Triton Bay

Regional summary of 5 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.

0 — 5

Coral Health Index: TBD

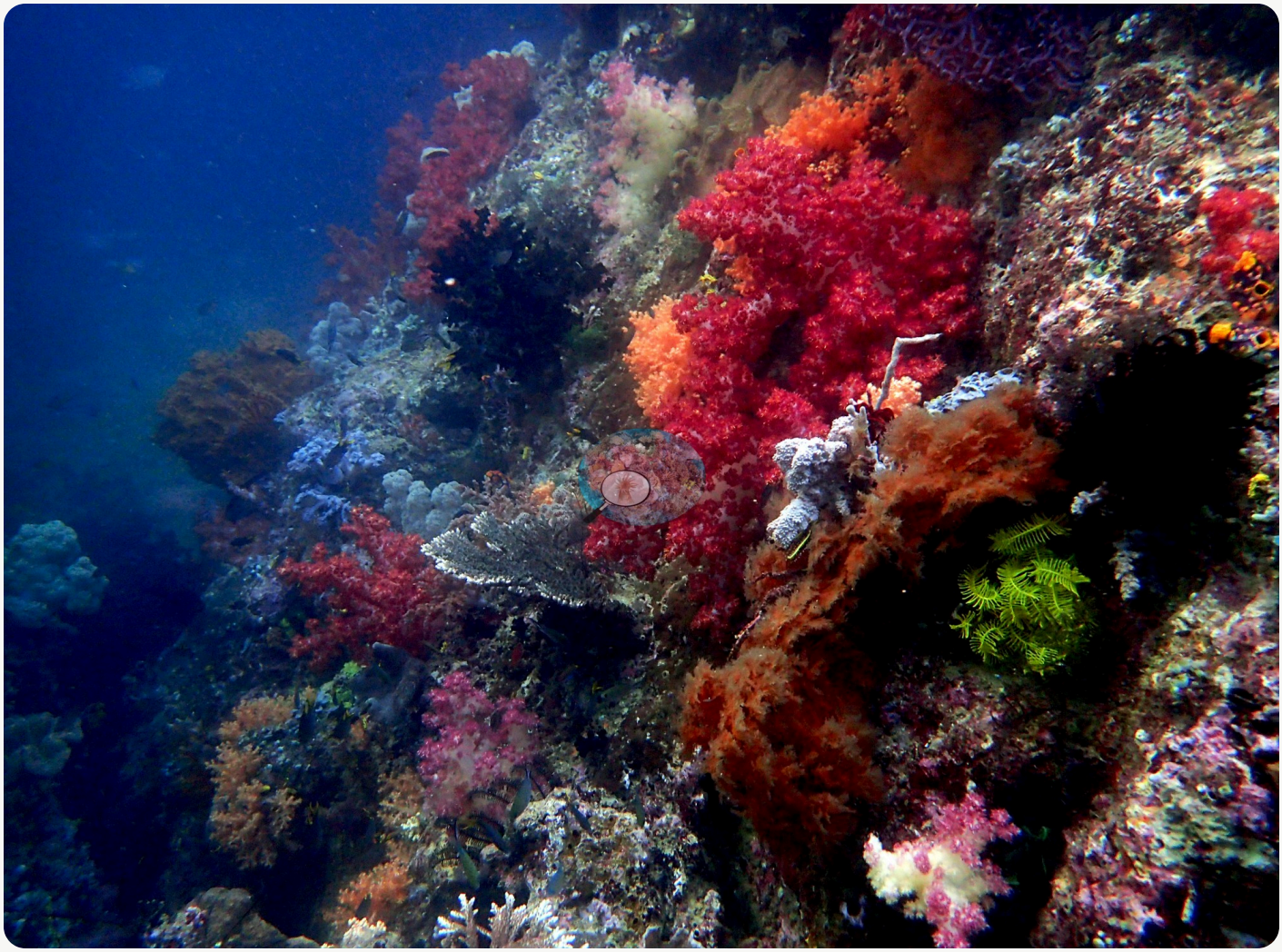


Photo: Anderson Mayfield/Coral Reef Diagnostics — Triton Bay - Little Komodo

COUNTRY

Indonesia

SITES

5

each linked below

HARD CORAL COVER (REGIONAL MEAN; CLAUDE COMPUTER VISION)

