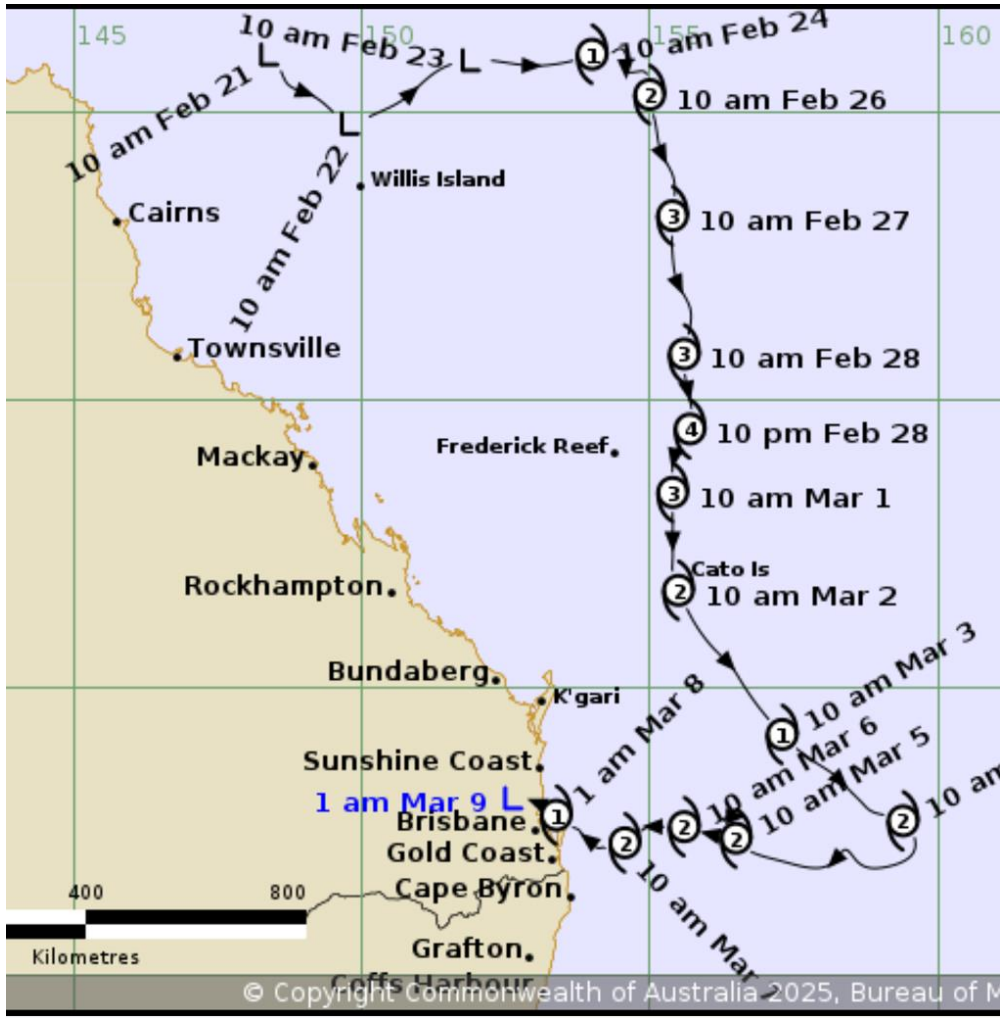
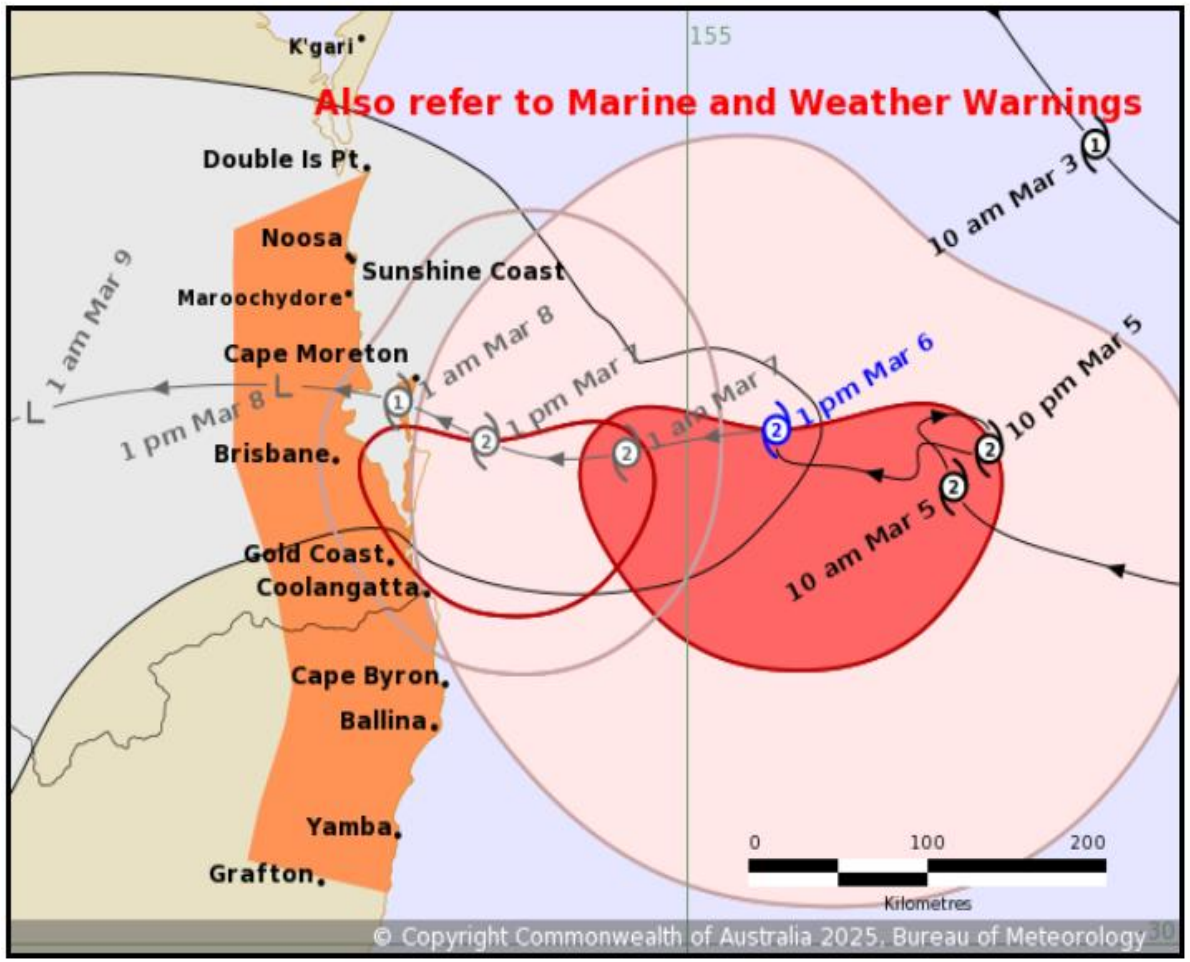
