

**Interreg**

CENTRAL EUROPE



European Union  
European Regional  
Development Fund

**TEACHER-CE**

TAKING  
**COOPERATION**  
FORWARD



KONFERENCA »SLOVENIJA V TRANSNACIONALNIH PROGRAMIH INTERREG«  
Ljubljana | 12. oktober 2021



## Predstavitev projekta TEACHER-CE



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Univerza v Ljubljani, Naravoslovnotehniška fakulteta

## joinT Efforts to increase water management Adaptation to climate CHanges in central EuRope

### Skupna prizadevanja za prilagajanje sistema upravljanja voda podnebnim spremembam v Srednji Evropi

**Prioriteta:**

3. Cooperating on natural and cultural resources for sustainable growth in CENTRAL EUROPE

**Programski cilj:**

3.1 To improve integrated environmental management capacities for the protection and sustainable use of natural heritage and resources

**Trajanje:**

1.3.2020 - 28.2.2022

**Partnerji:**

12 partnerjev in 18 pridruženih partnerjev iz 8 držav

**Budget:**

1.313.768,67 €



Namen razpisa - kapitalizacijski (4. klic Interreg CENTRAL EUROPE (CE))

TEMATSKA SKUPINA :

## V. Climate change adaptation and risk prevention

Podrobnejše razpisane tematike:

- Zmanjšanje okoljskih tveganj zaradi intenzivnih padavin
- Preprečevanje poplav in blaženje vplivov suše na vodne vire s trajnostnim upravljanjem rabe prostora
- Prilagajanje gozdnih ekosistemov na učinke podnebnih sprememb in gradnja malih zadrževalnih ukrepov za upravljanje voda odporno na podnebne spremembe



