (Permanent / Auxiliary)	4946 6442
Proserpine Fire Station (Auxiliary)	4965 6621
Bowen Fire Station (Permanent / Auxiliary)	4786 1811
Collinsville Fire Station (Auxiliary)	4785 5083

RURAL FIRE SERVICE

Mackay District (former Whitsunday Shire area)	4965 6641
Townsville District (former Bowen Shire area)	4796 9082

QUEENSLAND STATE EMERGENCY SERVICES (SES)

Flood Storm Emergency	132 500
Mackay Area Office	4965 6651
(For SES groups located at Airlie Beach, Gloucester, Proserpine and Bowen)	

QUEENSLAND HEALTH SERVICES

13 HEALTH	13 43 25 84
Proserpine Hospital	4813 9400
Bowen Hospital	4786 8222
Collinsville Hospital	4785 4777

QUEENSLAND AMBULANCE SERVICE

Mackay Local Ambulance Service Network	4965 6601
(For stations located at Whitsunday, Proserpine, Bowen, Collinsville and Hamilton Island)	

MARITIME SAFETY QUEENSLAND

Airlie Beach (former Whitsunday Shire area)	4841 4500
Townsville (former Bowen Shire area)	4421 8100

VOLUNTEER MARINE RESCUE

VMR Whitsunday	4946 7207
VMR Bowen	4786 1950
VMR Burdekin (Molongle Creek)	4783 1014
Telstra	13 22 00
Ergon – Emergencies only	13 16 70
Ergon – Faults only	13 22 96
SunWater	13 15 89
Whitsunday Regional Council	4945 0200

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DOCUMENT DETAILS

Acknowledgement

The Whitsunday Regional Council thanks all contributors and stakeholders involved in the development of this document.

Disclaimer

Information contained in this document is based on available information at the time of writing. All figures and diagrams are indicative only and should be referred to as such. While the Whitsunday Regional Council has exercised reasonable care in preparing this document, it does not warrant or represent that it is accurate or complete. Council or its officers accept no responsibility for any loss occasioned to any person acting or refraining from acting in reliance upon any material contained in this document.

Thank you to Get Ready Qld for cover photo.

WHITSUNDAY LOCAL GOVERNMENT AREA MAP



ACKNOWLEDGEMENT OF COUNTRY

Council acknowledges the traditional owners and custodians of the lands in our region.

We pay respect to Elders past, present and emerging and acknowledge their ongoing relationship and connection to Country.

Their enduring presence on this land spans countless generations, and their resilience in the face of natural hazards is a testament to their profound knowledge of the landscape.

The traditional owners in this region possess a remarkable understanding of the complexities and patterns of the environment. Through their deep-rooted relationship with the land, they have developed an intimate knowledge of the hazards that shape our region, such as cyclones, flooding, and bushfires. Their wisdom, passed down through generations, offers invaluable insights into how to navigate and respond to these challenges.

We are committed to working together in a spirit of partnership, mutual respect, and shared responsibility. By combining our respective knowledge systems and experiences, we aim to enhance our community's resilience and preparedness in the face of disasters.

AUTHORITY TO PLAN

The Disaster Risk Assessment has been prepared by the Whitsunday Local Disaster Management Group for the Whitsunday Regional Council in accordance with Section 57(1) of the Disaster Management Act 2003.

APPROVAL OF THE DISASTER RISK ASSESSMENT

The Disaster Risk Assessment was endorsed by the Whitsunday Local Disaster Management Group. In accordance with the Disaster Management Act 2003 Section 80(1) (b), the Whitsunday Regional Council approved the Disaster Risk Assessment.

RISK

The concept of risk combines an understanding of the likelihood of a hazardous event occurring with an assessment of its impact represented by interactions between hazards, elements at risk and vulnerability (Geoscience Australia).

Risk identification

The process of finding, recognising and describing risks. Risk identification involves the identification of risk sources, events, their causes and their potential consequences. Risk identification can involve [the use of] historical data, theoretical analysis, informed and expert opinions and stakeholders' needs.

Risk Management

The systematic application of management policies, procedures and practices to the tasks of identifying, analysing, assessing, mitigating and monitoring risk.

INTRODUCTION TO QUEENSLAND EMERGENCY RISK MANAGEMENT FRAMEWORK (QERMF)

Understanding disaster risk and disaster risk reduction are international priorities as captured within the United Nations Office for Disaster Risk Reduction Sendai Framework for Disaster Risk Reduction 2015-2030 "Priorities for Action".

Under the Queensland State Disaster Management Plan, Queensland Fire and Emergency Services (QFES) is responsible for the conduct of a state level disaster risk assessment. The Queensland Emergency Risk Management Framework (QERMF) has been developed to inform risk-based planning across the emergency management sector in Queensland and has been endorsed by the Queensland Disaster Management Committee.

The application of the QERMF promotes opportunities for collaboration and communication between Government, industry stakeholders and the community across the three disaster management levels (Local, District and State) in Queensland. It also promotes the need for identification and communication of residual risk across these levels.

The QERMF assists key stakeholders working within Queensland's Disaster Management Arrangements (QDMA) to review existing natural disaster risk management processes and assist in enhancing resilience as outlined within the Queensland Strategy for Disaster Resilience.

The resources contained within this section seek to aid disaster and emergency management practitioners in the implementation of the QERMF across Queensland's disaster management arrangements. This "toolkit" is maintained by the Hazard and Risk Unit, Queensland Fire and Emergency Services.

The QERMF Risk Assessment Tool

The QERMF Risk Assessment Tool is an ArcGIS Online geospatial information platform designed to aid in the conduct of the risk assessment process. Covering a breadth of hazard, infrastructure, and demographic information, it allows disaster and emergency management practitioners to more accurately visualise the hazard-based risk within their area of responsibility. Access to the QERMF Risk Assessment Tool is provided through the QDMA Data Sharing Group.

