

# Land cover change in West Nile subregion

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# Objective

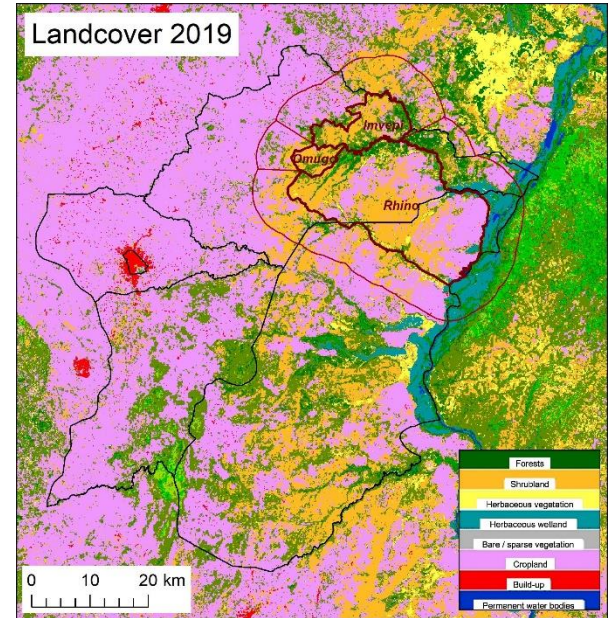
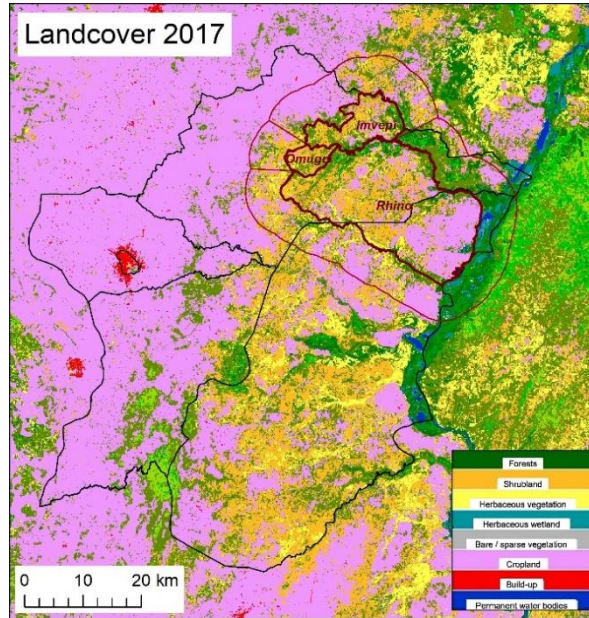
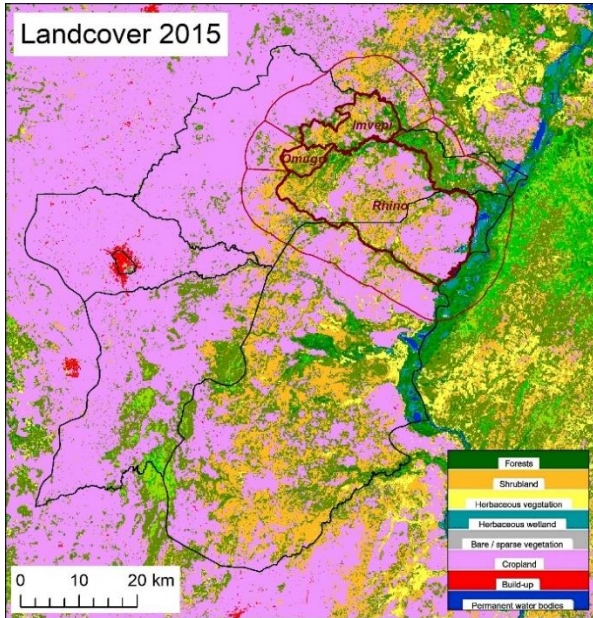
- Satellite mapping of land cover and land use changes in three refugee camps and surroundings in the West Nile subregion in Uganda.
- Cooperation between university and market-oriented research institutes
- Refugee camps:
  - Omugo
  - Impevi
  - Rhino

