



## Medium Resolution Vegetation Phenology and Productivity: Seasonal amplitude (raster 500m), Oct. 2022

The seasonal amplitude, one of the Vegetation Phenology and Productivity (VPP) parameters, is a product of the pan-European Medium Resolution Vegetation Phenology and Productivity (MR-VPP) component of the Copernicus Land Monitoring Service (CLMS).

The seasonal amplitude is the difference between the maximum and minimum Plant Phenology Index (PPI) values reached during the season.

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 seasonal amplitude 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](https://land.copernicus.eu/user-corner/technical-library/clms_mrvpp_pum_d1-0.pdf)

The seasonal amplitude 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

Date (Creation)	2022-06-08				
Date (Publication)	2022-10-10				
Edition	01.00				
Citation identifier	copernicus_r_3035_500_m_mrvpp-seasonal-amp_p_2000-now_v01_r00				
Point of contact	Organisation name	Individual name	Electronic mail address	Website	Role
	European Commission			<a href="https://commission.europa.eu">https://commission.europa.eu</a>	Owner
	Copernicus Land Monitoring Service		copernicus@eea.europa.eu	<a href="https://land.copernicus.eu">https://land.copernicus.eu</a>	Custodian
	European Environment Agency		sdi@eea.europa.eu	<a href="http://www.eea.europa.eu">http://www.eea.europa.eu</a>	Publisher
Maintenance and update frequency	Copernicus Land Monitoring Service helpdesk		copernicus@eea.europa.eu	<a href="https://land.copernicus.eu/en/contact-service-helpdesk">https://land.copernicus.eu/en/contact-service-helpdesk</a>	Point of contact
	Annually				
GEMET - INSPIRE themes, version 1.0	<ul style="list-style-type: none"><li>Habitats and biotopes</li></ul>				
	<ul style="list-style-type: none"><li>Orthoimagery</li></ul>				
	<ul style="list-style-type: none"><li>Environmental monitoring facilities</li></ul>				
Keywords					
Continents, countries, sea regions of the world.	<ul style="list-style-type: none"><li>United Kingdom</li></ul>				
	<ul style="list-style-type: none"><li>EEA38 (from 2020)</li></ul>				
Keywords					

<b>GEMET</b>	<ul style="list-style-type: none"> <li>• land</li> <li>• productivity</li> <li>• vegetation</li> <li>• remote sensing</li> <li>• plant ecology</li> <li>• plant production</li> <li>• index</li> </ul>
<b>Spatial scope</b>	<ul style="list-style-type: none"> <li>• <a href="#">European</a></li> </ul>
<b>Temporal resolution</b>	<ul style="list-style-type: none"> <li>• Annually</li> </ul>
<b>EEA topics</b>	<ul style="list-style-type: none"> <li>• Agriculture and food</li> <li>• Land use</li> <li>• Forests and forestry</li> </ul>
<b>Access constraints</b>	Other restrictions
<b>Other constraints</b>	<a href="#">no limitations to public access</a>
<b>Use constraints</b>	Other restrictions
<b>Other constraints</b>	<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"> <li>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.</li> <li>2. Where the Copernicus Land Monitoring Service products and services have been adapted or modified by the user, the user shall clearly state this.</li> <li>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.</li> </ol>
<b>Spatial representation type</b>	Grid
<b>Distance</b>	500 m
<b>Language of dataset</b>	English
<b>Character set</b>	UTF8
<b>Topic category</b>	<ul style="list-style-type: none"> <li>• Environment</li> <li>• Imagery base maps earth cover</li> <li>• Climatology, meteorology, atmosphere</li> </ul>



