



## Reference Land Cover in Great Limpopo 2015-2018 (vector) - version 1, April 2019

This metadata refers to the Land Cover vector data generated over Limpopo (Africa) for 2015 in the framework of the Copernicus Global Land Hot Spot Mapping (C-GL-HSM) contract under the coordination of JRC.

This area of interest is either mapped with the generic 8 classes dichotomous legend (SAF\_02\_lc\_a) or the detailed modular legend (SAF\_02\_lc\_b).

The mapped area of interest (AOI) represents a Key Landscape for Conservation area (KLC). The Great Limpopo trans frontier park involves three different parks: Kruger National Park (South Africa), Limpopo National Park (Mozambique) and Gonarezhou National Park (Zimbabwe). The memorandum of understanding for the creation of conservation area was signed on November 2000.

The floodplains of the Limpopo River are fertile and heavily populated. The southern hemisphere sees its rainy season, where precipitation exceeds 60 mm, roughly from October to March, and its dry one from around April to September. The area around the park is dense of villages and the agriculture is the primary activity.

Reference time: 2015 - 2018

### Simple

<b>Date (Creation)</b>	2019-04-18				
<b>Date (Publication)</b>	2019-04-18				
<b>Date (Revision)</b>	2019-04-18				
<b>Edition</b>	01.00				
<b>Citation identifier</b>	jrc_v_4326_30_m_c-gl-hsm-limpopo_p_2015-2018_v01_r00				
<b>Point of contact</b>	<b>Organisation name</b>	<b>Individual name</b>	<b>Electronic mail address</b>	<b>Website</b>	<b>Role</b>
	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 Commission's Joint Research Centre			<a href="https://joint-research-centre.ec.europa.eu/">https://joint-research-centre.ec.europa.eu/</a>	Publisher
	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
<b>Maintenance and update frequency</b>	Not planned				
<b>GEMET - INSPIRE themes, version 1.0</b>	<ul style="list-style-type: none"> <li>Human health and safety</li> <li>Land cover</li> </ul>				
<b>Keywords</b>					
<b>Continents, countries, sea regions of the world.</b>	<ul style="list-style-type: none"> <li>South Africa</li> <li>Zimbabwe</li> <li>Mozambique</li> <li>Africa</li> </ul>				
<b>Keywords</b>					

<b>GEMET</b>	<ul style="list-style-type: none"> <li>• landscape alteration</li> <li>• land</li> <li>• landscape</li> <li>• land use</li> <li>• land cover</li> </ul>
<b>Spatial scope</b>	<ul style="list-style-type: none"> <li>• <a href="#">Regional</a></li> </ul>
<b>EEA topics</b>	<ul style="list-style-type: none"> <li>• Environmental health impacts</li> <li>• Land use</li> </ul>
<b>Temporal resolution</b>	<ul style="list-style-type: none"> <li>• Not planned</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>	Vector
<b>Distance</b>	30 m
<b>Denominator</b>	30000
<b>Language of dataset</b>	English
<b>Character set</b>	UTF8
<b>Topic category</b>	<ul style="list-style-type: none"> <li>• Geoscientific information</li> <li>• Environment</li> <li>• Imagery base maps earth cover</li> </ul>

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<b>Begin date</b>	2015-01-01		
<b>End date</b>	2018-12-31		
<b>Additional Information</b>	<p>The World Database on Protected Areas (WDPA 2019) has been used in the Copernicus Global Land Hot Spot mapping (C-GL-HSM) contract under the coordination of JRC to obtain statistics on land cover changes inside and outside the protected areas.</p> <p>To see how much of the Key Landscapes for Conservation area is a Protected Area, consult the WMS service found at the Service section of this metadata.</p>		
<b>Coordinate reference system identifier</b>	<a href="#">EPSG:4326</a>		
<b>Distribution format</b>	<ul style="list-style-type: none"> <li>• SHP ( 1.0)</li> </ul>		
<b>OnLine resource</b>	<b>Protocol</b>	<b>Linkage</b>	<b>Name</b>
	WWW:URL	<a href="https://land.copernicus.eu/en/products/lclcc-hot-spots/present_land_cover#download">https://land.copernicus.eu/en/products/lclcc-hot-spots/present_land_cover#download</a>	Great Limpopo – Dichotomous and Modular Reference Land Cover
	OGC:WMS	<a href="https://geospatial.jrc.ec.europa.eu/geoserver/hotspots/wms">https://geospatial.jrc.ec.europa.eu/geoserver/hotspots/wms</a>	all_present_lc_b_pol
	WWW:LINK-1.0-http--link	<a href="https://hsm.land.copernicus.eu/">https://hsm.land.copernicus.eu/</a>	HotSpot Land Cover Change Explorer
	OGC:WMS	<a href="https://geospatial.jrc.ec.europa.eu/geoserver/hotspots/wms">https://geospatial.jrc.ec.europa.eu/geoserver/hotspots/wms</a>	all_present_lc_a_pol
	WWW:DOWNLOAD-1.0-http--download	<a href="https://land.copernicus.eu/en/technical-library/grand-limpopo-klc-area-report-file-2013-2016/@@download/file">https://land.copernicus.eu/en/technical-library/grand-limpopo-klc-area-report-file-2013-2016/@@download/file</a>	

