Seasonal Forecasts Improve Food Supply

EU Project CONFER Started – Precipitation Forecasts Reduce the Impacts of Droughts and Floods in East Africa

The Kilimanjaro dominates the landscape of East Africa. There, impacts of climate change can already be felt clearly. (Photo: Harald Kunstmann, KIT)

KIT Climate and Environment Center: For an environment worth living in

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Developing more precise seasonal forecasts to improve food supply for a total of 365 million people in eleven countries in East Africa, this is the goal of the new CONFER project funded by the EU. In particular, more precise precipitation forecasts are deemed important to increase agricultural yields. Karlsruhe Institute of Technology (KIT) is one of nine partners of this international project that is funded by the European Union with a total amount of EUR 7 million.

In 2017, East Africa was affected by the most severe drought since more than half a century. In 2019, heavy precipitation produced widespread flooding within a short term. Entire regions were covered by a waist-high layer of water. Both events produced big damage in agriculture and infrastructure and represented existential threats to the population. “In East Africa, the impacts of climate change can already be felt clearly,” says Professor Harald Kunstmann, Deputy Head of the Atmospheric Environmental Research Division of KIT’s Institute of Meteorology and Climate Research (IMK-IFU), KIT’s Campus Alpine in Garmisch-Partenkirchen. The Institute participates

in the new EU project CONFER (Co-production of Climate Services for East Africa). The project started on September 01 and will have a duration of three and a half years. Research institutions, in close dialog with stakeholders and end users, will develop innovative climate services for energy, water, and food supply to support people in East Africa in coping with the challenges associated with climate change. A total of 365 million people in eleven countries in East Africa will profit from the findings.

Researchers Pool Data from Models, Satellites, and Measurement Stations

The international project coordinated by the Norwegian Research Centre (NORCE) is aimed at increasing the accuracy of forecasts for the next months and supplying various weather and climate data for the region. In countries like Kenya and Tanzania, where reservoirs and water power play an important role in irrigation and energy supply, improved control may contribute to increasing agricultural yields and reducing flooding risks.

“In CONFER, we use dynamic and statistical forecast models as well as methods of machine learning and pool data from models, satellites, and measurement stations,” explains Kunstmann, who heads the “Regional Climate and Hydrology” Group of IMK-IFU. “Above all, we seek to improve seasonal forecasts, i.e. forecasts for several months. This will enable us to take measures in due time in order to reduce negative impacts of droughts or extremely wet periods.”

CONFER is funded by the European Union with a total of EUR 7 million under its Horizon 2020 Framework Programme for Research and Innovation. Apart from NORCE and KIT, other project partners are the Norwegian Refugee Council, Norwegian Computing Center, IGAD Climate Prediction & Applications Centre (ICPAC, Kenya), Kenya Red Cross Society, University of Cape Town (South Africa), University of Leeds (UK), and Met Office (UK).

More about the KIT Climate and Environment Center: http://www.klima-umwelt.kit.edu/english

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