



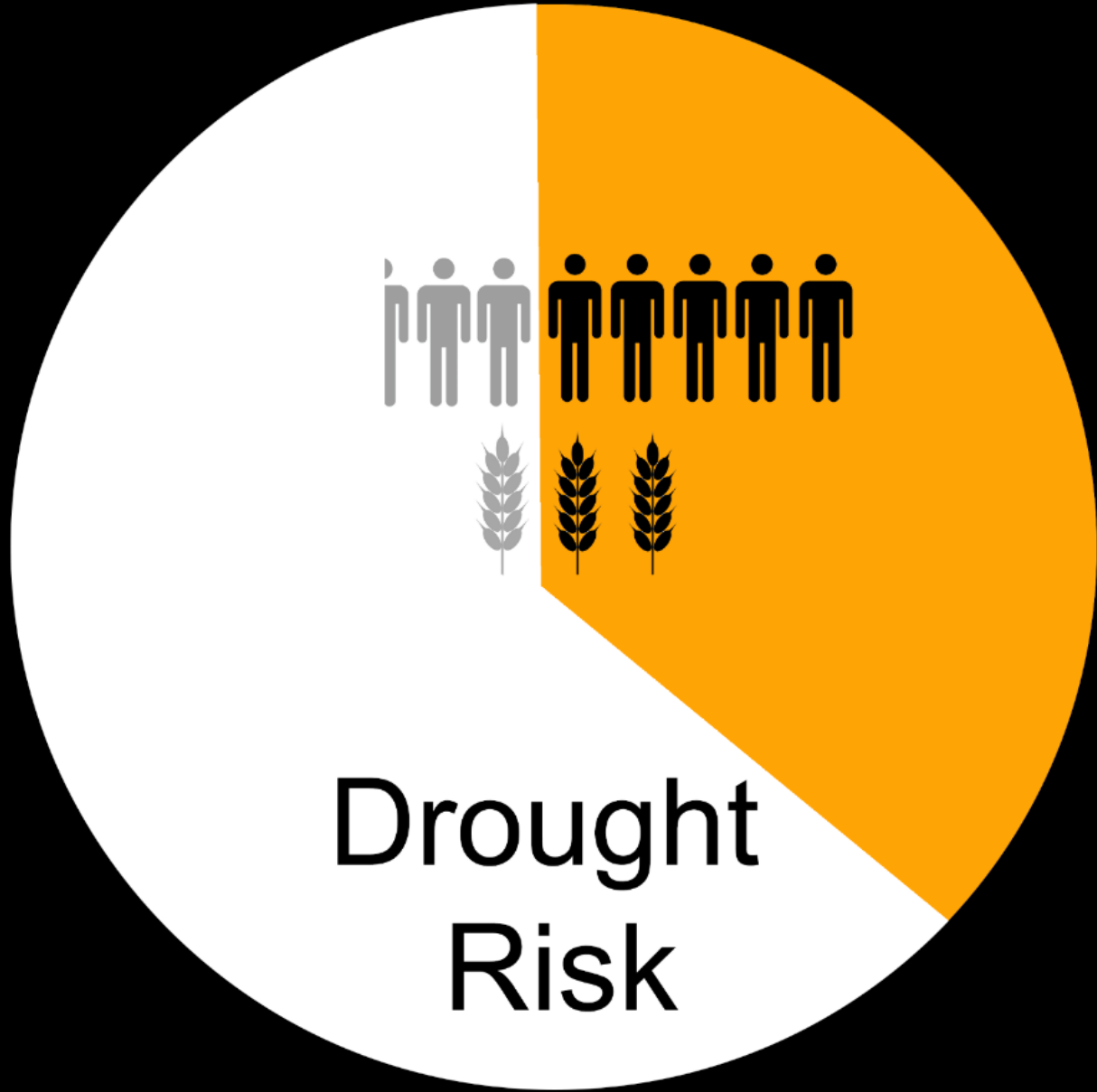
SATIDA

Satellite Technologies for Improved
Drought Risk Assessment



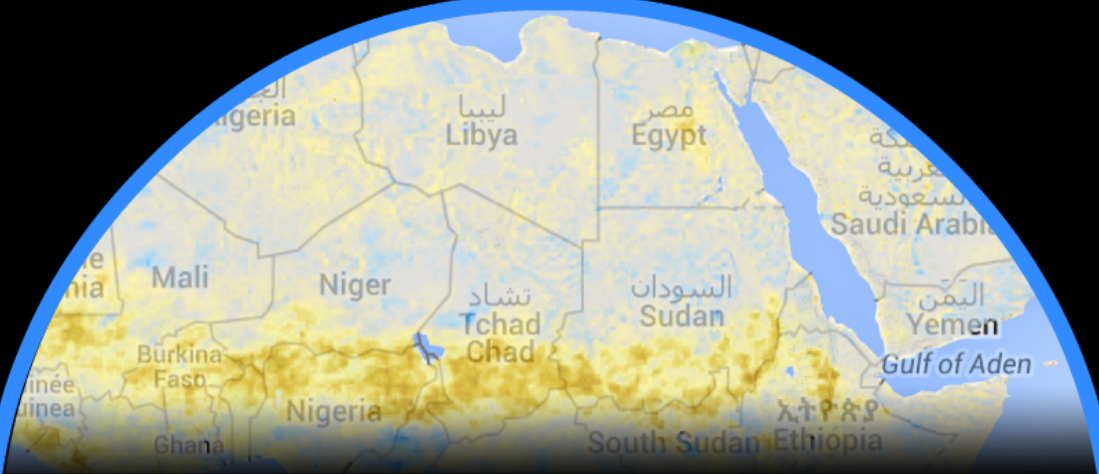


Background



- Droughts vs. drought impacts
- Many indicators; No common definition
- Hard to manage - even if predictions are correct
- Disaster portals tend to focus on rapid-onset disasters

- Droughts can be tipping point events
- (Free) satellite data can fill sensitive gaps
- Far from efficient exploitation
- Classic validation vs. development of scenarios
- Direct collaboration with Doctors without Borders



