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New highly detailed maps of bedrock reefs in southern Tasmania

MARINE BIODIVERSITY RESEARCH
Prediction and Management of Australia's Marine Biodiversity

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Introduction

Multibeam sonar mapping of bedrock reefs on the inner shelf of southeast Tasmania by the Marine Biodiversity Hub reveals new detail of the physical structure of an important marine habitat.

These new data include a reef that surrounds The Friars islands, immediately south of Bruny Island and reef around the Hippolyte Rocks, to the east of Tasman Peninsula.

The Friars

At The Friars, highly fractured dolerite reef covers an area of 18 km^2 in water depths of 10 – 75 m with local relief of up to 16 m. Photographs of the reef taken by an autonomous underwater vehicle show it is covered in soft coral and sponge communities and provides a habitat for lobsters.

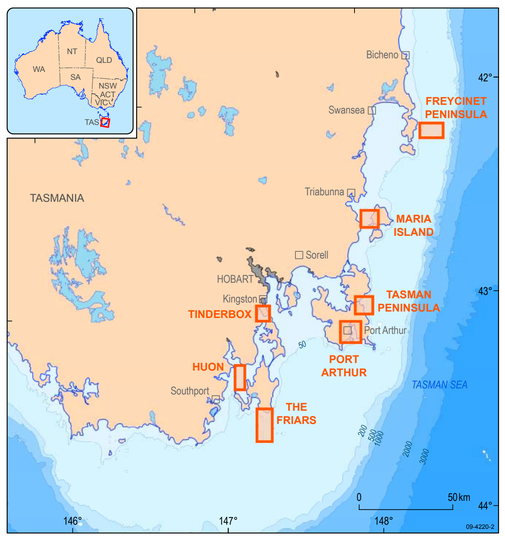
The Hipployte Rocks

The Hipployte reef is also formed in dolerite, covering an area of approximately 2 km^2 in water depths of 10 – 90 m. This reef is characterised by high relief with peaks that rise up to 30 m above the deeper parts of the reef. Key biological assemblages include dense kelp, sponge and sea whip communities.

Significance of Results

These results demonstrate the value of multibeam sonar mapping and underwater photography for accurately delineating the extent and detailed morphology of bedrock reefs and the distribution of associated benthic communities.

This Marine Hub case study is revealing key physical features that control patterns of biodiversity on temperate reefs at scales useful for conservation management.



Location map of areas surveyed along the coast of southeast Tasmania.

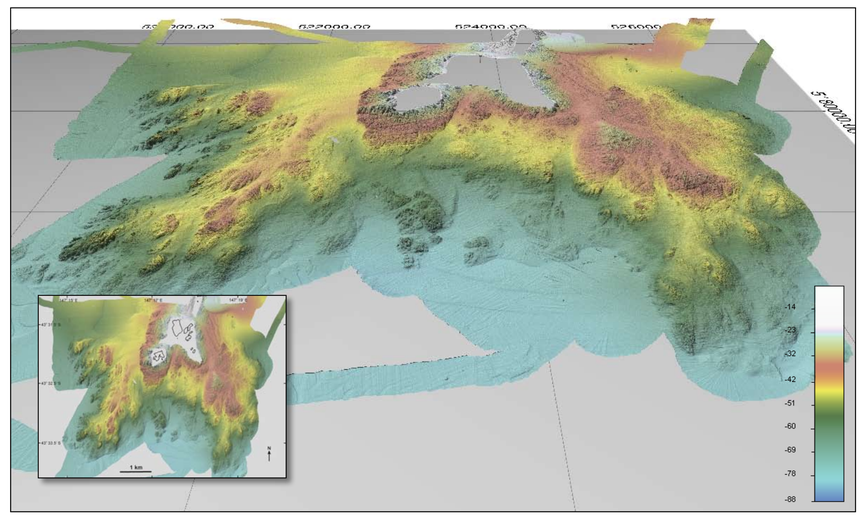
The Friars islands, a series of small islets formed in fractured dolerite rock.

Underwater photograph of a dense and diverse sponge community growing at 80 m water depth on Deep Reef located 3 km north of Hippolyte Rocks, Tasman Peninsula.

