

8 October 2018

## **The impacts of global warming of 1.5°C above pre-industrial levels: the IPCC's Special Report of October 2018.**

As of today, human activities are estimated to have caused approximately 1.0°C of global warming above pre-industrial levels and it is likely that their impact will bring a global temperature rise of 1.5°C between 2030 and 2052, if the current trend continues.

Stated in this rather abstract way, it is difficult to visualise what 1 or 1.5°C may mean in concrete terms, and these figures may seem rather small to many of us, if not negligible. But they are not, particularly as temperature increase varies from place to place: higher over land than over the oceans and much higher over the Arctic (two to three times higher than average!). The IPCC's Summary for Policymakers 2018 provides some insight of what kind of changes are - and will be - taking place.



One of the very well proven consequences of global climate warming is the occurrence more intense and more frequent extreme weather events (e.g. typhoons and hurricanes, droughts, floods due to heavy rains, extreme day or night temperatures) that have become usual features of our media headlines. As the sea level increases progressively, some of these events have a greater impact on densely inhabited areas as well as on highly productive coastal land (through, for example, higher incursion of saline water on agricultural land during extreme storms). The most dramatically affected areas by global warming are warm water corals, coasts and the Arctic.

Other proven impacts are the acidification of oceans and the reduction of the oceans' oxygen content. These two processes have major consequences on marine ecosystems and the services they provide, as biodiversity decreases, marine resources shift and a general loss of productivity takes place.

Global warming is also a cause of loss of biodiversity on land, with vertebrates, insects and plants losing a sizable share of their climatically determined geographic range when large areas evolve from one type of ecosystem to another.

On land, yields of maize, rice, wheat and other cereal crops will be impacted negatively, particularly in Sub-Saharan Africa, Southeast Asia, and Central and South America, while the nutritional quality of cereals (rice and wheat in particular) will degrade. Livestock will also be affected through change in feed quality, diseases and reduced water availability.

These findings highlighted by the IPCC are not new; they confirm what was already known and they are based on a huge corpus of research results, including those from most recent works. Many of the impacts described directly affect our food systems and constitute threats for the stability of our food supply [\[read\]](#).

Let's recall here that while our food is one of the main victims of climate change, the way we produce, process, preserve and transport our food is also a major cause of greenhouse gas emissions and therefore of climate change. This means that if we want to halt global warming, we will need to fundamentally change the way we produce *and consume* our food [\[read\]](#).

---

To know more :

- IPCC, Global Warming of 1.5 °C - an IPCC special report on the impacts of global warming of 1.5 °C above pre-industrial levels and related global greenhouse gas emission pathways, in the context of strengthening the global response to the threat of climate change, sustainable development, and efforts to eradicate poverty - Summary for Policymakers, IPCC, 2018.

Earlier articles on [hungerexplained.org](http://hungerexplained.org) related to the topic:

- The global food crunch: myth or reality? 2018.
- Policies for a transition towards more sustainable and climate friendly food systems, 2018.
- Food and climate change : it is up to us, as consumers and producers, to change our food system! 2017.
- Climate finance for poor countries: confusion, lack of transparency and probability that commitments made will not be respected, 2016.
- Climate is changing - Food and Agriculture must too - Towards a “new food and agricultural revolution”, 2016.
- A solution to combat climate change: an agriculture that stores carbon in the soil, 2015.
- The Global Alliance for Climate-Smart Agriculture: a new tool for an enlightened capitalism? 2014.
- Promoting climate smart agriculture: why be so shy about policies? 2013.