

Earth Observation Monitor

Automated access, analysis, and monitoring of global vegetation time-series data with easy-to-use web and mobile applications.

Jonas Eberle¹, Dr. Christian Hüttich^{1,2}, Prof. Christiane Schmullius¹

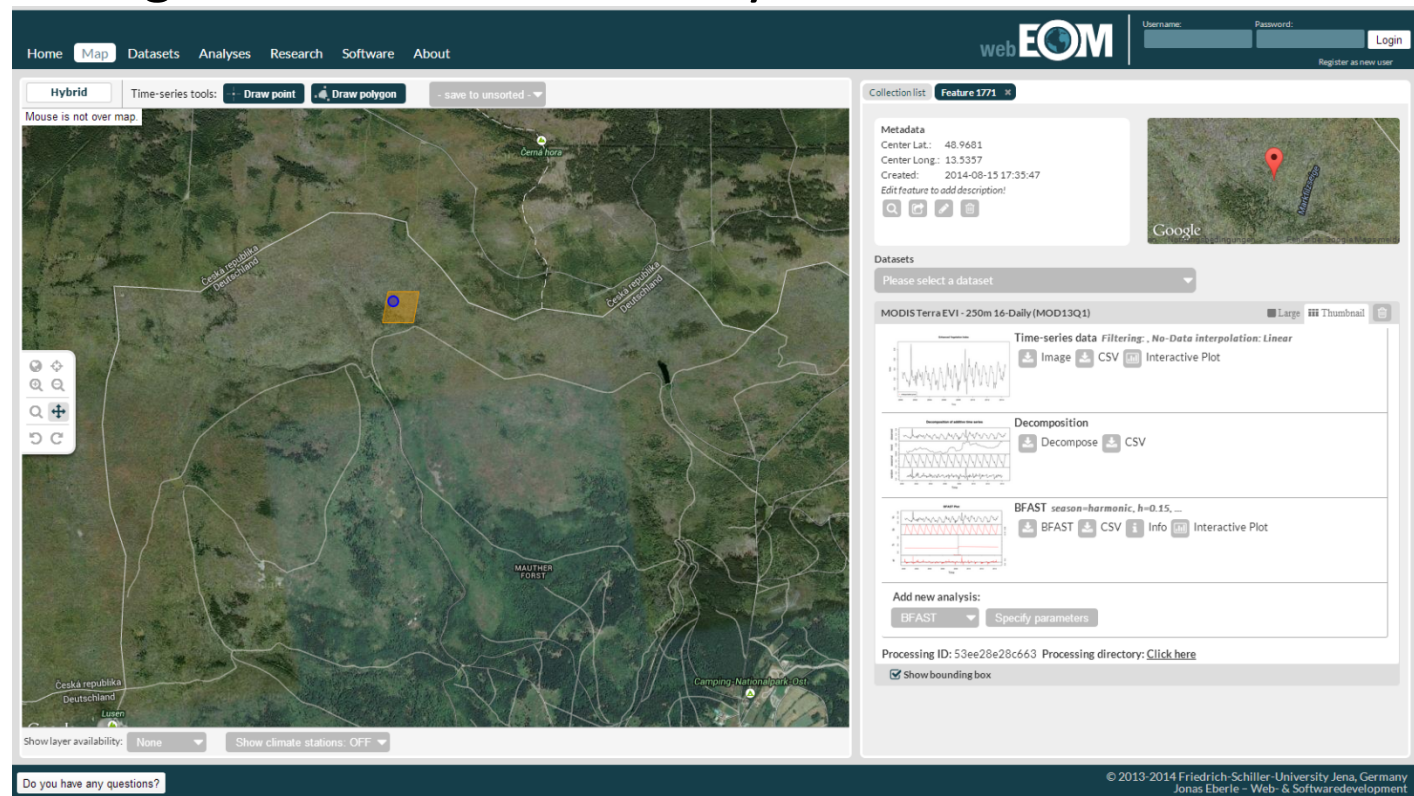
¹Friedrich-Schiller-University Jena, Germany

