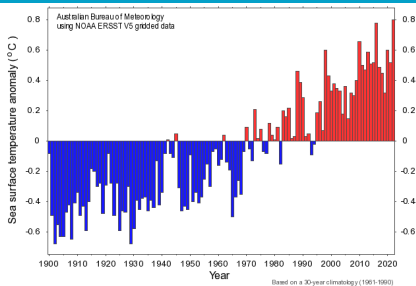
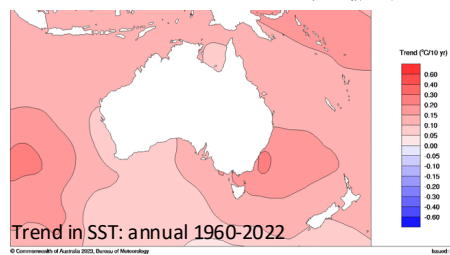


### Historical Period

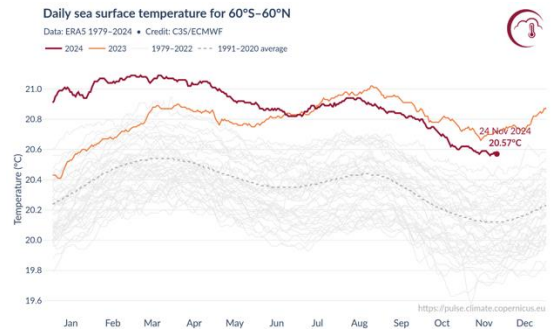
#### Climate Drivers



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

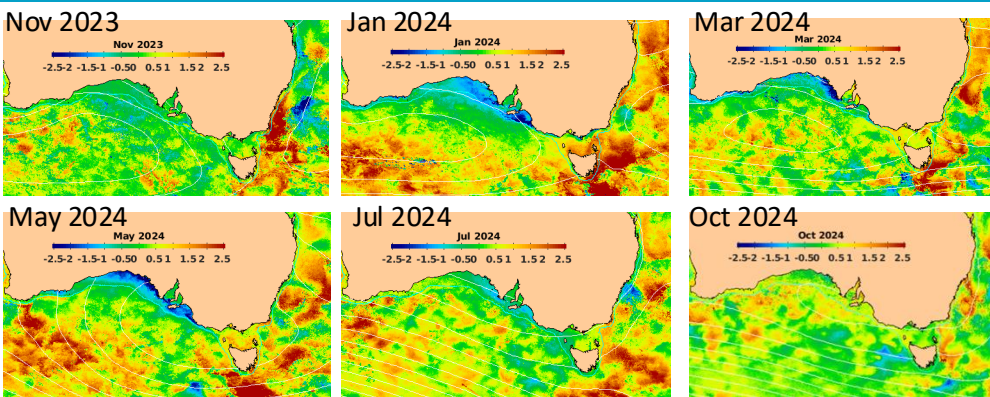


South-east Australia has warmed more rapidly than other regions ([link](#))<sup>1</sup>.



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

#### Regional Dynamics: Sea Surface Temperature

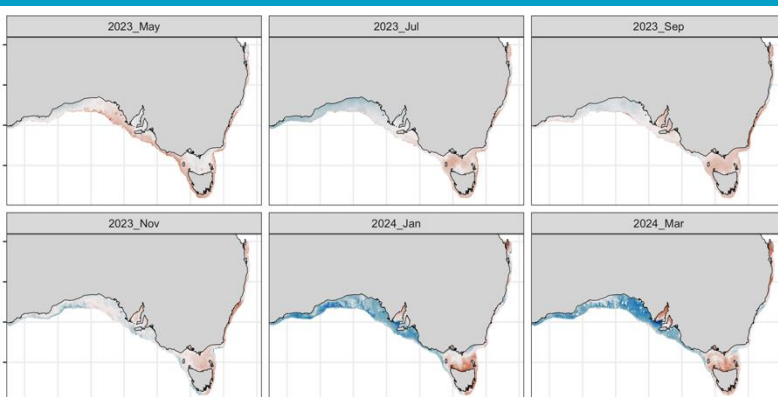


Monthly SST (°C) ([link](#))<sup>3</sup>.

Moderate-severe marine heatwaves (MHW) occurred off east-Tas in summer ([link](#)).

Cool water in GAB and strong Bonney upwelling occurred throughout summer.

