2024–25

Major Incidents Report

An overview of major incidents that have involved the fire and emergency services sector from July 2024 to June 2025.

Australian Government
National Emergency Management Agency

Australian Institute for
Disaster Resilience

The Australian Institute for Disaster Resilience (AIDR) is the National Institute for disaster risk reduction and resilience. We collaborate across sectors to strengthen the resilience of Australian communities to disasters. AIDR creates, grows, and supports a range of networks; provides opportunities for learning, development, and innovation; shares knowledge and resources to enable informed decision making and action; and facilitates thought leadership through national conversations. AIDR is a consortium managed by Australasian Fire Authorities Council (AFAC) and supported by its partner the Australian Government National Emergency Management Agency (NEMA). Published by the Australian Institute for Disaster Resilience on behalf of the National Emergency Management Agency, Australian Government Department of Home Affairs.

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Cover: Reproduced by permission of the Australian Broadcasting Corporation. Michael Lloyd © 2025 ABC. Roads closed due to extreme flooding.

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The Australian Institute for Disaster Resilience acknowledges the Traditional Owners of Country throughout Australia and recognises their continuing connection to land, waters, and culture.
We pay our respects to Elders past and present.

Aboriginal and Torres Strait Islander people are advised that this report may contain images of people who may have since passed away.

New South Wales SES. Wauchope bridge Flooding.

Contents

Executive summary

This ninth Major Incidents Report provides an annual record of major incidents that have been identified as significant during the 2024-25 financial year. This report identifies 40 major incidents in total, with 4 of these selected for further review as case studies.

Context

From July 2024 to June 2025, Australia experienced a range of weather conditions. During this period, temperatures were above average across Victoria, majority of Tasmania and South Australia, much of inland New South Wales and the coast into South-Eastern Queensland, parts of Western Queensland, inland Northern Territory, as well as southern and inland regions of Western Australia and part of the West Coast. The national mean temperature was 1.68 °C higher than the 1961–90 average, marking the highest recorded July to June mean since 1910-11. From September 2024 to March 2025, each month ranked within the top 5 warmest for their respective months, with August 2024 and March 2025 being the warmest on record.

Australia's total rainfall in this period was 10% above the 1961–90 average at 514.6 mm. Northern Australia saw above-average rainfall, especially in inland Northern New South Wales, parts of Queensland, the Northern Territory, and Northern Western Australia. In contrast, Southern Australia experienced below-average rainfall, with Southern New South Wales, most of Victoria, parts of Western and South Australia, and areas of Tasmania among the driest 10% since 1900. Some regions in South Australia and Victoria recorded their lowest rainfall on record during this period.

National overview

This report documents 40 major incidents for 2024-25, including 15 bushfires across 4 Australian jurisdictions, as well as international events. There was one cyclone incident of note, with Tropical Cyclone (TC) Alfred significantly impacting New South Wales and Queensland, and 10 major storms, which frequently caused disruptions to power and communications, or caused flooding as experienced within North and Far North Queensland and Western Queensland. There were 5 flooding events. Additional events included an avian influenza outbreak across 3 jurisdictions, structural fires including a lithium-ion battery event, technology failures both domestically and abroad, and repatriations from international conflict zones.

During the period of September 2024 to May 2025, the AFAC National Resource Sharing Centre (NRSC) was activated for 12 major events, successfully deploying 1,760 jurisdictional personnel in response to events inclusive of storms, cyclones, bushfires, floods and specialist rescues. Additionally, the Australian Defence Force (ADF) responded to 13 government

Table 1. Major incidents reported during 2024-25

	Bushfire	Flood	Storm	Cyclone	Geo.	Health	Tech.	Structure fire	Conflict
International	2				2		1		1
National							1		
ACT			1			1			
NSW		2	3	1		1			
NT									
QLD		2		1					
SA	2	1	1						
TAS	1		1						
VIC	7		3			1		3	
WA	3		1						
Total	**15**	**5**	**10**	**2**[1]	**2**	**1**[2]	**1**[3]	**3**	**1**

1. Tropical Cyclone Alfred had significant impact on both NSW and QLD and have separate case studies.

2. The Avian Influenza outbreak expanded over the 3 jurisdictions of ACT, NSW, and Victoria.

3. The CrowdStrike outages impacted Australia and Internationally.

assistance requests under the COMDISPLAN, supporting evacuations, relief, and early recovery efforts nationwide.

Internationally, the AUSASSISTPLAN was activated to support earthquake response efforts and humanitarian support in Myanmar and Vanuatu. The AFAC NRSC coordinated provision of wildfire management assistance to the US and Canada. The AUSRECEPLAN was activated to receive 3,409 Australians, permanent resident (PRs) and their families arriving from Lebanon on 14 government-assisted flights.

In 2024-25, joint state/territory and Australian Government Disaster Recovery Funding Arrangements (DRFA) recovery assistance was activated in response to 69 disaster events across Australia, mainly in New South Wales (32) and Queensland (17); down from 73 events in 2023-24. Assistance was provided to 217 local government areas (LGAs), providing emergency aid, council support for clean-up, asset restoration, and additional help in severely affected regions, such as mental health services and recovery grants for producers, small businesses, and non-profit organisations. During this period, the Australian Government distributed over $771 million directly to individuals and families via the Australian Government Disaster Recovery Payment (AGDRP) and Disaster Recovery Allowance (DRA).

Case studies

Tropical Cyclone Alfred (New South Wales)

Tropical Low (TL) 22U developed in the Coral Sea off the Queensland coast on 21 February 2025. By 23 February, it had intensified into a Tropical Cyclone (TC) and was officially named TC Alfred. The system reached its peak as a Category 4 severe TC on 27 February, moving steadily southward. On 4 March, TC Alfred abruptly turned westward, approaching the south-eastern Queensland coastline and the Brisbane region. For several days, TC Alfred followed an erratic path toward the coast, at times looping back on itself, before finally making landfall. TC Alfred crossed Moreton Island as a Category 1 cyclone in the early hours of 8 March, weakened to an ex-TC as it crossed Bribie Island, and then reached the mainland later that night. Some early forecasts had TC Alfred making landfall on the northern New South Wales coast, although the most likely track was for the system to make landfall north of Brisbane. The Bureau of Meteorology issued a Cyclone Watch for New South for the first time since (briefly) for Severe TC Oma in 2019, and for TC Nancy in 1990. Between 3-14 March, TC Alfred affected the Northern Rivers, Mid North Coast, and New England/ Northwestern regions of New South Wales. The event brought severe storms, flooding, and coastal erosion, with destructive winds and heavy rainfall. Causing significant damage to homes, businesses, and infrastructure.

Tropical Cyclone Alfred and associated severe weather (Queensland)

TC Alfred originated as TL 22U north-east of Cooktown in the Coral Sea on 21 February and initially tracked eastward before developing into a TC on 23 February. The system moved south along the Queensland coast, intensifying to a Category 4 cyclone before weakening in early March. On 4 March, TC Alfred abruptly turned westward, approaching the south-eastern Queensland coastline and the Brisbane region. For several days, the TC followed an erratic path toward the coast, at times looping back on itself, before finally making landfall. TC Alfred crossed Moreton Island as a Category 1 cyclone in the early hours of 8 March, weakened to an ex-TC as it crossed Bribie Island, and then reached the mainland later that night. The TC brought damaging wind gusts, intense rainfall that resulted in significant flooding, and severe coastal erosion affecting beaches along south-east Queensland. On 9 March, both riverine and severe flash flooding were observed from as far north as Hervey Bay (Wide Bay) down to north-eastern New South Wales, with rainfall totals ranging from 100 to 400 mm. Brisbane officially recorded a daily rainfall of 275.2 mm. As TC Alfred moved inland toward the Lockyer Valley, widespread riverine flooding and localised flash flooding persisted, with significant impacts reported.

Western Queensland Surface Trough and associated rainfall and flooding (Queensland)

The Western Queensland Surface Trough and associated rainfall and flooding event began on 21 March 2025, bringing heavy and widespread rainfall. Persistent rainfall led to multiple Flood Watch Alerts and significant flooding, particularly in the Channel Country and along key rivers including the Thomson, Barcoo, Bulloo, and Paroo. Between 22-31 March, extensive thunderstorms and rainfall occurred due to a low-pressure system, with parts of Western Queensland receiving up to 633 mm, resulting in the wettest March since 1900. Severe flooding affected major highways, isolating towns and remote communities, and caused livestock losses. River levels in places such as Windorah, Jundah, and Thargomindah likely surpassed historical peaks. Floodwaters continued moving towards Kati Thanda–Lake Eyre, while ongoing showers and storms led to additional flash flooding and isolation of numerous communities across the region.

North and Far North Queensland Tropical Low (Queensland)

Between 27 January and 12 February 2025, 2 TLs (13U and 20U) and an active monsoon trough caused persistent, heavy rainfall across Northern Queensland. Areas between Cairns and Proserpine braced for locally intense rain and flash flooding, compounded by the Highest Astronomical Tide (HAT) level along much of the Queensland coast over the following days. Paluma Ivy Cottage, in the Upper Burdekin catchment, recorded 2,984.8 mm between 27 January and 12 February. Major flood warnings were issued for the Bohle, Ross, Haughton, Herbert, Upper Burdekin, Murray and South Johnstone Rivers, with flooding nearly matching historical peaks, notably at Ingham Pump Station. Extensive disruption occurred as primary highways and roads along the North Tropical Coast were closed in both directions, with significant damage to properties, businesses, and infrastructure including the Ollera Creek Bridge resulting from the severe weather event.

Acronyms and abbreviations

ABC	Australian Broadcasting Corporation
ACT ESA	Australian Capital Territory Emergency Services Agency
ADF	Australian Defence Force
AFAC	Australasian Fire Authorities Council
AFP	Australian Federal Police
AGDRP	Australian Government Disaster Recovery Payment
AIDR	Australian Institute for Disaster Resilience
AMSA	Australian Maritime Safety Authority
AUSASSISTPLAN	Australian Government Overseas Assistance Plan
AUSMAT	Australian Medical Assistance Team
AUSRECEPLAN	Australian Government Plan for the Reception of Australian Citizens and Approved Foreign Nationals Evacuated from Overseas
AUSVETPLAN	Australian Veterinary Emergency Plan
AWS	Australian Warning System
AEST	Australian Eastern Standard Time
ADST	Australian Daylight Standard Time
AWST	Australian Western Standard Time
BFBs	Bushfire Brigades
CCEAD	Consultative Committee on Emergency Animal Disease
CCT	Crisis Coordination Team
CDINS	Communicable Disease Incidents of National Significance plan
CFA	Country Fire Authority
CFRS	Career Fire and Rescue Service
COMDISPLAN	Australian Government Disaster Response Plan
COVID-19	Coronavirus Disease
CoW	Cell on Wheels
CRLO	Community Recovery Liaison Officer

DART	Disaster Assistance Response Team
DBCA	Department of Biodiversity, Conversation and Attractions
DEECA	Department of Energy, Environment and Climate Action
DFAT	Australian Government Department of Foreign Affairs and Trade
DFES	Department of Fire and Emergency Services
DHDA	Department of Health, Disability and Ageing
DoC	Department of Communities
DRA	Disaster Recovery Allowance
DRF	Disaster Ready Fund
DRFA	Disaster Recovery Funding Arrangements
EB	Emergency Broadcasting
ENSO	El Niño-Southern Oscillation
EUSFA	Energy & Utility Services Functional Area
Ex-TC	Ex-Tropical Cyclone
FFMVic	Forest Fire Management Victoria
FRV	Fire Rescue Victoria
FWIN	Flood Warning Infrastructure Network
GDP	Gross Domestic Product
HAT	Highest Astronomical Tide
HPAI	High Pathogenicity Avian Influenza
HRWS	Higher Risk Weather Season
IDC	Inter-Departmental Committee
IGEM	(Office of the) Inspector-General of Emergency Managment
IMT	Incident Management Team
IOD	Indian Ocean Dipole
JOSS	Joint Operations Support Staff
LAT	Large Air Tanker
LGA	Local Government Area

MICC	Mobile Incident Command Centre
MJO	Madden–Julian Oscillation
MSLP	Mean Sea Level Pressure
NAFC	National Aerial Firefighting Centre
NBN	National Broadband Network
NCM	National Coordination Mechanism
NEMS	National Emergency Management Stockpile
NEMA	National Emergency Management Agency
NLAT	National Large Air Tanker
NMG	National Management Group
NRSC	National Resource Sharing Centre
NSR	National Situation Room
PIIC	Public Injury and Information Centre
PiNDDA	Primary Industries Natural Disaster Damage Assessment
post-TC	Post Tropical Cyclone
PRs	permanent residents
PSN	Public Safety Network
PSPA	Public Safety Preservation Act
PyroC	pyrocumulonimbus
QDMA	Queensland's Disaster Management Arrangements
QPS	Queensland Police Service
RAT	Rapid Assessment Team
RCC	Regional Control Centre
RFAs	Requests for Assistance
RFR	Register Find Reunite
SAM	Southern Annular Mode
SCC	State Control/Command Centre
SDCC	State Disaster Coordination Centre
SEOC	State Emergency Operations Centre
SES	State Emergency Services
SJA	St John Ambulance
SOI	Southern Oscillation Index
SSTs	Sea surface temperatures
TAFE	Technical and Further Education
TC	Tropical cyclone
TFB	Total Fire Ban
TL	Tropical low
VFES	Volunteer Fire and Emergency Services
VFRS	Volunteer Fire Rescue Service
WAPF	West Australian Police Force
WelFAC	Welfare Services Functional Area Coordinator

Foreword

The Major Incidents Report provides an annual record of events that the emergency management sector views as significant from a national perspective. This edition, the ninth Major Incidents Report, has been commissioned by NEMA and published by AIDR.

This report outlines 40 significant incidents, including 4 detailed case studies, underscoring the broad spectrum of hazards faced by the emergency management sector and the increasing demand for coordinated, agile, and resilient systems.

This 2024-25 report highlights a year of extended weather extremes across the country, significantly impacting remote and regional communities, with many jurisdictions experiencing sustained emergency activity. Impacts were felt across a wide range of sectors including essential infrastructure, public transport, supply chain, agriculture, cultural heritage and tourism, underlining the importance of communication, as well as resource and knowledge sharing between local, state and federal agencies.

This collaboration has been evident from all jurisdictions at all levels, domestically and internationally. It has also been a focus at NEMA, where we have continued to develop the National Crisis Exercise Program and the National Emergency Management Stockpile (NEMS) and invest in shared resources, including the national aerial capability. This year NEMA also launched our first 'Reflect' Reconciliation Action Plan, a roadmap to guide us in walking alongside First Nations peoples with respect, honesty, and a commitment to advancing reconciliation. It is vital that we listen to the unique perspectives and experiences of First Nations peoples to ensure our approaches to disaster response and resilience are inclusive and recognise over 60,000 years of local knowledge.

I would like to acknowledge all those impacted by disaster, and extend my gratitude to those who have committed, in whatever capacity, to helping our communities to prepare, respond and recover.

Finally, I thank AIDR for its ongoing work on this annual report, and the jurisdiction emergency management and Australian Government agencies for their contributions. Sharing our experiences and lessons is vital to our collective disaster resilience and capacity to respond.

Joe Buffone PSM

Deputy Coordinator-General,
National Emergency Management Agency

Reproduced by permission of the Australian Broadcasting Corporation. © 2025 ABC Suzanne Siossian surveys her destroyed home at Crescent Head.

1. Introduction

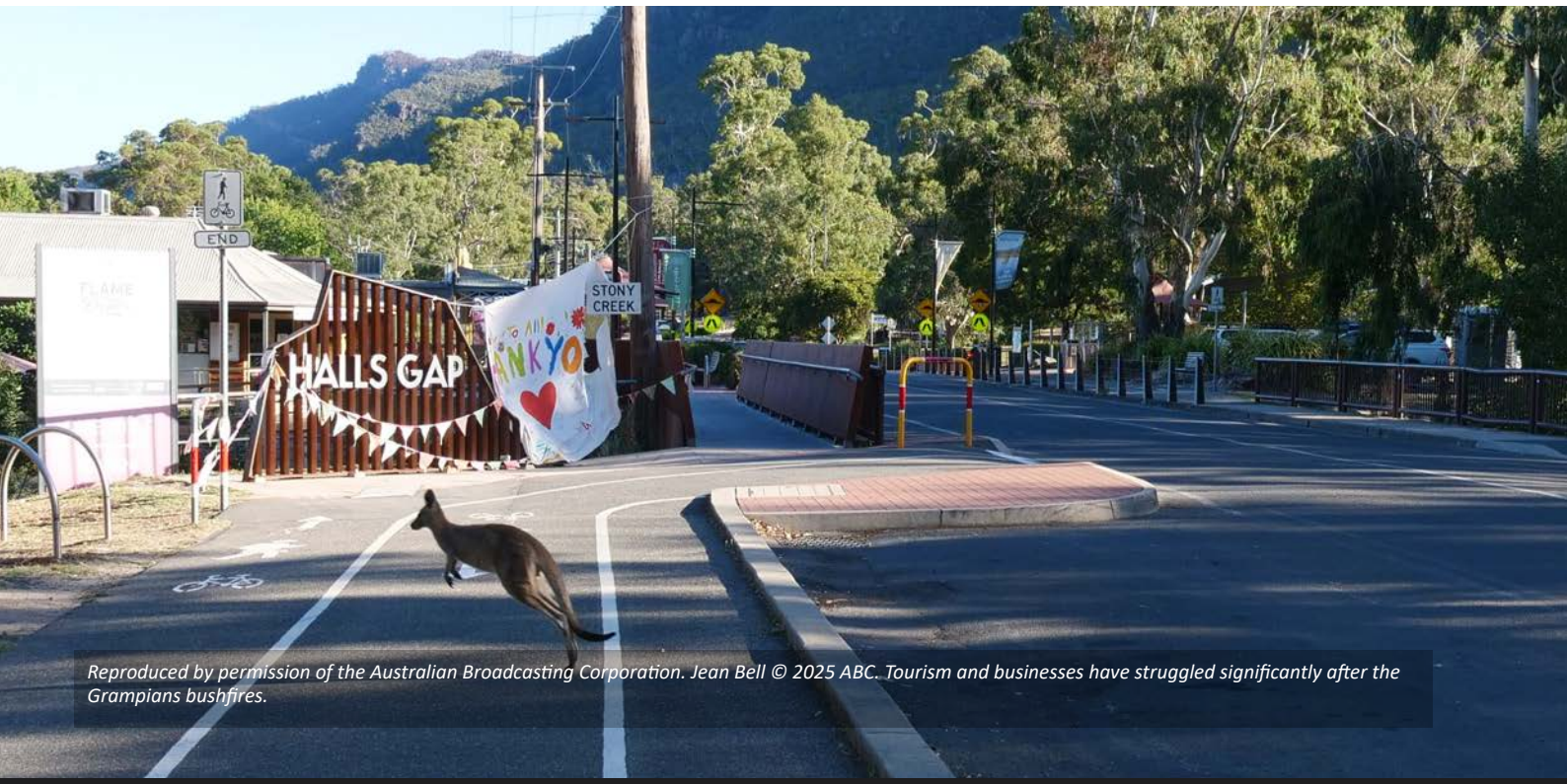
Across Australia, disasters disrupt people, the economy, essential services, and the environment, often in complex, cascading, and consecutive ways. Disaster risk is influenced by interconnected factors—economic conditions, supply chains, health, social cohesion, technology, and environmental status—which all impact resilience and response capacity.

Disasters are systemic in nature. Communities and systems of society experience disaster scenarios under the influence of climate change, international political tensions and malicious and deliberate threats on technological systems. As these systems of society rapidly evolve, they in themselves create new risks and challenges.[4]

Throughout Australia, recent incidents have been marked by considerable complexity, atypical weather patterns disrupting traditional disaster seasons, and an increase in technology-related events. Regions across Southern Australia experienced complex incidents involving storms, floods, fires, and power outages, and Northern Australia, particularly the jurisdictions of New South Wales and Queensland, experienced significant flooding and storm events, including impacts resulting from TC Alfred. There were extensive communication network outages resulting from the CrowdStrike event, and an ongoing avian influenza outbreak across several jurisdictions.

Internationally, 2024-25 witnessed continued support through firefighting assistance in both the US and Canada, the provision of humanitarian and AUSMAT support to both Myanmar and Vanuatu with additional DART support to Vanuatu in response to an earthquake in Port Vila and surrounds, and involvement in the repatriation of Australians and approved foreign nationals from Lebanon.

Since 2017, AIDR has produced the Major Incidents Report as a compendium of incidents that have posed unique challenges for the emergency management sector to manage. This year's report compiles 40 incidents across Australia during the 2024-25 financial year. These were identified as relevant for inclusion by state and territory emergency services organisations and NEMA.



Reproduced by permission of the Australian Broadcasting Corporation. Jean Bell © 2025 ABC. Tourism and businesses have struggled significantly after the Grampians bushfires.

Reproduced by permission of the Australian Broadcasting Corporation. Claire Simmonds © 2025 ABC Thousands of people across the state are facing evacuation orders.

The criteria used to select the incidents include:

- significance at a state or territory or national level,
- the level of damage or disruption caused,
- community sentiment and interest and
- uniqueness.

Disasters offer valuable learning opportunities[5]. Effective lessons management helps the system gain insights from these events, supporting Priority 1 of the Sendai Framework for National Disaster Risk Reduction: 'Understanding Disaster Risk'[6] and promoting a strong disaster risk reduction knowledge base as outlined in the Second National Action Plan[7].

This report features 4 case studies, analysing causes and outcomes where possible to help inform strategies that can reduce future disaster impacts. With 2 significant flooding events in Queensland, and one TC event considered through the lens of impact across both New South Wales and Queensland, several key themes were identified as common:

- Intensifying storm activity and more extreme temperature/ rainfall patterns.
- Extended bushfire seasons and broad flooding risk areas.
- Increasing vulnerability of essential infrastructure and supply chains.
- Importance of interstate resource support.
- More complex and remote incidents challenging response and relief efforts.
- The potential for major catastrophic impacts on urban areas from a cyclone strike.

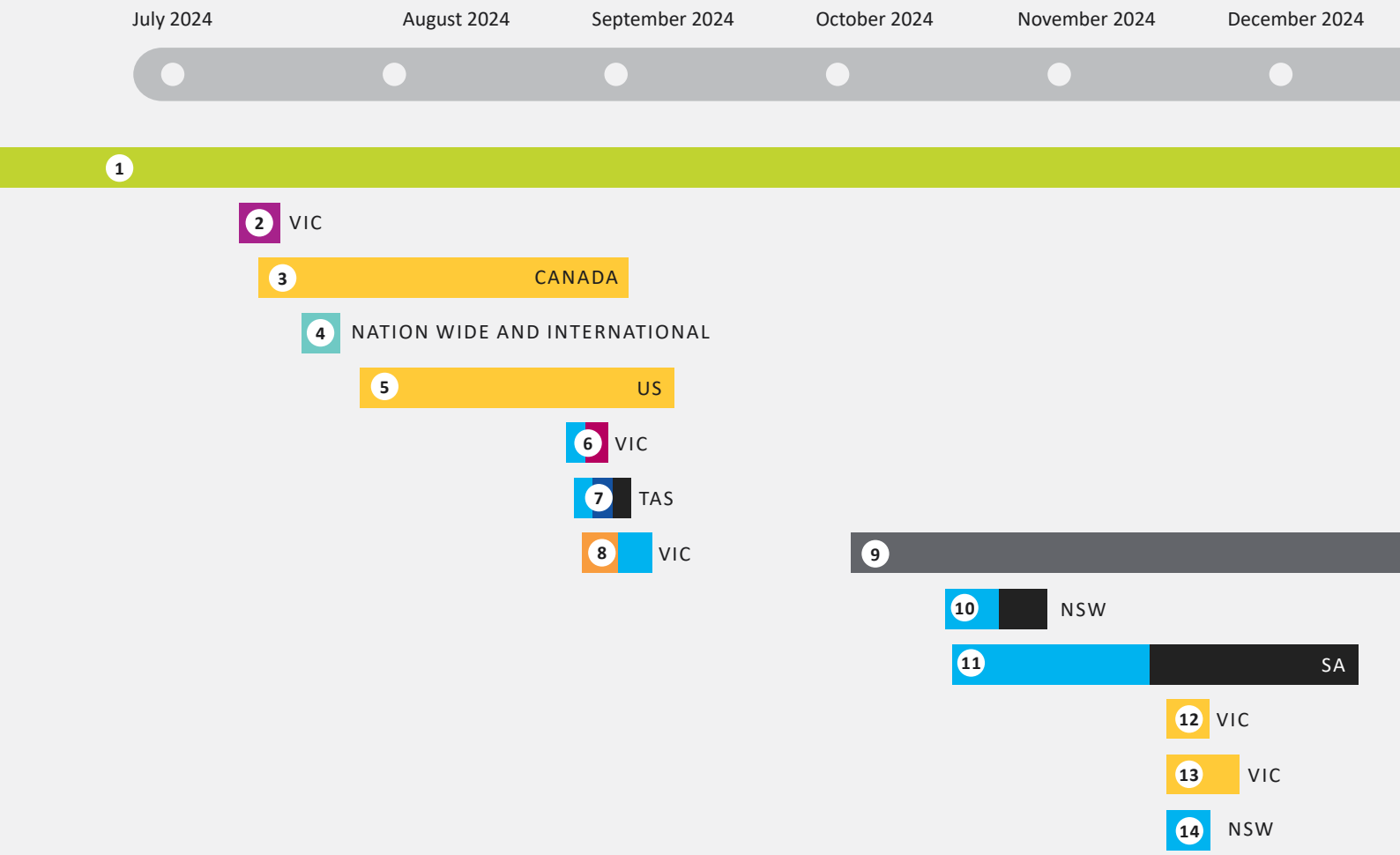
Once again, this year's major incidents highlighted the systemic nature of the consequences on vulnerable and exposed essential infrastructure and supply chains, particularly in remote and outback Australia, the challenge of sustaining response activities in remote locations, the coordination and collaboration required to respond to complex, cascading and concurrent incidents, and the continuous activity undertaken by jurisdictions. Many incidents underscore the importance of the need for increased investment in disaster risk reduction, integrated emergency management, rapid interagency coordination, and resilient infrastructure planning to mitigate future impacts.

This report describes incidents that are, by their nature, stressful and potentially traumatic. Descriptions and images may trigger stress reactions for those that have lived through the events, as well as those that have helped respond to and recover from these events. We recommend that readers be aware of this and use strategies that work for them to help manage any distress that may arise. There is a range of help available, including resources available on the Australian Red Cross' website[8].

