

# Spatial and temporal climate characteristics of the Central Rift Valley in Ethiopia

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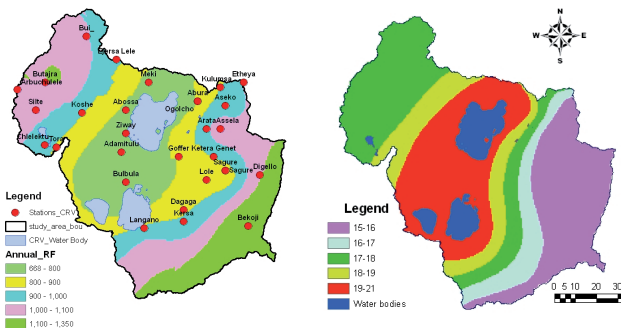
## Introduction

The Central Rift Valley (CRV) of Ethiopia (about 1 million ha) is a closed river basin where poverty and natural resource degradation are firmly intertwined. Climate variability and projected future climate change will have increasingly negative impacts on local production systems and, consequently, on food security and rural livelihoods. Understanding of the spatial and temporal characteristics of the local climate system enables to identify and design robust development options.

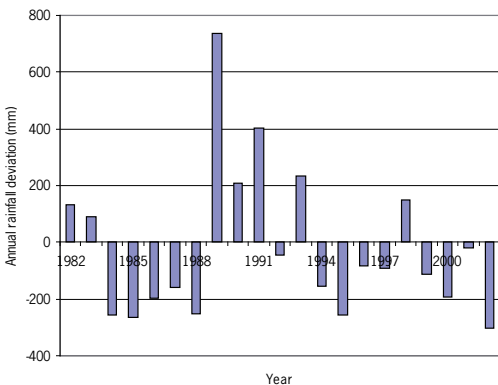
## Objectives

To characterize the local climate conditions of the CRV for the identification and design of new land use systems.

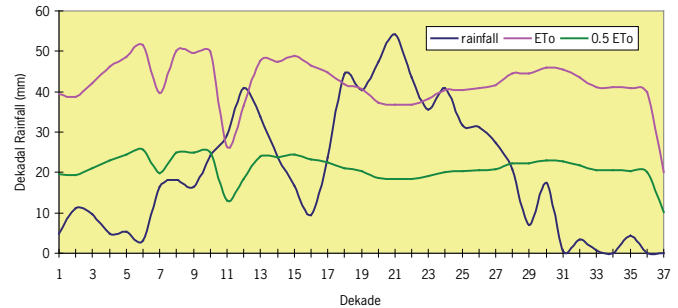
## Results



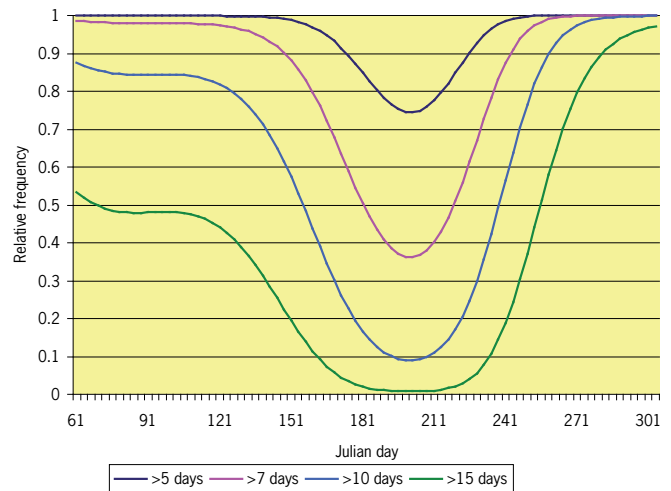
Distribution of rainfall and the mean annual temperature in the Central Rift Valley.



Deviation of annual rainfall from the historical mean in Ziway, Central Rift Valley.



Distribution of dekadal (10 days) rainfall, reference evapotranspiration (ETo) and 0.5 ETo. A rule of thumb is that the growing season starts when rainfall > 0.5 ETo and it ceases until rainfall < 0.5 ETo (FAO).



Relative frequency of risks for dry spells with various lengths (5 days, 7 days, 10 days and 15 days) for Ziway in the Central Rift Valley.

## Conclusions

The central low laying part of the CRV faces lowest rainfall and the highest average annual temperature. The length of growing period ranges from as low as 78 days in the low laying part as to as high as 173 days in the western highlands indicating the diversity agro-ecological conditions, and thus the potentials for rain fed agriculture. Future development options should take into account the spatial heterogeneity in climatological conditions in the CRV.