[Speaker Zoom video]

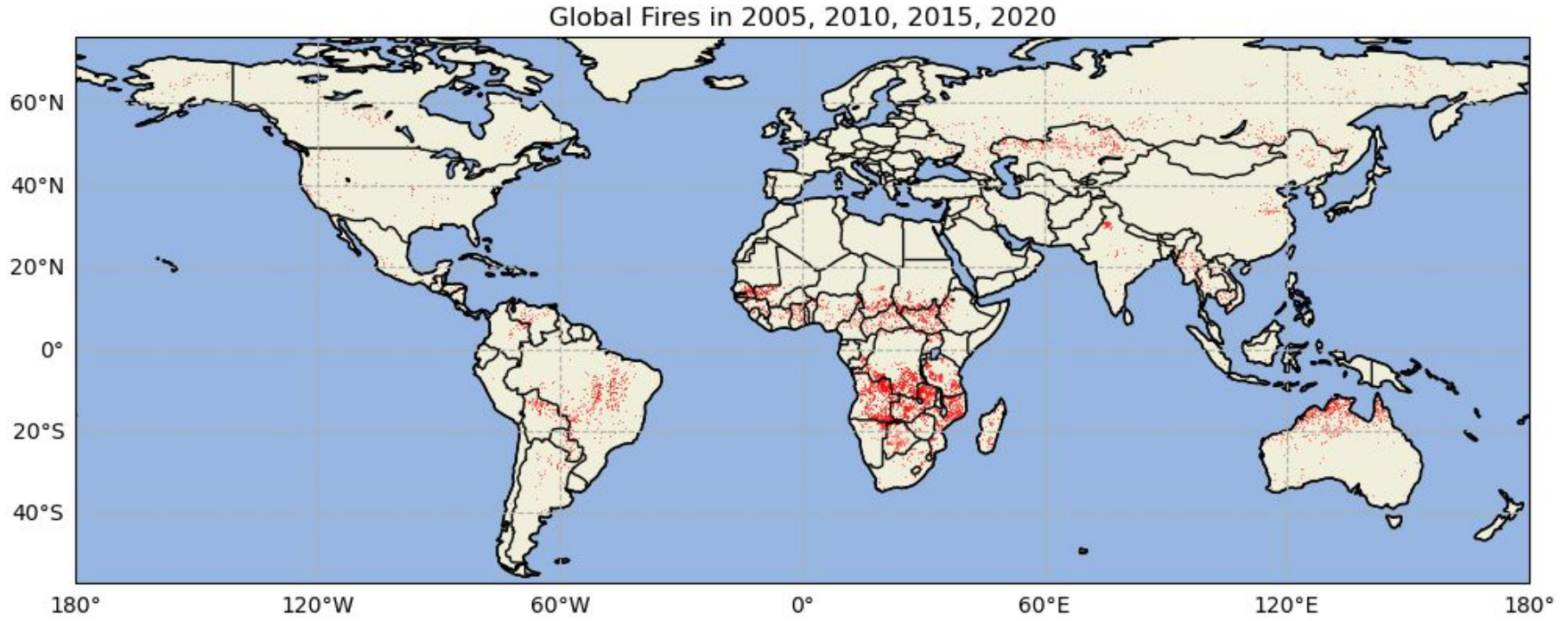
Assessing Wildfire Impact and Ecological Recovery in Mozambique (2010) Through Remote Sensing Analysis

Microraptor_Larghisimo

Wildfires

[Speaker Zoom video]