Combine satellite-derived information
(rainfall, temperature, soil moisture and vegetation health)

Develop and test a mobile App for socio-economic data collection

SATIDA
SATELLITE ASSISTED
TECHNOLOGIES FOR
INTEGRATED DROUGHT ASSESSMENT

In-depth User Interaction

Drought Risk Portal

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(rainfall,
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Develop and test
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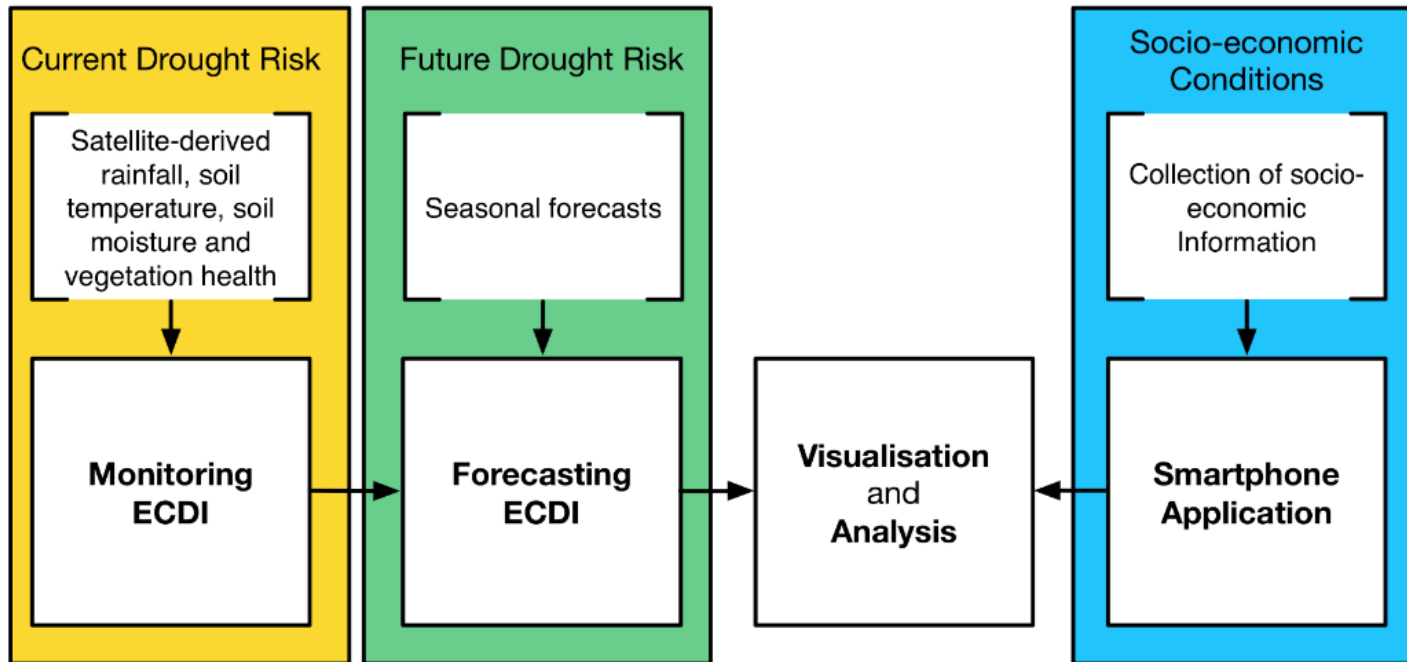


