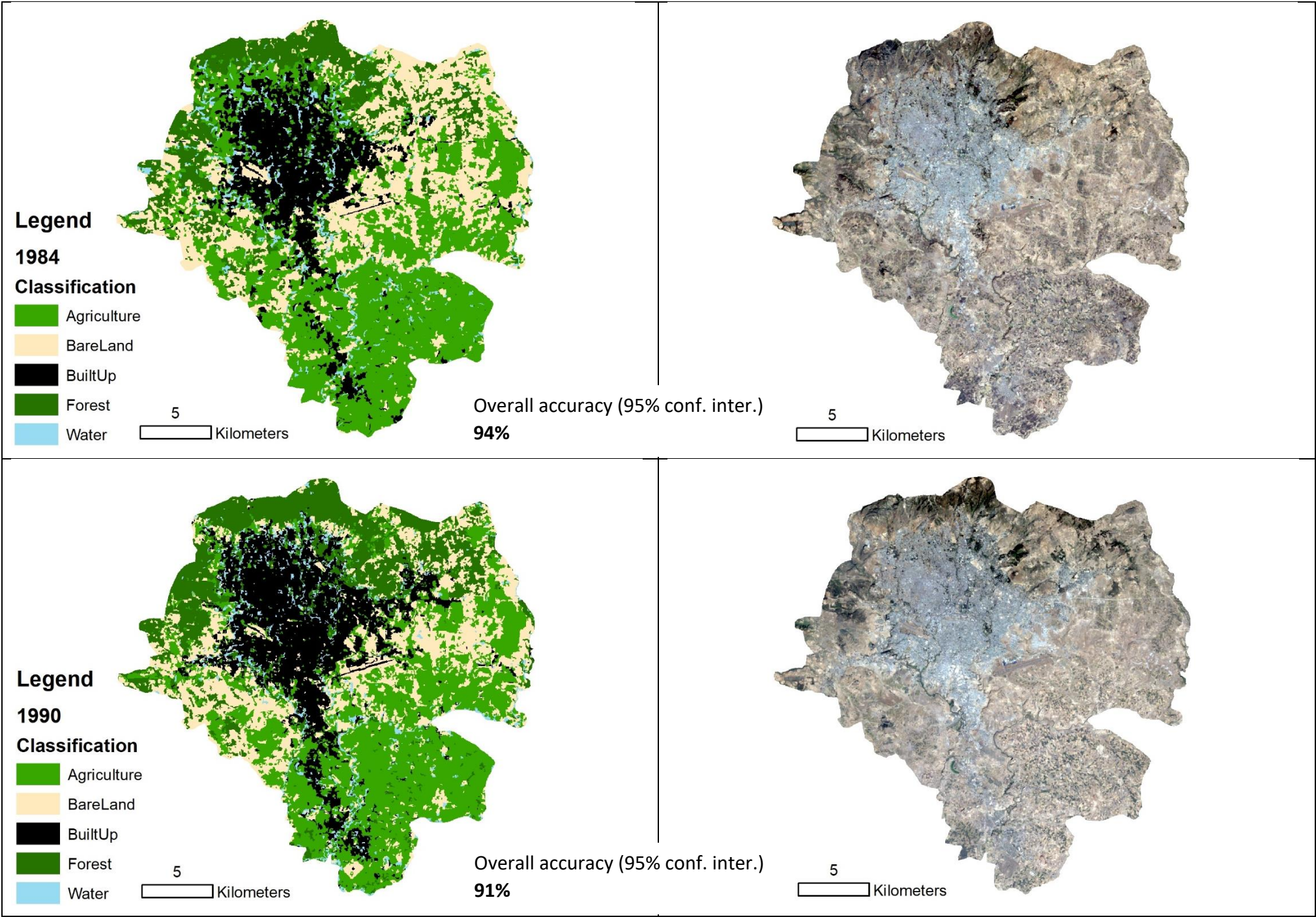


Land use classification



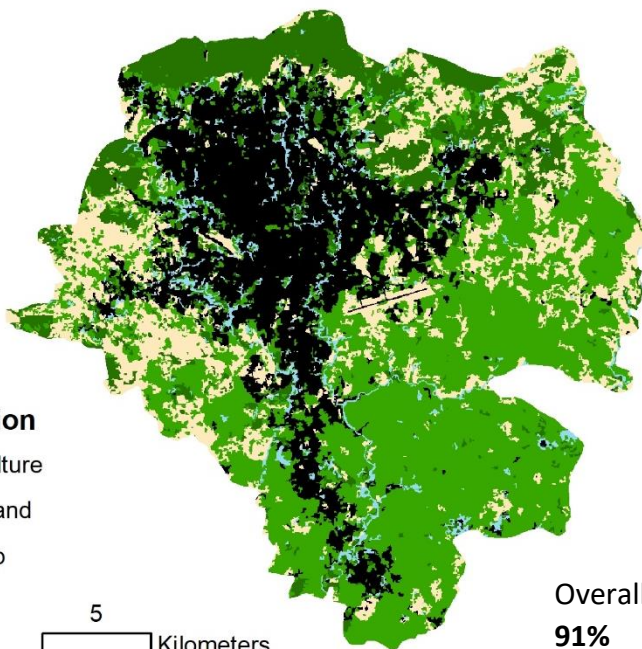


## Legend

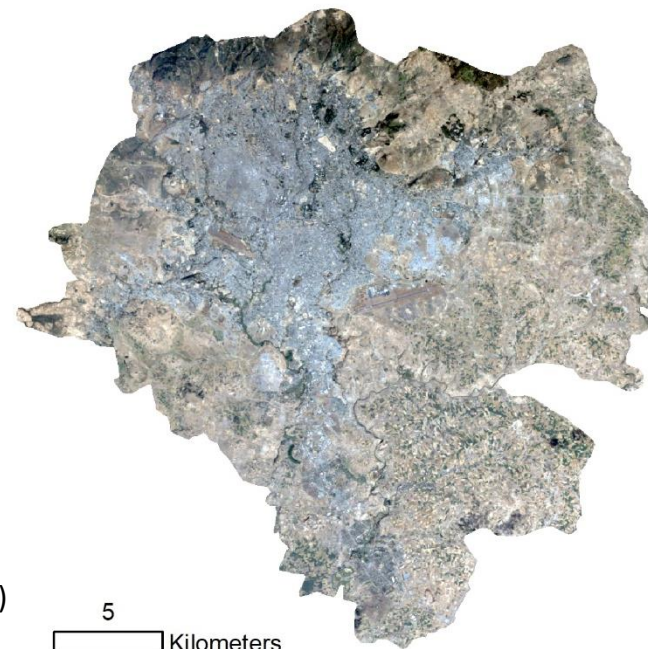
1996

### Classification

- Agriculture
- BareLand
- BuiltUp
- Forest
- Water



Overall accuracy (95% conf. inter.)  
