

EARTH

February - 2023



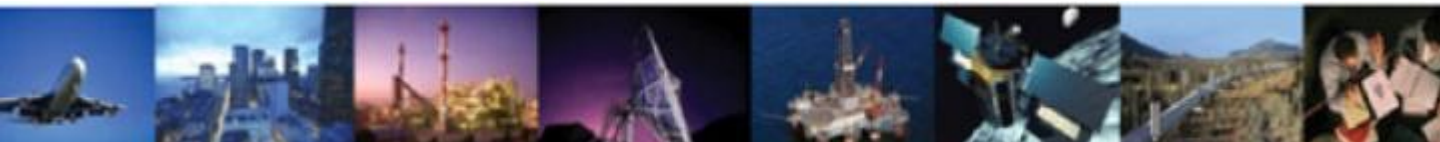
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How does climate change threaten global food production?

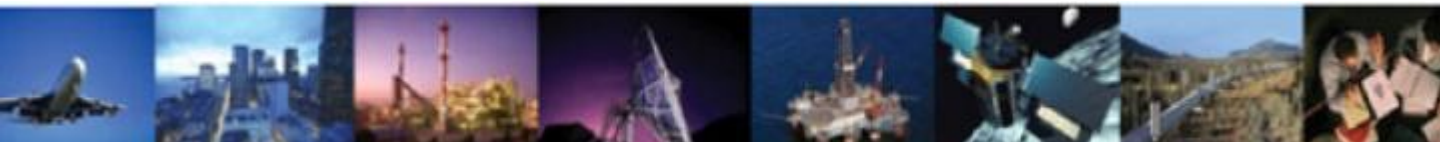
In recent years, record-breaking heatwaves, droughts, and floods are becoming increasingly common across the globe. These extreme weather events impact supply chains, built infrastructure, people's livelihoods - and food production. Over the last decades, the world has experienced many episodes of crop production shortfalls in major cropping areas, regions known as 'breadbaskets'. But because many global staple crops are widely traded, a good harvest in one region can balance a poor harvest in another. This keeps global food prices stable and ensures that large parts of the world can have access to sufficient amounts of nutritious and affordable food. However, a growing body of scientific research is showing that as the planet warms, the likelihood of extreme weather events hitting multiple breadbaskets at once is increasing, a situation that would have cascading effects felt across the globe. This presents a very important challenge to the global food system, especially when combined with other global crises.

The increasing risk of climate change

With climate warming, simultaneous extreme weather events across multiple breadbaskets are expected to become more common. This change can occur by mere chance: more extreme events happening globally can simply raise the odds of them impacting crops in multiple breadbaskets at once. But other climate mechanisms can further boost these odds. Wavy patterns in the jetstream, an air current found in polar and subtropical regions, are linked to simultaneous heatwaves and yield losses across multiple breadbaskets. It is still not clear how climate change could influence these mechanisms, but recent studies have found that current climate models might be underestimating their importance in generating extreme events, meaning the real risks might be higher than currently projected.

A new food system in an era of multi-crises

The global food system operates uncomfortably between multiple ongoing crises facing the world, of which climate warming is only one. These crises affect the stability of the global food network to accommodate climate shocks, which are inevitably going to increase in the coming decade. Other global trends might contribute to food system vulnerability. Next to increasing efforts to mitigate greenhouse gas emissions to prevent extremes to rise beyond adaptation capacities, there are some obvious interventions that can help our food systems to become more resistant to simultaneous climate shocks. One of them is to invest more effort in international collaborations. Policies on food trade and stocks need to be reconsidered for a world at a higher risk from simultaneous crop losses. It is also necessary to strengthen the food storage and trade networks to reduce the risk, as well as to create better conditions for emergency food relief.



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Most fundamentally, the food system needs to adapt as a whole to climate change. New and improved crop varieties and ways of farming can help, especially if they consider the needs of more vulnerable smallholders that tend to be overlooked by major crop breeding companies. But with the rising likelihood of concurrent weather extremes, local farming adaptation is only half the solution. If the balance between good and bad harvests can no longer be taken for granted, a wide portfolio of complementary global food system adaptations will be needed to maintain a stable food supply. Achieving this goal will require cooperation among a slew of actors like governments, international agencies, not-for-profits, farmers organizations, academic researchers, and agrifood companies. That cooperation will be a challenge, but global food stability is in everyone's interest.

Source- <https://www.eco-business.com>