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

Conformance result

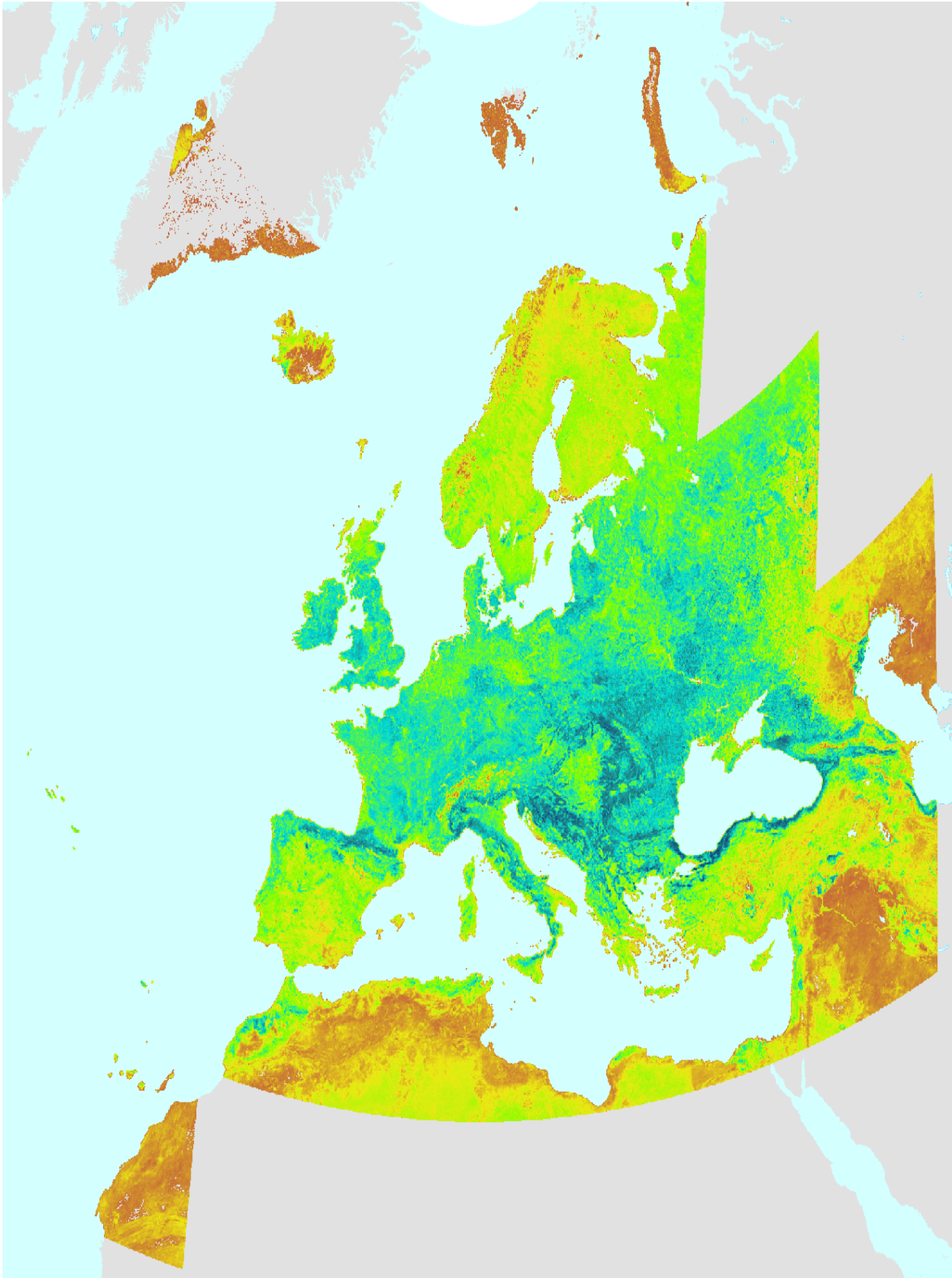
Title	Commission Regulation (EU) No 1089/2010 of 23 November 2010 implementing Directive 2007/2/EC of the European Parliament and of the Council as regards interoperability of spatial data sets and services
Date (Publication)	2010-12-08
Explanation	See the referenced specification
Statement	Vegetation 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 seasonal amplitude which is the difference between the maximum and minimum Plant Phenology Index (PPI) values reached during the season.

Metadata

File identifier	3f0c293d-4442-42f1-923e-5269951554d1 <a href="#">XML</a>
Metadata language	English
Character set	UTF8
Hierarchy level	Dataset
Date stamp	2024-04-02T13:54:48.390112Z
Metadata standard name	ISO 19115/19139
Metadata standard version	1.0
Metadata author	Electronic

Organisation name	Individual name	mail address	Website Role
European Environment Agency		sdi@eea.europa.eu	Point of contact

Overviews



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