# Satellite images

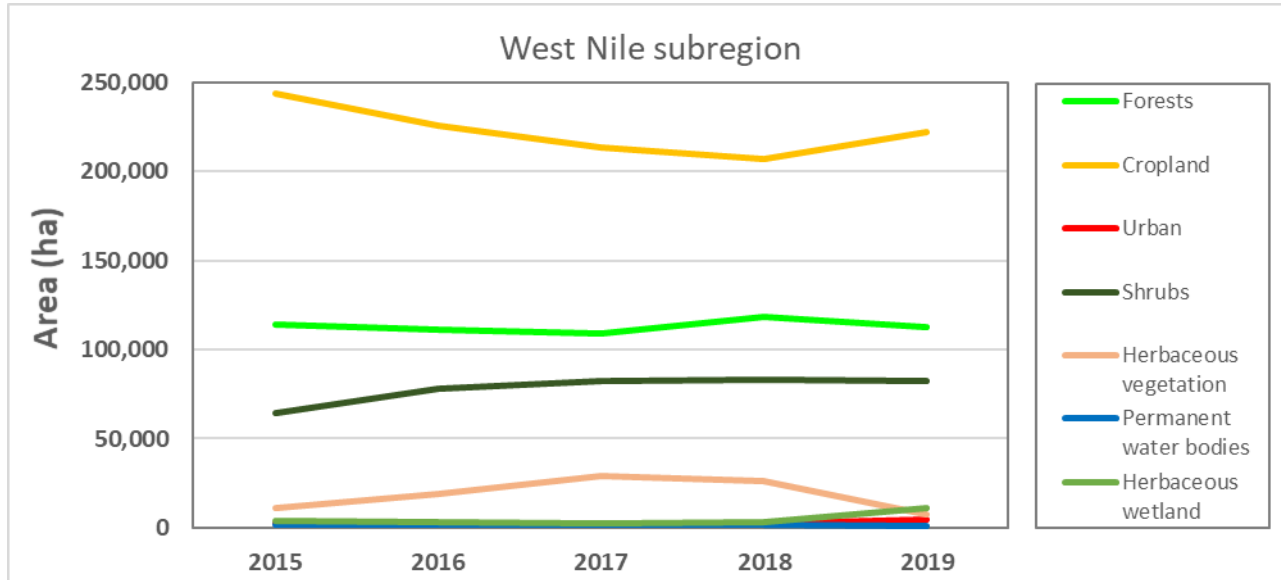
Satellite imagery	Characteristics
PROBA-V LC100 <ul style="list-style-type: none"><li>- Resolution</li><li>- Indicator</li><li>- Period</li><li>- Source</li></ul>	100 m Annual Land Cover Map 2015-2019 <a href="https://lcviewer.vito.be/2015">https://lcviewer.vito.be/2015</a>
PROBA-V Vegetation <ul style="list-style-type: none"><li>- Resolution</li><li>- Indicator</li><li>- Period</li><li>- Source</li></ul>	300 m NDVI 10-days- NDVI-composites 2015-2020 <a href="http://www.vito-eodata.be/PDF/portal/Application.html#Home">http://www.vito-eodata.be/PDF/portal/Application.html#Home</a>
Sentinel-2 <ul style="list-style-type: none"><li>- Resolution</li><li>- Indicator</li><li>- Period</li><li>- Source</li></ul>	10 m RGB images and NDVI 13-Feb-2016 and 12-Feb-2020 <a href="https://scihub.copernicus.eu/dhus/#/home">https://scihub.copernicus.eu/dhus/#/home</a>

