



Australia (GBR)

Overview of 177 dive sites (166 with their own page). Figures are averages across the sites that report them (n = sites with a value); each site's own page has its individual values. Regional summaries: [Far North: Blue stations \(Habitat Protection Zone reefs\)](#), [Far North: Green stations \(no-take reefs\)](#), [Far North: Pink stations \(Preservation Zone reefs\)](#), [Central \(Whitsundays / Townsville / Cairns\)](#).



Coral Health Index: 2.25/5



Photo: Anderson Mayfield/Coral Reef Diagnostics — N. GBR - Green (AUWO105)

COUNTRY

[Australia](#)

SITES

177

each linked below

HARD CORAL COVER
(OVERVIEW MEAN)

39% ± 16% (std. dev.)

n = 166 of 177 sites. range 1.8–79%

WATER TEMP. DURING
SURVEYS (OVERVIEW MEAN)

CORAL HEALTH INDEX
(OVERVIEW MEAN)

MOST RECENT WATER
TEMPERATURE RECORD

23.5°C

n = 1 of 177 sites; surveyed Sep 2014

2.25 / 5

n = 1 of 177 sites; scale of zero to five, higher is healthier

24.1°C

3 Oct 2026 · [Central 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

9.8°C-weeks

2021–2025 · regional mean of 177 sites, 4 stations

HIGHEST ANNUAL HEAT STRESS

15.5°C-weeks 🔥

in 2016 · Far Northern GBR

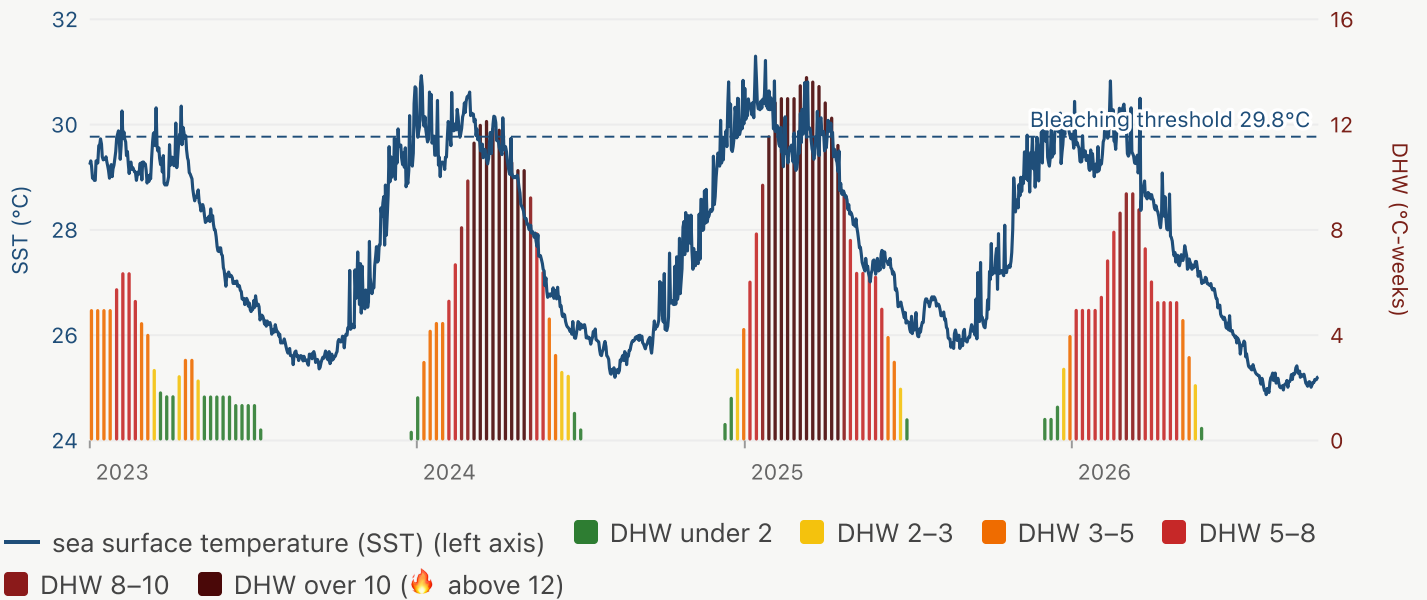
SEVERE HEAT-STRESS YEARS

10

1985–2025 · 7 in the last 10 years

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

Heat stress



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°C + 1°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: 10 years since 1985 reached 8 or more °C-weeks at [NOAA's](#) Central GBR, Far Northern GBR, Northern GBR, Southern GBR stations. Download the annual DHW data (CSV): [torres-strait-northern-great-barrier-reef](#), [central-and-southern-great-barrier-reef](#).





