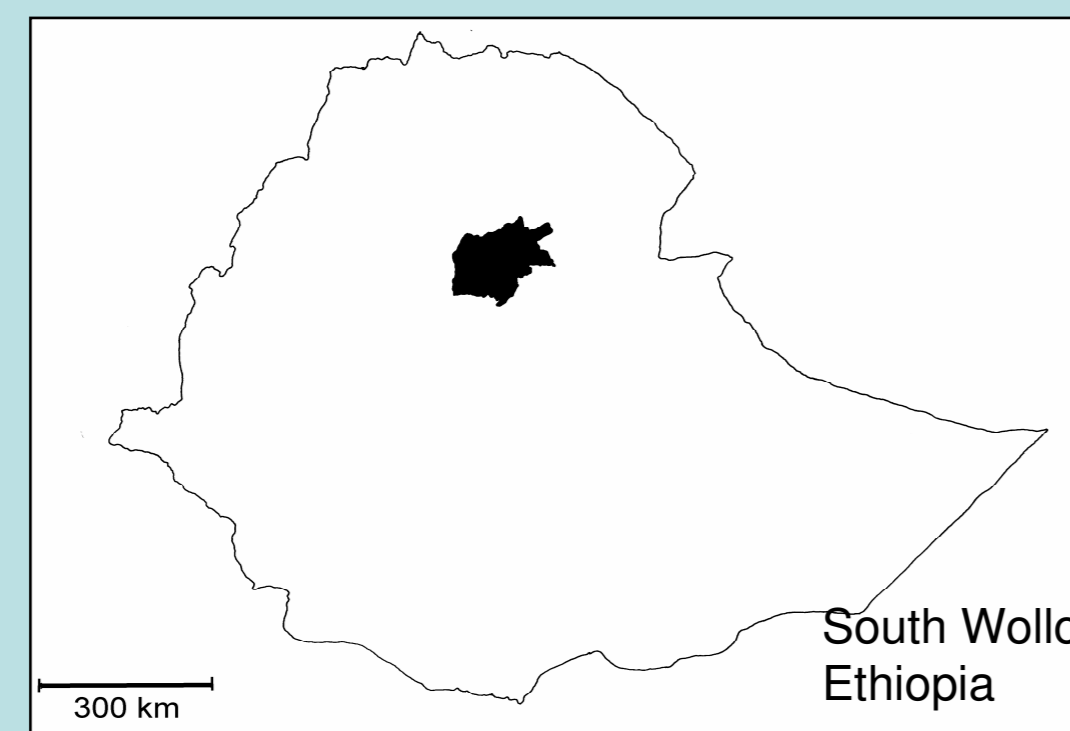
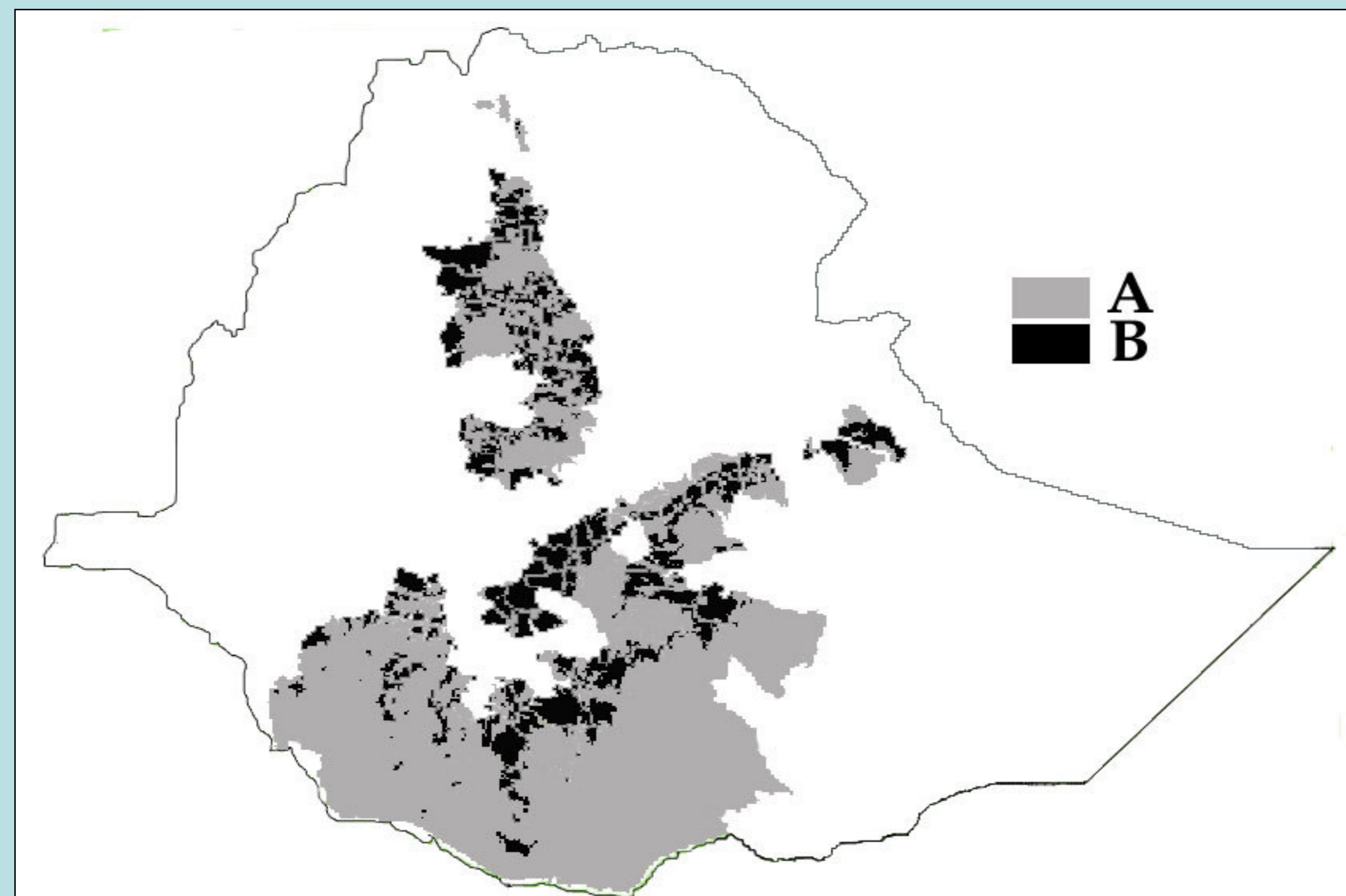




