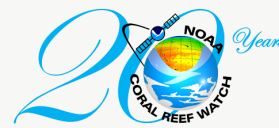




Saudi Arabia - Yanbu



Regional summary of 7 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 [Saudi Arabia](#) overview.



Coral Health Index: TBD

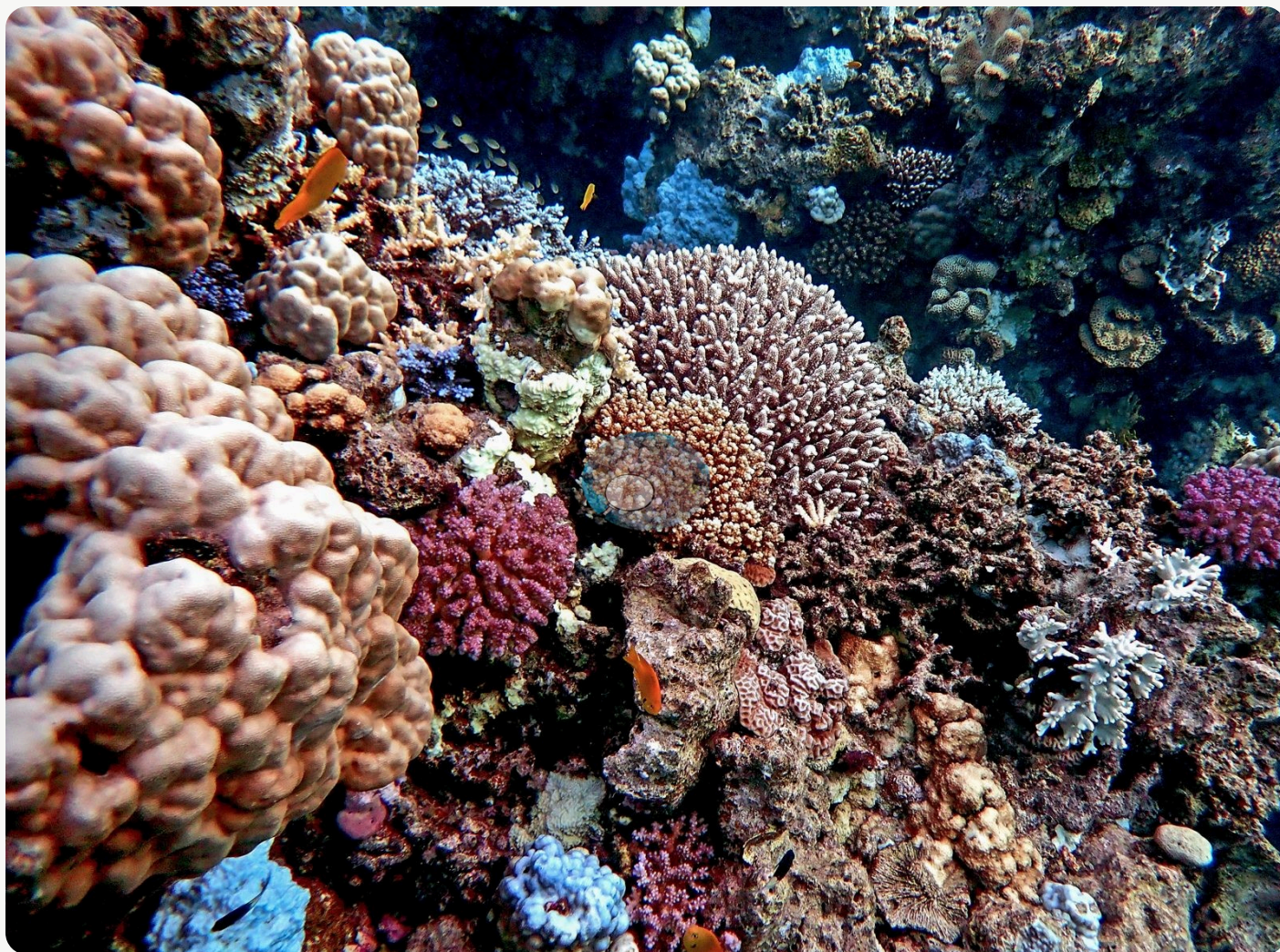


Photo: Anderson Mayfield/Coral Reef Diagnostics — Saudi Red Sea - Um Mankout ([Yanbu](#))