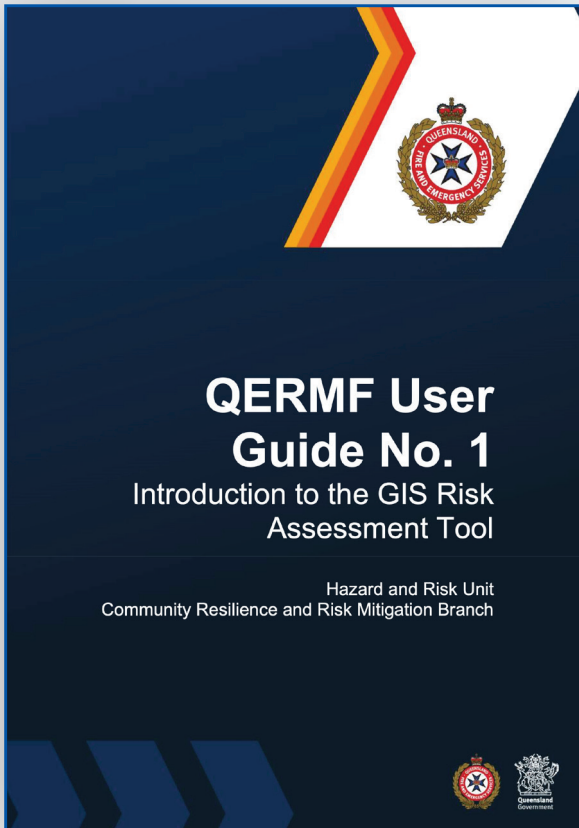


Figure 1

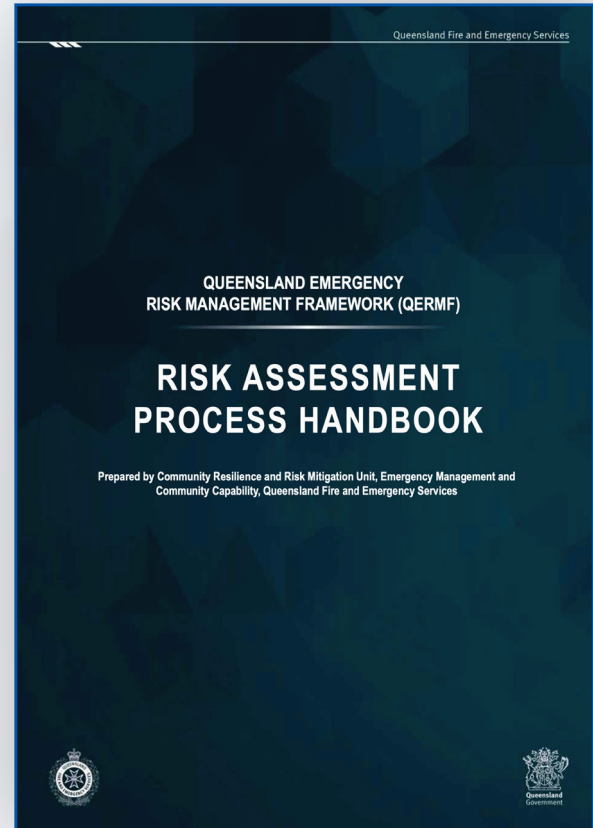


Figure 2

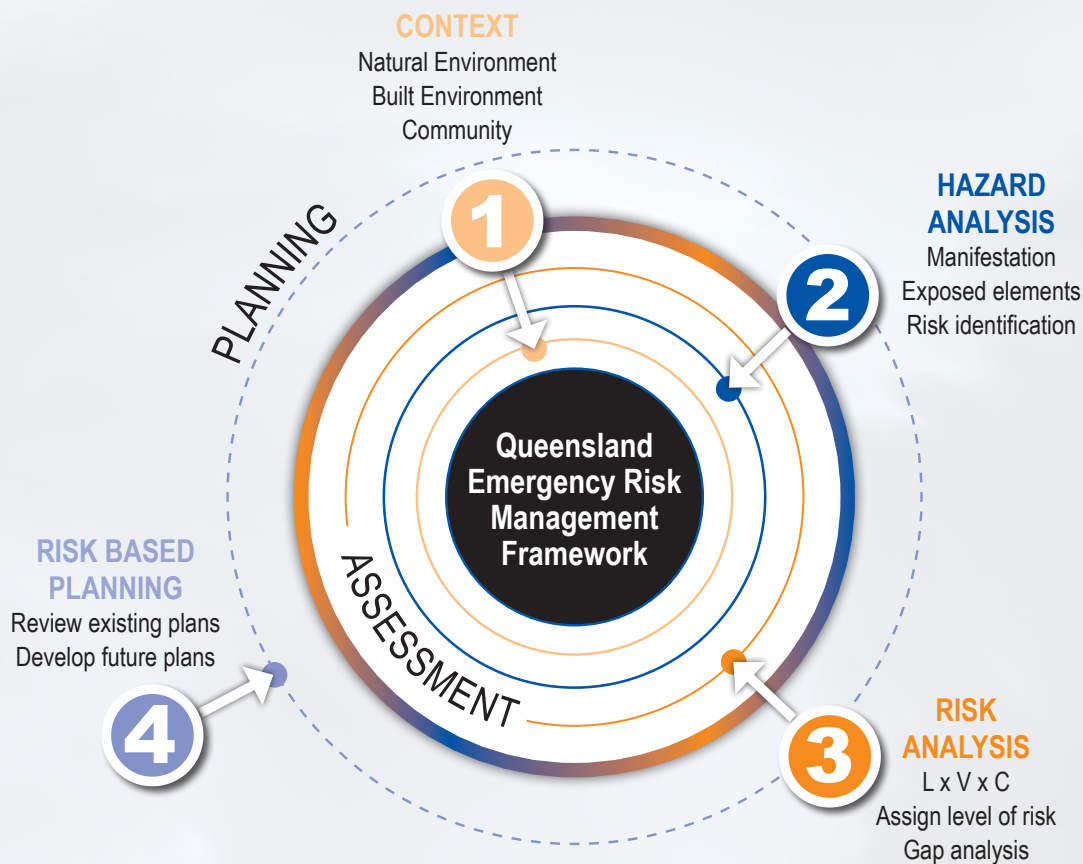
The QERMF Risk Assessment Process Handbook provides a valuable risk assessment methodology that can be used within disaster management planning at all levels of Queensland's Disaster Management Arrangements (QDMA) – Local, District and State.

The process applies a proven, standardised and internationally recognised approach to the prioritisation, mitigation and management of risk. This includes the identification and communication of residual risk across stakeholders and QDMA.

The process seeks to directly inform planning and resource allocation, and to promote active emergency management communication, cooperation and coordination.

The handbook outlines both the framework and approach for this risk assessment process in a step-by-step manner and provides examples, resources and templates to assist in its implementation.

Queensland Emergency Risk Management Framework (QERMF). Source: QERMF: Risk assessment process handbook [64] Figure 4.



UNDERSTANDING THE WHITSUNDAY REGION'S DISASTER RISK

Living in the paradise that is the Whitsunday region, comes with the risks associated with living in a coastal and regional setting. As a community, it is important for us to understand the risks that we may face and to be well-prepared for any potential disasters. A disaster can occur when a hazard, such as a natural disaster or a man-made event, has a significant impact on our community, causing severe disruption that requires a coordinated response from various entities, including the State and other organisations, to aid in our community's recovery process. Hazards that commonly occur in this area are cyclones, heatwaves, severe weather (such as storms and flooding), bushfires and bio-security issues.

This is where the Whitsunday Disaster Management Group (WDMG) comes in. The WDMG is comprised of representatives from the Whitsunday Regional Council, local emergency services, government agencies, and other community groups. The WDMG is responsible for coordinating disaster management efforts in our region and ensuring that we are prepared for any potential hazards that may impact our community.

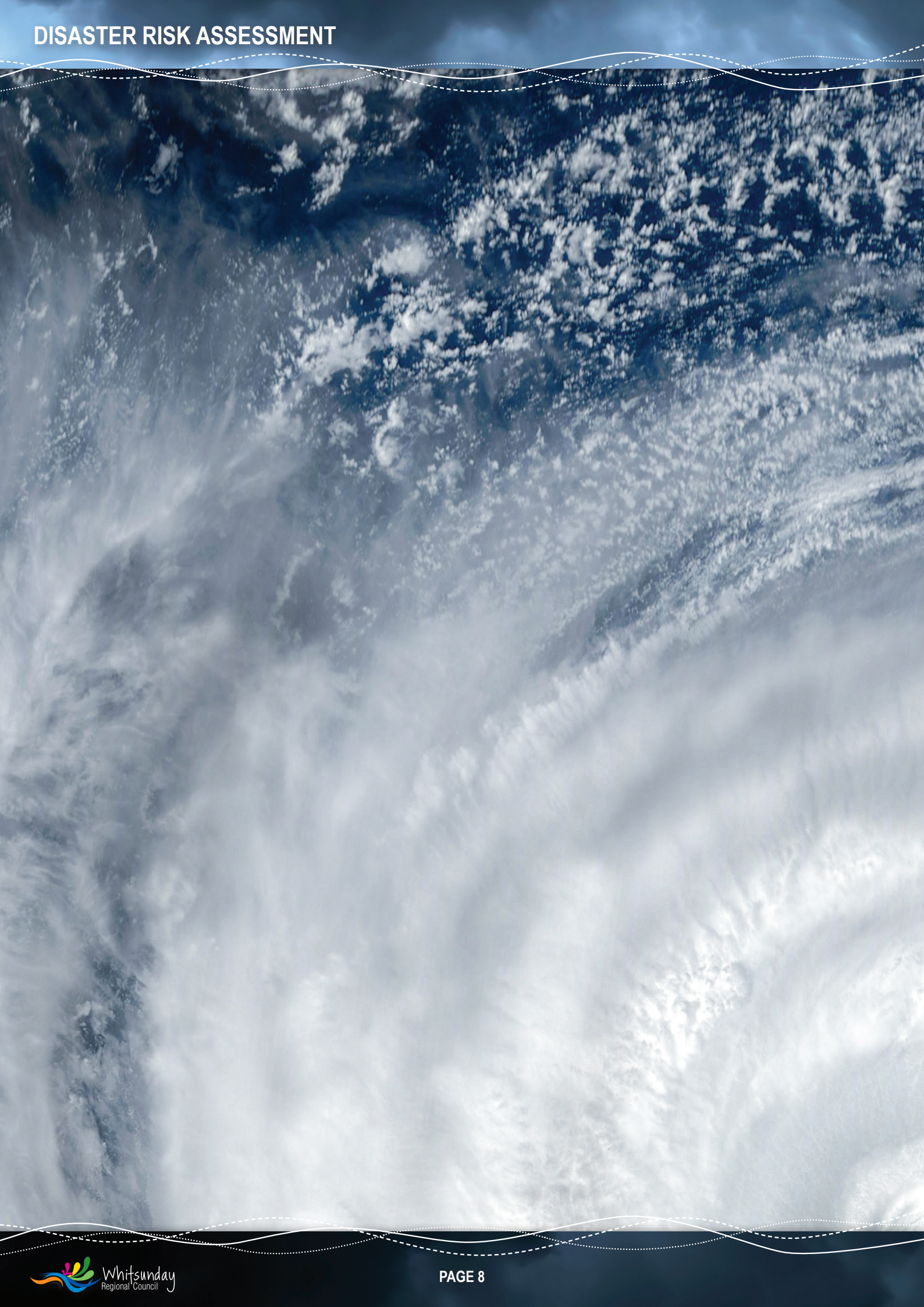
In 2023 an updated disaster management risk assessment methodology known as QERMF2 (Queensland Emergency Risk Management Framework) was conducted for the Whitsunday Region. This methodology helps to better understand our local hazards, including their likelihood of occurring within a one-year timeframe, the vulnerability of exposed elements, and an ongoing assessment of the effectiveness of mitigation measures currently in place. The WDMG's commitment to proactive risk assessment and mitigation measures ensures that our region is well-equipped to respond to and recover from potential disasters. This coupled with a community that understands their risks and draws on its strength and resilience, will help to reduce the impacts when disaster strikes.

Likelihood (X)		Rare (1)					Unlikely (2)					Possible (3)					Likely (4)					Almost Certain (5)				
Vulnerability (Y)		V.Low (1)	Low (2)	Mod (3)	High (4)	Extr (5)	V.Low (1)	Low (2)	Mod (3)	High (4)	Extr (5)	V.Low (1)	Low (2)	Mod (3)	High (4)	Extr (5)	V.Low (1)	Low (2)	Mod (3)	High (4)	Extr (5)	V.Low (1)	Low (2)	Mod (3)	High (4)	Extr (5)
Consequence (Z)	INSIGNIFICANT (1)	VL1	VL2	VL3	L4	L5	VL2	VL3	L4	L5	L6	VL3	L4	L5	L6	M7	L4	L5	L6	M7	M8	L5	L6	M7	M8	H9
	MINOR (2)	VL2	VL3	L4	L5	L6	VL3	L4	L5	L6	M7	L4	L5	L6	M7	M8	L5	L6	M7	M8	H9	L6	M7	M8	H9	H10
	MODERATE (3)	VL3	L4	L5	L6	M7	L4	L5	L6	M7	M8	L5	L6	M7	M8	H9	L6	M7	M8	H9	H10	M7	M8	H9	H10	H11
	MAJOR (4)	L4	L5	L6	M7	M8	L5	L6	M7	M8	H9	L6	M7	M8	H9	H10	M7	M8	H9	H10	H11	M8	H9	H10	H11	E12
	CATASTROPHIC (5)	L5	L6	M7	M8	H9	L6	M7	M8	H9	H10	M7	M8	H9	H10	H11	M8	H9	H10	H11	E12	H9	H10	H11	E12	E13