²Jena-Optronik GmbH, Germany



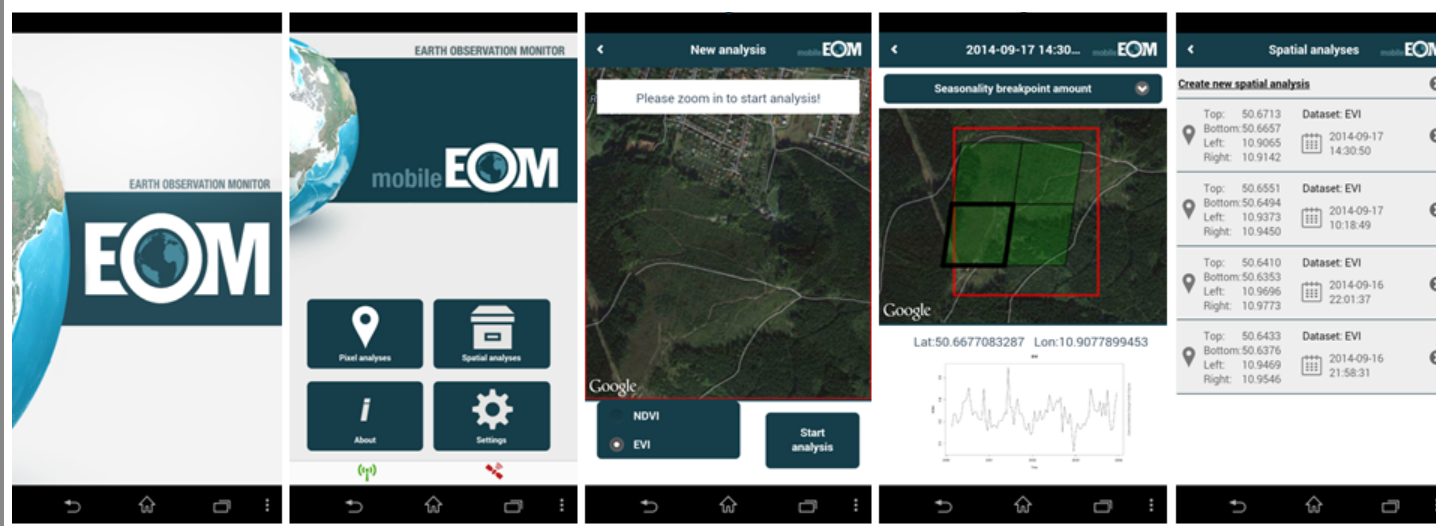
webEOM – Web-based portal

- www.earth-observation-monitor.net
- Register as a user to save your features and results



mobileEOM – Mobile application

- Access to MODIS Vegetation Index data and time-series analyses in the field
- Using GPS position as analysis location
- Save and share data and results
- Available in Apple App Store and Google Play Store





Datasets

MODIS Vegetation Index

MOD13Q1	250m	16-daily	2000 – now
MOD13C1	5600m	16-daily	2000 – 2014

MODIS Land Surface Temperature

MOD11A1*	1000m	Daily	2000 – 2014
MOD11A2*	1000m	Daily	2000 – 2014
MOD11C2	5600m	8-daily	2000 – 2014