COUNTRY

[Saudi Arabia](#)

SITES

7

each linked below

HARD CORAL COVER
(REGIONAL MEAN)

21% ± 5.1% (std. dev.)

n = 6 of 7 sites. range 16–30%

WATER TEMP. DURING
SURVEYS (REGIONAL MEAN)

28.5°C

n = 4 of 7 sites; surveyed Sep
2023–Aug 2024

CORAL HEALTH INDEX
(REGIONAL MEAN)

not yet scored

n = 0 of 7 sites

MOST RECENT WATER
TEMPERATURE RECORD

33.4°C

16 Sep 2026 · [Makkah-Madine
Saudi Arabia](#)

MOST RECENT HEAT
STRESS RECORD

3.6°C-weeks

16 Sep 2026 · below alert level



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

14.3°C-weeks 🔥

2021–2025 · Makkah-Madine
Saudi Arabia

HIGHEST ANNUAL HEAT
STRESS

22.3°C-weeks 🔥

in 2024 · Makkah-Madine Saudi
Arabia

SEVERE HEAT-STRESS YEARS

10

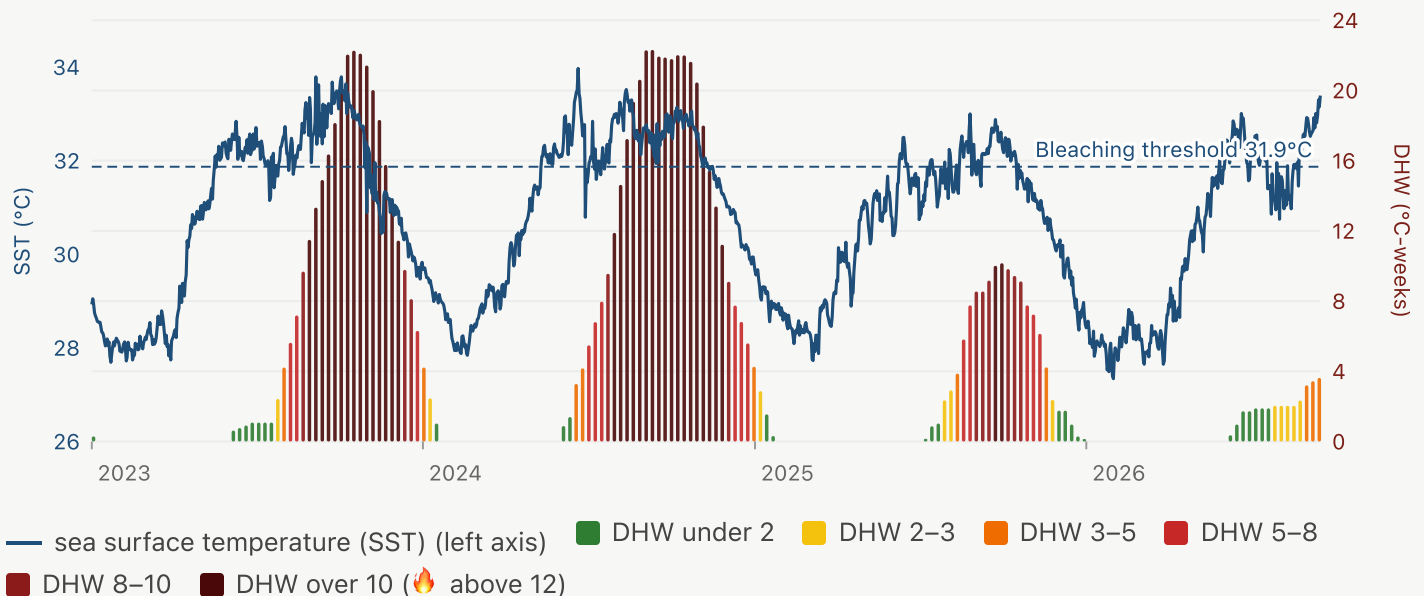
1985–2025 · 6 in the last 10 years

Heat-stress figures: [NOAA Coral Reef Watch](#) — [Makkah-Madine Saudi Arabia](#) 5-km virtual station. Each pill links its source record and carries the values behind it.

REGIONAL SUMMARY

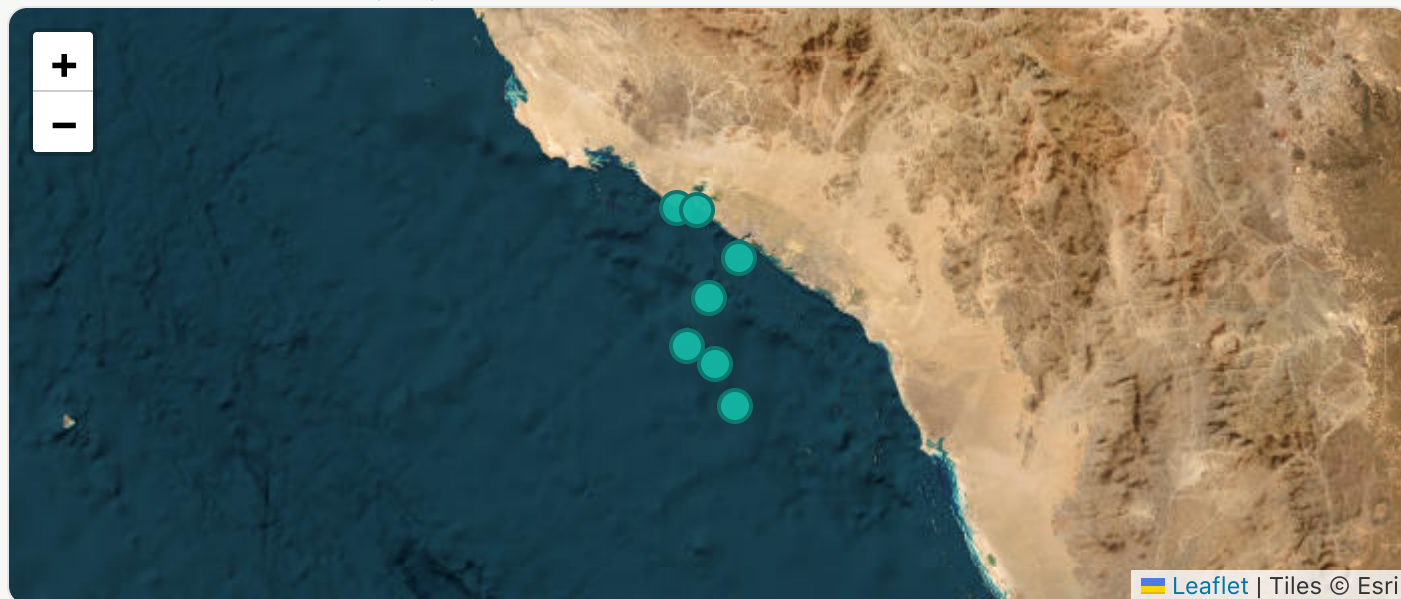
Offshore Red Sea reefs near Yanbu and Umluj, from a shallow reef flat to deep walls, were dived through the 2023-24 marine heatwaves. [Porites](#), [Acropora](#), and colorful [pocilloporids](#) dominate, and at *Thetis* cover more than halved between October 2023 and August 2024.