Key: V.L= Very low; L = Low; M = Medium; H = High; E = Extreme

Scale: 1 (lowest) to 13 (highest)

Hazard Type	Actual Risk Score	Overall Risk Rating	ARI (Average Recurrence Interval) - How often this is likely to happen - 1 in 5-year event.	AEP (Annual Exceedance Probability) (percentage chance of happening annually)
Heatwave	7.62	M8	1	63%
Infections Plant or Animal Disease (Biosecurity)	6.66	M7	1	63%
Severe Weather Event	9.37	H9	2	50%
Bushfire	7.61	M8	2	50%
Tropical Cyclone Category 1-2	9.68	H10	5	20%
Chemical Biological or Radiological	9.30	H9	5	20%
Severe Tropical Cyclone Category 3-5	9.92	H10	10	10%
Pandemic	7.90	M8	20	5%
Earthquake 5.35 Magnitude	6.88	M8	700	0.14%
Tsunami	6.88	M8	3000	0.06%
Earthquake 6.05 Magnitude	6.88	M8	5000	0.02%



TROPICAL CLYCONE

TROPICAL CYCLONE



Category 1-2: 20% likelihood | Category 3-5: 3-10% likelihood

What is it? Tropical cyclones are intense low-pressure systems that form over warm tropical waters. Cyclones are dangerous for three (3) main reasons:

- Destructive winds can cause extensive damage and can turn debris into dangerous missiles
- Heavy rainfall can produce extensive flooding and landslides
- Storm tide can increase sea levels above king tide level and cause damaging waves

CATEGORY	MAXIMUM MEAN WIND (KM/H)	TYPICAL STRONGEST GUST (KM/H)	TYPICAL EFFECTS
1	63 - 88	< 125	Damaging winds. Negligible house damage. Damage to some crops, trees, and caravans. Craft may drag moorings.
2	89 - 117	125 - 164	Destructive winds. Minor house damage. Significant damage to signs, trees, and caravans. Heavy damage to some crops. Risk of power failure. Small craft may break moorings.
3	118 - 159	165 - 224	Very destructive winds. Some roof and structural damage. Some caravans destroyed. Power failures likely. (e.g., Clare, Olwyn)
4	160 - 199	225 - 279	Significant roofing loss and structural damage. Many caravans destroyed and blown away. Dangerous airborne debris. Widespread power failures. (e.g., Tracy, Debbie, Lam)
5	> 200	> 279	Extremely dangerous with widespread destruction. (e.g., Vance, Marcia, Yasi)

Cyclone Trends

The Whitsunday region is susceptible to cyclones due to its geographic location in the cyclone-prone zone of the Coral Sea. The official cyclone season is November 1st through to the end of April. Over the years, the region has experienced a history of cyclone activity, with varying intensities and frequencies. Cyclone Debbie in 2017, Cyclone Ului in 2010 and Cyclone Ada 1970 are three that have impacted the region, causing widespread damage to infrastructure, disrupting access and resupply, and affecting communities, industries, and the environment. It is predicted that there may be a decrease in the frequency of cyclones impacting the Whitsunday region, the ones that do, are likely to be more powerful and destructive. Historically, cyclones that track east to west tend to have had more severe impacts to the region, than those tracking north to south.

Whitsunday Region Strengths

Cyclone Mitigation and Preparedness

The Whitsunday region has robust measures in place to mitigate the impact of cyclones. This includes building cyclone-resistant infrastructure, enforcing strict building codes, conducting regular cyclone exercises, and providing cyclone warnings and evacuation plans to the community. Additionally, the region has established cyclone shelters and designated evacuation zones to ensure the safety of residents and tourists during cyclone events. The Whitsunday community holds strength in its resilience and previous experience of natural hazards in the area. Residents are encouraged in creating and maintaining a cyclone kit that includes access to essential items such as food, water and battery-operated torches and radios. This is to ensure they have the basic items needed to make it through 72 hours of significant disruption to critical services such as power and water. You may have seen these agency representatives and communications regularly in the community, in an effort to ensure the community is as prepared as possible for cyclones.

Extensive work continues to increase the resilience of buildings and infrastructure such as power, telecommunication, water and roads and reduce the scale of the impact. Although the region has suffered major impacts from cyclones, the community has shown incredible grit and connectedness in its recovery.

Infrastructure

Tropical Cyclones have the potential to damage key infrastructure across the region with damaging winds, flooding, storm tide and debris. This may cause secondary hazards such as power and telecommunications outages, as well as interruptions to waste, sewerage and water services. Many houses, particularly older houses may face varying levels of damage. This includes roads, bridges, buildings, power and communication networks, and water supply systems. Damage to infrastructure can disrupt transportation, communication, and utilities, resulting in limited access to affected areas and hampering recovery efforts. Rebuilding and repairing infrastructure after cyclones can be time-consuming and costly, impacting the region's overall connectivity and functionality.

Access and Resupply

Many of the region's roads will be impacted by riverine and flash flooding. This may be further compounded by storm tide inundation. These roads may also have significant debris and other hazards such as downed power lines. Main evacuation routes and thoroughfares such as the Bruce Highway, Shute Harbour Road and the Bowen Development Road are likely to be impacted for 24-72 hrs. This can result in shortages of essential goods and services, including food, water, fuel, and medical supplies. Limited access and resupply can also affect emergency response and recovery operations, making it challenging to deliver aid and support to affected areas.

Community and Social

Cyclone warnings and communications will allow ample time for communities to finalise cyclone preparations and seek appropriate shelter. Cyclone Shelters will be opened in the event of a category 3 cyclone and above for the duration of the event to ensure community safety. Some parts of our community may face barriers to being sufficiently prepared for cyclones, such as those with limited mobility or financial resources. Newer residents, tourists and transient workers, when not appropriately informed or adequately prepared, may increase their level of impact. Displacement from homes, loss of property, and disruption of social and community services can affect the well-being and livelihoods of residents. Recovery from these social impacts may require community support, mental health services, and social welfare assistance. Overall, response and recovery efforts will focus on returning communities to a sense of normality as soon as possible.

Medical

Medical infrastructure may suffer some levels of damage, particularly older parts of the buildings. Access to hospitals will not be possible for some population areas such as Dingo Beach, Merinda, Hydeaway Bay, Airlie Beach and surrounds due to extended road closures from flood and debris. Damage to healthcare facilities, disruption of power and water supply, and limited access to medical supplies and personnel can hamper the provision of healthcare services during and after a cyclone event. The increased demand for medical services, including emergency care, injuries, and illnesses related to the cyclone, can strain the capacity of the healthcare system. Adequate medical preparedness, including backup power, supplies, and evacuation plans, is critical to mitigating the impact on medical services. Hospitals and healthcare providers in this area are generally well versed in providing care in challenging circumstances and have robust systems and processes in place to limit disruption.

Significant Industries

Most, if not all industries, are likely to be impacted when a cyclone occurs in our region. Cyclones can damage tourism infrastructure, disrupt travel and bookings, and affect the region's reputation as a tourist destination. As a result, tourism may see some short-medium term disruptions to bookings. Agriculture, including farming and horticulture, can face crop damage, livestock losses, and disruption of supply chains. Marine activities, such as fishing, boating, and maritime tourism, can be affected by damage to infrastructure, disruption of transportation, and safety hazards. The economic impact on these significant industries can have long-term consequences for the region's economy and livelihoods of local communities.

Environmental

Cyclones can have severe environmental impacts in the Whitsunday region. The region is home to the Great Barrier Reef, a world heritage site, which can be adversely affected by cyclones. Cyclones can cause physical damage to coral reefs, resulting in coral bleaching, sedimentation, and other forms of pollution that can degrade the reef ecosystem. Cyclones can also affect the region's terrestrial ecosystems, including rainforests, wetlands, and wildlife habitats, through defoliation, erosion, and habitat destruction. Increased debris may increase fuel loads and add to future bushfire risk. The recovery of these natural environments may take years or even decades, affecting the region's ecological balance and biodiversity.

EVACUATION AND SHELTER OPTIONS

The best option for most people during a tropical cyclone is to shelter in their homes (shelter in place). However, if your home is located in an evacuation zone or is an older building that is not in good condition or you have special needs, you need to plan and prepare now so you can evacuate and seek shelter in a safer place.

Cyclone shelter and evacuation options for residents of the Whitsunday Regional Council:

Everybody living in a cyclone-prone area should have a Household Emergency Plan, which includes evacuation and shelter considerations. Residents should plan and prepare to shelter in a safe and secure structure either at home or with family and friends or relocate to outside the warning area.

It is critical that you and your family have thought through and planned for your family's safety before the cyclone season. You need to develop your Household Emergency Plan, so you can make safe decisions and preparations at the beginning of the season, especially about where you and your family will shelter during a cyclone. You will need to be prepared to look after yourself and your family. In the initial stages leading up to a tropical cyclone, emergency services will be engaged in essential disaster management tasks and assisting residents who may not be capable of evacuating themselves.





A large, leafy tree stands in the foreground, its base surrounded by intense orange and yellow flames. The background is a hazy, blue-grey sky. The word "BUSHFIRE" is written in bold, orange, sans-serif capital letters inside a white rectangular box with a thin white border, centered over the tree and fire.

BUSHFIRE

BUSHFIRE



A bushfire is a fire involving grass, scrub or forest. A bushfire can cause injury, loss of life and/or damage property or the natural environment. Bushfires are unplanned, and can include grass fires, forest fires and scrub fires. Bushfires occur in both managed and unmanaged areas of vegetation such as reserves, national parks, private property and urban corridors.

