The deep ocean is warming slowly—but dramatic changes are ahead

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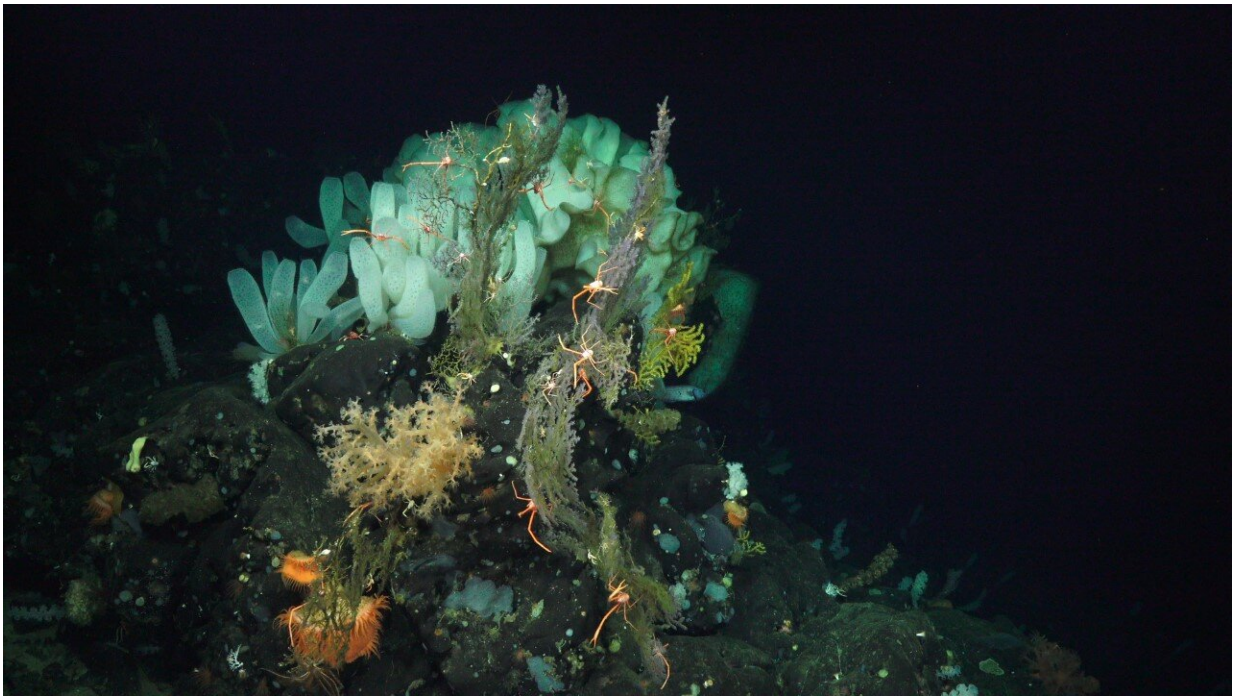


Life in the deep sea (>200m). Credit: Schmidt Ocean Institute

The world's deep oceans are warming at a slower rate than the surface, but it's still not good news for deep-sea creatures according to an international study.

The research, led by University of Queensland Ph.D. student Isaac Brito-Morales, looked at how ocean life was responding to climate change.

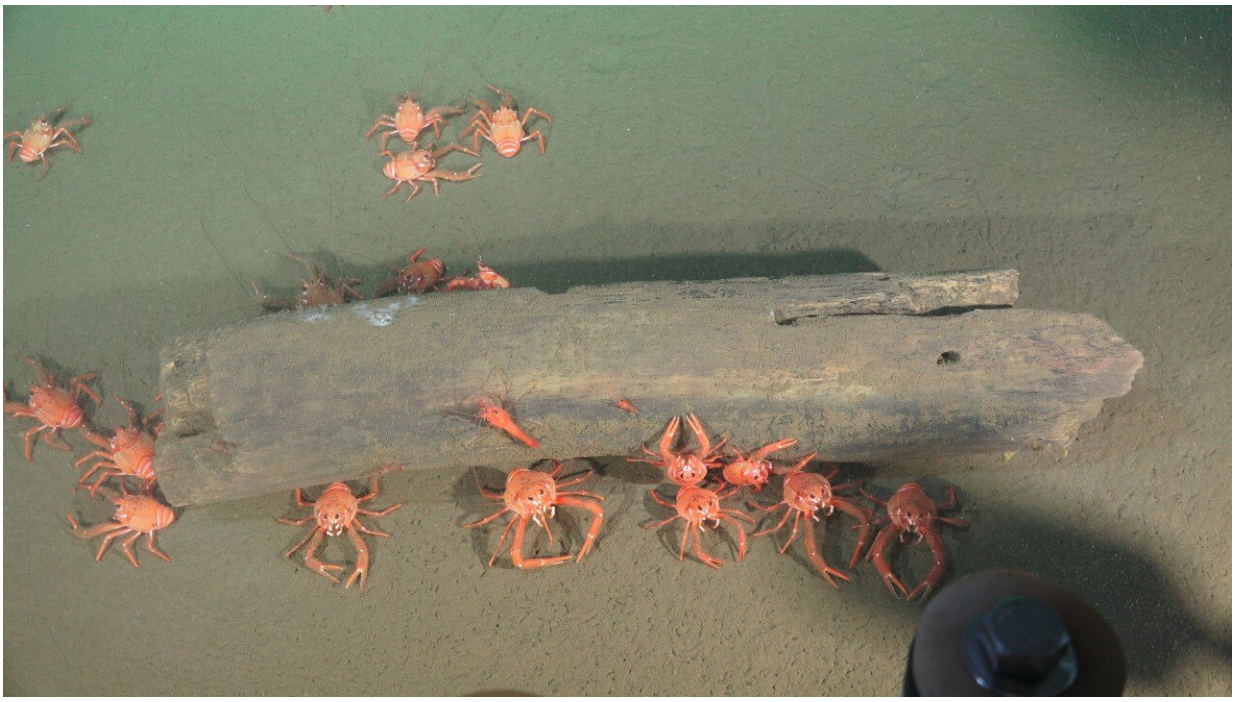
"We used a metric known as climate velocity which defines the likely speed and direction a species shifts as the ocean warms," Mr Brito-Morales said.

"We calculated the climate velocity throughout the ocean for the past 50 years and then for the rest of this century using data from 11 climate models.

"This allowed us to compare climate velocity in four ocean depth zones—assessing in which zones biodiversity could shift their distribution the most in response to climate change."

The researchers found climate velocity is currently twice as fast at the surface because of greater surface warming, and as a result deeper-living species are less likely to be at risk from climate change than those at the surface.

"However by the end of the century, assuming we have a high-emissions future, there is not only much greater surface warming, but also this warmth will penetrate deeper," Mr Brito-Morales said.



Life in the deep sea (