



Climate & Ecosystem Status Report

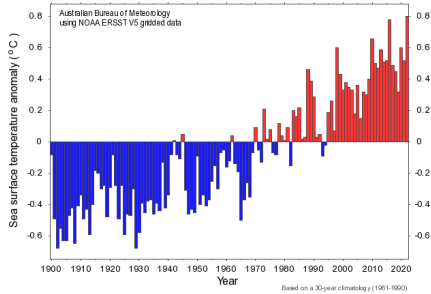
Torres Strait Kaiar - Tropical Rock Lobster Fishery

November 2024

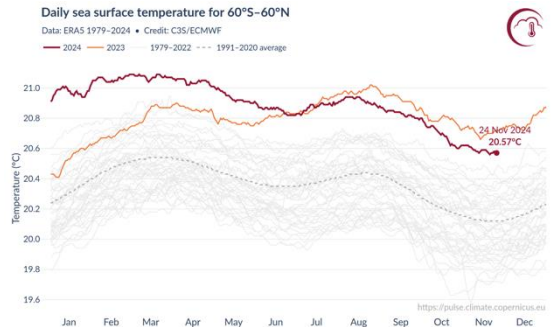


Historical Period

Climate Drivers

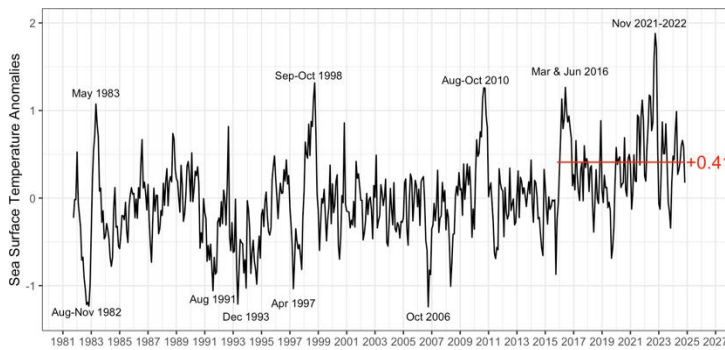


Australian waters have warmed significantly over time ([link](#))¹. The last decade has been ~0.5°C warmer than the 1960-1990 average.



Global Sea Surface Temperature (SST) have been at record highs 2023-2024 ([link](#))².

Regional Dynamics: SST time-series

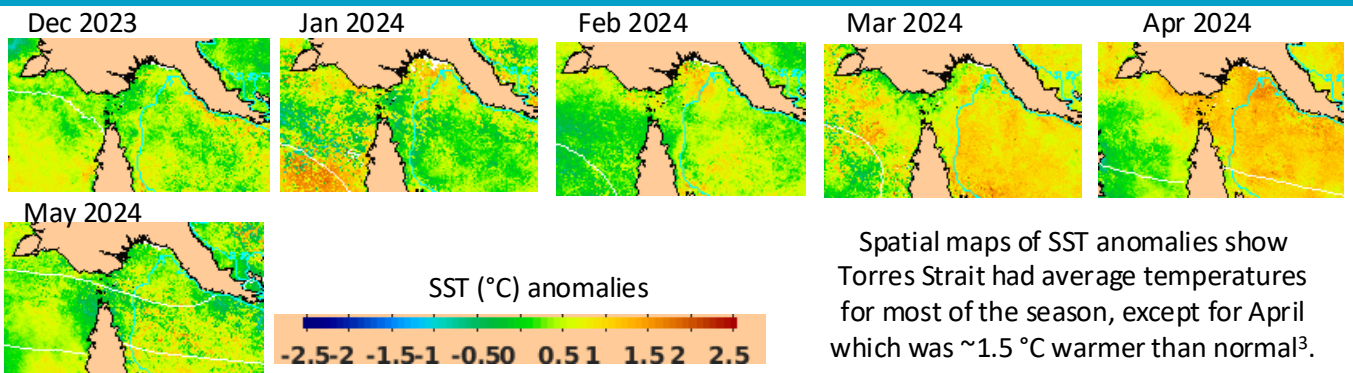


Mean monthly SST temperature anomalies (1982-2024) in Torres Strait².

Torres Strait has warmed over time. Hot and cool years are shown by text.

Mean SST anomaly for the last 10 years (2015-2024) was 0.41°C.

Regional Dynamics: 2024 SST



Spatial maps of SST anomalies show Torres Strait had average temperatures for most of the season, except for April which was ~1.5 °C warmer than normal³.

Observations

- Lobster are mobile and seen to readily move between different areas and depths.
- Lots of undersize lobsters seen in deeper waters in early December.
- Prolonged westerly flow of tidal currents have been seen. Typically, an easterly flow begins in ~October but westerly flows have been maintained until early December.
- Water temperatures are cooler than expected, and thought to coincide with low bait and finfish catch off Bramble Cay.



