

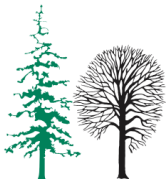


Vrzeli v podatkovnih zbirkah, potrebnih za poročanje ter obračunavanje emisij in ponorov v sektorju LULUCF v okviru EU in UNFCCC

Delavnica

„Vzpostavitev enotnega sistema zbiranja podatkov za spremljanje emisij zaradi rabe zemljišč, spremembe rabe zemljišč in gozdarstva“

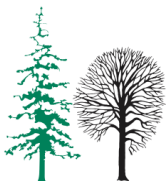
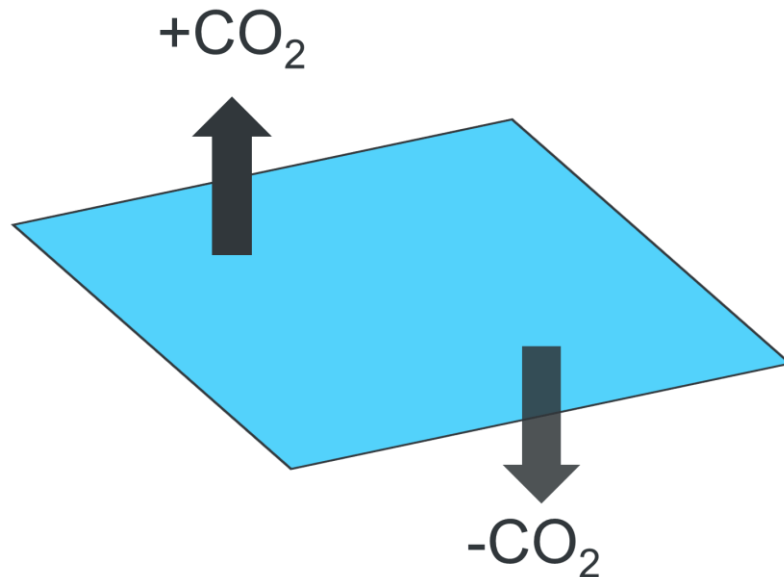
Gozdarski inštitut Slovenije, 20.6.2019





Izhodišča

$$E = AD \times EF$$



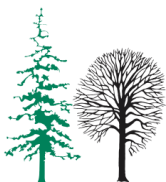


Izhodišča

	Tier 3 High res. data (e.g. model)	Not applicable	Modelled data combined with LUC matrix (not necessarily spatially dis-aggregated)	Geo-information at high-resolution, detailed time series, country-specific disaggregated data based on inventories and/or models
	Tier 2 Country specific values	National area statistics, combined with country-specific values – typical 1 st improvement	Annual LUC stats, combined with country-specific values	Geo-information, time series, country specific values – good coverage, detailed analysis
	Tier 1 IPCC default values	National area statistics, combined with IPCC default values – basic entry level	Annual (or annualised) LUC stats presented as national matrix – applied using default IPCC values	Geo-information, time series, default values – weak, but better than App 1 and 2
		Approach 1 National statistics	Approach 2 Land Use Change matrix	Approach 3 Geo-tracked

Improved Coverage and Representation

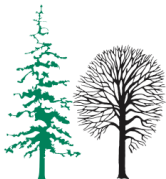
Impact Assessment (2016)





Podatki o površinah

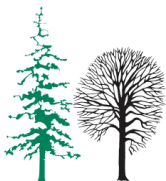
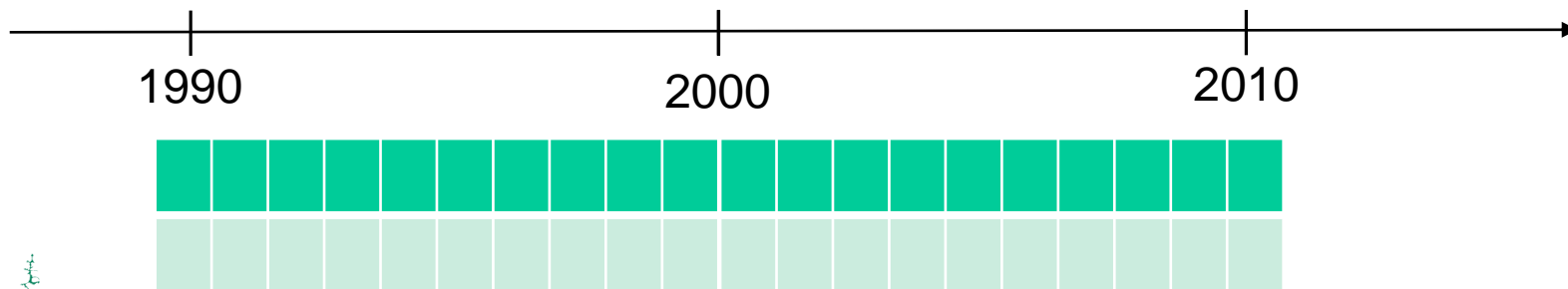
- CORINE (CLC 1990, 2000, 2006, 2012, 2018)
- Satelitske slike (Landsat 5, 7, 8, Sentinel-2, ...)
- Aerofotografije (redno od l. 1985)
- Ortofoto posnetki (od l. 2001, barvni od l. 2006)
- Zemljišči kataster
- GERK/RABA





