



Australia ([GBR](#)) - Far North: Pink stations (Preservation Zone reefs)

Regional summary of 58 dive sites. Figures are averages across the sites that report them (n = sites with a value); each site's own page has its individual values. Part of the [Australia \(GBR\)](#) overview.



Photo: Anderson Mayfield/Coral Reef Diagnostics — N. GBR - Pink (AU61A61)

COUNTRY

[Australia](#)

SITES

58

each linked below

HARD CORAL COVER
(REGIONAL MEAN)

40% ± 16% (std. dev.)

n=58. range 3.4–75%

WATER TEMP. DURING
SURVEYS (REGIONAL MEAN)

—

n = 0 of 58 sites

CORAL HEALTH INDEX
(REGIONAL MEAN)

2.25 / 5

n = 1 of 58 sites; scale of zero to
five, higher is healthier

MOST RECENT WATER
TEMPERATURE RECORD

25.2°C

3 Oct 2026 · [Far Northern GBR](#)

MOST RECENT HEAT
STRESS RECORD



0.0°C-weeks

3 Oct 2026 · below alert level

MEAN ANNUAL MAX DEGREE
HEATING WEEKS (DHW), LAST
5 YEARS

10.0°C-weeks

2021–2025 · regional mean of 58
sites, 2 stations

HIGHEST ANNUAL HEAT
STRESS

15.5°C-weeks 🔥

in 2016 · Far Northern GBR

SEVERE HEAT-STRESS YEARS

7

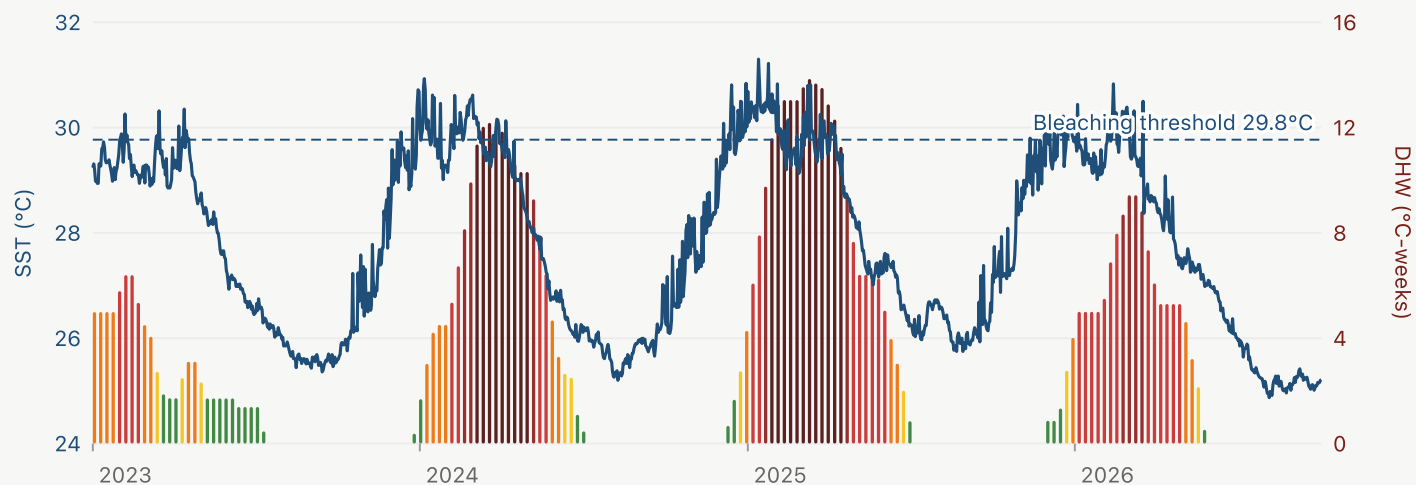
1985–2025 · 7 in the last 10 years

Heat-stress figures: [NOAA Coral Reef Watch](#) 5-km virtual stations: [Far Northern GBR](#); Northern GBR. Each pill links its source record and carries the values behind it.

REGIONAL SUMMARY

Fifty-eight Pink stations on Preservation Zone reefs, the far northern Great Barrier Reef's strictest tier, surveyed in 2014, include giant bommie mazes, walls past 50 m, and a Ribbon Reef 6 pinnacle Anderson called the mission's most beautiful site. Protection did not guarantee health, as [crown-of-thorns starfish](#) and sediment hit Williamson Reef hard.