**91%**

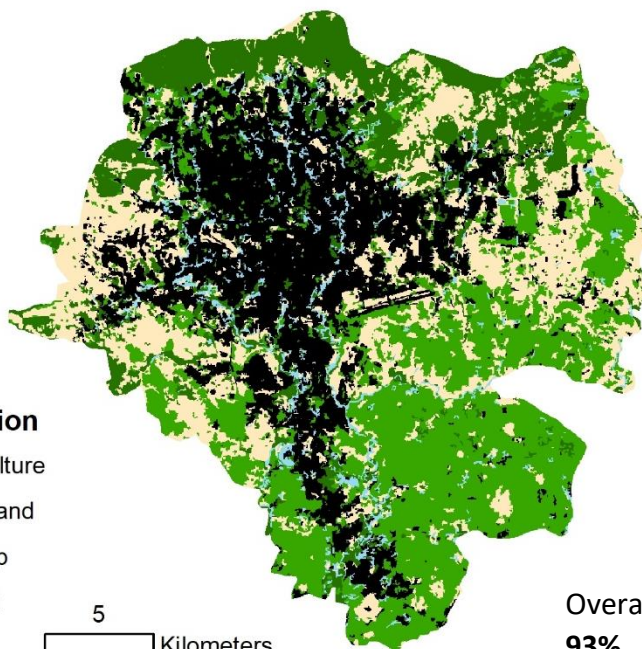


## Legend

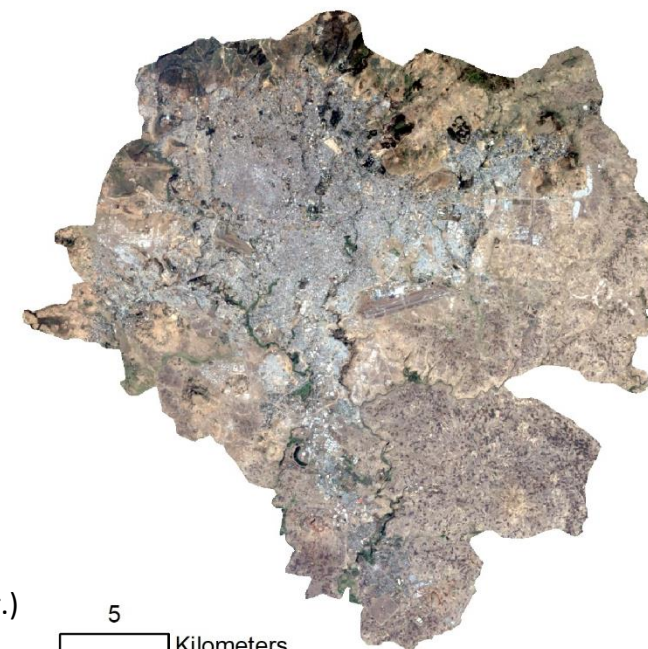
2002

### Classification

- Agriculture
- BareLand
- BuiltUp
- Forest
- Water



Overall accuracy (95% conf. inter.)  
**93%**



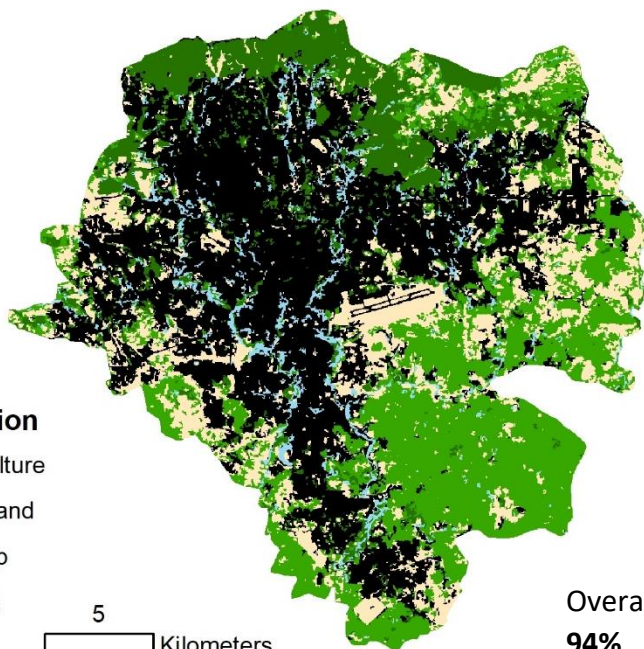


