

# CROSScade

Cross-border cascading risk management for critical infrastructure in Sava river Basin



## Project details

**Programme:** UCPM-2021, EU UCPM  
**Call:** UCPM-2021-PP  
**Project start:** 01.03.2022.  
**Project duration:** 24 months  
**Total cost:** € 585,905.25  
**Coordinator:** Faculty of Civil Eng. University of Zagreb (prof. M. S. Kovačević)

[www.crosscade.eu](http://www.crosscade.eu)

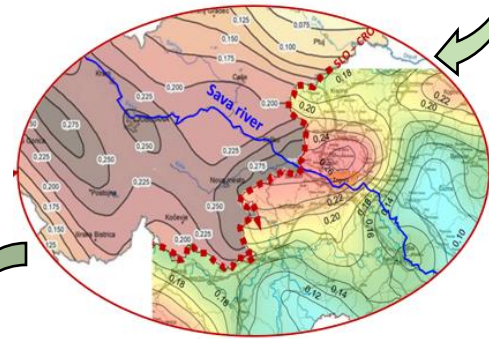
The **CROSScade** focuses on the analysis of cross-border risks between Slovenia and Croatia caused by earthquakes and floods, as well as their possible cascading sequence of events along the Sava River.



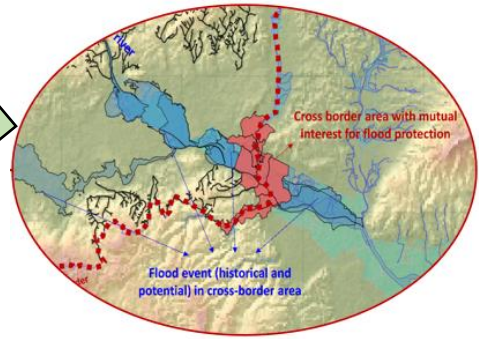
The two neighbouring countries in the **CROSScade** are particularly vulnerable to **earthquakes** and **river flooding** due to their position in the seismically active area and near the end of major European river systems.



cross – border seismic hazard map



cross – border flooding hazard map

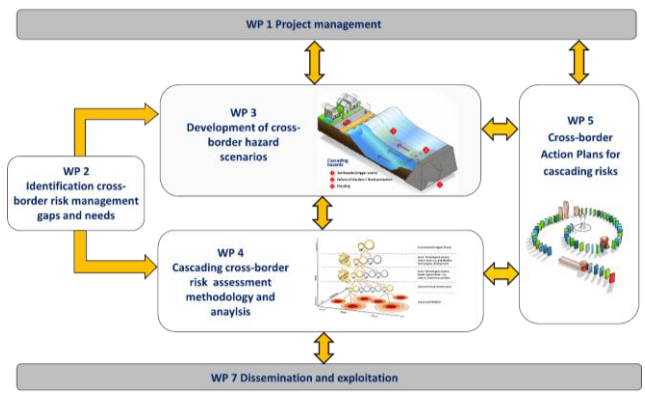


co - funded by European Union  
 Grant Agreement Number 101048395



The **CROSScade** focuses on the vulnerability of **embankments and bridges (and their interaction with hydropower plant dams and transport infrastructure)**, vital for CIMs and CPAs and for disaster relief operations.

## Project structure

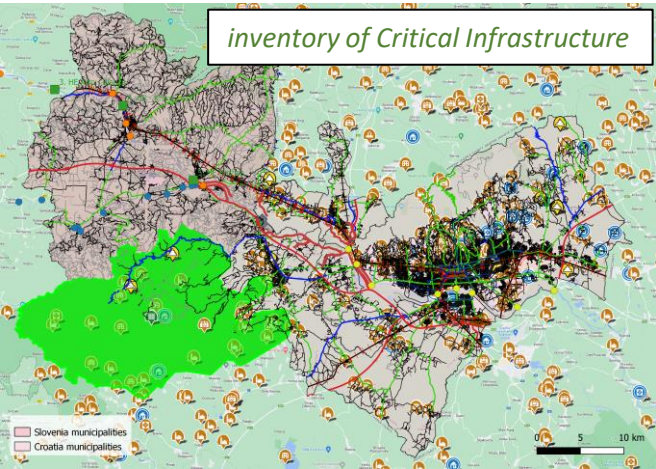


The project delivers a cross-border risk assessment methodology and action plans that will increase the structural resilience of critical infrastructure and enhance transboundary communication between CIMs and CPAs.