In-depth User
Interaction

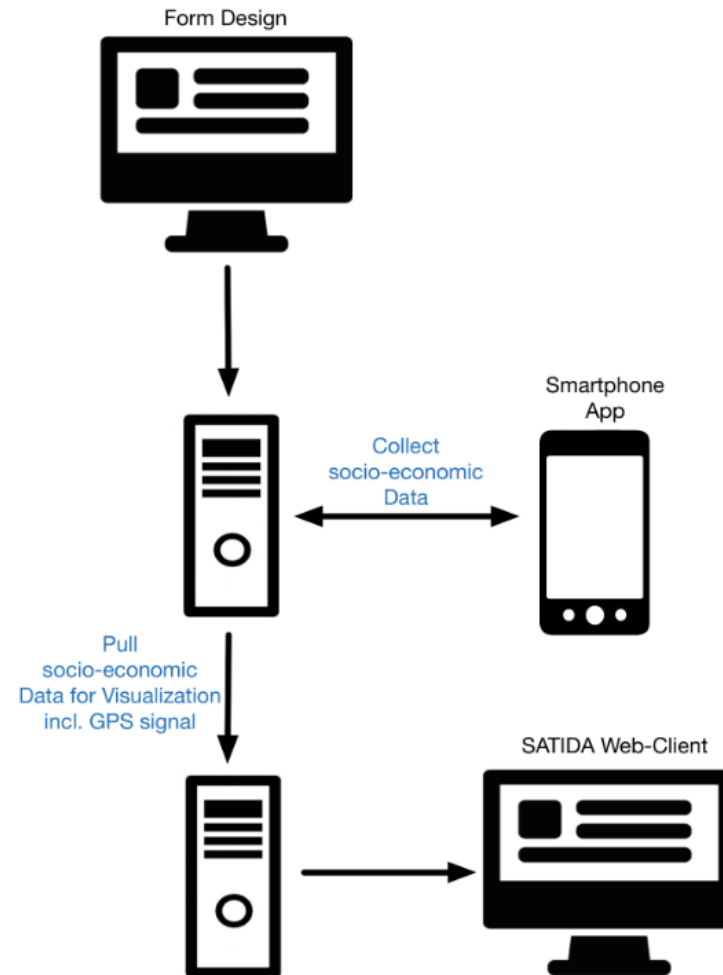
Drought Risk
Portal

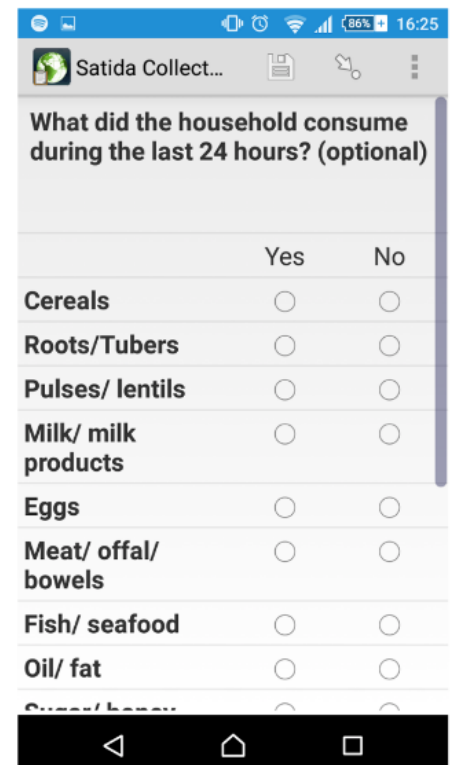
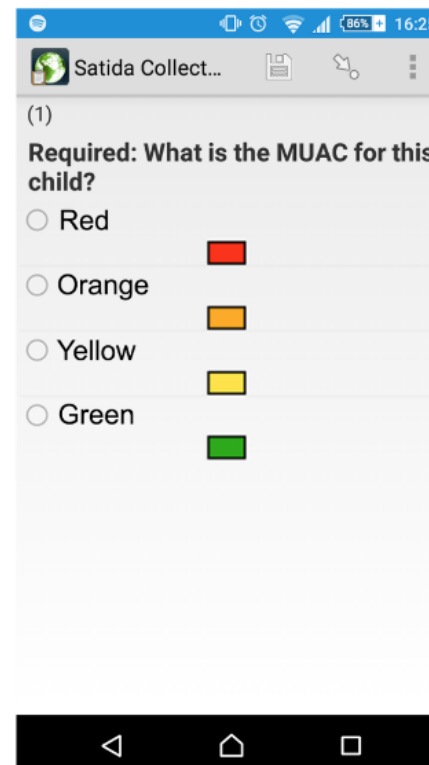
