# El Nino to bring cool relief to Western Australian waters

June 8 2015, by Samille Mitchell

He says the El Niño weather pattern will weaken this current, therefore reducing the flow of warm water and cooling the ocean. Credit: tresemes37

The widely publicised El Niño weather pattern set to cause dire warming conditions in eastern Australia this year is expected to have the opposite effect on WA waters.

The weather anomaly is tipped to cool WA coastal waters in the coming summer, bringing welcome relief to marine species battling to survive the current ocean heat.

WA coastal water temperatures are expected to drop by up to two degrees from ocean temperatures in the previous summers, which have

been warmer than usual for the past few years.

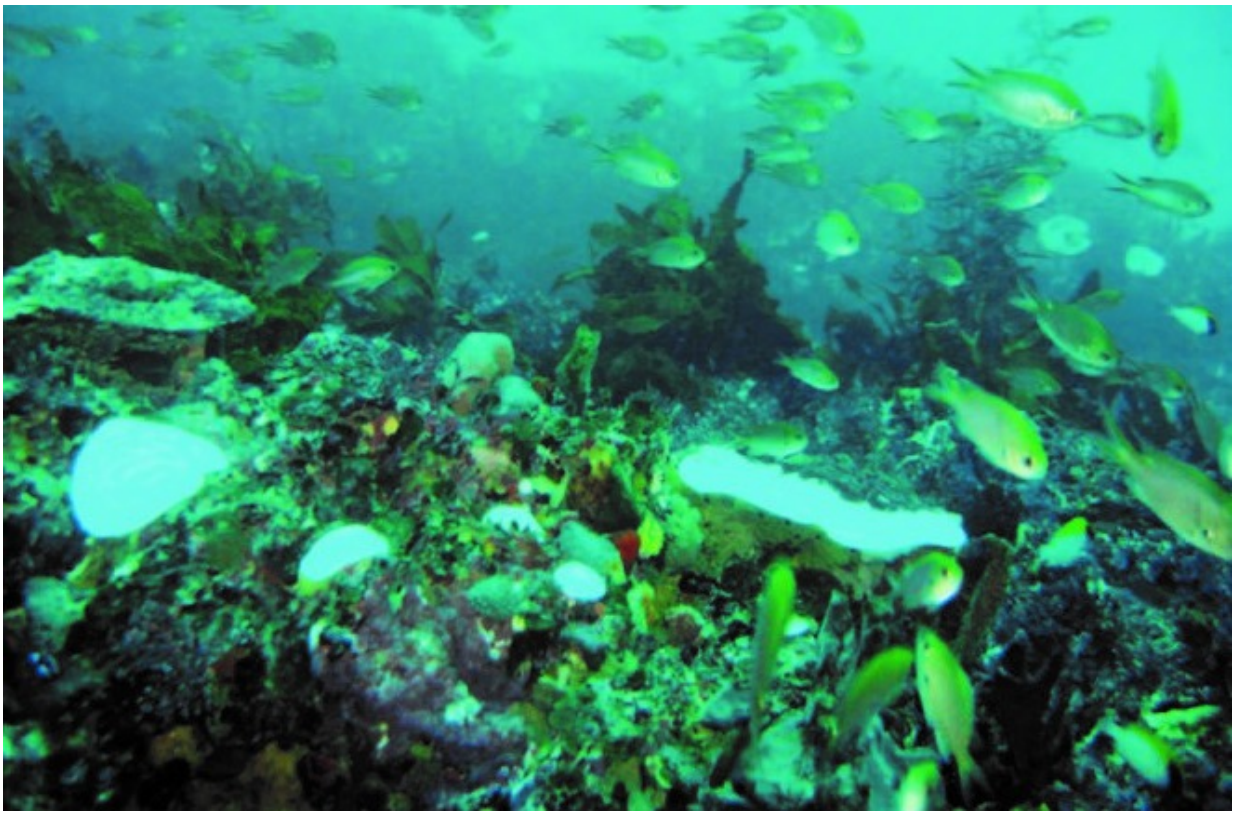
The warmer ocean temperatures, which spiked up to five degrees higher than normal during an intense heat wave in 2010-11, have caused mass die offs in species ranging from corals and seagrass to crabs, abalone and scallops.

The effects were particularly severe in Shark Bay where warmer waters caused vast meadows of seagrass, which support whole ecosystems, to die off by 90 per cent in some areas.

