

Enhancing the user uptake of Land Cover / Land Use information derived
from the integration of Copernicus services and national databases
„InCoNaDa”

Enriching LULUC data application with CLMS products

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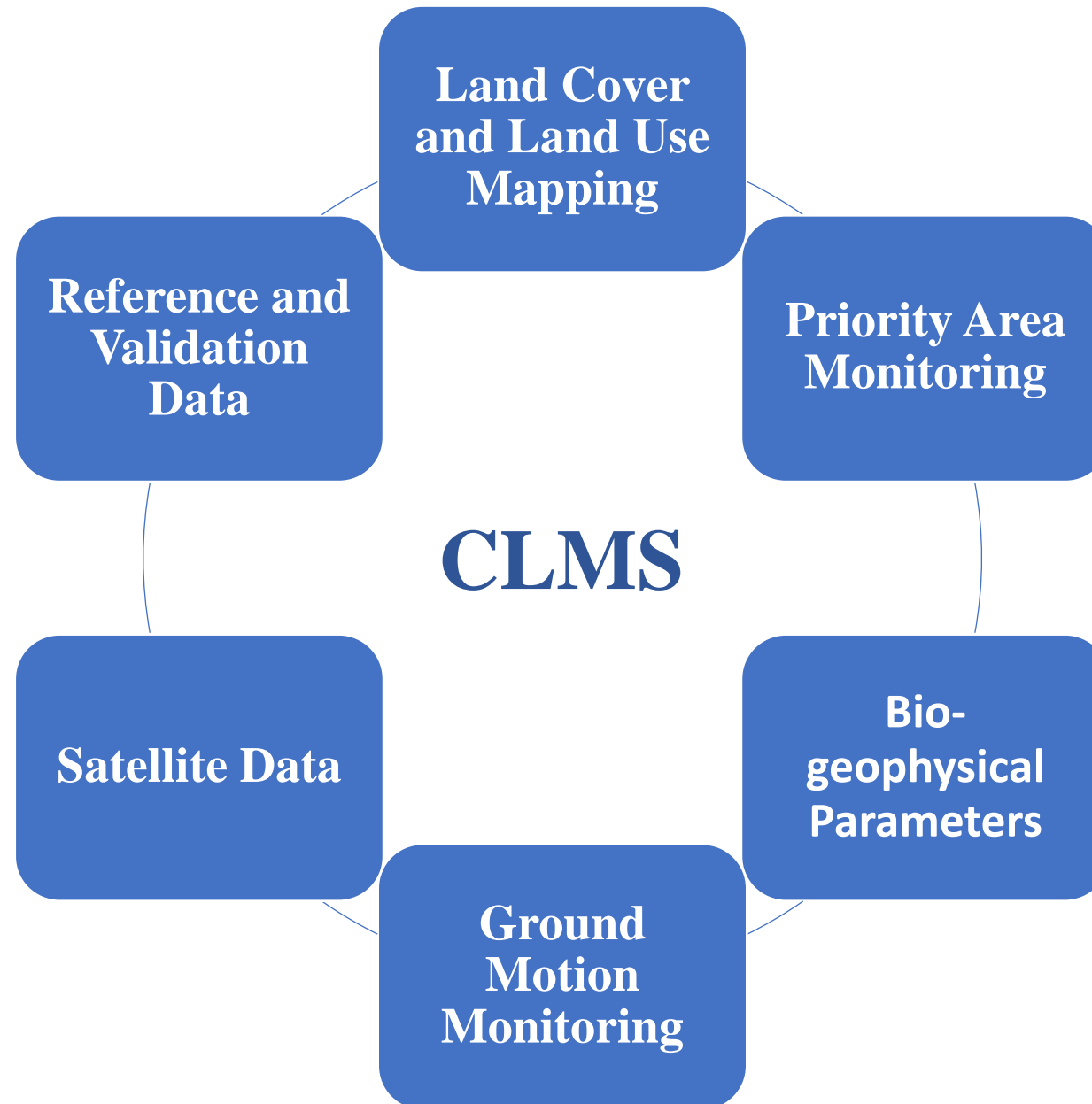
Part 3 of the Annex V to Regulation (EU) 2018/1999 Methodologies for monitoring and reporting in the LULUCF sector

For monitoring and reporting in the LULUCF sector, Member States **shall** use geographically explicit land-use conversion data in accordance with the 2006 IPCC Guidelines for national GHG inventories*. The Commission **shall** provide adequate support and assistance to the Member States in order to ensure consistency and transparency of the data collected.