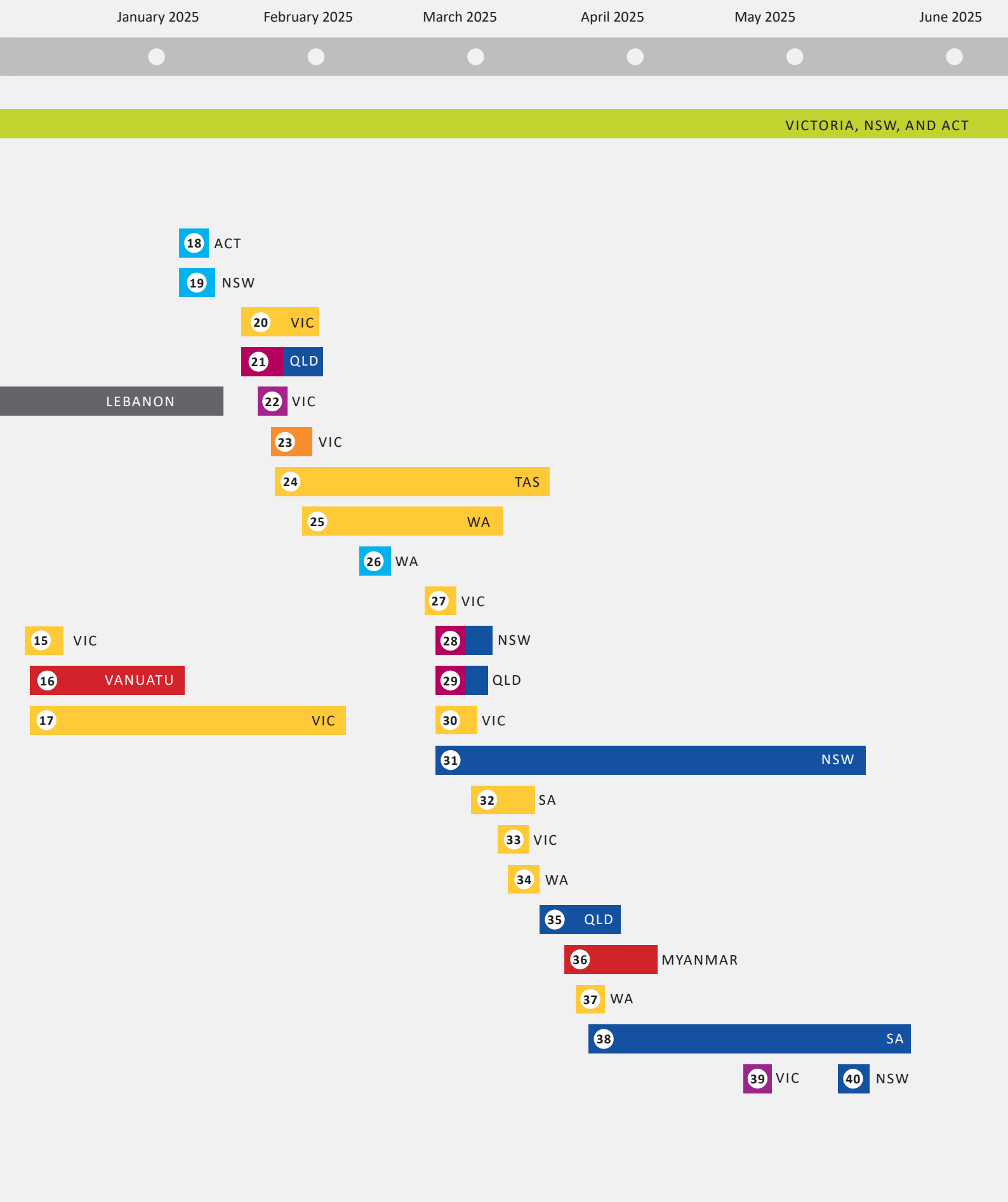
The report is the result of multi-agency, nationwide collaboration and AIDR would like to sincerely thank those who provided and reviewed written and visual content.

4. Schweizer, P. J., & Renn, O. (2019). Governance of systemic risks for disaster prevention and mitigation. *Disaster prevention and management: an international journal*, 28(6), 862-874.
5. Australian Institute for Disaster Resilience. (2019). *Lessons Management Handbook.*
6. United Nations. (2015). *Sendai Framework for Disaster Risk Reduction 2015-2030.*
7. National Emergency Management Agency. (2022). *Second National Action Plan for Disaster Risk Reduction.*
8. Australian Red Cross (2025) Practical help and resources to use before, during and after emergencies http://www.redcross.org.au/emergencies

2. Timeline of major incidents 2024–25



**Positioning of numbers is approximate*


January 2025
February 2025
March 2025
April 2025
May 2025
June 2025
VICTORIA, NSW, AND ACT
18 ACT
19 NSW
20 VIC
21 QLD
LEBANON
22 VIC
23 VIC
24 TAS
25 WA
26 WA
27 VIC
15 VIC
28 NSW
16 VANUATU
29 QLD
17 VIC
30 VIC
31 NSW
32 SA
33 VIC
34 WA
35 QLD
36 MYANMAR
37 WA
38 SA
39 VIC
40 NSW

3. Climate and significant weather overview

3.1 Climate

Temperature

For Australia, the mean temperature for July 2024 to June 2025 was 1.68 °C above the 1961–90 average. This was Australia's warmest July to June period on record since national observations began in 1910, exceeding the previous record of 1.40 °C above average in 2015-16.

Mean temperatures were very much above average (in the warmest 10% of July to June periods since 1910) across Australia (Figure 2) and were the warmest on record for:

- all of Victoria and almost all of Tasmania and South Australia
- a large area of inland New South Wales and along the coast extending into South-East Queensland
- parts of western Queensland and inland areas of the Northern Territory
- southern and inland areas of Western Australia and an area of the West Coast.

It was generally warm across Australia over the 12-month period. Every month from September 2024 to February 2025 was in its respective top 5 warmest on record, and August 2024 and March 2025 were the warmest on record for their respective months. Repeated outbreaks of cold air over eastern Australia in June 2025 resulted in the country's coolest June since 2012, although still 0.29 °C above the 1961–90 average.

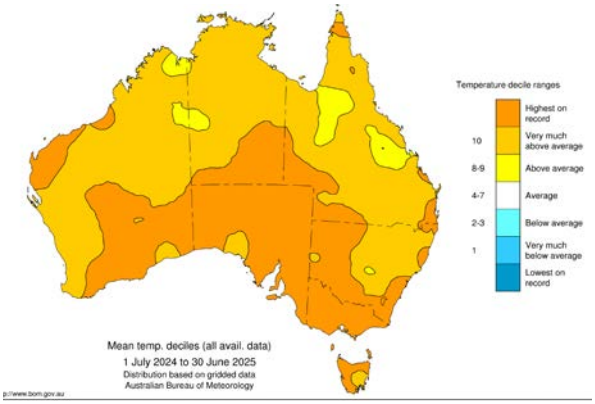


Figure 2. Mean temperature deciles for July 2024 to June 2025 relative to all years since 1910.

The warmth over July 2024 to June 2025 reflected the warmer global climate. Australia's climate has warmed on average by 1.55 ± 0.23°C between 1910, and 2024, with most of the warming having occurred since 1950. Australia's 10 warmest years on record have all occurred since 2005. Globally, 2024 was the warmest year on record, with the World Meteorological Organization reporting an average global temperature of 1.55 ± 0.13 °C above the pre-industrial (1850–1900) baseline.

Rainfall

For Australia overall, the total rainfall for the July 2024 to June 2025 period was 10% above the 1961–1990 average at 514.6 mm.

Northern Australia

Rainfall was above to very much above average (in the wettest 10% of July to June periods since 1900) for much of Northern Australia (Figure 3), including:

- inland Northern New South Wales, and coastal areas north of Sydney
- most of Queensland except for parts of the inland south-east
- pockets of Northern South Australia
- large parts of the Northern Territory
- northern and inland areas of Western Australia.

An area of Queensland's tropical north coast, between Townsville and Ingham, had its wettest July to June period on record. The region experienced exceptional rainfall during the wet season, particularly in early February 2025.

The *State of the Climate 2024*[9] reported that since 1994, wet season (October to April) rainfall in Northern Australia has been 20% above the 1900–93 average. In addition, the intensity of heavy rainfall events in Australia is increasing as the climate warms. Warmer air can hold more water vapour than cooler air, and moisture in the atmosphere can increase by 7% per 1 °C of warming, all other things being equal. This can cause an increased likelihood of heavy rainfall events across Australia.

Southern Australia

Rainfall was below to very much below average (in the driest 10% of July to June periods since 1900) for much of Southern

9. Bureau of Meteorology and CSIRO (2024) *State of the Climate Report*

Australia, including:

- southern and north-western areas of New South Wales
- most of Victoria
- southern and western coastal areas of Western Australia
- the agricultural regions South Australia
- western, central and north-eastern Tasmania.

Rainfall was the lowest on record for:

- areas of South Australia's Eastern Eyre Peninsula, Yorke Peninsula, Mid North, Mount Lofty Ranges, Riverland, Murraylands and Upper Southeast districts
- large parts of Victoria's Wimmera and Mallee districts.

For Southern Australian rainfall, State of the Climate 2024 reported a decline in cool season (April to October) rainfall over the south-west and south-east of Australia in recent decades, with more frequent periods of below-average rainfall in these areas in these months. Cool season rainfall across Southern Australia since 1994 has been 9% below the 1900–93 average.

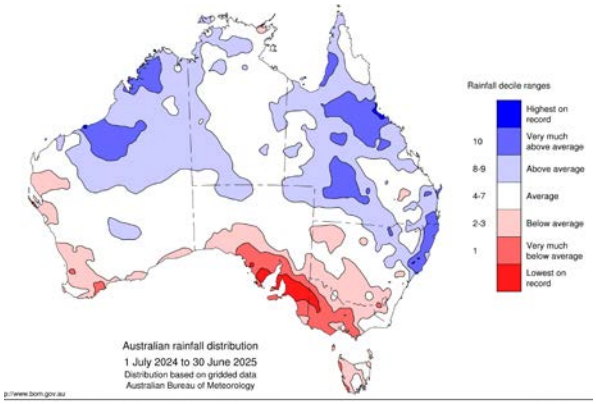


Figure 3. Rainfall deciles for the July 2024 to June 2025 period, relative to all years since 1900.

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Oceans

Sea surface temperatures (SSTs) for the July 2024 to June 2025 period in the Australian region (4° S to 46° S and 94° E to 174° E) were the warmest on record since 1900, 0.94 °C above the 1961–90 average.

SSTs were very much warmer than average (in the warmest 10% of July to June periods since 1900) around nearly all of Australia (Figure 4), and were warmest on record for:

- waters off the north-west and northern coasts of Australia
- in the Great Australian Bight, including along the South Australian, Victorian and Tasmanian coasts
- for parts of the Tasman Sea.

There were 12 TCs in the Australian region in 2024-25, the most since 2005-06, and above the average of 9 in the 21st century. Out of the 12, 11 formed in the tropical Indian Ocean to the north-west of Australia. The exceptionally warm tropical waters combined with an active monsoon during late January to mid-March likely contributed to the relatively high number of TCs in 2024-25. Briefly in early February 2025, the Bureau of Meteorology was simultaneously tracking 6 tropical disturbances (potential TCs or TLs) in the Australian Region, which had not occurred for at least 20 years.

Annual average SSTs in the Australian region have warmed by 1.13 ± 0.11 °C between 1900 and 2024, a rate close to that of the global average. Average annual SSTs in the Australian region have been above the 1961–90 average every year since 1995, while 9 of the top 10 warmest years on record have all occurred since 2010. Global SSTs for the past 10 years have been the 10 warmest on record, with 2024 the warmest year on record.

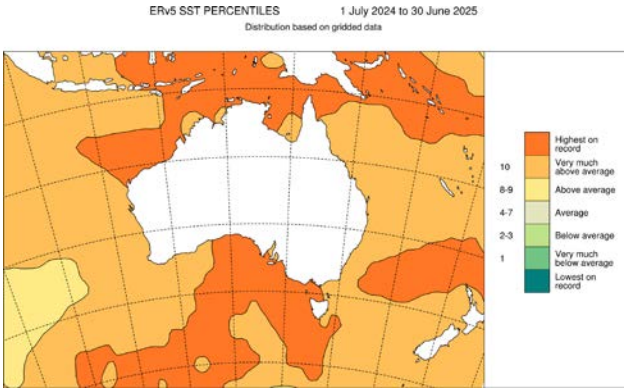

Figure 4. July 2024 to June 2025 sea surface temperature deciles compared to all years since 1900 in the NOAA Extended Reconstruction Sea Surface Temperature (ERSSTv5) dataset.

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In July 2025, Pacific Ocean SSTs, in the central to eastern tropical region, were close to average indicative of neutral El Niño-Southern Oscillation (ENSO) conditions. The central tropical Pacific cooled from September 2024, at the surface and sub-surface, approaching La Niña-like temperatures towards the end of 2024 and into early 2025. Central Tropical Pacific SST anomalies were lowest in January 2025, before warming to a neutral state in autumn. The atmosphere over the equatorial tropical Pacific showed La Niña-like patterns in cloudiness, trade winds and mean sea level pressure (MSLP). However, the Southern Oscillation Index (SOI), the difference between MSLP at Darwin and Tahiti, showed no coherent structure. This indicates that it is likely the La Niña-like conditions in tropical Pacific had little impact on the Australian climate in 2024-25.

In the tropical Indian Ocean, cooler than average SSTs emerged in September off the Horn of Africa, and warm anomalies off the Indonesian islands of Java and Sumatra. This allowed a negative Indian Ocean Dipole (IOD) to develop. While the weekly SST index remained below the negative IOD threshold (-0.4 °C) during October and early November, this was not long enough to be considered an IOD event. IOD index values returned to neutral in early December, as SST anomalies in both the western and eastern Indian Ocean weakened, and remained neutral for the remainder of 2024-25.

Atmosphere

The location, strength and movement of high-pressure systems affected weather patterns across Australia throughout the July 2024 to June 2025 period. Monthly-averaged MSLP anomalies were positive for most months across the Australian region, with monthly anomalies in September 2024 exceeding +5 hPa across parts of Southern Australia. The tendency toward high pressure systems resulted in fewer rain-bearing fronts reaching Southern Australia, unseasonably warm maximum temperatures and periods of cooler than average minimum temperatures.

Notable events due to the location of high-pressure systems included:

- many sites in Tasmania and Victoria having their highest MSLP on record on 4 July 2024 (Figure 5), with very cold nights in inland Tasmania
- above average maximum temperatures in the second half of August 2024, contributing to the warmest August on record overall
- a blocking high system resulting in increased onshore flow and heavy rainfall for New South Wales during May 2025.

A shift of high-pressure systems further southwards is consistent with the response of the atmosphere to a globally warmer climate. *State of the Climate 2024* reported that there has a trend towards higher surface atmospheric pressure over Southern Australia. With that, there have been more highs, fewer lows and a reduction in the number of rain producing lows and cold fronts. This is particularly important during the cool season (April to October), which has seen a decline in Southern Australian rainfall in recent decades.

Southern Annular Mode

The Southern Annular Mode (SAM) was strongly negative during late July to late August 2024, and at times from December 2024 to February 2025. SAM was mostly positive in September and November 2024, and again from March to May 2025.

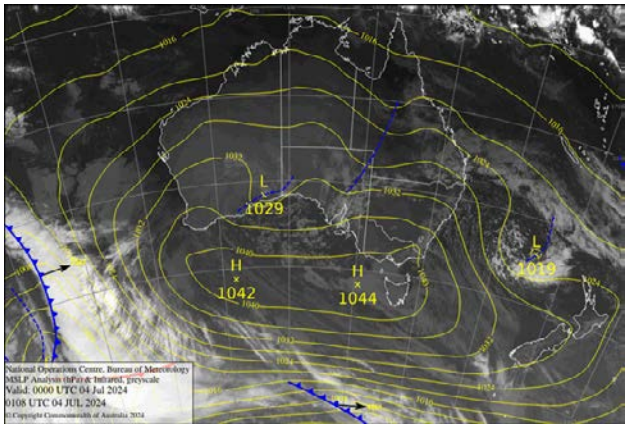

Figure 5. Mean Sea Level Pressure (MSLP) and satellite infrared (IR) image at 0000 UTC 4 July 2024. This weather pattern, with a slow-moving high-pressure system to the south of the country, was typical of much of the July 2024 to June 2025 period.

The impact on Australian climate from positive and negative phases of SAM depends on the time of year and what weather patterns or other climate factors are active at the time.

Madden–Julian Oscillation

The Madden–Julian Oscillation (MJO) strengthened in the Australian region in mid-September 2024 and moved through the Australian region in mid- to late-October 2024. From late November to mid-December 2024, there was a particularly active pulse over the Australian longitudes. This likely contributed to increased tropical activity and above average rainfall over large parts of northern Australia. However, the pulse was not strong enough to trigger the onset of the Australian monsoon at the start of December. The MJO did not return to the Australian region until late January 2025, preceding the onset of the monsoon at Darwin. There was another weak pulse of the MJO in the Australia region in mid-March, likely contributing to heavy rainfall at this time. March 2025 was Australia's 8th-wettest March on record, including exceptionally heavy rain in western Queensland.

Monsoon

The 2024-25 wet season monsoon onset was observed at Darwin on 7 February 2025, the latest onset since records began in the 1957–58 wet season, surpassing the previous record of 25 January (during the 1972–73 wet season). While the monsoon was late to arrive in Darwin, the monsoon trough was established over Queensland from the end of January and briefly earlier in Northern Western Australia. The unusually late monsoon onset over much of Northern Australia was a factor in the below average rainfall in January 2025.

3.2 Significant weather

Rainfall, floods and destructive winds in Tasmania

A succession of cold fronts between 21 August and 10 September 2024 resulted in several weeks of rainfall across large parts of Tasmania, with the heaviest rainfall occurring in early September. Several sites across Western and Northern Tasmania had their highest September monthly total rainfall on record or their highest since at least 2003.

The widespread steady rain resulted in high river levels in many Tasmanian catchments. Major flooding occurred along the Derwent River below Meadowbank Dam.

Between 24 August and 2 September, the cold fronts were associated with a deep low-pressure moving slowly across South East Australia. This brought damaging to locally destructive wind gusts for several days to South Australia, Victoria, Tasmania and elevated areas of New South Wales. Notable observed wind gusts (Figure 6) included:

- on 25 August, 100 km/h at Melbourne Airport and 150 km/h at Mount Buller in Victoria

- on 28 August, 161 km/h at Hogan Island in Bass Strait, 156 km/h at Mount Read in Tasmania (equal annual record), and 154 km/h at Wilsons Promontory in Victoria
- on 31 August, 187 km/h at Maatsuyker Island Lighthouse (August record), 161 km/h at Scotts Peak Dam (annual record) and 156 km/h at Luncheon Hill (annual record) and gusts over 100 km/h at many other Tasmanian sites
- on 1 September, 157 km/h at King Island Airport (annual record) in Tasmania
- on 2 September, 156 km/h at Hogan Island in Bass Strait, 141 km/h at Fawkner Beacon on Port Phillip Bay, with locally destructive wind gusts reported at many Melbourne metropolitan sites.

The strong winds also generated high seas during this period. Maximum wave heights of over 15 m were recorded off Cape Sorell in western Tasmania, and 8.4 m at Cape Bridgewater near Portland in south-western Victoria.

Winter and spring warmth across Northern Australia

Figure 6. Stations in Tasmania and Southern Victoria that set August wind gust records in the 24-31 August 2024 period. White borders indicate that the wind gust was also an annual record.

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Between 22-31 August 2024, an unseasonably warm air mass was located over most of the country. A slow-moving high-pressure system over central and eastern Australia allowed the build-up of heat across the country and the creation of an unseasonably hot airmass (Figure 7).

Many sites across South Australia, Western Australia, Northern Territory, New South Wales and Queensland had their warmest August and winter maximum temperature on record. On 26 August, Yampi Sound in Western Australia observed 41.6 °C, the highest August and winter (June to August) maximum temperature recorded in Australia. Bidyadanga in Western Australia recorded a minimum temperature of 28.5 °C on 27 August, the highest August and winter minimum temperature recorded in Australia.

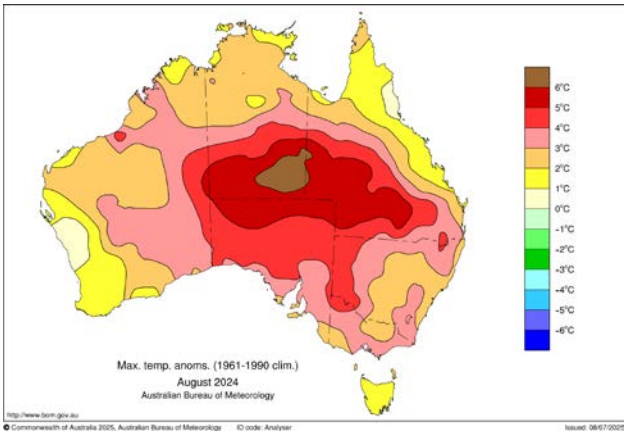

Figure 7. Mean maximum temperature anomaly for August 2024 relative to the 1961–90 climatological average.

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Overall, it was Australia's warmest August on record, since national observations began in 1910, with the mean national temperature 3.04 °C above the 1961-90 average. The national winter 2024 mean temperature was 1.49 °C above average, the second warmest on record, behind only 2023.

Low to severe intensity heatwave conditions persisted from late September to mid-November 2024 across most of northern Australia. From 3 October 2024, a severe intensity heatwave developed in parts of the western Top End, including the Tiwi Islands, in the Northern Territory and the western Kimberley in Western Australia. From 7 October this extended to the Cape York Peninsula in Queensland. Extreme intensity heatwaves impacted areas south of Darwin at times in early October, before conditions started to ease from 12 October. At Darwin Airport, daily maximum temperatures were at least 35.0 °C on 15 days during October 2024. This is an October record for Darwin Airport, and 5 times its long-term average, with observations beginning in 1941.

Hot days and warm nights over much of northern Australia continued from mid-October until mid-November. Warnings for low to severe intensity heatwave conditions were issued by the Bureau of Meteorology throughout this period.

Overall, spring 2024 (September to November) was Australia's warmest on record, at 2.08 °C above average, exceeding the previous record of 2.03 °C above average in 2020.

Heavy rain and storms over South-Eastern Queensland

Throughout October 2024, slow-moving high-pressure systems located south-east of Australia directed humid air from the tropics over the eastern states. A series of low-pressure troughs combined with the humid airmass to trigger thunderstorm activity across Queensland and north-eastern New South Wales. The storms frequently brought locally heavy rainfall and flash flooding, and reports of hail in many areas.

Notable reported impacts during this period included:

- on 9 October, giant hail of 7 cm in diameter north of Injune (Queensland) and 6 cm in diameter around Kogan (Queensland), and intense rainfall with 69.0 mm in 30 minutes Mudgeeraba (Queensland), 74.0 mm in 1 hour at Kingscliff (New South Wales), and 77.0 mm in 1 hour at Proston (Queensland)
- on 28 October, giant hail (5 cm) in Yamba (Queensland), large hail (3 to 5 cm) at Clontarf, near Redcliffe (Queensland) and giant hail (5 cm) around Maclean (New South Wales)
- on 31 October, more than 600,000 lightning strikes were recorded across southern and central Queensland and north-eastern New South Wales, and giant hail (5 to 8 cm) at Uki (New South Wales)
- on 1 November, a severe thunderstorm cell passed directly over inner Brisbane with giant hail near Boonah and large hail (3 to 4 cm in diameter) around the Brisbane CBD. A confirmed gustnado, a non-supercell tornado, formed on the Brisbane River with reports of trees brought down near the river.

Severe thunderstorms continued in November 2024 across South East Queensland and Northern New South Wales. In mid-December 2024, a coastal trough and low-pressure system interacted with deep tropical moisture over Eastern and South-Eastern Queensland, bringing heavy rainfall to the Wide Bay, Burnett and Southeast Coast districts. The heavy rainfall, combined with saturated soils, caused river and creek levels to rise. There was riverine flooding across some catchments, including minor to moderate flooding along the Mary, Burnett and Logan Rivers. Other reported impacts included:

- on 14 December, heavy rainfall impacted Brisbane and surrounding areas, causing widespread flash flooding across Greater Brisbane
- on 16 December, widespread rainfall and thunderstorms, with daily rainfall totals (to 9am on 17 December) over 100 mm
- on 30 December, a severe thunderstorm bought 120 mm of rainfall within 2 hours at Kingaroy Airport, resulting in flash flooding around the town.

Heatwaves and bushfires across Southern Australia

Southern Australia frequently experienced hot and dry conditions between November 2024 and May 2025. Nationally, summer (December 2024 to February 2025) was the second warmest on record since 1910, with the mean temperature 1.90 °C above the 1961–90 average. Autumn (March to May 2025) was Australia's fourth warmest on record at 1.41 °C above average. March 2025 was Australia's warmest March on record, 2.42 °C above the 1961–90 average.

The Bureau of Meteorology issued Severe and Extreme heatwave warnings for multiple states over this period. Fire Danger Ratings reached Extreme to Catastrophic at times, several significant bushfires occurred, and by May 2025 prolonged dry conditions in parts of South Australia and western Victoria created conditions suitable for raised dust.

A frequently occurring weather pattern was a large high-pressure system that moved slowly eastwards across Southern Australia. This allowed heat to build up over the continent limiting the amount of cooler air, and rain-bearing systems, that could reach the region. As cold fronts and surface troughs moved in behind the high-pressure system, high temperatures resulted as strong winds ahead of the front brought hot air from the interior of the country.

A significant example of this occurred in mid-December 2024. Low intensity heatwave conditions developed across south-eastern Australia between 15-17 December, as strong northerly winds ahead of a cold front dragged hot and humid air from northern Australia to the south-east (Figure 8). Maximum temperatures peaked on 16 December at 12 to 16 °C above average, and minimum temperatures were 6 to 12 °C above average. The conditions resulted in elevated Fire Danger Ratings across South Australia, Victoria and New South Wales.