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

Overview

The [Great Barrier Reef](#) runs for well over 2,000 km along Australia's northeast coast, and Spalding et al. (2001) describe it as a system of nearly 3,000 reefs and shoals plus high islands with their own fringing reefs. Its character changes along that length. North of Raine Island the shelf narrows to less than 50 km and its outer rim is lined by ribbon reefs, slender reefs typically under 500 m wide and up to 25 km long, sitting on the shelf break with water deepening past 1,000 m a few hundred meters seaward. Behind them are mid-shelf and inner-shelf reefs, submerged *Halimeda* banks, and some of the few GBR fringing reefs that adjoin the mainland directly. The central section, from Mossman south to the Whitsunday and Lindeman barrier, sits on a widening shelf where most reef growth is confined to the outer third and nearshore waters swing in turbidity and salinity when rivers flood. Most of the reef's roughly 350 coral species occur in the north. Spalding et al. (2001) put Australia's national reef area at about 48,960 km²; Souter et al. (2021) give 35,487 km² for the [GCRMN](#) subregion made up of the Torres Strait-northern GBR, central-southern GBR, and Tweed-Moreton ecoregions.

This page covers 177 sites. Three regional groups, 166 sites, are one survey set: the northern Great Barrier Reef stations of the 2014 [Global Reef Expedition](#), surveyed between 3 September and 2 October 2014 (Anderson dived 84 of them; the GRE team surveyed the other 82), grouped by the expedition's zone strata. Blue (Habitat Protection Zone reefs) holds 54, Green (no-take reefs) 54, and Pink (Preservation Zone reefs) 58. The other eleven sites are of a different kind entirely. Central (Whitsundays / Townsville / Cairns) holds nine sites, six of them reef dive sites in Whitsunday bays and points, plus Davies Reef, one area marker, and Hill Inlet, which is a tidal sand and [seagrass](#) system rather than a reef. The last two, Heron Island and Lady Elliot Island in the Capricorn-Bunker group, form a southern group that has no regional page of its own. Neither the central nor the southern sites have a transect value or a photograph;

between them they rest on four logged dives from early 2007 and on other organizations' surveys nearby.

Across the 166 northern stations with an in situ transect value, hard coral cover averaged 39% and algal cover 36%. Forty-four stations reached 50% or more and four reached 70% or more; six were below 10%. The three zones were close to each other in the mean, at 38% on the Blue Habitat Protection Zone reefs (n = 54), 39% on the Green no-take reefs (n = 54), and 40% on the Pink Preservation Zone reefs (n = 58), so protection status did not separate them. The spread within each zone was what mattered: every zone held stations below 10% and stations at 60% or more. Station depths ran from 4.9 m at [AU238142](#) (the other expedition team's survey depth) to 24.7 m at [AUPE127](#), with about half of the stations (81 of 166) between 5 and 9 m. Structure varied from near-vertical ribbon-reef walls carrying coral to about 30 m, through backreef bommie mazes over 30 m across and *Acropora* meadows hundreds of meters wide on Siddons Reef, to silty inshore reefs where soft corals, sponges, and sea fans have taken over the old framework.

Two condition signals recur across all three northern zones. The first is crown-of-thorns starfish, recorded on Lark, Siddons, Pearson, Milman, Parkinson, and Williamson Reefs, on Unnamed Reef 74, as feeding damage on Unnamed Reef 122, and on the 11°S lagoon reefs. Anderson counted at least 22 starfish on one Williamson Reef dive ([AUWL27](#)), where he believed they drove the loss, and estimated about 30 in an active outbreak at [AU4335](#). At other stations he read the damage differently: on Lark Reef, where 90% or more of the staghorn was dead, he judged the die-off to predate the starfish. The second signal is needle coral. Pale, sickly, bleached, or dying *Seriatopora* was logged on most reefs in all three zones, reaching about 95% of colonies bleached at the Wood Reef station [AUWO103](#) and near-uniform bleaching at 20-25 m on Ribbon Reef 7. 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").

The timing is what gives this set its value. All 166 northern stations were surveyed about eighteen months before the 2016 mass bleaching, which Souter et al. (2021) report killed roughly 30% of shallow-reef coral in the northern third of the GBR, with effects detected to 40 m. A second event in 2017 centered on the central third, so between them the two events touched the reef's northern two-thirds. Across the whole GBR, average hard coral cover fell from about 34% in the late 1990s to 24% in 2018 and 24% in 2019, while algal cover almost doubled between 1996 and 2019. The central and southern sites have no such data directly, but the surveys around them show large swings rather than a steady slide: within 2 km of Butterfly Bay, six [Reef Check](#) surveys from 2018 to 2023 ranged from 13% to 32% hard coral, and within 2 km of Heron Island, 144 [Reef Check](#) surveys from 1997 to 2023 ranged from 0.0% to 82%. Severe Tropical Cyclone Debbie crossed the Whitsundays in March 2017, so every Whitsunday survey since then describes reefs after that storm.