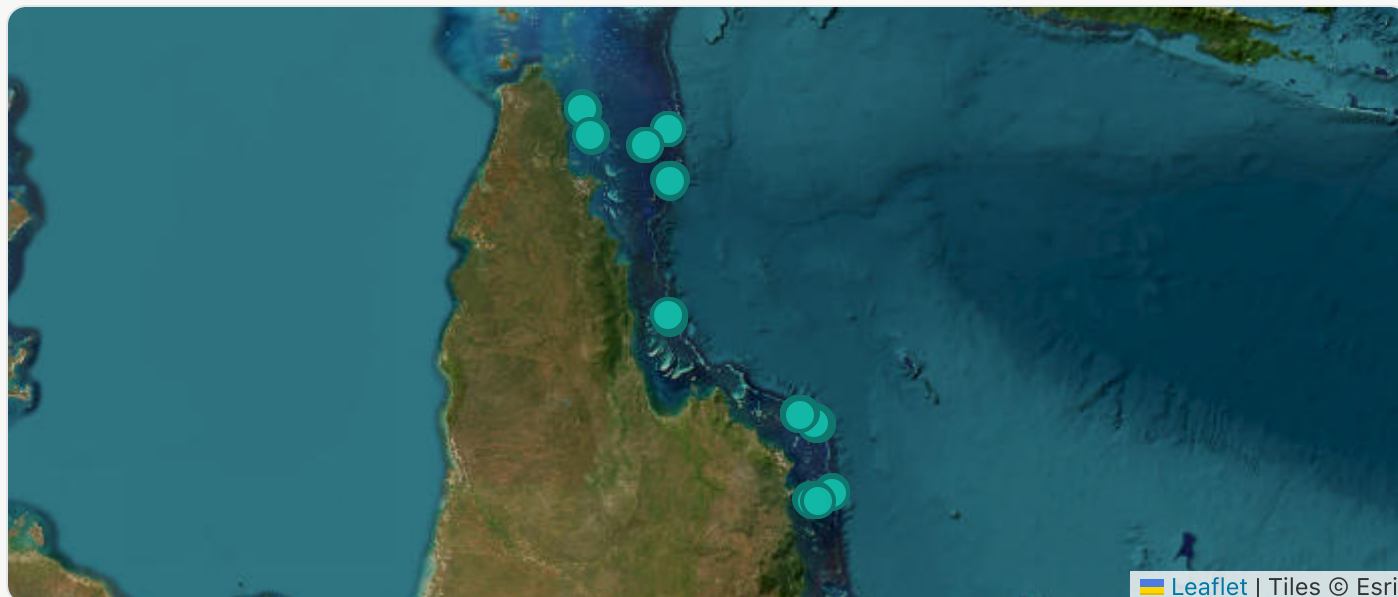
Heat stress



— sea surface temperature (SST) (left axis) ■ DHW under 2 ■ DHW 2–3 ■ DHW 3–5 ■ DHW 5–8
■ DHW 8–10 ■ DHW over 10 (🔥 above 12)

Daily SST (line) and weekly maximum Degree Heating Weeks (bars), Jan 2023–Oct 2026, [NOAA Coral Reef Watch](#) 5-km Far Northern GBR virtual station. Dashed line: bleaching threshold (maximum monthly mean $28.8^{\circ}\text{C} + 1^{\circ}\text{C}$). DHW ≥ 4 : bleaching likely; ≥ 8 : severe bleaching and mortality likely. A bar is drawn only where DHW exceeds zero, so a stretch with no bar is accumulated heat stress of zero, not missing data — the SST line runs the full period.

Long-term record: 7 years since 1985 reached 8 or more $^{\circ}\text{C}$ -weeks at [NOAA's](#) Far Northern GBR, Northern GBR stations. [Download the annual DHW data \(CSV\)](#).



58 sites in this region — click a marker to open that site.

Regional setting

The northern [Great Barrier Reef](#), as [Spalding et al. \(2001\)](#) describe it, lies on a narrow continental shelf, usually under 50 km wide north of Raine Island, whose outer edge is marked by ribbon reefs: slender reefs a few hundred meters wide and up to 25 km long, perched on the shelf break and separated by narrow passes. Inside that outer line are mid-shelf and inner-shelf reefs, wide submerged *Halimeda* banks, and some of the few fringing reefs on the GBR that directly adjoin the mainland. Raine Island, just off the shelf, hosts the world's largest [green turtle](#) nesting populations, and Lizard Island and the Flinders group, two of the few high islands, have extensive fringing reefs. Most of the reef system is thought to have formed within the last 500,000 years, with the current phase of growth dating back perhaps 8,000 years. Diversity is highest in the north, where most of its 350 or so coral species occur. [Spalding et al. \(2001\)](#) put Australia's national reef area at about 48,960 km², and [Souter et al. \(2021\)](#) give 35,487 km² for the [GCRMN](#) subregion comprising the Torres Strait–northern GBR, central–southern GBR, and Tweed–Moreton ecoregions. The atlas notes that the park's zoning plan kept strictly protected areas within a much larger multiple-use framework, and [Wilkinson \(2006\)](#) notes that the 2004

rezoning divided the Marine Park into 70 bioregions, with the aim of placing at least 20% of each under no-take protection.