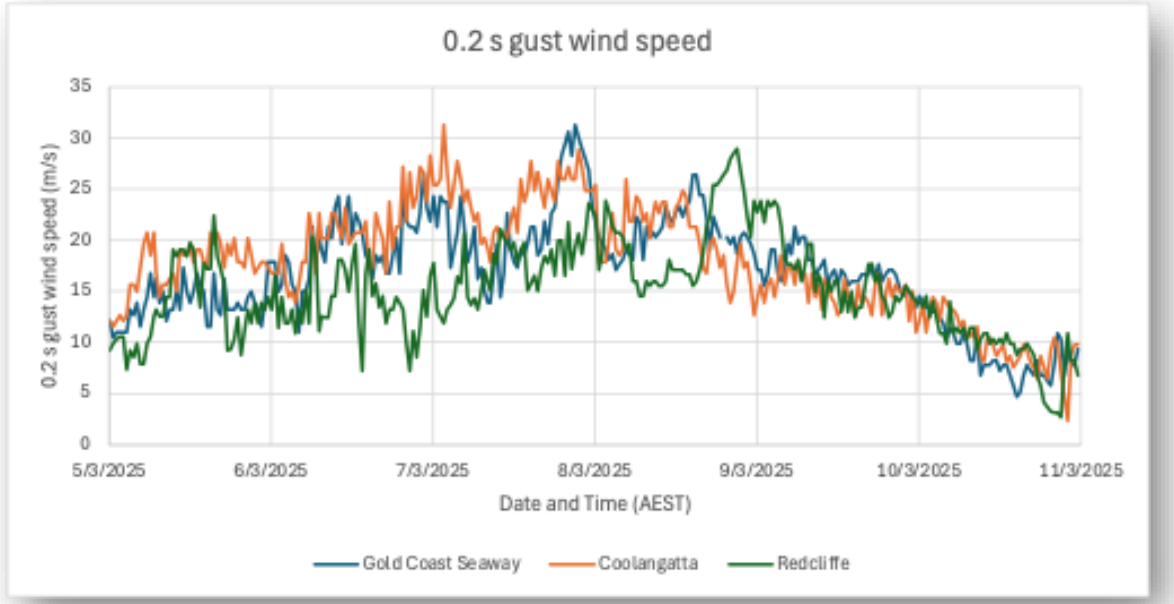
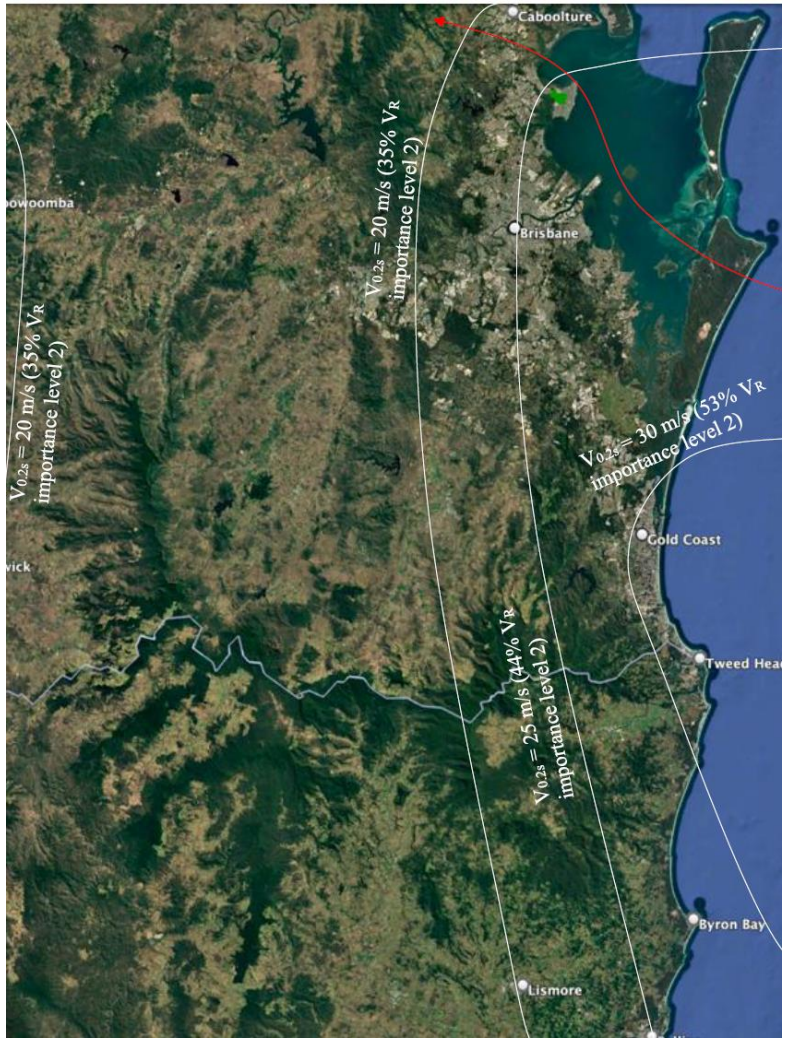
What if? The SEQ ‘grey rhino’