On 16 December, a major bushfire was started by dry lightning in the Grampians National Park in western Victoria. From 21-26

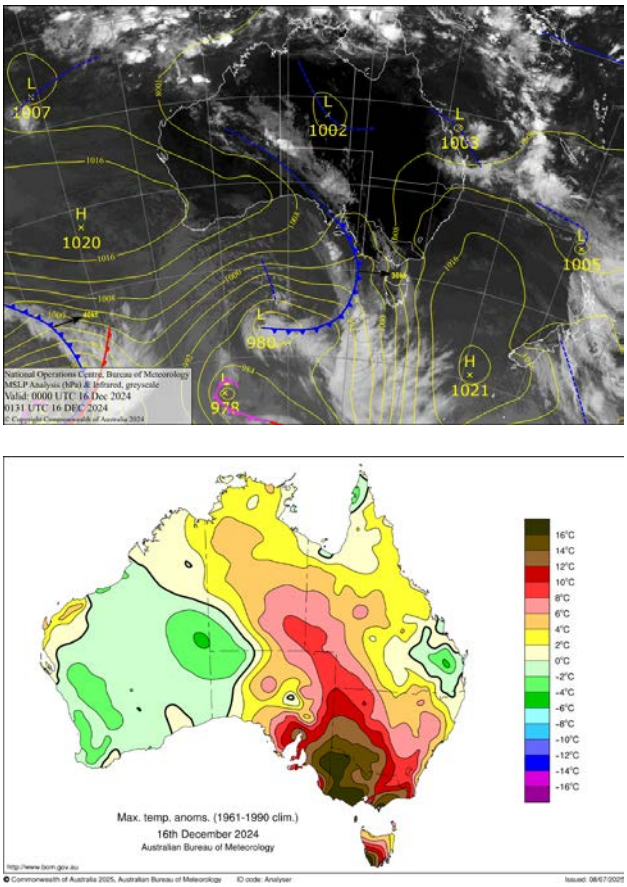

Figure 8. Mean Sea Level Pressure (MSLP) and satellite infrared (IR) image at 0000 UTC 16 December 2024 (top) and maximum temperature anomalies on 16 December 2024 relative to the 1961–90 monthly average (bottom).

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December, low intensity to Severe heatwave conditions again moved across southern Australia. On 26 December, Extreme fire danger warnings were issued for most of Victoria with strong northerly winds ahead of a cold front, including a maximum daily wind gust of 81 km/h at the Grampians (Mount William) weather station. Emergency warnings were issued for several towns around the Grampians National Park, including Halls Gap, as the bushfire continued to burn there.

Over 4-6 January 2025, conditions worsened again as heat built up ahead of a cold front. Low intensity to Severe heatwave conditions impacted large parts of South Australia, Victoria, Tasmania and New South Wales. On 4 and 5 January, maximum temperatures across south-eastern Australia were 6 to 12 °C above average, the hot and windy conditions elevating Fire Danger Ratings. However, Victoria experienced cooler and wetter conditions from 6 January.

Record rainfall with flooding on Queensland's North Tropical Coast

Between 27 January and 12 February 2025, 2 TLs (13U and 20U) and an active monsoon trough brought persistent and heavy to intense rainfall to northern Queensland. The rainfall was particularly intense along the coastal region from Ayr to Cairns, as the TLs increased the available moisture.

The heaviest falls occurred between 1-3 February, with daily rainfall totals over 200 mm across the Tropical North Coast and Tablelands, and Herbert and Lower Burdekin districts. Paluma Ivy Cottage, in the upper Burdekin catchment, recorded daily rainfall totals of 721.5 mm and 745.2 mm on 2 and 3 February respectively. This is the first known instance in Australia of 2 consecutive days of measured rainfall totals over 700 mm[10].

Rainfall totals between 27 January and 12 February 2025 exceeded 800 mm between Ayr and Cairns, and over 1,200 mm along the coast from Townsville to north of Innisfail (Figure 9). For the 1-12 February period, the rainfall at many sites between Townsville and Ingham exceeded their previous record for any calendar month.

The prolonged heavy rainfall led to widespread flash and riverine flooding in many catchments. There was major flood warnings issued for the Bohle, Ross, Haughton, Herbert, Upper Burdekin, Murray and South Johnstone Rivers. The Herbert River at Ingham Pump Station peaked at 14.94 m on 3 February 2025, above the major level and about 30 cm below the March 1967 record flood level. Flooding also extended across Central Coast, Inland and Gulf catchments.

Major highways and roads were closed in both directions along the North Tropical Coast as the flash and riverine flooding inundated properties, businesses, agricultural lands and essential services.

During 13-19 March 2025 a combination of low-pressure troughs and strong south-easterly trade winds across Northern

10. Australia's highest 2-day rainfall total is 1,947.0 mm at Bellenden Ker Top Station over 4-5 January 1979. However, this was reported as a 2-day accumulation (to 9am on 5 January), so it cannot be determined if at least 700 mm fell on each day.

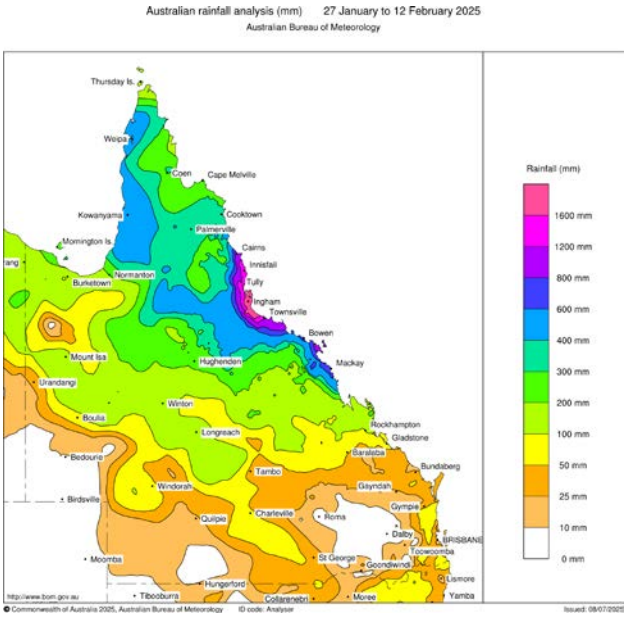

Figure 9. Accumulated rainfall totals (mm) between 27 January and 12 February 2025 for Queensland.

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Queensland led to more heavy rainfall and isolated severe thunderstorm. After 6 days of rainfall, totals to 9am on 19 March, totals were greater than 400 mm across the north-east coast, with totals greater than 500 mm in some areas of the North Tropical Coast and Tablelands, and the Herbert and Lower Burdekin districts. This rainfall led to minor to moderate flood warnings for catchments across northern and central coastal areas of Queensland.

Tropical cyclones impacting the North-West Australian Coast

From late January to mid-March 2025, there were exceptionally warm waters in the Australian tropical region, and an active monsoon and MJO. This combination of climate factors likely contributed to the formation of 12 TCs in the Australian region in the 2024-25 season. This was the most since the 2005-06 season, and above the 21st century average of 9 TCs. Of the 12 TCs, 11 were in the Indian Ocean, with 4 impacting Australia's north-west coast (Figure 10).

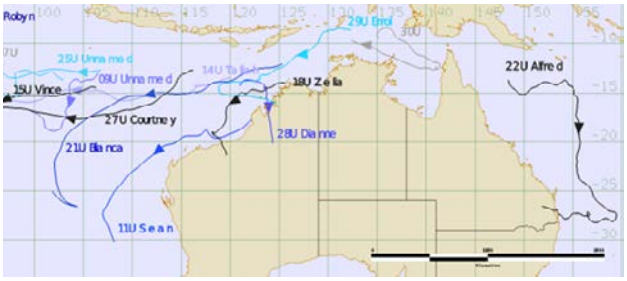

Figure 10. Tracks of the tropical cyclones that formed in the Australian region during the 2024-25 season.

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Severe TC Sean

On 17 January 2025, TL 11U formed off the west Kimberley coast of Western Australia. It reached Category 1 strength (TC Sean) on 19 January, further strengthening to Category 4 (severe TC intensity) late on 20 January. Severe TC Sean travelled south-west parallel to the Pilbara coast before weakening to a TL on 23 January.

Although Severe TC Sean did not make landfall, it brought heavy rainfall and strong wind gusts to the Pilbara coast. Karratha Aero recorded 374.4 mm in the 24 hours to 9am on 20 January, the highest annual daily rainfall on record for the station (54 years of data). Daily rainfall totals in the surrounding area ranged from 50 mm to over 150 mm. There was flooding at Karratha, in the De Grey River catchment and along western Kimberley rivers.

Maximum observed wind gusts on 19 and 20 January were greater than 100 km/h at several sites, including 113 km/h on 19 January at Barrow Island Airport, a January record for the site.

Severe TC Zelia

On 8 February 2025, TL 18U developed near the northern coast of Western Australia, strengthening while moving south-west parallel to coast. It reached Category 1 strength (TC Zeila) on 12 February and rapidly intensified to Category 5 (severe TC intensity) late on 13 February. At this time, Severe TC Zelia started to move south-southeast towards the Pilbara coastline. Severe TC Zeila made landfall at 12:30 pm AWST on 14 February as a Category 4 system near the De Grey River mouth around 50 km north-east of Porth Hedland. Severe TC Zeila was downgraded to a TL on 15 February while continuing to track south over inland Pilbara and towards the interior of Western Australia.

TC Zeila brought several days of heavy rainfall as it approached the coast and after it made landfall. In the 4 days to 9 am on 15 February, the broader Pilbara district had over 50 mm of rainfall, with large areas recording over 200 mm and coastal areas greater than 500 mm of rainfall. De Grey had its highest daily February and annual daily rainfall in the 24 hours to 9:00 am AWST on 14 February with 261.0 mm (112 years). Pardoo Station observed 555.4 mm of rainfall between 12-15 February, its highest 4-day total on record. There were reports of flash and riverine flooding, including major flooding along the De Grey River. A tributary of the De Grey River, the Coongan River, peaked on 15 February, well above its previous 2020 record at Marble Bar. Many secondary roads throughout the inland areas of the Pilbara were affected with many communities isolated.

The very destructive core of Severe TC Zelia did not directly impact any towns. Port Hedland experienced damaging winds, with a maximum gust of 120 km/h, in the periphery of the cyclone for about seven hours on 14 February as the system approached landfall. Marble Bar experienced gusts up to 109 km/h during the evening of 14 February as the weakening cyclone tracked 15 km to the west.

TC Dianne

On 27 March 2025, TL 28U developed off the north-west Kimberley coast of Western Australia. It reached Category 1 strength (TC Dianne) on 28 March and started tracking southwards towards the coast. TC Dianne crossed the coast as a Category 2 system at 2:30 am AWST on 29 March close to the Koolan Islands north of Derby. The system rapidly weakened as it moved inland and was downgraded to a TL.

This system brought widespread rainfall to the Kimberley district in the 24 hours to 9:00 am AWST on 29 March, with daily rainfall totals greater than 50 mm around the north-west coastal area. The highest daily rainfall total was 153.2 mm at Derby Aero, the 2nd-highest March daily rainfall on record for the station (72 years of data). This included 133 mm in the 6 hours from 3:00 am to 9:00 am AWST on 29 March.

Severe TC Errol

On 9 April 2025, TL 29U formed in the Arafura Sea. It tracked westwards and then to the south-west off the Australia coast while steadily developing. On April 15, 29U reached Category 1 strength (TC Errol), before rapidly intensifying to Category 4 (severe TC intensity) within 24 hours. On 17 April, Severe TC Errol began to move east-southeast towards the west Kimberley coast while rapidly weakening. The system was downgraded to a TL early on 18 April before crossing the coast at 5.00pm AWST south of Kuri Bay.

There was widespread moderate to heavy rain in the northern parts of the Kimberley, with daily totals of 25 to 100 mm in the 24 hours to 9:00 am AWST on 19 April. The highest total was 160.8 mm at Kalumburu, an April daily record for the site (28 years of data). However, the small size of the system and remote landfall location resulted in limited impacts overall. The strongest observed wind gust was 102 km/h at Adele Island prior to the system crossing the coast.

Tropical Cyclone Alfred impacting South-Eastern Queensland

On 21 February 2025, TL 22U formed in the Coral Sea off the Queensland coast. 22U reached Category 1 strength (TC Alfred) on 23 February and reached its severe TC intensity as a Category 4 system on 27 February while well offshore of the Queensland coast. From 1 March, conditions became unfavourable for TC Alfred, and it began to weaken. Between 2-4 March, TC Alfred was steered to the south-east while fluctuating between Category 1 and Category 2 intensity.

On 4 March, TC Alfred turned abruptly westwards and slowly tracked towards the South-East Queensland coast, stalling several times. TC Alfred weakened to a Category 1 system as it approached the Moreton Bay islands before crossing Moreton Island at 1:00 am AEST on 8 March. TC Alfred weakened further below tropical cyclone strength by 6:00 am AEST on 8 March and remained slow moving near Bribie Island for much of the day.

The system crossed Bribie Island, north of Brisbane, at 8:00 pm AEST and the mainland coast at 9:00 pm AEST.

TC Alfred was the first TC to cross the South East Queensland coast, within 100 km of Brisbane, directly from the east since TC Zoe in March 1974. TC Alfred brought heavy rainfall with subsequent flooding, damaging wind gusts, and large swells with severe coastal erosion.

Rainfall and flooding

The 5-day rainfall totals, between 6-10 March 2025, came to over 200 mm from an area extending from the Sunshine Coast in Queensland to the Northern Tablelands and Mid North Coast districts in New South Wales (Figure 3.10). Totals over 600 mm were recorded in New South Wales around Dorrigo, inland of Coffs Harbour, and in Queensland inland of the Gold Coast near the New South Wales border. The highest rainfall total during this period was 1,111.0 mm at Upper Springbrook in Queensland.

The most intense rainfall was recorded as the centre of the system crossed onto the mainland late on 8 March. Significant daily rainfall totals, to 9:00 am AEST on 9 March, included:

- Brisbane with 275.2 mm, the highest daily total in the official city rain gauge since 26 January 1974, when 314.0 mm fell during the passage of 'cyclone Wanda'[11]
- Hervey Bay Airport with 261.4 mm (annual record, 27 years of data), including 189.0 mm in the 2 hours from 4.50 am to 6.50 am AEST
- K'gari Eurong with 427.3 mm (annual record, 45 years of data).

The intense rainfall continued on 9 March on the Sunshine Coast, with Nambour recording 365.0 mm in the 24 hours to 9:00 am AEST on 10 March (annual record, 19 years of data).

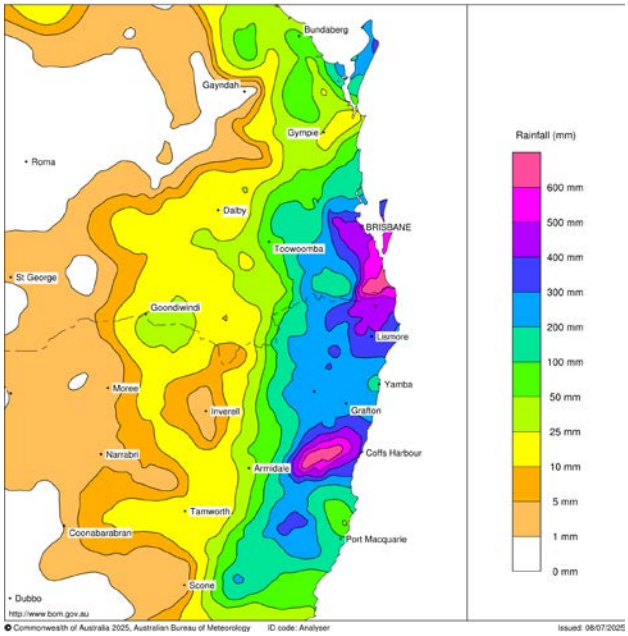

Figure 11. The 5-day rainfall total, between 6-10 March 2025 for North-Eastern New South Wales and South-Eastern Queensland resulting from TC Alfred.

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In New South Wales, major riverine flooding occurred in the Richmond, Clarence and Bellinger Rivers. In Queensland, major riverine flooding occurred in the Lockyer, Laidley and Warrill Creeks, Bremer, Logan and Albert Rivers. Significant localised flash flooding also occurred in many locations.

Wind gusts

The strongest wind gusts observed during TC Alfred were from monitoring stations on Coral Sea reefs. Frederick Reef recorded a gust of 150 km/h on 28 February and Cato Island a gust of 141 km/h on 1 March. Lord Howe Island recorded wind gusts of 98 km/h on 4 March and 96 km/h on 5 March.

As TC Alfred approached the coast, numerous sites observed wind gusts between 90 and 120 km/h, including:

- Double Island Point Lighthouse, with 100 km/h on 3 March
- Cape Byron, with 120 km/h on 7 March
- Yamba Pilot Station, with 96 km/h on 7 March
- Coolangatta, with 100 km/h on 7 March
- Gold Coast Seaway, with 107 km/h on 7 March
- Brisbane Aero, with 93 km/h on 8 March
- Redcliffe, with 104 km/h on 8 March
- Cape Moreton Lighthouse, with 109 km/h on 9 March (also 98 km/h on 5 March).

Wave heights

The slow passage of TC Alfred southwards parallel to the Queensland coast produced large easterly swell that impacted the coastline of South East Queensland and north-eastern New South Wales. Significant wave heights, the average height of the highest one-third of the waves, of 5-8 m were recorded by several waverider buoys. Maximum wave heights around double the significant wave height were also recorded (Table 2).

Major coastal erosion occurred, with large amounts of sand removed from many beaches.

Table 2. Significant and maximum wave heights recorded by waverider buoys during the approach of TC Alfred

Location	Significant wave height	Maximum wave height
Tweed Heads Offshore	7.58 m on 7 March	13.91 m on 7 March
Brisbane	6.44 m on 6 March	11.51 m on 6 March
Coffs Harbour	6.74 m on 5 March	12.60 m on 5 March

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11. Although the system was named 'cyclone Wanda' in real-time, post event analysis in 1974 concluded that 'at no stage did the central eye mechanism fully develop to the mature cyclone category'. Under the Bureau of Meteorology naming conventions, a (tropical) cyclone retains its name even if it is subsequently downgraded to tropical low status.

Record rains and flooding in south-western Queensland

Between 22-31 March 2025, tropical moisture was dragged towards the interior of the country by a low-pressure trough and associated low pressure system. This resulted in widespread rain and thunderstorms, with particularly heavy falls over the Channel Country in south-western Queensland. The widespread cloud cover resulted in maximum temperatures up to 12 °C below average across large parts of central and eastern Australia during this period.

Between 23-26 March, daily rainfall totals between 50 to 200 mm were recorded across much of western Queensland, before the system moved eastwards towards the coast. The most intense rainfall occurred south of Isisford on 26 March, with daily rainfall totals, to 9:00 am AEST on 27 March, exceeding 200 mm. In the 4 days to 9:00 am AEST on 27 March, parts of the Channel Country exceeded its annual average rainfall of 300 to 400 mm. The highest 4-day total in the area was 633.0 mm at Sunbury (annual average of 379.0 mm). Overall, it was the wettest March on record (since 1900) for much of south-western Queensland, with totals 5 to 8 times the monthly average (Figure 12).

The exceptionally heavy rainfall resulted in minor to major flooding in many catchments in western Queensland, including the Channel Country. The most significant flooding was along the Thomson and Barcoo Rivers, leading to Cooper Creek and Kati Thanda – Lake Eyre, and along the Bulloo, Paroo and Warrego Rivers, leading into the Murray-Darling Basin. Based on available data, it is likely that the river levels exceed the historical peaks of 1974 and 1955 at several locations, including Windorah, Stonehenge, Jundah, Thargomindah and Eulo.

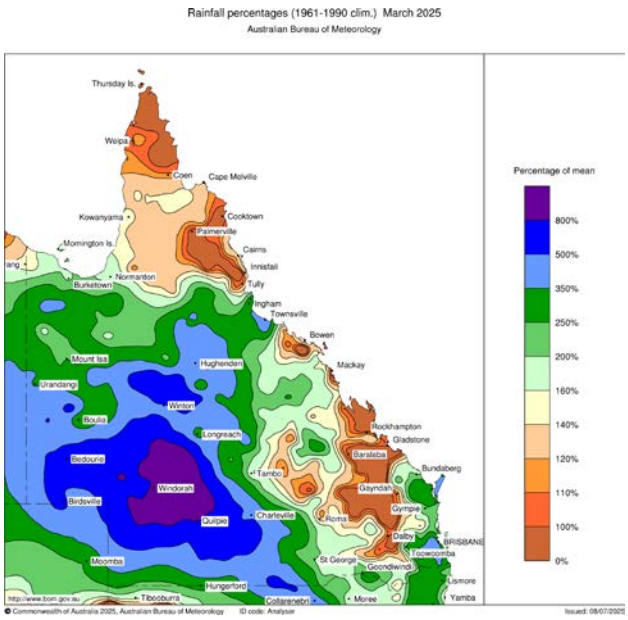

Figure 12. Total rainfall for March 2025 for Queensland as a percentage of the 1961–90 average.

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Rainfall and flooding along the New South Wales coast

Between 19-23 May 2025, a coastal trough and upper low combined with moist onshore winds to bring heavy rainfall to Eastern New South Wales particularly the northern regions of the Hunter, Mid North Coast, and parts of the Northern Tablelands districts. Multi-day rainfall totals between 19-23 May exceeded 400 mm across much of the Hunter and Mid North Coast districts (Figure 13). Some stations exceeded 600 mm for the period, including Yarras (Mount Seaview) with 692.2 mm and Taree Airport with 608.4 mm. The 8 rain gauges of Hunter and Mid North Coast districts experienced their highest daily rainfall on record on 21-22 May. The highest daily rainfall total was 337.0 mm at Promised Land (Bellingen (Crystal Creek)) in the 24 hours to 9:00 am AEST on 22 May.

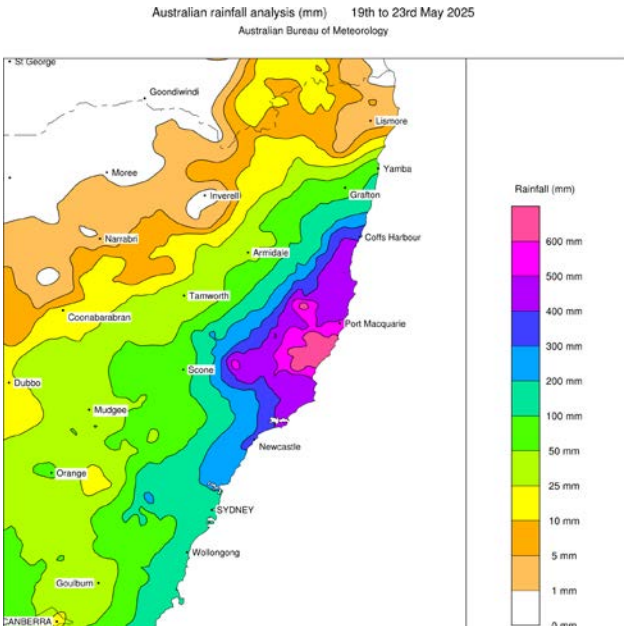

Figure 13. The 5-day rainfall total for the period 19-23 May 2025 for eastern New South Wales.

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The rainfall led to flash and riverine flooding across the Hunter and Mid North Coast districts. The most significant flooding was along the Manning River, which at Taree reached major levels and potentially exceeded the historical peak from 1929[12]. Major flooding also occurred along the Hastings River, notably at Wauchope River Bridge, and along the Gloucester, Macleay, Paterson and Williams Rivers and Wollombi Brook.

Reported impacts of the rainfall and flooding included the closure of major roads and railway lines isolating many communities, closure of schools and business and substantial agricultural and livestock losses.

12. River level data during flood events is subject to further Quality Control. As at July 2025, the peak flood height of the Manning River at Taree has not been formally assessed.

Reproduced by permission of the Australian Broadcasting Corporation. Floss Adams © 2025 ABC. A community-led recovery centre set up in Wingham as schools and businesses across southeast Queensland and northern New South Wales will close.

4. National overview

4.1 National plan activations

Australia has a range of national plans that cover specific situations where Australian Government assistance or leadership is required. The following plans were activated/maintained in 2024-25:

- Australian Government Disaster Response Plan (COMDISPLAN)
- Australian Government Plan for the Reception of Australian Citizens and Approved Foreign Nationals Evacuated from Overseas (AUSRECEPLAN)
- Australian Government Overseas Assistance Plan (AUSASSISTPLAN)

Australian Government Disaster Response Plan (COMDISPLAN)

COMDISPLAN is the plan for the provision of Australian Government non-financial assistance to Australian states and territories in an emergency or disaster. COMDISPLAN was activated 6 times in 2024-25 for the following events:

- Severe weather and power outages in Tasmania – 8 September to 13 September 2024.
- Bushfires in Northern Territory – 8 November to 21 November 2024.
- Anticipated national severe weather and bushfires in Victoria – 24 December 2024 to 3 January 2025.
- Nationally significant weather including North Queensland coastal flooding, TC Zelia in Western Australia, and TC Alfred and flooding in South East Queensland and Northern New South Wales – 1 February to 24 March 2025.
- Nationally significant weather including flooding in south and western Queensland – 27 March to 9 April 2025.
- Severe weather and flooding in New South Wales – 21 May to 6 June 2025.

A total of 23 requests for non-financial assistance were received by the NEMA and tasked to various Australian government agencies and contracted capabilities, including:

- ADF
- NEMS
- Australian Government Interagency Deployed Planning Teams
- Disaster Relief Australia.

The Australian Government Crisis Coordination Team (CCT) responded to concurrent incidents, activating 10 times across 104 calendar days for domestic incidents, excluding international CCT activations.

Australian Government Overseas Assistance Plan (AUSASSISTPLAN)

AUSASSISTPLAN details the process for the provision of emergency Australian Government-led physical assistance to overseas countries. AUSASSISTPLAN was activated 3 times in 2024-25 for the following events:

- Vanuatu – On 17 December 2024, a 7.2 magnitude earthquake triggered landslides, structural collapse, and infrastructure damage. In response, the Australian Government deployed three different AUSMAT and a heavy DART – 17 December 2024 to 16 January 2025.
- Myanmar – On 28 March 2025, a 7.7 magnitude earthquake triggered landslides, structural collapse, and infrastructure damage. In response, the Australian Government deployed an AUSMAT special advisory team – 1 April to 16 April 2025.
- Cambodia – On 9 May 2025, the Australian Government responded to a request for technical assistance in safe chemical disposal by deploying a DART technical expert to advise Cambodian authorities – 9 May to 25 June 2025.

Australian Government Plan for the Reception of Australian Citizens and Approved Foreign Nationals Evacuated from Overseas (AUSRECEPLAN)

AUSRECEPLAN details the process for the safe repatriation of Australians, permanent resident (PRs) and their families following an Australian Government led evacuation in response to an overseas disaster or adverse security situation.