# SINERGIJE PROJEKTOV PROGRAMA SREDNJA EVROPA



Ogroženost zaradi  
intenzivnih padavin

PP2, PP3,  
PP9, PP11



Preprečevanje suš in  
poplav

PP1, PP4,  
PP8, PP9



Podnebne spremembe in upravljanje  
z gozdovi

PP7, PP12



Podnebne spremembe in upravljanje z  
viri pitne vode

PP1, PP5,  
PP6, PP8

& DRUGI PROJEKTI

LUMAT

LIFE LocalAdapt

LIFE+ KAMPINOS

H2020 Fairway

DTP DRIDANUBE

DTP JOINTISZA

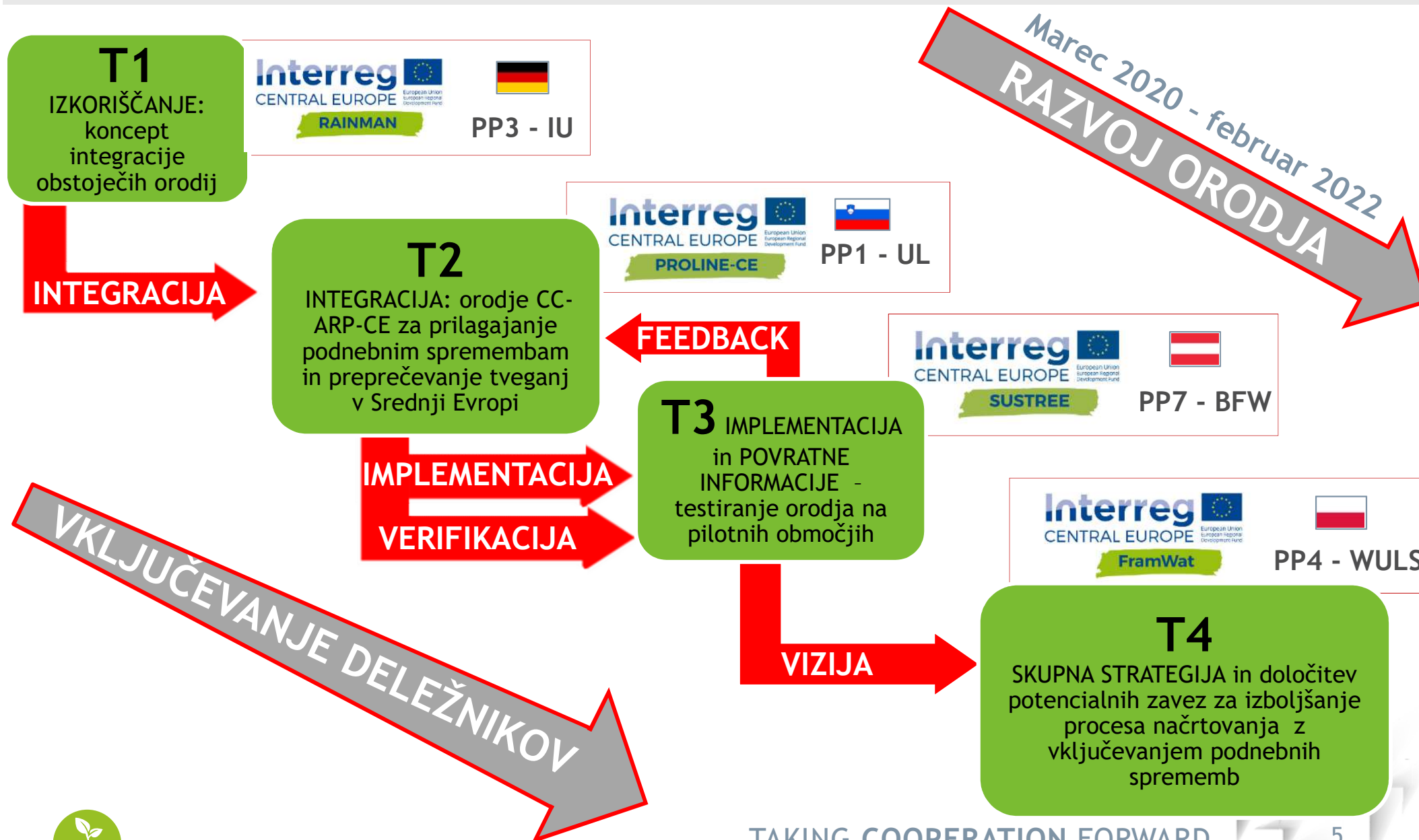
C3S Soil Erosion Demo Case

Copernicus Climate Change Service (C3S)



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# PROJEKT TEACHER-CE: DELOVNI PROCES







## TEACHER orodje 163 ukrepov

Ukrepi TEACHER-CE za različna področja upravljanja voda, kot so:

- poplave rek ali padavinskih voda,
- pomanjkanje vode in tveganja suše
- viri podzemnih (pitnih) voda
- voda za potrebe namakanja
- ekosistemi odvisnimi od vode



## Orodje GOWARE 92 ukrepov



## RAINMAN orodje FroGis in DSS orodje 100 ukrepov



## FroGis in DSS orodje 50 ukrepov



## SusSelect priporočila



**CC-ARP-CE TOOL**

**Domača stran**

Prepoznavanje težav z izbiro ukrepov

Podnebni kazalniki  
Spletna orodja drugih projektov

**Razvrstitev in katalog ukrepov**

Referenčne povezave na ravni EU in nacionalni ravni

Filter by ?

#### Land cover/use

- ☐ Grassland
- ☐ Wetland
- ☐ All land uses (general water management)
- ☐ Agriculture
- ☐ Forest
- ☐ Urban

#### Topographic Settings

- ☐ Mixed settings
- ☐ Mountain
- ☐ Plain

#### Adaptation Target (multiple options are recommended)

- ☐ Water quality
- ☐ Water quantity / Water quality / Flood mitigation
- ☐ Water quality / Flood mitigation
- ☐ Water quantity / Water quality
- ☐ Water quantity
- ☐ Flood mitigation

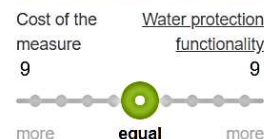
#### Planning time horizon

- ☐ Operational (day by day)
- ☐ Strategic (up to 5 years)

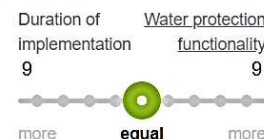
Language       

## izbor ukrepov glede na izbrane kriterije (AHP - Analytic Hierarchy Process)

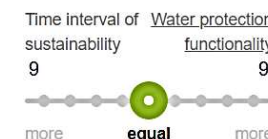
Choose which parameter values more ?



