

Global Coral Reef Monitoring Network

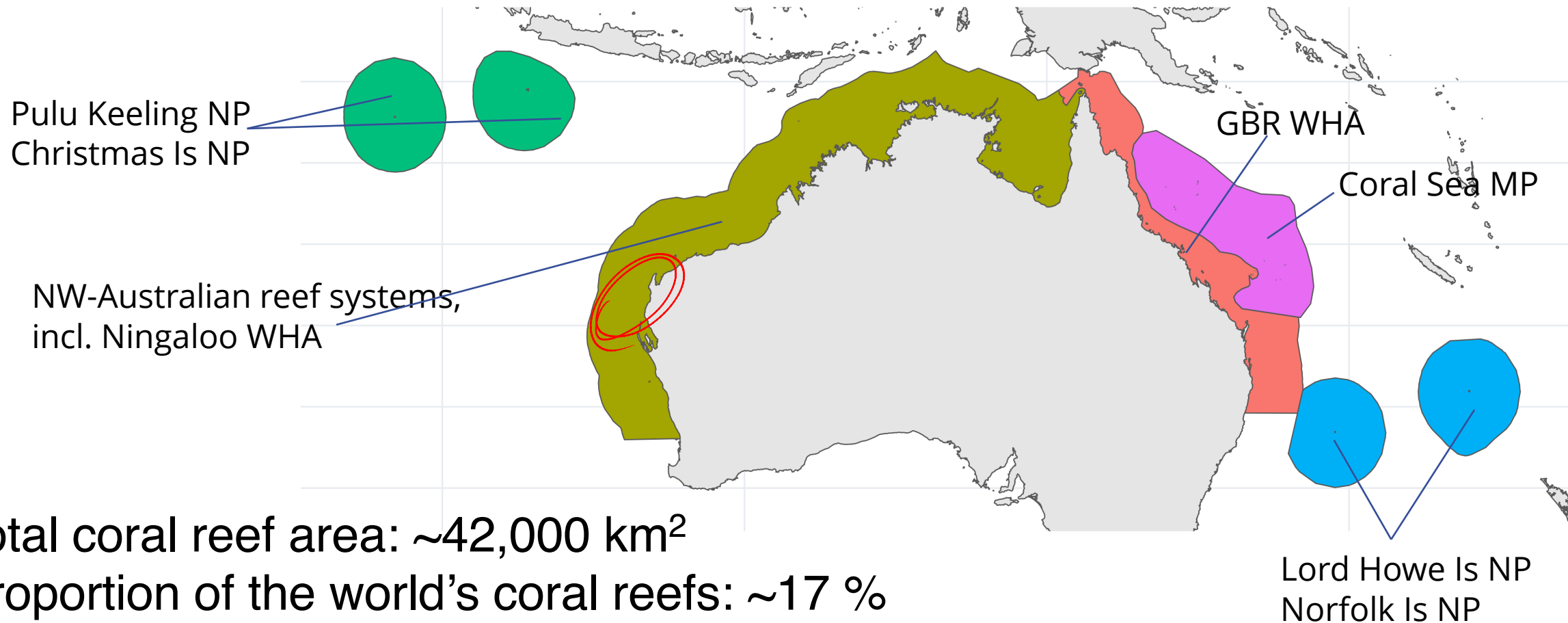
Providing scientific information on the status and trends of
coral reef ecosystems worldwide

