

Cold is the best way to catch crabs

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Spanner crab caught off the Gold Coast, Australia. Credit: Griffith University

Fishermen have been thrown a line with new Griffith University research that has found they can catch more spanner crab in cooler waters.

Previous studies thought catch rates were connected to warmer temperatures or had no relationship at all.

PhD research David Spencer found that upwelling events that cause the water to become cooler could enhance catchability of spanner crabs.

The work has seen Mr Spencer awarded the prestigious Peter Holloway Oceanography Prize from the Australian Marine Sciences Association. The prize, originating in 2002, is awarded to the best full-length student oral presentation related to Oceanography. Peter Holloway was a highly distinguished, physical oceanographer, internationally recognised for his contribution to the observation, theory and numerical modelling of internal waves.

Mr Spencer went out offshore the Gold Coast between May and November last year, working with local spanner crab fishermen Richard and Mondo to investigate whether oceanographic processes play a role in variable day-to-day catches.

"Essentially what I found was that spanner crab appeared to prefer cooler temperatures but it was interesting because two previous studies found different results - one found they liked warmer temperatures and another that there was no relationship," he said.

"I took my research a bit further to find out what was happening using 2011-2014 data from a larger number of fishing vessels."

The spanner crab fishing season closes at the end of each year while they are spawning.



David Spencer working off the Gold Coast, Australia. Credit: Griffith University

"The most interesting conclusion is that short-term fluctuations tend to have the greatest influence when considering the effect temperature has on spanner crab catches," he said.

"It will certainly help fishermen if they're running low on their quota. Sometimes it's best to wait for certain periods of the year and quota management is a big thing for local fishermen.

"Fishermen would greatly benefit from knowing which days/periods of the year to not go out too, because if there are warm temperatures expected, causing a drop in catch, then they may wait for a change in temperature.

"This will help them plan a highly efficient fishing week/month with respect to both time and cost of running the boat."

Mr Spencer says the next step is to create a forecasting tool so fishermen will know when upwelling events are predicted and when oceans temperatures will change.

The work was done under the supervision of Professor Charles Lemckert of Engineering, Professor Joe Lee of Environmental Science and Dr Ian Brown, past employer of Department of Agriculture and Water Resources.

Professor Lemckert said the project showed the excellent work the school was achieving with its educational programs and talented

students.

"The work relates to coastal engineering and has the benefit of developing better management approaches for our coastal zones," he said.

Provided by Griffith University

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