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Climate change could cause fish to SHRINK by 30% if ocean temperatures rise by just 2°C

- Previous studies have suggested fish are shrinking, but haven't known why
- A new study suggests that rising temperatures increase the fish's metabolism
- But rising temperatures also reduce the amount of oxygen in the oceans
- Fish stop growing larger because they can't meet their oxygen needs
- Species worst affected will be bluefin tuna, and some species of sharks

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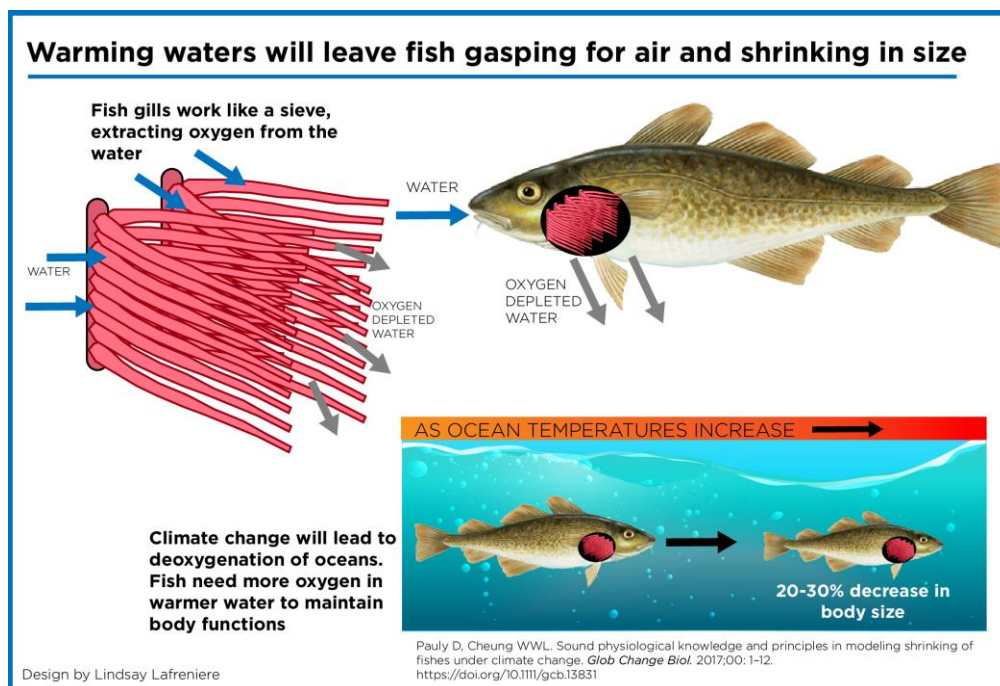
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If your Friday night dinner is always fish and chips, you may want to prepare yourself for shrinking portion sizes.

A new study suggests that fish could shrink in size by 20 to 30 per cent if ocean temperatures rise by just 2°C (3.6°F) - approximately what is expected to occur around the world by the mid-21st century.

The researchers claim that smaller fish will have an impact on fishery production as well as the interaction between organisms in the ecosystems.



A new study suggests that fish could shrink in size by 20 to 30 per cent if ocean temperatures continue to climb due to climate change. Pictured is a diagram explaining why fish shrink as temperatures rise

While previous studies have suggested that fish are shrinking because of rising temperatures, none have been able to explain why.

But a new study by researchers at the University of British Columbia provides a deeper explanation of why fish are expected to decline in size.

Dr William Cheung, one of the author of the study, said: 'Fish, as cold-blooded animals, cannot regulate their own body temperatures.

'When their waters get warmer, their metabolism accelerates and they need more oxygen to sustain their body functions.

'There is a point where the gills cannot supply enough oxygen for a larger body, so the fish just stops growing larger.'

As fish grow into adulthood, their demand for oxygen increases because their body mass becomes larger, according to the Dr Daniel Pauly, lead author of the study.

But the surface area of the gills – where oxygen is obtained – doesn't grow at the same pace as the rest of the body.

Dr Pauly calls this set of principles the 'gill-oxygen limitation theory.'

WHY ARE FISH SHRINKING?

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Dr Pauly calls this set of principles the 'gill-oxygen limitation theory.'

And in the context of climate change, this biological rule reinforces the prediction that fish will shrink and will be even smaller than thought in previous studies.



Link: <http://www.dailymail.co.uk/sciencetech/article-4819542/Climate-change-make-fish-SHRINK-30.html#ixzz4qiMTXALs>