ICRI webinar

14 May 2024

Dr David Wachenfeld, *acting GCRMN Global and Australia Coordinator*

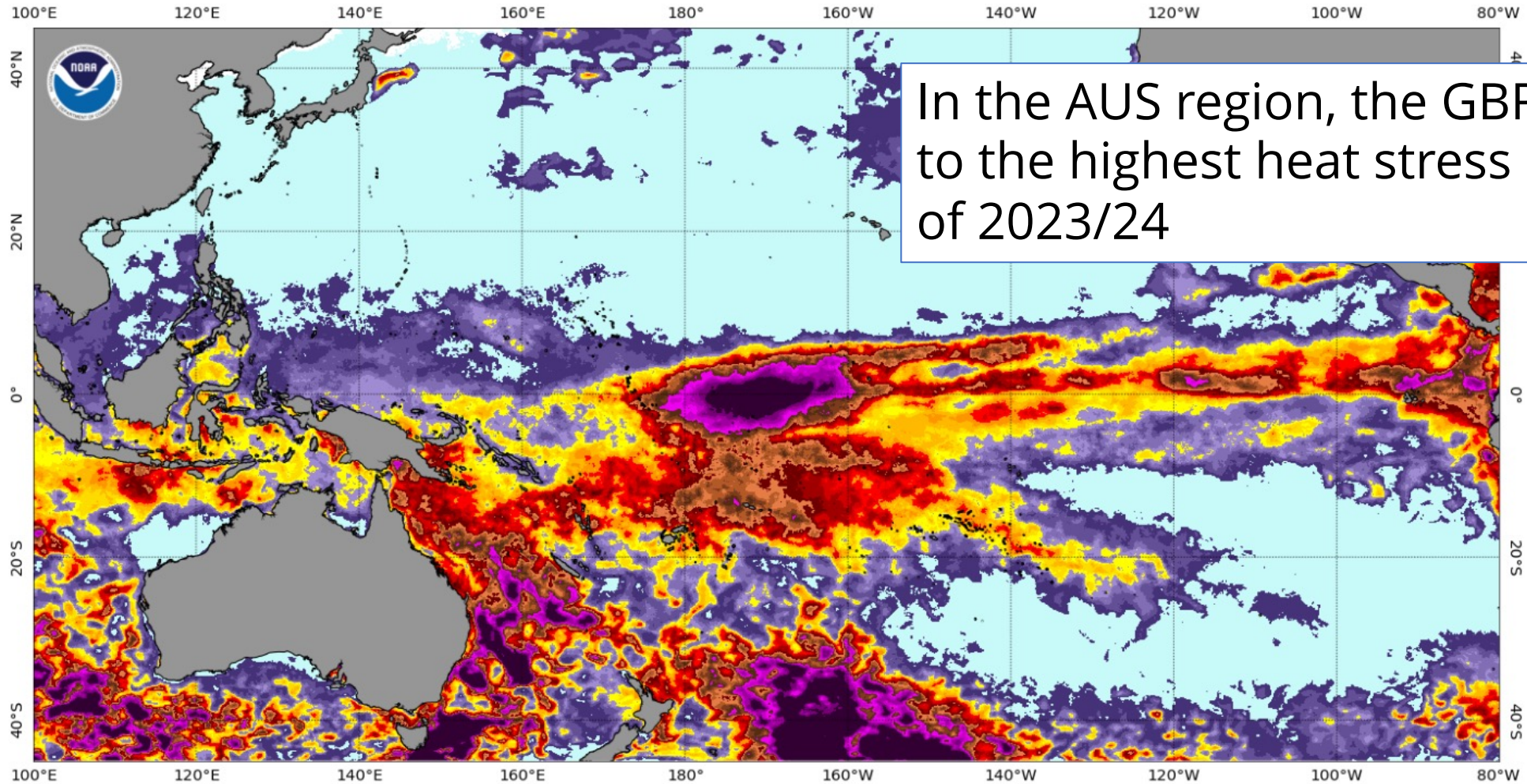
The Australian GCRMN region



- Total coral reef area: $\sim 42,000 \text{ km}^2$
- Proportion of the world's coral reefs: $\sim 17 \%$
- 2 World Heritage Areas
- 12 Marine Ecosystems of the World (MEOW) ecoregions

Sub-regional heat stress pattern

NOAA Coral Reef Watch 5km Degree Heating Week Year-to-date Maximum (v3.1) 1 May 2024