# Landcover

## ■ PROBA-V LC100 maps

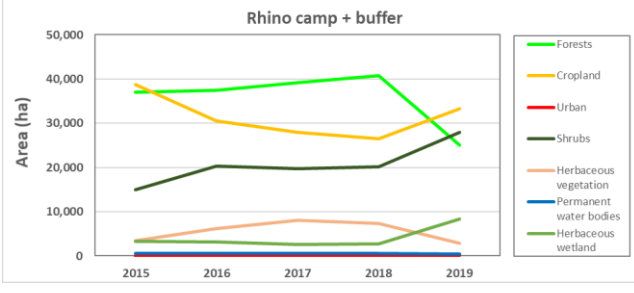
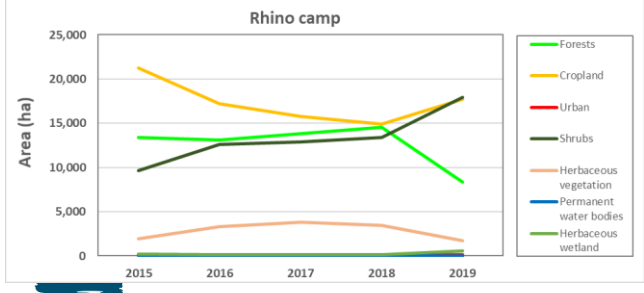
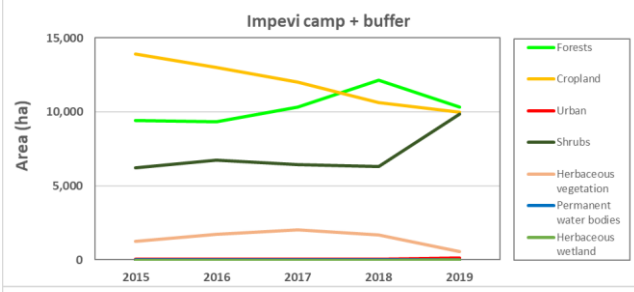
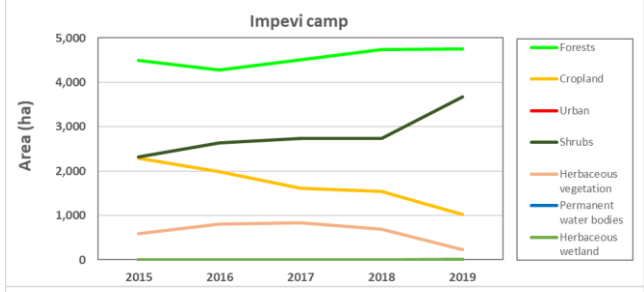
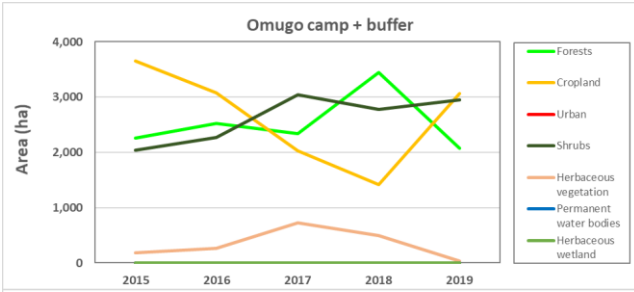
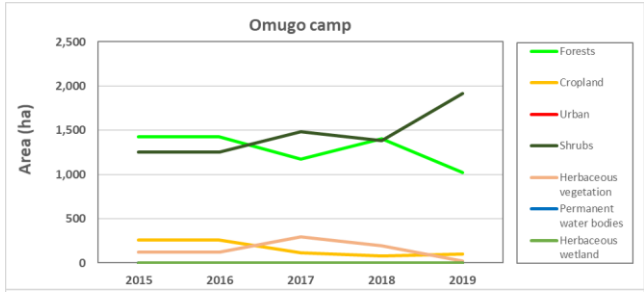