*Text in green was in place before the amendment introduced by 2023's LULUCF Regulation

Rec. 29 of the preamble to EU Reg. 2023/839

Due to the introduction of reporting-based targets as a result of this amending Regulation, greenhouse gas emissions and removals need to be estimated with a higher level of accuracy. [...]. The monitoring and reporting of emissions and removals needs to be upgraded, where applicable, using advanced technologies available under Union programmes, such as Copernicus, and digital data collected under the Common Agricultural Policy, applying the twin transition of green and digital innovation.



Land Cover and Land Use Mapping

CLMS products	Refer. year	Geogr. coverage	Update freq.	Spatial resol.	Inclusion in InCoNaDa
Dynamic Land Cover	2015, 2016, 2017, 2018, 2019	Global	Annually	100 m	
CORINE Land Cover	1990, 2000, 2006, 2012, 2018	EEA38 and the UK for the 2018 reference year	6 years	25 ha MMU, 5 ha MMU for change layers	
CLC+Backbone	2018	EEA38 and the UK	3 years	10 m	
Imperviousness	2006, 2009, 2012, 2015, 2018	EEA38 and the UK	3 years	10 m, 20 m, 100 m	✓
Impervious Build-up	2018	EEA38 and the UK	3 years	10 m, 100 m	
Dominant Leaf Type	2012, 2015, 2018	EEA38 and the UK	3 years	10 m, 20 m, 100 m	
Forest Type	2012, 2015, 2018	EEA38 and the UK	3 years	10 m, 20 m	
Tree Cover Density	2012, 2015, 2018	EEA38 and the UK	3 years	10 m, 20 m, 100 m	✓
Grassland	2015, 2018	EEA38 and the UK	3 years	10 m, 20 m, 100 m	✓
Water and Wetness	2015, 2018	EEA38 and the UK	3 years	20 m, 100 m	
Small Woody Features	2015, 2018	EEA38 and the UK	3 years	5 m, 100 m	✓

Forests and trees outside the forests in LULUCF

IPCC concept category	CLMS products	BDOT10 k identification code	Additional description/ finding
Forests	TCD 2018	BDOT PTLZ BDOT PTUT 04	Status layers showing the level of tree cover density in a range from 10-100%, however forest land with TCD<10% with temporary loss of tree cover - still forming part of area under sustainable forest management (such as clear cuts) supplemented by BDOT10k
Forests	SWF 2018>0,1 ha	BDOT PTLZ BDOT PTUT 04	Patchy small woody features (SWF): defined by a compactness criterion greater than 0.75, at least 10m width and with an area greater than 1000m ² considered forests Linear woody features (LWF) which present an area above 1,000m ² (linear features wider than 30m, and out-of-specifications patches) considered forests
Settlements	TCD 2018	BDOT PTZB (01, 02, 03, 04, 05) BDOT KUSK 04	Status layers showing the level of tree cover density in a range from 0-100% identified with the BDOT PTZB (01, 02, 03, 04, 05) "and" BDOT KUSK 04 masks considered settlements