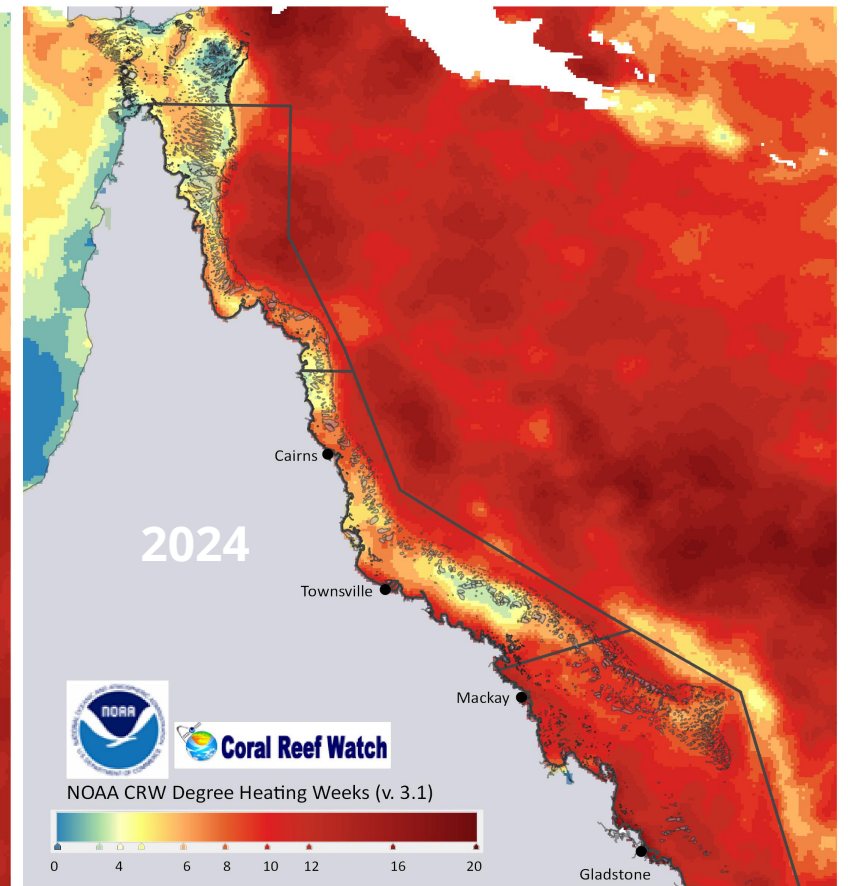
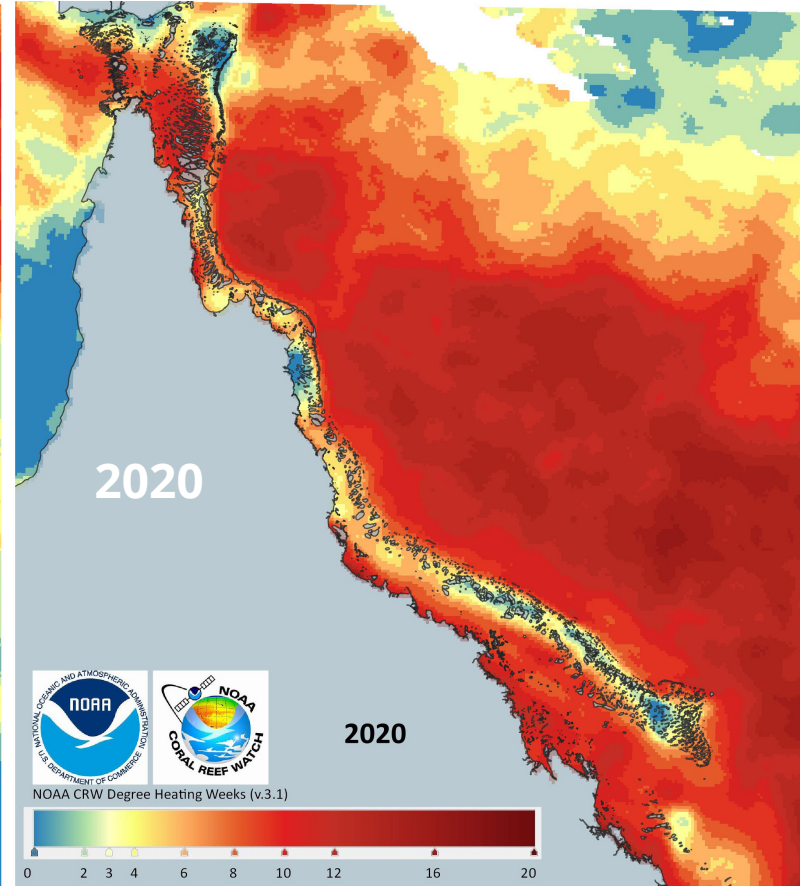
