

DOWN2EARTH: Translation of climate information into multilevel decision support for social adaptation, policy development, and resilience to water scarcity in the Horn of Africa Drylands

Overall PI: Dr. Michael Singer, Cardiff University

Partner Institutions:

Cardiff University (CU) - Coordinator

University of Bristol (UoB)

Vrije Universiteit Amsterdam (VU-A)

Aalborg University (Aalborg-PLAN)

Ghent University (UGent)

University of East Anglia (UEA)

University of Nairobi (UoN)

Addis Ababa University (AAU)

Climate Analytics (CA)

BBC Media Action (BBC-MA)

Action Aid (AA)

Transparency Solutions (TS)

IGAD Climate Prediction and Applications Center (ICPAC)

FAO-Somalia Water and Land Information System (SWALIM)



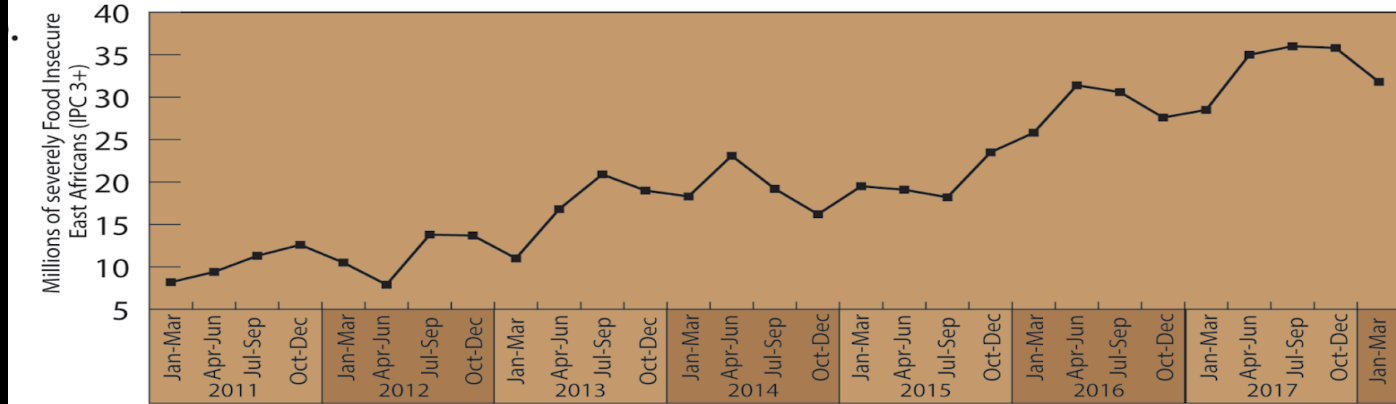
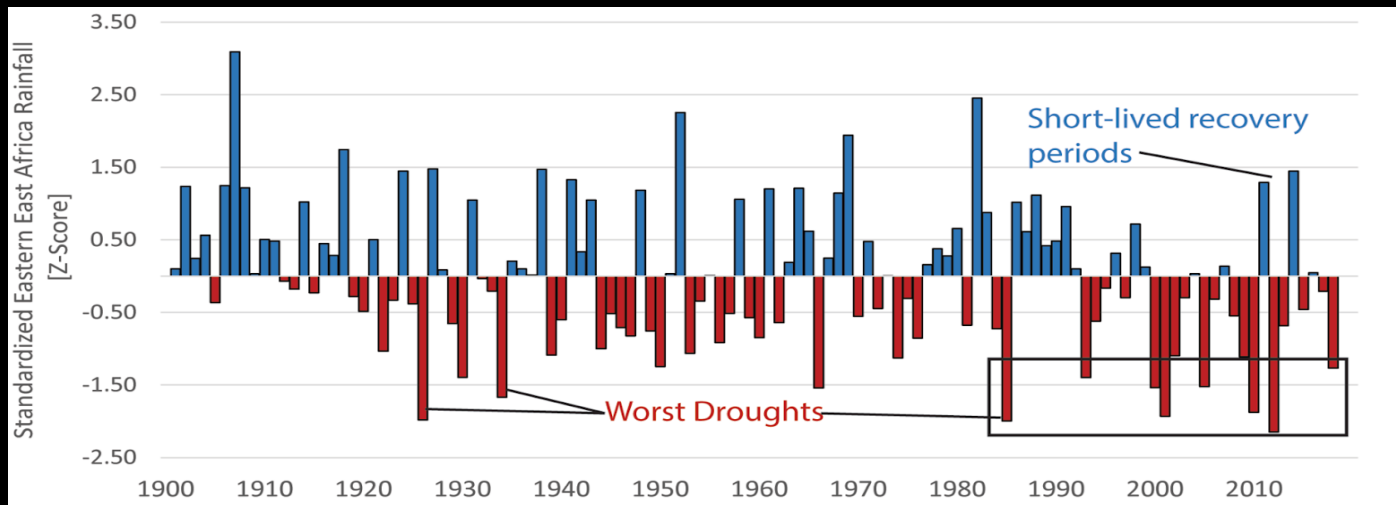
BBC Media Action