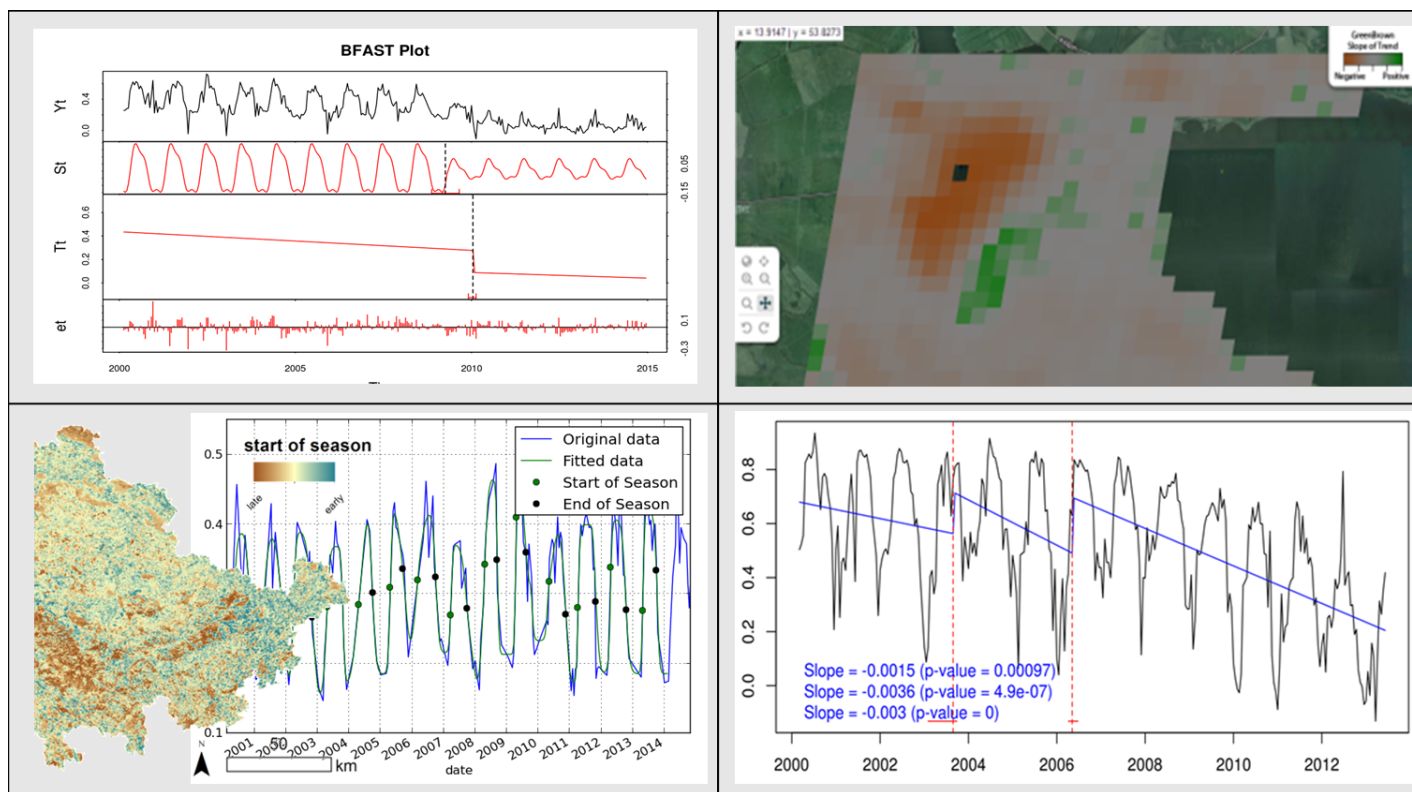
Climate station data

Global Surface Summary of the Day (GSOD)	Daily
Global Historical Climatology Network (GHCN)	Daily

* Only selected MODIS Tiles available

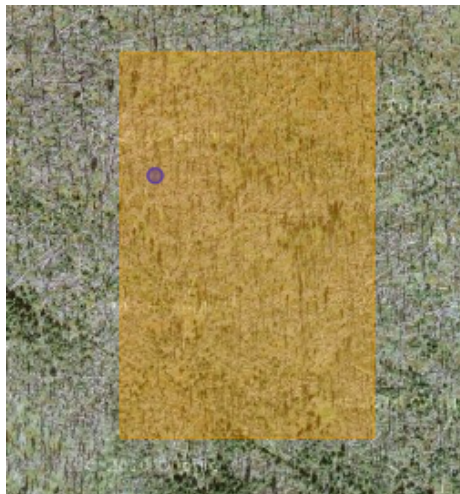
Analysis tools

Vegetation time-series analysis tools (Breakpoints, Trends, Phenology)