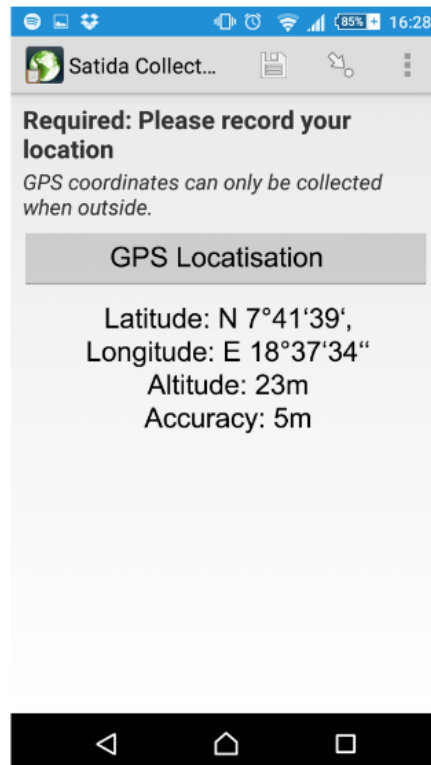
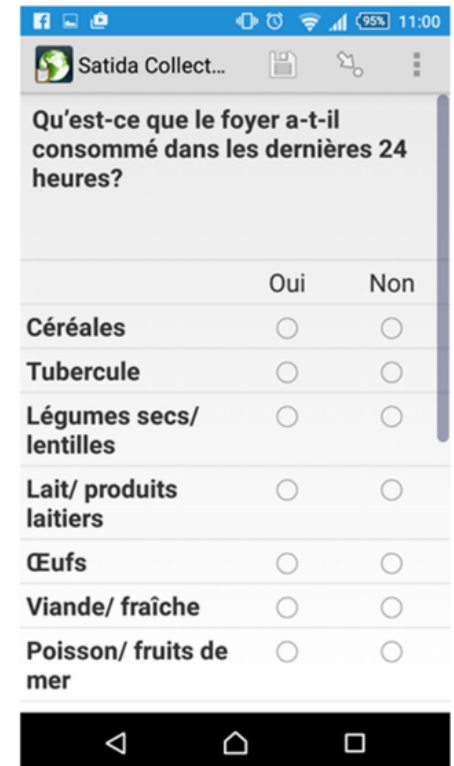
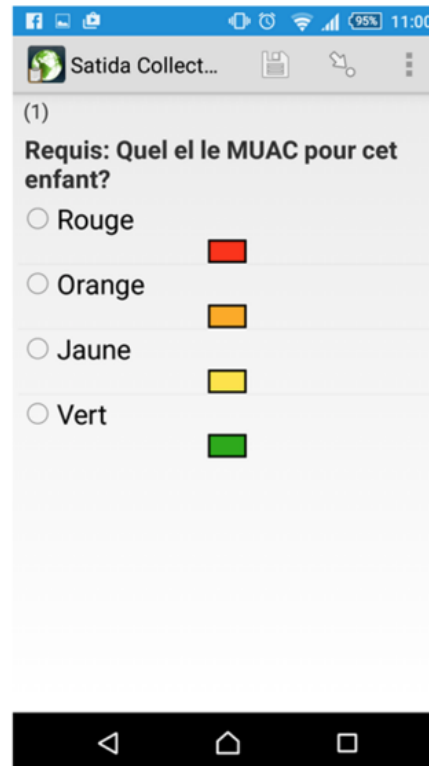
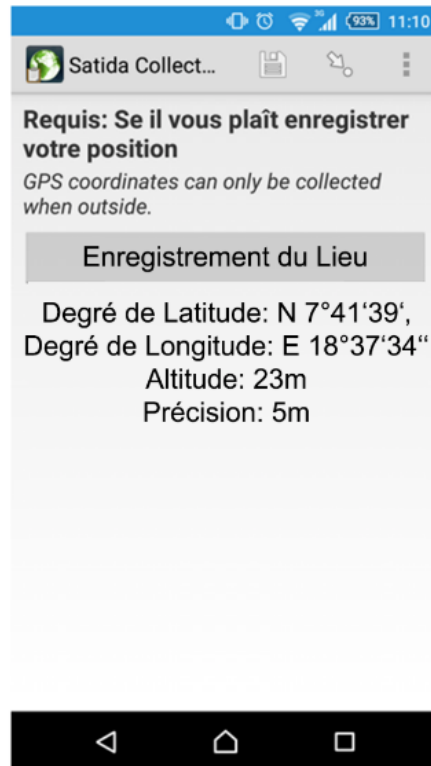
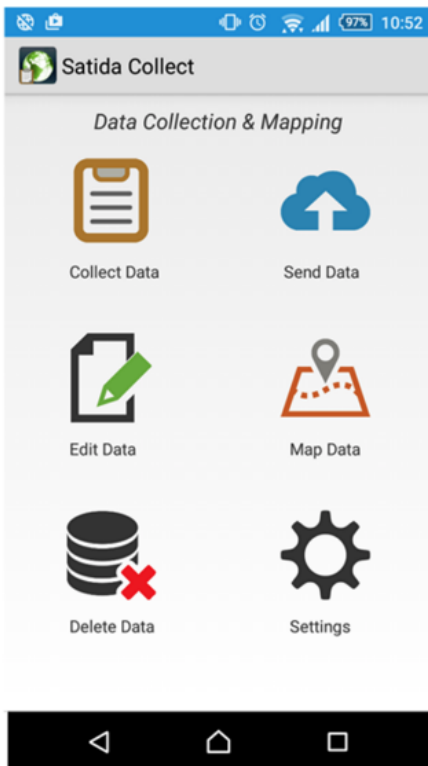