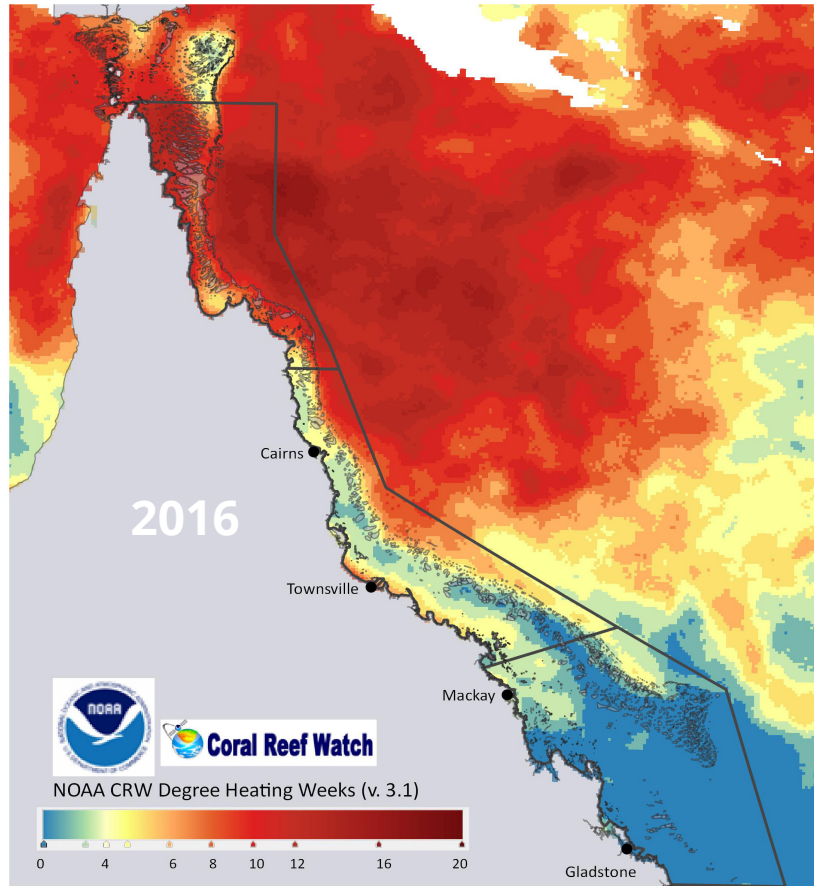