## Legend

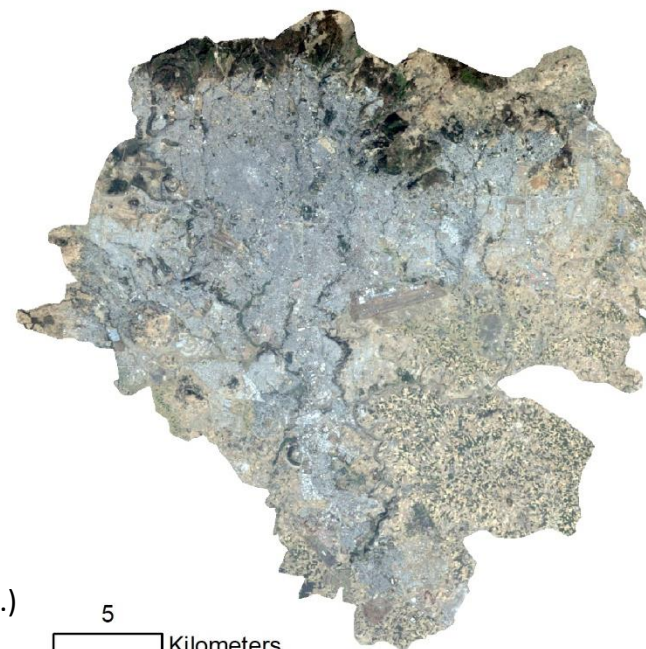
2010

### Classification

- Agriculture
- BareLand
- BuiltUp
- Forest
- Water



Overall accuracy (95% conf. inter.)  
**94%**

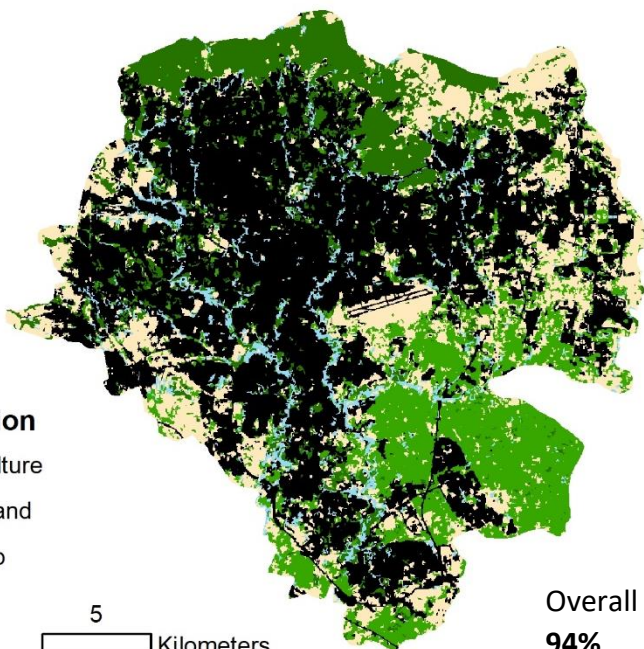


## Legend

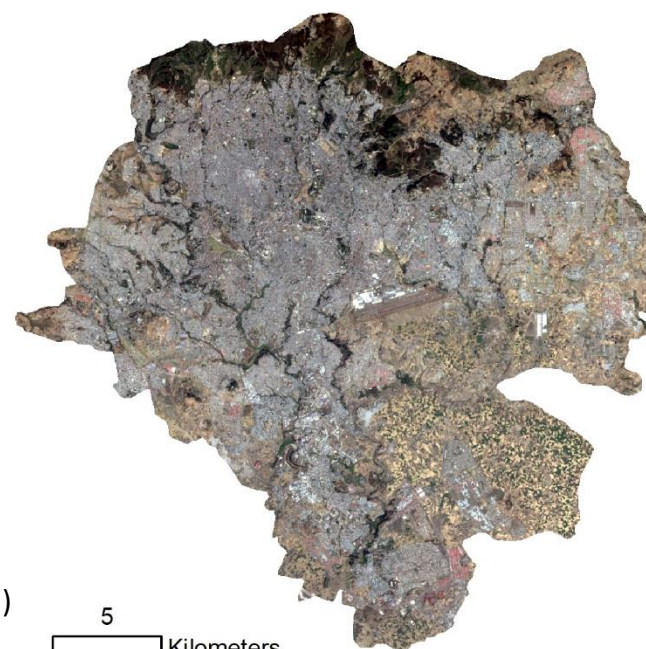
