# CYCLONE

# AND

# SEVERE WEATHER

# PLAN

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# Introduction

The Disaster Management Act 2003 S13(1) defines a disaster as a serious disruption in a community, caused by the impact of an event, that requires significant coordinated response by the State and other entities to help the community recover from the disruption. Disasters that may affect Cairns Airport include:

- Tropical cyclones
- Gale-Force winds
- Flooding
- Storm Surges
- Storms
- Earthquake
- Tsunamis
- Volcanic Ash
- Tornados

The Cairns Airport Cyclone and Severe Weather Plan Standard Operating Procedure (SOP) details the actions to be taken to counter potential danger and damage that may occur because of a Natural Disaster caused by a cyclone event.

Post disaster where airport infrastructure suffers significant damage impacting on airport operations the Airport Emergency Committee (AEC) would be convened to manage disaster recovery program as per the Airport Emergency Plan (AEP).

Table 1: Cyclone Stage Advice, Notifications and Actions *(The terms **Alert, Lean Forward, Stand Up** and **Stand Down** are in reference to the four activation levels of the Cairns local Disaster Management Plan)*

| STAGE | LDMG STATUS | ACTIVITY | WIND SPEEDS | NOTIFICATION | COMMENTS / ACTIONS |
|---|---|---|---|---|---|
| **Stage 1** | **ALERT** | **CYCLONE WATCH -** Initiated by Bureau of Meteorology (BOM) by announcement of a Cyclone affecting the region.<br>**FLOOD WATCH -** Initiated by Bureau of Meteorology (BOM) for the Barron River<br>**SEVERE WEATHER WARNING -** Initiated by Bureau of Meteorology (BOM) for Cairns | Gale Force Winds (above 75 kmph) (41 kt) 24 - 48 hrs away | Advice via SMS by Cairns Airport | **Cyclone watch**:<br>• NQA team members to ensure company procedures are followed as per SOPs and review company procedures.<br>• Tenants review the Cyclone & Severe Weather plan and company procedures.<br>• Secure or remove non-essential equipment from open areas.<br>• Check emergency stores equipment (fuel, generators, radio's etc.). |
| **Stage 2** | **LEAN FORWARD** | **CYCLONE WARNING -** Initiated by BOM by announcement of a Cyclone affecting the region.<br>**FLOOD WARNING -** Initiated by Bureau of Meteorology (BOM) for the Barron River | Gale Force Winds (above 75 kmph) (41 kt) 24 hrs away | Advice via SMS by Cairns Airport | **Cyclone Warning**:<br>• Cyclone Committee is convened.<br>• Complete initial preparation.<br>• Implement company procedures.<br>• Complete removing / securing non-essential equipment.<br>• Remove / secure light aircraft.<br>• Continue to monitor cyclone activity via BOM website / media etc. |
| **Stage 3** | **STAND UP** | **CYCLONE WARNING CURRENT** – BOM Monitoring System<br>**FLOOD WARNING CURRENT -** For the Barron River | Gale Force Winds (above 100 kmph) (54kt) 6-12 hrs away | Advice Via SMS by Cairns Airport | **Cyclone Warning Current**:<br>• Commence partial shutdown of facilities, including unused aerobridges, documents computer etc.<br>• Consider sending non-essential staff home.<br>• Light aircraft & essential vehicles (Fuel Tankers and ARFFS Fire Tenders) relocated / stored /securely tied down.<br>• Consider flood precautions / sandbagging etc.<br>• Continue to monitor cyclone activity via BOM website / media etc. |
| **Stage 4** | | **CYCLONE WARNING CURRENT** – BOM Monitoring System<br>**FLOOD WARNING CURRENT** - For the Barron River | Gale Force Winds (above 100 kmph) (54kt) at airport are 3-6 hrs away | Advice Via SMS by Cairns Airport | **Cyclone Warning Current**:<br>• Stage shut down of airport facilities, including aerobridge, terminals, airport ground lighting, radar etc.<br>• ATC, ARFFS, Airlines will cease operations as soon as possible after declaration of Stage 4.<br>• Airport tenants expected to complete their own shut down of their own operations in a similar time frame.<br>• After consultation with ATC, and upon departure of last aircraft, Cairns Aerodrome Operations Manager will issue a NOTAM advising of non-availability of airport facilities (from time/date).<br>• All staff should have departed airport<br>• Cyclone Committee is stood down. |
| **Stage 5** | | **CYCLONE WARNING CURRENT**<br>**FLOOD WARNING CURRENT -** For the Barron River | Gale Force Winds (above 100 kmph) (54kt) have commenced | Nil Advice by Cairns Airport | **Cyclone Warning Current:**<br>**ALL AIRPORT OPERATIONS HAVE CEASED** |