[Speaker Zoom



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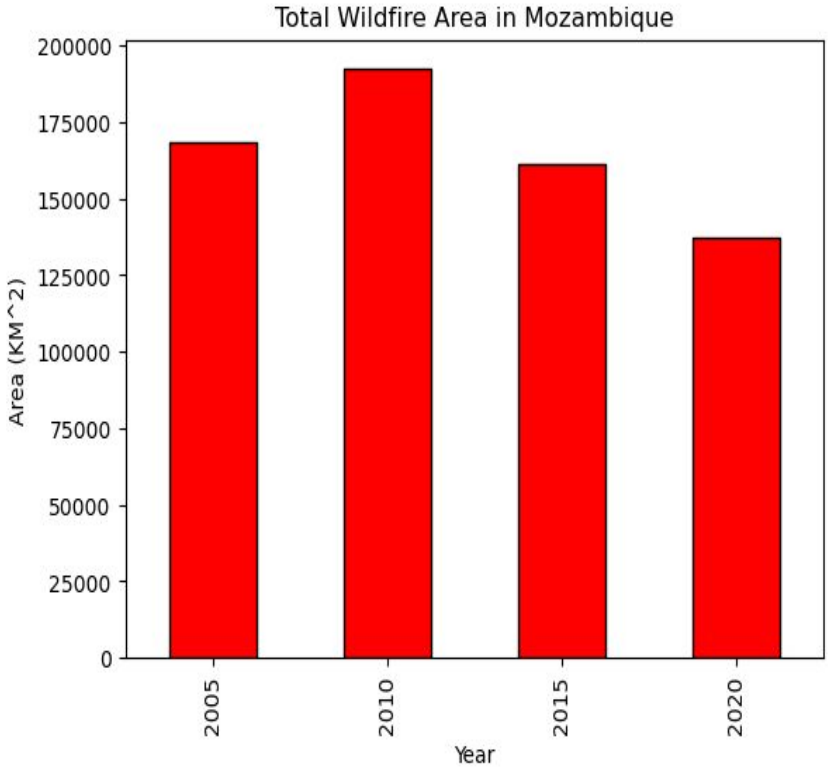
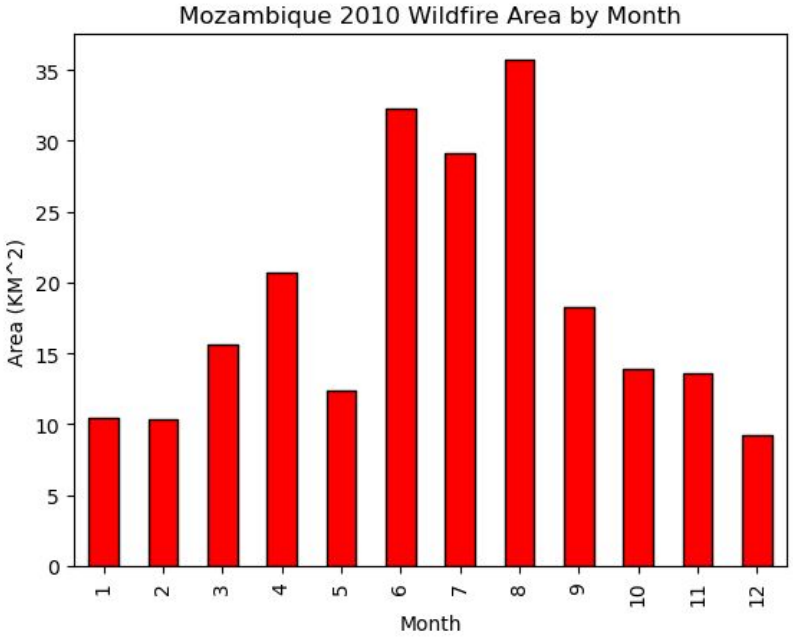
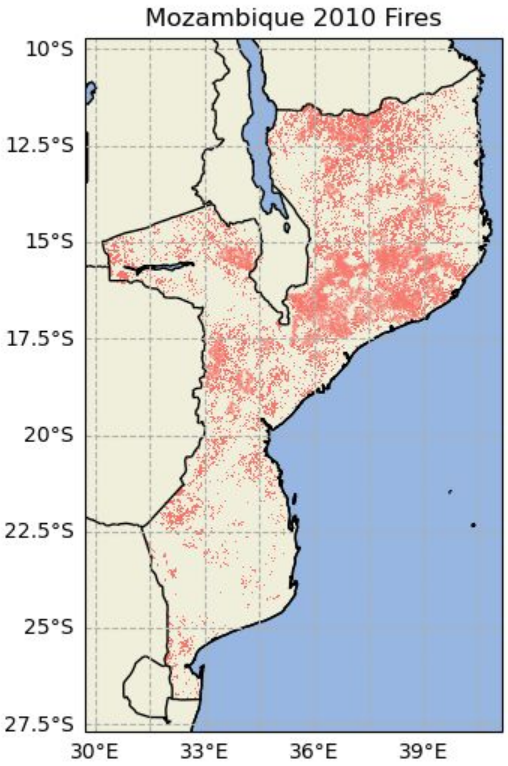
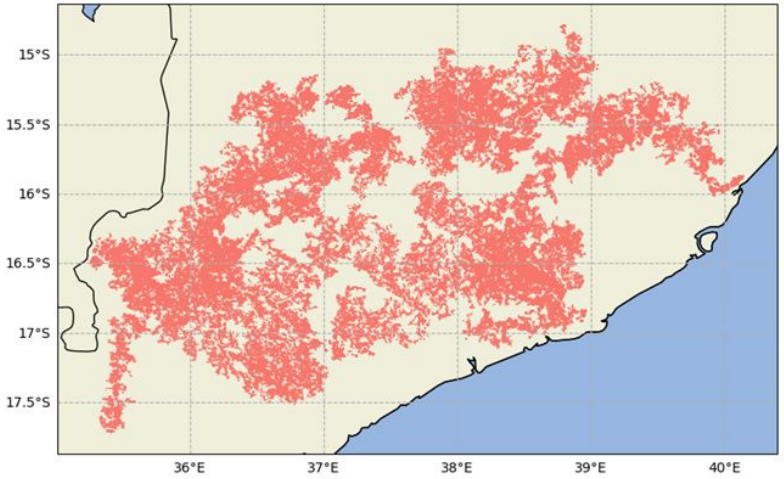




