



Heatwave decimates marine species seaweed habitat

OCEAN temperatures five degrees higher than normal off the WA coast decimated the seaweed which harboured marine species, a new study has revealed.

Daniel Smale from the University of WA's Oceans Institute and School of Plant Biology said the coastline had been surveyed at three locations - Hamelin Bay, Marmion and Jurien Bay - almost every year since 2006.

"During this heatwave, we found that the seaweed *Scytothalia dorycarpa*, one of the most prominent habitat-forming species of the temperate coastline, retracted its range some 100 kilometres because the extreme temperatures exceeded its physiological threshold," he said.

The damage to *Scytothalia dorycarpa* left rocky reefs uncovered and reduced the amount of habitat available for small invertebrates and some other algae.

This, in turn, could have knock-on effects on herbivorous fish and the carnivorous fish which prey on them.

"This may have far reaching implications for the structure and functioning of

the marine ecosystem in the region, which is a global biodiversity hotspot," Mr Smale said in the journal *Proceedings of the Royal Society B* reports.

"Extreme climate events are increasing in frequency and magnitude as a consequence of human activities and, in the last 30 years, the number of days of anomalously high seawater temperatures has increased along 38 per cent of the world's coastlines," the study authors write, according to a WA statement.

Australian Research Council future fellow associate Thomas Wernberg and Mr Smale wrote that "extreme climatic event drives range contraction of a habitat-forming species" about the impact of the area's most extreme warming event which began in December 2010 and peaked in March 2011.

At its worst, ocean temperatures at Jurien Bay were five degrees higher than normal and for many weeks sea temperatures along more than 2000 kilometres of the WA coastline were two to four degrees higher than normal.