2016

### Classification

- Agriculture
- BareLand
- BuiltUp
- Forest
- Water



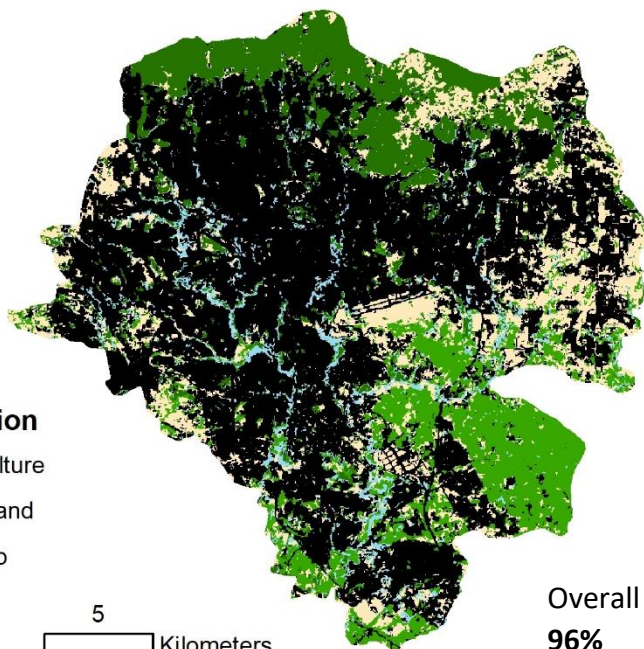
Overall accuracy (95% conf. inter.)  
**94%**



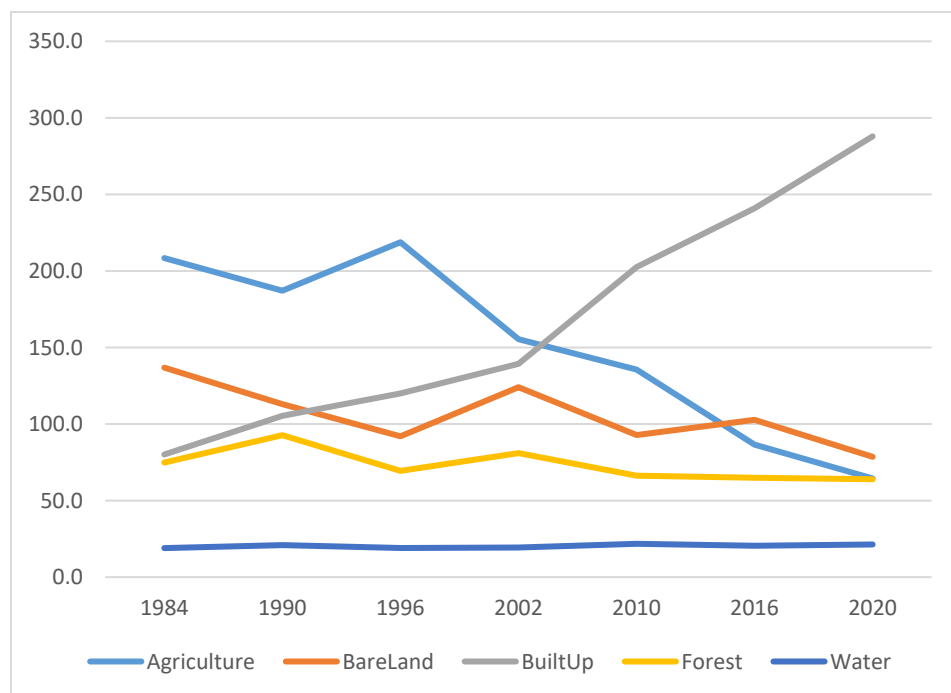
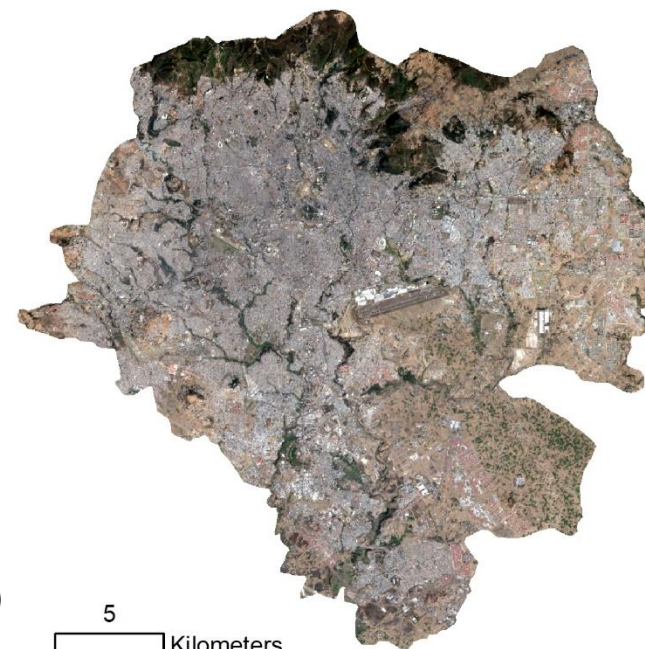
## Legend

