Met Office Hadley Centre

WFP wfp.org

& Food Insecurity *Climate Change*

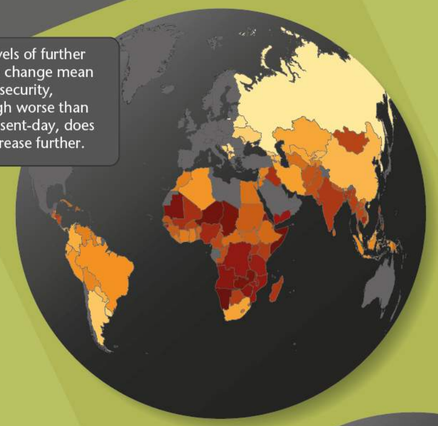
This poster shows the relationship between climate-related events and vulnerability to food insecurity in developing and least-developed countries. Present-day vulnerability to food insecurity is shown on the map at the bottom of the poster. Future projections are shown for a range of scenarios of different future global greenhouse gas emissions and adaptation levels. These show that with both adaptation and mitigation, it is possible to successfully tackle the impact of climate change on future food insecurity.

LOW EMISSIONS

HIGH EMISSIONS

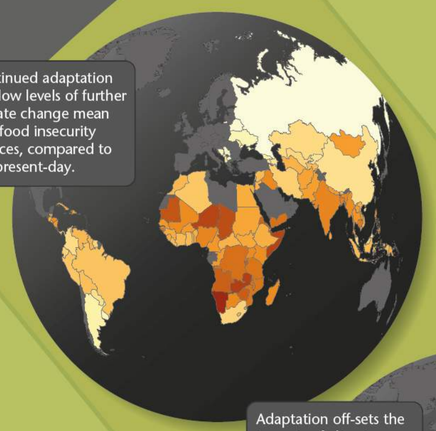
2080s

- **No adaptation**
- **Low emissions**

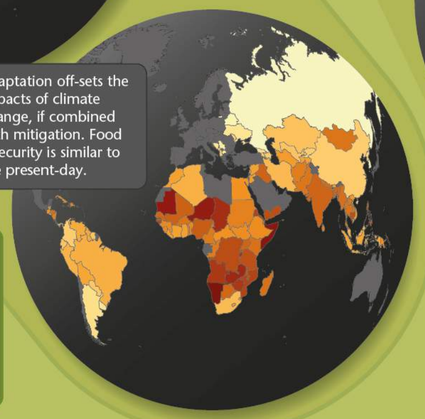


Low levels of further climate change mean food insecurity, although worse than the present-day, does not increase further.

- **High adaptation**
- **Low emissions**

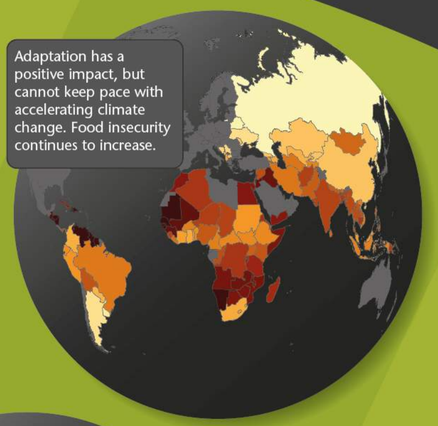


Continued adaptation and low levels of further climate change mean that food insecurity reduces, compared to the present-day.



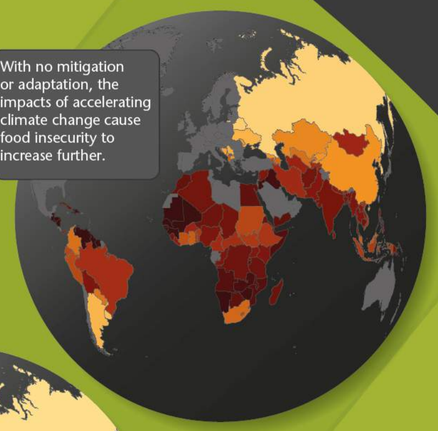
Adaptation off-sets the impacts of climate change, if combined with mitigation. Food insecurity is similar to the present-day.

