



## Medium Resolution Vegetation Phenology and Productivity: Plant phenology index (raster 500m), Oct. 2022

This metadata refers to the Plant Phenology Index (PPI) dataset, one of the near real-time (NRT) Vegetation Index products of the pan-European Medium Resolution Vegetation Phenology and Productivity (MR-VPP), component of the Copernicus Land Monitoring Service (CLMS).

The Plant Phenology Index (PPI) is a physically based vegetation index for improved monitoring of plant phenology, that is developed from a simplified solution to the radiative transfer equation by Jin and Eklundh (2014). PPI has a linear relationship with green leaf area index, a strong correlation with gross primary productivity, and is capable of disentangling remotely sensed plant phenology from snow seasonality. It is reported to be superior to other indices for spring phenology retrieval over the northern latitudes and for GPP estimation in African semi-arid ecosystems. Comparison of satellite-derived PPI to ground observations of plant phenology and gross primary productivity (GPP) shows strong similarity of temporal patterns over several Nordic boreal forest sites. Further information 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 PPI time series dataset is made available as raster files with 500 x 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 the period from January 2000 until today.

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

<b>Date (Creation)</b>	2022-06-08			
<b>Date (Publication)</b>	2022-10-10			
<b>Edition</b>	01.00			
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### Point of contact

No information provided.

<b>Maintenance and update frequency</b>	Annually
<b>GEMET - INSPIRE themes, version 1.0</b>	<ul style="list-style-type: none"> <li>Habitats and biotopes</li> <li>Orthoimagery</li> <li>Environmental monitoring facilities</li> </ul>
<b>Keywords</b>	
<b>Continents, countries, sea regions of the world.</b>	<ul style="list-style-type: none"> <li>EEA38 (from 2020)</li> <li>United Kingdom</li> </ul>
<b>Keywords</b>	

<b>GEMET</b>	<ul style="list-style-type: none"> <li>• plant ecology</li> <li>• plant production</li> <li>• productivity</li> <li>• land</li> <li>• remote sensing</li> <li>• index</li> <li>• vegetation</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>Access to data is based on a principle of full, open and free access as established by the Copernicus data and information policy Regulation (EU) No 1159/2013 of 12 July 2013. This regulation establishes registration and licensing conditions for GMES/Copernicus users.</p> <p>Free, full and open access to this data set is made on the conditions that:</p> <ol style="list-style-type: none"> <li>1. When distributing or communicating Copernicus dedicated data and Copernicus service information to the public, users shall inform the public of the source of that data and information.</li> <li>2. Users shall make sure not to convey the impression to the public that the user's activities are officially endorsed by the Union.</li> <li>3. Where that data or information has been adapted or modified, the user shall clearly state this.</li> <li>4. The data remain the sole property of the European Union. Any information and data produced in the framework of the action shall be the sole property of the European Union. Any communication and publication by the beneficiary shall acknowledge that the data were produced "with funding 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>

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<b>Begin date</b>	2000-01-01		
<b>Coordinate reference system identifier</b>	<a href="#">EPSG:3035</a>		
<b>Distribution format</b>	<ul style="list-style-type: none"> <li>• GeoTIFF ( )</li> </ul>		
<b>OnLine resource</b>	<b>Protocol</b>	<b>Linkage</b>	<b>Name</b>
	WWW:LINK-1.0-http--link	<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>	User manual
<b>Hierarchy level</b>	Dataset		

## Conformance result

<b>Title</b>	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
<b>Date (Publication)</b>	2010-12-08
<b>Explanation</b>	See the referenced specification