2020

## Classification



Overall accuracy (95% conf. inter.)  
**96%**



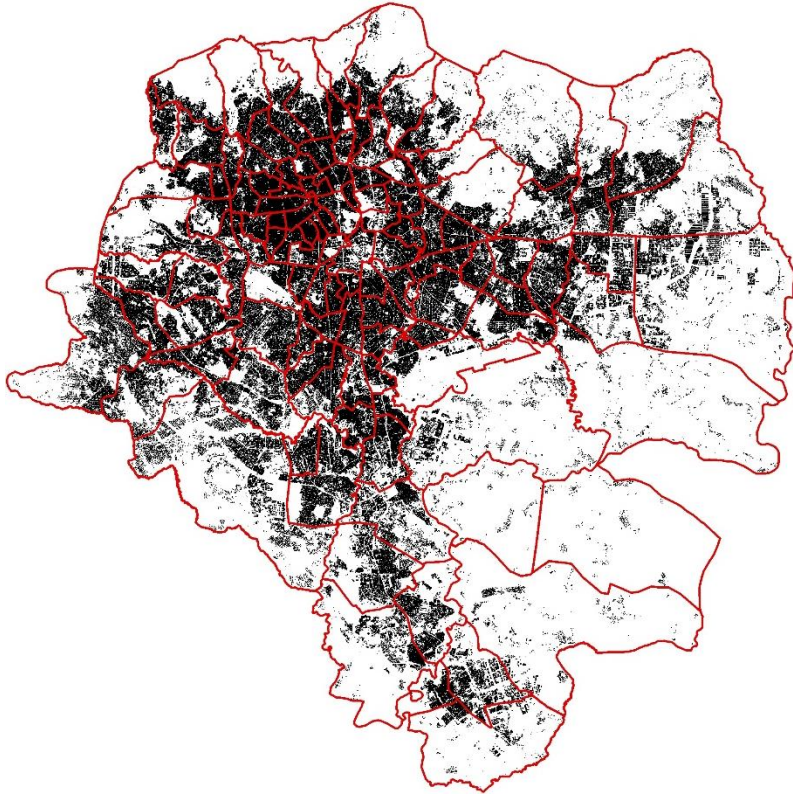
	1984	1990	1996	2002	2010	2016	2020
Agriculture	208.4	187.1	218.8	155.4	135.6	86.5	64.5
BareLand	136.8	113.0	92.0	124.1	92.9	102.8	78.6
BuiltUp	80.1	105.4	120.0	139.3	202.6	240.9	287.9
Forest	74.8	92.7	69.4	81.0	66.3	64.9	63.9
Water	19.0	21.0	19.0	19.3	21.8	20.5	21.3



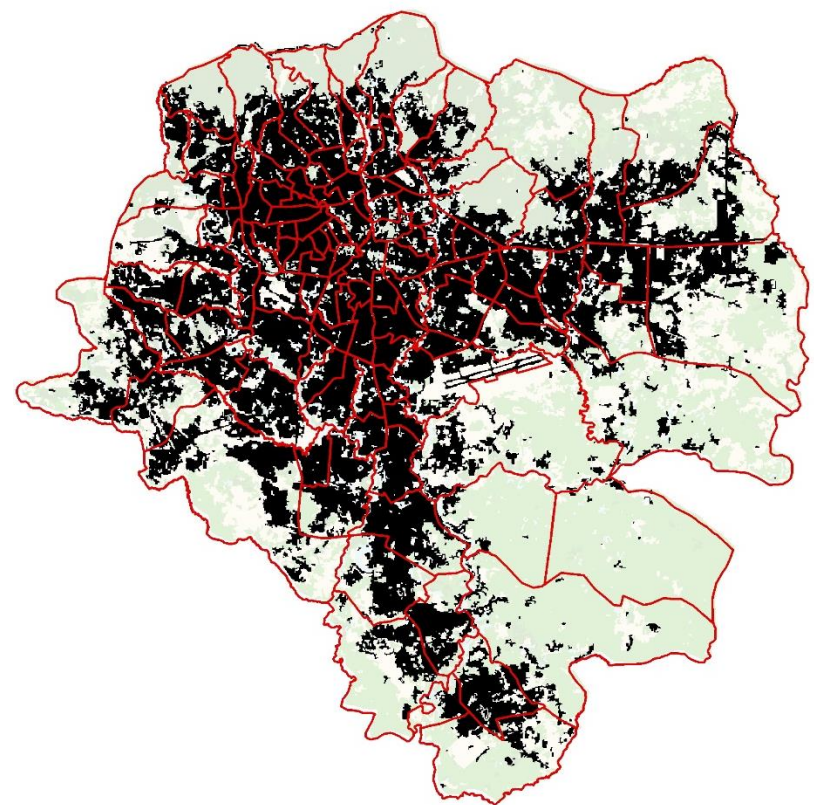
# 1. Does the classification represent the reality?