Our project is focused on the water scarcity and food insecurity challenges in rural communities within the Horn of Africa Drylands (HAD).



UNICEF
Geographical Focus: Drylands of Kenya, Somalia, Ethiopia





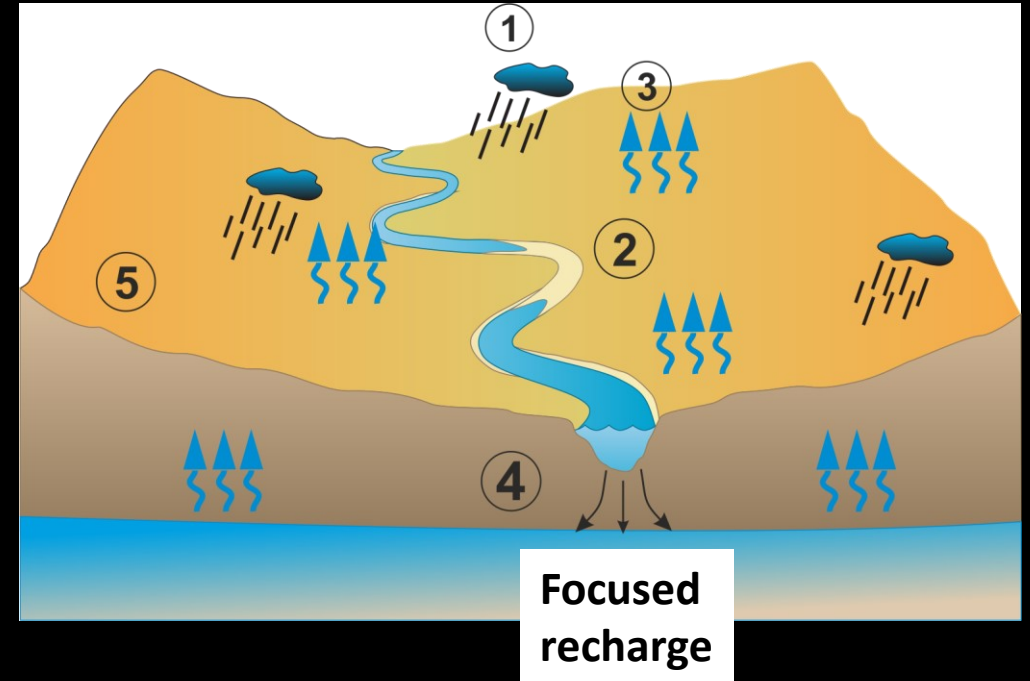
The **DOWN2EARTH** project will address the multi-faceted challenges of water scarcity and food insecurity under climate change in Horn of Africa Drylands (HAD).