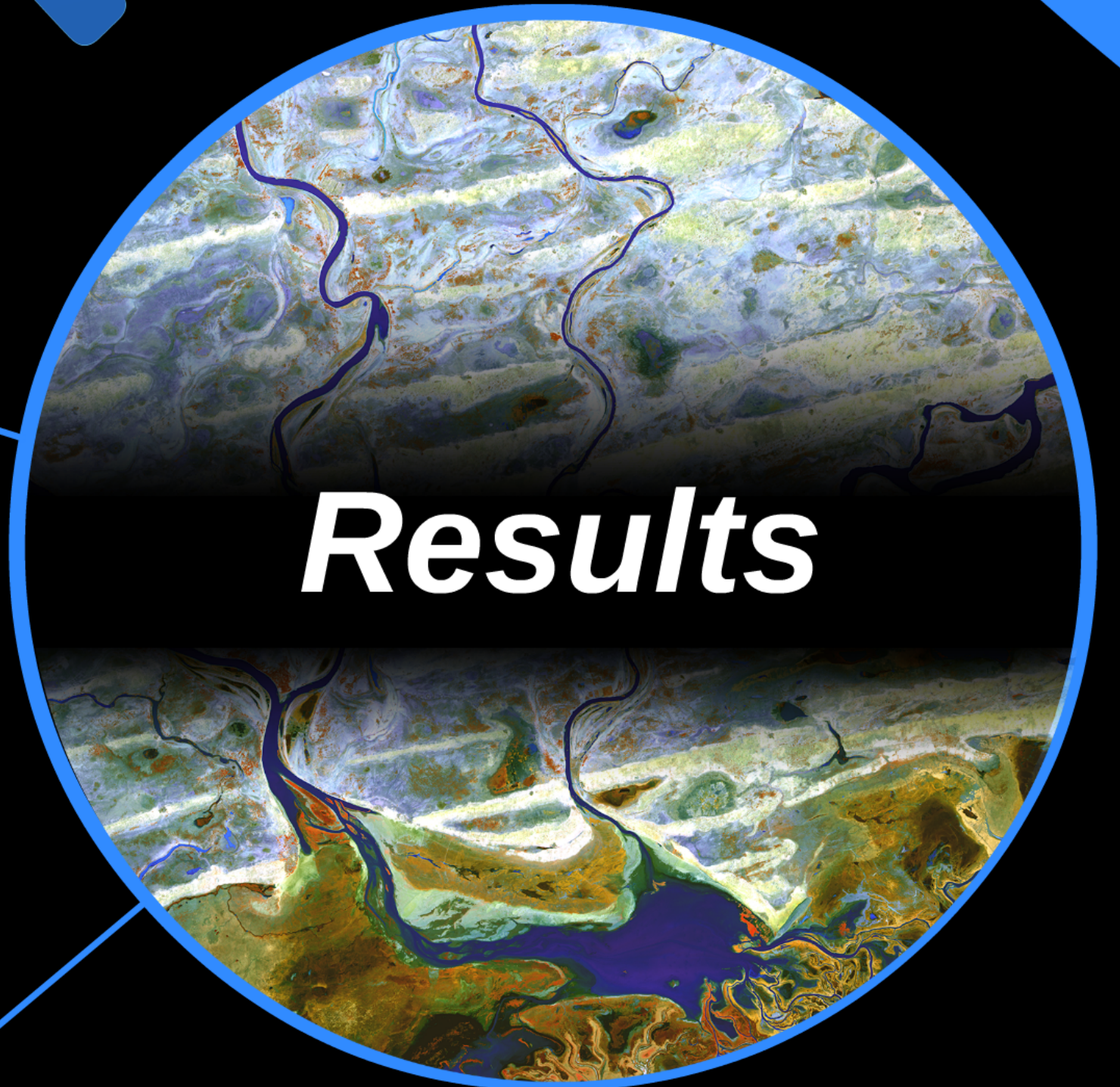
Methods



SATIDA COLLECT Set-up



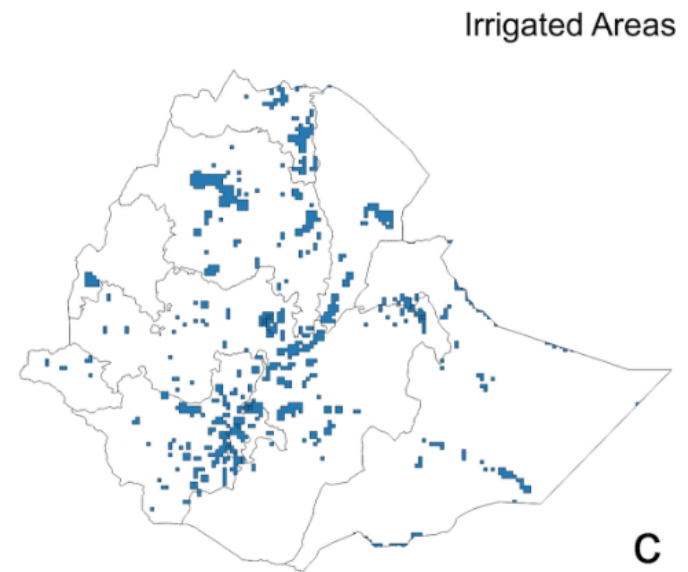
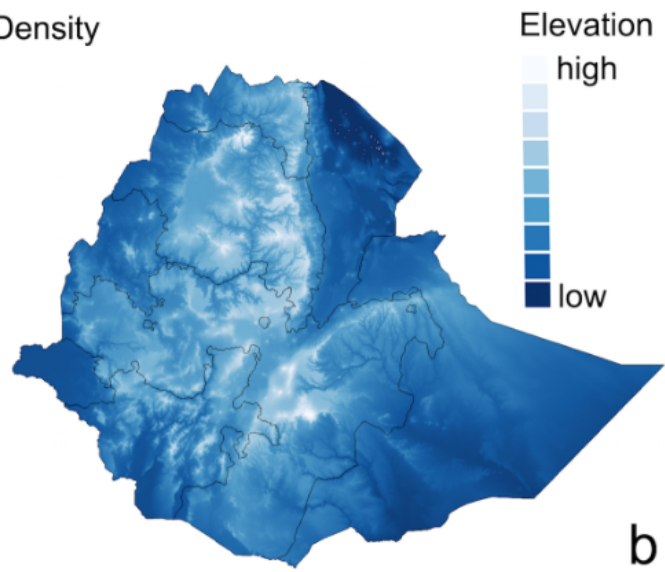
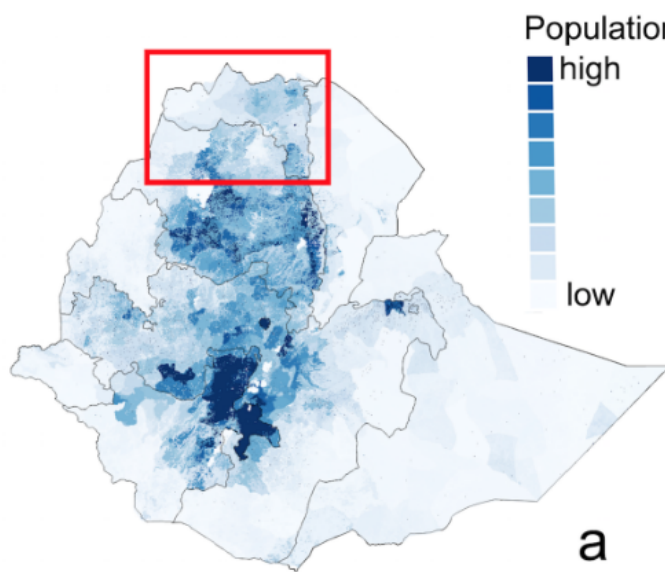