What happened






LGAQ
Every Queensland community deserves to be a liveable one
All roads lead to Local

LGAQ Council to Council Support Program

C2C Program

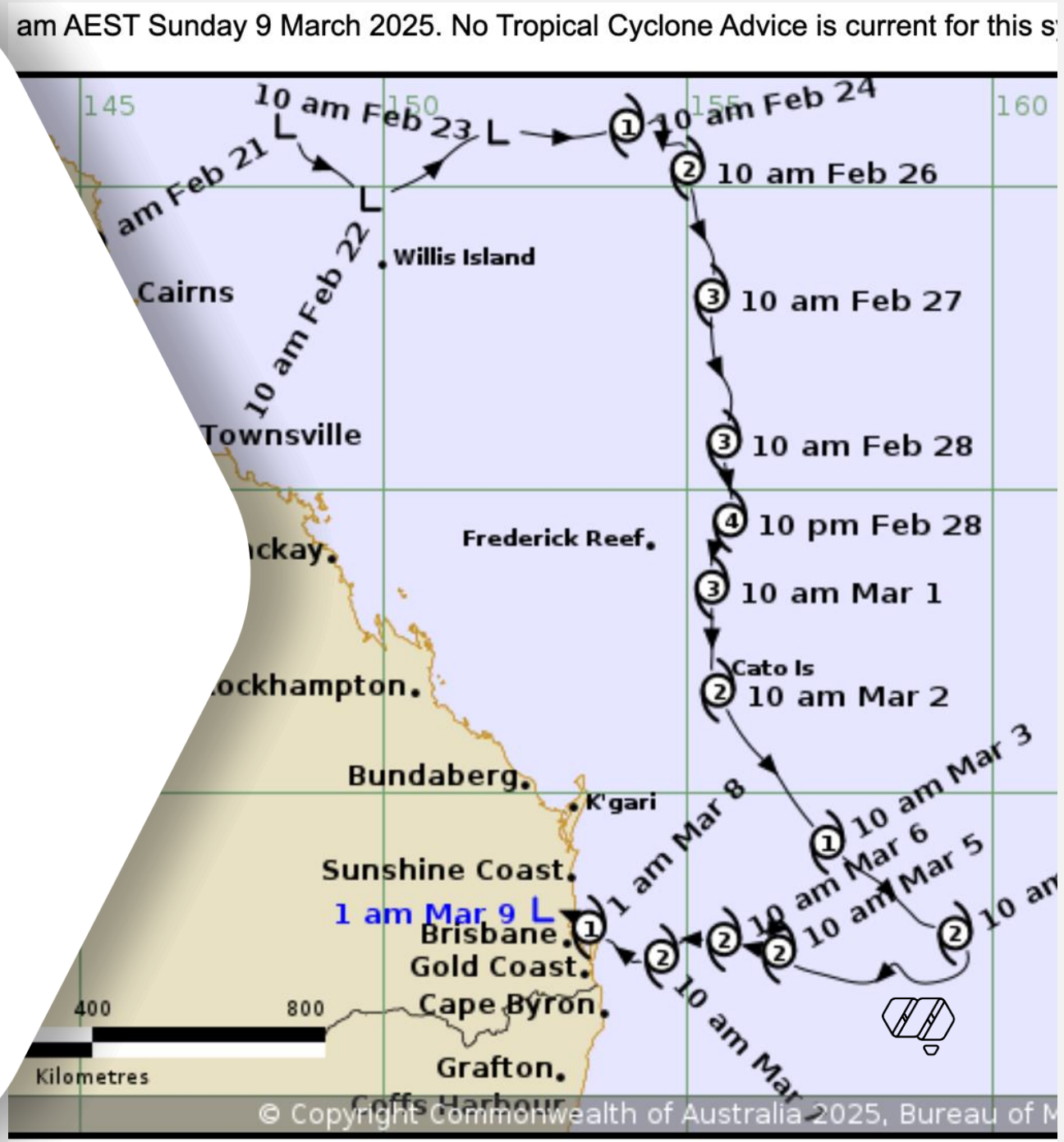
The Council 2 Council Program provide vital support by identifying, coordinating, and activating assistance from Queensland councils when disasters strike.

This disaster season, the C2C program saw

- 62 individuals were deployed, some multiple times. 1 LGAQ Officer was also deployed
- 27 Councils provided people
- 18 Councils received support.
- First requests for support came in on 1st February, and the last deployment was completed on 15th April.

TC Alfred

Very wide
Slow moving
Lots of rain
Stalled as a Cat 1 in Moreton Bay
Crossed as an ex-TC



100 km/h too low for:

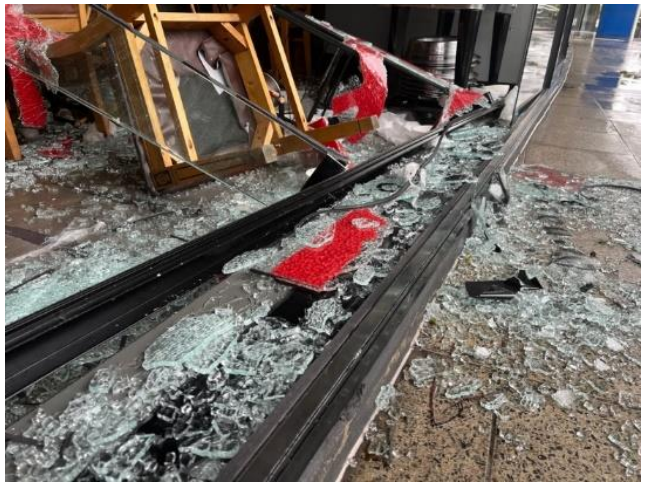
- Lifting tiles
- Lifting wind-borne debris
- Blowing in garage doors