# Land cover change 2015-2019

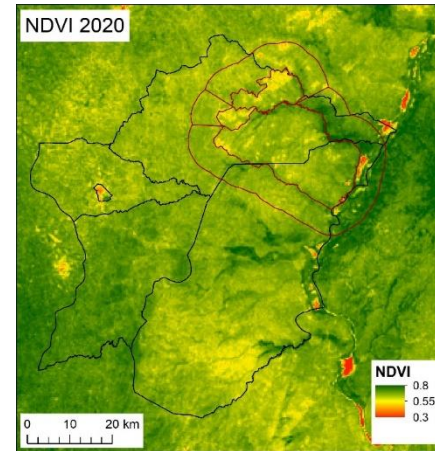
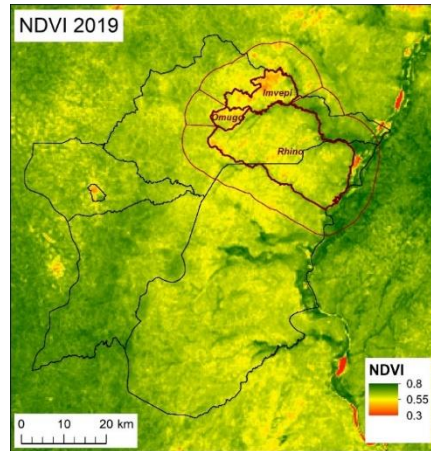
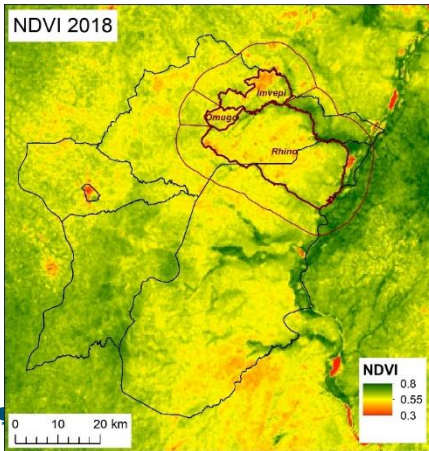
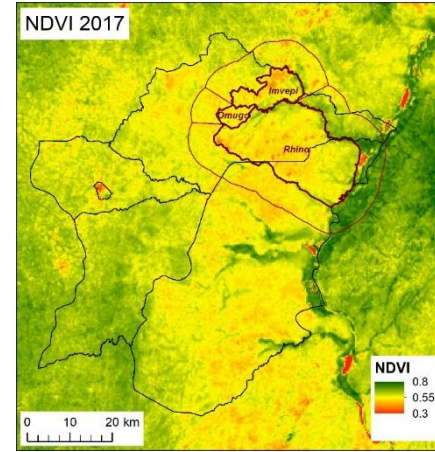
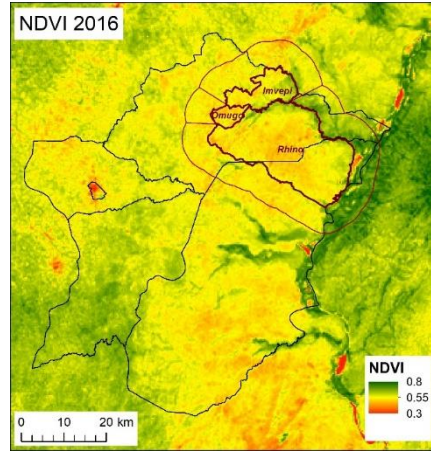
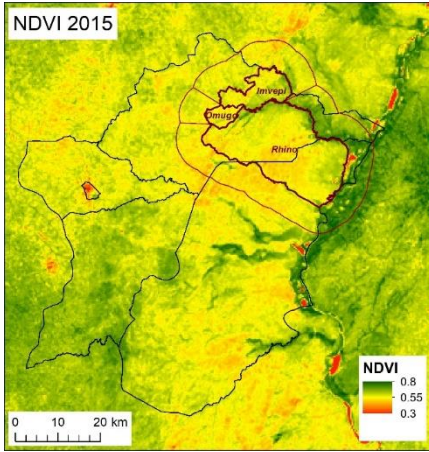




