EVALUATING REGREENING AFRICA IN KENYA: MONITORING FROM THE SKY

Regreening Africa

HOW IT'S DONE

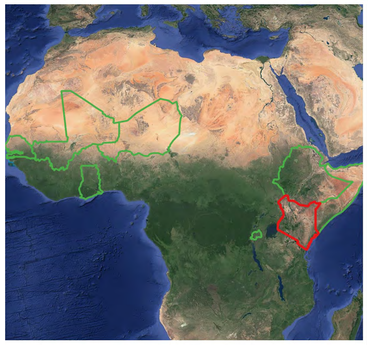
Satellites provide frequent images of the earth's surface globally. This imagery is consistent over time and space. Therefore, it can be used to accurately detect changes in the earth's surface over time and in different regions. With the restoration plot GPS information from the Regreening Africa App, the restoration progress can be monitored. Together with monthly rainfall data, the vegetation at plot-level is modelled and predicted using a greenness indicator: the Normalized Difference Vegetation Index (NDVI).

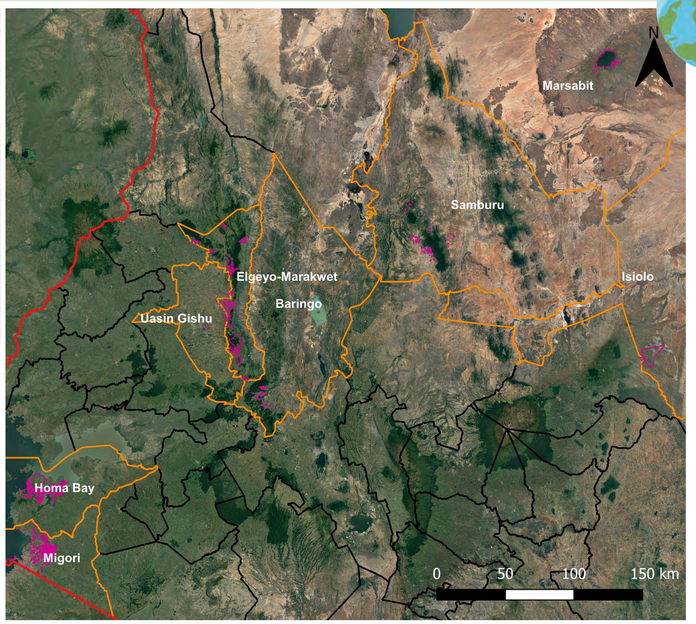
Next, the predicted vegetation is compared to the actual vegetation at plot-level. The difference between the actual vegetation and the predicted vegetation is an indication of the successfulness of the restoration. In Kenya, we monitor 11,401 restoration sites (58,000 ha).

Data used:

- Landsat 8 images (2013-presence)
- Global Precipitation Measurement - GPM (2013-presence)
- Restoration plot GPS data from the Regreening Africa App

