

For some time now, it has been clear that climate change—warming seas and melting snow cover in mountains, to be more precise—will lead to physiological change in living organisms as they adapt to the changed conditions. But how drastic will this be? Recent research by scientists at University of British Columbia in Canada has warned that fishes could shrink to two-thirds their current size by 2050 if oceans continue to warm at the current rate. Being cold-blooded animals, they can't regulate their body temperatures, and as the waters get warmer, their metabolism accelerates and the need for oxygen shoots up. Crucially, however, gills, that are used to absorb dissolved oxygen, don't grow at the same rate as the body—for instance, even as a cod's body weight increases by 100%, its gills would have grown (in surface area) by just 80%. A surge in oxygen demand, even as dissolved oxygen levels in water fall, will mean that larger fish species will get more strained for oxygen. This will force them to stop

growing after sizes considerably smaller than the ones they reach right now, as the gills that already grow slower than the body can't keep up. The researchers believe that the effect will be faster and more starkly noticed in larger species.

This will have serious consequences not just for the marine ecosystem as large predatory fish species will be less able to control prey species population in the seas, but also for the fishing industry as well. Take tuna, for example. A large fish, it also swims very fast, thereby consuming oxygen at a faster beat than most other similar-sized fish species. Given how important it is as a commercial fish, shrinking size will lead to even further over-fishing—it is already caught in unsustainable numbers—and thereby a quicker wipe-out of the species. With most of the shrinking likely to happen in tropical and mid-latitude waters, large fishes, the researchers say, are likely to shift towards the poles. This will affect distribution in the tropical waters, which signals an ominous imbalance for the ecosystem and the economy.

Link: http://www.financialexpress.com/opinion/climate-change-size-of-fish-to-shrink-check-out-doomsday-scenario/828362/