10% ± 2.3% (std. dev.)

n = 4 of 5 sites. range 7.8–13%

WATER TEMP. DURING SURVEYS (REGIONAL MEAN)

25.0°C

n = 5 of 5 sites; surveyed Oct 2018

CORAL HEALTH INDEX (REGIONAL MEAN)

not yet scored

n = 0 of 5 sites

MOST RECENT WATER TEMPERATURE RECORD

30.5°C

26 Oct 2026 · West Papua

MOST RECENT HEAT STRESS RECORD

1.4°C-weeks

26 Oct 2026 · Bleaching Watch

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

10.1°C-weeks

2021–2025 · West Papua

HIGHEST ANNUAL HEAT STRESS

14.0°C-weeks

in 2024 · West Papua

SEVERE HEAT-STRESS YEARS

5

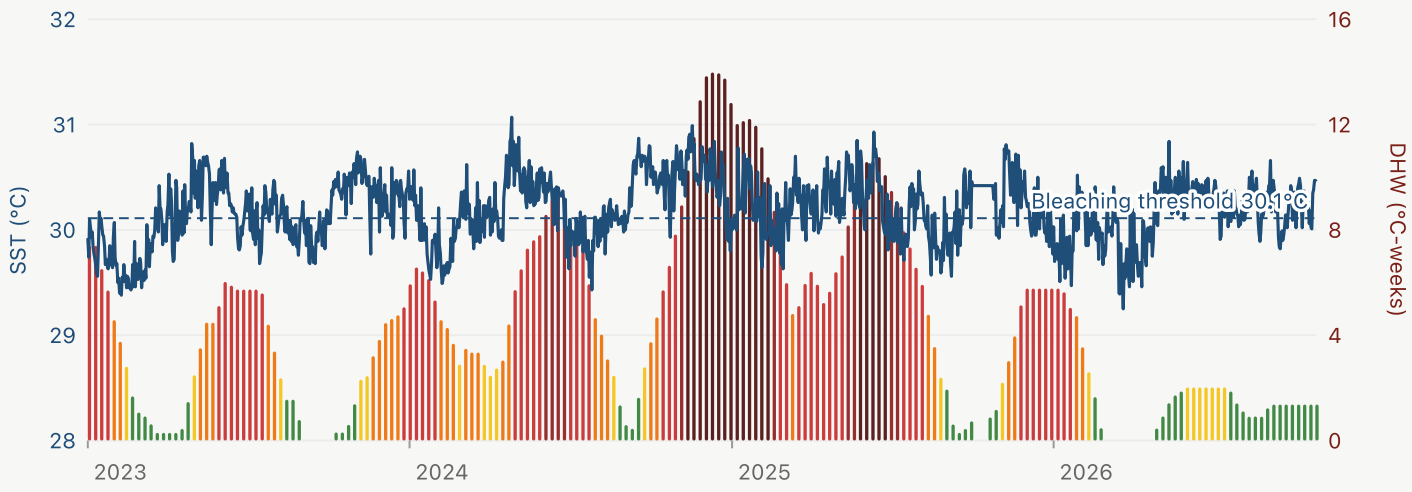
1985–2025 · 4 in the last 10 years

Heat-stress figures: NOAA Coral Reef Watch — West Papua 5-km virtual station. Each pill links its source record and carries the values behind it.

REGIONAL SUMMARY

Triton Bay's five sites, dived in October 2018 in turbid, nutrient-rich, high-flow water, are dominated by soft corals, including a naturally white soft-coral forest at Little Komodo. Hard coral clusters in the top few meters, and the only possible bleaching recorded was one small hard coral at Bo Rainbow (one frame).

