



Advances in assessing the climate risk to food security

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Climate change has the potential to impact all aspects of food security: availability (i.e. food production), access (i.e. trade, income), stability (i.e. yield shocks and extreme events), and utilisation (i.e. the nutritional content of food). However, understanding the current relationship between climate and food security, and how the global food system will respond to climate change, is complex. This is due to the interconnectedness of the system (through food trade), the interdisciplinary nature of the impacts (e.g. production, yield, trade, stability of supply), and the different scales involved (global, national, regional).

This session will summarise three methods that have been developed to explore translation of climate science into food security applications, which span a range of spatial and temporal scales.

National-level vulnerability to food insecurity as a result of climate-related hazards

The Hunger and Climate Vulnerability Index (HCVI) provides a relative assessment of vulnerability to food insecurity at the national level across the globe through considering three components of vulnerability; exposure, sensitivity and adaptive capacity. The results enable identification of the most vulnerable regions in the present-day, and the direction and scale of long-term climate trends on vulnerability. This informs long-term climate change and food security planning, in particular the prioritisation of mitigation and adaptation effort.

Sub-national food security and climate change assessments

These assessments use livelihood zoning analysis and livelihood activities to interpret the potential impacts of climate change in a number of developing countries. They were developed in collaboration with food security experts at the UN World Food Programme.

Quantifying the climate risk to crop production across multiple regions

Production of a number of key crops (e.g. wheat, maize, rice and soybean) is highly concentrated in areas of high yield around the globe. As such crop failures in a few key locations in the same year could have a significant impact on availability and access to food. Methods for quantifying the risk of climate-related yield shocks occurring in multiple regions, making use of both observations and models, will be discussed.