Valley in South Wollo



Map of Belg areas in Ethiopia



Coloured areas are Belg rainfall areas in Ethiopia.
 A= Belg area < 1700 m a.s.l. & > 2300 m a.s.l.
 B= Belg area 1700-2300 m a.s.l.

Rainfall changes and its implications for Belg harvest in South Wollo, Ethiopia

Background

The Ethiopian highlands are intensively cultivated and close to 90 percent of the Ethiopian population are engaged in farming activities.

Ethiopian farmers mostly depend on rain-fed agriculture. The area has a bi-modal rainfall regime. The most common staple food for farmers in the agro-climatical zone where the study area is found is tef (*eragrostis tef*) and sorghum (*sorghum bicolor*).

The short rainy season, the so called Belg is a result of moist easterly and south-easterly winds and produce rains in March, April and May. The Kiremt season starts in July and lasts for about three months as a result of convergence in low-pressure systems ITCZ and covers most of the country

Purpose

The aim of this study is to analyse rainfall changes in South Wollo and Hayk area in particularly and its effects on Belg harvest.

Methods

The rainfall is analysed comparing daily rainfall data between 1963-1982 & 1984-2003. Analysis such as coefficient of variance, number of rainy days and rainfall intensity were conducted. GIS application using the software Idrisi to produce a map of potential tef areas in Ethiopia. Discussions with key-informant in Hayk area, South Wollo.

Conclusions

- Minor yearly change of rainfall. Decrease during Bega & Belg, Increase during Kiremt.
- Shortening of the two rainy seasons.
- Higher rainfall variability.
- Advantage for cultivation in Hayk area compared to the neighbouring rainfall stations.
- Rainfall stations with > 300 mm of rainfall during Belg season.
- Possibilities to grow tef during Belg every second year in the Hayk area.
- **A model based on Belg rainfall and its possibilities to grow tef ***
- One out of eight Ethiopians live in Tef potential areas, which has Belg rainfall (1700-2300 m a.s.l.)



Tef cultivation in South Wollo

* A model based on Belg rainfall and its possibilities to grow tef

The rainfall criteria that has to be fulfilled for tef growing are:

- >240 mm of rainfall during the Belg season
- >120 mm in February or 90 mm in March
- No dry spells of more than 7 days within 28 days after sowing if it is less than 300 mm of rainfall during February, March and April.

Future work includes analysis of several rainfall stations receiving Belg rainfall. Also in progress a paper on livelihood and food security in Hayk area, South Wollo.

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