The Earth Observation Monitor (EOM) is a product based on the Siberian Earth System Science Cluster established at the Department of Earth Observation at the Friedrich-Schiller University Jena.

Time-series data from NASA MODIS sensor is provided for an easy access and analysis with web-based technologies. The analysis of time-series data is focused on the detection of breakpoints, trends and phenological parameters. With an automated data access and analysis process the user does not need to process the data.

Available data
MODIS Vegetation Indices (NDVI / EVI)
- MOD13Q1 250m 16-day selected regions*
- MOD13C1 0.05deg 16-day global
MODIS Land Surface Temperature (Day/Night)
- MOD11A1 1km daily selected regions*
- MOD11C2 1km 8-day global
Landsat (in development)
- NDVI 30m yearly global
- EVI 30m yearly global

*Only specific tiles are available at the moment. We are working on providing global availability. If you need specific tiles, please contact us.

Features
- Individual time-series filtering based on quality flags and user-defined date range
- Time-series analysis for breakpoints, trends, and phenological parameters with individual parameterization
- Export of processed data for offline usage
- Sharing of analyses with other users

Available application
Android and iOS app for time-series analysis in the field based on local GPS position.
Download app:

Breakpoint detection: Detection of forest disturbance events
Bfast detects breakpoints in remote sensing time-series and enables the detection of points in time. The example shows logging activities detected in 2005 in the Taiga of Central Siberia followed by changing phenological cycling due to reforestation.

Trend analysis: Renaturation of marshlands
Decreasing vegetation trends were detected using the GreenBrown analyses function, indicating different magnitudes and periods of shrubland and forest degradation due to increasing ground water level (Anklamer Stadtbruch, Germany).

Phenological parameters: Monitoring of net primary productivity
Phenological metrics from satellite time-series allow for the tracking of date-related (e.g. start of season) and biomass-related information of the vegetation (e.g. integral of growing season). The example shows the potential for monitoring agricultural productivity and bioenergy production.

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