

# Model: Possible simultaneous impact of global warming on agriculture and marine fisheries

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An international team of researchers has built a model that shows the possible simultaneous impact of global warming on agriculture and

marine fisheries. In their paper published in the journal *Science Advances*, the group describes what their model showed developing over the rest of this century.

As [global temperatures](#) continue to rise (just last week the World Meteorological Organization reported that greenhouse gas emission hit an all-time high last year) as we humans fail to reduce the emission of greenhouse gases, scientists continue to carry out studies designed to help us better understand what will happen if we do not change our ways. In this new effort, the researchers have sought to demonstrate what will happen to our two main sources of food—agriculture and fisheries—when looked at simultaneously. They note that other studies have looked at the [impact of climate change](#) on both sources, but until now, none of them have looked at what will happen to food availability when both are impacted at the same time.

To gain a better perspective on what the future of agriculture and marine fisheries might look like up to the end of this century—if [greenhouse gas emissions](#) remain unchanged—the researchers built a model that took into account where food is grown or caught and likely impacts on production due to a changing climate. They also added in information that described the sensitivity of different areas to climate change—areas in the tropics, for example, may not be able to adapt to [warmer temperatures](#), while places like Canada and Russia might actually see increased food production.

The researchers report that the model showed that the [worst-case scenario](#) was rather dire—90 percent of the global population will be living in an area where production from agriculture and fisheries is falling by the end of this century. More specifically, the model showed a 25 percent reduction in average global productivity in the agriculture sector. For fisheries, the model showed declines of up to 60 percent. The researchers note that the model also showed different outcomes based on

possible global warming mitigation efforts. They also noted that poorer countries will on average be more strongly impacted than richer, more advanced countries.

**More information:** Lauric Thiault et al. Escaping the perfect storm of simultaneous climate change impacts on agriculture and marine fisheries, *Science Advances* (2019). [DOI: 10.1126/sciadv.aaw9976](https://doi.org/10.1126/sciadv.aaw9976)

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