Marine fisheries

Climate Vulnerability Assessment
Kingfish Factsheet

Catching kingfish in New South Wales: preparing for a changing climate

Climate suitability for kingfish fisheries is expected to remain generally moderate to high throughout NSW waters by 2050.

Developing industry-informed climate planning information

Climate change is altering the environmental suitability for many harvested marine species throughout NSW waters. Fishing stakeholders need evidence-based information about the changing climate, and the risks and opportunities it may bring.

Through its Vulnerability Assessment Project, the NSW Department of Primary Industries is increasing the resilience of our primary industries by providing information and data to help the sector better plan for, and respond to, climate change. The project has determined climate change impacts for extensive livestock, broadacre cropping, marine fisheries, forestry, horticulture and viticulture, and important cross-cutting biosecurity risks to inform sound planning, risk management and adaptation decisions.

Kingfish in NSW

Kingfish is an iconic, medium-to large-bodied marine fish species distributed throughout temperate waters in the Pacific and Indian Oceans. Kingfish are renowned as excellent sport and table fish and are one of the most popular species targeted within south-eastern Australia by commercial and recreational fishers.

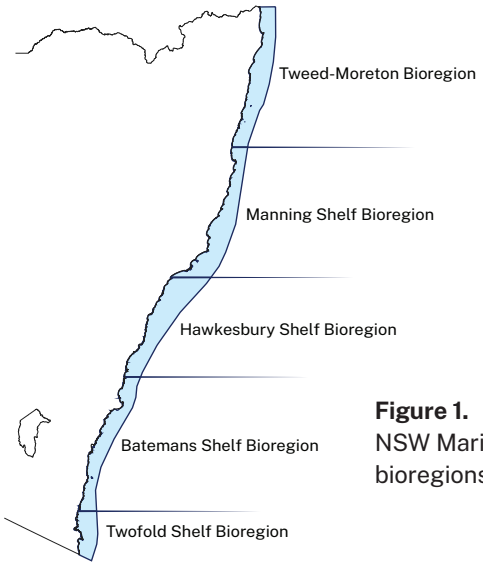

Figure 1.
NSW Marine fisheries bioregions

Department of Primary Industries

NSW GOVERNMENT

Climate and kingfish fisheries

Climate suitability for kingfish fisheries is expected to remain moderate to high throughout NSW waters by 2050 under both intermediate and high emissions scenarios, with increased challenges during summer.

Climate risks and opportunities include:

NSW coastal waters are likely to become warmer, which will alter fish distributions according to their habitat preferences.

Climate impacts: what to expect

Summer: The historical climate suitability for kingfish during summer ranges from low-moderate in northern NSW coastal waters, increasing to high-very high in the south. By 2050, central and southern coastal waters are likely to experience minimal negative change in climate suitability (*high confidence*), with their climate suitability shifting to moderate and high, respectively.

Autumn: The climate suitability for kingfish during autumn is likely to remain high within NSW coastal waters by 2050, with minimal negative change in northern waters (*moderate to high confidence)*.

Winter: The climate suitability for kingfish during winter is also likely to remain high within NSW coastal waters by 2050 (*moderate to high confidence*).

Spring: The historical climate suitability for kingfish during spring is high in southern and northern NSW coastal waters and very high in central waters. These levels of climate suitability are likely to remain unchanged by 2050, with possible minimal positive change in southern waters (*moderate to high confidence*).

Adapting to the changing climate

Future changes to distributions and seasonal availability of fish species may require adaptation from fisheries industries, such as adjustment of quota shares or changes to targeted species.

Recreational fishers may see changes within their favoured coastal regions, including opportunities for catching different species.

FOR MORE INFORMATION

Please get in touch with vulnerability.assessment@dpi.nsw.gov.au

This work has been produced by the NSW Primary Industries Climate Change Research Strategy funded by the NSW Climate Change Fund.

Methodology and data

Marine climate projections were sourced from the World Climate Research Programme, with historical climate data supplied by the Copernicus Marine Environment Monitoring Service. The climate models differ in their projections, giving rise to uncertainty in our modelling which is reflected in the confidence statements given in brackets in the text. Care should be taken when interpreting these results.

The Vulnerability Assessment Project is intended to highlight potential industry-or regional-level changes. Intermediate and high emissions scenarios were used in the assessments (RCP4.5 and RCP8.5), but these are not the only future scenarios possible. The inclusion of climate variables important to the commodities production was based on published research, expert knowledge and data quality and availability.