#### Regional Dynamics: Shelf bottom temperature anomaly

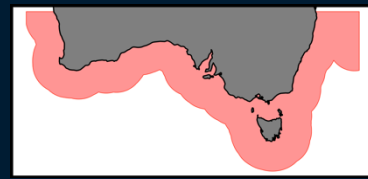


Monthly bottom temperature anomalies on the shelf (<500 m) (°C)<sup>2</sup>, relative to 1993-2016.

East coast and Bass Strait had anomalously warm temperatures.

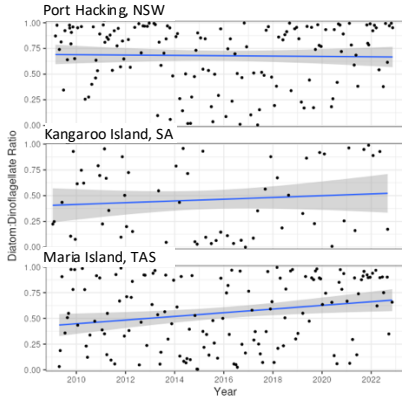
Bonney Coast and GAB had very cool temperatures during summer.

Note: Bottom temp is from an ocean model and subject to error.



### Ecosystem: National Reference Stations

#### Diatom:Dinoflagellate ratio



Diatoms are part of the base of the food-web for many fished species.

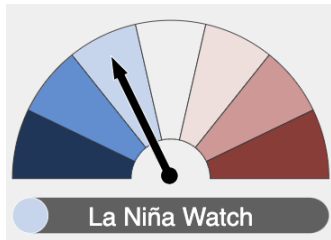
The ratio of diatoms has increased off TAS, but has been relative stable in NSW and SA<sup>4,5</sup> ([link](#)).

### Observations

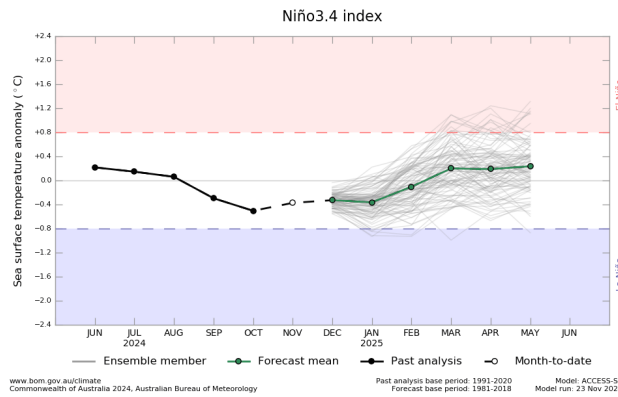
- Spawning off the east coast appears to be earlier in the season.
- Blue mackerel observed to migrate south earlier in the season.
- Large numbers of sardine observed and caught off the east coast.
- Sardines (mostly small size) were observed in deeper waters and on the bottom in summer 2024.

## Future Outlook for 2024/2025

### Climate Drivers



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

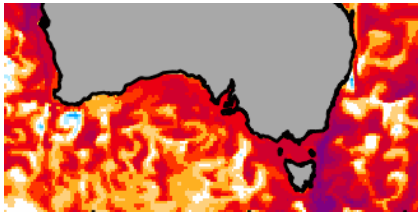


ENSO is currently neutral.

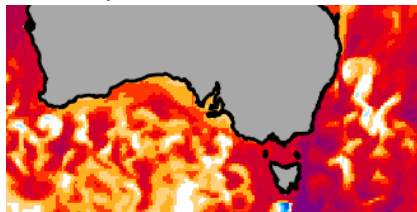
Most forecasts indicate neutral conditions will remain ([link](#))<sup>1</sup>.

### Regional Dynamics

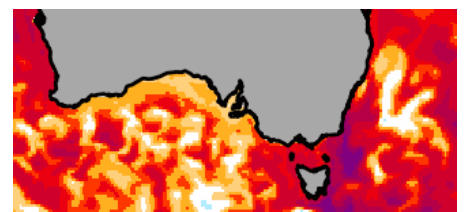
December 2024



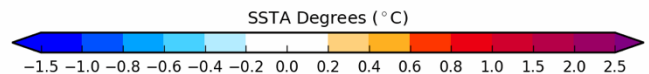
January 2025



February 2025



Forecasts of SSTA anomalies for Dec 2024 – Feb 2025 indicate warmer conditions across most of southern Australia ([link](#))<sup>1</sup>.



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Model Run: 23/11/2024

Model: ACCESS-S2

Issued: 25/11/24

Base Period: 1981-2018