[Souter et al. \(2021\)](#) date the main recent losses on the GBR to the back-to-back [bleaching](#) of 2016 and 2017, which together affected its northern two-thirds; in 2016 alone, about 30% of shallow-water coral in the northern third died. Algal cover on the GBR almost doubled between 1996 and 2019, reaching 40.3% in 2018, the same year average coral cover hit its low of 24%. Cyclones and [crown-of-thorns starfish](#) added to the damage, with most of the reef exposed to severe cyclones over the two decades before the report. Earlier, [Wilkinson \(2006\)](#) reported a fourfold rise in the yearly load of sediments and nutrients reaching the GBR, and [Souter et al. \(2021\)](#) still count agricultural sediments, nutrients, and pesticides among the threats to reefs near the coast.

Overview

This unit brings together the 58 far northern Great Barrier Reef stations coded Pink in Anderson's 2014 survey set. The stations are the expedition's Pink stratum, reefs in the Preservation Zone, the Marine Park's strictest tier, where entry itself is restricted and nothing may be taken; on the zoning map two Ribbon Reef 6 positions ([AUR608](#) and [AUR610](#)) fall about 70 to 80 m into the adjoining Buffer Zone. The stations run from about 11 to 15.4°S and were surveyed by in situ transect between 4 September and 2 October 2014; recorded station depths ran from 5.3 m at [AU61A66](#) (the other expedition team's survey depth) to 24.7 m at [AUPE127](#). They cover Unnamed Reefs 61A and 11-091, plus Carter, Hilder, Milman, Parkinson, Pearson, Williamson, and Yule Detached Reefs, along with Ribbon Reef 6.

On the backreef of Unnamed Reef 61A there is a maze of bommies, some over 30 m across, with at least 20 hard coral species on two transects ([AU61A61](#)) and, at [AU61A63](#), a very large *Pavona* colony in Anderson's notes. His notes describe Pearson Reef's steep slope as highly rugose. Yule Detached Reef has walls falling past 50 m with coral still growing at 30 m. On the survey's second day Anderson called a leeward coral pinnacle on Ribbon Reef 6 ([AUR611](#)) "beautiful" and "interesting". On Unnamed Reef 11-091, a reef platform that looked scoured holds a steady 9-11 m for hundreds of meters under 2-3 knot currents ([AU91111](#)). In contrast, the Milman and Parkinson stations were silty, low-visibility reefs dominated by *Goniopora*, *Alveopora*, lettuce coral, and *Pachyseris*, where [AUPS71](#) still held unbroken gold staghorn meadows in a couple of meters of water.

Protection status did not translate into uniform condition. Transect cover ranged from 3.4% at [AUWL28](#) and 4.6% at [AUWL26](#) on Williamson Reef to 75% at [AU61A63](#). On one Williamson Reef dive ([AUWL27](#)) Anderson counted at least 22 [crown-of-thorns starfish](#) and believed they drove the loss; on a neighboring dive ([AUWL25](#)) he recorded 90-95% of the staghorn dead under

sediment and cyanobacteria without assigning a cause. Crown-of-thorns starfish were also recorded on Pearson, Milman, and Parkinson Reefs. Hilder Reef had apparent recent storm rubble around 10 m. Pale, bleached, or dying needle coral (*Seriatopora*) was recorded across the majority of reefs in the zone, and photographs from [AUCT53](#) and [AUR607](#) show stark-white colonies beside pigmented neighbors. On Ribbon Reef 6 ([AUR611](#)), some mostly bleached *Pocillopora* were covered in mucus that Anderson noted looked exogenous rather than produced by the corals ("Very strange").

