



## **Climate change impact assessment on food security in Indonesia**

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As Indonesia is the world's fourth most populous country, food security is a persistent challenge. The potential impact of future climate change on the agricultural sector needs to be addressed in order to allow early implementation of mitigation strategies.

The complex island topography and local sea-land-air interactions cannot adequately be represented in large scale General Climate Models (GCMs) nor visualized by TRMM. Downscaling is needed. Using meteorological observations and a simple statistical downscaling tool, local future projections are derived from state-of-the-art, large-scale GCM scenarios, provided by the CMIP5 project.

To support the agriculture sector, providing information on especially rainfall and temperature variability is essential. Agricultural production forecast is influenced by several rain and temperature factors, such as rainy and dry season onset, offset and length, but also by daily and monthly minimum and maximum temperatures and its rainfall amount. A simple and advanced crop model will be used to address the sensitivity of different crops to temperature and rainfall variability, present-day and future.

As case study area, Java Island is chosen as it is fourth largest island in Indonesia but contains more than half of the nation's population and dominates it politically and economically. The objective is to identify regions at agricultural risk due to changing patterns in precipitation and temperature.