Area of analysis





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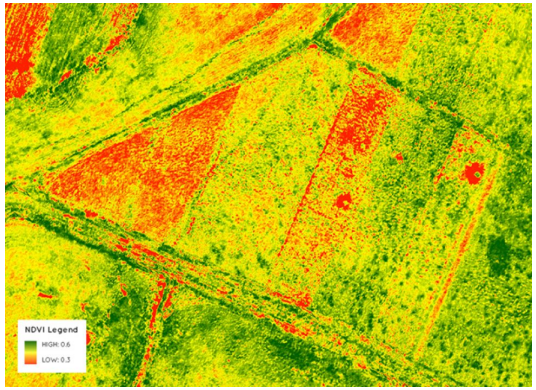
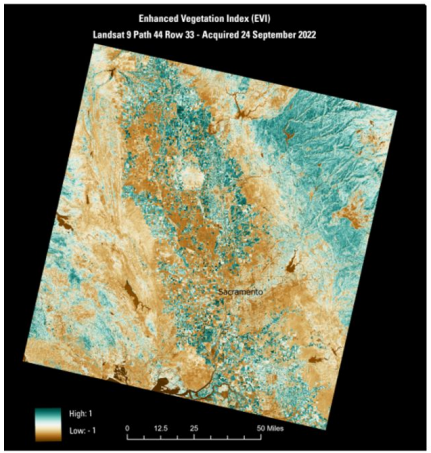
Normalized Difference Vegetation Index

$$NDVI = \frac{NIR - Red}{NIR + Red}$$



Enhanced Vegetation Index

$$EVI = G \times \frac{(NIR - RED)}{(NIR + C1 \times RED - C2 \times Blue + L)}$$



[Speaker Zoom video]

Datasets

Burnt areas
combines imagery from the Terra and Aqua satellites + thermal anomalies to provide burnt area information

