

SCAF - Future Agricultural Scenario Simulation based on Regionalized Climate Change Projections

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In the SCAF network, advancements or innovations in the process of simulation of the global climate change (GCC) impacts on agriculture will bring the Brazilian agricultural future scenarios closer to the unpredictable future real scenario and, consequently, better characterize the new geography of production.

Approach

Knowing the Brazilian agriculture vulnerability to the impacts of GCC: that is what intends SCAF, allowing the country to anticipate the possible negative impacts and adopt in advance public policies that promote their mitigation or adaptation to them.

To do this, we count on a large and expert research team - more than 100 researchers from about 30 units of Embrapa and more than ten other research institutions - for field experimentation, adaptation of models and simulators and economic and vulnerability analysis for 30 major crops and forestry species in Brazil.

Objectives

Assess and quantify the GCC impacts on the major economic crops in Brazil, through the simulation of agricultural scenarios based on projections of future regionalized climate scenarios, indicating strategic guidelines for the new matrix production.

Highlights

- Detection of regional trends of climate change;
- Development of technology of projections and simulation models;
- Analysis of the main crops of grain, industrial, fruit, forestry and fodder in Brazil;
- Measuring the economic impact of likely changes in agricultural scenarios, defining optimized matrix for sustainable production;
- Structuring of high-performance computing platform for the integration of data and future agricultural scenario simulation.

Impacts

It is expected to improve the country's preparedness to GCC into its different scenarios, reducing the vulnerability of the agricultural sector. Economic impact quantification and early and strategic definition of public policies permit to take advantage of the positive and sustainable aspects from many points of view (social, economic and environmental) and reduce negative impacts through adaptation to the new conditions imposed. The diversity of crops analyzed provides specific options for different regions of Brazil and for substitution of other crops that will become more capable in the future.