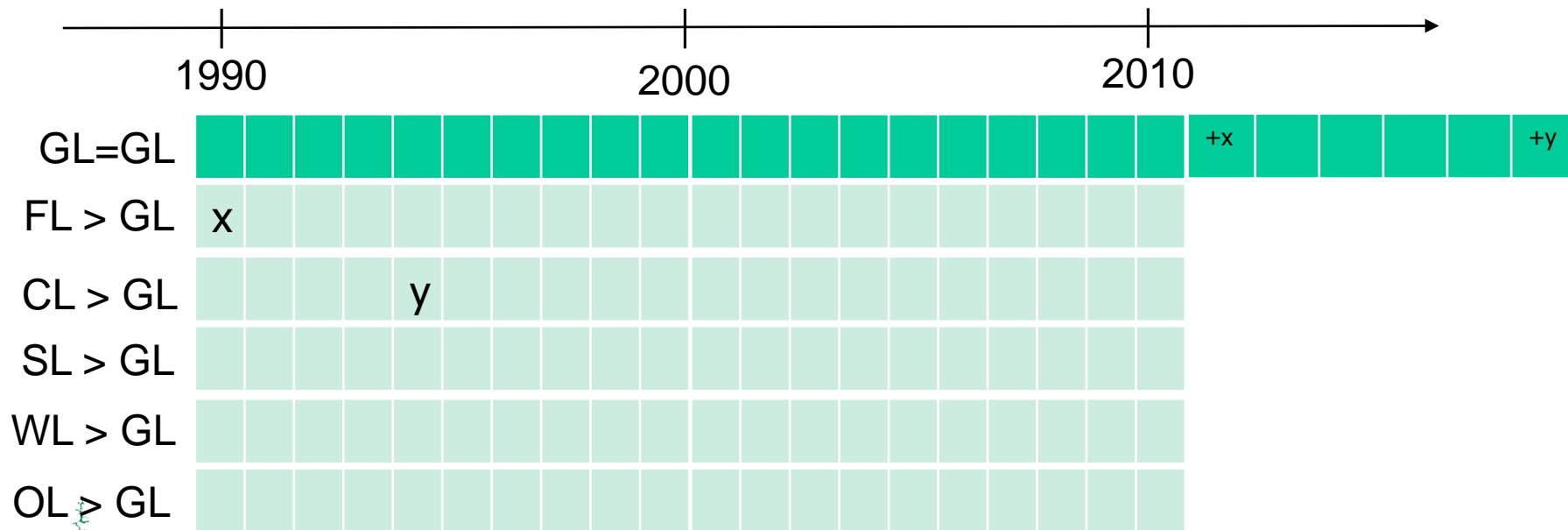
Podatki o površinah

- Kategorije IPCC
 - Zemljišča, na katerih ostaja raba enaka
 - Zemljišča, ki prehajajo v drugo rabo





Podatki o površinah

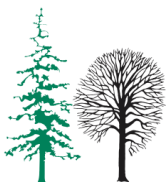


Projekt LIFE IP CARE4CLIMATE (LIFE17 IPC/SI/000007) je financiran iz sredstev LIFE, ki ga upravlja Evropska komisija, in iz Sklada za podnebne spremembe Ministrstva za okolje in prostor RS



Raba zemljišč

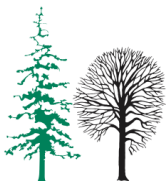
LULUCF category	LULUCF subcategory	National class ID	Category description
FOREST LAND	FL	2000	Forest
CROPLAND	CL_a	1100	Arable land
	CL_a	1160	Hop fields
	CL_a	1190	Green houses
	CL_w	1180	Other permanent crops on arable land
	CL_w	1211	Vineyards
	CL_w	1212	Nursery
	CL_w	1221	Intensive orchards
	CL_w	1222	Extensive orchards
	CL_w	1230	Olive groves
	CL_w	1240	Other permanent crops
	CL_w	1420	Forest plantation
GRASSLAND	GL_a	1300	Meadows and pastures*
	GL_a	1321	Swampy meadows and pastures
	GL_a	1330	Alpine meadows
	GL_a	1600	Uncultivated agriculture land
	GL_w	1410	Overgrown areas
	GL_w	1500	Trees and shrubs
	GL_w	1800	Forest trees on agricultural land
WETLANDS	WL	4100	Swamps
	WL	4210	Reeds
	WL	4220	Other marshy areas
	WL	7000	Waters (inland water bodies)
SETTLEMENTS	SL	3000	Built-up areas and related surfaces
OTHER LAND	OL	5000	Dried open areas with special vegetation
	OL	6000	Open areas with little or no vegetation