| | | | | | |
|---|---|---|---|---|---|
| **Stage 6** | | **CYCLONE WARNING CURRENT**<br>**FLOOD WARNING CURRENT -** - For the Barron River | Gale Force Winds (above 100 kmph) (54kt) have passed | Nil Advice by Cairns Airport | **Cyclone Warning Current:**<br>ALL AIRPORT OPERATIONS REMAIN CEASED<br>ALL CLEAR NOT YET ANNOUNCED – STAGE 5 MAY BE RE-DECLARED |
| **Stage 7** | | **CYCLONE WARNING MAY STILL EXIST**<br>**FLOOD WARNING CANCELLED -** - For the Barron River | Gale Force Winds have passed Cairns, though a Cyclone warning may still exist | Nil Advice by Cairns Airport | **CYCLONE WARNING MAY STILL EXIST – Post Cyclone flooding to be considered and monitored**<br>• Cyclone Committee to reconvene<br>• Commence call in of essential staff to return airport to normal operational status<br>• NOTAM to be lifted by Cairns Airport Aerodrome Operations<br>• Timing to be determined by Airport Cyclone Committee and through the Chair |
| **Stage 8** | **STAND DOWN** | **CYCLONE WARNING CANCELLED**<br>**FLOOD WARNING CANCELLED -** - For the Barron River | Declaration of All Clear by District Disaster Coordinator | Advice via SMS by Cairns Airport<br>Declaration of all clear | **Cyclone Warning Cancelled**<br>• Staff returning to airport to re-commence operations<br>• Tenants to commence clean-up operations<br>• Tenants to liaise with Cairns Airport Infrastructure and Maintenance Department regarding loss of services and damage to facilities<br>**NOTE: Following a severe cyclone Stage 8 may extend to several days as clean up continues** |

Note: Cairns Airport will assess prevailing and forecast conditions and determine the appropriate stage based on the most severe predicted impacts advised by the Bureau of Meteorology (BoM), in consultation with the Cyclone Committee where practicable. Stage activation and escalation are not based solely on wind speed and may include consideration of flooding, storm surge, severe weather warnings and operational risk.

# Tropical Cyclone Forecast Resources

**TROPICAL CYCLONE FORECAST AND TRACK MAPS**

The Bureau of Meteorology provides a Tropical Cyclone 7-day Forecast and Track Maps which are available on the Bureau's web page at: http://www.bom.gov.au/cyclone/7dayforecast/ Information is also available via radio, television stations and the Cairns Regional Council Disaster Dashboard at https://disaster.cairns.qld.gov.au/

Information is also available via the below resources:

| Method | Details | Number/Website |
|---|---|---|
| Telephone | Cyclone Advice | 1300 659 210 |
| Internet | All weather warnings | www.bom.gov.au<br>Tropical cyclone forecast<br>Australian Warning System<br>https://disaster.cairns.qld.gov.au/ |
| Social media | X<br>Facebook | https://x.com/BOM_Qld<br>https://www.facebook.com/bureauofmeteorology |