		Report file for download
WWW:DOWNLOAD-1.0-http--download	<a href="https://land.copernicus.eu/en/technical-library/grand-limpopo-klc-area-validation-file-2013-2016/@_@download/file">https://land.copernicus.eu/en/technical-library/grand-limpopo-klc-area-validation-file-2013-2016/@_@download/file</a>	Validation file for download
WWW:URL	<a href="https://land.copernicus.eu/en/products/lcicc-hot-spots/satellite_images">https://land.copernicus.eu/en/products/lcicc-hot-spots/satellite_images</a>	Satellite images
OGC:WMS	<a href="https://geospatial.jrc.ec.europa.eu/geoserver/hotspots/wms">https://geospatial.jrc.ec.europa.eu/geoserver/hotspots/wms</a>	protected_areas

## OnLine resource

No information provided.

<b>Hierarchy level</b>	Dataset
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## 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>Pass</b>	Yes

<b>Statement</b>	<p>e-GEOS Production Site produced this product by satellite analyses in the context of the Copernicus Global land Hot Spot Mapping (C-GL-HSM) framework.</p> <p>Data and products are based on medium to high and very high resolution satellite images (from approximately 1 to 30m spatial resolution) with a change assessment frequency between 1 to 20 years. The Image data sources used for mapping are Landsat 7 and 8. The validation process made use of Spot-6 and Sentinel-2 images as reference data.</p> <p>Images temporal range: 2014-2018</p> <p>It is the time frame that has been accepted to collect the satellite images useful to produces the vector data.</p> <p>The Reference year is included in this time frame and correspond to mean year considering all the image's year used. It is the year on which the majority of the used images are.</p> <p>The classification scheme follows the Land Cover Classification System (LCCS) developed by the United Nations Food and Agriculture Organization (FAO).</p> <p>Since LCCS is a hierarchical system, the modular legend can be aggregated to the dichotomus legend.</p> <p>The FAO LCCS handbook which describes each class in detail, can be downloaded here: <a href="http://www.fao.org/3/a-i5232e.pdf">http://www.fao.org/3/a-i5232e.pdf</a></p> <p>This LCCS Land Cover map includes the following land cover classes (associated raster code in [ ]):</p> <p>A11 - Cultivated and Managed Terrestrial Area(s) [3]</p> <p>A12 - Natural And Semi-Natural Primarily Terrestrial Vegetation [4]</p> <p>A23 - Cultivated Aquatic or Regularly Flooded Area(s) [6]</p> <p>A24 - Natural And Semi-Natural Aquatic or Regularly Flooded Vegetation [7]</p> <p>B15 - Artificial Surfaces and Associated Area(s) [0]</p> <p>B16 - Bare Area(s) [11]</p> <p>B27 - Artificial Waterbodies, Snow and Ice [13]</p> <p>B28 - Natural Waterbodies, Snow and Ice [14]</p> <p>The produced and independently validated Land Cover and Land Cover Change maps and statistics are available to global users.</p> <p>The report and the validation file can be downloaded from the link section.</p>
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Basic image processing: Cloud/Shadow masking, Data Selection (based on occlusion and seasonality considerations), Atmospheric correction (TOA) of satellite data, Coregistration.

Automatic classification: Feature extraction from Dense Multitemporal Time Series (D MTS), statistics generation, automatic classification (ROI based or decision tree) and labeling according to the required output LCCS legend schema.