1. Spatial resolution: 500 m
2. Temporal resolution: 1 day
3. Landcover: Copernicus landcover (CGLS-LC100)

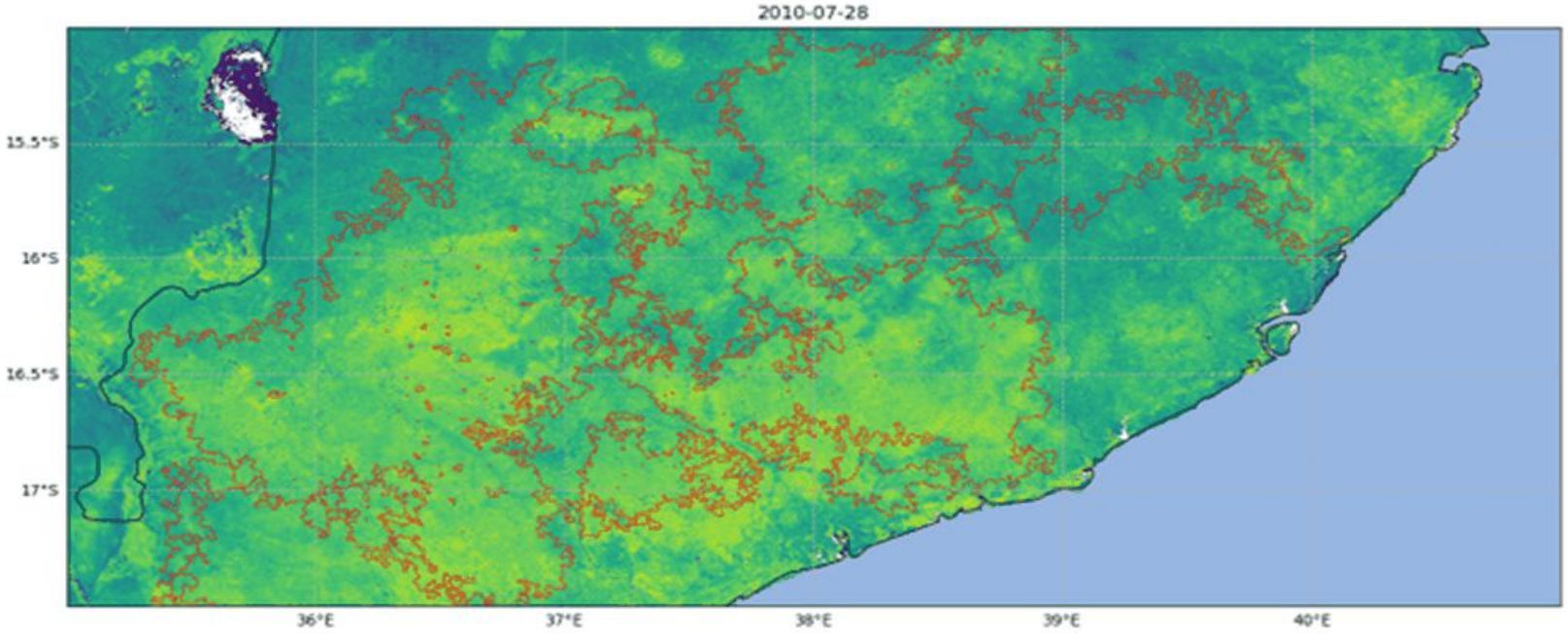
Land Monitoring
COPERNICUS LAND MONITORING SERVICE
State of Play: In situ data requirements

Vegetation indexes
MOD13Q1 provides information of vegetation in two different layers (NDVI + EVI).

1. Spatial resolution: 250 m as a level 3
2. Temporal resolution: 16 days

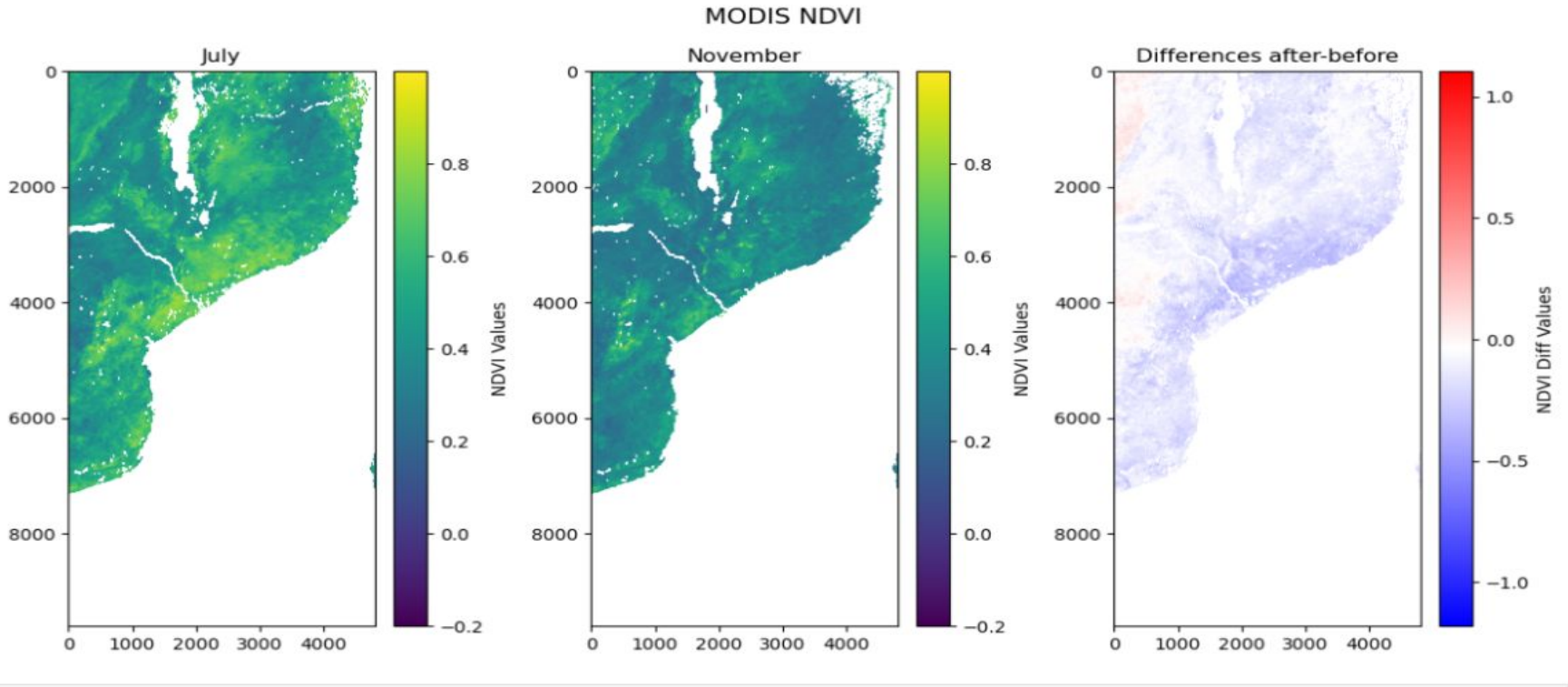
NDVI (2010/07 -> 2010/12)