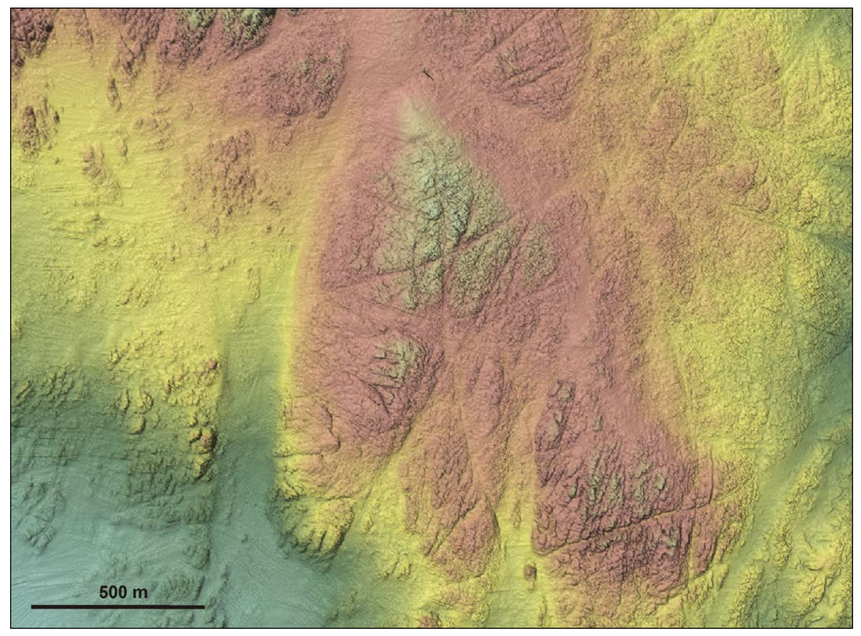
Sponge-dominated community with fish (Rosy wrasse) at Hipployte Rocks reef.

Luxuriant kelp forest (*Ecklonia radiata*) growing on the shallower (<45 m) parts of the reef at Hippolyte Rocks.

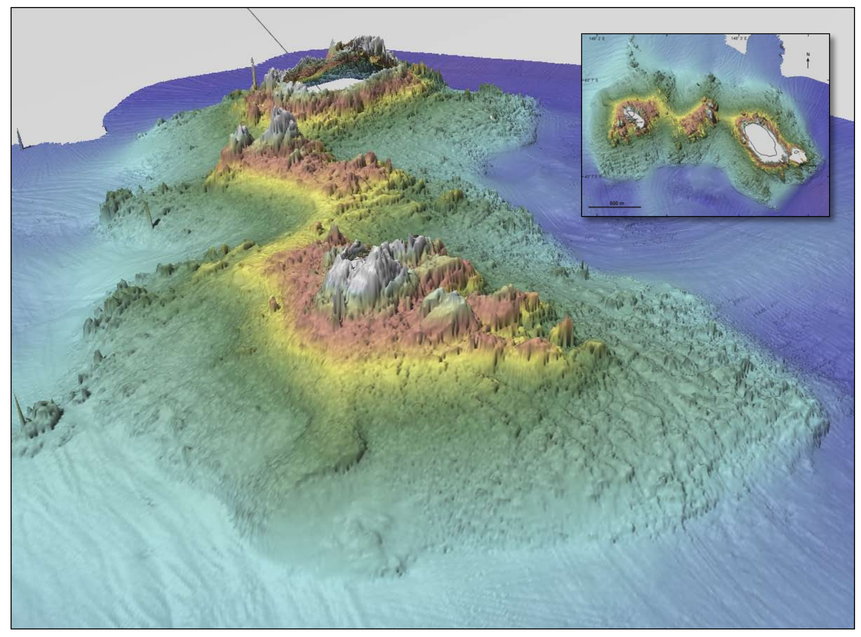
Dense and diverse sponge community with numerous fish on the reef at Hipployte Rocks.



Perspective view of the reef surrounding The Friars islands with plan view map (inset) for scale.



Enlarged plan view of a section of reef at The Friars highlighting linear fractures in the dolerite rock. These fracture lines are up to 5 m deep and provide shelter for fish and lobsters.



Perspective view of the reef surrounding The Hippolyte Rocks with plan view map (inset) for scale.

Video and computer system used to record real-time descriptions of underwater habitats.

Kelp and fish (Butterfly perch) community that characterise the shallower waters of reefs at The Friars and Hippolyte Rocks.

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