Heat stress



Daily SST (line) and weekly maximum Degree Heating Weeks (bars), Jan 2023–Sep 2026, [NOAA Coral Reef Watch](#) 5-km Makkah–Madine Saudi Arabia virtual station. Dashed line: bleaching threshold (maximum monthly mean $30.9^{\circ}\text{C} + 1^{\circ}\text{C}$). 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: 10 years since 1985 reached 8 or more $^{\circ}\text{C}$ -weeks at [NOAA's](#) Makkah–Madine Saudi Arabia station. [Download the annual DHW data \(CSV\)](#).



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

Read this summary in:

English

العربية

Regional setting

Saudi Arabia has more coral reef than any other country in the seas around Arabia, and its Red Sea coast runs from the Gulf of Aqaba to the Yemen border ([Spalding et al. 2001](#)). In the north the continental shelf is narrow or absent, reef flats are slim, and reef profiles are often steep to sheer; the shelf broadens southward. Fringing reefs form an almost continuous band along much of the northern coast. Farther south, the Al Wadj Bank holds a complex of fringing, patch, and barrier reefs with small islands, and from Al Wadj to [Jeddah](#) runs a broken barrier-type structure that has been called the Little Barrier Reef. The coast carries the full range of Red Sea species, including northern endemics, and surveys between 1997 and 1999 recorded about 260 hard coral species. In August and September 1998, reefs at some sites between Yanbu and [Rabigh](#) bleached heavily during a spell of high sea temperatures, and [Souter et al. \(2021\)](#) note that the 1998 impacts were most severe in the central-northern Saudi Red Sea. [Spalding et al. \(2001\)](#) estimate about 6,660 km² of coral reef for Saudi Arabia, a national figure that includes its Arabian Gulf coast; [Souter et al. \(2021\)](#) give 7,800 km² for the northern and central Red Sea subregion as a whole.

As of 2001, Spalding et al. described much of the Saudi Red Sea coast as undeveloped away from Jeddah and Yanbu, but listed sewage and land reclamation as concerns around the larger towns, including Yanbu, where the port, and refinery also posed a risk of oil pollution. About 18 desalination plants along the coast returned warm, salty water carrying chlorine and anti-scaling chemicals. [Wilkinson \(2006\)](#) reported large plans to reclaim reef areas along the Saudi Red Sea coast, and [Souter et al. \(2021\)](#) note that the kingdom's Vision 2030 plan singles out coastal tourism as a leading route to economic diversification. They name runoff, eutrophication, and overfishing as the main local drivers of reef decline in the central Red Sea, although most reefs bleached in 1998 recovered, and cover in the northern and central Red Sea reached 39.1% by 2019.

Overview

The Yanbu unit covers seven offshore Red Sea reefs in the Yanbu and Umluj area, dived with Umluj Dive Center between September 2023 and August 2024. The settings range from a wave-lit reef flat a meter or two under the surface at Alrass Alakhdar and a shallow gully-and-canyon complex at Al Fasmah (15 m), to a *Porites*-carpeted slope at Um Mankout (27 m) and deep walls and slopes at Mr. Umluj (33.7 m) and *Thetis* (34 m), a sheer face with overhangs and buttresses. Abu Galawa is a long fringing reef where a bare rubble-and-pavement shoulder gives way to a coral-covered ridge. The seventh pin, Al Shbareer reef, was dived once on 6 October 2023, but no photographs survive from that dive and it has no cover value.

Published point-count cover ranged from 16.1% at *Thetis* to 29.6% at Alrass Alakhdar across the six sites with published cover, with algal cover low (6.0% to 11.1%). Knobby and columnar *Porites*, corymbose, digitate, and table *Acropora*, pocilloporids in magenta, lavender, and hot-pink color forms, faviids, and *Millepora*-type fire coral make up most of the community. Um Mankout carries a near-continuous *Porites* framework with almost no bare pavement, and Al Fasmah had the most uniform cover frame to frame. Mr. Umluj pairs a steep, densely built slope with a flat, algal-turfed pavement top, and at Abu Galawa, arborescent soft corals line the ridge crest.