[Speaker Zoom video]



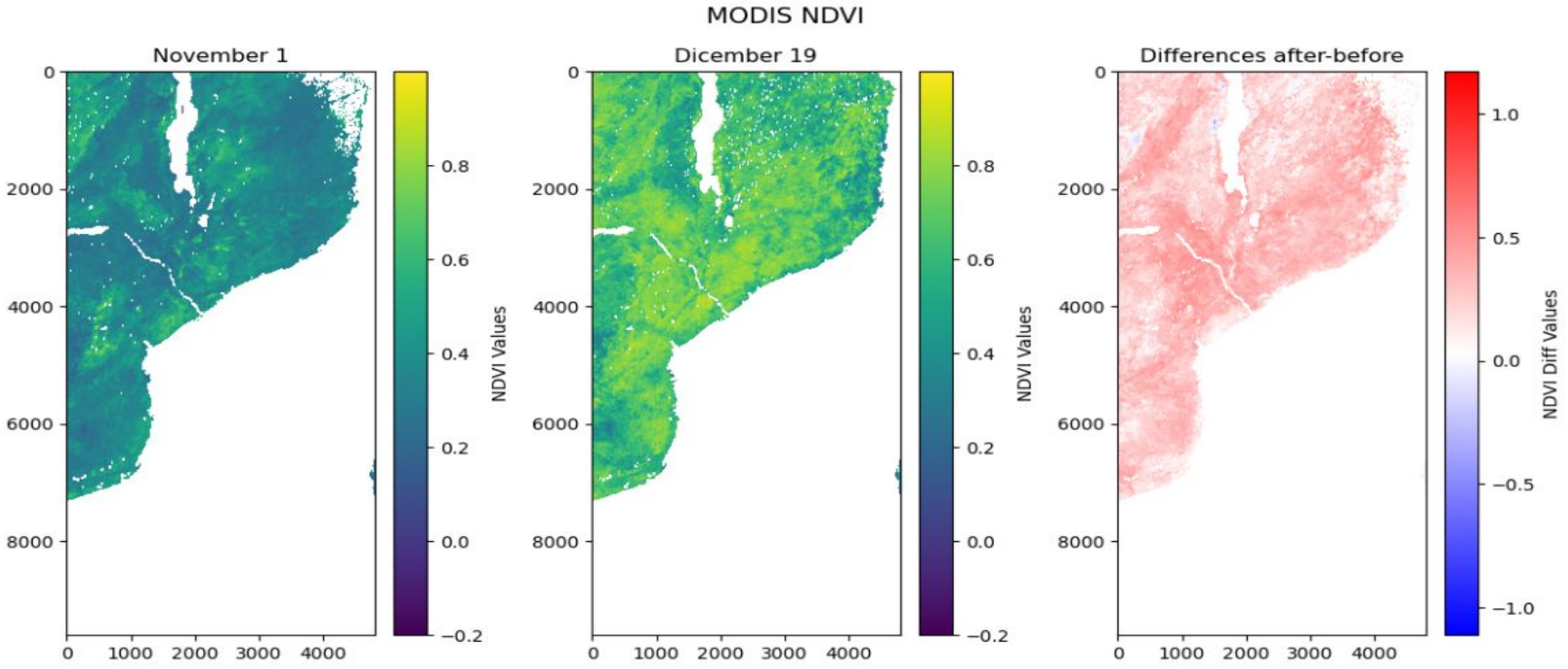
NDVI (July - November variation)