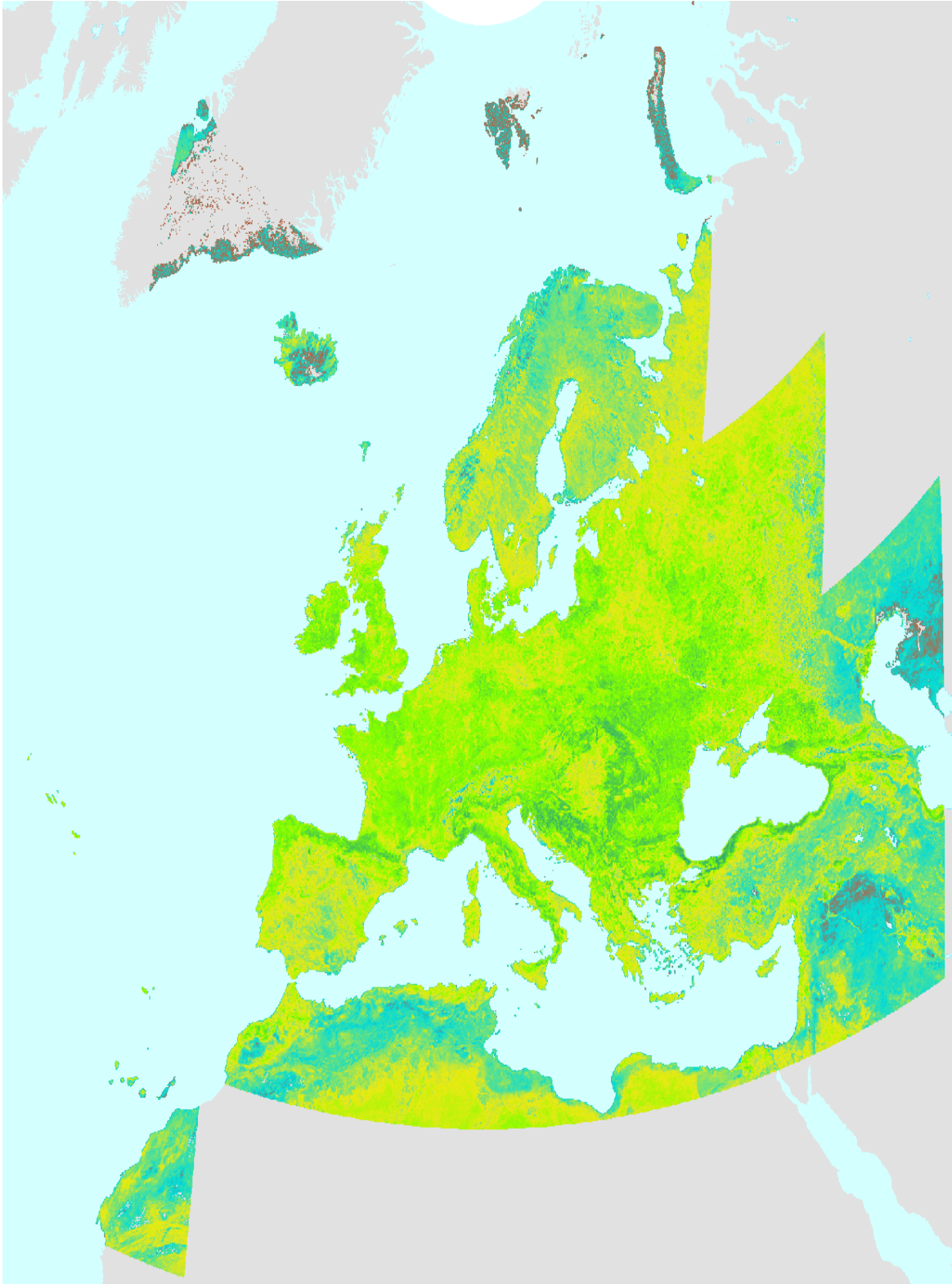
<b>Statement</b>	Vegetation Phenology and Productivity parameters (VPP) are based on Plant Phenology Index (PPI) seasonal trajectories and are yearly produced for two seasons using the Timesat software. The Plant Phenology Index (PPI) is a physically based vegetation index for improved monitoring of plant phenology, that is developed from a simplified solution to the radiative transfer equation by Jin and Eklundh (2014). PPI has a linear relationship with green leaf area index, a strong correlation with gross primary productivity, and is capable of disentangling remotely sensed plant phenology from snow seasonality. It is reported to be superior to other indices for spring phenology retrieval over the northern latitudes and for GPP estimation in African semi-arid ecosystems.
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## Metadata

<b>File identifier</b>	de0bc1e4-5b32-44fa-9690-1eb9e64aff9d <a href="#">XML</a>
<b>Metadata language</b>	English
<b>Character set</b>	UTF8
<b>Hierarchy level</b>	Dataset
<b>Date stamp</b>	2024-04-02T13:53:38.221022Z
<b>Metadata standard name</b>	ISO 19115/19139
<b>Metadata standard version</b>	

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