AUSRECEPLAN was activated once in 2024-25 for repatriation and reception in response to the escalating conflict in Lebanon in October 2024. The repatriation consisted of 14 flights and 3,409 passengers being received in Sydney, Brisbane, and Melbourne airports.

4.2 National Coordination Mechanism

The National Coordination Mechanism (NCM) met on 56 occasions during 2024-25 to ensure shared situational awareness, rapid problem definition and effective consequence management for a range of crises. This supported the 2024 Higher Risk Weather Season Preparedness Program and the nation's response to severe weather, food and grocery supply, critical infrastructure outages, national cyber incidents (such as CrowdStrike), repatriations from offshore conflict and avian influenza.

4.3 Department of Defence

During the 2024-25, Defence responded to 13 requests for Australian Government assistance under COMDISPLAN. Defence assistance contributed to Commonwealth-led response with evacuations, relief, and early recovery efforts across the country.

In February and March 2025, North and Central Queensland were affected by 2 flood emergencies. Defence assisted with provision of:

- planning staff and aviation support to assist with disaster operations, resupply of fuel, essential food, and supply to isolated communities
- a temporary bridge to restore critical North Queensland supply routes
- logistic support and transportation of passengers, fuel, and stores in high-clearance vehicles.

Defence assisted the response to TC Zelia, which impacted Western Australia in February 2025, by providing aviation support for the supply of equipment, machinery, materials, fresh produce, and essential goods to isolated communities.

In response to TC Alfred in February and March 2025, Defence assisted Queensland and New South Wales with provision of:

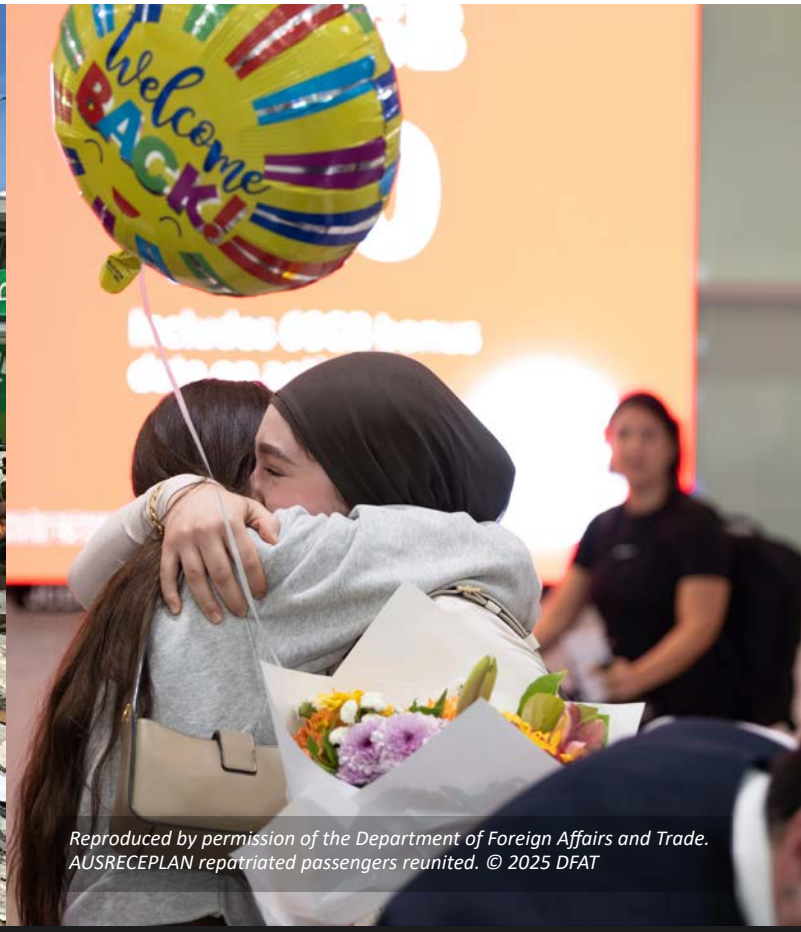
- over 300,000 sandbags
- aviation search and rescue capability
- planning staff and over 1,500 personnel directly tasked and on standby to augment State Emergency Services (SES) with preparedness and response tasks
- high clearance vehicles and personnel to undertake community welfare checks.

Defence, in response to a request from the Australian Maritime Safety Authority (AMSA), successfully located and rescued a Lithuanian solo-rower who went missing in close proximity to the cyclone, using Royal Australian Air Force and Royal Australian Navy capabilities.

During May 2025, outside of the typical higher risk weather season, northern New South Wales experienced extensive flooding. Defence assisted with:

- provision of a civilian contracted night rescue aviation capability for flood rescues

Reproduced by permission of the Queensland Fire Department. AUSASSISTPLAN Vanuatu Earthquake recovery assistance Port Vila, Vanuatu. © 2025 QFD



Reproduced by permission of the Department of Foreign Affairs and Trade. AUSRECEPLAN repatriated passengers reunited. © 2025 DFAT

- provision of light engineering capability to undertake route clearance tasks and clear access to critical infrastructure
- conducted Rapid Damage Assessments (RDAs) to enable the SES and the Reconstruction Authority to commence recovery operations.

4.4 National resource sharing arrangements

The AFAC NRSC facilitated both national and international resource sharing throughout 2024-25. July to September was occupied by the third simultaneous deployment to Canada and the US. In total, 312 Australian and New Zealand personnel deployed to assist wildfire suppression activities in British Columbia and Alberta Provinces. There were 71 Australian and New Zealand personnel deployed to support US fire agencies in Washington State and Oregon.

The 2024-25 season saw a total of 12 domestic resource sharing deployments across Victoria, Queensland, Tasmania, Western Australia, and New South Wales. Events included storms, floods, fires, TCs and specialist recuse support. Across these interstate deployments, 1,760 personnel were provided by New Zealand and Australian states and territories.

All interstate and international requests were filled in 2024-25 and included Incident Management Team (IMT) roles, fire ground leadership positions, arduous crew and deployment management personnel.

In 2024-25, the shared capability provided by the National Large Airtanker (NLAT) and National Lead Plane was increased to include 3 rotary wing aircraft. Over the year the NLAT was requested 20 times and the rotary wing aircraft were requested 37 times.

4.5 Relief and recovery

Joint state/territory and Australian Government funded DRFA recovery assistance was activated in response to 69 events across Australia in 2024-25. The most being in New South Wales (32) and Queensland (17).

Of the 69 events, 9 were activated for extraordinary assistance (Categories C and D) under the DRFA. A total of $1.726 billion has been committed in extraordinary assistance for these events, in addition to significant support provided under Categories A and B of the DRFA.

Assistance was made available to 217 of Australia's 539 LGAs for a range of recovery measures, including emergency assistance for impacted individuals and families, support for councils for clean-up activities and to restore or replace damaged essential public assets. Extraordinary assistance was also made available in the most severely impacted LGAs in the form of additional community and mental health support, support to restore damaged sport and recreational facilities and recovery grants for primary producers, small businesses and non-profit organisations.

The Australian Government also provided over $771 million directly to disaster affected individuals and families through the AGDRP and DRA:

- The AGDRP is a non-means tested payment of $1,000 for eligible adults and $400 for eligible children which is available to people whose homes or major assets have been lost or directly damaged, people who have been seriously injured or are an immediate family member of someone who has lost their life. The AGDRP was made available for 5 events in 45 unique LGAs.

Reproduced with permission of Disaster Relief Australia. Recovery assistance provided under COMDISPLAN at the request of the Queensland Government following ex-Tropical Cyclone Alfred. © 2025 DRA

- The DRA is a short-term income support payment to assist individuals who have experienced a loss of income as a direct result of the flood. The DRA was made available for 7 events across 95 unique LGAs.

In addition to financial assistance to support disaster recovery, the Australian Government has appointed a Community Recovery Liaison Officer (CRLO) to support state-led recovery in response to 4 events in 2024-25. The CRLO works closely with agencies across all levels of government, industry, business and community to help integrate Commonwealth support (with a focus on non-DRFA support) for recovery operations across affected regions and ensure this met the needs of the community. This integrated, cross- portfolio approach, assists directly with addressing and supporting recovery issues in the affected communities where the Commonwealth can play a role, using the 4 recovery domains (human and social, economic, built and natural).

The CRLO is supported by a Commonwealth Disaster Recovery Inter-Departmental Committee (IDC) bringing together senior officials across the Commonwealth to streamline and coordinate Australian Government support for recovery efforts, in particular – supporting at-risk and Indigenous or other vulnerable communities.

4.6 Provision of international support

Support for wildfires in Canada from Australia and New Zealand firefighters occurred from July to September 2024, with resourcing arrangements activated and supported by AFAC NRSC. This operation was the largest and longest deployment of Australasian resources internationally, since the commencement of the international support between the 4 nations of Canada, the US, Australia and New Zealand.

In response to a 7.3 magnitude earthquake and subsequent aftershocks that impacted Port Vila and surrounds in Vanuatu in December 2024, Australia immediately deployed a 64 member DART to undertake search and rescue operations and a 6 member AUSMAT. AFP members, DFAT and NEMA officers and other technical experts were also deployed. On 22 December, the Australian Government announced an additional $5 million in humanitarian assistance to support the Government of Vanuatu's ongoing response and recovery through a further deployment of a 17 member AUSMAT, funding support for NGOs through the Australian Humanitarian Partnership and support to the Australian Red Cross. Humanitarian relief supplies were provided for over 500 families. ADF flights supported the deployment of Australia’s emergency personnel and delivered 9.5 tonnes of emergency relief supplies on behalf of partner humanitarian organisations such as the Red Cross, UN World Food Programme, CARE, Save the Children and World Vision.

Following a 7.7 magnitude earthquake occurred in Myanmar on 28 March 2025, Australian supported the delivery of life-saving assistance through the International Committee of the Red Cross and Australian NGOs and their local partners, provision of relief supplies and assistance to the work of the ASEAN Coordinating Centre for Humanitarian Assistance on Disaster Management. On 3 April, Australia deployed a 5 person AUSMAT and a response team to assist response and recovery efforts.

The Australian Government responded to escalations in the Middle East assisting Australians and families to return. The activation of AUSRECEPLAN from 03 October 2024 to 14 January 2025 to provide assistance for the domestic reception of Australians, permanent resident (PRs) and their families from Lebanon arriving on Australian Government assisted flights.

Reproduced by permission of the National Critical Care and Trauma Response Centre. AUSASSISTPLAN Vanuatu Earthquake Team Bravo, Kylie Dunn and Matt Luther delivering Patient wound care © 2025 NCCTRC

5. Map of major incidents 2024–25

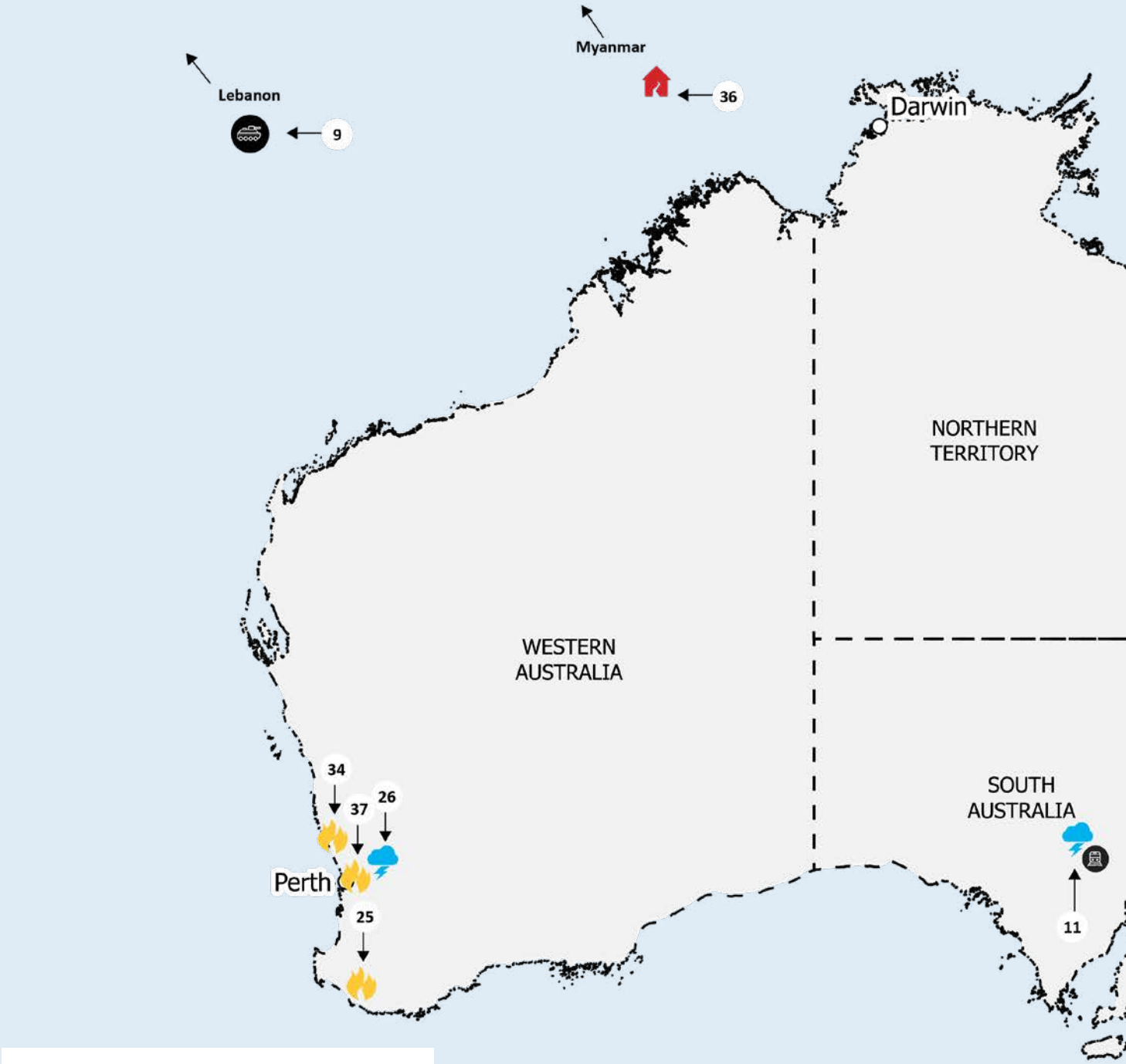
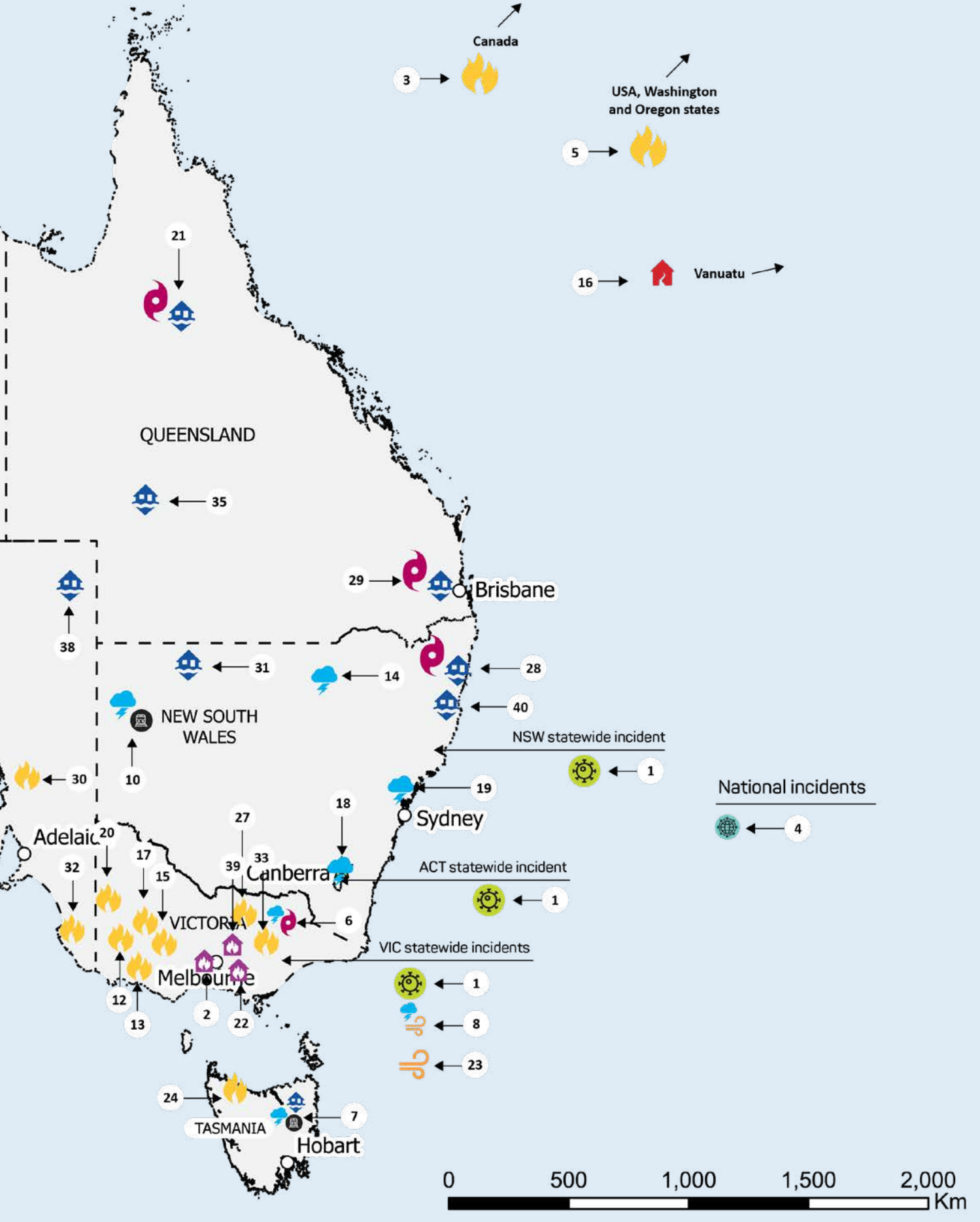


Figure 14. Map of major incidents 2024–25.



**Locations of symbols are approximate*

6. Summary of major incidents 2024–25

The following are 40 incidents that were identified by emergency services for their scale, duration, community impact, media coverage and/or unique operational challenges. They represent a snapshot of the major incident that individuals, communities, agencies and governments had to respond to over the course of the year.

No.	Date	Incident	Location and Jurisdiction	Agency
1	21/05/2024 - 13/06/2025	Avian influenza	VIC, NSW, and ACT	VIC DEECA, NSW DPIRD and ACT EPSDD

In 2024 and 2025, Australia responded to outbreaks of 4 separate strains of high pathogenicity avian influenza (HPAI), which represented Australia's most significant avian disease incident. The outbreaks involved H7 strains of HPAI, which were not related to the H5 HPAI strain of concern circulating overseas.

The first detection of H7 HPAI was confirmed on 22 May 2024 on a chicken egg layer farm in Meredith, Victoria. Over the next 8 weeks, a further 10 commercial premises and 5 non-commercial premises were confirmed to have H7 HPAI across Victoria, New South Wales and the Australian Capital Territory. These detections involved 3 separate strains of H7 HPAI and therefore constituted three concurrent outbreaks of H7 HPAI. The Victorian, New South Wales and Australian Capital Territory governments undertook a significant program of response activities to eradicate these outbreaks, which were guided by their emergency animal disease response plans developed based on the nationally agreed Australian Veterinary Emergency Plan (AUSVETPLAN) Response Strategy - Avian Influenza. By 3 February 2025, the 3 outbreaks were confirmed to have been successfully eradicated. On 8 February 2025, a new outbreak of H7 HPAI in Euroa, Victoria was confirmed, which involved an H7 HPAI strain not related to the 3 outbreaks in 2024. This outbreak was contained to 4 egg laying farms, with the last detection on 24 February 2025. On 13 June 2025, this outbreak was successfully eradicated.

In total, 1.8 million birds were destroyed nationally as part of response activities to eradicate H7 HPAI in 2024, and approximately 585,000 birds were destroyed in Victoria for the 2025 outbreak response. Given the impacts on the national egg supply chain, NEMA convened a series of NCM meetings for the outbreaks. The meetings facilitated information sharing on the supply chain impacts across relevant stakeholders including Commonwealth, state and territory governments, livestock industry bodies, supermarkets and major food retailers. These meetings provided stakeholders with situational awareness and enabled coordination of activities to mitigate supply chain impacts.

For both outbreaks, the Australian Government coordinated the national outbreak response through the Consultative Committee on Emergency Animal Disease (CCEAD) and the National Management Group (NMG). The Australian Government also provided personnel and technical advice to support state and territory response efforts, while managing export certification, trade and international reporting obligations. The outbreak response costs were shared across Commonwealth, state and territory governments and affected industries using the Emergency Animal Disease Response Agreement.

No.	Date	Incident	Location and Jurisdiction	Agency
2	10/07/2024	Chemical factory fire	Derrimut, VIC	FRV

On 10 July 2024, Fire Rescue Victoria (FRV) responded to an alarm at 118 Swann Drive, Derrimut. It was the second fire to occur at this location in 9 months, with a previous fire on 12 October 2023. First arriving FRV crews were presented with a large amount of black smoke, flames issuing and explosions could be heard from a factory that was reported to be housing a substantial amount of chemicals. The structure involved in the fire was an 80 m x 60 m tilt slab and steel factory. The incident was escalated early due to amount of fire, smoke, explosions and potential risk associated to the amount of chemicals present. A community warning was issued at these early stages of the fire. It was confirmed that all employees had been evacuated and were at an emergency evacuation point. This was a protracted incident, committing a large amount of FRV resources and personnel. A multi-agency response with Victoria Police, Ambulance Victoria, Environment Protection Authority, WorkSafe, City Council support the most timely and effective conclusion to this incident possible. The fire was called under control at 4:35 pm AEST on 10 July. Monitoring of the fire and recovery actions by FRV would continue at the site for another 51 days.

3	13/07/2024 - 03/09/2024	Wildfire deployment	Canada	AFAC NRSC and NEMA

The 2024 wildfire season in Canada created a resourcing challenge for Canada. Australian jurisdictions and Fire and Emergency New Zealand coordinated a deployment of fire fighting personnel, through the AFAC NRSC. Canada's formal RFA was received on 13 July 2024, from the Canadian Interagency Forest Fire Centre for 2 IMTs, with specialist positions including fire behaviour analysts and aviation coordinators. This was followed quickly with a request for further personnel resources. In total, 312 personnel were deployed across all Canada on a rostered basis until 3 September 2024.

4	19/07/2024	CrowdStrike IT outage	Australia and Global	Home Affairs and NEMA

On 19 July 2024, one of the largest IT outages in history impacted approximately 8.5 million Microsoft Windows systems due to a faulty update in CrowdStrike products. Impacts and disruptions were experienced nationally by several critical industries, including banking and finance, airlines, and food supply. NEMA supported the Department of Home Affairs by convening 8 NCM meetings with stakeholders across Australian, state and territory governments and many industry sectors to manage the consequences of the outage and compounding impacts. In response, CrowdStrike has involved independent security vendors to review its code and improve quality assurance. In an Australian Government After Action Review, CrowdStrike noted the NCM was valuable in streamlining communication and managing overarching messages. CrowdStrike acknowledged Australia as highly effective in coordinating crisis through these structures.

5	27/07/2024 - 09/09/2024	Wildfire deployment	US	AFAC NRSC and NEMA

The US were overwhelmed by demands for firefighting personnel and a formal RFA from the National Interagency Fire Center was received on 27 of July 2024. This is only the third time since international sharing has been in place that 2 concurrent international deployments have been coordinated.

There was a total of 71 personnel deployed across Washington and Oregon states, covering specialist and supervisor positions, including heavy equipment bosses and helibase managers. Australian and New Zealand resources worked on a continuous basis until 9 September 2024.

No.	Date	Incident	Location and Jurisdiction	Agency
6	25/08/2024	Tornado	High Country, VIC	VICSES

Severe thunderstorm activity, including supercell storms, strong winds, and large hail, occurred in several parts of the state on 25 August 2024. An extended tornado caused a 25 km path of damage from Howes Creek to Boorlite, with wind gusts reported at 150 km/h at Mount Buller.

Whilst there were no fatalities or injuries reported, there was residential property damage requiring temporary relocation of local community members. Over 500 RFAs were made within a 24-hour period, with 90 Victoria SES (VICSES) units providing support during the event. Power outages impacted approximately 20,000 customers. Agricultural infrastructure supporting primary production was damaged along with reports of significant vegetation loss.

Multiple watch and act notifications were issued across North East Victoria during the incident due to the risks associated with destructive winds.

7	26/08/2024 - 03/09/2024	Severe wind and rainfall, minor-to-moderate flooding, prolonged power outage	Tasmania	TAS SES

In late August 2024, the 3 regions of Tasmania experienced a series of weather events, with the Northern and Northwest regions recording wind gusts over 125 km/h. These winds resulted in uprooted trees, building damage, and widespread power outages. Riverine flooding occurred, peaking on the evening of 3 September.

By 4 September, weather conditions stabilised with a reduction in wind and rain, however approximately 13,000 properties remained without power. Although there were no deaths or significant injuries reported, several properties within flood-prone areas became temporarily isolated. Disruptions affected telecommunications, closed roads, and interrupted power supply to locations such as the North West Regional Hospital.

Tasmania SES (TAS SES) staff and volunteers responded with incident management facilities operating in all three regions and at the State Operations Centre in Hobart. Although the AFAC NRSC retained situational awareness there were no interstate assistance requested, with all TAS SES staff assigned to incident management roles. This period was marked by multiple severe weather events over 14 days and is considered the most substantial incident for the state since the October 2022 flood/storm event. The situation involved extensive power and infrastructure disruptions, impacting operational response and short-term recovery activities overseen through the Department of Premier and Cabinet.

Multiple alerts and warnings were issued, including 7 emergency warnings, 24 watch and acts, and 68 advice notifications throughout the incident.

8	27/08/2024 - 06/09/2024	Severe wind and rainfall	VIC	VICSES

A major low-pressure system brought strong winds to alpine and coastal Victoria, with daily cold fronts causing widespread damage over a 9-day period from August to September 2024.

One fatality was reported following a tree falling onto a tourist cabin in Moama there are no other known reports of injuries.

With more than 9,500 RFAs logged statewide, requests ranged from residential and property damage to rescues and flood response. Property damage led to displacement or roof loss, multiple uninhabitable homes, a bathing box collapse, and significant coastal erosion. Schools and kindergartens closed during high-risk days.

At the storm's peak, over 180,000 customers lost power, with outages lasting several days. Telecom disruptions also occurred. Public transport routes faced closures or delays due to outages and debris caused from fallen trees.