Trends

The Whitsunday region typically experiences bushfire season in late winter through to early summer. Over the past few years, there has been an increase in the frequency and intensity of bushfires in the region, attributed to factors such as climate change, prolonged dry spells, and accumulation of fuel load in the bushland. Cyclones and severe weather, can increase fuel loads in bushland and forests and create a higher fire risk, as seen in the Eungella fires in 2018.

The bushfire risk is also influenced by the region's unique vegetation types, including dry rainforests and eucalypt forests, which can be highly flammable during dry periods. Recent examples such as the major fires in the Andromache (2018 as part of Cathu fire, 2019, 2020), Dingo Beach/Gloucester (2017), Conway (2018), Thoopara (2012), Gregory River (2012 and 2019), Roma Peak (2012), Mount Coolon (2012) and Bogie (2013) and Mt Whitsunday (2020) areas attest to the high risk of bushfires in these areas. Some of the major communities and industries at risk from bushfires within the Whitsunday Regional LGA include the Cannon Valley, Airlie Beach, Shute Harbour, Dingo Beach, Bowen and Hydeaway Bay Beach areas. Rural properties adjacent to the road and rail network between Bowen and Collinsville, particularly the Briaba rail cutting area may be at a higher risk.

Whitsunday Region Strengths

Bushfire Mitigation and Preparedness

The Whitsunday Regional Council, along with its counterparts in the Area Fire Management Group (AFMG) have implemented various measures to mitigate bushfire risks, including firebreaks, controlled burns, and vegetation management programs. The council also conducts regular community awareness campaigns, providing information on bushfire preparedness, evacuation plans, and early warning systems. A bushfire resilience project works closely with local landowners, to reduce the risks and impacts of bushfires to their properties. Local firefighting agencies, such as Queensland Fire and Emergency Services (QFES) and AFMG, work closely with the community to understand risk, conduct hazard reduction activities, train volunteers, and respond to bushfire incidents. The Whitsunday region has strong resilience strengths, including well-equipped firefighting and emergency response teams, and a supportive community. However, the region is vulnerable to bushfire impacts on critical infrastructure, such as power lines, roads, and telecommunications, which can disrupt access and resupply during and after bushfire events.

Infrastructure

Critical infrastructure, such as power lines, roads, and telecommunications can be damaged by bushfires. This may cause disruption to power, water and telecommunications. Road closures due to fire danger, damage and dangerous trees can disrupt access and resupply during and after bushfire events. Vulnerable areas include remote communities and properties located in bushfire-prone zones, which may require evacuation or face potential property damage.

Access and Resupply

During bushfire events, roads may be closed for public safety, which can impact transportation of goods, services, and emergency supplies. Alternative access and resupply routes may need to be established, and coordination among various agencies and stakeholders may be required to ensure timely support to affected areas.

Check your property bushfire risk here:

<https://mapping.whitsundayrc.qld.gov.au/connect/analyst/mobile/#/main?mapcfg=Bushfire%20Management>

Community and Social

Bushfires can have significant social impacts on communities in the Whitsunday region, including loss of homes, displacement of residents, and disruptions to daily activities. Evacuation centres and places of refuge may be set up to provide temporary shelter and support to affected community members.

Medical

Bushfires can pose risks to public health, including smoke inhalation, respiratory issues, and injuries. Emergency medical services, including ambulances and hospitals, may need to be prepared for increased demand during and after bushfire events. Vulnerable populations, such as the elderly, children, and people with pre-existing health conditions, may require special attention and care.

Significant Industries

The Whitsunday region has significant industries, such as tourism, agriculture, and mining, which may be impacted by bushfires. Tourism operators may face disruptions to bookings and cancellations due to bushfire events, resulting in economic losses. Agricultural lands and livestock may be at risk from bushfires, leading to potential impacts on the local food supply chain. Mining operations may face disruptions in transportation routes and access to resources, affecting production and revenue.

Environmental

Bushfires can have severe environmental impacts on the Whitsunday region, including loss of habitat, biodiversity, and ecosystem services. Vegetation regeneration may take years or even decades, affecting the natural recovery of the affected areas. Water quality in rivers and catchments may also be affected by ash and sediment runoff, impacting aquatic life and water supply for communities downstream.





SEVERE WEATHER EVENT AND FLOODING



SEVERE WEATHER EVENT AND FLOODING



Severe weather events are potentially hazardous or dangerous weather that is not solely related to severe thunderstorms, tropical cyclones or bushfires.

These types of severe weather hazards include damaging or destructive winds, heavy rain, abnormally high tides, damaging waves (BOM)

Trends

The Whitsunday region is prone to severe weather events such as storms, heavy rainfall and flooding. Its coastline bears the marks of abnormally high tides and damaging waves and debris. A changing climate has been associated with an increase in the frequency and intensity of severe weather events in many parts of the world, including the Whitsunday Region. Over the years, we have experienced a pattern of more frequent and severe weather events, leading to increased risks and impacts across the region.

Flooding in the Whitsunday region can result from one or more of the following, which may occur in combination:

- Flooding in the catchments of the major river systems in the region, namely the Don River; the Proserpine River and its tributaries; the Gregory River; and the Andromache/ O'Connell Rivers
- Major flooding in the Don River occurs frequently and minor flooding in Euri Creek and the Elliot River to the north of Bowen
- Flash flooding following intense short period rainfall in smaller catchments such as Airlie Creek and Campbell Creek, which creates localised high risk due to high velocity flows and the lack of warning time
- In the case of flooding associated with tropical cyclones, flooding of low lying areas close to the shore line can be a result from a combination of high tide and storm surge (together referred to as storm tide)

Whitsunday Region Strengths

Sever Weather and Flooding Mitigation and Preparedness

Agencies and the community have been proactive in their approach to mitigate and prepare for severe weather events in the Whitsunday Region. These include early warning systems, evacuation plans, infrastructure upgrades, and community education programs. Local authorities work closely with meteorological agencies to monitor weather patterns and provide timely warnings to residents and businesses. The region also has designated evacuation centres and places of refuge to cater to the needs of the population during severe weather events. Additionally, building codes and regulations have been implemented to ensure that new infrastructure is designed to withstand severe weather conditions. A network of flood cameras at main thoroughfares that are prone to flooding, help to keep the community safe and informed. The council and state government have embarked on a series of betterment and resilience projects, to improve the flood resiliency of the road network.

Exposure to severe weather events, is part of the social contract in the Whitsundays Region. The community is well versed in the challenges and impacts that these bring with them, including periods of isolation and disruption to essential goods and services. This community spirit and sense of resilience was shared with those travellers trapped on the Bruce Highway for several days, due to significant flooding from 'Severe Weather Event Nimbosus' in January 2023.

You can keep up to date on the Whitsunday Disaster Dashboard <http://disaster.whitsundayrc.qld.gov.au/>

Infrastructure

Regularly during the wet season and other significant rainfall events, there are many roads throughout the Whitsunday region which are subject to localised flooding.

Road closure hot spots include but are not limited to:

- Bruce Highway, Merinda
- Bruce Highway, south of Bowen
- Bruce Highway, Myrtle Creek
- Bruce Highway, near Dingo Beach turnoff
- Bruce Highway, Goorganga Plains, south of Proserpine
- Shute Harbour Road – Hamilton Plains and Myrtle Creek – between Airlie Beach and Proserpine
- Crofton Creek, Gregory Cannon Valley Road, Strathdickie

Infrastructure, such as roads, bridges, and power lines, may be damaged or destroyed during severe weather events, resulting in disruptions to transportation and communication networks.

Access and Resupply

Many roads across the region frequently are inundated by flood waters, in some instances, annually. This restricts access and isolates parts of the community. Access to essential goods and services may also be affected, particularly if supply chains are disrupted. Vulnerable populations, including the elderly, children, and those with medical conditions, may face increased risks during severe weather events, such as disruptions to medical services and limited access to emergency care. Some roads throughout the region are affected as often as annually.

Community and Social

Severe weather events can have significant social impacts on the Whitsunday Region. Displacement of communities due to evacuation or damage to homes can result in temporary or long-term displacement, leading to emotional and psychological stress. Disruption to social services, such as education, emergency accommodation, and social support networks, can also impact the well-being of the community.

Check your property flooding risk here:

<https://mapping.whitsundayrc.qld.gov.au/connect/analyst/mobile/#/main?mapcfg=Disaster%20Management>

Medical

The Whitsunday Region's medical services may face challenges during severe weather events, including disruptions to transport, power outages, and increased demand for emergency care. Access to healthcare facilities and medical supplies may be limited, and vulnerable populations may face increased health risks.

Significant Industries

The Whitsunday region has several significant industries, including tourism, agriculture, and mining, which may be impacted by severe weather events. Damage to infrastructure, disruption to transportation, and loss of power can result in economic losses for these industries. The recovery of these industries may also take time, impacting the livelihoods of local communities.

Environmental

Severe weather events can also have significant environmental impacts on the Whitsunday Region. These may include damage to natural ecosystems, loss of biodiversity, pollution from debris and chemicals, and long-term impacts on water quality and marine habitats. The recovery and restoration of the environment may require significant efforts and resources.

"We cannot stop natural disasters but we can arm ourselves with knowledge"

Petra Nemcova



ARE YOU PREPARED THIS STORM SEASON?



Whitsunday
Regional Council
Disaster Management

DURING A DISASTER



Prepare an emergency bag with food, medicine, documents, flashlight & pet items



Know how to evacuate and find safe alternative routes



Where possible, consider leaving before flooding / cyclone / disaster commences



Follow evacuation orders



Don't go home or to disaster areas until it is declared safe



Communicate to your family that you are safe

ONLINE DISASTER DASHBOARD KEEPS WHITSUNDAY RESIDENTS UP TO DATE



Don't be caught unprepared when it matters most! Stay up-to-date with the Whitsunday Regional Council's online Disaster Dashboard.