[Speaker Zoom video]



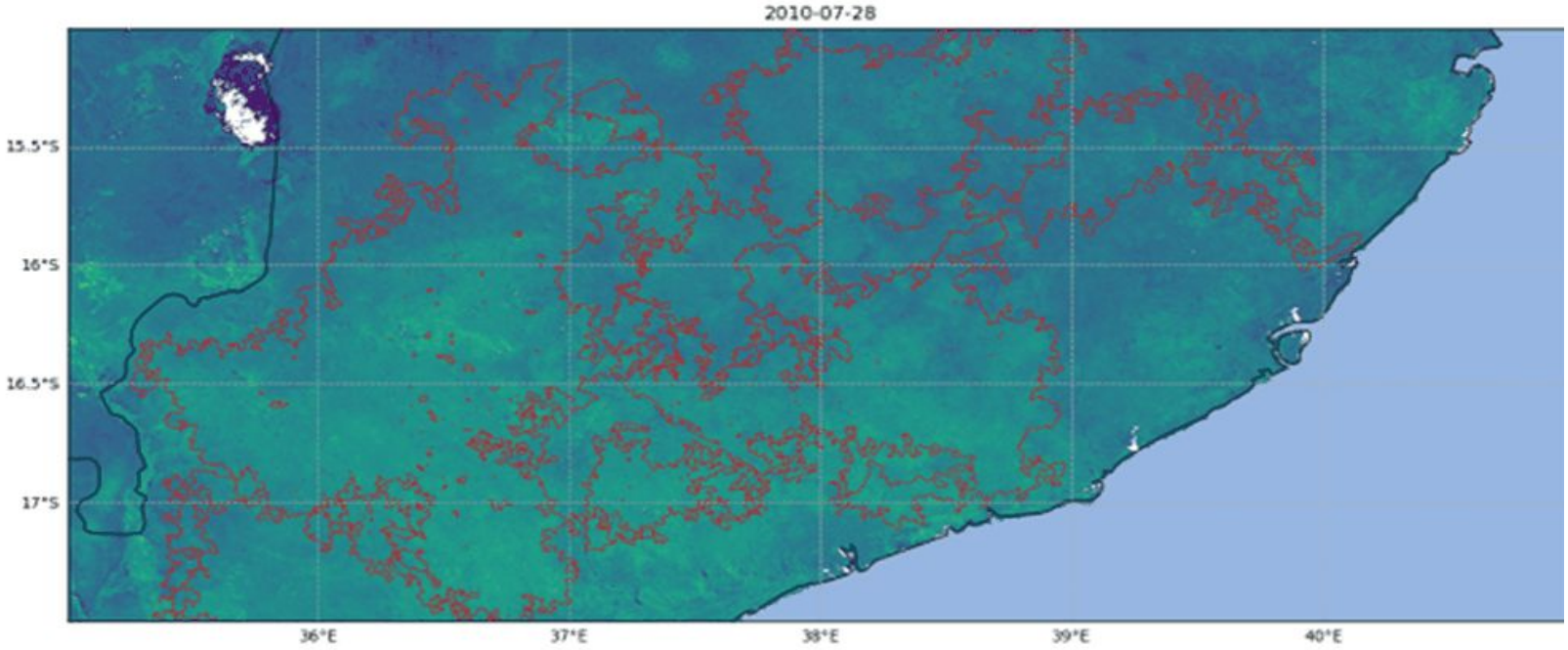
NDVI (November - December variation)

[Speaker Zoom video]