This event prompted some of Victoria's first warnings for coastal hazards including high tides and hazardous surf, with unusually long warning periods due to repeated fronts.

VICSES units were highly active, with emergency management structures across regions activated. Multiple public weather warnings focused on wind and coastal risks were issued. With member fatigue increasing due to the widespread, prolonged nature of the event, the AFAC NRSC was activated resulting in New South Wales crews assisting.

No.	Date	Incident	Location and Jurisdiction	Agency
9	03/10/2024 - 14/01/202	Conflict - Repatriation Flights	Lebanon	DFAT and NEMA

Following the suspension of most commercial flights from Beirut, DFAT activated its crisis response mechanisms to assist Australians, PRs and their families to depart Lebanon for Cyprus before onwards travel to Australia. A total of 14 Australian Government assisted departure flights arrived in Australia during October. The AUSRECEPLAN was activated from 3 October 2024 to 14 January 2025 to facilitate Australian Government assistance for the domestic reception of Australians, PRs and their families. The New South Wales, Victorian and Queensland governments, together with the AFP, Department of Home Affairs, ABF, DHDA and Services Australia, established reception points within Sydney, Melbourne and Brisbane airports to provide support and services to returning people. Officers from NEMA and DFAT's state office met each flight to aid passengers on arrival into Australia. NEMA convened 4 NCM meetings with Australian Government and jurisdictional stakeholders to ensure collective situational awareness during the event, with 2 NCM meetings held prior for initial planning.

10	16/10/2024 - 31/10/2024	Severe storm, possible tornado, power outages	Broken Hill, NSW	EUSFA

On 16 October 2024, a storm with strong winds caused significant damage to energy infrastructure in far west New South Wales, resulting in power outages affecting over 10,000 connections and highlighting vulnerabilities in remote community support and emergency management systems. The incident damaged 7 Transgrid towers, leading to service disruptions in Broken Hill, with all customers off power up to 49 hours, and the areas of Menindee, White Cliff, Tibooburra, and Wilcannia, with all customers off power up to 80 hours. Full restoration of power was achieved by 31 October. Pre-existing socio-economic disadvantages were identified as amplifying the impacts on vulnerable groups across the area.

A post-incident review of the emergency management response identified strengths within restoration efforts, within agency leadership, and overall adaptability by agencies involved.

However, key challenges were also identified included unclear roles and responsibilities, contributing to confusion during emergency declarations; variable coordination effectiveness, particularly in unincorporated or less-supported regions; inconsistent and unreliable public messaging; and limited data sharing, hindering support for medically vulnerable populations.

Recommendations from the review included clarification of operating doctrines and clearly defined coordination roles during emergencies; establishment of formal staffing protocols and enhanced resource allocation during crises; integration and streamlining of public communications frameworks; and improved planning for transitions from response to recovery phases.

Further analysis revealed systemic issues such as ambiguous agency responsibilities and ineffective public information management, with review recommending enhancing notification processes and clarifying role definitions.

11	17/10/2024 - 12/12/2024	Severe storm and energy supply disruption	Roxby Downs, Leigh Creek, Olympic Dam, Hawker, Quorn, SA	SASES

On 17 October 2024, a severe storm hit Far North South Australia, bringing wind gusts over 130 km/h, sandstorms, and more than 250,000 lightning strikes. The event caused extensive power outages to over 4,000 homes, destroyed 19 transmission structures, and severely damaged the 132kV line from Davenport to Leigh Creek, leaving several towns without electricity.

The South Australian Government declared an electricity supply emergency on 19 November, extending it until 12 December 2024. Many houses lost roofs with schools and businesses facing prolonged closures due to power loss, affecting food storage and residents reliant on medical equipment. Mining operations at Olympic Dam were temporarily paused, with alternative power generation equipment required. Due to the extent of the damage, restoring full power took approximately 14 days. Hospitals and other critical infrastructure and facilities relied on backup generators.

The Bureau of Meteorology issued multiple warnings for damaging winds, thunderstorms, and large hailstones across affected districts, and the South Australia SES (SASES) advised safety measures and provided ongoing updates. The SASES responded to 42 incidents, with assessment and repair made challenging bythe vast geographical area involving approximately 30,000 km^2 of the Flinders Ranges.

No.	Date	Incident	Location and Jurisdiction	Agency
12	16/11/2024 - 17/11/2024	Bushfires	Kadnook, VIC	CFA

On 16 November, a fast-moving fire of unknown cause started in a blue gum plantation near Kadnook and burned 1,300 ha over 2 days.

The fire resulted in one house destroyed and one house uninhabitable due to fire damage, with 2 non-residential structures and 11 other assets including fencing, power poles, and a bridge damaged, with a total 475 ha of blue gum plantation impacted. No wildlife impacts were reported, with several reports of unconfirmed livestock impacted.

The blaze was fuelled by strong winds, high temperatures, and rough terrain, which then spread rapidly through bushland and plantations, forcing several residents to seek refuge at emergency relief centres. Local community members had little time to respond, though a wind change spared some properties.

There had been an increase in fire frequency due to dry conditions noted prior to this event with local fire services urging preparedness. The Country Fire Authority (CFA) led the response to this Level 3 fire from Horsham with support from Department of Energy, Environment and Climate Action (DEECA). Community warnings were issued throughout the incident.

No.	Date	Incident	Location and Jurisdiction	Agency
13	16/11/2024 - 25/11/2024	Bushfires	Chapplevale, VIC	DEECA

On 16 November 2024, a fire as the result of a private property burn off escape started in Chapplevale which, under hot and dry conditions, with strong northerly winds, burned approximately 740 ha over 9 days. Due to the steep and in parts boggy terrain, a combination of hand trail, dozer and hose lay options were applied to control the fire. Previous fuel reduction burning played a role in slowing the fire and aiding with suppression. There were zero impacts identified, other than closures of the Great Ocean Road, the evacuation of campgrounds and evacuation and the closure of the Great Ocean Walk. DEECA led the response to this Level 3 fire from Colac, with support from the CFA. Community warnings were issued throughout the incident.

No.	Date	Incident	Location and Jurisdiction	Agency
14	16/11/2024	Severe storm	Carinda, NSW	NSW SES

On 16 November 2024, a cold front moved across New South Wales, causing damaging winds and heavy rain, with 490 incidents received by NSW SES. There were no deaths or injuries reported, and no displacement or isolations reported.

Carinda (population 165) in Walgett Shire, was particularly damaged, with intense storms damaging 20 residential buildings and 8 community premises. The general store was destroyed, and power outages occurred after 6 poles fell; Essential Energy restored electricity by 19 November with generators. The Carinda pay phone remained out of service for several days. Potable water and communications were disrupted but quickly restored with emergency measures. Asbestos risks identified were managed by the Fire and Rescue New South Wales (FRNSW) and handed over to Walgett Shire Council and Environment Protection Authority for removal.

The response involved 48 NSW SES volunteers, 16 IMT members, interagency support from several state government agencies, and various emergency resources, with a virtual Emergency Operations Centre (EOC) activated during the event. A temporary Community Hub was established at the Community Hall, with several community meetings held to provide updates and safety advice to residents.

There were 21 advice-level warnings were issued, and DRF was made available to the Walgett LGA.

No.	Date	Incident	Location and Jurisdiction	Agency
15	16/12/2024	Bushfire	Creswick, VIC	DEECA

A Total Fire Ban was in place for the western part of Victoria with hot dry gusty Northerly winds, when this fire of suspicious cause began in Creswick State Forest and burned approximately 195 ha. Zero other impacts were reported. With the incident occurring during high temperatures exceeding 40 °C across much of the state fire crews were quick to manage the blaze, with residents advised to avoid the area. The fire started relatively late in the day under a northerly wind and hit by a southerly wind change. DEECA led the response to this Level 3 fire from Ballarat, with approximately 300 personnel and resources responding to this incident, including support from the CFA. Emergency warnings were issued throughout the incident. A relief centre was established to support residents.

No.	Date	Incident	Location and Jurisdiction	Agency
16	17/12/2024 - 16/01/2025	Earthquake, Tsunami Warning	Vanuatu	DFAT and NEMA

Following a 7.3 magnitude earthquake impacting Port Vila and surrounds, Vanuatu, DFAT activated its crisis response mechanisms to assist Australians, PRs and their families to depart Vanuatu for Australia. At DFAT's request, the AUSASSISTPLAN was activated to coordinate the provision of humanitarian relief supplies to support local emergency services and to deployment of a DART and three AUSMAT from 17 December 2024 to 16 January 2025. The ADF supported the deployment of the first DART and AUSMAT, providing strategic lift support to cargo and personnel. At DFAT's request, the ADF supported the uplift of Australians, PRs and their families from Vanuatu on returning humanitarian flights.

17	17/12/2024 - 16/02/2025	Bushfire	Grampians National Park, VIC	CFA

Between December 2024 and February 2025, western Victoria experienced a series of devastating bushfires, the most significant of which affected the Grampians (Gariwerd) National Park. Ignited by dry lightning strikes, these bushfires prompted an extensive response from fire agencies - Forest Fire Management Victoria (FFMVic), CFA and FRV, supported by emergency management agencies and interstate resources. Although the bushfires were declared contained in early February 2025, firefighting efforts continued alongside the recovery activities across 4 LGAs.

The fires impacted 4 homes, along with 41 outbuildings and caused extensive property and agricultural damage, environmental destruction, and economic hardship for local communities, along with major challenges to biodiversity and wildlife conservation.

Although an estimate 80% (approx.135,000 ha) of the Grampians (Gariwerd) National Park was scarred by fire, previous fuel treatments and mosaic burning within the national park aided suppression efforts and, in some areas, reduced fire severity on the natural environment.

18	15/01/2025 - 16/01/2025	Severe storm	Canberra, ACT	ACT ESA

On Wednesday, 15 January 2025 at 4:30 pm AEDT, a weather front moved through the Australian Capital Territory from the Northwest, bringing heavy rain and high winds. Canberra Airport experienced a wind gust of 78 km/h, and Cowra and Wagga Wagga (New South Wales) experienced wind gusts of 107 km/h and 106 km/h respectively. The Australian Capital Territory received significant rain in the afternoon and evening.

As the weather front continued, a second severe thunderstorm affected the southern suburbs of Canberra, with the intense rainfall and strong winds leading to 334 RFAs in total. Multiple general and detailed severe thunderstorm warnings were issued by the Bureau of Meteorology. Whilst there were no injuries or deaths reported, numerous houses were damaged, resulting in community disruption.

In total, 152 personnel were deployed across the incident over the 2 days, including IMTs and field personnel, from agencies including ACTES and ACTRFS, and the Australian Capital Territory Fire and Rescue (ACTFR), with the NSW SES assisting through local cross border arrangements. There were no requests for external support through the AFAC NRSC, with localised ADF Liaison Officer participation from the Joint Operations Support Staff (JOSS) within a virtual ECC.

No.	Date	Incident	Location and Jurisdiction	Agency
19	15/01/2025 - 18/01/2025	Severe storm	Sydney, Hunter Valley, Maitland, Snowy Valleys, NSW	NSW SES

Severe thunderstorms, triggered by an inland trough and unstable air mass, impacted New South Wales from 15-18 January 2025. The storms affected multiple regions, including the North Coast, Mid North Coast, North West Slopes and Tablelands, Hunter Valley, Maitland, Sydney, Illawarra, Snowy Valley, and Riverina, causing heavy rain, high winds, and extensive lightning. Severe weather led to minor-to-moderate flooding in 10 river catchments and caused 9,420 incident reports including 11 flood rescues activations, with one fatality near Cowra and several injuries reported.

No evacuation centres were established, with temporary accommodation provided for one family. Flooding closed 2 bridges, temporarily isolating Wingham. Damage assessments counted 987 affected properties (3 destroyed), along with significant damage to public facilities and schools. Power outages impacted over 226,000 properties, including the Newcastle Airport and Royal Australian Air Force Williamtown Airbase, some lasting up to 7 days, limiting civilian flights and impacting military operations. Disruptions impacted telecommunications, as well as water services in the Hunter Water network, though water quality was maintained. There was a 5-hour Public Safety Network (PSN) outage at Wallaroo Hill, but emergency coverage continued. Rail lines were affected by fallen trees and flooding. Rural towns lost potable water due to outages, and hospitals operated on backup power where necessary. Economic impacts included infrastructure and agricultural losses totalling over $860,000 across several LGAs.

The NSW SES operated IMTs regionally, deploying 2,650 personnel with support by interagency teams. Emergency equipment included cells on wheels, high clearance vehicles, and Remotely Piloted Aircraft Systems. Authorities issued 179 advice, 21 watch and act, and one emergency warning throughout the incident. DRFA funding was activated for 21 LGAs across the affected areas.

20	27/01/2025 - 11/02/2025	Bushfire	Little Desert National Park, Dimboola, VIC	DEECA

A bushfire in western Victoria, sparked by dry lightning in Little Desert National Park, burned approximately 95,000 ha over a 15 day period. The fire destroyed the Little Desert Nature Lodge and 2 homes near Dimboola. Rapidly spread by hot, windy conditions, the fire travelled over 40 km on 27 January 2025 afternoon, with the fire generating its own thunderstorm for a period. At its peak, the fire spread 13 km in 27 minutes, averaging an exceptional forward rate of spread of 29 km/hr for this short period. This prompted evacuation orders for Dimboola residents, a regional Victorian town with a population of over 1,600 people, and significant efforts to undertake asset protection within the town.

Approximately 190 evacuees registered in Horsham, with community members sheltering in vehicles, and approximately 70 persons sheltering in place at local hospitals and aged care facilities.

No injuries or fatalities were reported. DEECA led the response to this Level 3 fire from Horsham. Support was provided from the CFA, and with significant fatigue levels across the organisation due to the ongoing Grampian fires additional resources were requested to support operations, leading to interstate support from New South Wales and South Australia.

21	27/01/2025 - 12/02/2025	Tropical Cyclone, Flooding	North Queensland, Far North QLD	QPS

See North and Far North Queensland Tropical Low Case Study

No.	Date	Incident	Location and Jurisdiction	Agency
22	30/01/2025	Lithium Battery Warehouse Fire	Cheltenham, VIC	FRV

On 30 January 2025 at approximately 8:30 am ADST, FRV responded to reports of a structure fire at 162 Chesterville Road, Cheltenham. On arrival, FRV crews were presented with a large column of black smoke emanating from the structure and projecting itself in a northerly direction over businesses, one being a large vegetable grocery store.

A community advice warning was issued at approximately 8:40 am ADST by the incident controller for local residents due to large amounts of smoke in the area. One of the fire effected structures housed approximately 3000 lithium-ion batteries, small plant machinery and a workshop. It was identified that the water runoff was contaminated due to the lithium-ion batteries that were burning. FRV implemented strategies and tactics to limit water run-off while still progressing efforts on extinguishing the fire and protecting surrounding structures.

The incident took 6hrs to bring under control and 24hrs to bring to conclusion, involving approximately 20 firefighting appliances. Roads in the immediate vicinity of the fire were closed, and local business were impacted.

It was a multi-agency response with Victoria Police (VICPOL), Ambulance Victoria, Environment Protection Authority (EPA), WorkSafe, VICSES, Department of Family, Fairness and Housing, Southeast Water and City of Kingston Council forming part of the Emergency Management Team.

There were no injuries of significance to firefighters or any member from other agencies or the community.

23	02/02/2025 - 04/02/2025	Severe weather	VIC	VICSES

On Sunday evening 2 February 2025, Victoria experienced significant weather activity with over 500,000 lightning strikes reported. Subsequent storms brought large hailstones, strong winds, and substantial rainfall, resulting in damage throughout the state. The Victoria SES received more than 1,000 RFAs, mainly involving fallen trees, building damage, and flood-related issues. Over half of these requests originated from the Barwon South West region, particularly from the South Barwon, Geelong, Corio, and Bellarine units.

Prolonged thunderstorm activity in Greater Geelong led to approximately 5 hours of severe weather, which included heavy rain, strong winds, and hail, causing widespread flash flooding, tree falls, and building damage.

Strong winds resulted in power outages affecting 45,000 customers, and a wind turbine collapse led to the shutdown of wind farm operations in the state's south-west. Additional impacts included a house destroyed by lightning, significant roof damage to community infrastructure, short-term road closures due to flooding, and the relocation of some residents. Multiple VICSES units were involved in storm response locally and through deployments to other areas.

These events occurred concurrently with ongoing heatwave conditions and bushfire activity in the Grampians area. High temperatures and winds contributed to increased fire activity, while lightning initiated new incidents. Storms introduced additional hazards and rainfall affected access to active incident locations.

24	03/02/2025 - 25/03/2025	Bushfires	North West TAS	TASFire

Dry lighting ignited more than a dozen fires in Tasmania's west on February 3. The fires on the West Coast were difficult to control due to the remote locations, vegetation type and arduous terrain, severely limiting access for ground crews and requiring winching of remote area teams to combat the fires. Approximately 100,000 ha was burnt throughout the West Coast due to dry lightning impacting the area. Areas of high conservation value such as ancient Huon Pines and several other high conservation stands of ancient trees were confirmed to be intact, and other than some scorching, they remain largely undamaged. The SOC stood up on 4 February 2025 to support the response and coordinate the multi-agency efforts required to combat the fires and protect life, property and the environment.

The Business and Executive Services Major Fire Business Support Response Plan was activated on 7 February 2025. Tasmania’s Interoperability Arrangements were activated on 26 February 2025 to provide additional resources in support of the fire response. Tasmania was supported by the AFAC NRSC which included 223 interstate and international resources deployed to assist with the West Coast complex fires.

In addition to the local fleet of aircraft, the NLAT and the NSW RFS B737 LAT provided significant support with strategic retardant drops. Risk mitigation strategies for new starts beyond the complex of fires, which included 4 aircraft in the north and 7 aircraft in the south, including a nationally contracted Black Hawk Helicopter. Approximately 160,000 L of water/product was used in selected areas to aid in containing the fires.

No.	Date	Incident	Location and Jurisdiction	Agency
25	08/02/2025 - 16/03/2025	Bushfire	Windy Harbour, WA	DBCA

Multiple fires began due to lightning on 8 and 9 February 2025 and continued for 34 days. These fires affected the Shire of Manjimup, including the towns of Manjimup, Pemberton, Northcliffe, Windy Harbour, and Walpole. The Chesapeake fire was the largest, covering approximately 38,000 ha out of an estimated total of 43,000 ha impacted by the fire complex.

Major roads such as the Windy Harbour access road and South West Highway were closed, causing disruptions to residents, tourists, industry, and freight. No fatalities, injuries, or house losses were reported. Evacuation centres operated in Pemberton and Manjimup, and community meetings were held in Northcliffe. Some local parks, trails, and businesses experienced closures and reduced income, especially in Windy Harbour.

Environmental impacts included the loss of Karri trees, possible decreases in honey production, increased erosion, weed dispersion, habitat loss, and risks to threatened species. Several Aboriginal heritage sites were within the affected area. Ongoing monitoring and recovery efforts are planned for both environmental and cultural restoration.

Over 1,000 personnel from Department of Biodiversity, Conversation and Attractions (DBCA), Department of Fire and Emergency Services (DFES), local government, and volunteer BFBs contributed to the response. The AFAC NRSC assistance was enacted, with a 32 person interstate team from New South Wales and the Northern Territory contributing to management and suppression activities, helping local Western Australia crews manage fatigue. Physical resources deployed included 278 appliances, 112 support vehicles, and 42 machines.

A total of over 195 alerts and warnings were issued during the fire event, comprising emergency warnings, watch and act, and bushfire advice notifications, as well as other general smoke alerts, and park closure notifications.

No.	Date	Incident	Location and Jurisdiction	Agency
26	19/02/2025 - 22/02/2025	Severe storm	Perth Hills, WA	DFES

On 19 February 2025, a severe thunderstorm impacted the Perth Hills region, triggering a multi-agency emergency response coordinated by DFES. The storm affected over 11,500 Western Power customers and caused extensive damage across the City of Swan, Shire of Mundaring, and Shire of Chittering. Public messaging using the Australian Warning System (AWS) was vital to communicate the impacts from the storm and identify community actions to stay safe.

DFES mobilised SES units from across the metropolitan area, responding to over 75 RFAs. Urban Search and Rescue (USAR) teams, paired with State Recovery personnel, conducted targeted damage assessments. Aerial reconnaissance supported impact mapping, aiding local governments in recovery funding applications.

Key infrastructure disruptions included power outages, telecommunications and internet failures, and compromised water and wastewater services. Western Power deployed over 130 staff and external crews, aiming to restore services by 22 February. Coordination with local governments was critical to ensure safe vegetation clearance and electrical repairs.

DFES State Recovery initiated support for local recovery coordination, including activation of DRFA and Premier's Relief Payments. Local governments were advised to collect evidence to support funding submissions. The City of Swan activated its Local Recovery Coordination Group, while Mundaring and Chittering opted for internal management pending further assessment.

Animal welfare concerns and biosecurity risks, particularly regarding the Polyphagous Shot Hole Borer, were addressed through liaison with Department of Primary Industries and Regional Development. No major health or safety incidents were reported. As response concluded, the focus shifted to the management of residual risks as DFES transitioned to local government lead recovery operations.

Numerous storm warnings were issued by the Bureau of Meteorology and DFES throughout the incident, including a severe thunderstorm warning and a storm watch and act.

No.	Date	Incident	Location and Jurisdiction	Agency
27	01/03/2025	Bushfires	Strathbogie Range, VIC	DEECA

With several deliberately lit fires reported in the general vicinity over the previous week, and with other fires reported with resources deployed to, a suspicious bushfire in the Strathbogie Ranges burned approximately 1,700 ha over a 3-day period. The fire burnt in forest fuels of around 20 t/ha except for in spots where a January 2024 storm had modified fuel structure, resulting fuel loads closer to 30 t/ha. Fire behaviour peaked around 4pm, with peak average rates of spread were around 792 m/hr with spotting distances up to 1,500 m. Zero reports of property damage or other impacts were received, with the rapid escalation of aviation resources leading to the successful defence of a significant pine plantation. Due to the extreme dryness of the fuels and the steepness of the terrain, response conditions were difficult, with southerly winds up to 55 kph reported, favouring fire spread overnight.

DEECA led the response to this Level 3 fire from Mansfield, with air operations including 2 LATs and one Sikorsky rotary wing. Community warnings were issued throughout the incident, including advice alerts for several nearby communities.

28	03/03/2025 - 14/03/2025	Cyclone, Flooding	Northern NSW	NSW SES

See Tropical Cyclone Alfred Case Study

29	03/03/2025 - 13/03/2025	Cyclone, Flooding	Brisbane, Sunshine Coast, QLD	QPS

See Tropical Cyclone Alfred and Associated Severe Weather Case Study

30	03/03/2025 - 11/03/2025	Bushfires	Flinders Ranges, Mount Remarkable NP, SA	CFS

The Wilmington Fire originated from a lightning strike located in inaccessible terrain within Mount Remarkable National Park. The fire commenced 3 February, was declared contained 14 February, declared controlled 23 February, and declared safe 11 March. Approximately 5,000 ha were affected.

There were no reported fatalities. However, 2 injuries were reported, including one significant burn sustained by a firefighter who required hospital treatment. No displacements of residents or loss of houses were reported, though 1,000 ha of private land were impacted.

The incident resulted in the closure of Mount Remarkable National Park and Alligator Gorge. While the economic disruption is not yet quantified, this national park serves as an important popular tourist attraction and campground, impacting local access roads to the campground that were closed.

Ecological impact included the burning of habitat supporting several threatened flora and fauna species, notably affecting 99% of the recorded population of an endangered orchid. Flora and fauna populations are projected to recover well, provided post-fire impacts are effectively managed.

Fortunately, no damage or disruption was reported for heritage or cultural sites and events. A total of 28 bushfire advice warnings were issued. The response involved 1,190 personnel from the CFS and the South Australian Department for Environment and Water. Two LATs were deployed on 7 February to establish retardant lines in inaccessible areas, with approximately 1.4 million L of water/product dropped. The operation was complicated by the inaccessible nature of the terrain.

No.	Date	Incident	Location and Jurisdiction	Agency
31	03/03/2025 - 25/05/2025	Flooding	North West NSW, Wanaaring	NSW SES

In March and April 2025, Central and Southern Queensland and Northern New South Wales were impacted by TC Alfred, ex-TC Dianne, and other low-pressure systems, leading to heavy rainfall and widespread flooding. Rivers such as the Paroo, Warrego, Culgoa, Narran, Birrie, Bokhara, Gwydir, Namoi and Barwon-Darling experienced significant rises, with Wanaaring recording a record 15.14 m flood. Several communities, including Wanaaring, Wee Waa, and Mungindi, experienced isolations, while Wanaaring reported increased mosquito activity and health risks.

NSW SES handled 339 incidents, including flood rescue activations and resupply, with no deaths or injuries. There were 5 properties that suffered varying degrees of flood damage, and some faced issues such as asbestos, effluent, and power outages. Multiple schools closed temporarily, and road closures affected over 160 routes, increasing travel times and disrupting services. Walgett issued a boil water notice, and areas including Wanaaring and Wilcannia faced utility outages.

NSW SES established IMTs at Tamworth and Dubbo, with over 800 NSW SES personnel and members from several agencies assisting in the response. Resources deployed included high-clearance vehicles, vessels, aircraft, and communications equipment. Agricultural support was coordinated through an IMT in Orange and aviation assistance for remote properties. A total of 340 warnings were issued throughout the incident, including 228 advice, and 112 watch and acts. DRFA assistance was activated for 6 LGAs.

This incident occurred concurrently with storms and flooding on the east coast of New South Wales post-TC Alfred, followed consecutive weather systems after TC Alfred and TC Dianne, and was compounded by the involvement of multiple weather systems and the large number of dispersed communities affected over a broad geographic area.

No.	Date	Incident	Location and Jurisdiction	Agency
32	10/03/2025 - 22/03/2025	Bushfires, dry lightning	South East SA	CFS

A lightning band moved across the lower south-east district of South Australia on 10 March 2025, with approximately 60 fires reported, with another 35 fires reported the following day. Over the subsequent 2 weeks, an additional 30 fires started, likely sleeper fires from the initial lightning event. A level 3 IMT was established to coordinate the fire response.

The most notable fires during this period included the Fox Fire burning a total of 608 ha; Woolmit/Reedy Creek burning total of 118 ha; and Nora Creina burning total of 82 ha.

The overall fire complex was declared controlled on 22 March. There were no reported deaths, injuries, displacement, or isolation. The Fox Fire resulted in four reported structure losses, with no other major losses reported. Some forestry plantations experienced impacts, and some habitat areas in a fragmented landscape were affected but not completely burned.