In the AUS region, the GBR was exposed to the highest heat stress in the summer of 2023/24

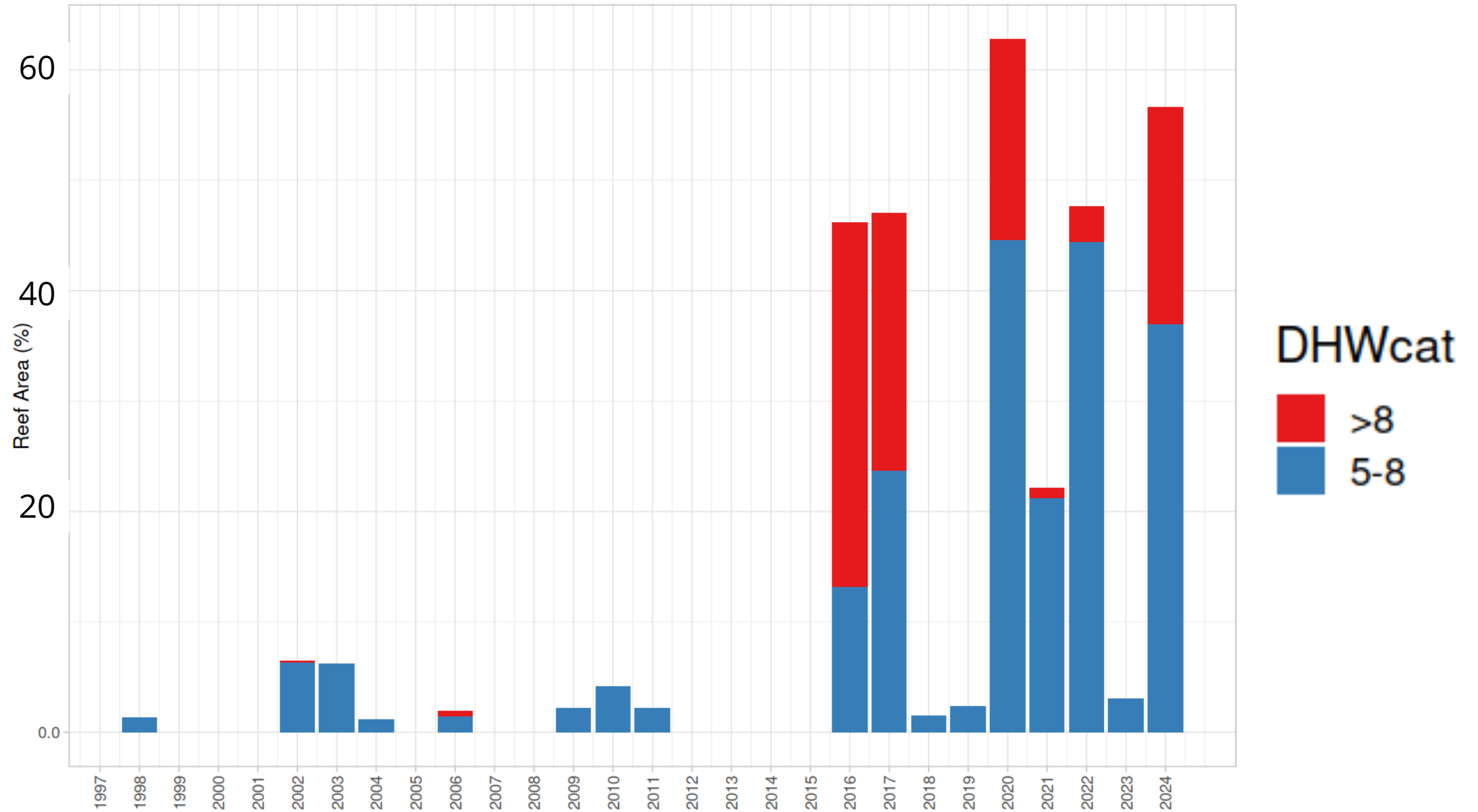
DHW from
1 Jan-1 May 2024



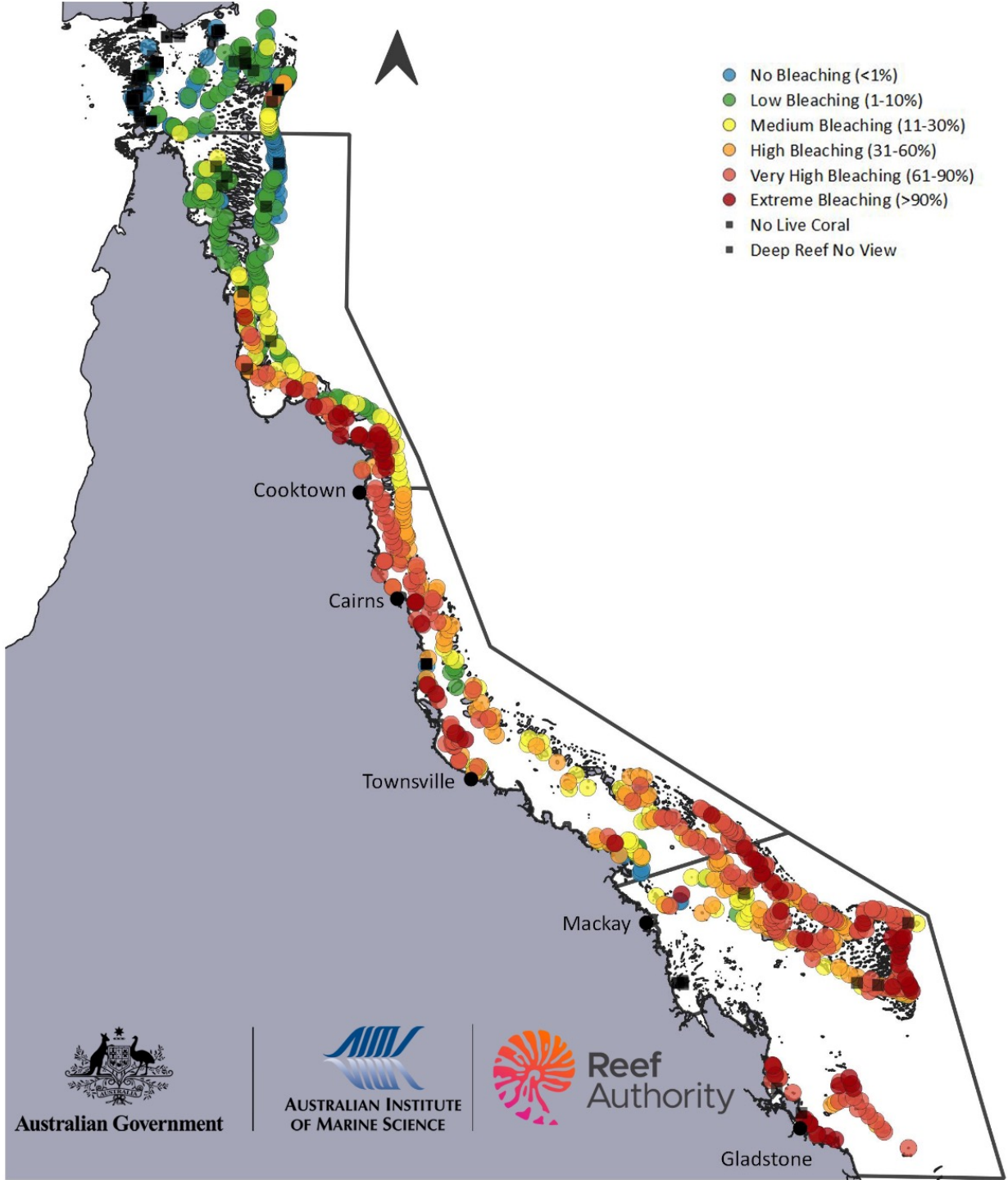
2024 GBR heat stress in context



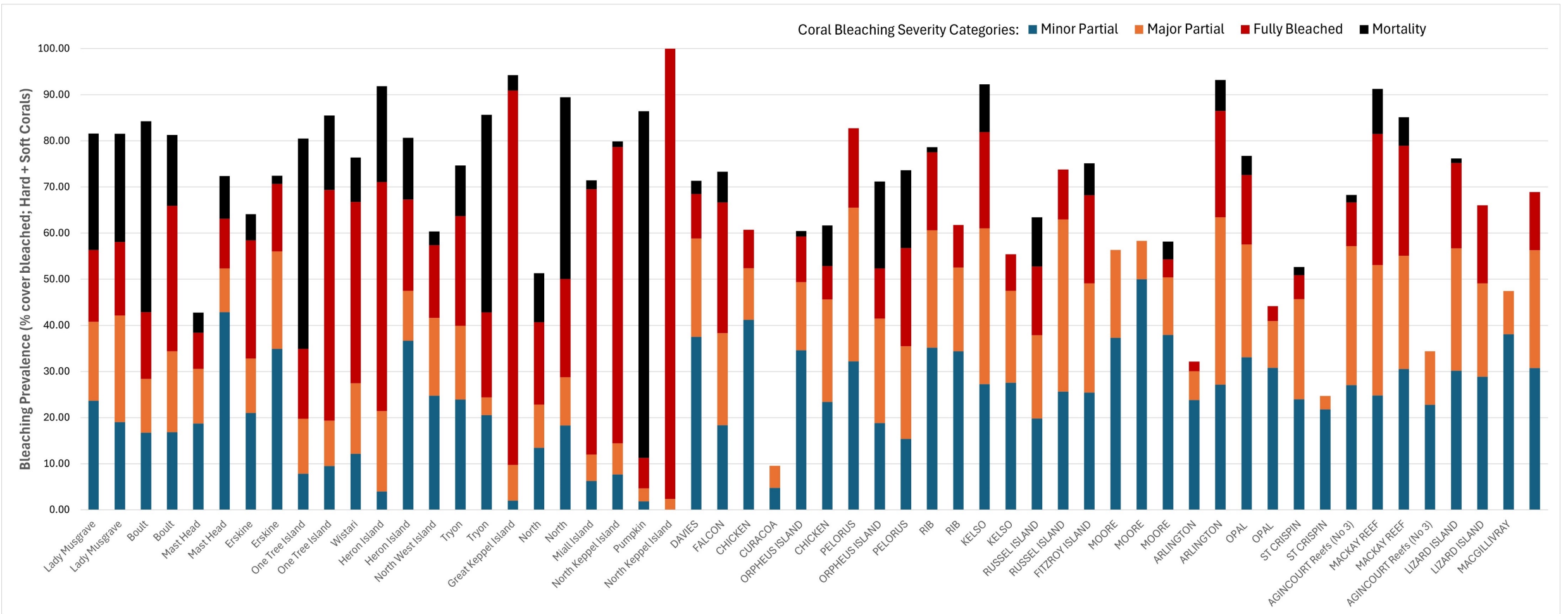
GBR heat stress in 2024 in context



Aerial coral bleaching surveys



Variable in-water bleaching severity – shallow reefs



Southern-GBR

Northern-GBR

In-water surveys give detailed information on bleaching responses

[JuxtaposeJS Embed \(knightlab.com\)](https://knightlab.com/juxtaposeJS)

