



RV *Investigator* southeast ecosystem survey

Global ocean warming is a matter of growing concern. The southeast (SE) marine waters of Australia are warming at a rate four times the global average. The shift is affecting fisheries, biodiversity, and the wider marine industry. The influence of these changes on industry and the Australian community is expected to become more dominant in the future.

There is a critical need to improve understanding of climate impacts on Australia's changing marine ecosystems and fisheries now and in the future.

The challenge

Anecdotal evidence suggests that species distributions, productivity, and biodiversity in the SE Australian marine waters have changed, but there is a significant gap in understanding why this change has occurred. Several hypotheses have been proposed, but the causes are not clear.

Previous biophysical and ecosystem surveys of the SE continental shelf conducted 25 years ago have provided insights about what was there, but not what has changed.

The response

We are proposing a new survey to revisit the previous biophysical and ecosystem survey of the Australian SE continental shelf to document changes in the 25 years since it was last examined.

This will extend the picture of the marine ecosystem on the continental shelf, to fill gaps in understanding and knowledge, and expand it to the continental slope to establish a baseline for future surveys.

The impact

Key industry stakeholders recognise that the proposed work is of strategic importance to marine stakeholders to improve industry understanding about climate change-induced factors causing economic and social harm to Australia.

The adoption of the work will enable government and industry to be climate-ready, better plan their operations, mitigate associated risk, and make the most of new opportunities.

It will also lead to skill development through the Indigenous Time at Sea Scholarship program.

The prospective economic and social cost of inaction to the wider marine industry – as well as relevant coastal communities – is hard to quantify, but recognised as substantial.

The triple-bottom-line impacts delivered from this project will be driven by technical competitiveness of furnished solutions, end-user traction and buy-in, industry support, key stakeholder integration, and the scale of adoption.

Potential partners

Australian Fisheries Management Authority, Fishwell Consulting, Fisheries Research and Development Corporation, Parks Australia

The University of Tasmania, the University of Melbourne, the University of New South Wales

Australian Museum, Museums Victoria, Museums and Galleries of New South Wales Victorian, New South Wales and Tasmanian state agencies