Matrika sprememb rabe zemljišč

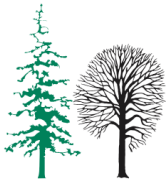
2012-2017	FL	CL_a	CL_w	GL_a	GL_w	WL	SL	OL	Total ₂₀₁₂
FL	1204750	100	200	1000	100		300		1206450
CL_a		194750	1500	12100	400		300		209050
CL_w		500	45850	3200	3300		100		52950
GL_a		4000	500	293950	13600	100	300		312450
GL_w	3000	400	700	4800	75750	100	100		84850
WL				100		14150	100		14350
SL					100		114950		115050
OL								32150	32150
Total ₂₀₁₇	1207750	199750	48750	315150	93250	14350	116150	32150	2027300





Podatki o površinah

- Do l. 2015: vektorski podatki RABA + ZGS podatki o krčitvah
- Od l. 2015: točkovno vzorčenje rabe zemljišč (SURS + interpolacija; 1986-2001; DOF 2002, 2006, 2012, 2017)
- Uporaba uradnih podatkov?



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Podatki o površinah

The screenshot displays a web-based GIS application interface. It features three satellite images of a forest plot, each with a yellow dot marking a specific point. The images are labeled 'Stanje 2002', 'Stanje 2006', and 'Stanje 2013'. The 2002 image shows a mostly bare, rocky or cleared area. The 2006 image shows a dense forest. The 2013 image shows a road and a forested area. To the right of the images is a data entry form with the following fields and options:

- Točka: 25445
- St. koordinat na: 0: 84100 m
- Miška: 1000 m
- St. točk ostane: 3
- St. koordinate točk ostane: 4000
- Uporabnik: [dropdown menu]
- Geslo: [password field]
- Poljeva točka ID: [input field]
- Tip: [dropdown menu]
- Posočna površina (m²): [radio buttons for 100, 1000, 2500, 5000]
- Shrani: [button]
- Prejdi: [button]
- Statistika Landoat - NDVI: [table]

	2002	2006	2013
Et. rastline	[input field]	[input field]	[input field]





Podatki o emisijskih faktorjih

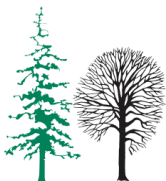
- EF = povprečna stopnja emisije oz. ponora na enoto površine
- EF določamo na podlagi sprememb zaloge ogljika
- Viri podatkov: inventure, monitoringi, podatkovne baze, statistični podatki, študije, znanstv. članki





Vrzeli na zemljiščih, ki se spreminjajo

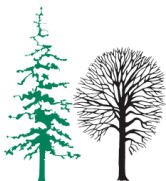
- Zaloge ogljika v nadzemni biomasi (WL, SL, OL)
- Zaloge ogljika v opadu (CL, WL)
- Zaloge ogljika v tleh (SL, WL, OL)





Vrzeli na zemljiščih, ki se ne spreminjajo

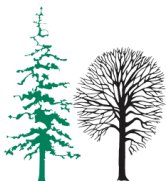
- Spremembe zaloge ogljika v nadzemni biomasi (vse kategorije, razen FL)
- Spremembe zaloge ogljika v opadu (vse kategorije)
- Spremembe zaloge ogljika v tleh (vse kategorije)
- Pridobljeni lesni proizvodi (zaraščanje, krčitve)





Vrzeli na kmetijskih zemljiščih

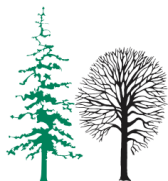
- Podatki o načinih gospodarjenja
- Konsistentnost površin
- Emisije podcenjene





Tier 2, 3?

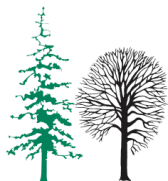
- Vsaj Tier 2 za ključne kategorije
- Modeliranje zalog ogljika (razpoložljivost podatkov)
- Trajnost monitoringov?
- Pristojnost (zbiranje podatkov, poročanje)



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Hvala za pozornost



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