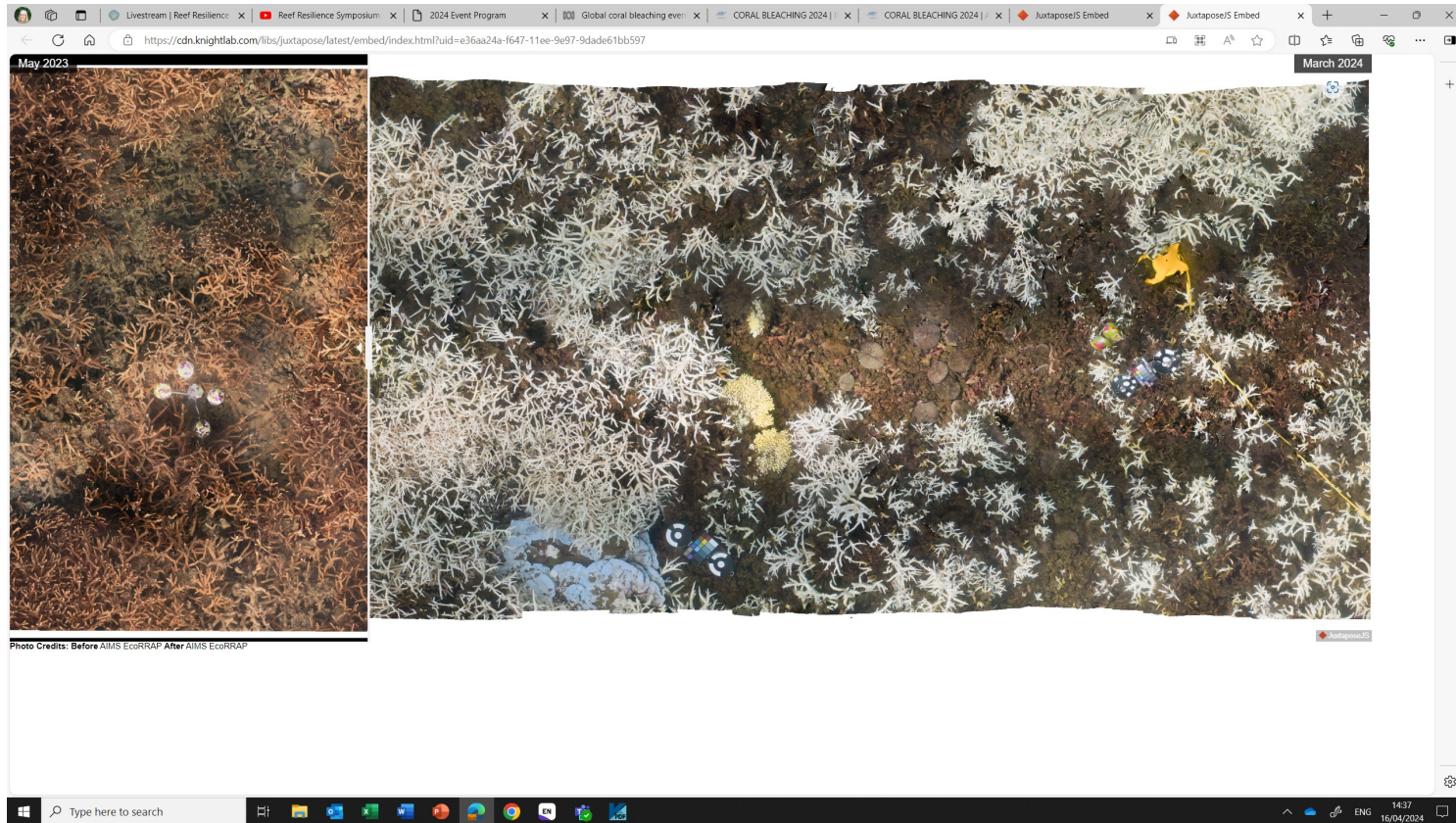


Photo: Nick Thake



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Western Australia



Photo: C. Grimaldi

- No bleaching yet observed at Ningaloo
- Surveys in April/May 2024 at WA oceanic reef systems: minor bleaching and mortality
- Surveys planned for May: Ningaloo, Kimberley, Cocos & Christmas Is



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The Coral Sea

- Surveys in Feb-Mar 2024- before heat peak
- Reefs in the southern and central Coral Sea Marine had mild to moderate bleaching (18% of corals), susceptible species
- Signs of recovery- many juveniles of taxa affected by 2020 bleaching event.