Multiple warnings were issued during the incident, including the Fox Fire with 13 total (2 emergency warnings, 3 watch and act, 8 bushfire advice); Nora Creina with 2 total (2 bushfire advice); and Woolmit/Reedy Creek with 8 total (8 bushfire advice).

The incident response was supported by Victorian CFA resources and Forest Industry Brigades, with LATs used for 2 drops. The incident occurred concurrently with multiple fires in neighbouring regions, and the situation was complex due to the high number of fires occurring in the short period.

No.	Date	Incident	Location and Jurisdiction	Agency
33	15/03/2025 - 17/03/2025	Bushfire	Montrose, Kilsyth, Mt Dandenong, VIC	CFA

On 15/03/2025, a bushfire of unknown cause occurred in the localities of Montrose and Kilsyth, 2 urban suburbs of Melbourne with a total population of over 17,000 residents. The fire burnt approximately 40 ha and destroyed one home and damaged another, with no other impacts reported. The fire's point of origin was near Dr Ken Leversha Reserve and grew rapidly due to strong winds before being contained by heavy rainfall.

At the time of the fire starting the ground was dry, with the last significant fire in the region approximately 30 years prior. The fire started early on 15 March afternoon under northerly winds and a high fire danger. Late on 15 March night and early on 16 March morning, unexpected southerly winds impacted the fireground and pushed the fire towards homes Most residents were allowed to return by 16 March afternoon, though some trees continued burning and hazardous conditions delayed full reopening of the area.

The CFA led the response to this Level 3 fire from Woori Yallock. Approximately 200 personnel responded, and the initial attack involved direct attack with 4 rotary wing helicopters deployed, 2 First Attack Dozers, 20 CFA Tankers, 40 FFMVic crew, and 2 Strike teams from FRV.

Evacuated residents took shelter at a relief centre in Kilsyth. This was an extremely visible fire within the Melbourne Metropolitan area, and VICPOL attended in support with multiple traffic management points, doorknocking where necessary, and the Air Wing supported overnight monitoring of fire activity. Community warnings were issued throughout the incident.

34	17/03/2025 - 19/03/2025	Bushfire	Ledge Point, WA	DFES

A bushfire was reported early on Monday 17 March 2025, with the ignition point identified at the side of Indian Ocean Drive. The fire moved at an approximate rate of 1.5 km/h in a west-northwest direction through coastal heath. It was declared a Level 2 incident, and control was formally transferred from the Shire of Gingin to DFES at 4:30 am WST on 18 March.

Containment strategies included backburning, use of existing fire mitigation burn scars, mechanical mulching ahead of the residential urban interface for Ledge Point, and aerial suppression. The fire ultimately covered 1,764 ha. No houses were lost, attributed to effective firefighting measures.

No injuries or fatalities occurred, although 50 individuals temporarily staid at the Lancelin evacuation centre. The incident led to the closure of Indian Ocean Drive and power outages affecting 600 homes and businesses. Economic impact was minimal, with damage limited to two power poles and a shed at another fire managed by the complex.

No significant impacts to the environment or Aboriginal cultural heritage values were reported. Approximately 250 personnel participated in the response over 48 hours, including local government BFBs, CFRS, VFRS, VFES, SES, WAPF, LG, DBCA, Main Roads WA, Salvation Army, SJA, DoC, DFES Support, air support (including the LAT), machinery, DFES State Logistics, Western Power, and Water Corporation.

Throughout the incident, multiple warnings were issued, ranging from bushfire advice for nearby areas to watch and act notices and emergency warnings in affected locations.

No.	Date	Incident	Location and Jurisdiction	Agency
35	21/03/2025 - 07/04/2025	Flooding	Western QLD	QPS
	See Western Queensland Surface Trough and Associated Rainfall and Flooding Case Study			
36	28/03/2025 - 15/04/2025	Earthquake	Myanmar	DFAT and NEMA
	A 7.7 magnitude earthquake on 28 March triggered landslides, structural collapse and infrastructure damage, at DFAT's request AUSASSISTPLAN was activated. Australia provided humanitarian relief supplies to local health services and deployed AUSMAT from 2-15 April. DFAT deployed a Crisis Response Team, which included a Liaison Officer for the AUSMAT team.			
37	30/03/2025 - 01/04/2025	Bushfire	Perth, WA	DFES
	From just after midnight on Sunday 30 March 2025 the passage of a severe thunderstorm resulted in lightning starting multiple bushfires across the DFES Metro North Coastal and Midwest Gascoyne Regions in the Shires of Dandaragan and Gingin. Fires ignited at Nilgen, Regan's Ford (2 sites), Red Gully, Quinn's Hill, and Mogumber Mission, and were consolidated as the 'Metro North Complex' that morning. There were no injuries or deaths reported, with 12 people displaced during the day. No property was lost thanks to effective firefighting tactics deployed by crews on the ground, including back burning. Disruptions included restricted access, smoke, road closures up to 48 hours and one damaged power pole. Although the closure of Brand Highway and Indian Ocean Drive could have caused potential supply chain disruption resulting in economic losses none were reported. A potential impact to Aboriginal cultural heritage near Moore River is under review. Around 400 personnel from various emergency services, local government, and support agencies responded, with air support including the LAT from Busselton, and state logistics teams. There were limited short term power outages to make the firefighting response safe. Resources were stretched due to the scale of the event, with widespread deployment from outside of the Metro North Complex region. There were 6 fires across 4 areas which qualified the incident as a 'complex'. Multiple warnings were issued throughout the incident, ranging from bushfire advice within the surrounding areas, to watch and acts, and emergency warnings across impacted areas.			
38	02/04/2025 - 02/06/2025	Flooding	Innamincka, Etdaunna, SA	SASES
	Unprecedented rainfall in South West Queensland sent high volumes of water into Cooper Creek, Diamantina River, and Warburton River, resulting in record floods across north-east South Australia. Water flow peaked at 286 GL/day on the Diamantina River and 782 GL/day on Cooper Creek. Subsequently, one homestead was fully flooded, five were isolated, and 18 pastoral stations had over 80% of paddocks inundated. Oil and gas producers sought SASES support to protect infrastructure and coordinated efforts with agencies minimised supply disruption from the Cooper Basin. Around 2,500 km of roads were flooded, closing major routes like the Birdsville and Strzelecki Tracks, isolating the Innamincka township. Pastoralists relocated thousands of cattle to higher ground before floodwaters hit, with support and joint efforts by stations, SASES, the NEMA and the National Aerial Firefighting Centre (NAFC) to engage Black Hawk helicopter support. Flooding also impacted Kati Thanda Lake Eyre, culturally significant river inlets, and many aircraft landing strips, Introducing challenges for community resupply. The State Control/Command Centre (SCC) operated for 62 shifts (2 April to 2 June 2025), and the IMT for 50 shifts. There were 12 SASES personnel rotations to Innamincka provided local support, and the Black Hawk flew 34 missions for essential resupply. Support came from various stakeholders, including the Royal Flying Doctors Service. The remoteness of the impacted areas made mapping, prediction, and logistics challenging. SASES issued flood advice and flood watch and act messages across the duration of the incident, inclusive of advising against travel until conditions improved. The Bureau of Meteorology issued flood warnings noting the steady recession of the waters.			

No.	Date	Incident	Location and Jurisdiction	Agency
39	01/05/2025	Structure Fire of large mattress store	Nunawading, VIC	FRV

On Sunday 5 January 2025 at approximately 2:30 am AEST FRV was responded to reports of a structure fire at 317 Whitehorse Road, Nunawading (Forty Winks). On arrival, FRV crews were presented with thick black smoke issuing and windows breaking due to heat from the Forty Winks outlet which was approximately 20 m x 50 m tilt slab construction building.

A community advice warning was issued at approximately 3:00 am AEST by the incident controller for local residents due to the large amounts of smoke in the area. The incident took 4 hours to bring under control and 40 hrs to bring to conclusion, involving approximately 20 firefighting appliances. Roads in the immediate vicinity of the fire were closed, and local business were impacted.

It was a multi-agency response with VICPOL, Ambulance Victoria, EPA, WorkSafe, Yarra Valley Water and Whitehorse City Council forming part of the Emergency Management Team.

Through good management of the incident there were no injuries of significance to firefighters or any member from other agencies or the community.

No.	Date	Incident	Location and Jurisdiction	Agency
40	19/05/2025 - 23/05/2025	Major flooding	NSW	NSW SES

Between 19 and 23 May 2025, a coastal trough and upper low resulted in significant rainfall along the New South Wales coast, causing extensive flooding, storm damage, and coastal erosion. Several daily and multi-day rainfall records were surpassed, with some areas recording more than 500 mm in some locations. Major rivers, including the Manning, reached record levels, leading to widespread flooding across numerous communities.

The NSW SES responded to 8,895 incidents, including 806 flood rescue activations and 416 resupply requests for isolated communities. There were 5 fatalities attributed to the flooding remain under investigation. Of over 12,000 property assessments conducted, more than 3,100 buildings sustained damage, with 1,238 deemed uninhabitable. Public infrastructure was severely impacted, resulting in the closure of schools, early childhood centres, roads, washout of bridges, and disruptions to rail and ferry services.

Power outages affected more than 6,400 properties, while water supply and telecommunications services experienced interruptions. Emergency accommodation was provided to community members, with more than 50,000 individuals in isolated areas affected. The Insurance Council reported over 1,600 claims and estimated road closure costs totalled $29 million.

The response was led by NSW SES with thousands of personnel from NSW SES, fire, police, ambulance, and other agencies, including interstate and international support via AFAC NRSC arrangements, were involved in response efforts, alongside over 1,000 community volunteers.

A total of 1,209 weather warnings were issued. At the peak of the event, 4,700 residents were subject to emergency warnings, while up to 403,000 people were under watch and act advisories.

DRFA assistance was activated for 25 LGAs, and additional federal assistance was requested due to the scale, geographic breadth, and complexity of the disaster following months of ongoing storm and flood operations throughout the state.

7. Major incidents 2024–25 case studies

The following case studies have been selected by state and territory emergency services organisations.

CASE STUDY 1 | NEW SOUTH WALES

Tropical Cyclone Alfred

CASE STUDY 2 | QUEENSLAND

Tropical Cyclone Alfred and associated severe weather

CASE STUDY 3 | WESTERN QUEENSLAND

Surface trough and associated rainfall and flooding

CASE STUDY 4 | QUEENSLAND

North and far north queensland tropical low

CASE STUDY 1 | NEW SOUTH WALES

Tropical Cyclone Alfred

The NSW SES is the lead agency for flood, storm and tsunami within New South Wales. This includes providing warnings, assets and personnel to respond to the impacts of these hazards, including coastal erosion caused by storm.

Tropical Low 22U developed in the Coral Sea off the Queensland coast on 21 February 2025. By 23 February, it had intensified into a TC and was officially named TC Alfred. The system reached its peak as a Category 4 Severe TC on 27 February, moving steadily southward. Between 3-14 March, TC Alfred affected the Northern Rivers, Mid North Coast, and New England/ Northwestern regions of New South Wales. The event brought severe storms, flooding, and coastal erosion, with destructive winds (gusts up to 120 km/h recorded) and heavy rainfall (some locations exceeding 250 mm), causing significant damage to homes, businesses, and infrastructure throughout the state.

On 4 March, TC Alfred abruptly turned westward, approaching the south-eastern Queensland coastline and the Brisbane region. For several days, TC Alfred followed an erratic path toward the coast, at times looping back on itself, before finally making landfall. TC Alfred crossed Moreton Island as a Category 1 cyclone in the early hours of 8 March, weakened to an ex-TC as it crossed Bribie Island, and then reached the mainland later that night.

Some early forecasts had TC Alfred making landfall on the northern New South Wales coast, although the most likely track was for the system to make landfall north of Brisbane. The Bureau of Meteorology issued a Cyclone Watch for New South for the first time since (briefly) for severe Tropical Cyclone Oma in 2019, and for Tropical Cyclone Nancy in 1990.

What happened?

During the period of 12:00 am AEST 3 March to 3:00 pm AEST 14 March 2025, TC Alfred affected the Northern Rivers, Mid North Coast, and New England/North West areas of New South Wales, causing severe storms, floods, and coastal erosion. The TC brought destructive winds, heavy rain, and major flooding, resulting in extensive damage to homes, businesses, and infrastructure. The NSW SES coordinated emergency responses with other agencies. From 8-10 March, widespread rainfall ranged from 70-130 mm, with some areas exceeding 250 mm, leading to moderate to major flooding in the Northern Rivers and Mid North Coast regions. Destructive gusts up to 120 km/h were recorded, especially in the Northern Rivers area before TC Alfred made landfall.

Figure 15. Map identifying LGAs impacted across New South Wales and Queensland from TC Alfred.

Figure 16. Map identifying LGAs impacted by flood within New South Wales from TC Alfred.

How did we respond?

NSW SES established 3 IMTs across the state from 3 March 2025:

- Goonellabah ICC, covering from the Queensland border to Tabulam and Casino in the west and to Urunga in the south.
- Metford ICC, covering the area Nambucca in the north, to Wauchope in the west, and the Central Coast in the south.
- Tamworth ICC covering the central parts of the state from the Queensland border Mungindi in the west, Tenterfield in the east and Tamworth to the south.

On Sunday 2 March, the SCC was activated to provide support to IMTs across the state. The mission of the SCC was to maintain overall monitoring of the management of the incident, strategic coordination and support and communications and information to state level stakeholders. The SCC commenced planning to scale-up operations later in the week, including the request for interagency and functional area liaison officers.

EOCs were also established to ensure a coordinated response across agencies (including councils) and functional areas, including the New South Wales State Emergency Operations Centre (SEOC), the North Coast Regional Emergency Operations Centre, and Local Emergency Operations centres including Port Macquarie, Mid Coast, Coffs Harbour, Lismore, and Tweed Heads.

NSW SES received a total of 7,786 incidents for this event, including 90 flood rescue activations. Most incidents occurred in the Ballina, Casino, Coffs Harbour City, Grafton City, Lismore City, Mullumbimby, Tweed Heads, Tweed Coast and Yamba areas. Over 1,4197 calls were received by the New South Wales SEOC, mainly relating to sandbagging and storm response.

Throughout the response, NSW SES conducted critical flood rescue operations, storm and water damage response operations as well as resupply operations to isolated communities, ensuring essential supplies such as food, water, and medicine reached those in need. Volunteers also supported damage assessments across affected areas, leading multi-agency teams to evaluate the extent of destruction and assist in planning for recovery efforts.

Resources

Over 3,300 NSW SES members participated in the response to TC Alfred as part of a multi-agency approach to this natural hazard event. Over 790 personnel were also deployed from other agencies including from the Bureau of Meteorology, NSW RFS, FRNSW, SWPF, Surf Life Saving New South Wales, Volunteer Rescue Association, New South Wales Ambulance, Telco Authority, Transport for New South Wales, National Parks and Wildlife Service, ADF, New South Wales Health, Welfare Services Functional Area (WelFAC), Marine Rescue New South Wales, New South Wales Maritime, NEMA, ACTSES, New South Wales Department of Education, NSW RA, NSW EPA, EUSFA, Public Information Functional Area, and the Agricultural and Animal Services Functional Area.

Due to the cross-border nature of the event, NSW SES embedded a liaison officer within the Queensland SCC, and a liaison officer from the QPS was embedded within the NSW SES SCC to support in ensuring coordinated response and cross-border arrangements.

Multiple physical assets were deployed to assist within this event as identified in the Table 4.

Escalation and support

COMDISPLAN request

NSW SES engaged with NEMA to identify potential Australian Government non-financial assistance and facilitate a RFA for ADF support. New South Wales SEOC facilitated an additional RFA for generators from the National Emergency Management Stockpile.

ADF participation

NSW SES sent a Defence Assistance to the Civil Community request for fuel, and 320 personnel from ADF. The ADF deployed over 700 personnel and 120 vehicles and plant into northern New South Wales from bases in both New South Wales and Queensland. The ADF were tasked with supporting NSW SES response including in preparedness, doorknocking, resupply, logistics and initial recovery efforts.

Warnings

NSW SES utilised the AWS in response to TC Alfred, with all NSW SES warnings available on hazardwatch.gov.au, ses.nsw.gov.au and the Hazards Near Me App, as well as being posted on social media and emailed directly to relevant media and stakeholders. NSW SES issued warnings across 3 hazards – severe weather (storm), flood and coastal erosion. A total of 1,156 warnings were issued for the event.

NSW SES issued the first coastal erosion warnings and first severe weather warning – seek shelter now during this event.

Table 3. AWS warnings and alerts. Sourced from NSW SES

586 Advice	208	Monitor conditions
	14	Prepare now
	343	Stay informed
	3	Threat is reduced
	34	Reduced threat return with caution
457 Watch and act	84	Prepare to evacuate
	43	Prepare to isolate
	42	Avoid the area
	36	Stay indoors
	253	Do not enter floodwaters

Table 4. Physical assets. Sourced from New South Wales SES

Category	Agency	Description
Aircraft	Various – coordinated through NSW State Air Desk	Total of 9 aircraft on standby and being used throughout the event. Aircraft were stationed at Grafton, Casino, Port Macquarie and Amberley.
Remotely piloted aircraft systems (RPAS)	NSW SES, FRNSW, NSW RFS and Surf Life Saving	Agencies with RPAS present during the event and assisted with intelligence gathering and Rapid Damage Assessments (RDAs).
Strategic Assets	NSW SES	▪ High clearance vehicle x 5 ▪ Mobile Incident Control Centre (MICC) x 1 ▪ Internet connectivity trailer x 3
Mobile Radio Asset	Telco Authority	Maintain radio communications for emergency services in blackspots.
Flood mitigation	NSW SES	700,000+ sandbags to the north of the state (in addition to local supply).
Electricity	Various	20 x generators specifically for communication towers.
Other	NSW SES	45 other pieces of technology to support this event including the NSW SES MICC, NSW SES Cell on Wheels (CoW) and a mobile phone charging trailer.
Flood mitigation	NSW SES	Flood mitigation equipment (i.e. Flood Barriers) dispatched to Lismore and set up at Coraki.
Ambulance response	NSW Ambulance	2 x hazardous response ambulances.
Logistics Distribution	NSW RFS	RFS provided major logistical deployments across north-east NSW in support of SES, Police, WelFAC and Health, including: ▪ 2,700 bedding supplies deployed to Evacuations Centres across Coffs Harbour, Tweed Heads, Murwillumbah, Kingscliff, Evans Head, Byron Bay, Casino and Lismore ▪ provision of base camp infrastructure to the Major Evacuation Centre at Southern Cross University, including bedding, phone charging and back up telecommunications for up 1,000 persons ▪ established and maintained the Emergency Services Base Camp at Wollongbar TAFE with the provision of bedding, catering, portable ablutions, and management for 180 persons for 9 consecutive days ▪ 4 pozi-trac's with operators and sand bagging attachments in Coffs Harbour and Lismore ▪ 1,700 meals ready to eat provided to various locations at request of NSW Health, NSW SES and WelFAC ▪ multiple generator and backup communications (satellite) kits provided to RFS Fire Control Centres, Goonellabah ICC, ESO Base Camp and Mass Evacuation Centre ▪ RFS MICC deployed to Goonellabah ICC ▪ transport and logistics for NSW SES assets and equipment.

Figure 17. Screenshot from HazardWatch of all current warnings in New South Wales at 0800 on 8 March 2025.

Source: New South Wales SES.

96 Emergency warning	22	Evacuate now
	54	Evacuate before
	10	Move to high ground
	9	Shelter now
	1	Seek shelter now

Emergency alert

The emergency alert system was utilised for campaign messaging from 6-8 March. These campaigns were activated for communities within the northern and north-eastern areas of operations.

Emergency alerts campaigns totalled 38, with prepare to evacuate (22), evacuate now (5), evacuate before [time] (2), move to higher ground (5), and shelter now (4).

Cross border messaging

The Public Information Unit within the Goonellabah IMT liaised with Queensland counterparts (Queensland Police Service- Public Information and Warnings, within Emergency Management and Coordination Command) to ensure consistent cyclone/severe weather warnings and messaging across the border throughout the event.

Warning dissemination and media

NSW SES utilised various methods to disseminate warnings as well as safety messaging related to the event, with over 200 media interviews, 460 media enquiries, 22 Media releases, 20 press conferences, and through community liaison officers.

The use of NSW SES social media (Facebook, Instagram, X and LinkedIn) reached 4,009,518 community members, made 11,630,444 impressions, achieved 18,530 new followers, and received 17,602 shares on Facebook. Additionally, there were 547,271 hits on the NSW SES website.

Public Injury and Information Centre (PIIC)

The PIIC was activated from 6-10 March by New South Wales Police Force at the request of NSW SES to support the public information campaign. The PIIC received 754 calls, 933 registrations with Register-Find-Reunite (409 in New South Wales), 54 enquiries and 4 confirmed matches as of 3:00 pm AEST 10 March.

Impacts and consequences

There were a number of impacts across New South Wales due to TC Alfred.

Deaths and injuries

There was one reported death in New South Wales as a result of a vehicle being swept off the Wild Cattle Creek Bridge at Megan, north-east of Dorrigo during the event. Several ADF members were also injured when 2 ADF vehicles rolled over whilst on duty in Lismore. All members who were taken to hospital as a result of their injuries were later released.

Displacement or isolation

Between 6-9 March, 95 emergency warnings were issued across Northern Rivers and Mid North Coast. At the peak of the warnings (8 March) the following impacts were noted:

Table 5. Alerts and warnings. Sourced from NSW SES

Emergency warning evacuate now	
Number of people in warning areas	14,300
Number of dwellings in warning areas	6,600
Watch and act – prepare to evacuate – avoid the area	
Number of people in warning areas	37,400
Number of dwellings in warning areas	17,900

Isolations occurred throughout the event, mostly within the Lower Clarence Valley including Palmers Island and Palmers Road. NSW SES facilitated resupply to these areas, including large resupply drops.

Evacuations were supported with the opening of 22 evacuation centres across the regions including a Major Evacuation Centre at Southern Cross University in Lismore. Over 1,100 evacuees registered at the evacuation centres. Temporary bedding and food packs were distributed between evacuation centres as required. WELFA deployed Starlink kits in collaboration with the Telco Authority to support communications to evacuation centres during the cyclone.

Damage (house loss)

NSW SES conducted 2,563 damage assessments, of which there were 223 damaged premises, with one destroyed, 28 severe damage, 26 moderate damage, and 168 slight damage.

Community disruption

A total of 349 New South Wales schools were non-operational on 7 March due to possible weather impacts including 255 public schools, 51 Catholic Schools, and 43 independent schools. There were 457 early childhood education services in the impact area with a total of 324 reporting closed. A total of 17 TAFE campuses were non-operational. There were 2 TAFE campuses as well as Southern Cross University that were utilised as evacuation centres, and another TAFE campus used as a staging area for the NSW SES. The NSW SES proactively engaged with the Education Services Functional Area around facilities within the impact footprint. Most of these schools remained non-operational due to weather impacts on 10 March, and no further school outages were reported on 11 March.

Other reported community disruptions included:

- flooding impacts to Infinite Aged Care Facility in Tweed Heads, with 105 residents and 25 staff. Residents were relocated to upper floors of the facility, and 5 residents with higher care needs were transferred to nearby hospitals
- New South Wales Health pre-deployed staff to the area and provided staff to major evacuation centres.

Cost of damage

The Insurance Council of Australia released data on the number of claims on the 17 March, with over 63,600 claims following ex-TC Alfred received, the majority of which related to food spoilage, wind damage and water ingress.

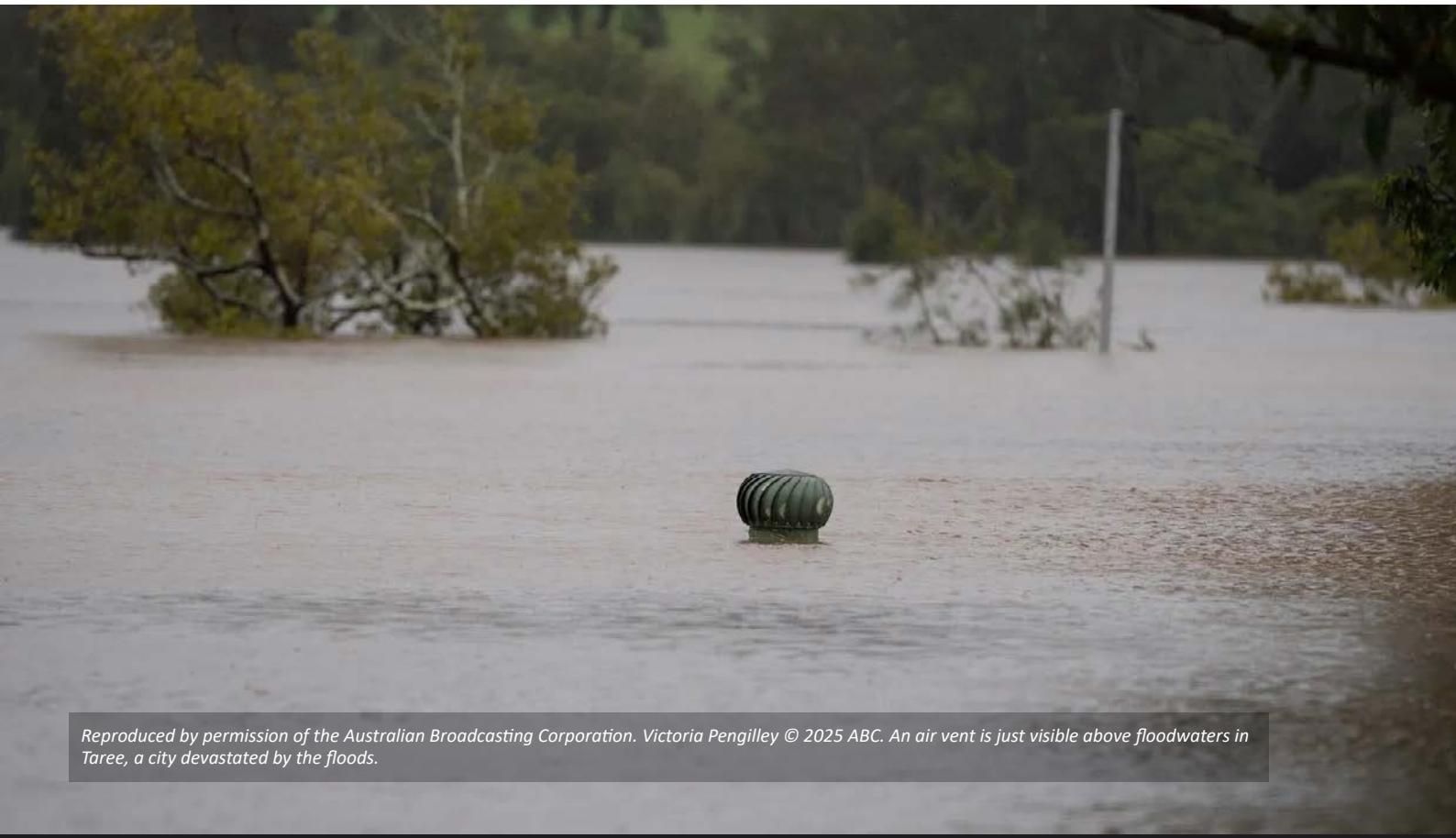
Table 6. Insurance claims. Sourced from NSW SES

State	Home	Motor	Commerical	Total
NSW	4,314	292	292	4,898
QLD	53,993	2,311	2,450	58,774
Grand Total	**58,307**	**2,623**	**2,742**	**63,672**

Extent of critical/infrastructure service disruption, road closures

Communications

There were widespread outages across communications carriers across Northern New South Wales affecting some landline, mobile and National Broadband (NBN) services. Restoration work was constantly undertaken throughout the



Reproduced by permission of the Australian Broadcasting Corporation. Victoria Pengilley © 2025 ABC. An air vent is just visible above floodwaters in Taree, a city devastated by the floods.

event. The Telco Authority Liaison Officer was often able to provide warnings of outages and NSW SES were able to then target and prioritise messaging to communities about to lose communications. The Public Safety Network (PSN) was was stable with mains power supporting all sites. PSN radio coverage for NSW SES and emergency service partners continued without disruption.