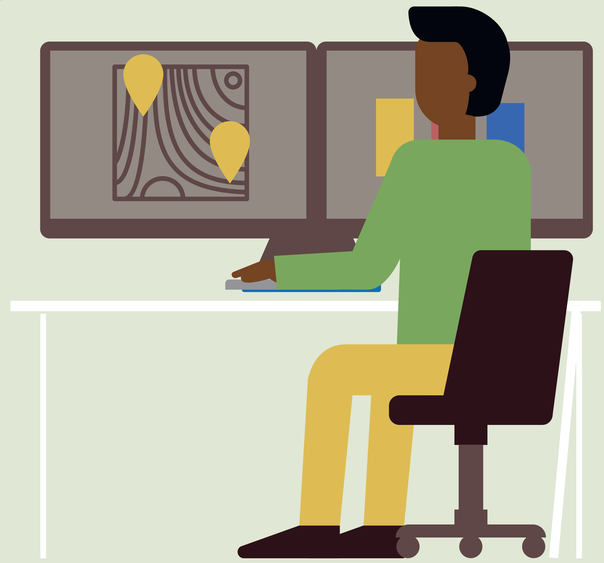
WHERE DO WE MONITOR



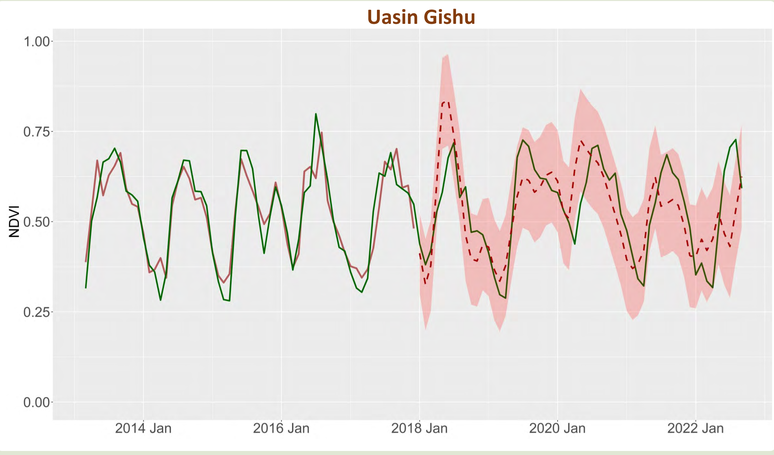


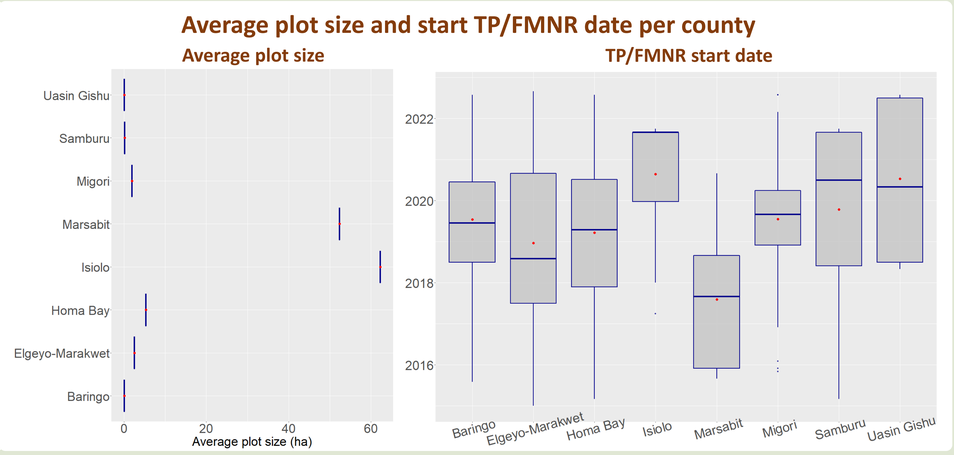
Legend

- Countries included in Regreening Africa
- Kenya border
- County borders
- Counties included in analysis
- Restoration sites