Highlights

- Cover of 79% against 7.8% algae on Unnamed Reef 74 ([AU74147](#), Marine National Park Zone).



- 75% at [AU61A63](#) on the Unnamed Reef 61A backreef, with a very large *Pavona* colony in Anderson's notes; nearby [AU61A61](#) is a maze of bommies, some over 30 m across, with at least 20 hard coral species on two transects (Preservation Zone).



- The second Wood Reef dive, at 61% cover against 9.3% algae on a slope of layered table corals ([AUWO105](#)); at the neighboring Wood Reef station [AUWO103](#), about 95% of the needle coral was badly bleached (his field estimate).



- At least 22 crown-of-thorns starfish on one Williamson Reef dive, with freshly killed white skeleton ([AUWL27](#)); the Global Reef Expedition (GRE) team's neighboring [AUWL28](#) station recorded 3.4% cover.



- Lark Reef, where 90% or more of the staghorn framework was dead and the expedition's first crown-of-thorns starfish were found, though Anderson judged the die-off to predate them ([AULK19](#)).



- Pale, sickly, or bleached needle coral (*Seriatopora*) recorded in all three far-northern zones, on Wood, Ribbon 6, Ribbon 7, Yule Detached, Pearson, Hilder, Monkman, Siddons, Carter, and Jewell Reefs among others.
- An intermediate-exposure pinnacle on Ribbon Reef 6 that Anderson called "beautiful" and "interesting" on the survey's second day ([AUR611](#)), and a Pearson Reef slope his notes describe as highly rugose ([AUPE123](#)).



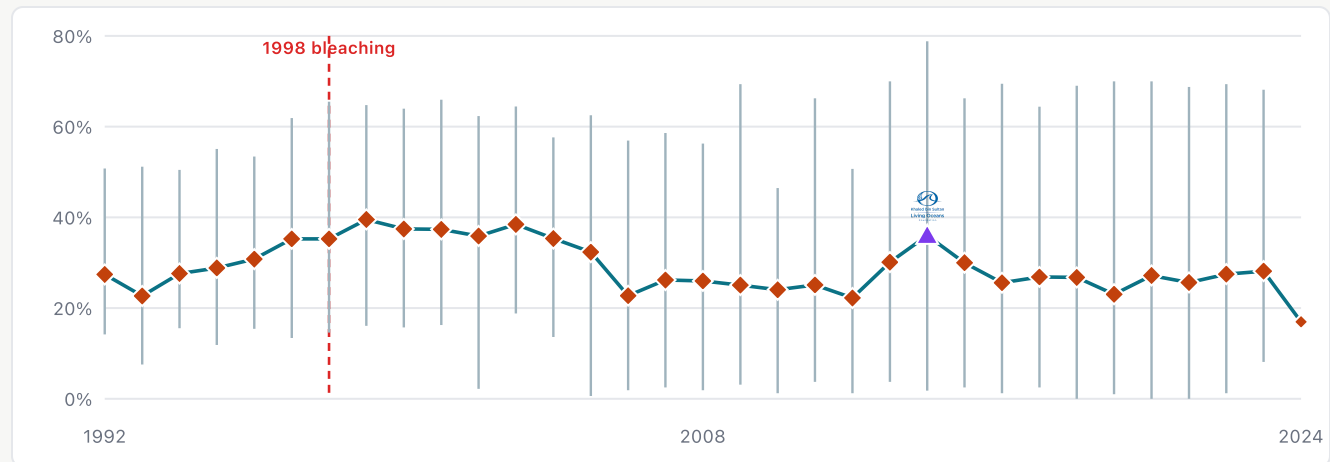
- The central and southern sites have no transect data of their own: within 2 km of Butterfly Bay alone, six [Reef Check](#) surveys from 2018 to 2023 ranged from 13% to 32% hard coral.

► Notable observations (14)

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. 28 values above 70% were excluded as best-patch figures rather than site means. That exclusion

removes the year 2025 from this curve altogether, because every value available for it was a best patch. Years resting on fewer than three values are drawn as smaller points (2024). Non-CRD/LOF points are from [Reef Check Foundation](#), [Australian Institute of Marine Science](#), [XL Catlin Seaview Survey \(University of Queensland\)](#), and [Roelfsema et al. \(2021\)](#). 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 (177)

Nearby external survey stations

1320 independent survey records within 5 km of a site in this region (each record counted once).

► Show all 1320 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](#), [XL Catlin Seaview Survey \(University of Queensland\)](#), and [Roelfsema et al. \(2021\)](#).



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