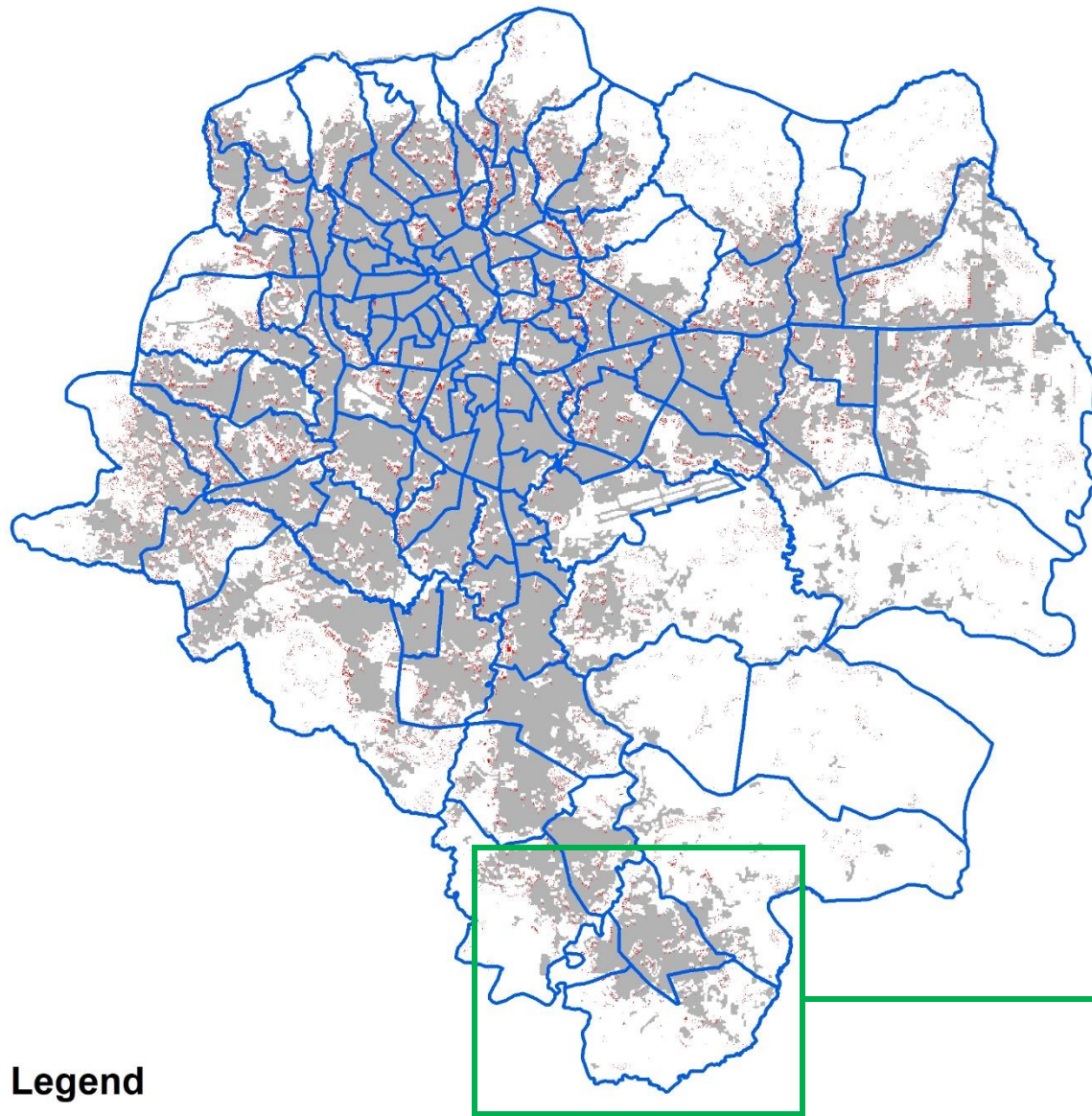
- Datasets from the Addis Ababa municipality – Existing buildings data for the year 2011 Vs Land use classification (2010)

Existing buildings (2011)





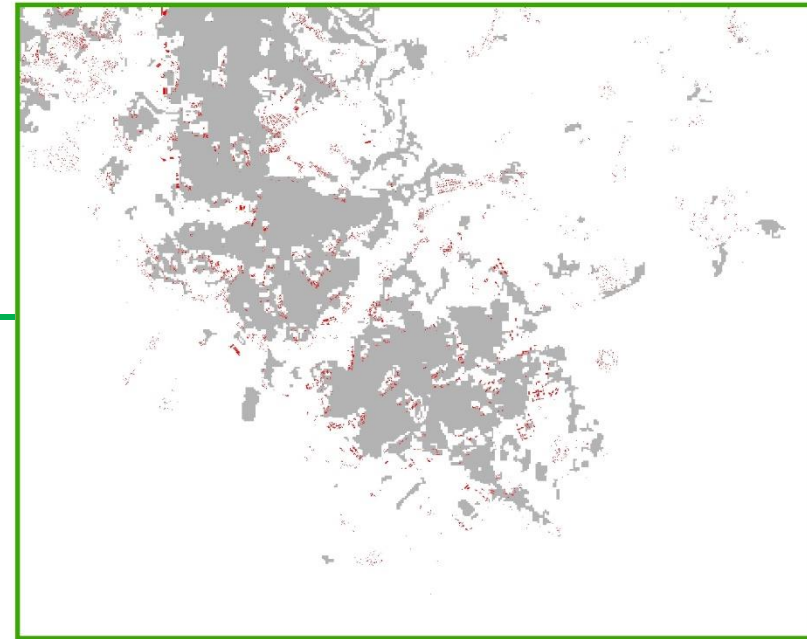
Land use classification (2010)