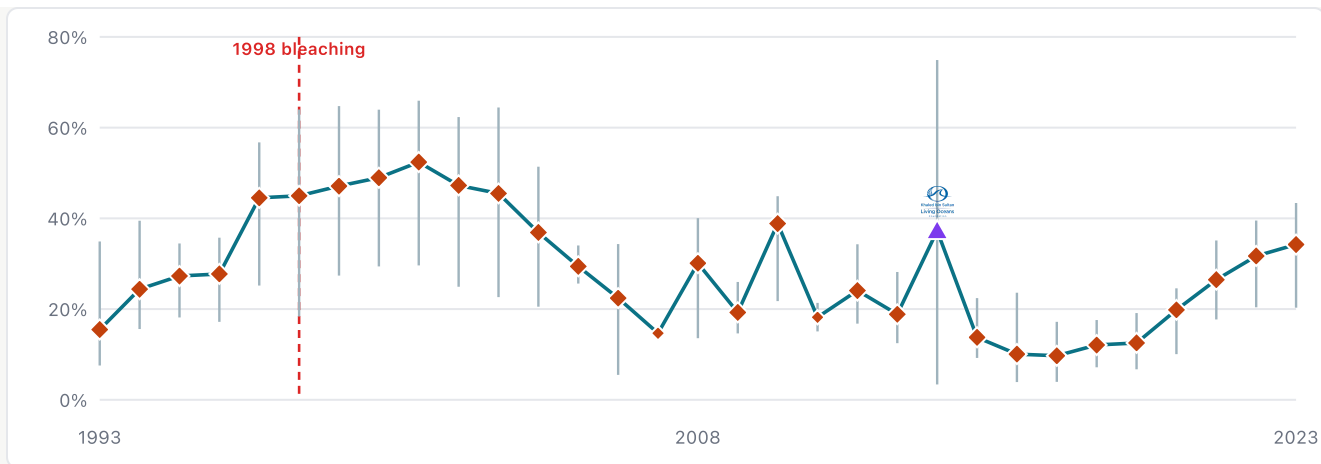
Highlights

- [AU61A63](#) on the Unnamed Reef 61A backreef: 75% live coral and a very large *Pavona* colony in Anderson's notes 
- [AUR611](#), a leeward coral pinnacle on Ribbon Reef 6, which Anderson called "beautiful" and "interesting" on the survey's second day 
- Pearson Reef: 65% cover at [AUPE123](#), a steep slope his notes describe as highly rugose, and 62% at [AUPE125](#) 
- Yule Detached Reef walls falling past 50 m, with coral still growing at 30 m ([AUJD109](#)) 
- Williamson Reef: at least 22 crown-of-thorns starfish on one dive ([AUWL27](#)), and 3.4% live coral on the Global Reef Expedition (GRE) team's [AUWL28](#) transects 
- Milman Reef: a giant *Euphyllia glabrescens* head ([AUMM89](#)) 

► Notable observations (25)

Coral cover over time (pooled)

One point per year: the mean of every hard coral cover value available for this region that year — Anderson's own dives and every independent survey station within 5 km of them. The vertical bar is the full range behind that mean. Different programs use different methods at different stations, so this is a regional summary, not a single comparable series. One value above 70% was excluded as a best-patch figure rather than a site mean. Years resting on fewer than three values are drawn as smaller points (2007, 2011). Non-CRD/LOF points are from [Reef Check Foundation](#), [Australian Institute of Marine Science](#), and [XL Catlin Seaview Survey \(University of Queensland\)](#). Marker shape: ● his own dives, ◆ other organizations' surveys, ▲ a mix of both, that year,  the year includes his [Global Reef Expedition](#) dives with the [Khaled bin Sultan Living Oceans Foundation](#) (CRD+LOF data).



► Sites in this region (58)

Nearby external survey stations

234 independent survey records within 5 km of a site in this region (each record counted once).

► Show all 234 records

All images from [Coral Reef Diagnostics](#). Data are from the [Khaled bin Sultan Living Oceans Foundation Global Reef Expedition](#), Coral Reef Diagnostics, [Reef Check Foundation](#), [Australian Institute of Marine Science](#), [Global Coral Reef Monitoring Network](#), and [XL Catlin Seaview Survey \(University of Queensland\)](#).



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References

- Souter D, et al. (eds) (2021) *Status of Coral Reefs of the World: 2020*. International Coral Reef Initiative / [Global Coral Reef Monitoring Network](#). [\[PDF\]](#)
- Spalding MD, et al. (2001) *World Atlas of Coral Reefs*. University of California Press, Berkeley. [\[PDF\]](#)
- Wilkinson C (2006) Status of coral reefs of the world: summary of threats and remedial action. In: Côté IM, Reynolds JD (eds) *Coral Reef Conservation*. Cambridge University Press, Cambridge. [\[PDF\]](#)