But wind found weak links

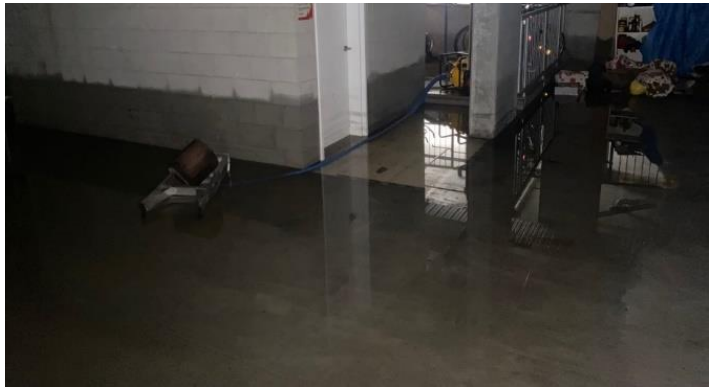
- Corrosion in steel
- Rot in timber
- Poor design

CYCLONE TESTING STATION

Contemporary Construction



- Very little structural damage
- **Lots of wind-driven rainwater ingress**
- Balcony pavers
- Failure of windows and podiums near ground level
- Basements
- Internal pressures



CYCLONE TESTING STATION

Water Ingress

- Roofs – small leaks from wind-driven rain (buildings OK in rain if without wind)
- Walls – leakage through single leaf concrete blocks, flashings
- Windows – pressures above AS water penetration test pressures but lower than serviceability pressures



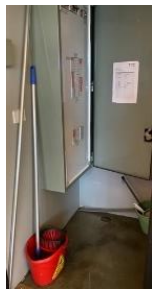


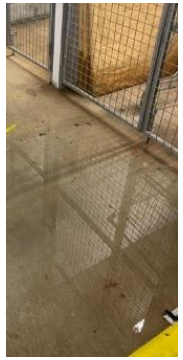

Within 5 weeks, approx. 3% of insured buildings with no structural damage have made claim for water ingress (e.g. wind driven rain) from wind speeds well less than building code design

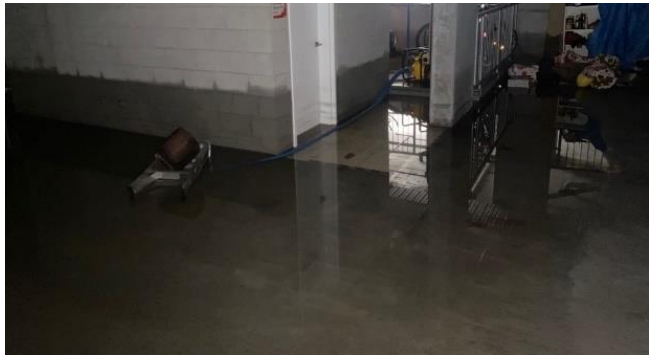
CYCLONE TESTING STATION

Ground floors and Basements

- Seepage on a good day is brown (corroded r/f)
- Water can take out power (switchboards, fire panels, meters, transformers)
- No power, no pumps
- Reliability of back-up power? (Lifts, pumps, emergency lighting, fire systems, ventilation)