ACTUAL (GREEN) VS PREDICTED (RED) VEGETATION AT ZONE-LEVEL





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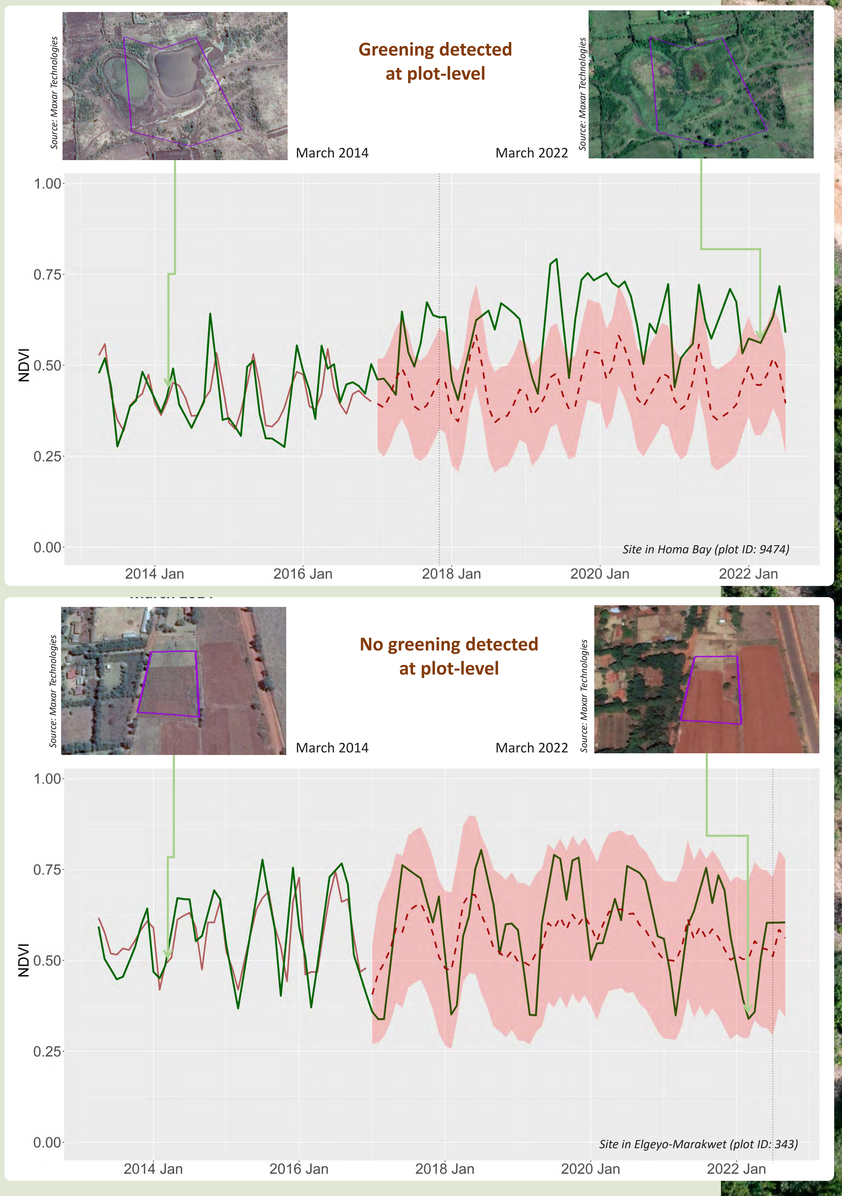
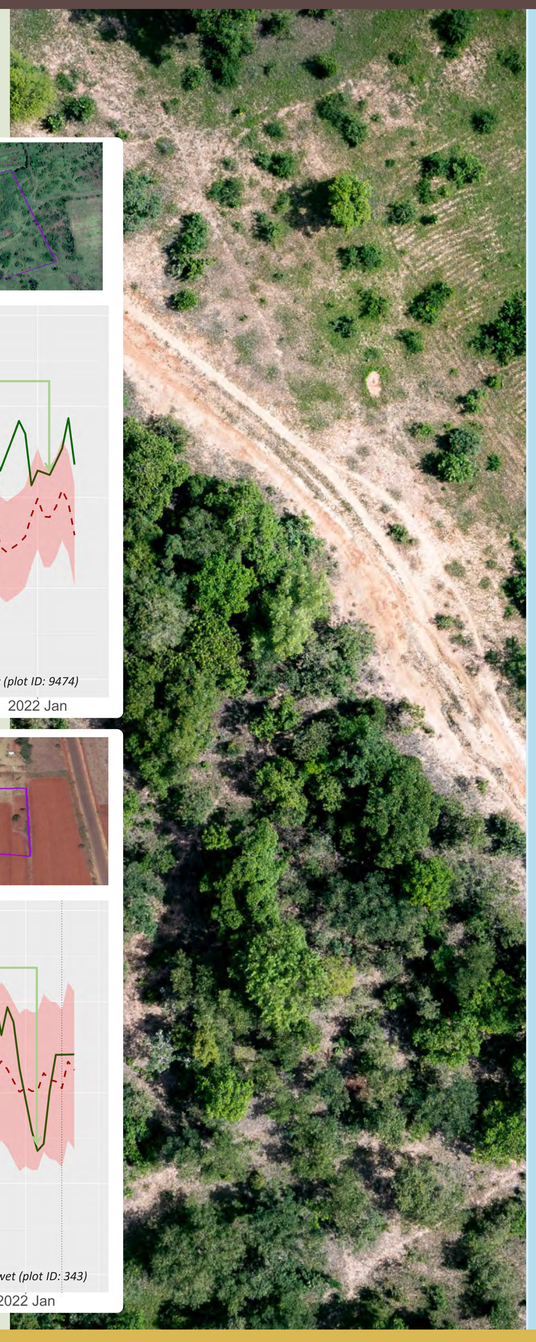
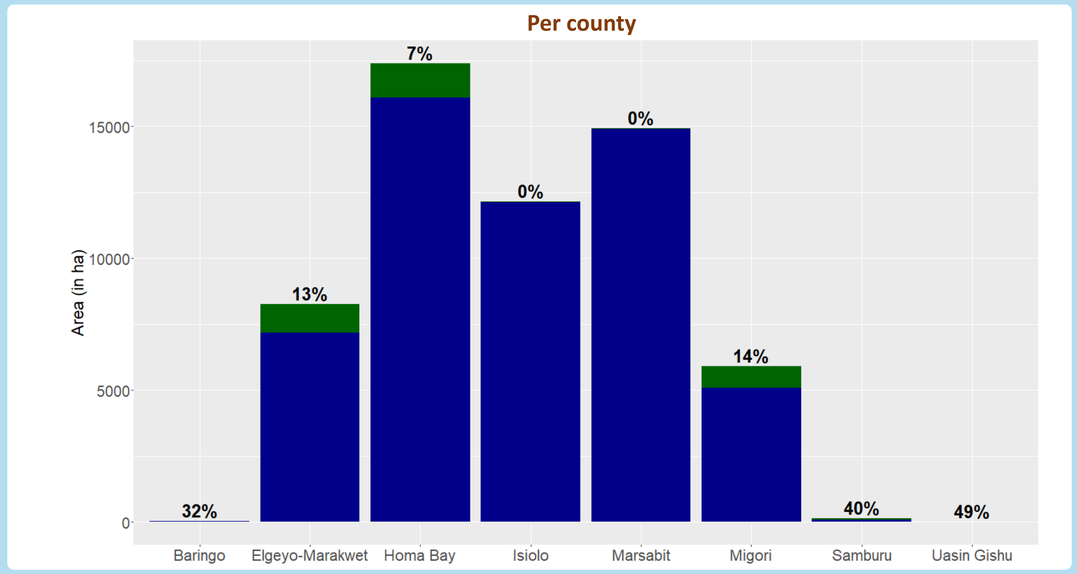