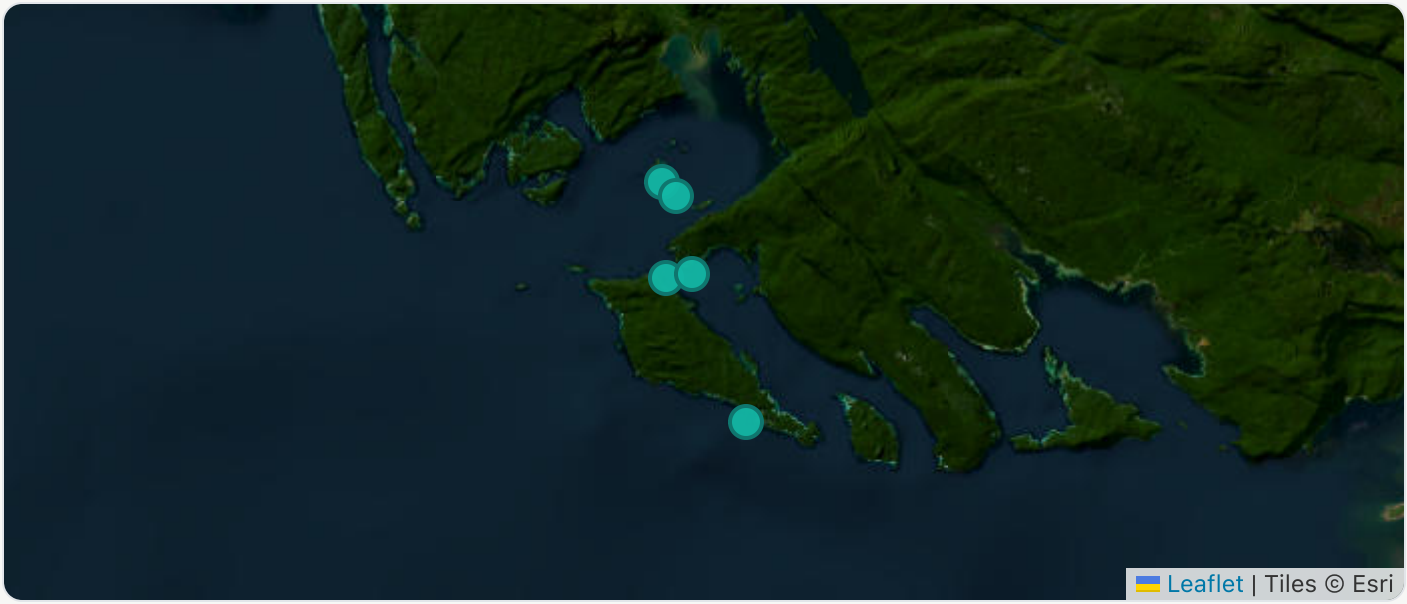
Heat stress



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 West Papua virtual station. Dashed line: bleaching threshold (maximum monthly mean 29.1°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: 5 years from 1985 through 2025 reached 8 or more °C-weeks at NOAA's West Papua station. Download the annual DHW data (CSV).



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

Read this summary in: English Bahasa Indonesia

Regional setting

Spalding et al. (2001) do not mention Triton Bay, and they call the coastline of Irian Jaya, on which it lies, very poorly described. Much of that coast is low-lying and takes in heavy river discharge, above all in the south. Along the southeast, reefs give way to mangroves the authors count among the largest in the world, with the forests of Bintuni Bay and the central coast possibly rivaling the Sundarbans in area, while farther west, where the land rises, fringing reefs are reported to be widespread. South of Irian Jaya lies the Arafura Sea, a broad shelf mostly shallower than 100 m whose turbid water contrasts with the clear oceanic conditions elsewhere in eastern Indonesia, and in the Southeast Monsoon winds blow up toward the island's southern shore. Nationally, the authors estimate about 51,020 km² of coral reef in Indonesia, some 18% of the global total, with 443 coral species recorded and 581-602 estimated for its biogeographic region.