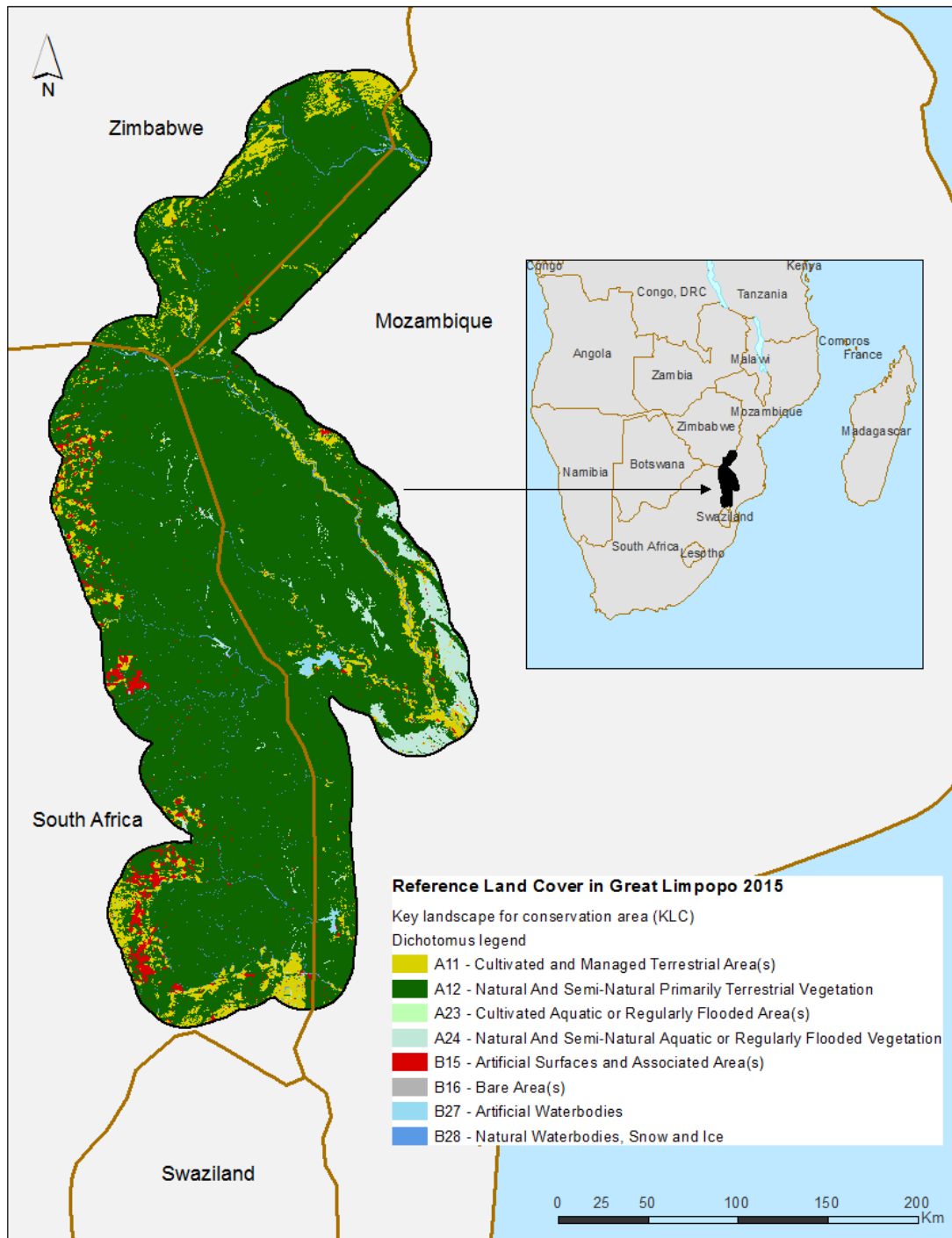
Visual inspection and refinement: check and refinement of the LCCS product generated through the automatic procedure in order to correct classification errors and to refine borders where necessary.

Internal validation: independent validation of the LCCS product based on external reference data (where available) and on other datasets for intercomparison. The scope of the internal validation is to make a qualitative and quantitative check of the declared Thematic and Positional accuracies.

## Metadata

<b>File identifier</b>	d156c72b-b7e2-48fe-9d37-6823ac8a4d07 <a href="#">XML</a>				
<b>Metadata language</b>	English				
<b>Character set</b>	UTF8				
<b>Hierarchy level</b>	Dataset				
<b>Date stamp</b>	2025-01-13T08:53:36.787555Z				
<b>Metadata standard name</b>	ISO 19115/19139				
<b>Metadata standard version</b>	1.0				
<b>Metadata author</b>	<b>Organisation name</b>	<b>Individual name</b>	<b>Electronic mail address</b>	<b>Website</b>	<b>Role</b>
	Copernicus Land Monitoring Service		copernicus@eea.europa.eu	<a href="https://land.copernicus.eu">https://land.copernicus.eu</a>	Point of contact

## Overviews



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