Marine fisheries

Climate Vulnerability Assessment
Dolphinfish Factsheet

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

Climate suitability for dolphinfish fisheries is expected to remain generally moderate to very 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.

Dolphinfish in NSW

Dolphinfish is an iconic, economically important marine fish species within NSW. The species is targeted by commercial fishers, with approximately 2.3 tonnes caught annually. Dolphinfish is also a highly prized target species for recreational fishers in NSW waters, with an estimated 75,000 individuals caught annually.

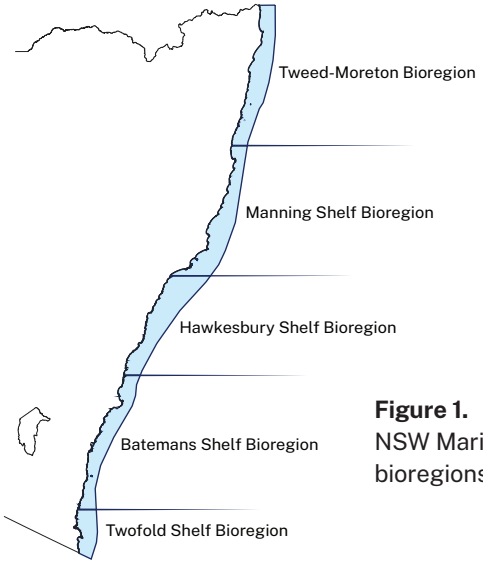

Figure 1.
NSW Marine fisheries bioregions

Department of Primary Industries

NSW GOVERNMENT

Climate and dolphinfish fisheries

Climate suitability for dolphinfish fisheries is expected to remain generally moderate to very high throughout NSW waters by 2050 under both intermediate and high emissions scenarios, with increased opportunities in southern NSW waters.

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: Historical climate suitability for dolphinfish during summer is very high in northern and central NSW coastal waters and high in southern waters. By 2050, northern waters are likely to experience minimal negative change, while southern waters are likely to experience minimal positive change (*moderate to high confidence*).

Autumn: Historical climate suitability during autumn is high in northern and central waters, and these are expected to remain largely unchanged by 2050, with historical moderate climate suitability in southern waters likely to experience minimal positive change, becoming high (*moderate to high confidence*).

Winter: Historical climate suitability during winter in northern and central coastal waters is expected to remain high to very high and moderate to high, respectively, by 2050, with moderate suitability in southern waters likely to experience minimal positive change (*moderate to high confidence*).

Spring: Historically during spring, climate suitability along the NSW coast ranges from high to very high in northern waters, moderate in central waters and low in southern waters. All regions are expected to experience minimal positive change by 2050 (*high confidence*).

Adapting to the changing climate

Future changes in fish species distributions and seasonal availability 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.