# Table 2: Wind Category & Effect

| Category | Max Wind Gust | Typical Effects |
|---|---|---|
| **1** | 90 -125km/h (<67 kt) | Negligible house damage, damage to some crops, trees and caravans and craft may drag moorings |
| **2** | 125 – 164 km/h (67 – 89 kt) | Minor house damage, significant damage to signs, trees and caravans - heavy damage to some crops - risk of power failure - small craft may break moorings |
| **3** | 165 – 224 km/h (90 – 121 kt) | Some roof and structural damage, some caravans destroyed - power failure likely |
| **4** | 225 – 279 km/h (121 – 150 kt) | Significant roofing loss and structural damage, many caravans destroyed and blown away, dangerous airborne debris - widespread power failures |
| **5** | >280 km/h (> 151 kt) | Extremely dangerous with widespread destruction |

# Table 3: Wind Speed Conversions

| Km/h | Kt |
|---|---|
| 10 | 5 |
| 20 | 11 |
| 30 | 16 |
| 40 | 22 |
| 50 | 27 |
| 60 | 32 |
| 70 | 38 |
| 80 | 43 |
| 90 | 49 |
| 100 | 54 |
| 110 | 59 |
| 120 | 65 |
| 130 | 70 |
| 140 | 76 |
| 150 | 81 |
| 160 | 86 |
| 170 | 92 |
| 180 | 97 |
| 190 | 103 |
| 200 | 108 |
| 210 | 113 |
| 220 | 119 |
| 230 | 124 |
| 240 | 130 |
| 250 | 135 |
| 260 | 140 |
| 270 | 146 |
| 280 | 151 |

| Kt | km/h |
|---|---|
| 10 | 19 |
| 20 | 37 |
| 30 | 56 |
| 40 | 74 |
| 50 | 93 |
| 60 | 111 |
| 70 | 130 |
| 80 | 148 |
| 90 | 167 |
| 100 | 185 |
| 110 | 204 |
| 120 | 222 |
| 130 | 241 |
| 140 | 259 |
| 150 | 278 |
| 160 | 296 |
| 170 | 315 |
| 180 | 333 |
| 190 | 352 |
| 200 | 370 |
| 210 | 389 |
| 220 | 407 |
| 230 | 426 |
| 240 | 444 |
| 250 | 463 |
| 260 | 482 |
| 270 | 500 |
| 280 | 519 |

# Severe Weather

## Lightning Detection and Advisory Protocol – Cairns Airport

Cairns Airport has subscribed to the Vaisala Thunderstorm Manager to receive real-time lightning detection alerts using advanced technologies. These alerts are distributed via SMS and email through Whispir, based on detection triggers from the Vaisala system.

Please note that Cairns Airport staff are not formally trained in meteorology. Any actions taken in response to the advice provided should be based on each organisation's own risk assessments, procedures, and interpretation of the information received.

To complement Vaisala data, Cairns Airport may also receive meteorological advice from Qantas and Virgin services. This supplementary advice may be actioned when it is more conservative than the Vaisala alerts.

In addition to SMS notifications, a blue and white lighting system will be activated airside to indicate lightning detected within 10 nautical miles (nm) and 5 nm of Cairns Airport.

## Flooding

Following the flooding of the Barron River Delta associated with Tropical Cyclone Jasper in 2023, Cairns Airport installed and commissioned four Qteq Remote Surface Water Monitoring Stations at key locations across the airport. These systems deliver real-time data during and after flood events to support planning and decision making; however, they do not provide predictive insights. Information provided by the Bureau of Meteorology is interpreted by the Cyclone and Severe Weather Committee to guide decision-making during all severe weather events.

# Cyclone and Severe Weather Committee

The Cyclone and Severe Weather Committee is convened at Stage 2 Cyclone Warning.