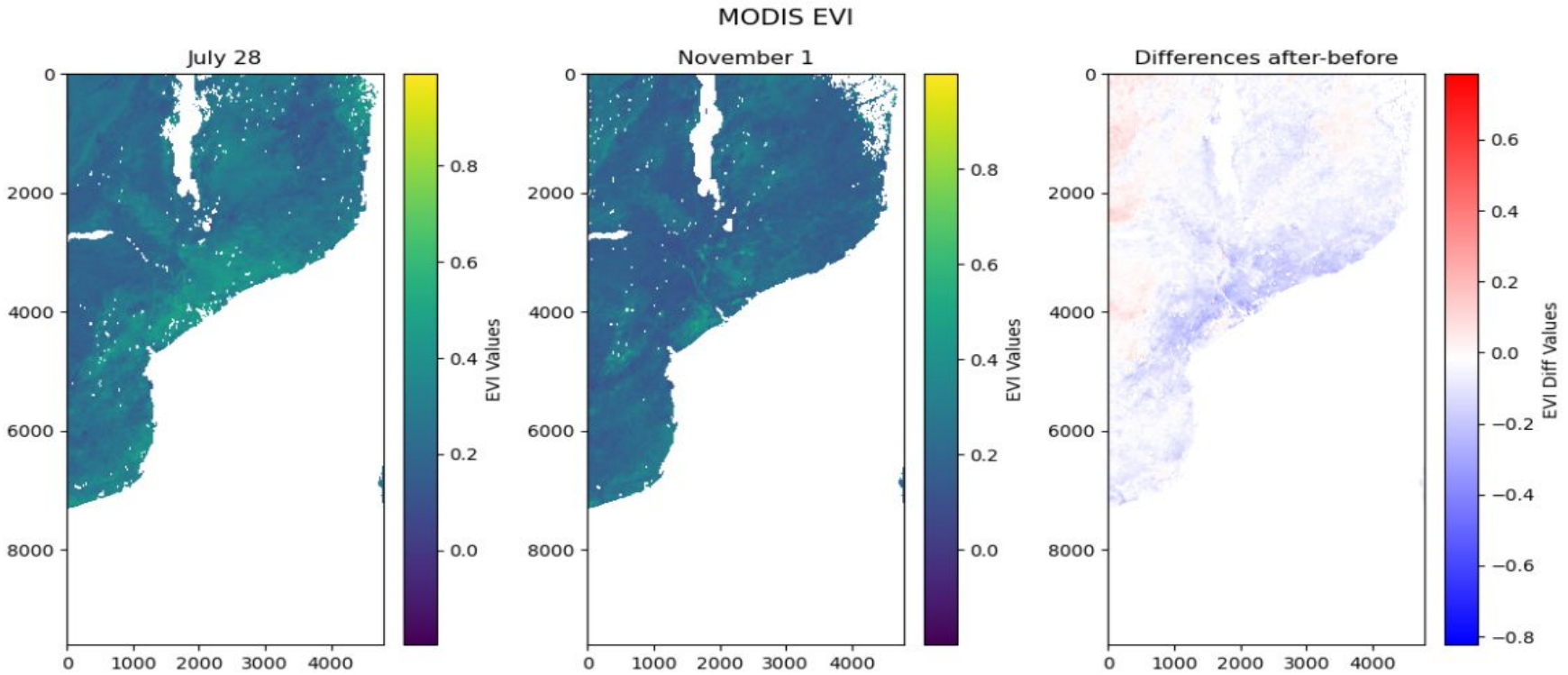
EVI (2010/07 -> 2010/12)

[Speaker Zoom video]