Electricity

At the peak, approximately 41,802 customers were without power in Port Macquarie to Tweed Heads (8 March). There were 10,000 customers that remained without power on 11 March, whilst 5,400 customers were without power on 12 March. Power restoration was reported as a priority for hospitals, evacuation centres, and water pumps. Essential Energy supported residents reliant on medical equipment and reported to NSW SES that every effort was being made to contact customers by text message and outbound calls. The ADF was tasked with welfare checks for 80 life support customers, as at 11:00 am AEST 10 March. There were 6 generators from NEMA that were delivered to the Essential Energy depot in Tweed Heads. Additional crews were pre-deployed to assist with the cleanup and restoration efforts once ex-TC Alfred cleared.

Water/Wastewater

Tweed Shire Council issued a boil water alert for residents in Terranora and some areas of Banora Point on 8-9 March. A water-filling station was established by Tweed Council at Bilambil Community Hall for residents to access clean drinking water. Residents in other towns across the Northern Rivers, especially Byron Bay and Lismore, were urged to conserve water and prepare for disruptions to water services over 24 hours (9-10 March) including storing at least 3 days of clean water, 10 litres person if possible.

Transport

Major impacts on transport routes from fallen trees, powerlines and flooding was reported in various locations. These included the M1 Pacific Motorway closed 8-9 March between Chinderah and Bangalow; the Gwydir Highway closed 8-10 March between Bals Nob to Tindal Rd; and Waterfall Way closed between Short Cut Rd and Maynards Plains Rd throughout the event.

Other impacts included the Sydney to Brisbane XPT train, which stopped running throughout the event, and coaches and bus services not operating north of Taree due to safety concerns; rail and freight operators coordinated recovery efforts, assessments and inspections as the Northern Line closed; Transport for New South Wales reported plans in place to support critical freight movements as roads re-opened and conditions improved; and a number of airports closed throughout the impact time of 7-9 March including Brisbane, Gold Coast, Sunshine Coast, Coffs Harbour, Lismore and Ballina.

There were reports of a surge in sunken or grounded vessels being supported by New South Wales Maritime.

Agricultural losses

Agricultural and Animal Services Functional Area (DPI and Local Land Services New South Wales) provided information in their final operational update for the event (16 March) identifying 51 RFAs.

Table 7. RFA summary. Sourced from NSW SES.

Assistance request	Assessment rejectect	Complete	In progress	Total
Disposal		2	1	3
Fodder	36	3		39
Other	2			2
Veterinary treatment	1	6		7
Total	**39**	**11**	**1**	**51**

The following screenshot (Figure 18) from Primary Industries Natural Disaster Damage Assessments (PINDDA) identifies a total loss of $59,226,534 caused by TC Alfred in New South Wales in March 2025 as based on 494 damage reports.

Extent of ecological function disruption

NSW SES provided 3 coastal erosion – watch and act – avoid the area warnings during the event for Fingal Head Beach at Fingal, Shelly Beach at East Ballina, and Sharpes Beach at Lennox Head. It is estimated a further 500 km of coastline between Coffs Harbour and the Sunshine Coast in Queensland suffered severe erosion.

Impacts on public administration

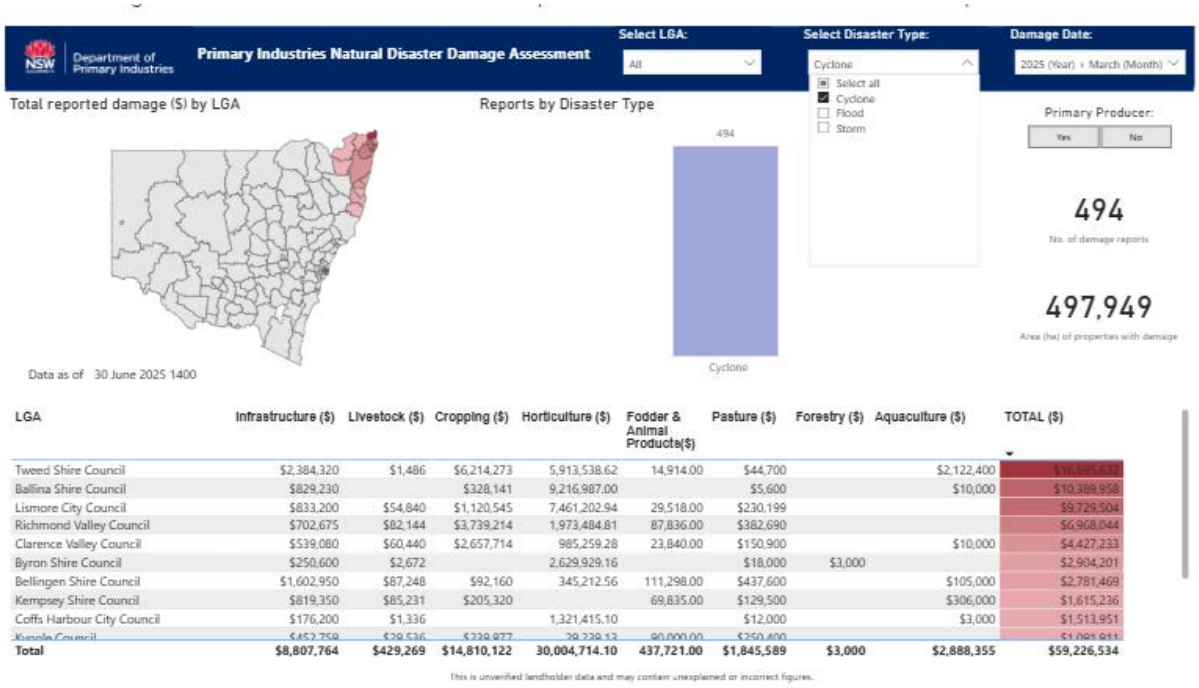
NSW SES deployed one liaison officer to Queensland to ensure consistency of information and cross border arrangements as the event spanned across the border. A 120-bed temporary accommodation facility (staging area) was established at Wollongbar TAFE to provide accommodation for emergency service personnel deployed to the impact area. This was due to the limited availability of accommodation services due to storm and flood impacts.

Concurrent, consecutive, or compound incident

TC Alfred resulted in consecutive campaign western flooding and flood response for NSW SES. Ex-TC Alfred and subsequent low-pressure systems, plus low-pressure systems resulting from ex-TC Dianne in Western Australia moved through Central Queensland, southern Queensland and Northern New South Wales throughout March and into early April 2025, bringing significant rainfall to large parts of Northern and Western New South Wales, resulting in river rises, as well as catchments in southern Queensland that flow into New South Wales.

Relief and recovery

NSW SES has a role in undertaking and coordinating initial



LGA	Infrastructure ($)	Livestock ($)	Cropping ($)	Horticulture ($)	Fodder & Animal Products($)	Pasture ($)	Forestry ($)	Aquaculture ($)	TOTAL ($)
Tweed Shire Council	$2,384,320	$1,486	$6,214,273	5,913,538.62	14,914.00	$44,700		$2,122,400	$16,695,631
Ballina Shire Council	$829,230		$328,141	9,216,987.00		$5,600		$10,000	$10,389,958
Lismore City Council	$833,200	$54,840	$1,120,545	7,461,202.94	29,518.00	$230,199			$9,729,504
Richmond Valley Council	$702,675	$82,144	$3,739,214	1,973,484.81	87,836.00	$382,690			$6,968,044
Clarence Valley Council	$539,080	$60,440	$2,657,714	985,259.28	23,840.00	$150,900		$10,000	$4,427,233
Byron Shire Council	$250,600	$2,672		2,629,929.16		$18,000	$3,000		$2,904,201
Bellingen Shire Council	$1,602,950	$87,248	$92,160	345,212.56	111,298.00	$437,600		$105,000	$2,781,469
Kempsey Shire Council	$819,350	$85,231	$205,320		69,835.00	$129,500		$306,000	$1,615,236
Coffs Harbour City Council	$176,200	$1,336		1,321,415.10		$12,000		$3,000	$1,513,951
Kyogle Council	$452,759	$28,536	$229,977	29,239.13	90,000.00	$250,400			$1,091,911
Total	**$8,807,764**	**$429,269**	**$14,810,122**	**30,004,714.10**	**437,721.00**	**$1,845,589**	**$3,000**	**$2,888,355**	**$59,226,534**

Figure 18. Screenshot of PiNDDA Report > Disaster Type 'cyclone'; March 2025.

Source: New South Wales SES.

relief efforts until handover to recovery occurs, including the activities of damage assessments, resupply, and washouts. Damage assessments were coordinated across flood affected communities from 11-13 March. All damage assessments were completed as at 5:00 pm AEST 13 March. NSW SES also completed all resupply efforts (with 81 requests for resupply). Further, NSW SES coordinated resupplying essential goods to isolated communities along the Lower Clarence River. Transition to Recovery reports for the Northern Rivers and Mid North Coast were completed by NSW SES and provided to the Recovery Coordinator and the New South Wales Reconstruction Authority. Formal handover to Recovery occurred as at 3:00 pm AEST Friday, 14 March. The NSW RA then became the lead agency for recovery operations for the areas impacted by TC Alfred, ensuring a local focus and enabling timely recovery.

Activation of the DRFA was jointly announced by the Australian and New South Wales governments for this event, with available assistance measures including personal hardship and distress assistance, counter disaster operations, restoration of essential public assets, concessional interest rate loans for small businesses, primary producers and non-profit organisations who suffered direct damage, freight subsidies for primary producers, grants for non-profit organisations, and extraordinary assistance measures including community recovery support fund, drainage reset program, recovery grants for primary producers, eligible small business, and non-profit organisations to help with recovery and reinstatement activities.

Due to the significant impact of the event, DRA was made

What did we observe?

There were 3 key observations made from the preparation, response and recovery from this event.

1. Preplanning and pre-deployment of resources are essential when preparing for cyclone response activities. Airports and road corridors will close as the weather system approaches due to risks from wind and rain.
2. Early, clear and consistent public messaging that includes the risks associated with all the hazards associated with cyclone encourages communities to prepare for the impact of a cyclone. By explaining the 3 hazards associated with cyclones (wind, flooding and coastal erosion) communities better appreciate the need to act early during a cyclone, rather than waiting for normal flood triggers to be met.
3. Timely and comprehensive engagement of stakeholders, especially elected officials, is critical for response to large scale events such as cyclones. This ensures the stakeholders are aware of the preparatory work being undertaken to protect and assist communities which builds confidence in the ability of the lead agency to control the situation. It also ensures that stakeholders are aware of, and sharing, appropriate public safety messages to their communities.

CASE STUDY 2 | QUEENSLAND

Tropical Cyclone Alfred and associated severe weather

Disaster management in Queensland remains locally led, to ensure disaster management remains relevant and responsive to communities' needs. The QPS continues to support local governments through district and state level groups with prevention, preparedness, response and recovery activities.

To prepare for the 2024-25 HRWS the QPS engaged with and supported local governments, state agencies, authorities, communities, and community groups to build local level capability and capacity. This included assistance to develop disaster management plans, delivery of training under the Queensland Disaster Management Training Framework, and exercising at the local, district and state level ahead of the HRWS. AFAC and the Bureau of Meteorology provided a seasonal outlook in December 2024, noting the likelihood of both unusually high temperatures and heatwaves and above average rainfall across much of Queensland over the early part of 2025. There was also an increased risk of severe TCs due to the warmer than average sea surface temperatures. Queensland's Disaster Management Arrangements (QDMA) were activated to respond to the major disaster event of TC Alfred in February to March 2025.

What happened?

Tropical Cyclone (TC) Alfred originated as Tropical Low 22U northeast of Cooktown in the Coral Sea on 21 February and initially tracked eastward before developing into a TC on 23 February. The system moved south along the Queensland coast, intensifying to a Category 4 cyclone before weakening in early March. On 4 March, TC Alfred abruptly turned westward, approaching the south-eastern Queensland coastline and the Brisbane region. For several days, the TC followed an erratic path toward the coast, at times looping back on itself, before finally making landfall.

TC Alfred crossed Moreton Island as a Category 1 cyclone in the early hours of 8 March, weakened to an ex-TC as it crossed Bribie Island, and then reached the mainland later that night.

The TC brought damaging wind gusts, intense rainfall that resulted in significant flooding, and severe coastal erosion affecting beaches along south-East Queensland. On 9 March, both riverine and severe flash flooding were observed from as far north as Hervey Bay (Wide Bay) down to Northeastern New South Wales, with rainfall totals ranging from 100 to 400 mm. Brisbane officially recorded a daily rainfall of 275.2 mm; the highest since the record set on 26 January 1974 by Tropical Cyclone Wanda (314 mm). As TC Alfred moved inland toward the Lockyer Valley, widespread riverine flooding and localised flash flooding persisted, with significant impacts reported.

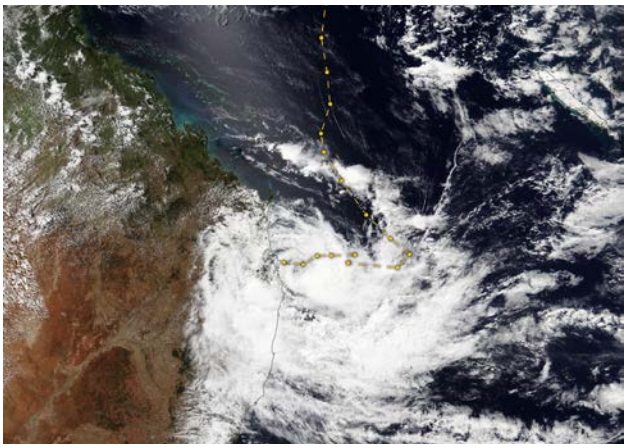


Figure 19. Satellite image of TC Alfred off the southeast Queensland coast.

Source: NASA Earth Observatory

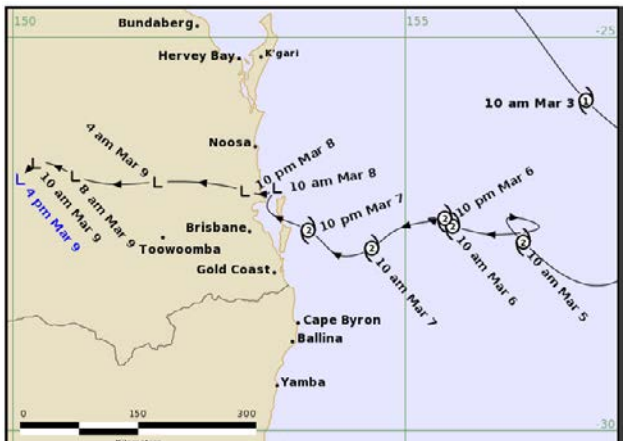


Figure 20. Track map of TC Alfred as it approached the Queensland coast.

Reproduced by permission of the Bureau of Meteorology. © 2025 BOM

More than 500,000 customers were without power over South East Queensland and North East New South Wales, with many remaining without power for multiple days. Power outages were generally attributed to the windy conditions, including trees or tree branches falling onto power lines.

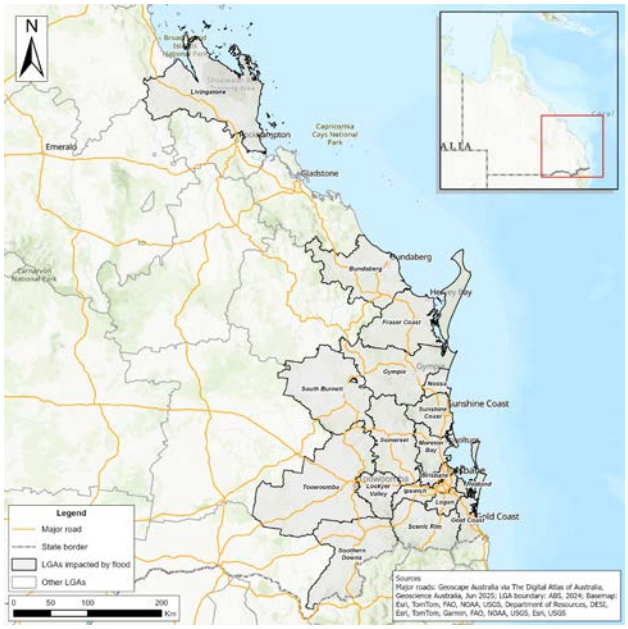


Figure 21. Map identifying LGAs impacted by flood within Queensland from TC Alfred.

Reproduced by permission of the National Emergency Management Agency. © 2025 NEMA.

The slow passage of TC Alfred southwards parallel to the Queensland coast produced large easterly swell that impacted the coastline of South East Queensland and North East New South Wales causing significant coastal erosion. It is estimated that millions of cubic metres of sand were scoured from beaches leaving escarpments up to 6 m high in some dunes during the prolonged event. Sites recorded significant wave heights of between 3-5 m along the Sunshine Coast. Further south from Brisbane to the North East New South Wales coast, significant wave heights of 5-8 m were observed. Large maximum wave heights were recorded offshore at Tweed Heads, Brisbane, and Coffs Harbour (see Table 8).

How did we prepare?

A number of state agencies prepositioned resources and specialist capabilities into likely impacted areas. A few examples include positioning of vehicles, equipment (e.g. generators, mobile telecommunications, remotely piloted aircraft systems), supplies (e.g. water, fuel) and personnel (e.g. telecommunications technicians, power crews, emergency services including swiftwater rescue) in high-risk areas. Hospitals in impacted areas reviewed and updated vulnerable persons and patients lists, with contact being made with dialysis patients and maternity patients.

Cross border engagement with New South Wales government agencies commenced early and was assessed as effective. This engagement enabled coordinated messaging and emergency alerts, and collaboration across the Queensland and New South Wales Reconstruction Authorities to coordinate recovery activities. It also enabled recognition of interstate trade licences to recruit tradespeople to assist with recovery efforts. Electricians, builders, plasterers and roofers were encouraged to provide details of their expertise and availability, with the information to be passed onto insurers.

Early engagement with business and industry to manage potential impacts was once again employed, including supermarkets and the transport and freight industry.

Table 8. Maximum storm surge, storm tide height, and storm tide height above the HAT.

Site	Max surge level (m)	Storm tide height (m)	Max storm tide above HAT (m)
Tweed Sand Bypass jetty	0.79	2.12	-0.10
Gold Coast	0.58	1.94	-0.06
Raby Bay	0.39	2.78	-0.24
Tangaloooma	0.47	2.51	-0.09
Brisbane River mouth	0.42	2.72	-0.06
Birkdale	0.42	2.70	-0.25
Shorncliffe	0.70	2.82	0.02
Scarborough Boat Harbour	0.49	2.55	-0.10
Golden Beach	0.53	1.56	-0.03
Maroochydore	0.94	1.67	0.12
Donnybrook	0.55	2.47	-0.05
Mooloolaba	0.44	2.18	-0.03

How did we respond?

There were 7 Disaster Declarations under section 64 of the Disaster Management Act 2003 that were made during the event for Brisbane, Gold Coast, Ipswich, Moreton, Sunshine Coast, Logan, and Toowoomba Disaster Districts.

The SDCC activated on Monday, 3 March. The response to recovery transition for ex-TC Alfred occurred on 13 March with the appointment of the State Recovery Coordinator, Colonel Justin O'Connor (Retired). Functions within the SDCC continued to support the recovery until 16 March. During this event, the SDCC activated for a total of 13 days, involving 23 agencies and 240 staff. Along with other specialist services, Storm Tide Advisors were deployed to the SDCC to provide advice and support on technical aspects of storm tide and wave monitoring.

During the response phase there were 229 AWS compliant warnings created by 19 local governments and published on the Disaster Management State Warnings Map. There were 27 emergency alerts issued by 10 local governments. Lessons identified in the North and Far North TL event informed improvements to public messaging for this event. This included the need for public messaging to be clear and consistent across all levels of government. The public was directed to disaster.qld.gov.au as the primary site for information during an event. Other communications strategies included over 10,000 door knocks and communications to all vulnerable social housing tenants in relevant locations. Communications to school staff and principals were sent in preparation for the weather event.

Over 1,000,000 sandbags were distributed to South East Queensland residents and businesses during the event. The SDCC worked with supermarkets and the transport industry to prioritise the restocking of essential items to allow supermarkets to reopen in impacted areas.

This included the provision of information on the Emergency Planning Declaration for 21 LGAs made by the Deputy Premier and Minister for State Development, Infrastructure and Planning, the Honourable Jarrod Bleijie MP on 4 March. The provision of information on Emergency Planning Declarations allowed for the 24/7 supply and restocking of food, medicines and essential goods to key industry and small business stakeholders, which enhanced restoration of businesses and essential supplies within the community.

Impact and consequences

Primary producers and livestock processes were impacted during the event with closures to transport infrastructure, including ports, and loss of power to livestock processing facilities. The lack of backup generators and appropriate fuel supply required state support during the event.

The connection of essential services to impacted communities as quickly and safely as possible following an event is vital to community relief and response efforts. Multiple closures occurred across the state and local government-controlled road networks with multiple hazards and adverse driving conditions reported due to debris and flash flooding. Telecommunications networks were impacted during the event by power outages.

Sewage treatment plants across the Redland City, Gold Coast City, Logan City, and Fraser Coast Councils, were disrupted, including overflow and/or general malfunctioning due to inundation of electrical equipment. Water treatment plants were also impacted as the flood waters peaked through creeks

Reproduced by permission of the Australian Broadcasting Corporation. Cameron Simmons © 2025 ABC. Supermarket shelves in Townsville were stripped bare on Sunday.

Reproduced by permission of the Australian Broadcasting Corporation. Aaron Kelly © 2025 ABC. Ollera Creek Bridge collapse.

and rivers. The reliable restoration of power to key bulk drinking water distribution sites was a key priority.

The embedding of agencies improved coordination and development of task specific working groups within the SDCC. This improved the engagement with business and industry groups impacted by the event. Dedicated communications with core stakeholders and clients to help them prepare for possible event impacts increased the effectiveness of the response operation.

As of May 2025, insurers had received more than 116,000 claims relating to damage following ex-TC Alfred totalling more than $1.2 billion – 37% of these claims have already been settled, totalling $146 million.

Primary producers reported damage to farm equipment and buildings, fencing, crops and stock, as well as erosion and loss of topsoil.

Environmental damage included the spread of invasive species such as fire ants. The slow movement of the cyclone and extensive sea swells resulted in significant coastal erosion with the City of Gold Coast reporting the loss of approximately 4 million cubic metres of sand washed away, the equivalent of around 320,000 semi-trailer loads.

The tourism industry was impacted by TC Alfred with cancellations across the region, estimated at more than $68 million in losses. The negative coverage around the effects of ex-TC Alfred impacted hotel bookings which in some cases reportedly reached levels not seen since the pandemic.

Despite some imagery widely disseminated on social media of certain Gold Coast beaches where sand has been swept out to sea, causing natural cliffs to form in the sand dunes, such effects are not generalised across the whole coast and affected beaches have already reopened with restoration works underway. The Queensland Government launched a major marketing campaign to support the state's $34.7 billion tourism industry leading up to, during, and after the Easter holidays.

Relief and recovery

Due to the significant impact of the event, DRA was made available in the LGAs of Brisbane, Bundaberg, Fraser Coast, Gold Coast, Gympie, Ipswich, Livingstone, Lockyer Valley, Logan, Moreton Bay, Noosa, Redland, Scenic Rim, Somerset, Southern Downs, Sunshine Coast and Toowoomba. AGRDP was made available in localities in the local government areas of Brisbane, Fraser Coast, Gold Coast, Ipswich, Lockyer Valley, Logan, Moreton Bay, Redland, Scenic Rim, Somerset, Sunshine Coast and Toowoomba.

What did we observe?

QPS has established a dedicated lessons management capability, supported by a Lessons Management Framework. A lessons management activity was piloted during the 2024-25 HRWS, with a focus on SDCC functions and operability. This activity, yet to be finalised, aims to improve processes and procedures within the SDCC in readiness for the 2025-26 HRWS.

The Office of the Inspector-General of Emergency Management (IGEM) is currently conducting a review into response operations over the 2024-25 higher risk weather season. This review is due to be finalised in October 2025.

More information can be found on their website.

2025 disaster events reviews | IGEM

CASE STUDY 3 | QUEENSLAND

Surface trough and associated rainfall and flooding

Disaster management in Queensland remains locally led, to ensure disaster management remains relevant and responsive to communities' needs. The QPS continues to support local governments through district and state level groups with prevention, preparedness, response and recovery activities.

To prepare for the 2024-25 HRWS, the QPS engaged with and supported local governments, state agencies, authorities, communities, and community groups to build local level capability and capacity. This included assistance to develop disaster management plans, delivery of training under the Queensland Disaster Management Training Framework, and exercising at the local, district and state level ahead of the higher risk weather season. The Bureau of Meteorology provided a seasonal outlook in December 2024, noting the likelihood of both unusually high temperatures and heatwaves and above average rainfall across much of Queensland over the early part of 2025. There was also replace with an increased risk of severe TCs due to the warmer than average sea surface temperatures. QDMAs were activated to respond to the major disaster event of the Western Queensland Surface Trough and Associated Rainfall and Flooding event in March to May 2025.