Results



Drought Monitoring



Decades
1-4

Decades
5-8

Decades
9-12

Decades
13-16

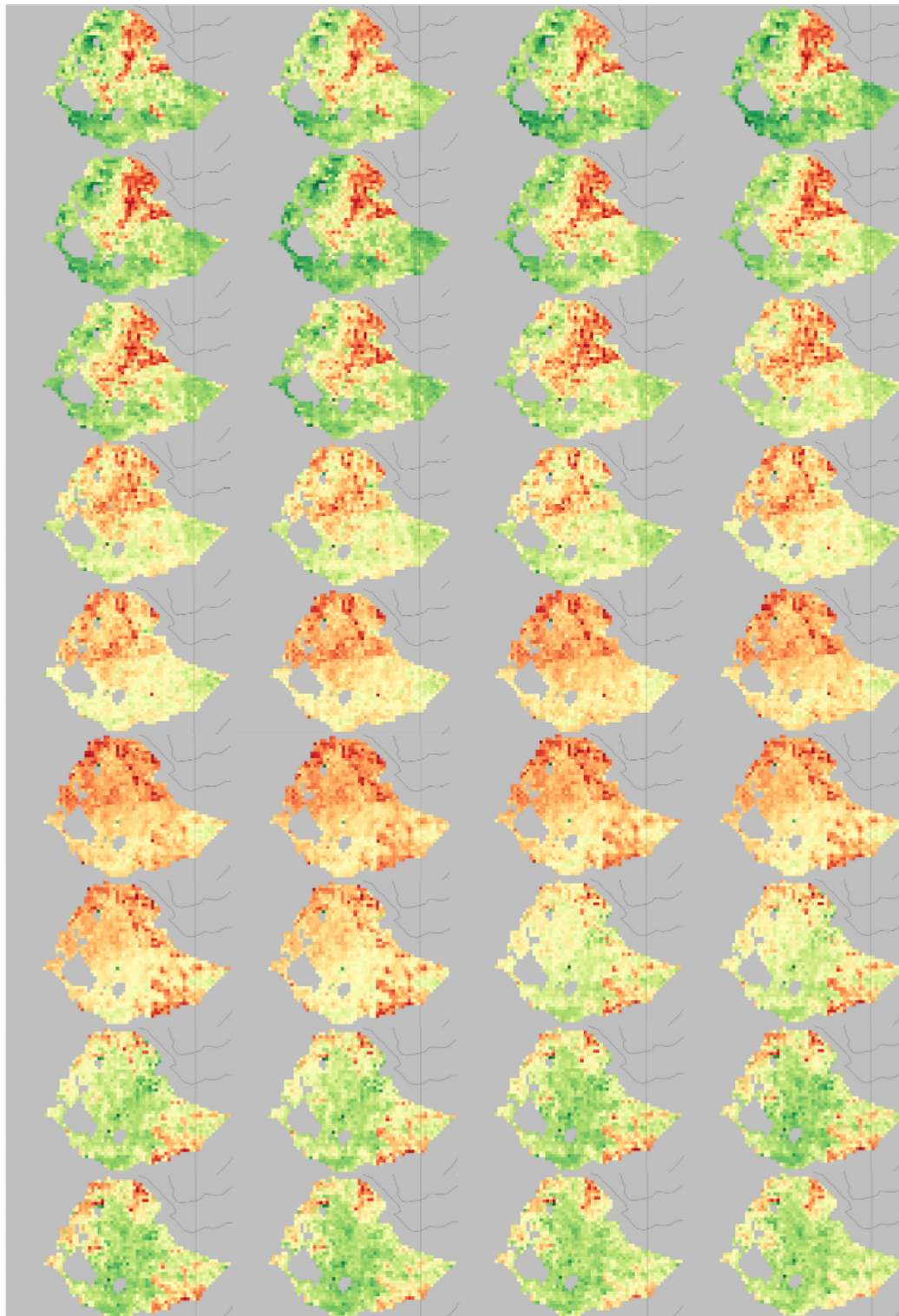
Decades
17-20

Decades
21-24

Decades
25-28

Decades
29-32

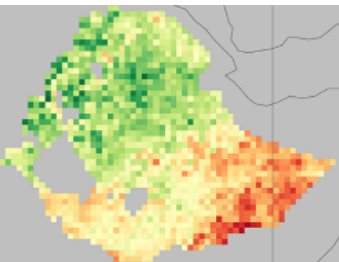
Decades
33-36



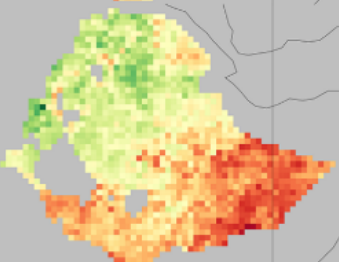
Drought Risk Level

Low High

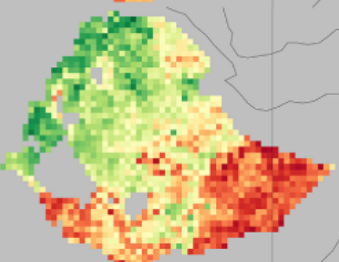
Decades
1-4



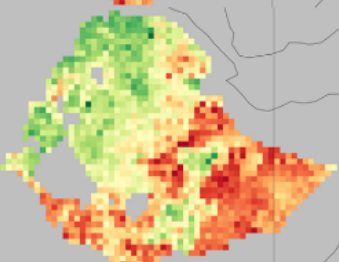
Decades
5-8



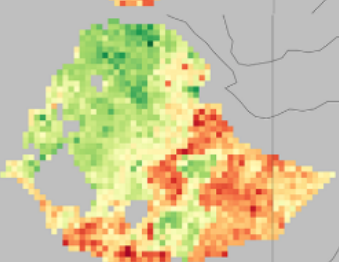
Decades
9-12



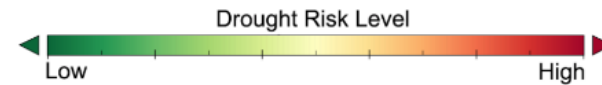
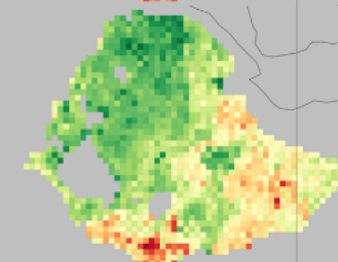
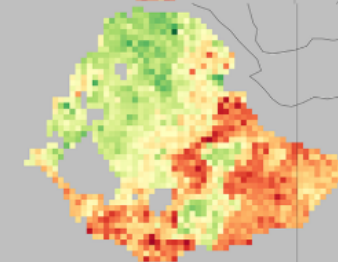
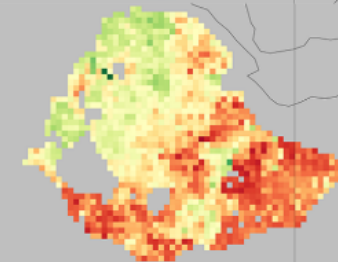
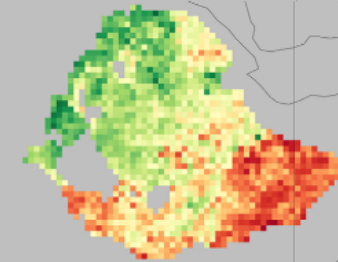
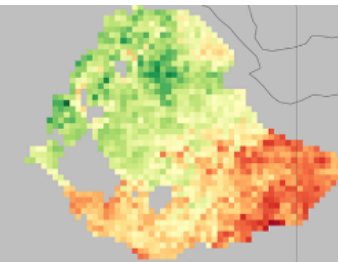
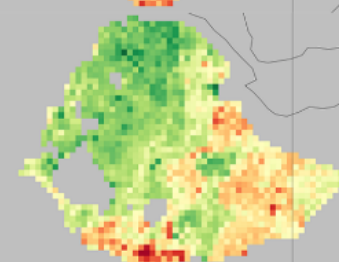