## Legend

-  Houses missed by classifier
-  Correctly classified



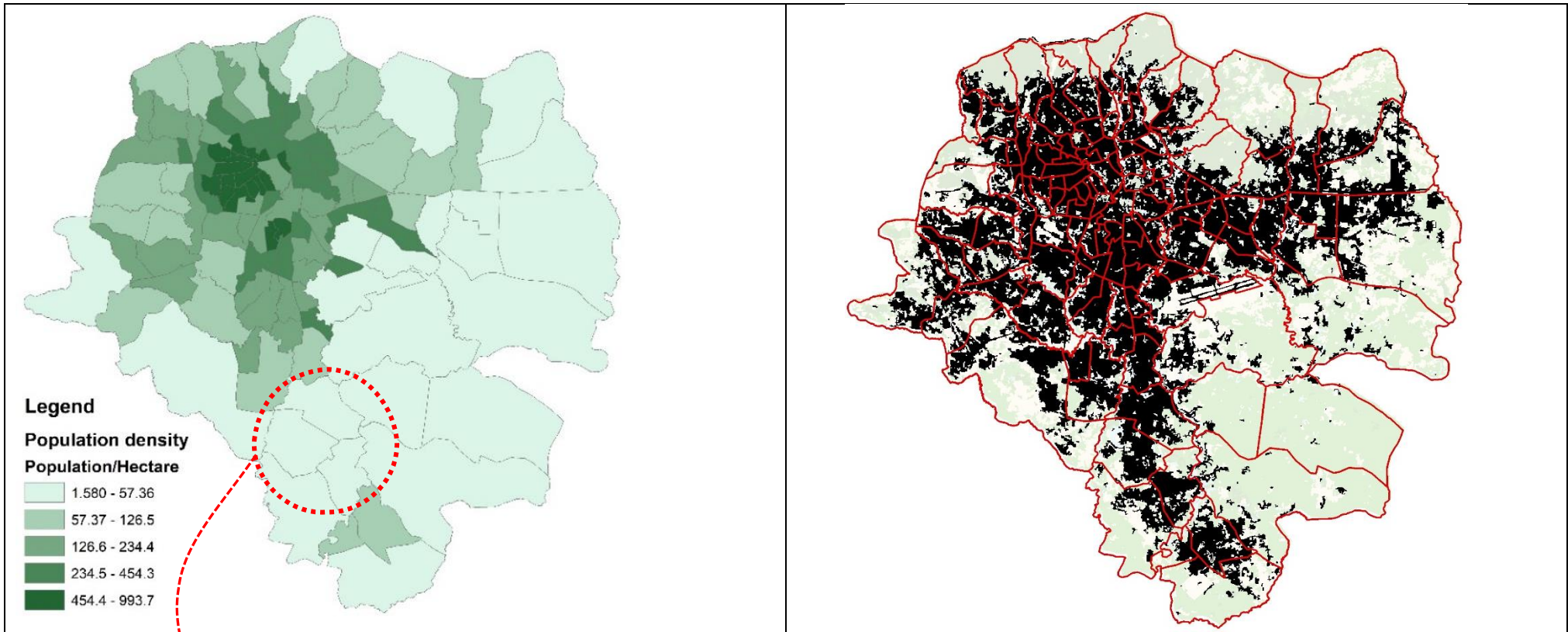
- Total buildings area (2011) → 5,819.5Ha
- Buildings missed by the classifier → 536.7Ha
- 9.2% of the buildings are misclassified

### Possible reasons

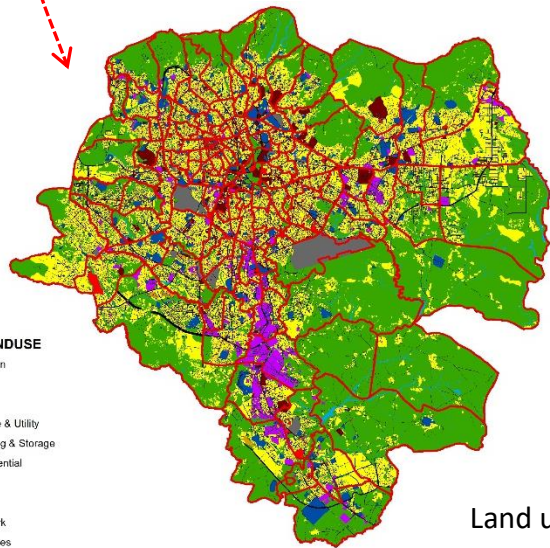
- New constructions between 2010 and 2011
- Classification error