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Norfolk Marine Park



Photo: A. Cooper

- Surveys in late March 2024:
 - 15% of corals bleached, and 32% of corals signs of paling.
 - Most affected: *Pocillopora* and massives
 - *Acropora* ±ok
- Follow-up survey May 2024
- No data yet from Lord Howe MP



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Large coral bleaching field research effort

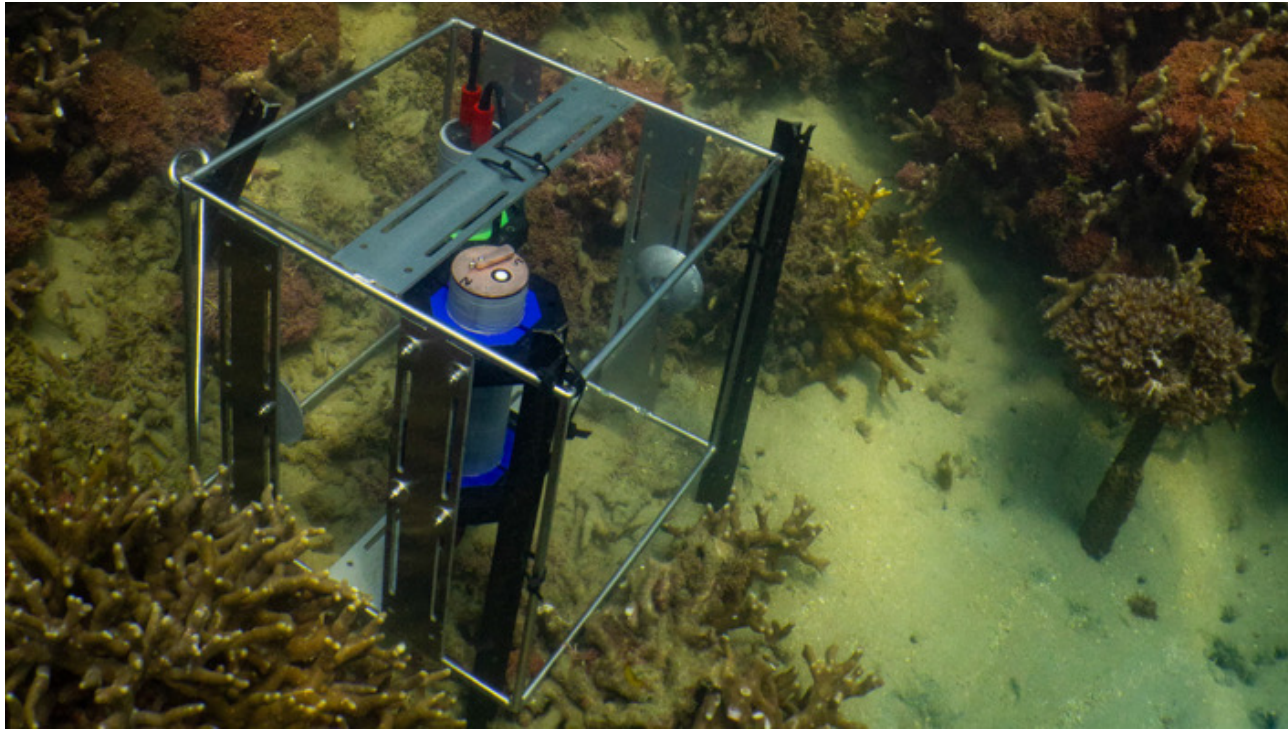


Photo: N. Cantin

- Which corals are most sensitive to heat?
- Is sensitivity changing over time?
- Are corals adapting to marine heatwaves?
- Which corals recover the fastest?
- Identifying & collecting heat-tolerant corals and symbionts
- Tracking survival and recovery of corals bred for enhanced heat tolerance



A global partnership for the preservation of the world's coral reefs and associated ecosystems

An ICRI network to provide scientific information on the status and trends of coral reef ecosystems

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