With the latest emergency news for YOUR region – you can access the most up to date, timely and relevant information to help you make informed decisions and be better prepared - around the clock!

What type of information can you find on the Disaster

Dashboard? Everything from the latest road conditions, fire incidents, weather warnings, storm tide evacuation zones and power outages; to evacuation routes and active evacuation centres. Get access to resources, including your local emergency action guide, emergency guides for pets, radio stations and emergency contacts. Check your route ahead of time with road status

updates and flood cameras, allowing you to take the safest roads in and out of the region.

Stay informed on the latest flight information, with updates for both arrivals and departures at the Whitsunday Coast Airport. Keep an eye out on the skies and the water, with access to local weather radar and local river height updates.

We are your one-stop emergency news outlet for YOUR region. Residents can access the Disaster Dashboard at disaster.whitsundayrc.qld.gov.au/ or via the link on Council's website.

Please remember, in the event of a life threatening emergency, call 000.

OPT-IN NOTIFICATIONS AVAILABLE NOW

Stay Informed with Opt-in Notification on the Whitsunday Disaster Dashboard!

Opt-in Notifications empowers you to take control of your safety. Get real-time alerts and updates tailored to your needs. Why choose Opt-in Notification?

- Stay Safe: Be the first to know about emergencies in your area
- Stay Informed: Receive timely updates on road closures and weather conditions
- Stay Prepared: Get ahead of the storm season by staying informed and ready Register Now for Opt-in Notifications on the Disaster Dashboard today!

CYCLONE SHELTERS

There are two cyclone shelters in the Whitsunday region located in Bowen and Proserpine.

Cyclone shelters should be treated as a last resort for people who do not have somewhere safe to shelter, or cannot evacuate the warning zones.

Cyclone shelters will only be opened by Council for a severe Tropical Cyclone; this is a Category 3, 4 or 5 cyclone.

Cyclone shelters do have limitations that every resident should be aware of prior to entering.

Visit Council's website for more information.

DO YOU KNOW YOUR EVACUATION (STORM TIDE) ZONE?

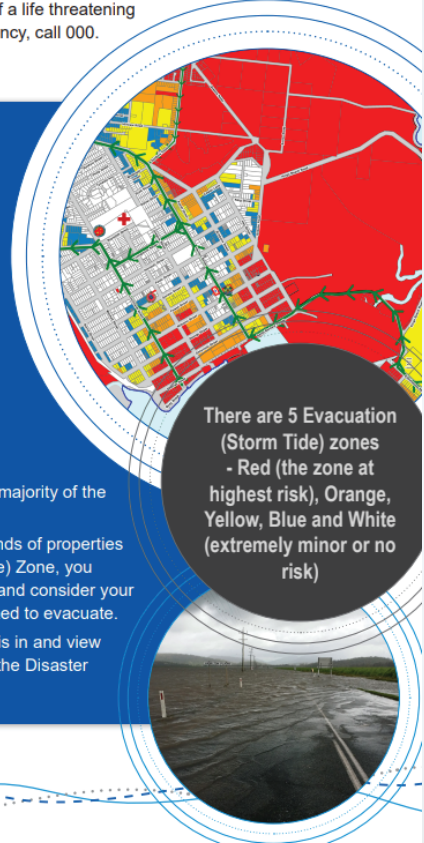
Evacuation (Storm Tide) Zones are mapped areas that indicate a level of risk to a property being affected either directly or indirectly by storm tide (such as sea water inundation or property isolation due to affected evacuation routes.)

Who is at risk from storm tide inundation in the Whitsundays?

- Islands
- Low-lying coastal areas (includes majority of the population)

If your property is one of the thousands of properties located in an Evacuation (Storm Tide) Zone, you should prepare an Evacuation Plan and consider your options in the event that you are asked to evacuate.

To find out what zone your property is in and view the maps, visit Council's website or the Disaster Dashboard.

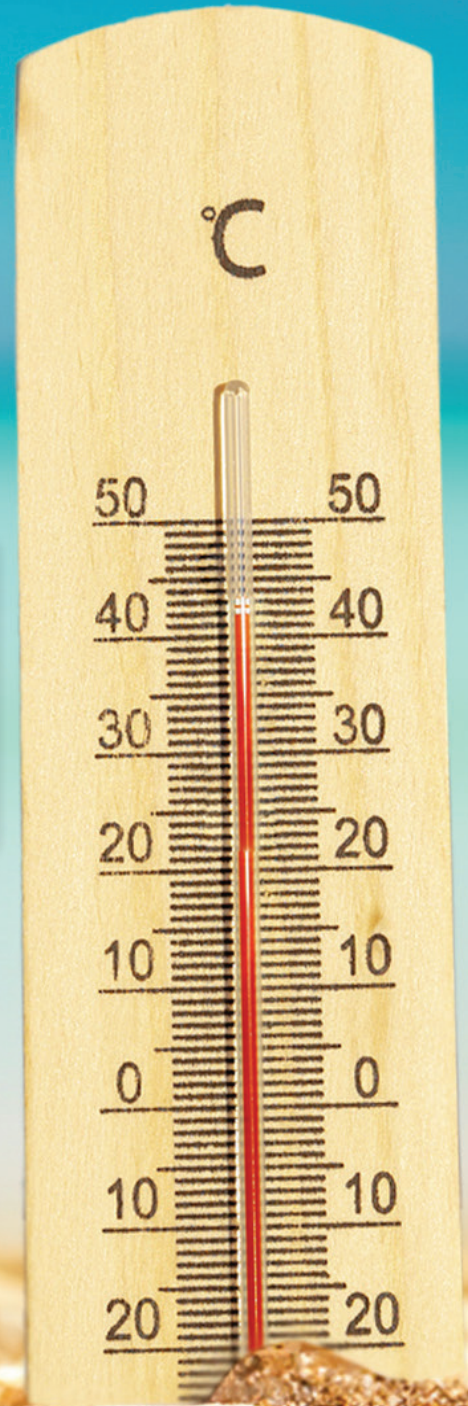


There are 5 Evacuation (Storm Tide) zones - Red (the zone at highest risk), Orange, Yellow, Blue and White (extremely minor or no risk)

Phone 1300 WRC QLD (1300 972 753)
Email info@whitsundayrc.qld.gov.au
Web www.whitsundayrc.qld.gov.au
disaster.whitsundayrc.qld.gov.au
Social

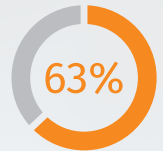


HEATWAVE





HEATWAVE



The Bureau of Meteorology defines a heatwave as three or more days in a row when both daytime and night-time temperatures are unusually high—in relation to the local long-term climate and the recent past.

It has been found that heatwaves are more fatal than any other hazard. For example, during the 2009 Victorian bushfires, 173 people perished as a direct result of the bushfires, however 374 people lost their lives to extreme heat in Victoria in the heatwave before the bushfires.

Trends

The Whitsunday region has experienced an increase in the frequency, duration, and intensity of heatwaves over the past few decades, which is consistent with global warming trends. Heatwaves, defined as prolonged periods of excessively hot weather, have become more frequent and intense in the region, posing significant challenges to human health, infrastructure, and the environment. In the Whitsunday region, we are currently experiencing an average of 11 days per year over 35 °C. This is increasing, with projections of at least 35 consecutive days over 35 °C by 2100. Queensland can expect longer fire seasons, with around 40% more high fire danger days.

Currently, the majority of heatwaves are of low intensity, with most people expected to have adequate capacity to cope with this level of heat. Heatwaves of higher intensity will be challenging for most, with some community members and others visiting the area, such as those over 65, pregnant women, babies and young children, and those with a chronic illness placed in a higher risk category. Exceptionally intense heatwaves are classed as extreme and will impact normally reliable infrastructure, such as power and transport. Extreme heatwaves are a risk for anyone who does not take precautions to keep cool, even those who are healthy.

Whitsunday Region Strengths

Heatwave Mitigation and Preparedness

The Whitsunday region continues to implement several mitigation and preparedness measures to address heatwaves. These include urban planning measures and projects such as green spaces and shade structures to reduce heat island effects in urban areas. There are heatwave warning and public health campaigns to raise awareness about heat-related risks and promote heatwave preparedness among communities.

Those residing in the region, who are acclimatised and have access to cooling have a higher resilience to the effects of heatwaves. Those who do not have access to effective cooling are encouraged to access spaces with airconditioning over these periods, such as libraries, shopping centres or family and friends. Visitors and new residents who are not yet acclimatised to the heat and humidity, may be more likely to be impacted by the heat.

Infrastructure

The Whitsunday region's infrastructure, including transportation networks, water and energy supply systems, and telecommunications, can be vulnerable to disruption during heatwaves. High temperatures can cause infrastructure to degrade or fail, disrupting access to essential services and supplies, particularly in regional areas.

Access and Resupply

There are limited impacts to access and resupply during periods of heatwaves.

Community and Social

Socially, heatwaves can disrupt daily activities, reduce workforce productivity, and increase social isolation, particularly for vulnerable groups.

Medical

Heatwaves place significant strain on the healthcare system. Heat related illnesses and pre-existing conditions that have been exacerbated by heat, lead to increased hospitalisations and emergency room visits. Vulnerable populations, such as the elderly, children, and individuals with pre-existing health conditions, are at higher risk of heat-related illnesses, including heat exhaustion and heat stroke. Although anyone is at risk of heat related illness, particularly if they are not acclimatised or are undertaking activity in the heat.

Significant Industries

The Whitsunday region's significant industries, including tourism, agriculture, and fisheries, can be affected by heatwaves. High temperatures can impact crop yields, livestock health, and fish stocks, leading to reduced productivity and economic losses. Additionally, heatwaves can affect the region's tourism industry by impacting outdoor recreational activities, such as boating, snorkelling, and hiking, and reducing visitor numbers during extreme heat events. Studies have shown that daily income is generally reduced by approximately 10% on declared heatwave days.

