

# Trends of vegetation in Benin (1982 - 2003) (IMPETUS dataset ID = 632)

## General information

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Dataset name: Trends of vegetation in Benin (1982 - 2003) (IMPETUS dataset ID = 632)  
Created on: 2007-11-09

### Contact(s)

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### Period

Date begin (yyyy-mm-jj): 1982-01-01  
Date end (yyyy-mm-jj): 2003-12-31

### Project(s)

IMPETUS

## Data description

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### Abstract

For the determination of statistically significant vegetation trends indication early forms of land degradation in Benin the approach illustrated e.g. in Houn-toundji et al. (2006) has been applied. The approach is based on a strong relation between vegetation dynamics and rainfall choosing rain use efficiency (RUE) as indicator for land degradation. The normalised difference vegetation index (NDVI) from NOAA Global Inventory Monitoring and Modelling Studies (GIMMS) was used for analysing vegetation cover and productivity between 1982 and 2003. The spatial resolution of the data is 8km x 8km. The precipitation data used was obtained by downscaling results of the atmospheric model REMO (see Paeth et al., Changes in Benin's monsoon climate, this Atlas). Yearly sums were calculated for NDVI (iNDVI) and rainfall (yrain) respectively. Then, for each site the rain use efficiency was calculated and trends from 1982 until 2003 examined. Therefore, the yearly ratio of iNDVI to yrain was used. Trends were determined by linear regression of the ratio (dependent variable) and time (independent variable). The regression slope was mapped in seven classes indicating different statistically significant trends based on the Student's t-test (Cf. Ek-lundh and Olsson 2003, Hountondji et al. 2006). Trends for the iNDVI to yrain ratio were labelled as strong (positive or negative) if the T-value of the slope exceeded the 0.025 p-value of either tail of the distribution. Sites were classified as medium or weak if the T-value was between the 0.025 and 0.05 p-value and between 0.05 and 0.15 respectively. All other sites were classified as no trend showing no statistically significant development for this time period. The data contains the t-values! Parameter, Attribute list: correlation coefficients of rainfall and iNDVI. Dataset created by IMPETUS subproject A3.

Data Lineage: NOAA, GIMMS, REMO; No information about Data Consistency; No information about Data Completeness; No information about Positional Accuracy; No information about Quantitative Attribute Accuracy

## Observing strategy

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to determine statistically significant vegetation trends in Benin

## Geographic information

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### Measured parameters

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#### Land use

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Parameter name: land use  
Parameter keyword: Land Surface > Land Use/Land Cover

#### Land degradation

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Parameter name: land degradation  
Parameter keyword: Land Surface > Land Use/Land Cover

#### Vegetation

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Parameter name: vegetation  
Parameter keyword: Biosphere > Vegetation

#### Vegetation dynamics

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Parameter name: vegetation dynamics  
Parameter keyword: Biosphere > Vegetation

#### NDVI

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Parameter name: NDVI

## Data use information

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Use constraints: Please inform the Point of Contact if you use the data for publication  
Data policy: IMPETUS data policy  
Database: IMPETUS  
Original data format(s): Tagged Image Format, ENVI Standard File