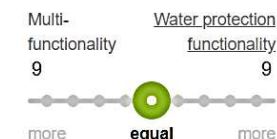
☐ I cannot provide a judgment



☐ I cannot provide a judgment



☐ I cannot provide a judgment



☐ I cannot provide a judgment

## Predlagan nabor ukrepov

Score	Name	Land cover/use	Topographic settings	Adaptation target	Planning time horizon	Water protection functionality	Cost of the measure	Duration of implementation	Time interval of sustainability	Multi-functionality
+ 0.96	Avoidance of clear-cut applications (except sanitary cuts)	Forest	Mountain	Water quality / Flood mitigation	Strategic (up to 5 years)	★★★★★	★★★☆☆	★★★★★	★★★★★	★★★★★
+ 0.96	Restrictions of forest roads within Drinking Water Protection Zones (DWPZ)	Forest	Mountain	Water quantity / Water quality / Flood mitigation	Strategic (up to 5 years)	★★★★★	★★★☆☆	★★★★★	★★★★★	★★★★★
+ 0.96	Protection of old, huge and vital tree individuals	Forest	Mountain	Water quality / Flood mitigation	Strategic (up to 5 years)	★★★★★	★★★☆☆	★★★★★	★★★★★	★★★★★

**163 ukrepov + uporabnik lahko predlaga nov ukrep**



*Orodje je namenjeno podpori državnim in lokalnim skupnostim pri prilagajanju podnebnim spremembam na področju upravljanja voda.*

CC-ARP-CE  
TOOL

**Domača stran**

**Prepoznavanje problemov z izbiro ukrepov**


Podnebni kazalniki  
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**ogled podnebnih kazalnikov**

Add new issue  
Reference elevation used for calculation of indicators: 474 m a.s.l.  
Min / max elevation in the region: 282 m a.s.l. / 790 m a.s.l.

ABBREVIATION	INDICATOR	2021-2050 (OPTIMISTIC)	2071-2100 (OPTIMISTIC)	2021-2050 (PESSIMISTIC)	2071-2100 (PESSIMISTIC)	UNIT	IMPORTANCE
RR_DIF	Cumulative precipitation during the Winter season (December-January-February) averaged over 30 years	0.114	0.137	0.11	0.206	% (Relative)	
RR_MAM	Cumulative precipitation during the Spring season (March-April-May) averaged over 30 years	0.052	0.065	0.041	0.098	% (Relative)	
RR_JJA	Cumulative precipitation during the Summer season (June-July-August) averaged over 30 years	-0.012	0.027	0.012	-0.115	% (Relative)	
RR_SON	Cumulative precipitation during the Autumn season (September-October-November) averaged over 30 years	-0.027	0.058	0.064	0.019	% (Relative)	
PRCPTOT	Annual total precipitation in wet days	6.792	51.92	23.932	18.481	mm (Absolute)	
Rx_1D	Yearly maximum 1-day precipitation averaged over 30 years	3.692	6.854	5.204	11.081	% (Relative)	
R20mm	Annual count of days when daily precipitation ≥ 20mm averaged over 30 years	0.311	1.063	0.669	0.926	days (Absolute)	