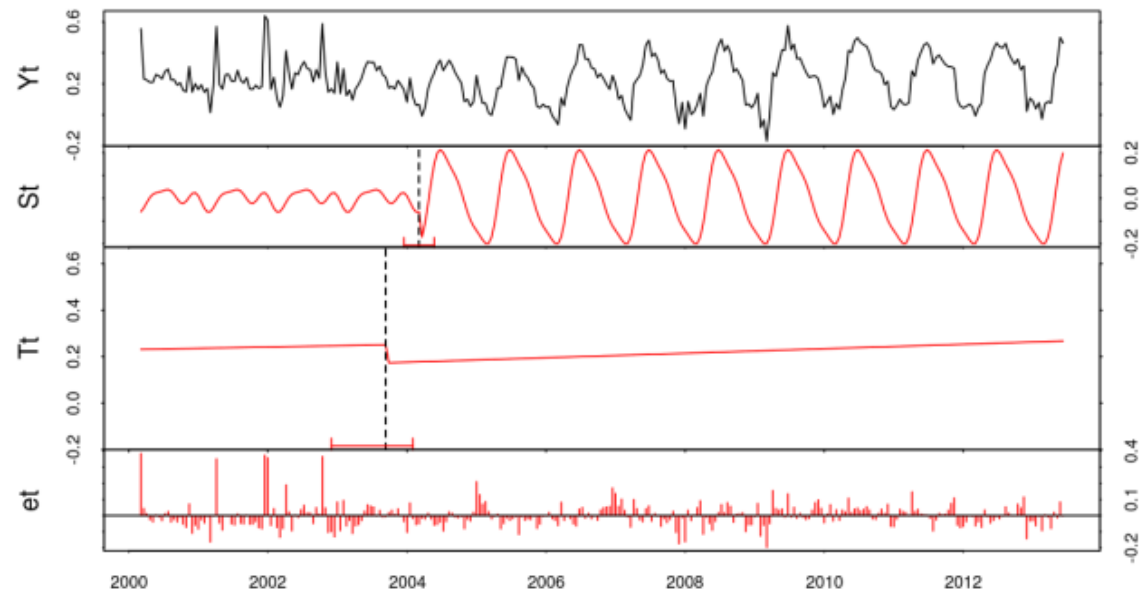


BFAST, Breaks For Additive Season and Trend

Verbesselt, J., Hyndman, R., Newnham, G., & Culvenor, D. (2010). **Detecting trend and seasonal changes in satellite image time series.** Remote Sensing of Environment, 114, 106-115.



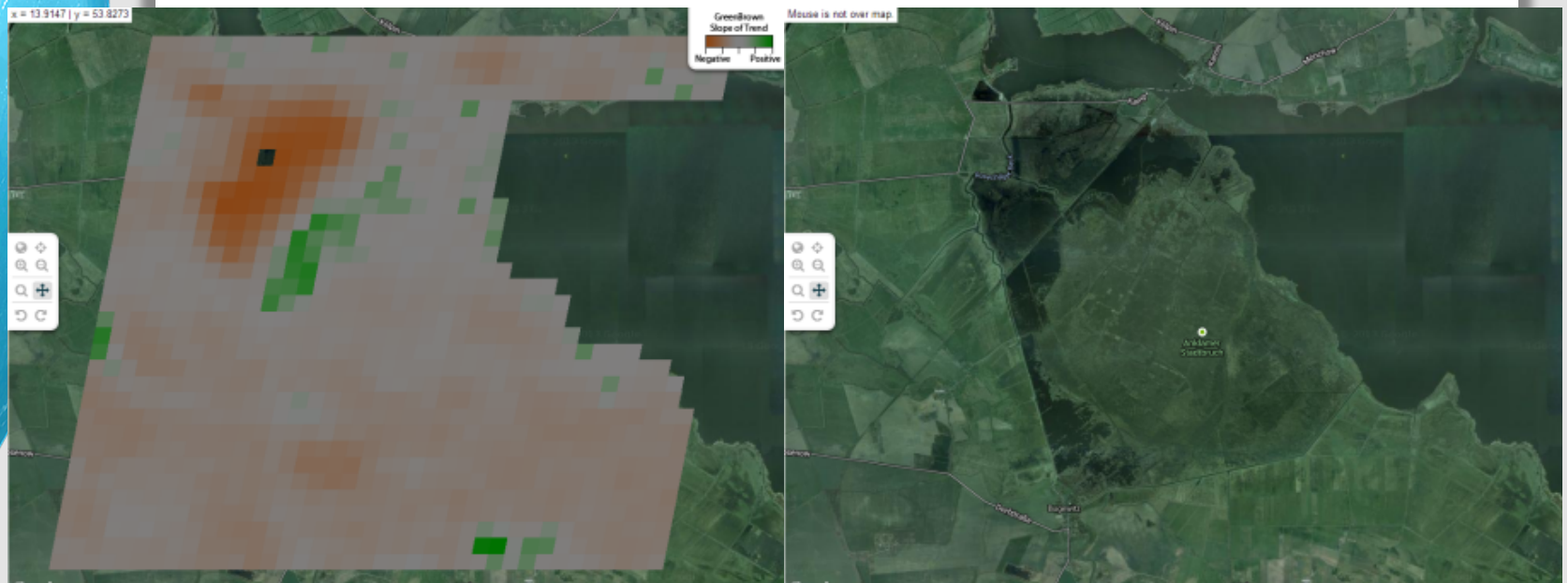
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Center Long.: 13.8309