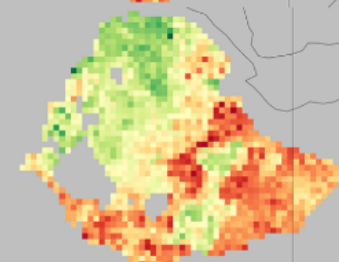
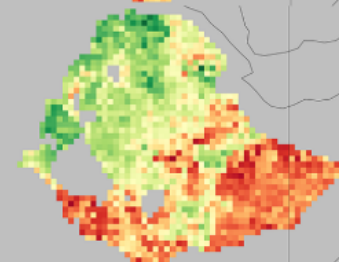
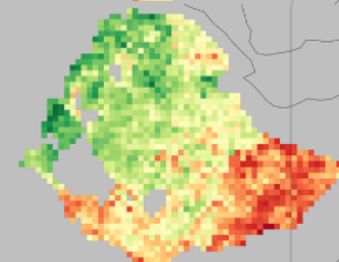
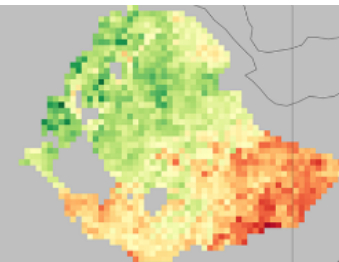
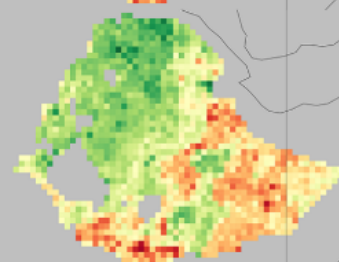
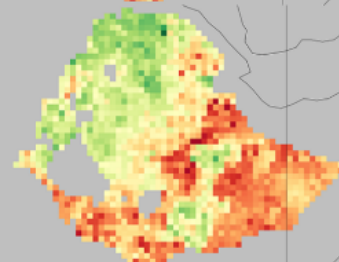
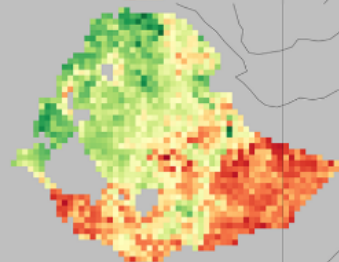
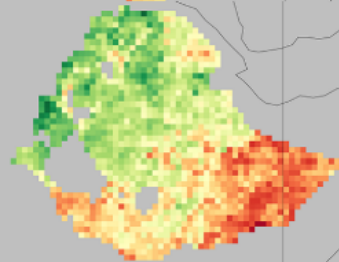
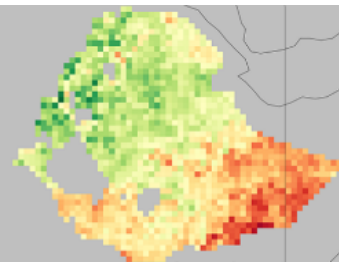
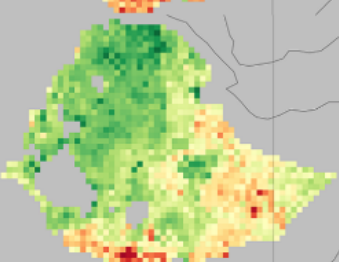
Decades
13-16



Decades
17-20



Decade
21






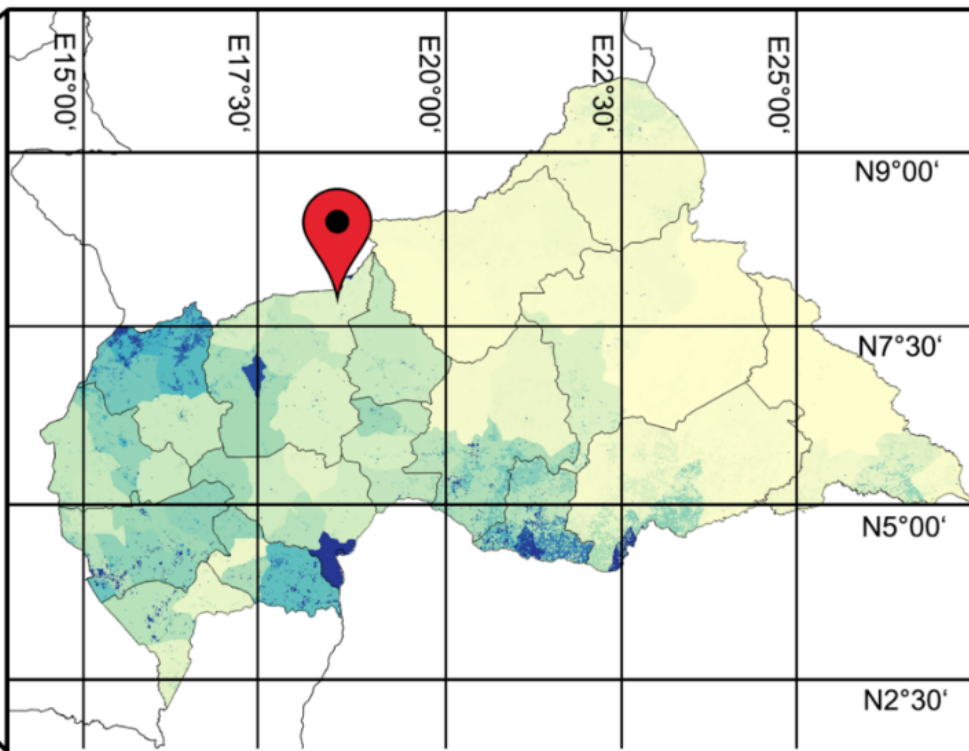
Drought Forecasting

Seasonal Drought Forecasts:

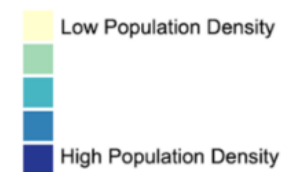
- Uncertainty too high for seasonal predictions
- Model uncertainty is hard to communicate



**Drought Risk
and
socio-economic
Information**



100 km



Key results (101 households, 923 people):