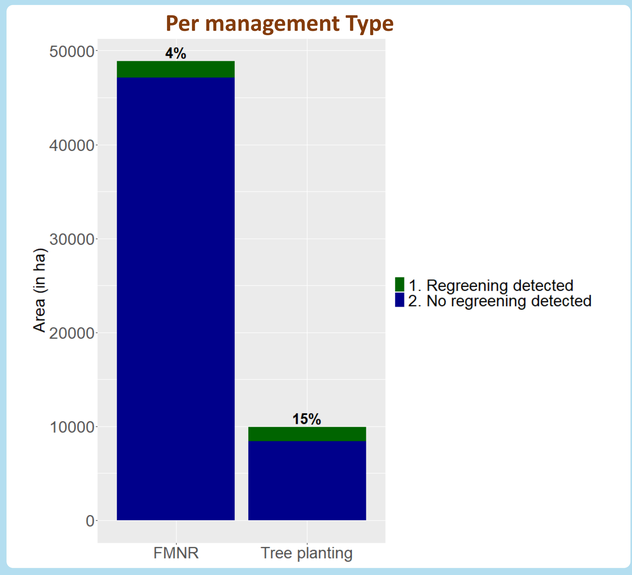
ACTUAL (GREEN) VS PREDICTED (RED) VEGETATION AT PLOT-LEVEL





SUMMARY: TOTAL AREA MONITORED VS AREA WHERE GREENING IS DETECTED





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