Chair of the Cyclone Committee in succession is:

- General Manager Operations & Commercial
- General Manager Infrastructure & Property

Cairns Airport membership of the Cyclone Committee is:

| | |
|---|---|
| Chief Executive Officer | Manager Aviation Operations |
| General Manager Operations & Commercial | Media and Government Affairs Manager |
| General Manager Infrastructure & Property | Property Manager |
| Chief Financial Officer | Manager Marketing |
| General Manager People & Culture | Security Operations Manager |
| General Counsel & Company Secretary | Manager Infrastructure (CNS) |
| Head of Operations (MKY) | Manager Infrastructure (MKY) |
| Head of Airline Partnerships | Manager ICT |
| Head of Marketing and Government Affairs | Manager Retail Planning and Performance |

| | |
|---|---|
| Manager Ground Transport Planning and Performance | Concessions Manager |
| Ground Transport Operations Manager | Emergency & Operational Resilience Manager |
| Aerodrome Operations Manager | Aerodrome Operations Supervisor |
| Terminal Operations Manager | Airport Duty Managers |

The core members of the **Cairns Airport Cyclone and Severe Weather Committee** comprise of:

| | |
|---|---|
| Cairns Airport | JL Aviation Fuelling |
| Airservices Australia<br>Air Traffic Control – Cairns Tower<br>Infrastructure Support Services<br>Aviation Rescue and Fire Fighting Service | Swissport |
| Aircraft Turnaround Engineering | Menzies Aviation |
| Alliance | Nautilus Aviation |
| Australian Border Force | Qantas |
| Australian Federal Police | Queensland Government Air |
| Air New Zealand | Rex |
| Air Niugini | RFDS |
| Aus flight Handling | Skytrans |
| Avolta | Skytek |
| Cairns Airport | Singapore Airlines |
| Cater care | Trident Services |
| Department of Agriculture, Fisheries and Forestry | Menzies Aviation |
| Daifuku | Menzies Cargo |
| DNATA | Pacific Direct |
| Lagardere AWPL | Regional Trade Distribution Centre |
| Leidos | Virgin Australia |
| Hinterland | Viva Energy (JUHI) |
| Integrated Aviation Maintenance | JL Aviation Fuelling |
| Jet Aviation | Skytek |
| Jetstar | |

**Note 1:** The Chair of the Cyclone Committee will advise any change to the operational status of the airport to the Chief Executive Officer and Media and Government Affairs Manager.

**Note 2:** The Emergency & Operational Resilience Manager or, if unavailable, the Chair of the Cyclone Committee will advise of any change to the operational status of the airport to the:

- Cairns Local Disaster Management Group – Cairns Region (LDMG-CR) Local Disaster Coordinator: P 07 4044 3531 M 0467 990 031
- Email Rhys.Newton@cairns.qld.gov.au
- Local Disaster Coordination Centre – Call centre (when activated): 1300 396 102;
- Email cairnsdisastermanagement@cairns.qld.gov.au
- Cairns District Disaster Management Group (FN DDMG)
- Executive Officer Cairns DDMG – Mobile 0467 712 133 Email DDC.Cairns@police.qld.gov.au

**Note 3:** The Emergency & Operational Resilience Manager or, if unavailable, the Chair of the Cyclone Committee will Log on to BOM Queensland Weather and Warnings in preparation for the meeting.
**Note 4:** The Cyclone and Severe Weather Committee may be activated to support the management of any severe weather event that poses a risk to airport operations or the safety and wellbeing of the airport community.

# Document Control

| Version | Status | Sponsor | Author |
|---|---|---|---|
| 2 | Approved | General Manager Operations & Commercial | Emergency & Operational Resilience Manager |

| Amendments | Date | By whom |
|---|---|---|
| Version 2 – Reference to the activation levels contained within the Local Disaster Management Plan – Cairns Region added to equivalent Stages of the Cairns Airport Cyclone and Severe Weather Plan. Plan updated to reflect the current organisational structure. | 26 Oct 2026 | Emergency & Operational Resilience Manager |
| Version 1 – Plan renamed and reset to version 1 – Severe Weather included in the plan | 14 Oct 2025 | Emergency & Operational Resilience Manager |