Days without meals: 73%

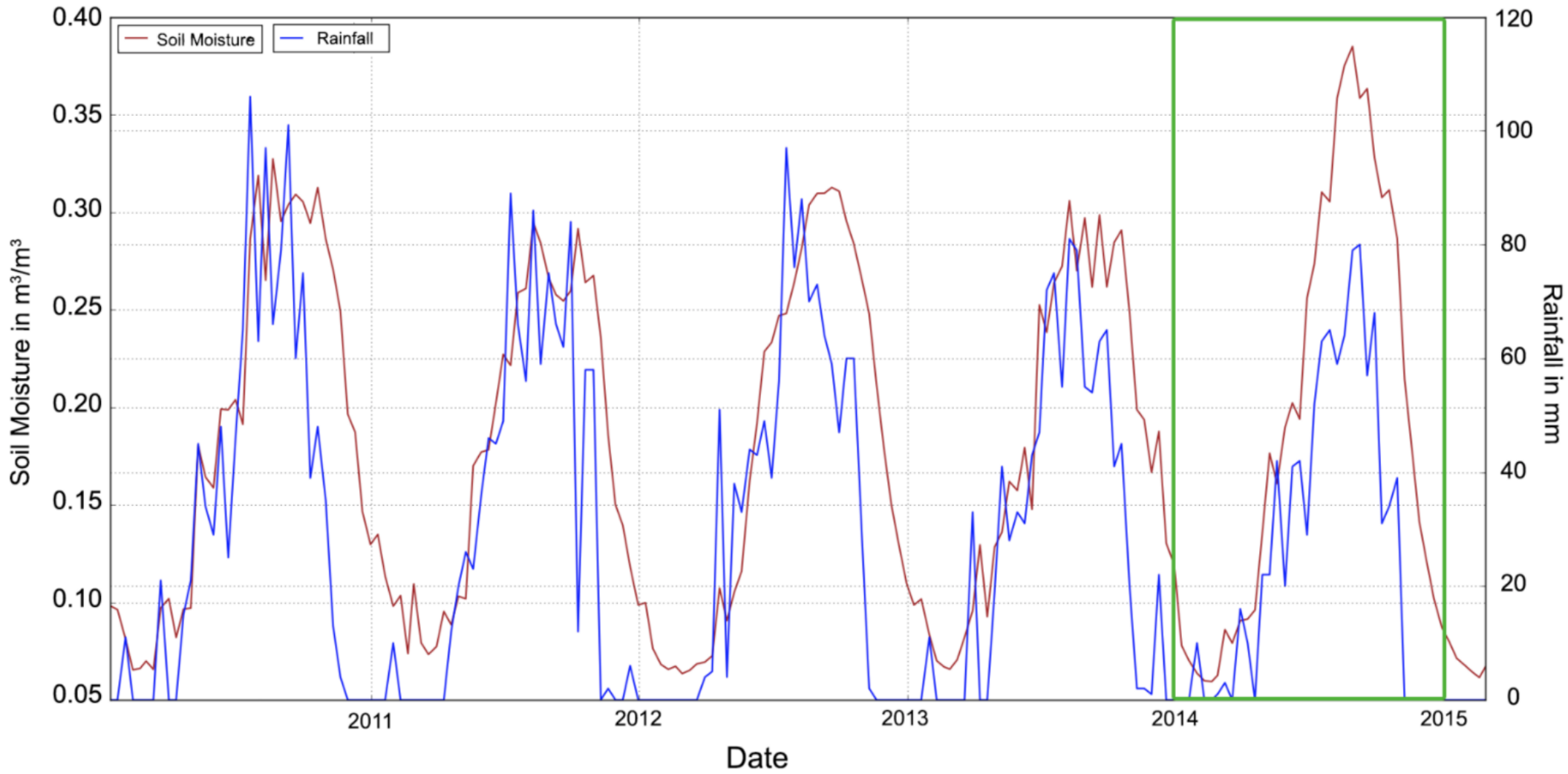
Average number of meals/day: 0,9

Food reserves (average): <1 week

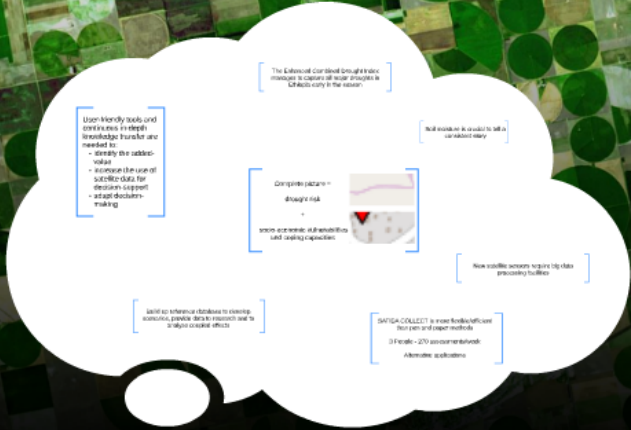
People joined the household (last 6 months): 92

Food aid received: 30% (mainly 2014)





Rainfall vs. Soil Moisture



Conclusions

The Enhanced Combined Drought Index manages to capture all major droughts in Ethiopia early in the season

User-friendly tools and continuous in-depth knowledge transfer are needed to:

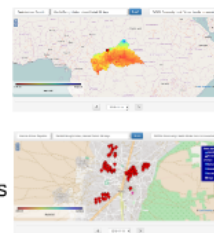
- identify the added-value
- increase the use of satellite data for decision-support
- adapt decision-making

Soil moisture is crucial to tell a consistent story

Complete picture =
drought risk

+

socio-economic vulnerabilities
and coping capacities



New satellite sensors require big data processing facilities

Build up reference database to develop scenarios, provide data to research and to analyse coupled effects

SATIDA COLLECT is more flexible/efficient than pen and paper methods

3 People - 270 assessments/week

Alternative applications

The Enhanced Combined Drought Index manages to capture all major droughts in Ethiopia early in the season

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SATIDA Community Health Worker form for households



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