Environmental

Heatwaves can have significant environmental impacts on the Whitsunday region. High temperatures can result in coral bleaching events, affecting the Great Barrier Reef, a UNESCO World Heritage site, which is a significant environmental and economic asset for the region. Heatwaves can also increase the risk of bushfires, degrade water quality, and impact local flora and fauna, including vulnerable species.

Is your business eligible for façade upgrade grant? You may be able to install a green wall or another innovative approach to help reduce heat in your area. Check out the link here:

<https://www.whitsundayrc.qld.gov.au/community-and-environment/our-community/grants-and-community-assistance>

"Even with all our technology and the inventions that make modern life so much easier than it once was, it takes just one big natural disaster to wipe all that away and remind us that, here on Earth, we're still at the mercy of nature."

Neil deGrasse Tyson



A person wearing a bright yellow full-body hazmat suit with a hood. They are also wearing large black safety goggles and a black respirator mask with a circular filter. The background is a plain, light-colored wall with some horizontal lines on the left side.

**CHEMICAL BIOLOGICAL
RADIOLOGICAL EVENT**



CHEMICAL BIOLOGICAL RADIOLOGICAL EVENT



Trends

Chemical/Biological emergencies: The Whitsunday region is known for its pristine beaches, coral reefs, and national parks, which are vulnerable to potential chemical spills or biological contamination from shipping, tourism, and agricultural activities. In the past there have been some small-scale incidents within the Whitsunday region of loss of containment hazardous materials. Mining sites across the nation (including an explosion in the Collinsville mine in 1954 with seven fatalities), have had large scale incidents and mass fatalities due to loss of containment of hazardous materials. Recently, there have been many examples of highly impactful industrial waste fires and transport incidents that have occurred within Australia and overseas.

Radiological emergencies: The Whitsunday region does not have any significant radiological facilities or installations. However, the potential for accidental radiological emergencies, such as transportation accidents involving radioactive materials, cannot be ruled out entirely.

Chemical Biological Event Mitigation and Preparedness

Chemical/Biological emergencies: Local authorities, in coordination with government agencies and stakeholders, have implemented strict regulations and guidelines for handling, storage, and transport of hazardous chemicals, as well as for agricultural practices to minimise the risk of contamination. Emergency response plans, including hazard identification, risk assessment, and mitigation measures, are in place, and regular training and drills are conducted.

Radiological emergencies: Although radiological emergencies are not a significant concern in the Whitsunday region, local authorities have protocols and guidelines in place to respond to any potential incidents involving radioactive materials, including coordination with specialised response teams from neighbouring regions. Our relatively low population density and absence of significant radiological facilities or installations contribute to its resilience against radiological emergencies.

Infrastructure

Critical infrastructure such as airports and ports may be at higher risk due to the storing and transport of hazardous materials that occur at these sites.

Access and Resupply

Chemical/biological emergencies can disrupt access to and resupply of the region, affecting the availability of goods and services, including food, water, and medical supplies. Radiological emergencies may also result in restricted access to certain areas.

Community and Social

Chemical/biological emergencies can have social and community impacts, such as displacement of populations, disruption of local activities, and psychological stress. Radiological emergencies may result in similar social impacts, depending on the scale and severity of the incident.

Medical

Chemical, biological and radiological emergencies can strain local medical resources and infrastructure, including hospitals and clinics, and may require a large and specialised response.

Significant Industries

Chemical, biological and radiological emergencies can potentially impact many significant industries, such as agriculture, tourism and mining. This will have flow on effects to livelihoods and the wider economy. Impacts will vary depending on the location, scale and severity of the incident.

Environmental

Chemical/biological emergencies can have significant environmental impacts, including contamination of water bodies, soil, and air, which can affect the delicate ecosystems of the Whitsunday region, including coral reefs, marine life, and national parks. Radiological emergencies may also have similar environmental impacts, depending on the scale and nature of the incident.





EARTHQUAKE



EARTHQUAKE



Earthquakes are the vibrations caused by rocks breaking under stress. The size or magnitude is determined by measuring the amplitude of the seismic waves recorded on a seismograph and the distance of the seismograph from the earthquake.

Trends

Earthquake risk in the Whitsunday region is high in Queensland terms, moderate in Australian terms and low in global terms. On 18 August 2016 at 2.30pm the second largest earthquake on record in Queensland of 5.8 magnitude occurred just offshore within the Whitsunday Region, about 50 kms from Bowen. This earthquake was felt across the entire Whitsunday region and other parts of Queensland and was followed by over fifty (50) aftershocks. This earthquake was one of the ten (10) largest earthquakes on record in Queensland. The Whitsunday region is generally considered to be a low-seismicity region with a low occurrence of earthquakes. However, it is important to note that seismic activity can still occur in low-seismicity regions, and monitoring and understanding of earthquake trends in the region is essential to ensure preparedness.

Whitsunday Region Strengths

Earthquake Mitigation and Preparedness

The Whitsunday region has implemented various measures for earthquake mitigation and preparedness, including building codes and regulations that ensure structures are designed and constructed to withstand potential seismic activity. Emergency management plans have been established to provide guidelines for response and recovery in case of an earthquake. Education and awareness programs have been implemented to educate the community about earthquake preparedness, including evacuation routes, emergency supplies, and communication protocols. The Whitsunday region's resilience strengths include a relatively low population density, which can reduce the potential impact on infrastructure and communities in case of an earthquake. The region also benefits from a diverse economy, with significant tourism, agriculture, and marine industries, which can contribute to its resilience and ability to recover from potential earthquake impacts.

Infrastructure

Earthquakes could potentially impact critical infrastructure such as roads, bridges, and buildings, which may affect access to essential services, transportation, and communication networks.

Access and Resupply

Earthquakes could disrupt access and resupply routes, particularly for remote communities, islands, and coastal areas in the region, leading to challenges in providing necessary goods and services.

Community and Social

Earthquakes may result in displacement of communities, disruptions to social services, and psychological impacts on the affected population, including stress, trauma, and loss of livelihoods.

Medical

Earthquakes may strain the region's medical facilities and services, leading to increased demand for medical care and challenges in providing emergency medical services.

Significant Industries

The region's significant industries, such as tourism, agriculture, and marine sectors, may be impacted by potential disruptions to infrastructure, access, and supply chains, leading to economic losses.

Environmental

Earthquakes may also impact the region's environment, including landslides, soil liquefaction, and potential damage to marine ecosystems, which may have long-term environmental and economic consequences.

"Liquefaction takes place when loosely packed, water-logged sediments at or near the ground surface lose their strength in response to strong ground shaking. Liquefaction occurring beneath buildings and other structures can cause major damage during earthquakes"







TSUNAMI

TSUNAMI



Tsunami (pronounced 'soo-nar-me') is a Japanese word comprising 'tsu' meaning harbour and 'nami' meaning wave. Tsunami are waves caused by the sudden movement of the ocean surface due to earthquakes, sea floor (or 'submarine'), landslides, land slumping into the ocean, large volcanic eruptions or meteorite impacts in the ocean.

Trends

The Whitsunday region is situated on the eastern coast of Australia, which is considered a low-risk area for tsunamis. However, there have been a few recorded incidents of tsunamis in the past, including the 2004 Indian Ocean earthquake that caused a tsunami which affected parts of the Whitsunday region. The frequency of such events is considered low, and the region has not experienced a major tsunami in recent history.

Whitsunday Region Strengths

Tsunami Mitigation and Preparedness

The Whitsunday Regional Council has a comprehensive Disaster Management Plan that includes provisions for tsunamis. The plan outlines strategies for communication, evacuation, and emergency response in the event of a tsunami. The council also works closely with the Queensland government and other agencies to monitor tsunami warnings and disseminate information to the public. The council has also conducted community education programs to raise awareness of the potential risk of tsunamis and to inform residents and visitors about the appropriate response in the event of a tsunami.

Resilience Strengths: The Whitsunday region has several strengths that contribute to its resilience in the face of a potential tsunami. The community is well-organised and has strong emergency response capabilities, as proven by the response to previous natural disasters, such as cyclones. The region's tourism industry is a significant contributor to the local economy. Local businesses and the council have invested in infrastructure and services that support tourism and help to generate revenue. The region also has a relatively low population density, which may help to reduce the potential impact of a tsunami.

Infrastructure

The Whitsunday region's infrastructure, including roads, bridges, and buildings, are vulnerable to damage or destruction in the event of a tsunami. This could have significant impacts on access to essential services and supplies, particularly for those in more remote areas. Damage to infrastructure could also impact the region's ability to respond to the emergency and could delay recovery efforts.

Access and Resupply

The Whitsunday region relies heavily on the transport of goods and supplies. A tsunami could disrupt access to the region, making it difficult to bring in essential supplies and equipment. This could have impacts on the availability of food, water, and other essential items, particularly in the event of an extended recovery period.

Community and Social

A tsunami could have significant impacts on the Whitsunday region's community and social structures. Displacement and

disruption could lead to increased stress and anxiety, particularly for vulnerable populations such as the elderly, children, and those with limited mobility. Social isolation could also be a concern in the event of prolonged power outages or damage to communication networks.

Medical

The Whitsunday region's medical facilities and services could be impacted by a tsunami. Damage to hospitals, clinics, and other medical facilities could limit the region's ability to provide essential care to those in need. Disruptions to supply chains for medical equipment and supplies could also impact the ability to provide care.

Significant Industries

The Whitsunday region's significant industries, such as agriculture and mining, could be impacted by a tsunami. Damage to infrastructure, equipment, and storage facilities could lead to significant economic losses. The tourism industry, which is a major contributor to the region's economy, could also be impacted by a tsunami, particularly if damage to infrastructure and environmental assets impacts the attractiveness of the region as a tourist destination.