Greenbrown

<http://greenbrown.r-forge.r-project.org/>

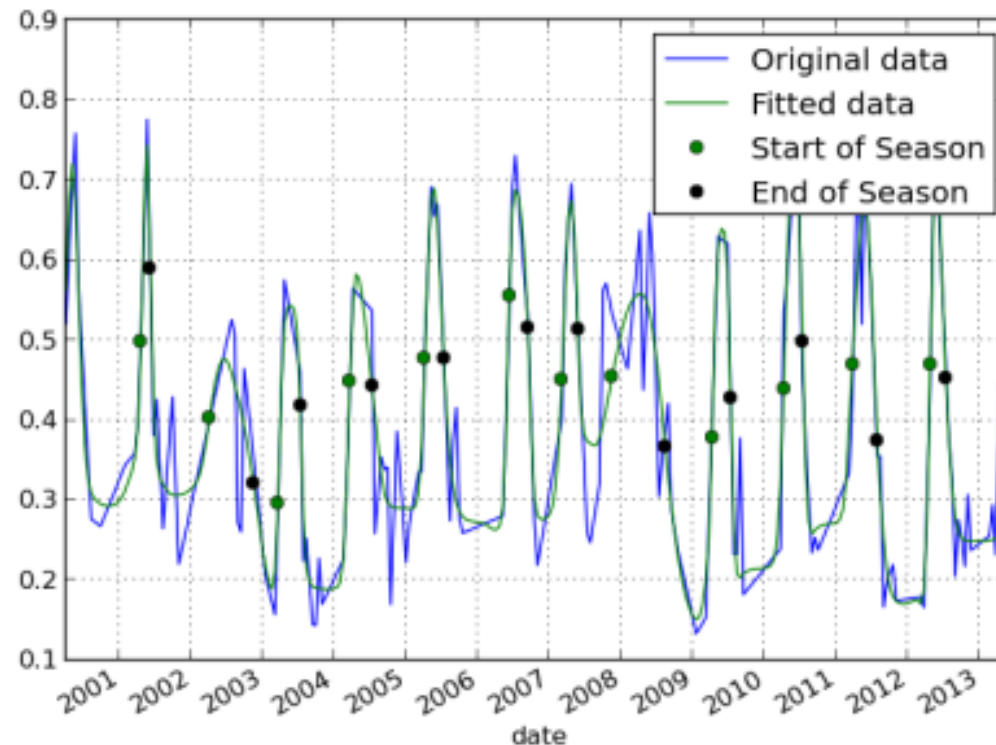
Forkel, M., N. Carvalhais, J. Verbesselt, M. Mahecha, C. Neigh and M. Reichstein (2013): **Trend Change Detection in NDVI Time Series: Effects of Inter-Annual Variability and Methodology.** - Remote Sensing 5, 2113-2144.