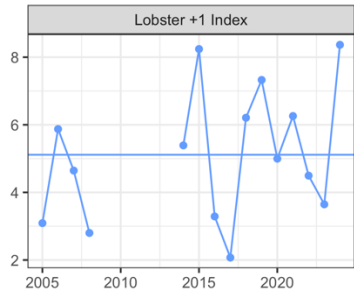
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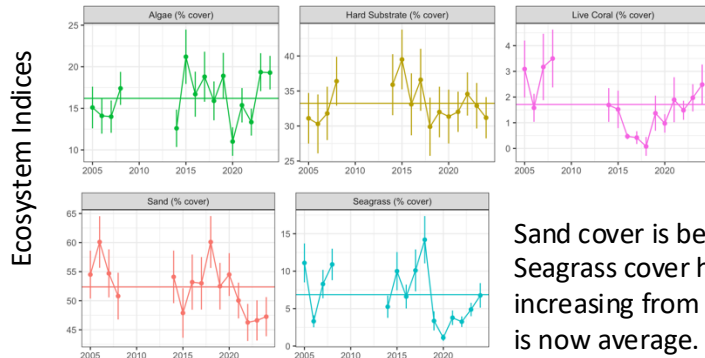
November 2024



Ecosystem Trends⁴



Lobster+1 index in 2024 was above the long-term average.

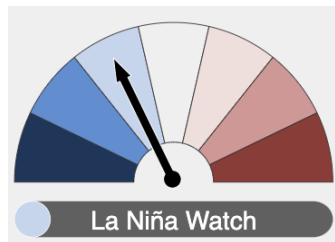


Live Coral and Algae has increased in the last two years & is above average.

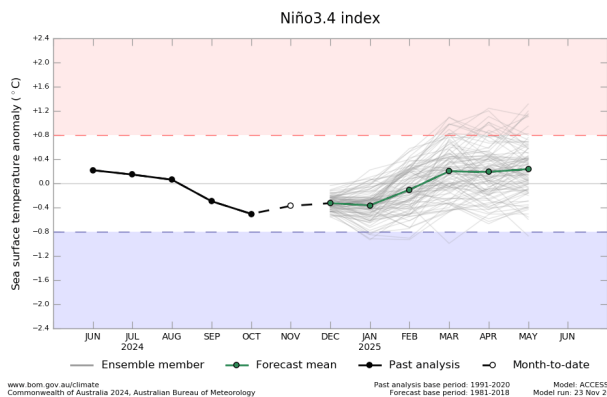
Sand cover is below average. Seagrass cover has been increasing from historic lows and is now average.

Forecast Outlook for 2024-2025

Climate Drivers



BOM Outlook is La Niña watch (chance of La Niña in 2024/2025 summer) [\(link\)](#)¹.



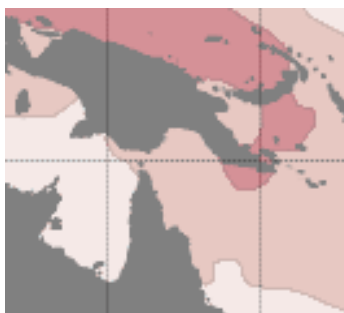
ENSO is currently neutral.

Most forecasts indicate neutral conditions will remain [\(link\)](#)¹.

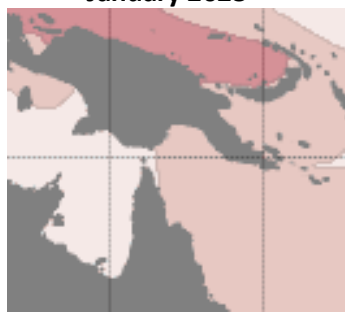
www.bom.gov.au/climate/ Commonwealth of Australia 2024, Australian Bureau of Meteorology Past analysis base period: 1991-2020 Forecast base period: 1981-2018 Model: ACCESS-S2 Model run: 23 Nov 2024

Ocean Forecasts

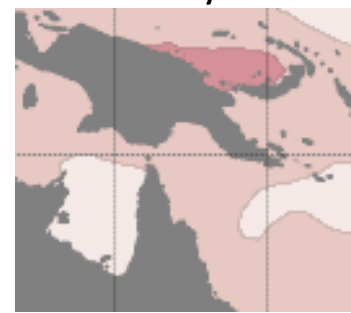
December 2024



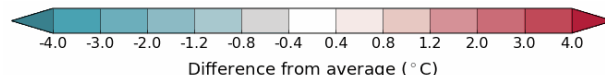
January 2025



February 2025



Forecasts of SST anomalies¹. SST is forecast to be 0.4-1.2 C warmer than average [\(link\)](#)¹.



Base period: 1981-2018
Model: ACCESS-S2

Model run: 23/11/2024
Issued: 25/11/2024