CYCLONE TESTING STATION

AS/NZS 1170.2:2021

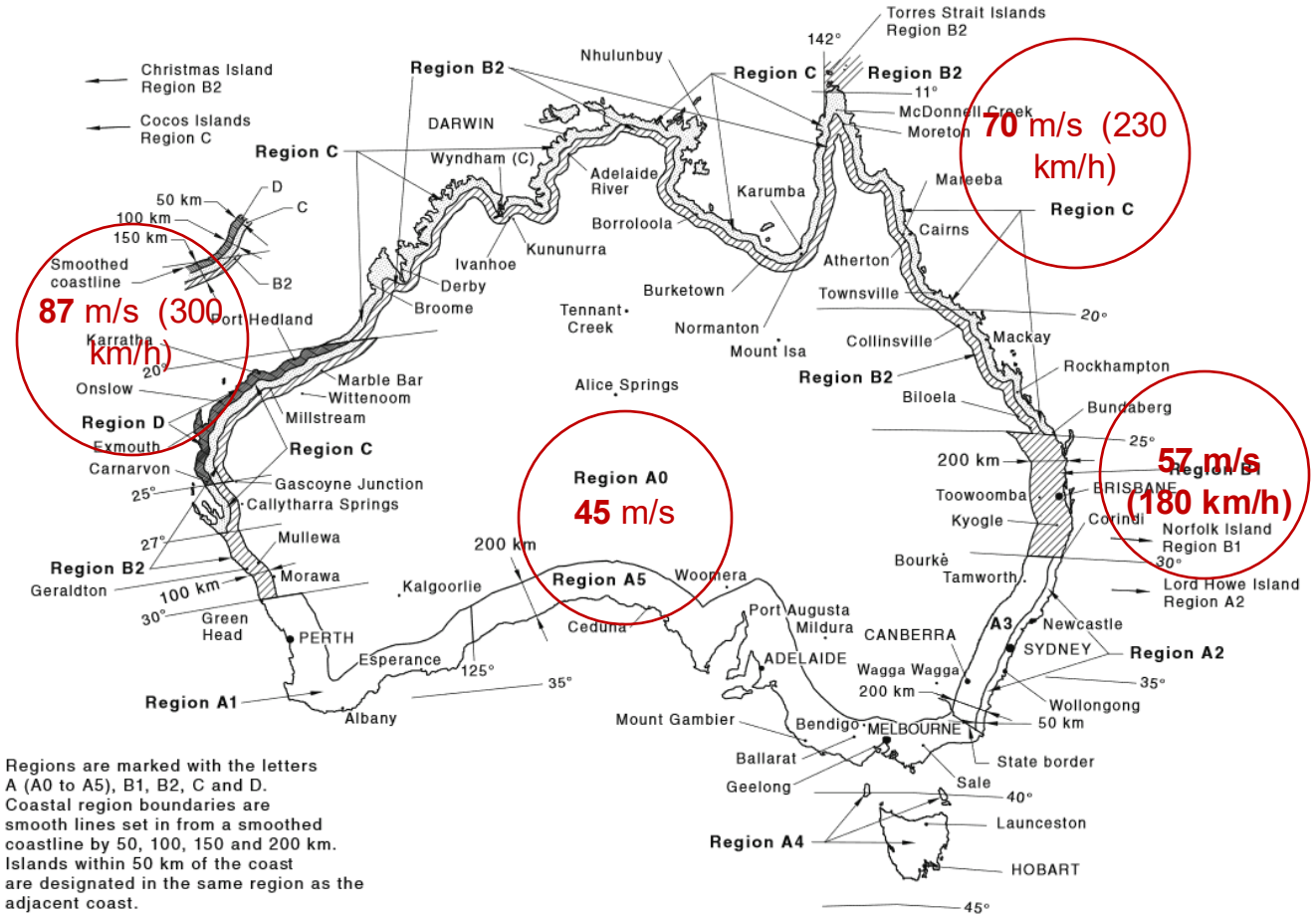


Figure 3.1(A) — Wind regions — Australia

<u>Minimum</u> design standards

NCC: Class 2 Importance level

10% in 50 yrs prob of exceedance

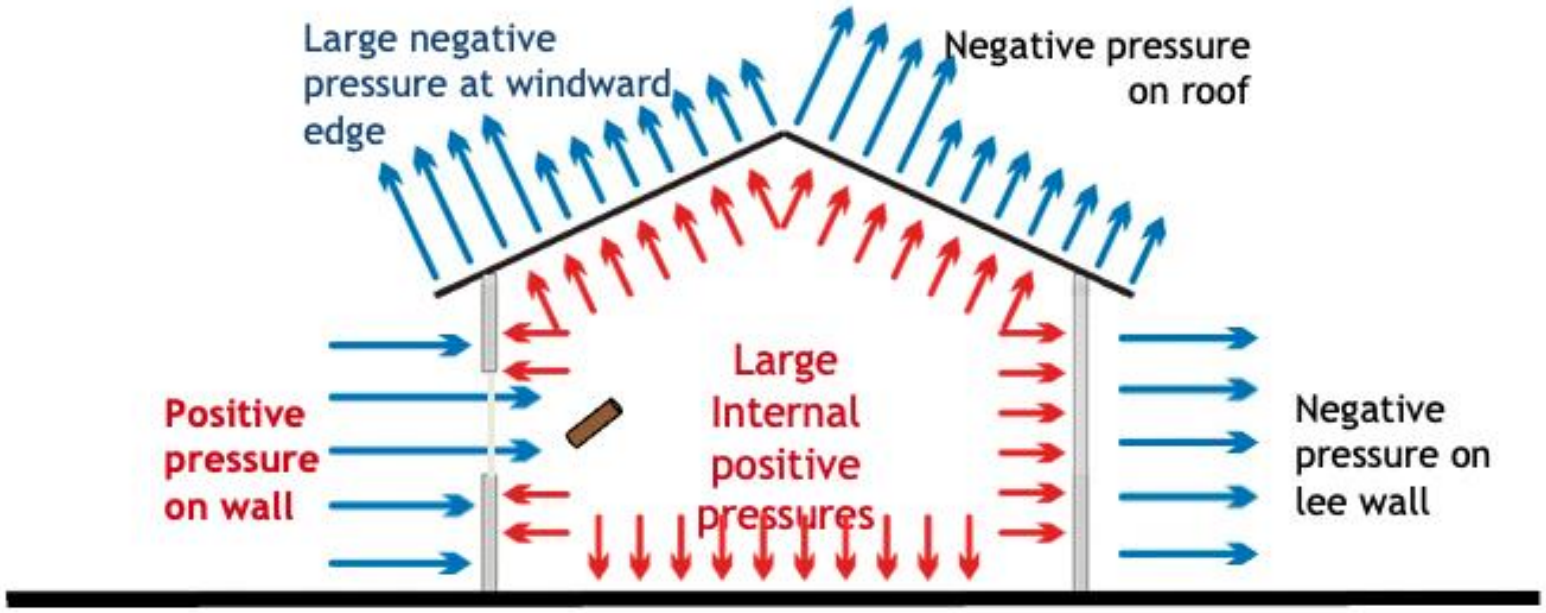
(1:500 Annual probability of exceedance)

BUT SIMILAR WIND SPEED "RISK" DOESN'T NECESSARILY MEAN SAME RISK OF DAMAGE

CYCLONE TESTING STATION

Why “lucky” and “near miss”?

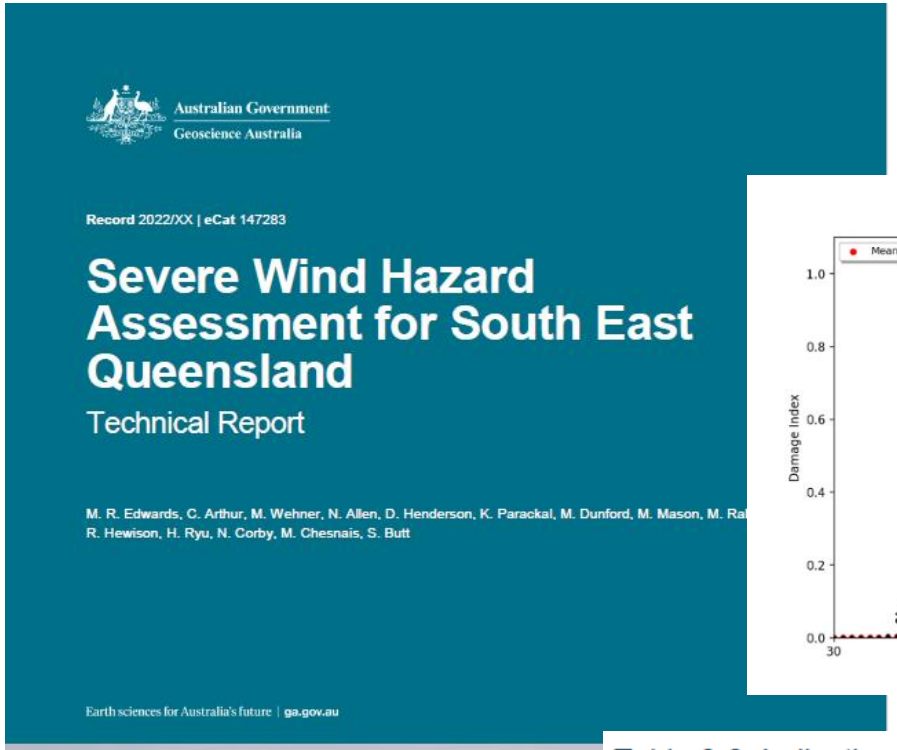
- Design for internal pressure required in regions C and D
- Internal pressure doubles loads on tie downs if window or door failure