Main **DOWN2EARTH** novelties:

- 'Last mile' (rural communities) perspectives incorporated into co-production of climate services
- New hydrological model focused on dryland processes
- Flexible model structure enabling numerous simulations reflecting the range of climate forecasts
- Conversion of climate information into impacts on water storage and crop yields
- Incorporation of new water storage and crop yield forecasts into desktop and mobile phone apps
- Contributions to climate adaptation policies from agent-based modeling and 'last mile' perspectives
- New multimedia approaches to communicating about climate hazards

Dryland regions have distinct hydrology

- Spatially restricted, short-lived rainstorms (1)
- High losses of precipitation by evapotranspiration (3)
- Very brief and spatially variable runoff events in ephemeral drainage networks (2)
- Groundwater recharge mostly via leaky ephemeral streams as 'focused recharge' (4)

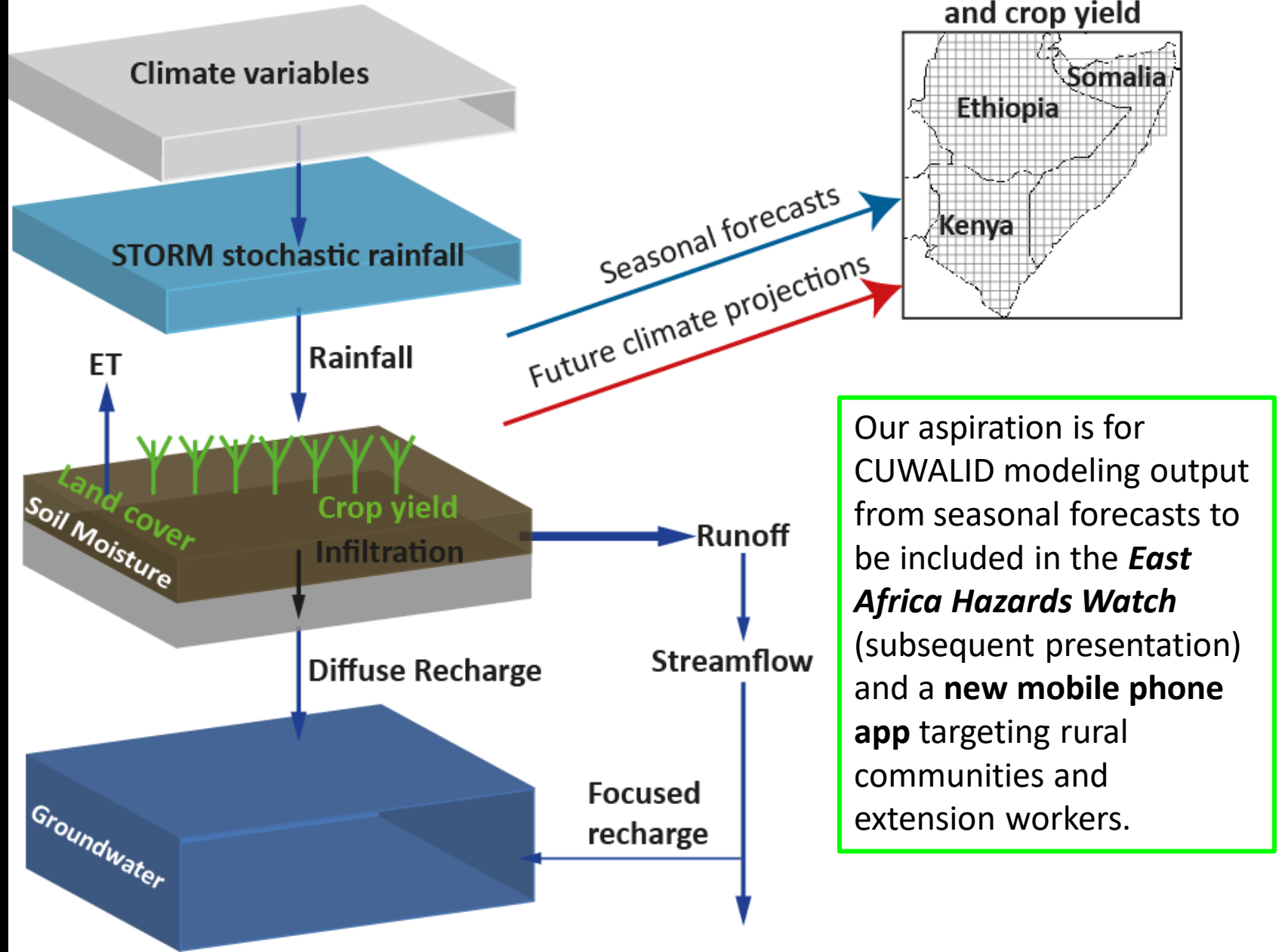


**Groundwater recharge (replenishment)
in dryland regions**

CUWALID Model

(Climate into Useful Water And Land Information in Drylands)

*To be embedded within ICPAC systems



Including the voice of 'last mile' rural (agro-pastoralist) communities



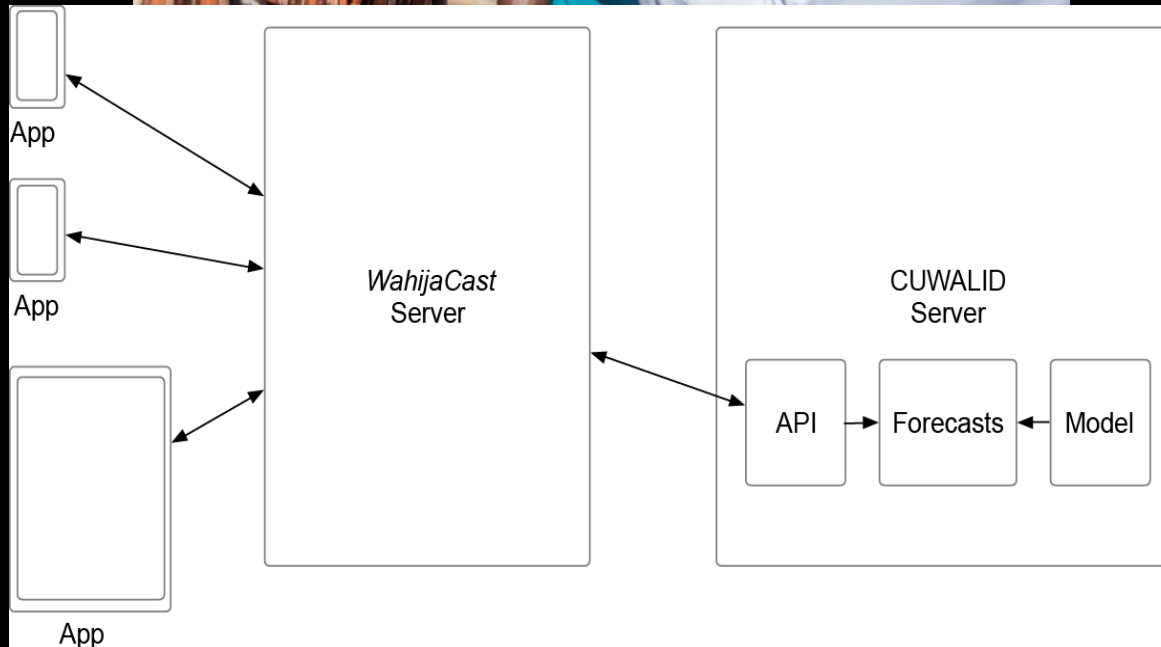
M. Tebboth, UEA



P. Omondi, ICPAC

These perspectives will support the development of the mobile phone app, agent-based modeling, and new climate adaptation policy frameworks.

New radio programming on climate adaptation for rural communities, a new mobile phone app serving model outputs for rural communities, and new climate/water data collection infrastructure to fill in gaps.



H, 2021





Web: <http://down2earthproject.org/>

Twitter: @D2E_Project