Back

Report  Fluvial flood risk management 4/15/21

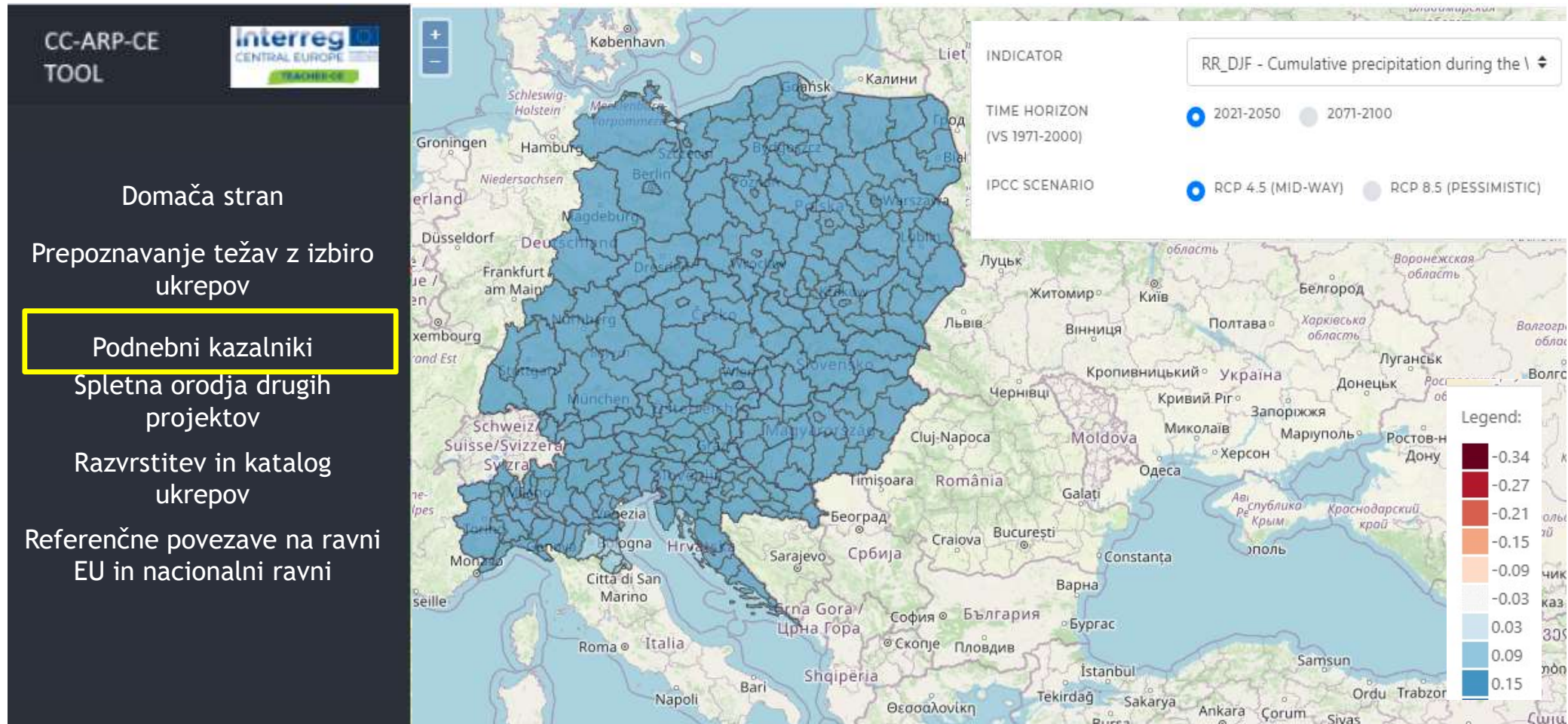
**Save** **Evaluate measures** **View climate indicators**

**Dodajanje novih problemov/ Brskanje po obstoječih zadevah/ Komentiranje zadevo, ki jo je predlagal drug uporabnik, in: izbor ukrepov ali ogled podnebnih kazalnikov**