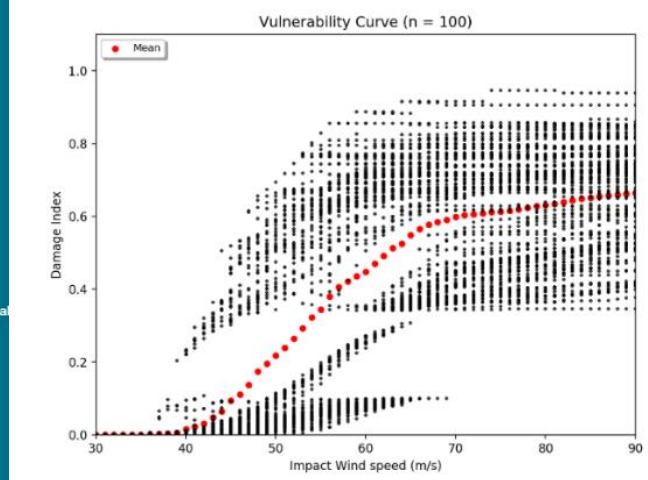


CYCLONE TESTING STATION

Reminder of TC Seroja

CYCLONE TESTING STATION





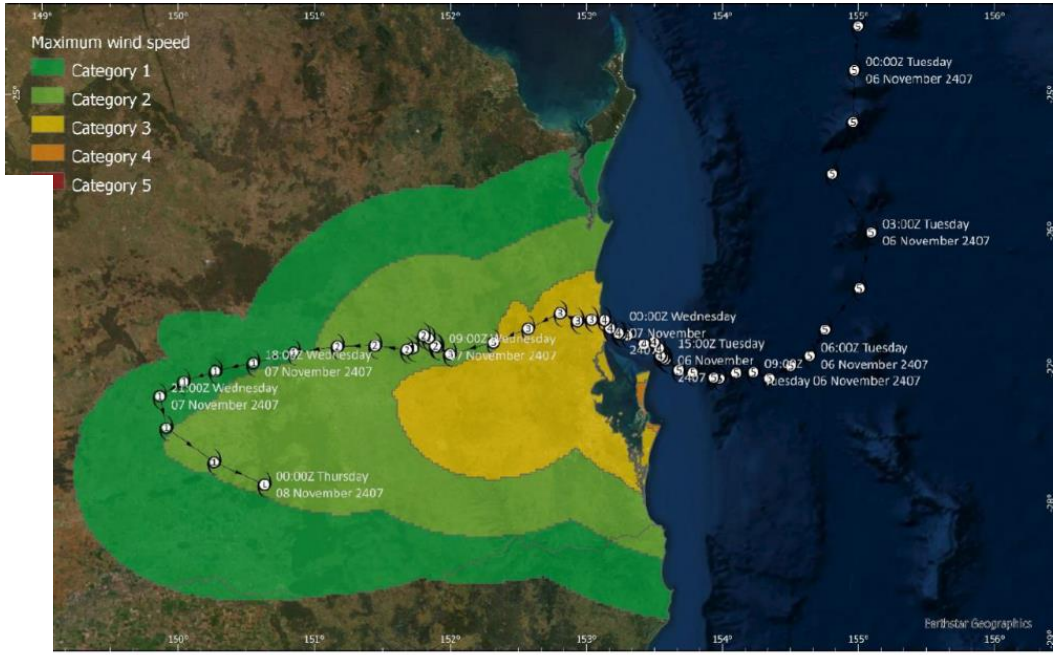


Figure 7-4: Regional wind field for scenario 020-07522. This cyclone is slow moving and has a much broader wind field than other scenarios.

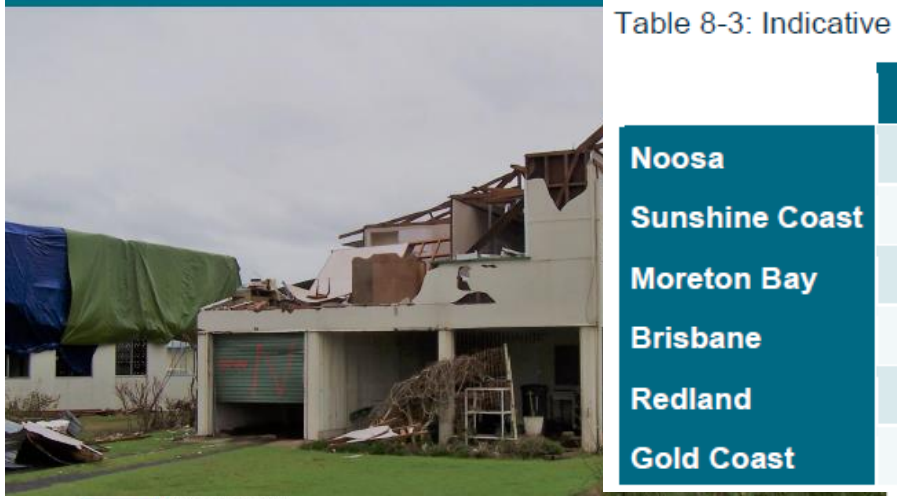


Table 8-3: Indicative building counts of damage state by local government area for scenario 3