Environmental

The Whitsunday region's environmental assets, such as coral reefs and marine ecosystems, could be impacted by a tsunami. The physical impacts of the tsunami could damage or destroy coral reefs and other marine habitats, leading to long-term environmental impacts. The release of pollutants and debris into the environment could also have significant impacts on the region's natural resources and wildlife.







LANDSLIP



In Queensland, landslides are generally caused when heavy rain saturates soil on a hillside past the point where vegetation can support the soil's weight against the force of gravity. The top saturated layer of soil then slips down the hill, taking whatever is on the land with it. Landslides can also be caused by a major event such as an earthquake.

Trends

A study of the Whitsunday area in 2018 identified 35 landslips with runouts of 10-1200metres. These were likely contributed to significant rainfall events. Areas throughout the township of Whitsundays as well as Hydeaway Bay, have been identified to have sufficient slope (greater than 15°) that have elevated risk levels of landslip. In recent times, there have been two significant landslips in the Whitsundays region, including in Hydeaway Bay (2011) and in Cannonvale (2017). These have both been linked to periods of intense and significant rainfall.

Landslip Mitigation and Preparedness

The Whitsunday region has implemented measures to mitigate and prepare for landslides. These include the commissioning of a landslide study, to help identify higher risk areas. This is supported by mapping of landslide-prone areas, and land use planning regulations to minimise development in high-risk areas. Additionally, emergency response plans, evacuation procedures, and public awareness campaigns have been put in place to enhance preparedness and response to landslides.

Infrastructure

Landslides can impact critical infrastructure such as roads, bridges, and utilities, disrupting access and resupply routes, leading to increased costs and delays in recovery efforts. Landslips in residential areas, can affect houses and cause localised damage to utilities.

Access and Resupply

Landslides can block access roads, disrupt supply chains, and affect transportation routes, making it challenging to deliver goods and services to affected areas, particularly during and after landslide events.

Community and Social

Landslides can result in displacement of communities, loss of homes, and disruption of social networks, leading to psychological and emotional impacts on affected populations. Vulnerable populations, such as elderly, low-income, and marginalised groups, may face increased challenges in coping with landslides.

Medical

Landslides can impact medical facilities and disrupt healthcare services, leading to potential delays in medical care for affected populations, particularly in remote areas with limited access to healthcare services.

Significant Industries

The Whitsunday region has significant tourism, agriculture, and mining industries, which may be impacted by landslides. Damage to agricultural lands, disruption of tourism activities, and damage to mining infrastructure can have significant economic impacts on the region.

Environmental

Landslides can cause environmental damage, including deforestation, soil erosion, loss of habitat, and degradation of water quality, affecting the local ecosystem and biodiversity.





INFECTIOUS PLANT OR ANIMAL DISEASE (BIOSECURITY)



INFECTIOUS PLANT OR ANIMAL DISEASE (BIOSECURITY)

63%

Trends

Biosecurity threats in the Whitsunday region may include invasive species, diseases, pests, and other biological agents that can harm the region's environment, agriculture, and biodiversity. These threats may arise from increased international trade and travel, changing environmental conditions, and human activities such as farming, fishing, and tourism. There are currently many species of flora and fauna that are classified as biosecurity risks identified in Whitsundays area such as Yellow Crazy Ants, Feral Pigs, Mimosa Pigra and Prickly Pear. There are many pests and diseases that continue to threaten the region, state and nation, including the sugar cane stem borer and foot and mouth disease.

Whitsunday Region Strengths

Infectious Plant or Animal Disease (Biosecurity) Mitigation and Preparedness

Along with a diverse and vigorous ecosystem that can adapt to changing conditions, the Whitsunday region has a robust and collaborative approach to mitigation and preparedness measures to address biosecurity threats. These may include surveillance and monitoring programs to detect and respond to potential threats early, quarantine and biosecurity protocols to restrict the introduction and spread of invasive species or diseases, public awareness and education campaigns to promote responsible behavior, and biosecurity regulations and policies to guide industry practices.

Infrastructure

Biosecurity threats can pose risks to the region's infrastructure, including roads, bridges, ports, and other critical facilities. For example, an outbreak of a plant disease or pest could damage agricultural infrastructure such as crop fields, irrigation systems, and storage facilities. Invasive species can also cause damage to infrastructure by disrupting or obstructing waterways, affecting drainage systems, or compromising the integrity of buildings and structures. These impacts can result in disruptions to transportation, communication, and utilities, leading to economic losses and reduced access to essential services.

Access and Resupply

Biosecurity threats can impact access to and resupply of goods and services in the Whitsunday region. For instance, quarantine measures to prevent the spread of a disease or pest may result in restrictions on the movement of goods, animals, or people, which can affect the availability of supplies and impact local businesses and industries. Similarly, disruptions to transportation routes due to biosecurity threats, such as closure of ports or roads, can hinder the timely delivery of goods and services, affecting the region's economy and livelihoods.

Community and Social

Biosecurity threats can have social and community impacts in the Whitsunday region. For example, an outbreak of a disease or pest in agriculture or aquaculture industries can result in loss of jobs and income for local communities, as well as disruptions to traditional livelihoods and cultural practices. Biosecurity measures, such as quarantine protocols or restrictions on recreational activities, can also affect the lifestyle and well-being of local residents, and may require changes in behavior and social norms. Community cohesion, social networks, and resilience may also be affected by the stress and uncertainty associated with biosecurity threats, potentially impacting mental health and social cohesion.

Medical

Biosecurity threats can have implications for public health and medical services in the Whitsunday region. For example, outbreaks of infectious diseases in animals or plants can potentially impact human health through direct transmission (e.g. Hendra virus) or through changes in food safety and availability. This can place additional demands on healthcare facilities and services, such as increased hospitalisations, diagnostic testing, and disease surveillance. Biosecurity measures, such as quarantine or movement restrictions, may also impact the ability of local healthcare facilities to provide timely and adequate care to affected populations.

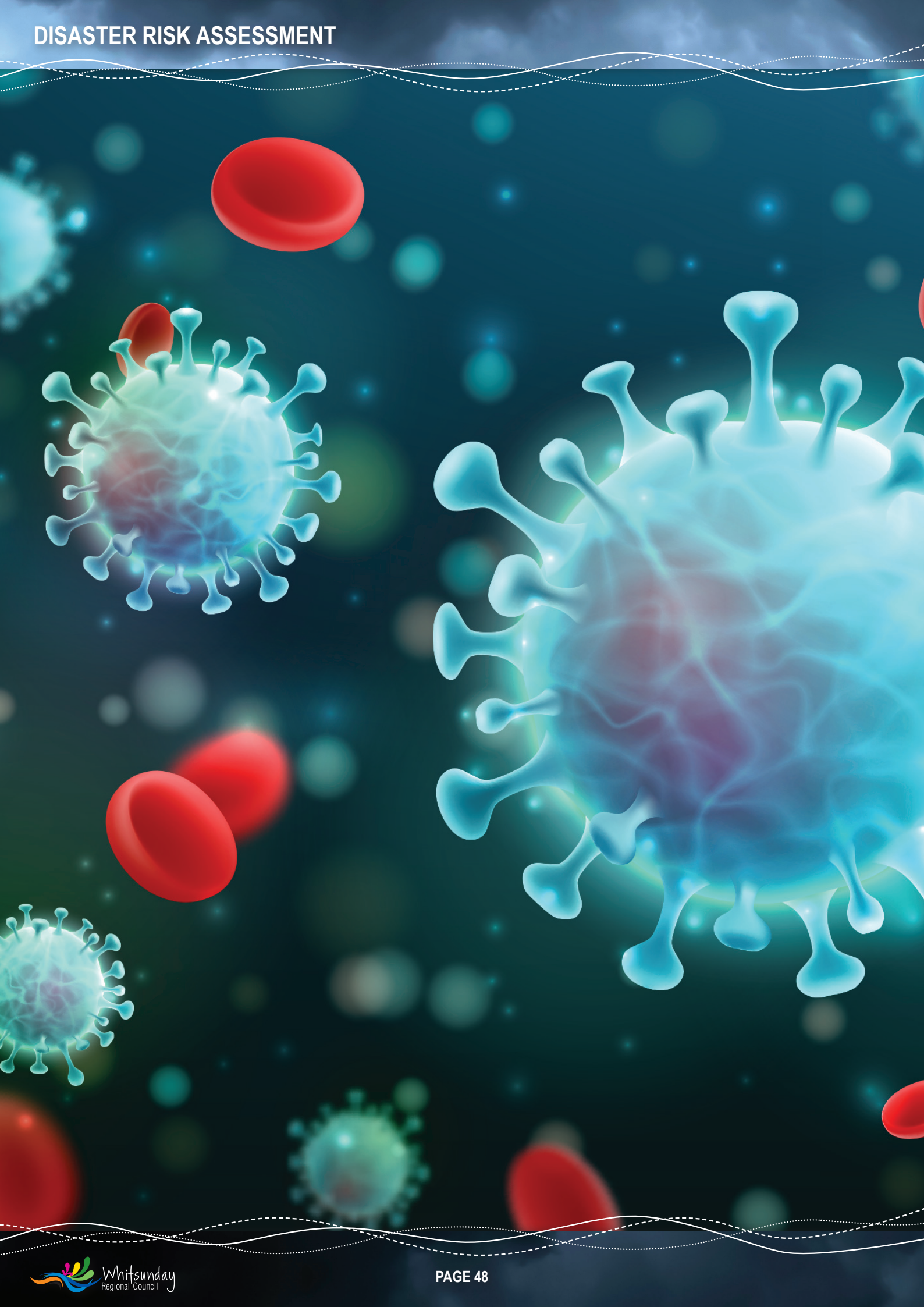
Significant Industries

Biosecurity threats can impact significant industries in the Whitsunday region, such as agriculture, aquaculture, tourism, and fishing. For instance, an outbreak of a disease or pest in agricultural or aquacultural systems can result in significant economic losses, including crop failures, stock losses, and market disruptions. Similarly, biosecurity measures, such as travel restrictions or quarantine protocols, can impact tourism and recreational activities, resulting in decreased visitor numbers and revenue for local businesses. This can have ripple effects on the region's economy, employment, and livelihoods.