- **High adaptation**
- **High emissions**

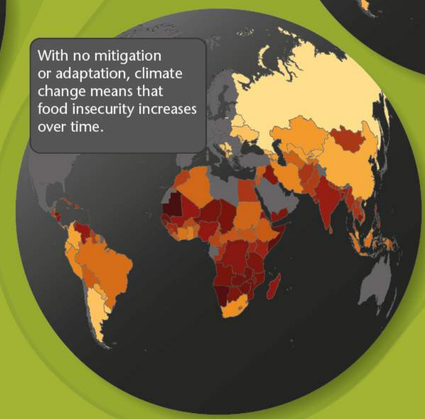


Adaptation has a positive impact, but cannot keep pace with accelerating climate change. Food insecurity continues to increase.

- **No adaptation**
- **High emissions**

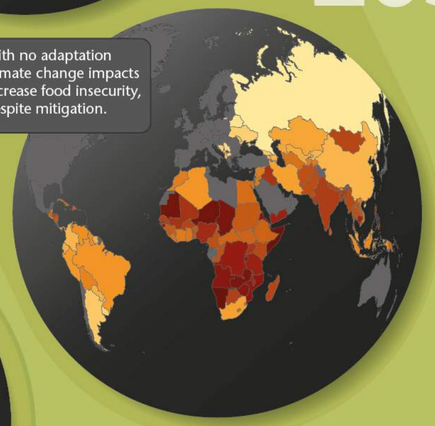


With no mitigation or adaptation, the impacts of accelerating climate change cause food insecurity to increase further.

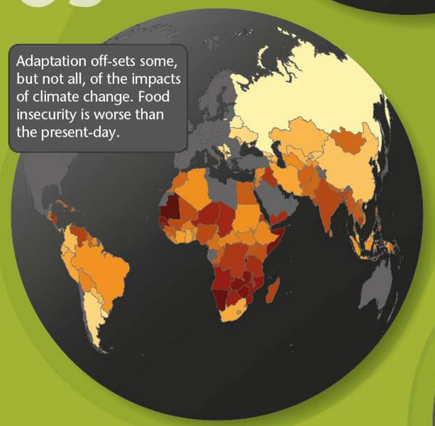


With no mitigation or adaptation, climate change means that food insecurity increases over time.

2050s

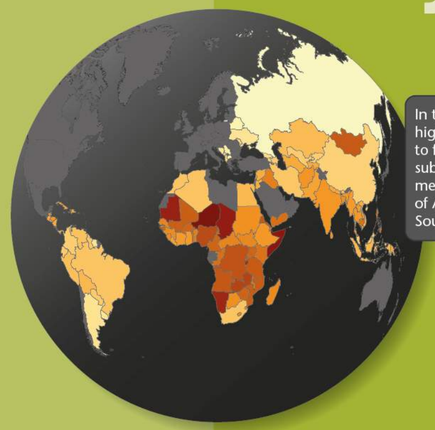


With no adaptation climate change impacts increase food insecurity, despite mitigation.



Adaptation off-sets some, but not all, of the impacts of climate change. Food insecurity is worse than the present-day.

Present day



In the present-day the highest levels of vulnerability to food insecurity are in sub-Saharan Africa, with medium levels across much of Asia, and lower levels in South and Central America.

Low food insecurity

Mitigation and adaptation could successfully tackle the impact of climate change on food insecurity.

High food insecurity

With no action to address climate change the negative consequences for food insecurity could be severe.

- **Low emissions** – The low emissions scenario represents a rapid and sustained reduction in future global emissions resulting in an increase in global average temperature of around 2 °C above pre-industrial levels by the end of the 21st century. This scenario is also known as RCP2.6.
- **High emissions** – The high emissions scenario represents considerable future increases in global emissions resulting in a rise in global average temperature of 4 °C or more above pre-industrial levels by the end of the 21st century. This scenario is also known as RCP8.5.
- **High adaptation** – This is a scenario where both the sensitivity of agricultural production and the ability of a country to cope with climate-related hazards has been improved. The change is around 10-15% in the 2050s, and a further 10-15% in the 2080s. The change is not applied equally to all countries, allowing the most vulnerable countries to improve more rapidly than the least vulnerable. This scenario was chosen as a representative of a plausible level of adaptation, but is not a forecast of future behaviour. The results shown here are not particularly sensitive to the way the adaptation scenario has been developed.
- **No adaptation** – This scenario maintains agricultural sensitivity and adaptive capacity at present day levels. It therefore shows the impact of climate change alone on food insecurity.

Vulnerability to food insecurity

LOW — HIGH