TIMESAT

<http://www.nateko.lu.se/timesat/timesat.asp>

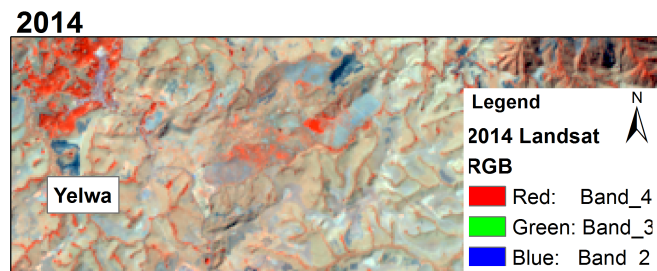
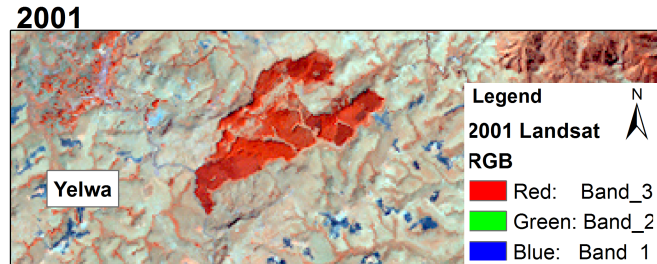
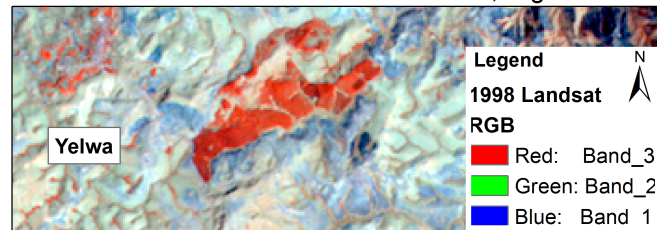
Jönsson, P. and Eklundh, L. (2004). **TIMESAT - a program for analysing time-series of satellite sensor data**. Computers and Geosciences 30, 833-845.



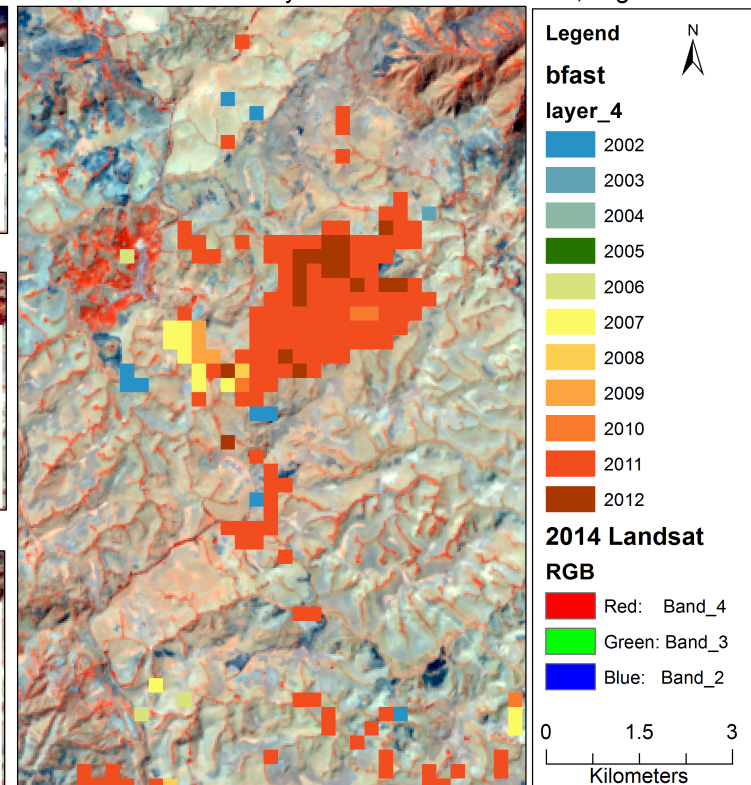
Use case: Forest change detection

- Mambilla Plateau, Nigeria

1998, 2001 & 2014 Landsat images showing deforestation on Mambilla Plateau, Nigeria



Breakpoint output of EOM for MODIS Vegetation deforestation analysis on Mambilla Plateau, Nigeria



Thank you for your attention!

www.earth-observation-monitor.net

Contact:

Friedrich-Schiller-University Jena
Institute for Geography
Department for Earth Observation

M.Sc. Jonas Eberle

Mail: jonas.eberle@uni-jena.de

Phone: +49 3641 94 88 89