CSIRO Oceans and Atmosphere Flagship principal research scientist Ming Feng attributes the forecasted cooler waters to a weaker Leeuwin Current—the body of water that flows southwards from Indonesia down the WA coast bringing warm waters with it.

He says the El Niño weather pattern will weaken this current, therefore reducing the flow of warm water and cooling the ocean.

"This El Niño event will lower the strength of the Leeuwin Current and result in cooler ocean temperatures which will provide relief for a whole host of species," Dr Feng says.



Coral Bleaching at Rottnest Island (40m) in 2011. Credit: Damian Thomson, CSIRO

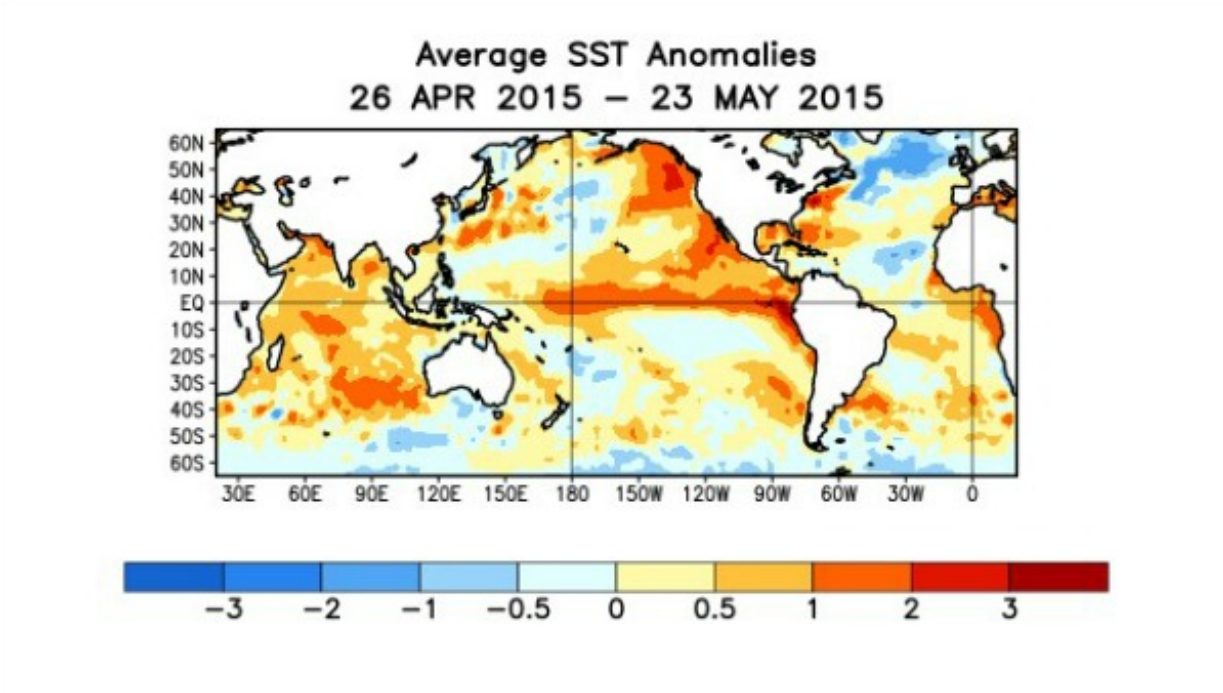
"But there will be winners and losers. Rock lobster (Panulirus cygnus) recruitment tends to be higher when ocean temperatures are warmer."

Dr Feng says species such as finfish, seagrasses and corals will benefit from the cooler waters and associated stronger upwelling.

He also expects to see a short-term change in species' migration range, with warm-water species such as whale sharks (Rhincodon typus) remaining further north.

Dr Feng says the El Niño weather pattern causes a 'see saw' effect on

ocean temperatures between the western Pacific and central-eastern Pacific, with oceans in the western Pacific cooling while oceans in the central-eastern Pacific warm.




With persisted warm ocean temperatures in the central-eastern Pacific associated with the El Niño, ocean temperatures of the Western Australia coast start to cool. Credit: NOAA Climate Prediction Center.

He says El Niños occur irregularly, from every two years to one in seven, with the last El Nino occurring in 2009-10.

El Niños and their opposite, La Niñas, are thought to be becoming more extreme along with the effects of climate change.

The effects of the current El Niño are expected to remain until next

summer.

Provided by Science Network WA