# CC-ARP-CE: PODNEBNI KAZALNIKI



**Zemljevid pričakovane spremembe podnebnih kazalnikov (posledica podnebnih sprememb)**

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# CC-ARP-CE: POVEZAVE DO EU & NACIONALNIH ORODIJ

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EUROPEAN UNION AUSTRIA CZECHIA GERMANY HUNGARY ITALY POLAND SLOVAKIA **SLOVENIA**

## Slovenia

Show  entries Search:

FIELDS OF ACTION IN WATER MANAGEMENT	GIS TOOLS	DATA PORTALS
Fluvial flood risk (management)	<a href="#">Atlas voda</a>	<a href="#">eVode portal</a>
Pluvial flood risk (management)	<a href="#">Atlas voda</a>	
Groundwater management	<a href="#">Kakovost podzemnih voda</a> ; <a href="#">Atlas voda</a>	<a href="#">Podzemne vode</a>
Water Scarcity and Drought (management)	<a href="#">Ocenjen vpliv suše na pridelek kmetijskih rastlin, pridobljen iz poročevalske mreže DriDanube</a>	<a href="#">Sušomer</a>
Drinking water supply (management)	<a href="#">Atlas voda</a>	<a href="#">Podzemne vode</a>
Management of water-dependent ecosystems		
Irrigation water (management)	<a href="#">Javni pregledovalnik grafičnih podatkov MKGP</a>	<a href="#">MKGP portal</a>

**pregleden prikaz obstoječih nacionalnih orodij in orodij EU (orodja GIS in podatkovni portali)**



# CC-ARP-CE: POVEZANI PROJEKTI

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## Povezave do orodij sodelujočih EU projektov

- [GOWARE toolbox and strategy development for Drinking water sources protection with interaction to floods and CC.](#)



The tool represents a Decision Support Tool (DST) developed for supporting the implementation of innovative Best Management Practices (BMPs) for drinking water protection, also with regard to floods and droughts.

- [Decision Support System \(DSS\) for water retention planning of measures:](#)

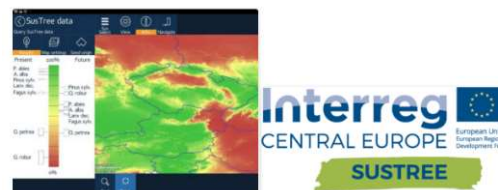


The application is intended for people involved in the planning of water retention measures to mitigate the effects of drought, flooding and surface

- [RAINMAN Toolbox for heavy rain risk management:](#)



- [SUSselect tool – Forest CC vulnerability assessment tool and seed transfer models](#)



## Povezave do drugih EU projektov

### DIRECT EXPLOITATION OF RESULTS – Other European projects

- LUMAT – LumaTo (DSS) tool and action plan for sustainable development on threatened sites by integrating emphasizing CC adaptation processes.

The tool, developed in Interreg Central Europe project LUMAT – Implementation of Sustainable Land Use in Functional Urban Areas, is designed for the management of urban-peri-urban relationships and their sustainable places more liveable. LUMATO carries out an integrated environmental analysis for these Functional Urban Areas evaluating soil threats and the potentials for revitalization. A decision support system (DSS) guides stakeholders on threatened sites.

- Life Local Adapt – ReKIS tool supporting CC adaptation of communities – rollout of CC adaptation strategies

The project Life Local Adapt – Integration of climate change adaptation into the work of local authorities for sized municipalities, districts and counties up to 100,000 inhabitants and points out suitable and diversified for local stakeholders of administration and citizens in municipalities.

- KAMPINOS – Verification of the effectiveness of natural small water retention measures, toolbox valid

In the course of the project LIFE+ KAMPINOS WETLANDS PL – Wetlands conservation and restoration in Poland numerous data regarding small water retention measures were collected.





# NAMESTO ZAKLJUČKA

## TEACHER orodje

V vseh jezikih  
projekta (8)

TEACHER  
strategije



Orodje **GOWARE**



**RAINMAN**  
orodje



**FroGis in DSS**  
orodje



Orodje  
**SusSelect**



# Hvala za pozornost!



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University of Ljubljana



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