# Land cover change 2015-2019

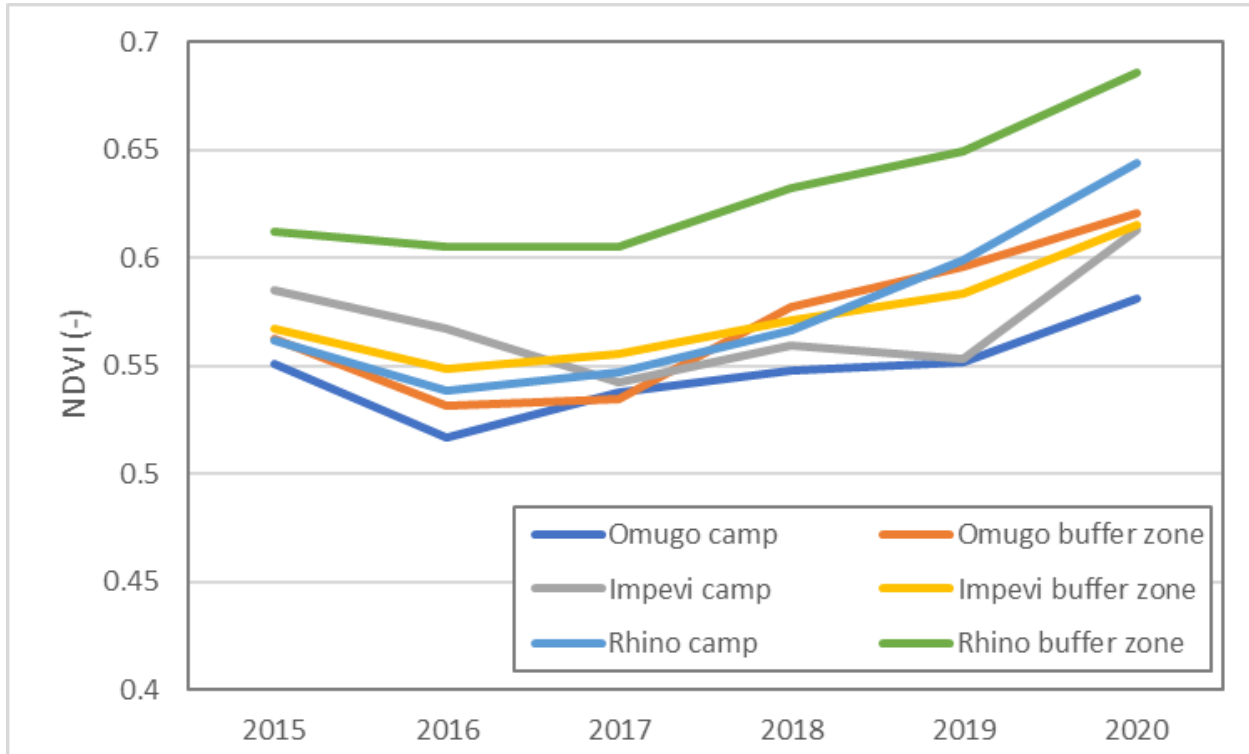


# NDVI vegetation index



PROBA-V  
Vegetation  
maps

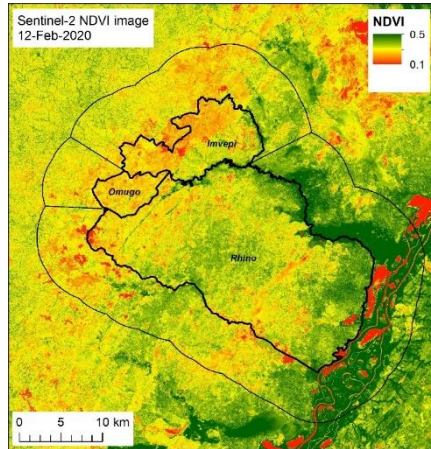