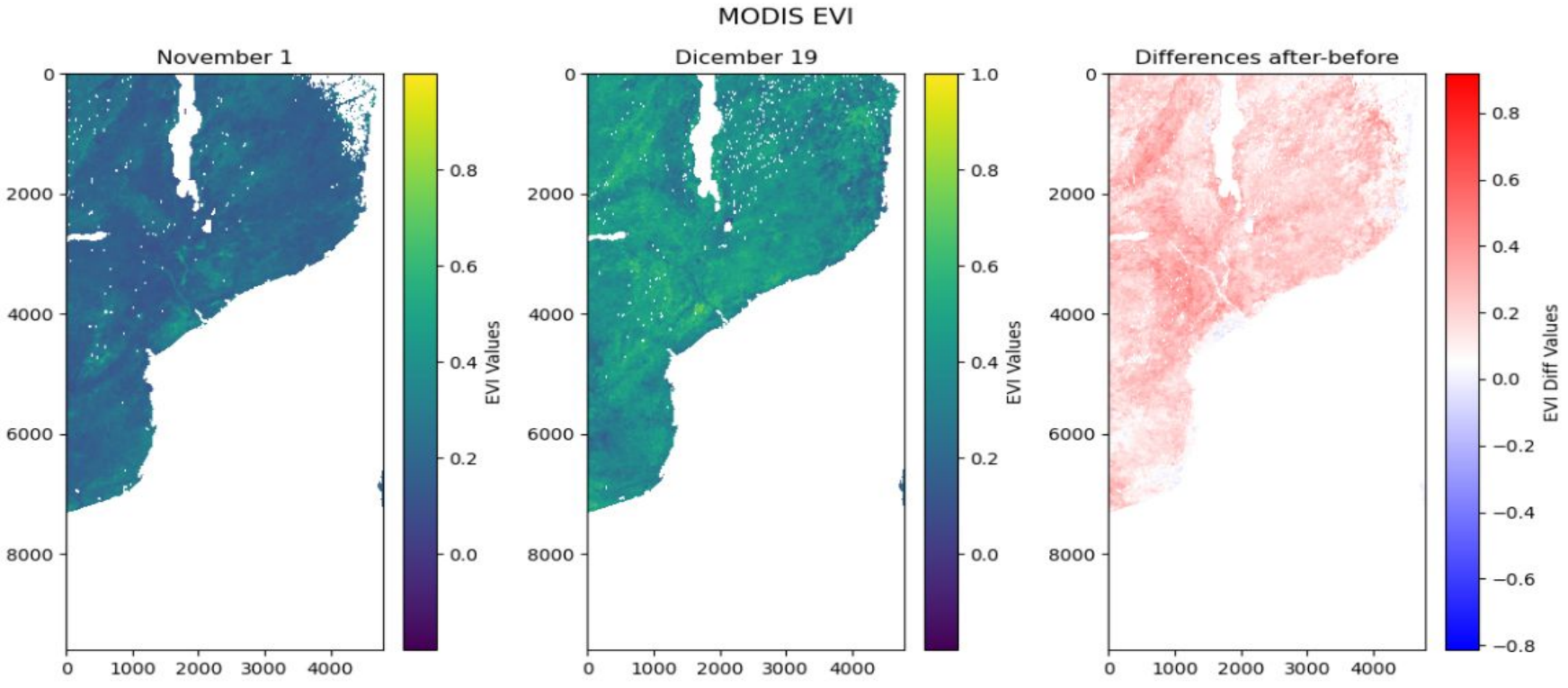
EVI (Variation July and November)

[Speaker Zoom video]



EVI (Variation December and November)

[Speaker Zoom video]



Conclusions

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We observed vegetation stages during fire period:

- July-Nov: Degradation
- Nov-Dec: Recuperation

- Limitations
  - Only one fire for analysis
  - No analysis of other variables

Albedo analysis (from pod partner group)

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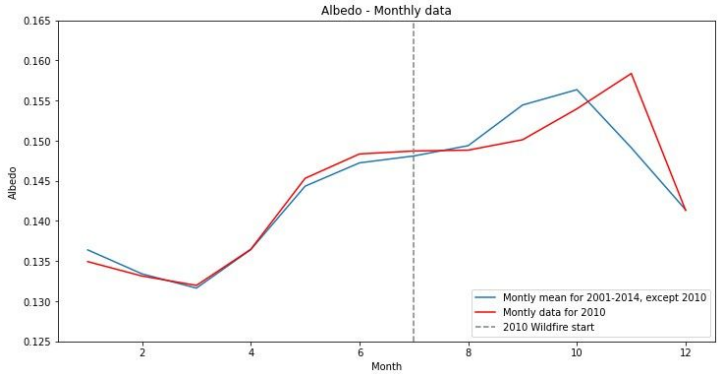
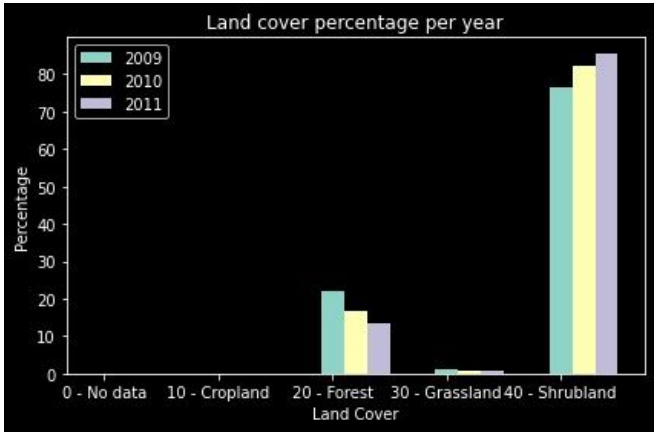
Albedo monthly variation



- Parner albedo group found a delay in albedo recovery due to a occurrence of a wildfire in 2010

Land cover variation



- A suggestion of a increase of in NDVI and EVI indexes in a short time period can be explained due to a increase of shrubland and a decrease of forests