

# **Climate & Ecosystem Status Report**

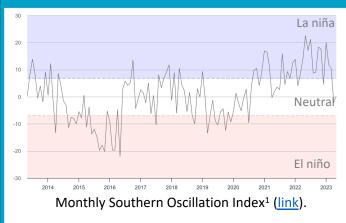
Bass Strait Central Zone Scallop Fishery

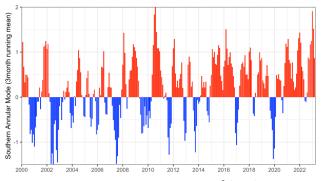
June 2023



### **Historical Period**

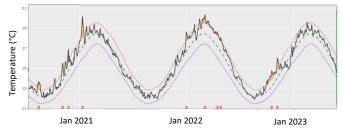






Historical Southern Annular Mode<sup>2</sup> (<u>link</u>). Positive values indicate westerlies are further south.

# Temperature and Productivity for Bass Strait



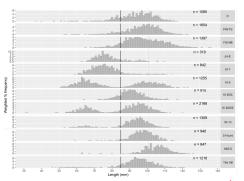
Temperatures in Bass Strait showing past marine heatwaves (orange shading; <u>link</u>). Marine heatwaves during Spring 2022 indicate potential for increased scallop growth during warm conditions.



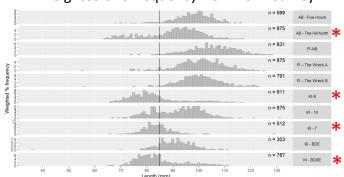
Mean monthly surface chlorophyll-a<sup>3</sup>. Chlorophyll-a has increased in recent years, which may influence scallop growth and recruitment.

### **Ecosystem and Fishery**

Weighted size frequency from 2021 survey<sup>4</sup>



Weighted size frequency from 2022 survey<sup>4</sup>



\* Beds where abundant but small scallops likely to reach legal size in 2023



# **Climate & Ecosystem Status Report**

Bass Strait Central Zone Scallop Fishery

June 2023

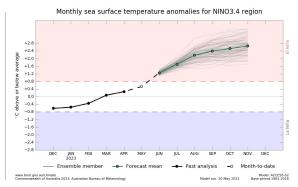


#### Future Outlook for the 2023 Season

# Climate Drivers

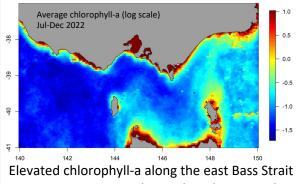


Currently in a Neutral phase (link)

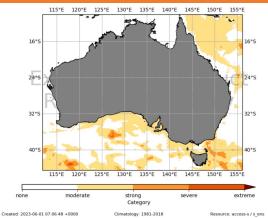


El Niño is predicted. These conditions favour a negative Southern Annular Mode, where westerly winds are further north and can affect recruitment<sup>1,5</sup>. (link).

# Temperature and Productivity for Bass Strait

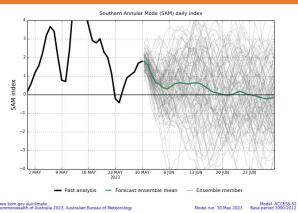


Elevated chlorophyll-a along the east Bass Strait may support improved growth and increased reproductive effort for Scallops in this region<sup>6</sup>.



A strong marine heatwave is forecast for August 2023<sup>3</sup>

# **Ecosystem and Fishery**



Southern Annular Mode can vary from weeks to months. Forecasts suggest a decreasing trend towards neutral and negative conditions during June 2023 (link)<sup>1</sup>. Negative conditions mean westerly winds are further north than normal, which can affect water flow and scallop recruitment in the Bass Strait.