



Medium Resolution Vegetation Phenology and Productivity: Large integral (raster 500m), Oct. 2022

The raster file is the temporal trend in above ground vegetation biomass productivity. The vegetation productivity dataset is based on the time series of the Plant Phenology Index (PPI) derived from the MODIS BRDF-Adjusted Reflectance product (MODIS MCD43 NBAR). The PPI index is optimized for efficient monitoring of vegetation phenology and is derived from the source MODIS data using radiative transfer solutions applied to the reflectance in visible-red and near infrared spectral domains. The productivity indicator is based on calculating the area under the PPI temporal curve above the baseline (large integral - LINT) using the TIMESAT software for each year between and including 2000 and 2021.

The Total Productivity (TPROD), one of the Vegetation Phenology and Productivity (VPP) parameters, is a product of the pan-European High Resolution Vegetation Phenology and Productivity (HR-VPP) component of the Copernicus Land Monitoring Service (CLMS).

The Total Productivity (TPROD), or large integral, is the growing season integral computed as the sum of all daily Plant Phenology Index values between the dates of the season start (SOSD) and end (EOSD).

The Plant Phenology Index (PPI) is a physically based vegetation index, developed for improving the monitoring of the vegetation growth cycle. The PPI index values, with 5-day satellite revisit cycle, are first used in a function fitting to derive the PPI Seasonal Trajectories. From these Seasonal Trajectories, a suite of 13 Vegetation Phenology and Productivity (VPP) parameters are then computed and provided, for up to two seasons each year. The Total Productivity (TPROD) is one of the 13 parameters. The full list is available in the Product User Manual: https://land.copernicus.eu/user-corner/technical-library/clms_mrvpp_pum_d1-0.pdf

The Total Productivity (TPROD) time series dataset is made available as raster files with 500x 500m resolution, in ETRS89-LAEA projection corresponding to the MCD43 tiling grid, for those tiles that cover the EEA38 countries and the United Kingdom and for two seasons in each year from 2000 onwards. It is updated in the first quarter of each year.

The full on-line access to open and free data for this resource will be made available in the second half of 2024. Until then the data will be made available 'on-demand' by filling in the form at: <https://land.copernicus.eu/contact-form>

Simple

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	European Commission			https://commission.europa.eu	Owner
	Copernicus Land Monitoring Service		copernicus@eea.europa.eu	https://land.copernicus.eu	Custodian
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	Annually				
	GEMET - INSPIRE themes, version 1.0				
	<ul style="list-style-type: none">Habitats and biotopesEnvironmental monitoring facilitiesOrthoimagery				
Keywords					
Keywords					
	<ul style="list-style-type: none">index				

GEMET	<ul style="list-style-type: none"> • productivity • vegetation • plant ecology • plant production • land • remote sensing
Spatial scope	<ul style="list-style-type: none"> • European
Temporal resolution	<ul style="list-style-type: none"> • Annually
Continents, countries, sea regions of the world.	<ul style="list-style-type: none"> • United Kingdom • EEA38 (from 2020)
Access constraints	Other restrictions
Other constraints	no limitations to public access
Use constraints	Other restrictions
Other constraints	<p>The Copernicus component is governed by Regulation (EU) No 2021/696 of the European Parliament and of the Council of 28 April 2021 establishing the Union Space Programme and the European Union Agency for the Space Programme and repealing Regulations (EU) No 912/2010, (EU) No 1285/2013 and (EU) No 377/2014 and Decision No 541/2014/EU. Within the Copernicus component, a portfolio of land monitoring activities has been delegated by the European Union to the European Environment Agency (EEA) and the DG Joint Research Centre of the European Commission.</p> <p>The Copernicus land monitoring products and services are made available on a principle of full, open and free access, as established by the Commission Delegated Regulation (EU) No 1159/2013 of 12 July 2013.</p> <p>Free, full and open access to the products and services of the Copernicus Land Monitoring Service is made on the conditions that:</p> <ol style="list-style-type: none"> 1. When distributing or communicating Copernicus Land Monitoring Service products and services (data, software scripts, web services, user and methodological documentation and similar) to the public, users shall inform the public of the source of these products and services. 2. Where the Copernicus Land Monitoring Service products and services have been adapted or modified by the user, the user shall clearly state this. 3. Users shall make sure not to convey the impression to the public that the user's activities are officially endorsed by the European Union.
Aggregate Datasetidentifier	copernicus_r_utm-wgs84_10_m_hrvpp-vi-qflag2_p_2017-ongoing_v01_r01
Association Type	Cross reference
Aggregate Datasetidentifier	copernicus_r_utm-wgs84_10_m_hrvpp-vi-ndvi_p_2017-ongoing_v01_r01
Association Type	Cross reference
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Aggregate Datasetidentifier	copernicus_r_utm-wgs84_10_m_hrvpp-vi-lai_p_2017-ongoing_v01_r01
Association Type	Cross reference
Spatial representation type	Grid
Distance	500 m

Language of dataset	English
Character set	UTF8
Topic category	<ul style="list-style-type: none">• Environment• Imagery base maps earth cover• Climatology, meteorology, atmosphere