What happened?

The Western Queensland Surface Trough and associated rainfall and flooding event began on 21 March 2025, bringing heavy and widespread rainfall.

This rainfall was exacerbated in early April with the remnants from ex-TC Dianne as it moved from Western Australia to southern Queensland.

Persistent rainfall led to multiple Flood Warnings and significant flooding, particularly in the Channel Country and along key rivers including the Thomson, Barcoo, Bulloo, Paroo, Warrego, Diamantina, and Georgina Rivers, along with Cooper and Eyre Creeks. Between 22-31 March, extensive thunderstorms and rainfall occurred due to a low-pressure system, with parts of Western Queensland receiving up to 633 mm, resulting in the wettest March on record since 1900. Severe flooding affected major highways, isolating towns and remote communities, and caused livestock losses. River levels in places such as Windorah, Jundah, and Thargomindah likely surpassed historical peaks. Floodwaters continued moving towards Kati Thanda–Lake Eyre, while ongoing showers and storms led to additional flash

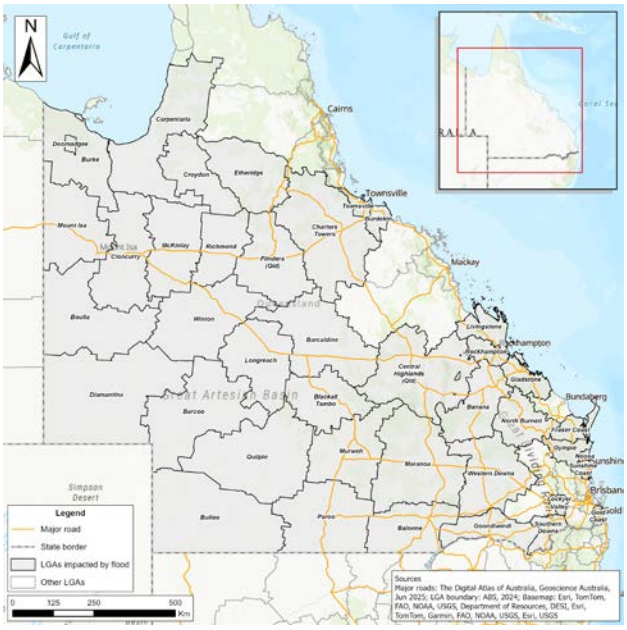


Figure 22. Map identifying all LGAs affected by flooding across Queensland during the event.

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flooding. The floodwaters led to the isolation of numerous communities across the region, including Adavale, Birdsville, Bedourie, Doomadgee, Eromanga, Jundah, Quilpie, Stonehenge, Windorah, Yaraka and Yowah.

The continued rain led to localised flash flooding, and new or renewed river rises as many catchments were already saturated and responded quickly to any heavy, short duration rainfall.

Widespread flooding resulted in isolation to numerous communities, including Adavale, Birdsville, Bedourie, Doomadgee, Eromanga, Jundah, Quilpie, Stonehenge, Windorah, Yaraka and Yowah.

How did we prepare?

A number of agencies prepositioned resources and specialist capabilities into likely impacted areas. This process included positioning of vehicles, equipment (e.g. generators, mobile telecommunications, remotely piloted aircraft systems, swiftwater craft and air assets), supplies (e.g. water, fuel) and personnel (e.g. roads, telecommunications technicians, power crews, emergency services) in high-risk areas. State agencies

engaged with communities regarding potential animal carcass disposal, providing guidance on animal welfare, nutrition and humane destruction.

QPS pre-deployed officers to assist identified vulnerable communities, impacted councils, and 118 SES personnel were sent into Central and South West regions with 11 assets (vehicles, flood boats).

How did we respond?

A Public Safety Preservation Act (PSPA) declaration for Adavale was activated on 27 March as the town was inundated by floodwater, impacting homes.

There were 2 Disaster Declarations under section 64 of the Disaster Management Act 2003 that were made during the event for the Charleville and Longreach Disaster Districts.

The SDCC was activated from 26 March to 9 April in response to the flooding across northern, western and southern Queensland. The event transitioned to recovery on 4 April following the 1 April announcement of Mr Stuart Mackenzie OAM as the State Recovery Coordinator for the event.

During this event, the SDCC activated for a total of 17 days, involving 14 agencies and 166 staff. The SDCC continued to provide support to recovery agencies until 7 April.

During the response phase of the Western Queensland Surface Trough and associated rainfall and flooding event, there were 103 AWS compliant warnings created by 26 LGAs and published on the Disaster Management State Warnings Map. There were no emergency alerts issued.

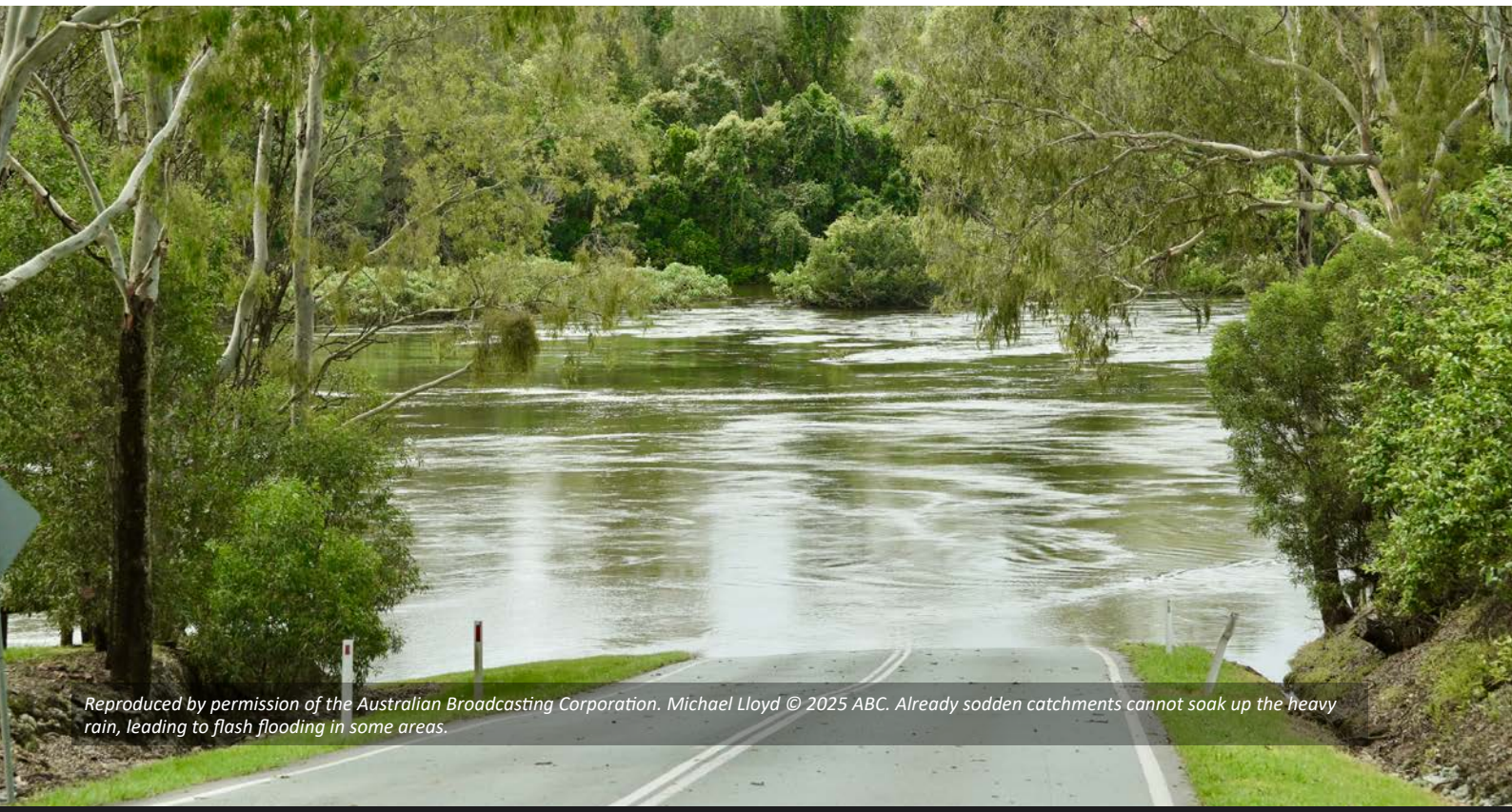
A dedicated forecaster from the Bureau of Meteorology was embedded in the SDCC to provide regular weather briefings to the SDCC and disaster management stakeholders at the local and district level. SDCC risk assessments and flood modelling data was shared with disaster management stakeholders including impacted local and district disaster management groups.

Entire towns were left without power due to the flood damage or were de-energised due to safety concerns. Communities were isolated with major highways, roads and rail cut due to debris, flood damage and flash flooding. Community members were evacuated via boat or were airlifted out of flood zones in Adavale, Windorah, Jundah and Thargomindah. A majority of Jundah's population were evacuated, with those remaining using private generators.

Community efforts to mitigate impacts from flooding demonstrated high levels of preparation and resilience. Thargomindah attempted to erect a temporary dirt levee. Unfortunately, this attempt failed and the whole town was inundated.

Impact and consequences

The connection of essential services to impacted communities as quickly and safely as possible following an event is vital to community relief and response efforts. Over 250 customers, whole towns, were reported as impacted by power supply outages and loss of telecommunication. The Temporary Emergency Accommodation Plan was activated for residents returning once the water had receded. Volunteer groups were coordinated through local government during the event, reducing duplication and increasing the speed of the cleanup.



Reproduced by permission of the Australian Broadcasting Corporation. Michael Lloyd © 2025 ABC. Already sodden catchments cannot soak up the heavy rain, leading to flash flooding in some areas.

Multiple roads were closed across the state and local government-controlled road networks with multiple hazards and adverse driving conditions reported due to debris and flash flooding. Jundah township ran out of treated water with the town's water treatment plant offline.

This event had a significant impact on primary producers with initial estimates of missing or deceased livestock (including cattle, sheep and goats) at over 100,000, with the final tally likely to be much greater. Animal welfare issues were raised in relation to fly blow, starvation, hypothermia, miscarriages of lambs and goats. Damage was reported to over 3,000 km of fences and 4,000 km of private roads. Restocking of livestock is reliant on the repair of fencing.

A significant number of flood gauges in impacted areas still required manual reading. This is an identified vulnerability with emergency services workers and other members of the community required to manually read the gauges and report the observations to the SDCC. The Flood Warning Infrastructure Network (FWIN) program underway will upgrade and expand flood warning systems in Queensland and across the country. This program is being conducted over 10 years from 2024 with a goal to remediate priority flood warning infrastructure and address critical reliability risks across Australia.

Relief and recovery

Due to the significant impact of the event, DRA was made available in the LGAs of Brisbane, Bundaberg, Fraser Coast, Gold Coast, Gympie, Ipswich, Livingstone, Lockyer Valley, Logan, Moreton Bay, Noosa, Redland, Scenic Rim, Somerset, Southern Downs, Sunshine Coast and Toowoomba. AGRDP was made available in localities in the LGAs of Brisbane, Fraser Coast, Gold Coast, Ipswich, Lockyer Valley, Logan, Moreton Bay, Redland, Scenic Rim, Somerset, Sunshine Coast and Toowoomba.

What did we observe

QPS has established a dedicated lessons management capability, supported by a Lessons Management Framework. A lessons management activity was piloted during the 2024-25 HRWS, with a focus on SDCC functions and operability. This activity, yet to be finalised, aims to improve processes and procedures within the SDCC in readiness for the 2025-26 higher risk weather season.

The Office of the IGEM is currently conducting a review into response operations over the 2024-25 HRWS. This review is due to be finalised in October 2025.

More information can be found on their website.

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Reproduced by permission of the Australian Broadcasting Corporation. Sophie Johnson © 2025 ABC. More than 600mm has fallen in Ingham over the weekend.

Reproduced by permission of the Australian Broadcasting Corporation. Lily Nothling © 2025 ABC. The Ollera Creek Bridge reopened on Monday night, re-establishing the transport corridor between Townsville and Ingham.

CASE STUDY 4 | QUEENSLAND

North and Far North Queensland Tropical Low

Disaster management in Queensland remains locally led, to ensure disaster management remains relevant and responsive to communities' needs. The QPS continues to support local governments through district and state level groups with prevention, preparedness, response and recovery activities.

To prepare for the 2024-25 HRWS, the QPS engaged with and supported local governments, state agencies, authorities, communities, and community groups to build local level capability and capacity. This included assistance to develop disaster management plans, delivery of training under the Queensland Disaster Management Training Framework, and exercising at the local, district and state level ahead of the higher risk weather season. AFAC and the Bureau of Meteorology provided a seasonal outlook in December 2024, noting the likelihood of both unusually high temperatures and heatwaves and above average rainfall across much of Queensland over the early part of 2025. There was also an increased risk of severe TCs due to the warmer than average sea surface temperatures. QDMAs were activated to respond to the major disaster event of the North and Far North Queensland TL in January to February 2025.

What happened?

Between 27 January and 12 February 2025, 2 tropical lows (13U and 20U) and an active monsoon trough caused persistent, heavy rainfall across Northern Queensland. Areas between Cairns and Proserpine braced for locally intense rain and flash flooding, compounded by the Highest Astronomical Tide level along much of the Queensland coast over the following days. Paluma Ivy Cottage, in the upper Burdekin catchment, recorded 2,984.8 mm between 27 January and 12 February. Major flood warnings were issued for the Bohle, Ross, Haughton, Herbert, Burdekin, Flinders, Murray and Johnstone Rivers, with flooding approaching historical peaks, notably at Ingham Pump Station, Gairloch, Giru, and Mt Bohle. Extensive disruption occurred as primary highways and roads along the North Tropical Coast were closed in both directions, with significant damage to properties, businesses, and infrastructure including the Ollera Creek Bridge resulting from the severe weather event.

While a cyclone did not eventuate the event consisted of an active monsoon trough and several TLs which produced a prolonged period of heavy rainfall over parts of Northern

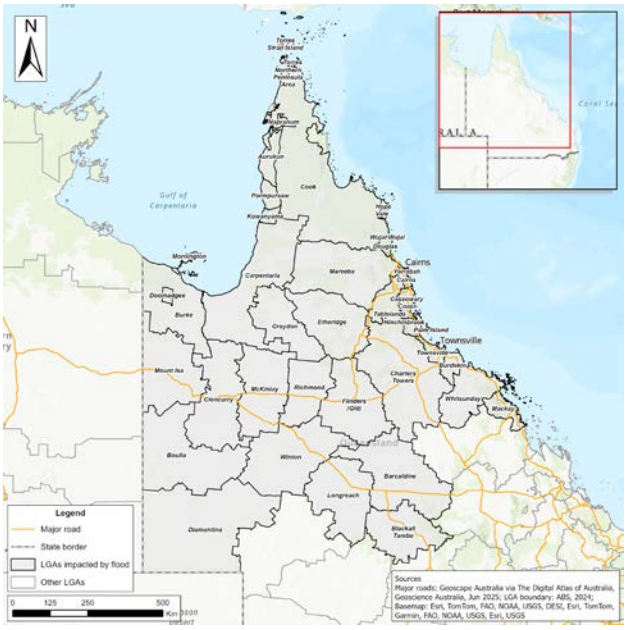

Figure 23. Map identifying all LGAs affected by flooding across Queensland during the event.

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Queensland from late January into February over already saturated catchments. Several locations broke daily, weekly and monthly rainfall records, with some areas in the tropical north-east recording well over a metre of rainfall in February, including the Townsville Airport. Significant major flooding was observed in several catchments, including the Herbert River at Ingham, the Haughton River at Giru, and the Burdekin River at Sellheim.

How did we prepare?

A number of state agencies pre-positioned resources and specialist capabilities into likely impacted areas. A few examples include positioning of vehicles, equipment (e.g. generators, mobile telecommunications), supplies (e.g. water, fuel) and personnel (e.g. telecommunications technicians, power crews, emergency services) in high-risk areas. Hospitals in areas of potential impact reviewed and updated vulnerable persons and patients lists, with contact being made with dialysis patients and maternity patients.

At the state level, various working groups were established prior to the higher risk weather season, bringing together

stakeholders from disaster management, industry and business groups to prepare for possible event impacts and increase the effectiveness of the response operation.

How did we respond?

There were 2 Disaster Declarations that were made under section 64 of the Disaster Management Act 2003 (Queensland) during the event for Innisfail and Townsville Disaster Districts.

The SDCC activated from 31 January to 17 February, a total of 18 days, with 13 attending entities and 218 staff. A range of specialist capabilities were deployed to the SDCC during the activation, including additional forecasters from the Bureau of Meteorology, State and Commonwealth Government agencies and disaster management partners including non-government organisation.

Local governments, through their Local Disaster Management Groups, are primarily responsible for issuing contextualised warnings and public messaging to their communities. During this event 119 AWS compliant warnings were created by 12 local governments and published on the Disaster Management State Warnings Map. There were 27 emergency alerts issued by 7 local governments. These warnings, media messaging and other communications were tailored to ensure the messaging provided was consistent across all issuing parties and used clear language. Practices tested during this event informed strategies for messaging during TC Alfred.

This event highlighted the vulnerability of Queensland's supply chain network through the loss of the Ollera Creek Bridge and multiple cuts to the Bruce Highway and Inland Highway (Gregory Developmental Road) for an extended period. These major road closures led to a significant supply chain blockage of essential goods to major stores and supermarkets across Far North Queensland, including isolated communities in Cape York. Local Disaster Management Groups provided food, water and hygiene support to transport industry drivers and other community members isolated for extended periods in remote locations.

On Sunday 2 February, the Ollera Creek Bridge was washed away in floodwater. The Ollera Creek Bridge links Townsville in the south to Cairns in the north, with an alternate inland route adding upwards of 10 hours travel time. During this event, however, the inland route was also impacted by the severe weather. The failure of the bridge meant supply chains were cut to the north of the state. Locally, helicopters were used to resupply isolated towns such as Ingham and Halifax when weather permitted.

A rail bus was deployed on the nearby rail bridge to transport critical services and supplies while a temporary bridge was constructed on 6 February by the ADF in partnership with Queensland government agencies. The temporary bridge and rail bus allowed the slow flow of emergency personnel and critical supplies during the day. At night the rail bus was suspended due to safety concerns, and the temporary bridge was dismantled to complete repair work on the permanent bridge structure. The permanent bridge was reopened on 10 February, with emergency personnel and freight trucks given priority access.

The Ollera Creek Bridge solution was a testament to the effectiveness of the QDMA. It demonstrated the importance of all levels (local, district, state, and federal) working to achieve cohesive outcomes to support both directly impacted communities and the wider state.

Reproduced by permission of the Australian Broadcasting Corporation. Cameron Simmons © 2025 ABC. Townsville has been battered by rain in recent days, with more forecast.

Reproduced by permission of the Australian Broadcasting Corporation. Joe Girgenti © 2025 ABC. The collapse of the Bruce Highway's Ollera Creek Bridge north of Townsville means towns including Ingham cannot easily access supplies, including fuel and drinking water.

The Deputy Premier and Minister for State Development, Infrastructure and Planning, the Honourable Jarrod Bleijie MP issued 2 Emergency Planning Declarations for 29 LGAs on 5 and 12 February 2025. The provision of information on Emergency Planning Declarations allowed for the 24/7 supply and restocking of food, medicines and essential goods to key industry and small business stakeholders, which enhanced restoration of businesses and essential supplies within the community.

Impact and consequences

There were 2 deaths attributed to the North Queensland floods across separate events within the community of Ingham. A further health impact was the increase in melioidosis cases across the area impacted by flooding. The diagnosis of melioidosis cases has continued months after the event has passed, with 237 cases and 35 deaths reported to July 2025.

There was widespread damage and destruction of homes, businesses, transport and other critical infrastructure, community facilities, sport and recreation facilities, and primary production. More than 500 properties sustained severe or moderate damage. This was compounded by loss of power throughout the area with 33,000 households without power by the second day.

Critical infrastructure damage included 7,885 km of roads either closed or with restricted access, including parts of the Bruce Highway. The North Coast and Mount Isa rail lines were also temporarily closed due to track damage. Restoration work for power supply and telecommunications was impacted by road closures and ceasing of ferry services to impacted islands. Disruption of sewage treatment plants and water treatment plants were noted throughout the impacted local government areas. The reliable restoration of power to key water treatment infrastructure was identified as a key priority.

Environmental damage consisted of significant debris, sediment and other contaminants flowing downriver.

North Queensland primarily produces sugarcane, fruits and vegetables, wild catch fishing and crabbing and grazing. Damage to these industries is estimated at over $800 million, with crops in Townsville, Burdekin, Cassowary Coast and Hinchinbrook local government areas being severely affected. The cane growing regions in the Burdekin were heavily impacted, with significant damage in Giru. Many primary producers reported extensive damage to pastures, infrastructure, including roads, and machinery. Prolonged wet conditions, lack of sunshine and significant transport delays continued to impact primary producers throughout the season.

Relief and recovery

Activation of the DRFA was jointly announced by the Australian and Queensland governments for this event, with available assistance measures including counter disaster operations and reconstruction of essential public assets for 40 LGAs. Of these LGAs, disaster assistance loans and grants for primary producers and small business, and disaster assistance loans for essential capital works were made available for 10 LGAs.

Due to the significant impact of the event, DRA was made available in the LGAs of Barcaldine, Blackall-Tambo, Boulia, Burdekin, Cairns, Carpentaria, Cassowary Coast, Charters Towers, Cloncurry, Cook, Croydon, Diamantina, Douglas, Etheridge, Flinders, Hinchinbrook, Hope Vale, Kowanyama, Longreach, Mckinlay, Northern Peninsula Area, Palm Island, Pormpuraaw, Richmond, Tablelands, Townsville, Whitsunday, Winton, Wujal Wujal, and Yarrabah. AGRDP was made available in localities in the local government areas of Burdekin, Cassowary Coast, Charters Towers, Etheridge, Hinchinbrook and Townsville.

What did we observe?

QPS has established a dedicated lessons management capability, supported by a Lessons Management Framework. A lessons management activity was piloted during the 2024-25 higher risk weather season, with a focus on SDCC functions and operability. This activity, yet to be finalised, aims to improve processes and procedures within the SDCC in readiness for the 2025-26 higher risk weather season.

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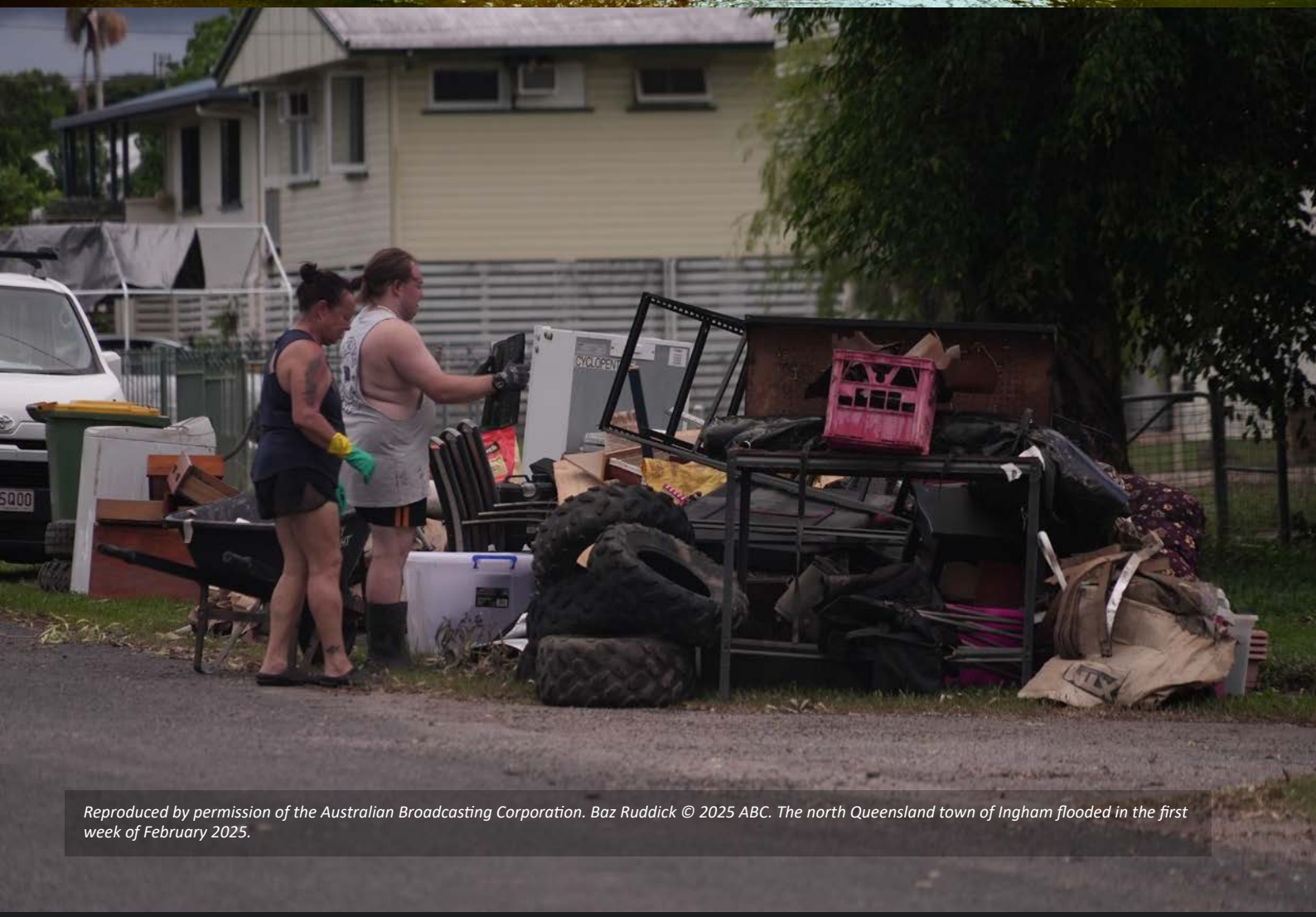
Reproduced by permission of the Australian Broadcasting Corporation. Conor Byrne © 2025 ABC. Flooding occurred in Cairns after heavy rain earlier this month.



Reproduced by permission of the Australian Broadcasting Corporation. Baz Ruddick © 2025 ABC. The north Queensland town of Ingham flooded in the first week of February 2025.

Acknowledgements

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Reproduced by permission of the Australian Broadcasting Corporation. Liam Patrick © 2025 ABC. SES crews attend a flood in Taree.

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