	Negligible	Slight	Moderate	Extensive
Noosa	12,252	7,894	2,792	292
Sunshine Coast	39,833	21,071	24,040	16,415
Moreton Bay	50,088	33,491	43,250	36,351
Brisbane	156,958	111,878	60,642	12,881
Redland	14,722	11,910	21,634	15,053
Gold Coast	117,841	26,907	3,097	91

CYCLONE TESTING STATION

Lessons

- LUCKY – winds only 100 km/h
- Winds slower than debris threshold and (mostly) damage threshold
- Even 20 km/h faster would have picked up debris resulting in initiation of roof loss across many homes (because SEQ not designed for it)
- Lots of Water ingress to habitable areas - Still have work to do on wind-driven rain ingress into buildings.
- Highlighted issue of lack of Building maintenance – Corrosion/Rot/etc.
- Wind effects near ground around tall buildings
- Balcony pavers on pedestals (tip of iceberg)
- Resilience of power systems to residential strata

Ex-Tropical Cyclone Alfred

Jai O’Toole
Executive Director, State & Territory Operations

Australian Red Cross

Australian Red Cross acknowledges the Traditional Owners of this land, their ancestors and Elders, past and present.

Australian Red Cross

Australian Red Cross Emergency Services, WHAT WE DO

Resilience
Engaging and educating communities around their risks, practical and psychosocial preparation for emergencies.

Response.
Providing psychological first aid, reuniting families who have been separated during emergencies, outreach and connecting people to support services.

Recovery
Promoting community-led recovery and providing psychosocial support to people, families, and communities to manage their recovery. Preparing for future emergencies.

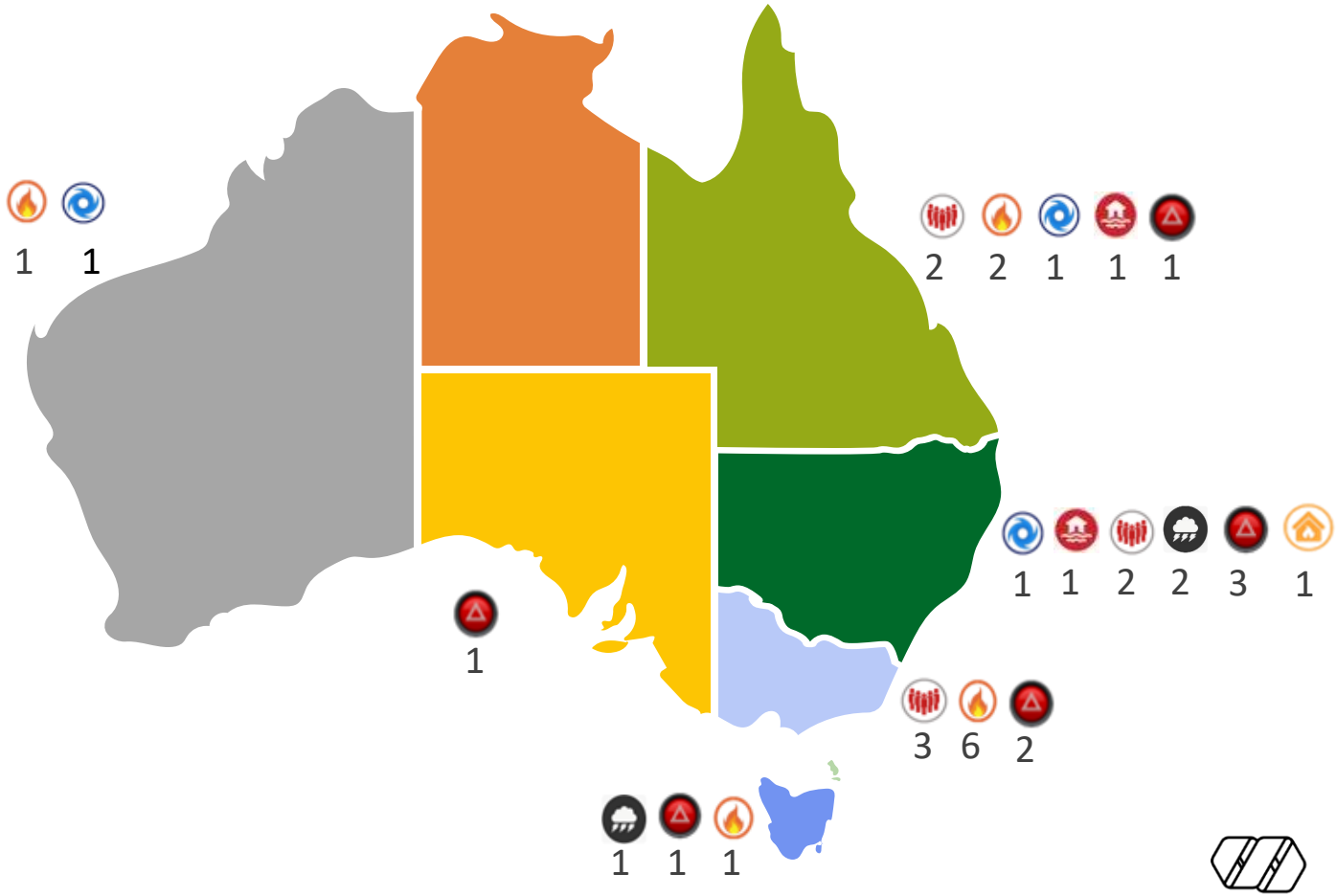
Australian Red Cross

Australian Red Cross Emergency Services, RESPONSE : July 2024 – 30 June 2025

Emergency Services (ES) has been activated to respond to 34 events between July 2024 and 30 June 2025.

