

The level of food security in Central Asia is improving, but faces crisis in the future: Study

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How does climate change affect food security in Central Asia?

In a study [published](#) in *Science China Earth Sciences*, a joint research group from the Institute of Earth Environment of the Chinese Academy

of Sciences, the Northwest University, and the National Academy of Sciences of the Republic of Kyrgyzstan found that while the overall level of food security has increased over the past 30 years, five countries in Central Asia now face a future crisis due to global warming.

In recent years, the [international community](#) has shown great concern about the [impact of climate change](#) on food security. Central Asia has a fragile ecological environment and underdeveloped agriculture, and its food security is more sensitive to [climate change](#).

What is the current situation of food security in Central Asia under the influence of [climate](#) change? How will it evolve in the future? This not only affects the development and stability of the region, but also poses challenges to the building of a China–Central Asia community.

To assess the current situation and predict future developments, the researchers assessed food security along four dimensions: availability, accessibility, utilization, and stability using the Cobb-Douglas-Climate (C-D-C) model and meteorological, agricultural, and economic data spanning from 1990 to 2019 for five Central Asian countries.

They also conducted an in-depth analysis of how climate change and extreme weather events affect food security in these countries, while predicting their future trends under different climate scenarios.

They revealed that climate change has a significant impact on food security in Central Asian countries. Both average annual temperature and precipitation have an inverted U-shaped relationship with food security.

In addition, extreme high and low temperatures exert substantial negative impacts on food security. Given the expected [global warming](#), it is highly likely that temperatures and precipitation will continue to increase in these Central Asian countries. As a result, climate change will have a

long-term negative impact on the region's future food security.

They emphasized the need for Central Asian countries to take proactive measures to adapt to climate change and reduce [greenhouse gas emissions](#) in order to safeguard future food security of the region. Furthermore, they suggested using the Belt and Road Initiative as an opportunity to enhance regional food and agriculture cooperation.

The researchers hope to raise social awareness of climate change, provide scientific reference for building a [food security](#) system in Central Asia, and promote regional cooperation.

More information: Fang Su et al, [????????????????????](#), *SCIENTIA SINICA Terrae* (2023). [DOI: 10.1360/SSTe-2022-0316](https://doi.org/10.1360/SSTe-2022-0316)

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