Reef Check surveys in 2002-2003 put the Coral Triangle, the area spanning Indonesia, the Philippines, and Papua New Guinea, among the three regions of the world with the least damaged reefs (Wilkinson 2006). The same review singled out Indonesia as a country where clear-felling of tropical forest for timber and oil palm was clearly adding to the sediment reaching reefs. Souter et al. (2021) list siltation and eutrophication from changing land use, overfishing, and the spread of coastal aquaculture among the main pressures across the East Asian Seas, and estimate that the region lost almost 11% of its hard coral, in relative terms, between 2005-2009 and 2015-2019, most of it after the 2010 bleaching event. Bawole et al. (2026) report mean hard coral cover of 17–32% in the no-take zones and 13–18% in the use zones at 24 University of Papua monitoring sites in the Kaimana marine protected area around Triton Bay, surveyed in 2012–2013, 2015–2016, and 2019; cover differed significantly between zones but not over time.

Overview

The five Triton Bay sites were dived on 14-15 October 2018. Seruanus and Little Komodo lie on opposite sides of Little Komodo Island, and Anderson found them very different from each other. Last Frontier fringes a steep karst islet with an undercut base and a swim-through. Bo Rainbow is a broad, gently sloping terrace, and Larry Dive Heaven is a depth-zoned slope that levels out at 5 m. The water is turbid and productive, with 2-10 m visibility, cold water intruding to 24°C at Seruanus, and thermoclines at Last Frontier and Larry Dive Heaven. The soft-coral abundance is linked to high flow and nutrient-rich water.

Soft corals dominate every site. Seruanus has tree-form soft corals packed across its slope faces, and Little Komodo a virtually uninterrupted white soft-coral forest at 15-20 m (naturally white, not bleached). Last Frontier carries *Sinularia* carpets and abundant *Sarcophyton*, and Bo Rainbow has patches of 100% soft-coral cover. *Tubastraea* is common at Little Komodo, Last Frontier, and Larry Dive Heaven. Hard coral is concentrated in the top few meters. *Acropora* grows at 5-7 m around Little Komodo Island, and Last Frontier has a diverse *Acropora* assemblage at 5-8 m with one table 3-4 m across. Larry Dive Heaven has brain corals at 8-9 m, with *Porites* bommies and *Pocillopora verrucosa* above 6 m. Hard coral cover (Claude CV) ranged from 7.8% at Last Frontier to 13% at Bo Rainbow across four sites.

Bleaching was limited to possible bleaching of one small hard coral at Bo Rainbow (one frame) and the bleached lip of a sponge at Seruanus; no reef-wide bleaching was seen. The other condition signals are local: long-dead, coralline-crusted coral below 20 m at Larry Dive Heaven, and a recently dead plating colony and evidence of overfishing at Seruanus. Fish life was still notable. Little Komodo had staggering biomass at 5-7 m, an enormous bumphead parrotfish,

and a wobbegong. Larry Dive Heaven had two octopus and the trip's first sea snake, and Last Frontier had bait balls and the trip's first turtle.

Highlights

- Soft-coral dominated at all five sites, from the white soft-coral forest at 15-20 m at Little Komodo to 100% soft-coral patches at Bo Rainbow  photo: Triton Bay - Little Komodo
- Hard coral concentrated in the shallows: a 3-4 m *Acropora* table and high *Acropora* diversity at 5-8 m at Last Frontier  photo: Triton Bay - Last Frontier
- Turbid, high-flow, nutrient-rich water with 2-10 m visibility, cold-water intrusion to 24°C at Seruanus, and multiple thermoclines  photo: Triton Bay - Seruanus
- Little Komodo: staggering fish biomass at 5-7 m, an enormous bumphead parrotfish, and Anderson's first wobbegong  photo: Triton Bay - Little Komodo
- Larry Dive Heaven: two octopus, ribbon eels, and the trip's first sea snake; Last Frontier: bait balls and the trip's first turtle  photo: Triton Bay - Larry Dive Heaven