All of these reefs were recorded during the 2023-24 Red Sea marine heatwaves. Alrass Alakhdar had both the highest cover and the highest bleaching of the September 2023 visits (58.5% of coral tissue), with multi-meter stands of *Porites* bone-white beside fully pigmented pocilloporids. Al Fasmah, dived the same morning, was at 27.8%. At *Thetis*, cover fell from 32.5% in October 2023 (62.1% bleached) to 13.4% in August 2024, when the wall was darker and dominated by soft corals and sponges. Bleaching at Mr. Umluj barely changed between a cool April 2024 visit (27.7%) and August 2024 (26.6%), and Abu Galawa showed 25.3% bleaching in April 2024 with no accumulated heat stress.

Notable fauna include a requiem [shark](#) and pairs of masked butterflyfish (*Chaetodon semilarvatus*), a Red Sea endemic, at Abu Galawa, and dolphins photographed on the October 2023 *Thetis* dive day.

Highlights

- Alrass Alakhdar held the highest published cover of the unit (29.6%) while 58.5% of its coral tissue was bleached in September 2023.

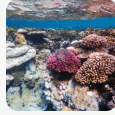


photo: Saudi Red Sea - Alrass Alakhdar (Yanbu)

- Thetis* cover more than halved between October 2023 (32.5%) and August 2024 (13.4%).



photo: Saudi Red Sea - *Thetis* (Yanbu)

- Um Mankout's slope is a near-continuous framework of knobby and columnar [Porites](#).
- Sites span a reef flat a meter or two deep to walls dived to 33.7 m (Mr. Umluj) and 34 m (*Thetis*).



photo: Saudi Red Sea - Mr. Umluj (Yanbu)

- Masked butterflyfish, a Red Sea endemic, and a requiem shark at Abu Galawa.

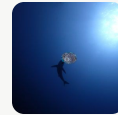


photo: Saudi Red

Sea - Abu Galawa (Yanbu)

Notable observations

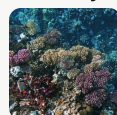
- [Saudi Red Sea - Alrass Alakhdar \(Yanbu\)](#): Bleaching: 58.5% of coral tissue bleached at about 14.9 degree-heating-weeks (16 Sep 2023); entire multi-meter stands of knobby [Porites](#) bone-white beside fully pigmented [pocilloporids](#).



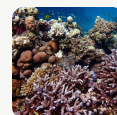
- [Saudi Red Sea - Thetis \(Yanbu\)](#): Bleaching: 62.1% of coral tissue bleached in October 2023 (19.9 DHW) and 25.0% in August 2024; cover fell from 32.5% to 13.4% between the two visits.



- [Saudi Red Sea - Um Mankout \(Yanbu\)](#): Bleaching: 28.0% of coral tissue bleached (15 Sep 2023); the columnar Porites carpet reads widely pale, with a few frankly white colonies. Marine debris: a corroded discarded metal object on the sand at the reef base.