- Population density map of the city (2014) Vs land use classification (2010)



- Legend**  
**EXISTING\_LANDUSE**
- Administration
  - Commercial
  - Green
  - Infrastructure & Utility
  - Manufacturing & Storage
  - Mixed Residential
  - Residential
  - River
  - Road Network
  - Social Services



Land use map of Addis Ababa (2014)

## 2. Other researches

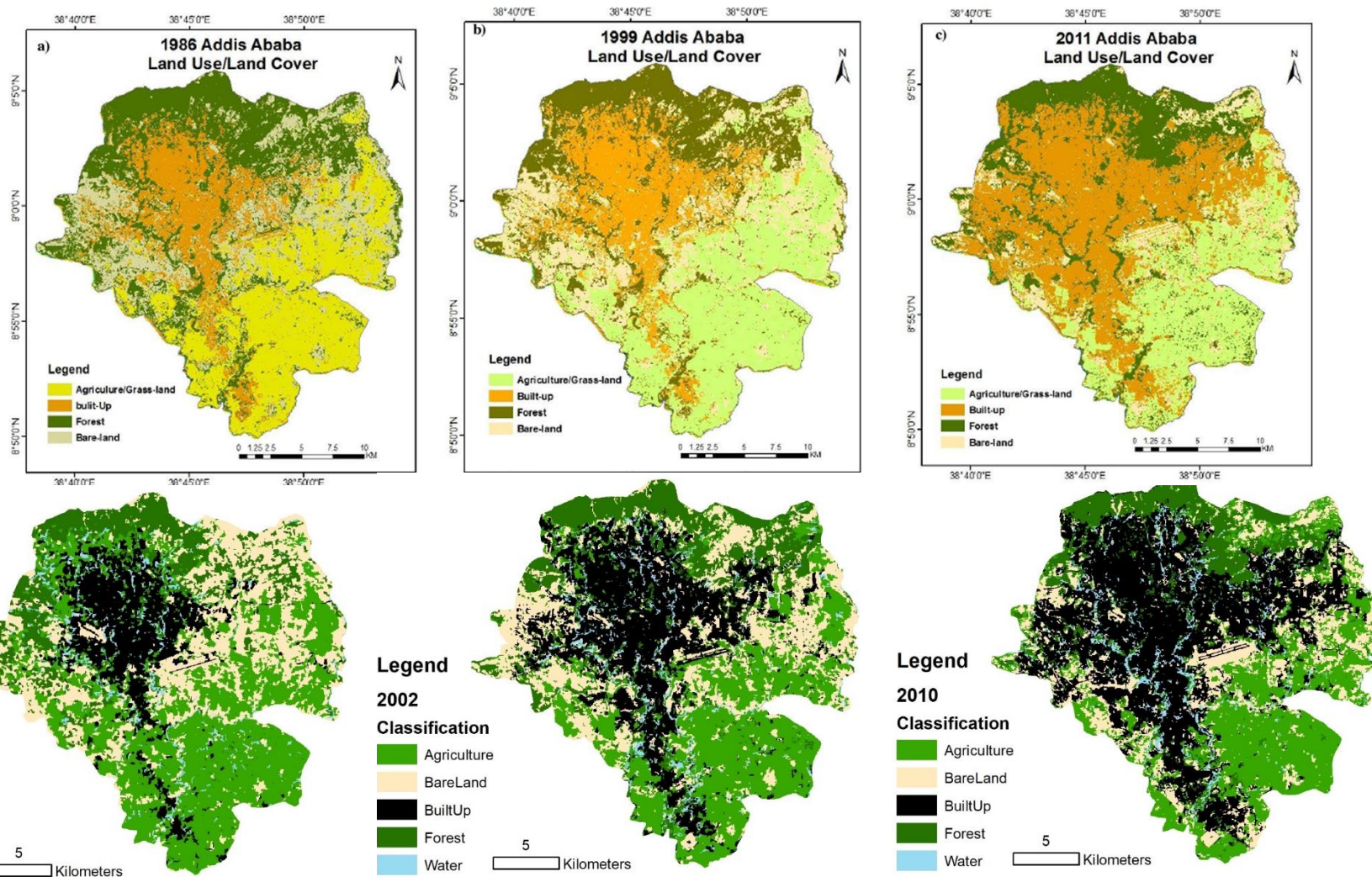
Arsiso, Tsidu, Stoffberg, & Tadesse (2018)- **Influence of urbanization-driven land use/cover change on climate: The case of Addis Ababa, Ethiopia**

### Objectives

- Detect major changes of vegetation cover occurred between 1986 and 2011 as a result of LULCC.
- Investigate future UHI over the city

### Results

- Built up area has increased by 121.88 km<sup>2</sup> within the study period → (it has increased by 122.5 km<sup>2</sup> between 1984 & 2010 according to current classf'n)





Mulugeta, Tesfaye, & Ayano (2017) – [Data brief] **Data on spatiotemporal land use land cover changes in peri-urban Addis Ababa, Ethiopia:**  
**Empirical evidences from Koye-Fече and Qilinto peri-urban areas**

**Objectives**

- Provide numeric data on the amount of land use change for a selected part of the city