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Begin date	2000-01-01		
Coordinate reference system identifier	EPSG:3035		
Distribution format	• GeoTIFF (1.0)		
OnLine resource	Protocol WWW:LINK-1.0-http--link	Linkage https://land.copernicus.eu/user-corner/technical-library/clms_mrvpp_pum_d1-0.pdf	Name User manual
Hierarchy level	Dataset		

Conformance result

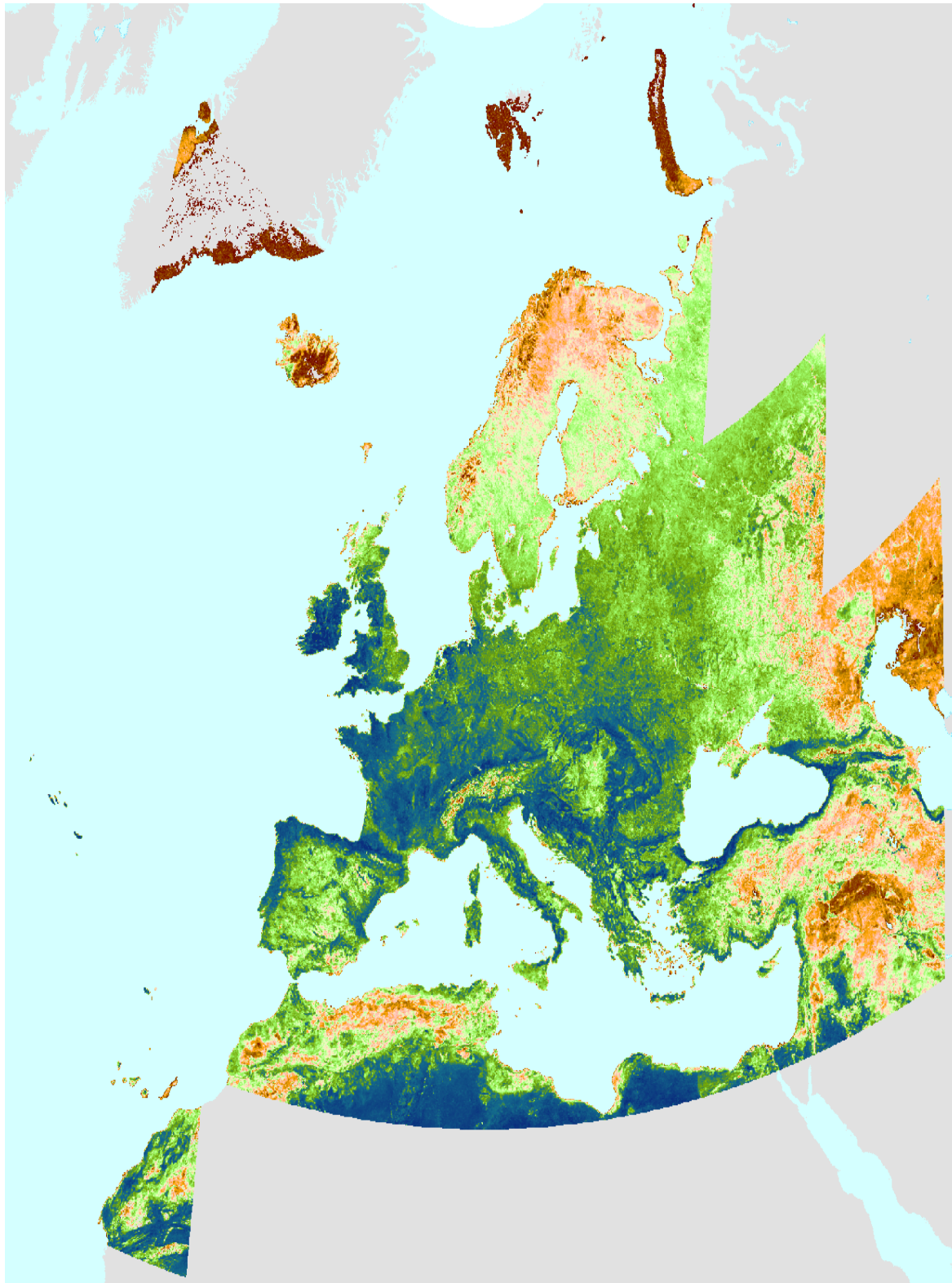
Title	Commission Regulation (EU) No 1089/2010 of 23 November 2010 implementing Directive 2007/2/EC of the European Parliament and of the Council as regards interoperability of spatial data sets and services
Date (Publication)	2010-12-08
Explanation	See the referenced specification
Statement	Vegetation Phenology and Productivity parameters (VPP) are based on Plant Phenology Index (PPI) seasonal trajectories and are yearly produced for two seasons using the Timesat software. One of the parameters is the Total Productivity (TPROD): the growing season integral computed as the sum of all daily PPI values between the dates of the season start (SOSD) and end (EOSD).

Metadata

File identifier	aae5abaa-a796-4aa6-9b1f-1f87449b1467 XML
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Hierarchy level	Dataset
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European Environment Agency		sdi@eea.europa.eu	Point of contact

Overviews



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