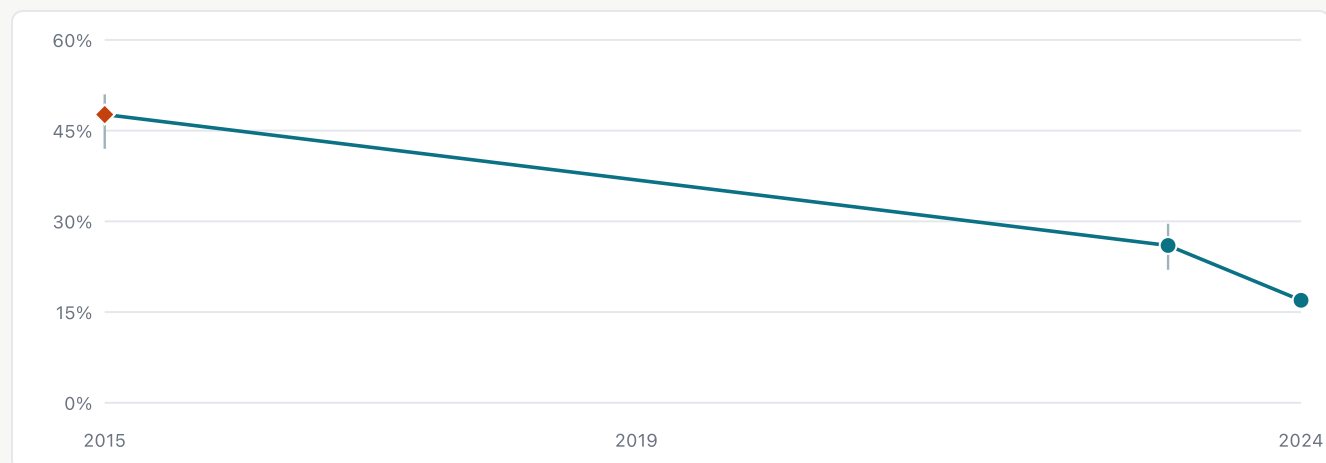
- [Saudi Red Sea - Al Fasmah \(Yanbu\)](#): Bleaching: 27.8% of coral tissue bleached (16 Sep 2023); stark-white encrusting and plating colonies recur through the frames.



- [Saudi Red Sea - Mr. Umluj \(Yanbu\)](#): Bleaching: 27.7% of coral tissue bleached (April 2024, zero DHW) and 26.6% (August 2024, 14.2 DHW); scattered pale and white colonies in both years. 
- [Saudi Red Sea - Abu Galawa \(Yanbu\)](#): Bleaching: 25.3% of coral tissue bleached (19 Apr 2024) with no accumulated heat stress; un-strobed frames too washed out to confirm visually. 

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 best-patch figures rather than site means. Marker shape: ● his own dives, ◆ other organizations' surveys.



Sites in this region

- [Saudi Red Sea - Abu Galawa \(Yanbu\)](#) — 18% coral cover
- [Saudi Red Sea - Al Fasmah \(Yanbu\)](#) — 22% coral cover
- [Saudi Red Sea - Al Shbareer reef \(Yanbu\)](#)
- [Saudi Red Sea - Alrass Alakhdar \(Yanbu\)](#) — 30% coral cover
- [Saudi Red Sea - Mr. Umluj \(Yanbu\)](#) — 17% coral cover
- [Saudi Red Sea - Thetis \(Yanbu\)](#) — 16% coral cover
- [Saudi Red Sea - Um Mankout \(Yanbu\)](#) — 26% coral cover

Nearby external survey stations

4 independent survey records within 5 km of a site in this region (deduplicated across sites).

- [Aeby et al. \(2021\)](#) — Yanbu 2 (2015): 42% hard coral cover, 3.78 km from Saudi Red Sea - Mr. Umluj (Yanbu)

- [Aeby et al. \(2021\)](#). — Yanbu 3 (2015): 50% hard coral cover, 4.22 km from Saudi Red Sea - Mr. Umluj (Yanbu)
- [Aeby et al. \(2021\)](#). — Yanbu 4 (2015): 83% hard coral cover, 1.48 km from Saudi Red Sea - Al Fasmah (Yanbu)
- [Aeby et al. \(2021\)](#). — Yanbu 6 (2015): 51% hard coral cover, 1.79 km from Saudi Red Sea - Al Fasmah (Yanbu)

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. [\[PDF\]](#)
- Aeby GS, Shore A, Jensen T, Ziegler M, Work T, Voolstra CR (2021). A comparative baseline of coral disease in three regions along the Saudi Arabian coast of the central Red Sea. PLOS ONE 16:e0246854. [PDF](#)