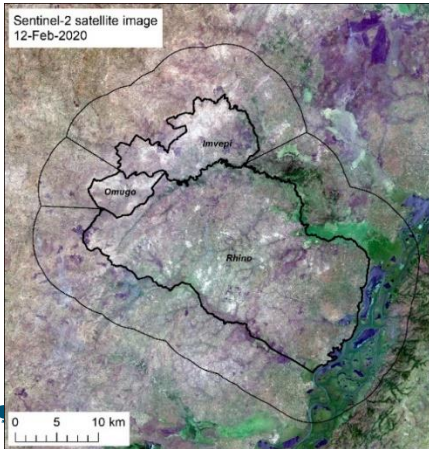
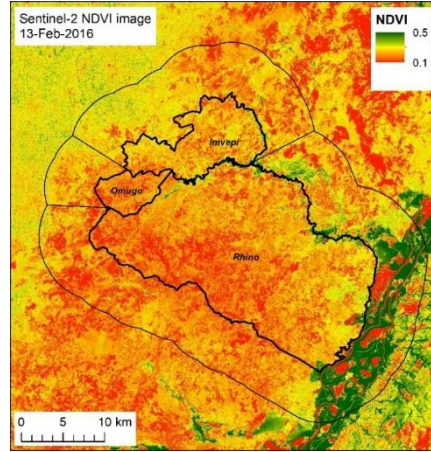
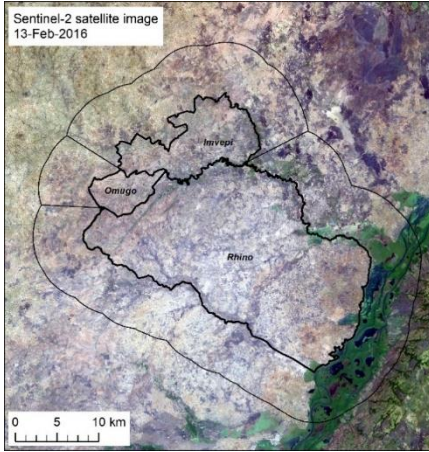
# NDVI vegetation index