Notable observations

- Triton Bay - Seruanus: Evidence of overfishing, though occasionally some large snapper and angelfish 
- Triton Bay - Bo Rainbow: Possible bleaching (one frame) of one small hard coral in a sandy clearing in the soft-coral meadow (photo not shown) 
- Triton Bay - Bo Rainbow: Large tracts of coralline-crusted open pavement and sand between the octocoral meadows (habitat structure, not necessarily damage) 
- Triton Bay - Larry Dive Heaven: Large areas of long-dead coral covered by coralline algae at 20 m and a relatively barren stretch at 15 m; old mortality since consolidated, not fresh damage 

Sites in this region

- Triton Bay - Bo Rainbow — 13% coral cover
- Triton Bay - Larry Dive Heaven
- Triton Bay - Last Frontier — 7.8%* coral cover
- Triton Bay - Little Komodo — 12% coral cover
- Triton Bay - Seruanus — 9.1% coral cover

* Based on only 10–19 reef-habitat photos; this estimate is less certain.

% coral cover by method

Pooled across 4 dive sites

Method	Mean % coral cover	Std. dev. between dive sites	n dive sites	Note
CoralSCOP (SAM-based mask-sum), edited photos	30%	±11	4	1 of these 4 values rests on 10–19 photographs (*)
Claude CV, blind point count on edited photos	10%	±2.3	4	1 of these 4 values rests on 10–19 photographs (*)
In-house DINOv3 point classifier	18%	±5.8	4	1 of these 4 values rests on 10–19 photographs (*)

The mean is an UNWEIGHTED mean of the dive site values — each dive site counts once, whatever its photo count — which is the convention of the published tables and of every other figure on this page. Each value is the one printed on that dive site's own page; a page that prints no value for a method (fewer than 10 photographs) is left out of that method's mean.

By dive site

Dive site	CoralSCOP (edited)	Claude	DINOv3	Coralscapes v2	Coralscapes v1
Triton Bay - Seruanus	31% n=66	9.1% n=66	19% n=66	42% n=66	44% n=66
Triton Bay - Little Komodo	31% n=75	12% n=73	23% n=75	45% n=72	44% n=73
Triton Bay - Last Frontier	16%* n=15	7.8%* n=14	10%* n=15	15%* n=14	17%* n=14
Triton Bay - Bo Rainbow	42% n=47	13% n=47	22% n=47	62% n=47	60% n=47

n under each value is the number of photographs that method scored at that dive site. ⚠ marks a cell that is not an independent check. * marks a value resting on only 10–19 photographs, which is less certain.

Reference: blind Claude computer-vision point count on the author's edited photographs (20 points per photo); no diver transect exists for this trip. Denominator: (HC + BL) / (20 – WATER – FISH – OBST) per photo, UNK kept in the denominator; mean ± SD across photos. Source: Claude computer-vision point counts of the author's edited photographs, October 2018 (sites with complete scoring) Headline: Claude computer vision — a blind point count of this site's own photographs. DINOv3 and CoralSCOP were run on the same photos and are listed for comparison. Coralscapes v2 and v1 are shown for comparison only: the author does not consider Coralscapes reliable for these photos, so they are low confidence and never enter any average or summary. No diver transect exists for this trip, so agreement between the rows is not accuracy, and no computer-vision method yet estimates coral cover accurately on new images; treat every row as indicative. Comparison lines only, Triton Bay (Kaimana), Papua 2018. Claude vs DINOv3 -8.1 pp (MAE 8.1, r 0.89). No transect exists for this trip: this is agreement between methods, not accuracy.

All images from Coral Reef Diagnostics. Data are from Coral Reef Diagnostics.

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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]
- Bawole R, Sala R, Wurarah RN, Tebaiy S, Sirfefa I, Kolibongso D, et al. (2026). Integrated assessment of coral reefs and reef fish assemblages in Kaimana Marine Protected Areas, West Papua. Jurnal Teknologi Perikanan dan Kelautan 17(2):243-252. DOI