

### Context

- By 2100 temperature is expected to increase by 1.8-4.3° C while relative humidity is expected to increase by 4-7% based on RCP 4.5 and RCP 8.5 scenarios in East Africa .
- However, there is little to no information on how changes in heat stress will affect livestock in East Africa.

### Our innovative approach

- Spatial analysis technique used to map areas where livestock species are at risk of exposure to heat stress based on a Temperature-Humidity Index (THI).
- ERA-Interim reanalysis data used to map heat stress risk during the historical period.
- Projections are based on a multi-model ensemble of GCMs (periods: 2021-2050 and 2071-2100; RCPs: 4.5 and 8.5) from CORDEX Africa.



## CLIMATE CHANGE & GREENHOUSE GAS REDUCTION

### Mapping current and future heat stress risk in livestock in East Africa

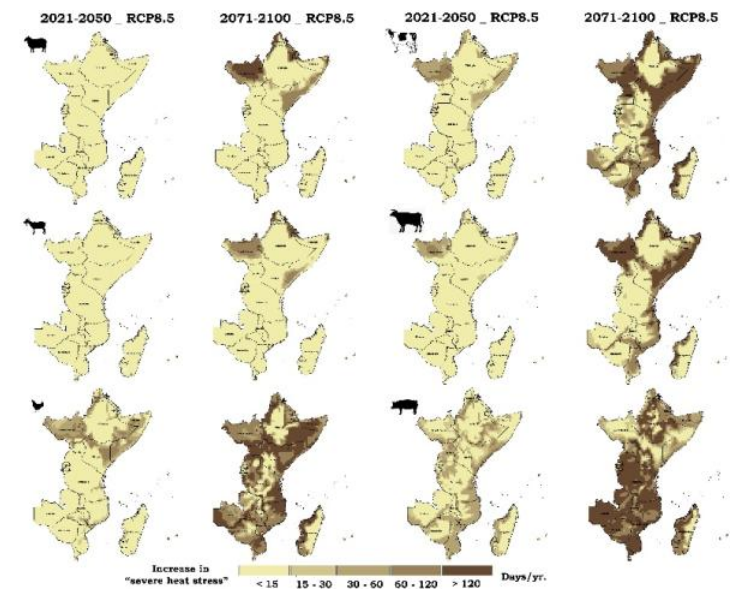
- Climate-induced heat stress negatively affects livestock growth and reproduction.
- Heat stress levels are already high and likely to increase further in the future.
- There is a need to prepare for the impending impact of heat stress on livestock in terms of agricultural extension and policy.



LIVESTOCK AND ENVIRONMENT  
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### Outcomes

- Developed a method that can be applied in other regions. for mapping heat stress risk in livestock.



### Future steps

- Expand current work to other livestock species and regions.
- Improve methodology to include adaptation, impact calculation and estimation etc.

### Partners



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