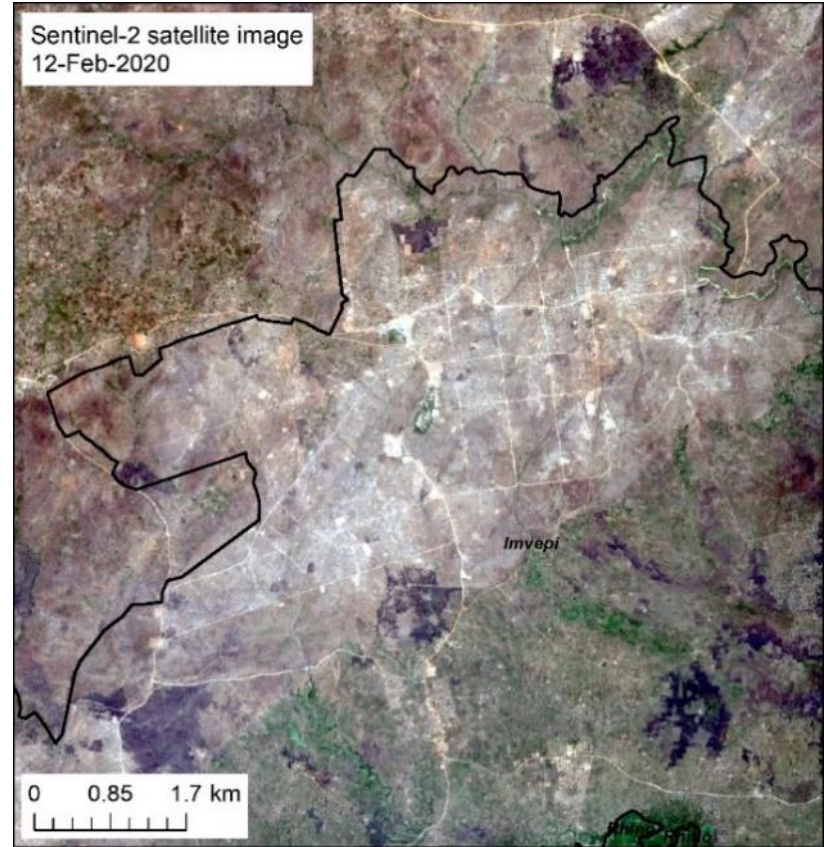
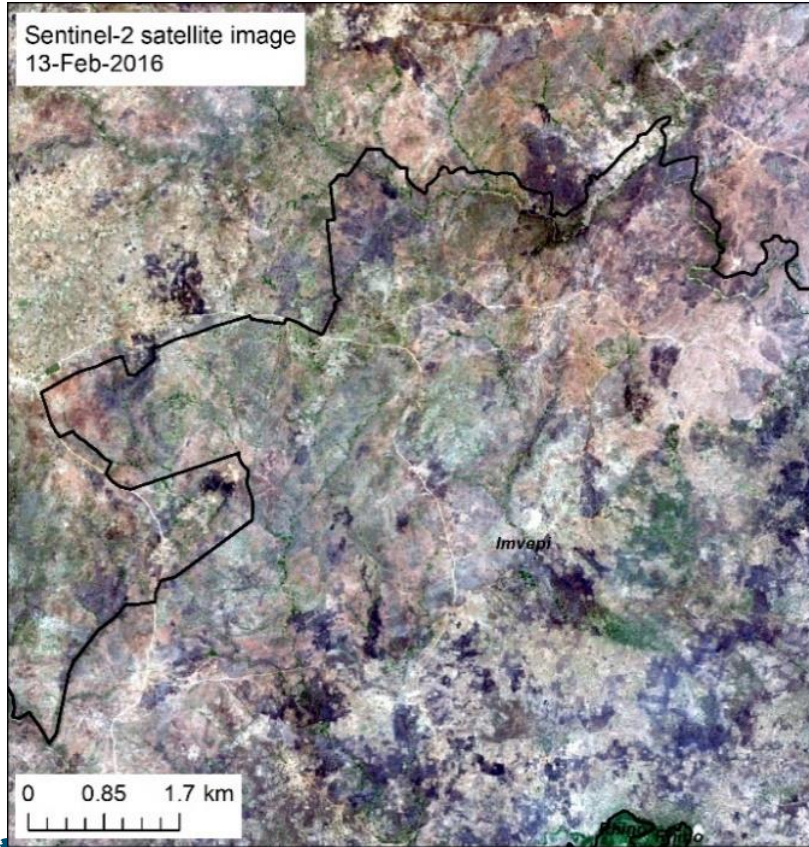


# High resolution satellite images

Sentinel-2 (10 m resolution)