Legend

- Bushfire
- Storm
- Flood
- Cyclone /Tornado
- Collective Trauma
- Structural Fire
- Other



Australian Red Cross

Australian Red Cross **PRESENCE** across New South Wales and Queensland for EX-Tropical Cyclone Alfred

110

Evacuation Centres, Recovery Hubs and **Outreach operations** were supported by ARC across **25** **Local Government Areas** in SE Qld and Northern NSW

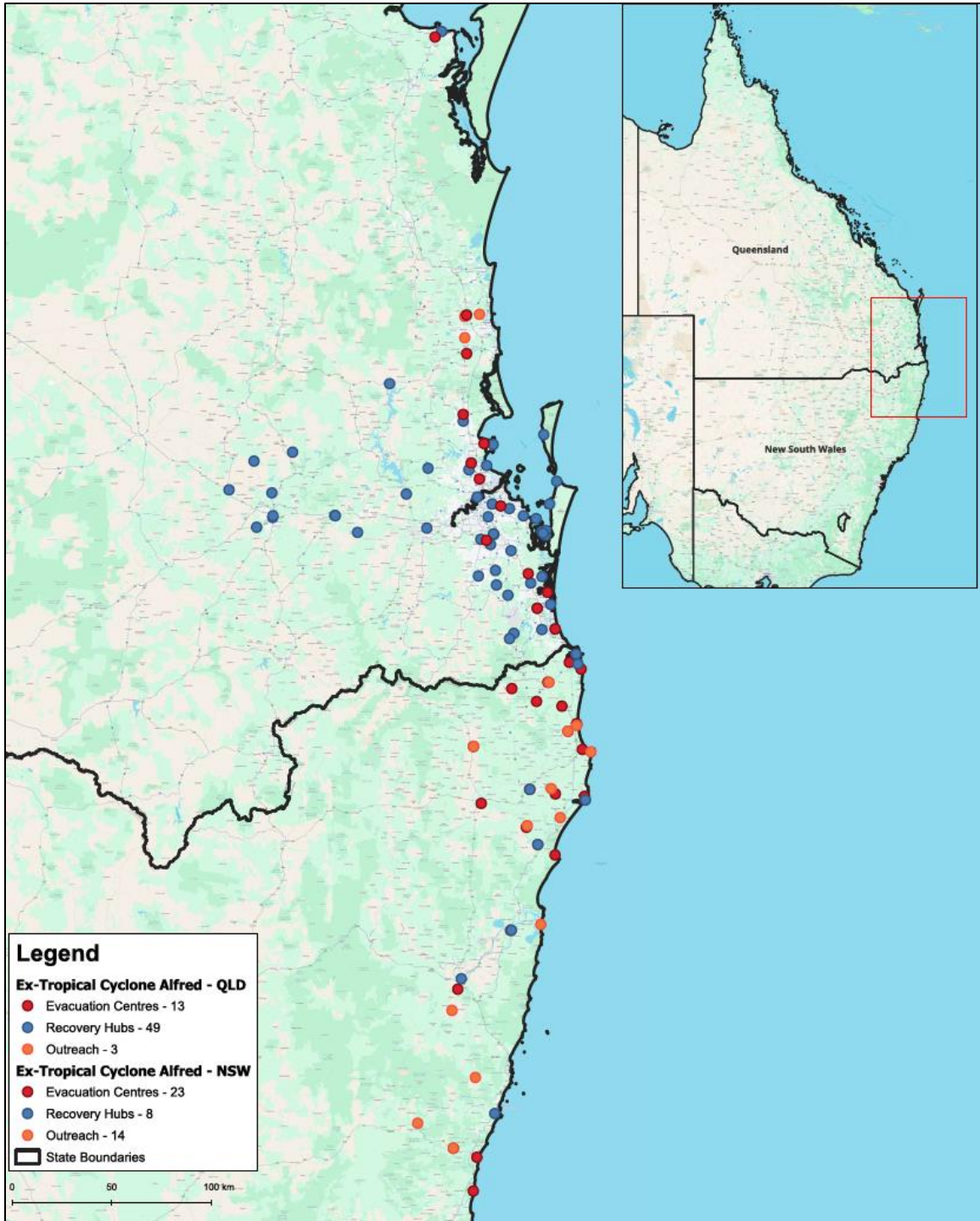
604 **Volunteers,** **99** **IMT staff** and **21** **Liaison Officers** supported this event across **1,790** shifts

180

Local Disaster Management Group and **District DMG** meetings attended, across **18** **LGAs** (QLD)
We are also in the State Disaster Coordination Group, and the State Human Social Group

1300 RED CROSS hotline was activated, where we provided PFA support and referrals to community members via inbound calls

Australian Red Cross



Australian Red Cross RESPONSE across New South Wales and Queensland for EX-Tropical Cyclone Alfred

46,308 people assisted
15,214 people provided with **Psychological First Aid**

8,552 **Referrals** made

Approx $0.6 million in **material assistance vouchers** distributed (QLD)

Disaster Relief Supplies provided to **606** families

Register.Find.Reunite – **1,046** registrations

$671,000 raised from **ARC Cyclone Alfred appeal** to provide immediate response and support long-term recovery for impacted communities.

Australian Red Cross

Australian Red Cross COMMUNITY SENTIMENT across New South Wales and Queensland for EX-Tropical Cyclone Alfred

- **Disbelief** and **shock**, **anxiety** around flooding
- **Repeated trauma** from compounding disasters
- **Property loss or damage** concerns, **cost** of fixing damage
- **Financial worries**, **confusion around eligibility** for financial grants and other supports
- **Food and water security** concerns
- Access to recovery **information**
- **Housing insecurity** exacerbated
- Positive sense of **support** and **community connection**

Australian
Red Cross

Thank you

Australian Red Cross

Natural Hazards Research Australia

Be part of the journey

Follow us on social media

@hazardsresearch

naturalhazards.com.au

Source documents

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