Grasslands in LULUCF with CLMS

IPCC concept category	CLMS products	BDOT10 k identification code	Additional description/ finding
Grassland	GRA	BDOT PTTR 01	Grassland binary status layer identified with the BDOT PTTR 01 mask to be considered as grassland
Grassland	SWF 2018<0,1 ha	BDOT PTRK01 BDOT PTRK 02	<p>Linear SWF defined by a compactness criterion less or equal to 0.75, up to 30m width and at least 50m length.</p> <p>Patchy SWF defined by a compactness criterion greater than 0.75, at least 10m width and with an area greater than 200m² and less than 1,000m² identified with the BDOT PTRK01 BDOT PTRK 02 masks to be considered as grassland</p>
Settlements	GRA 2018	BDOT PTUT 01 BDOT KUSK	Grassland binary status layer identified with the BDOT PTUT 01 BDOT KUSK masks to be considered as settlements (Municipal lawns)
Settlements	GRA 2018	BDOT PTKM	Grassland binary status layer identified with the BDOT PTKM mask to be considered as settlements (Out-road lawns)

Wetlands in LULUCF

IPCC concept category	CLMS products	BDOT10 k identification code	Additional description/ finding
Wetland	-	BDOT PTWP	Surface waters
Wetland	-	BDTO SW (with 1 meter buffer)	On land water network
Wetland	-	BDOT OISZ	Bulrush
Wetland	-	BDOT OIMK (01-02)	Swamps

Settlements in LULUCF with CLMS

IPCC concept category	CLMS products	BDOT10 k identification code	Additional description/ finding
Settlements		BDOT BU	Buildings, structures and equipment
Settlements		BDOT PTKM	Roads, rails and airport roads
Settlements		BDOT PTPL	Squares
Settlements		BDOT PTWZ	Excavation and dump
Settlements	TCD 2018	BDOT KU	HRL TCD (TCD>10%) intersecting BDOT KU
Settlements	GRA 2018	BDOT KU	HRL GRA intersecting BDOT KU
Settlements	SWF 2018	BDOT KU	HRL SWF intersecting BDOT KU
Settlements	IMD 2018	-	HRL IMD>30%
Settlements	Additional 12 categories (8 out of 20 with BDOT 10k only)...		

Other land in LULUCF with CLMS

IPCC concept category	CLMS products	BDOT10 k identification code	Additional description/ finding
Other land	-	BDOT PTGN 01	Scree, mound or rock debris
Other land	-	BDOT PTGN 02	Rocks
Other land	-	BDOT PTGN 03	Sandy or gravel ground
Other land	-	BDOT PTGN 04	Other unmanaged land
Other land	-	BDOT KUIK 01	Military training land

Cropland in LULUCF with CLMS

IPCC concept category	CLMS products	BDOT10 k identification code	Additional description/ finding
Cropland	-	-	Annual cropland
Cropland	-	BDOT PTUT 01, BDOT PTUT 02, BDOT PTUT 03, BDOT PTUT 05	Cropland with perennial vegetation

GHGI ver. Inconada ver. CLC+instance

LU class	GHGI*	CLC+ Instance	kha to GHGI	% to GHGI	InCoNa Da	kha to GHGI	% to GHGI
	[kha]	[kha]	[kha]	[%]	[kha]	[kha]	[%]
SL	2286	1280	-1007	-44	1960	-327	-14
WL	1374	680	-693	-50	757	-616	-45
FL	9434	12536	3102	33	11742	2307	24
CL	13918	12136	-1782	-13	10304	-364	-26
GL	4441	2783	-1658	-37	6391	1949	44
OL	82	65	-17	-20	95	13	16

Conclusions

- ✓ Growing needs in LULUCF sector - both in terms of data on land use and changes in management
- ✓ LUC data to be delivered 2023/2024 - following CLMS 2021 data release
- ✓ Inconada deliverables may serve as a national background information in terms of further exploration of changes in land management (eq. substantial soil disturbances, such as tillage operations, crop rotation, land utilisation – such as perennial and annual crops species structure)
- ✓ Small Woody Features area allocation - major driver for data comparability.
- ✓ Wetland complexity is becoming a big challenge in terms of LULUCF reporting (triggering potential recalculation in future reporting)
- ✓ Inconada deliverables addresses important part of the legal reporting requirements (Part 3 of the Annex V to Regulation (EU) 2018/1999)

Thank you

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