Environmental

Biosecurity threats can have environmental impacts on the Whitsunday region's unique ecosystems, biodiversity, and natural resources. For example, invasive species can outcompete native species for resources, disrupt ecological interactions, and alter ecosystem dynamics. Diseases or pests can devastate native plant or animal populations, leading to changes in ecosystem structure and function. Biosecurity measures, such as chemical treatments or eradication efforts, may also have unintended environmental consequences, such as impacts on non-target species or water quality.







PANDEMIC



PANDEMIC



Pandemics are occurrences of diseases that are geographically widespread and affect large numbers of people. Epidemics are disease outbreaks similar in character to pandemics but at a more limited geographic scale and affecting fewer people. For instance, an epidemic may be an outbreak of influenza in a particular local government area, affecting a few hundred people, while pandemics generally spread beyond national borders and impact thousands of people and beyond.

Trends

As the COVID-19 pandemic wanes, it is important to note, that there have been five significant other epidemics/pandemics that have impacted our state in the last 100 years, Swine flu (2009), Dengue outbreak (2008-09), HIV/AIDS (1980's) and the Spanish flu (1918-1920).

During the COVID-19 pandemic, there were varying rates of infection and restrictions impacting the region. During the initial phase of the pandemic, the region saw a decline in international tourism due to travel restrictions, leading to a significant impact on the local tourism industry, which is a major economic driver for the region. However, as the pandemic progressed and restrictions eased, there was a gradual recovery in domestic tourism, with a rebound in visitor numbers and spending in the region.

Whitsunday Region Strengths

Pandemic Mitigation and Preparedness

Local authorities and health organisations in the Whitsunday region implemented various measures to mitigate the spread of COVID-19, including public health campaigns, testing and contact tracing, and enforcement of social distancing and mask-wearing rules. The region also had in place preparedness plans and protocols to respond to potential outbreaks, such as setting up testing clinics, quarantine facilities, and vaccination centres. Local businesses and industries adapted to changing circumstances by implementing safety protocols, such as increased sanitisation and hygiene measures, and adopting flexible work arrangements where possible. The Whitsunday region has demonstrated resilience in its ability to rebound from economic challenges, given its reliance on tourism and hospitality, which were severely impacted by the pandemic. The region has shown adaptability in diversifying its tourism offerings and exploring new markets, such as domestic and regional tourism, to mitigate the impacts of international travel restrictions. The local community has also shown resilience through community support initiatives, including food and financial assistance programs, and rallying together to support each other during difficult times.

Infrastructure

Disruptions in global supply chains may impact the availability of critical goods and services, including medical supplies, equipment, and essential goods for the local community.

Access and Resupply

Limited access to supplies and resources due to disruptions in global supply chains can impact the availability and affordability of goods and services in the region. Travel restrictions and changes in transportation routes may affect the accessibility and resupply of goods and services to the region, potentially leading to shortages and increased costs.

Community and Social

Social distancing measures, lockdowns, and border closures may impact the mental health and well-being of the local community, as well as social cohesion and community engagement.

Medical

The Whitsunday region's remote location and limited medical infrastructure may pose challenges in providing timely and adequate healthcare services, particularly in the event of a surge in COVID-19 cases. The limited medical infrastructure in the region may face challenges in providing adequate healthcare services, particularly in the event of a surge in COVID-19 cases and may require additional resources and support.

Significant Industries

The region's reliance on international and domestic tourism makes it vulnerable to disruptions in travel and tourism, including border closures, travel restrictions, and changes in consumer behaviour. Industries that are still able to operate such as agriculture and other primary production, may face critical labour shortage, brought about by restrictions that limit transient workers such as back-packers and international workers. This was seen in the COVID-19 pandemic, with farmers losing crops, due to inability for usual workers such as back-packers and Vanuatuan agricultural workers to travel to the area.

Environmental

More widely, the environment may be impacted by the increased waste created by PPE. Some parts of the environment may benefit from less human traffic as a result of restrictions on travel (e.g., less emissions from vehicles such as cars and planes). Some environmental monitoring and recovery activities, including those undertaken on the Great Barrier Reef, may be reduced, which may have negative impacts to the health of our environment.







STORM SURGE

STORM TIDE – GENERALLY ASSOCIATED WITH TROPICAL CYCLONES

Storm Surge is an abnormal rise in sea level over and above the normal (astronomical) tide levels. It can be thought of as the change in the water level due to the presence of a storm. These powerful ocean movements are caused by strong winds piling water up against the coast as a cyclone approaches.

Storm Tide is the water level that results from the combination of the storm surge and the normal (astronomical) tide. A 3-metre storm surge on top of a high tide that is 2 metres above the mean sea level will produce a storm tide that is 5 metres above mean sea level.

Storm tides can swamp low-lying areas, sometimes for kilometres inland. Strong winds at the coast can also create large waves, worsening the impact.

Trends

The Whitsunday Region, experiences storm tides as a common natural hazard due to its coastal location. Storm tides refer to the rise in sea level caused by tropical cyclones or severe storms, which can result in coastal flooding. In recent years, there has been a trend of increasing intensity and frequency of storms in the region, potentially exacerbating the risk of storm tides. Climate change and sea level rise are also factors that may contribute to the trends in storm tides in the Whitsunday Region.

Whitsunday Region Strengths

Storm Tide or Storm Surge Mitigation and Preparedness

The Whitsunday region has undertaken various mitigation and preparedness measures to address the risk of storm tides. These measures include coastal management plans, floodplain mapping, storm surge modelling, and early warning systems to alert residents and businesses of impending storms and storm tides. Residents are familiar with their storm tide evacuation zone (red, orange, yellow and blue) through access to online mapping and inclusion of their zone when receiving WRC correspondence such as rates notices. Local authorities and emergency management agencies work closely to develop evacuation plans and shelters, conduct public awareness campaigns, and provide education and training on storm tide preparedness. Additionally, infrastructure such as sea walls, levees, and drainage systems have been built or improved to reduce the impact of storm tides on vulnerable areas.

Infrastructure

Storm tides can pose significant risks to infrastructure in the Whitsunday Region. Roads, bridges, ports, airports, and other critical transportation and communication infrastructure may be damaged or destroyed by storm surge and flooding. This can disrupt access to and from affected areas, hindering emergency response and recovery efforts. Damage to infrastructure can also result in prolonged service disruptions, impacting the livelihoods of local communities and businesses. Rebuilding and repairing infrastructure can be time-consuming and costly and may require significant resources and coordination.

Access and Resupply

Storm tides can disrupt access and resupply to communities in the Whitsunday Region. In the aftermath of a storm tide event, roads and bridges may be impassable or damaged, making it challenging for emergency responders, residents, and businesses to access necessary resources and services. Interruptions to transportation and supply chains can result

in shortages of essential goods, including food, water, fuel, and medical supplies. Remote or isolated communities may be particularly vulnerable to disruptions in access and resupply, which can have cascading effects on various aspects of daily life and recovery efforts.

Community and Social

Storm tides can have significant social impacts on communities in the Whitsunday Region. Displacement, loss of homes, disruption of social networks, and psychological distress can result from storm surge and flooding. Communities may experience emotional and mental health challenges, as well as social disruption and displacement, which can strain local resources and support systems. Vulnerable populations, such as the elderly, disabled, and low-income communities, may face heightened risks during storm tides due to limited mobility, access to resources, and other vulnerabilities. Community cohesion and social resilience may be tested in the aftermath of storm tides, requiring coordinated efforts to support affected communities.

Medical

Storm tides can impact medical services and facilities in the Whitsunday Region. Flooding can disrupt healthcare facilities, including hospitals, clinics, and pharmacies, which can result in reduced access to medical care for both acute and chronic health needs. Displacement of patients, interruption of medication supply chains, and challenges in transporting patients can further strain the healthcare system during and after storm tide events. Additionally, emergency medical services may be affected by damaged infrastructure and limited access, posing challenges in delivering timely and appropriate medical care to affected populations.

Significant Industries

The Whitsunday region is known for its significant tourism and agriculture industries, which can be vulnerable to the impacts of storm tides. The region's coastal and marine-based tourism activities, such as boating, fishing, and snorkelling, may be disrupted by storm surge and flooding, resulting in loss of revenue and economic impacts. Agricultural activities, including farming, aquaculture, and horticulture, may also be affected by inundation of fields, damage to infrastructure, and disruption of supply chains. These impacts can have long-term consequences for the livelihoods of local communities and the economic recovery of the region.

Environmental


Storm tides can cause environmental impacts in the Whitsunday Region. Coastal ecosystems, such as coral reefs, mangroves, and seagrass beds, may be damaged or destroyed by storm surge, sediment runoff, and pollution from debris. These impacts can have long-term consequences for marine biodiversity, fisheries, and the overall health of coastal ecosystems, which are important for tourism, recreation, and local livelihoods. Furthermore, storm tides can exacerbate erosion, leading to loss of land, habitats, and cultural heritage sites along the coast. The recovery and restoration of environmental assets may require significant efforts and resources.



Whitsunday
Regional Council
Disaster Management

Whitsunday Disaster Management Group

www.disaster.whitsundayrc.qld.gov.au

 Whitsunday Disaster & Emergency Information