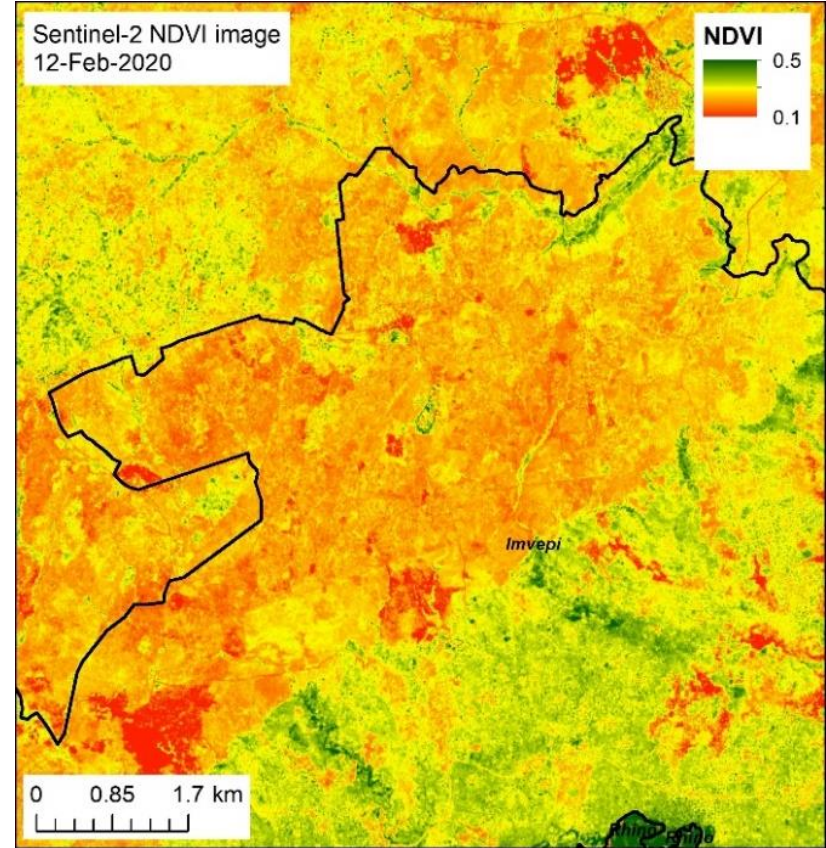
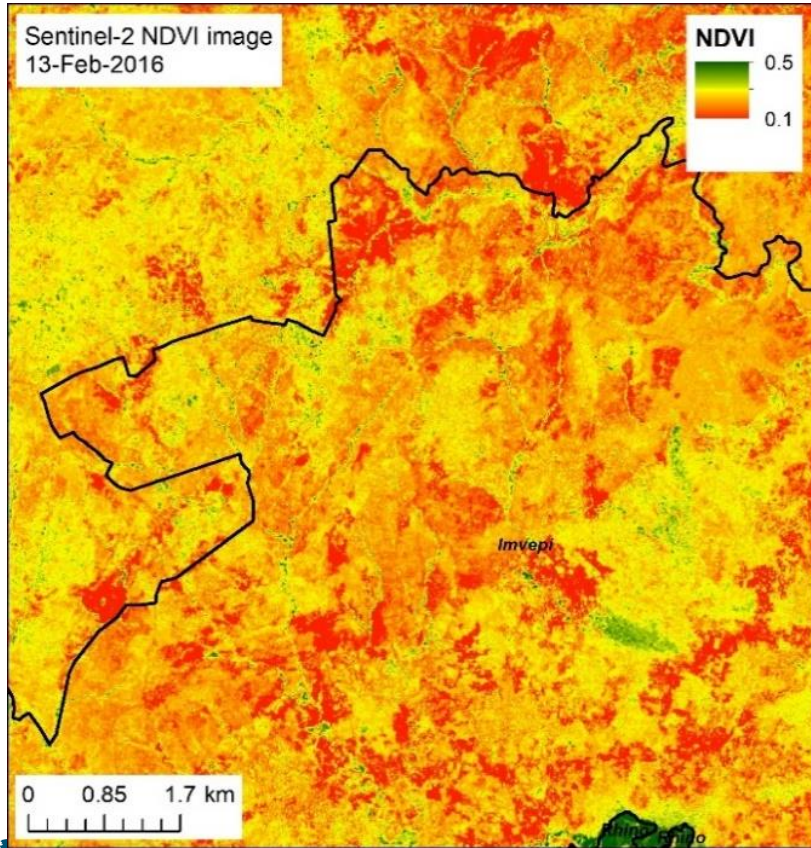


# High resolution satellite images





# High resolution satellite images



# Conclusions


- Land cover: crop land and forest decreases, shrubs increases
- Strange outliers: how accurate are the land cover maps?
- NDVI vegetation index: slight dip during 2015-2017, hereafter NDVI increases
- Might be result of better weather conditions
- High resolution maps: provide information on road and camp area appearance
- Remarkable border appears in Impevi camp area in 2020
- Lack of ground truth and local expertise

# Follow-up

- Ground truth collection
- GIS & remote sensing training course in Uganda



Thank you for  
your attention!



To explore  
the potential  
of nature to  
improve the  
quality of life