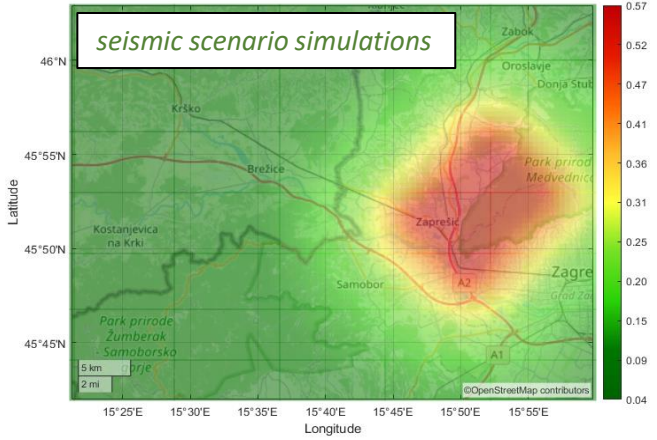
**CROSScade activities**

**IDENTIFICATION OF CROSS-BORDER RISK MANAGEMENT GAPS AND NEEDS** – gaps and needs within the national and cross-border risk management practices, by involving Critical Infrastructure Managers (CIMs) and Civil Protection Agencies (CPAs).

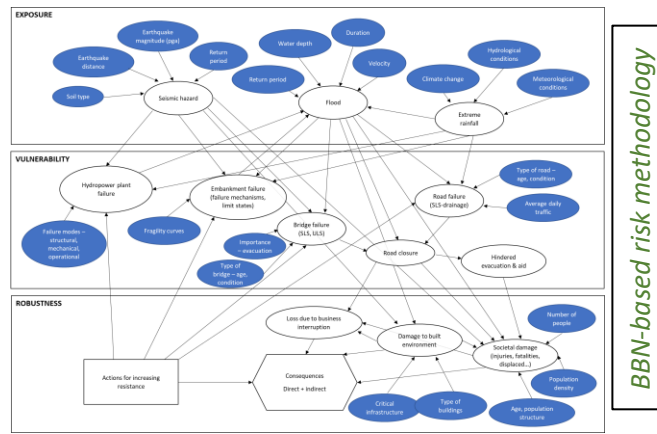
**ESTABLISHMENT OF THE INVENTORY OF CRITICAL INFRASTRUCTURE** – inventory considering hydropower plant, bridges, levees, roads, railways, educational institutions, healthcare institutions and cultural heritage.



**DEVELOPMENT OF CROSS-BORDER HAZARD SCENARIOS** – development of a cascading hazard event chain representing the series of adverse hazard events generated by triggering event in a cross-border area, as well the significant (critical) cross-border hazard scenarios



**CROSS – BORDER CASCADING RISK ASSESSMENT** – development of a BBN-based risk methodology for the identified cascading hazard scenario, which will assess the cascading effects of critical assets' failures in cross-border areas



**BBN-based risk methodology**

**CROSS – BORDER ACTION PLANS** – development of (1) an Action Plan for CIMs on strengthening the structural resilience of their assets to cascading hazards, and (2) an Action Plan for enhanced cross-border communication between the CIMs and CPAs.



**Cross-border cascading risk management for critical infrastructure in Sava river Basin**

**CONSORTIUM**



Faculty of Civil Eng.  
University of Zagreb



Infra Plan  
Consulting



Croatian  
Waters



Slovenian National  
Building and Civil Eng.  
Institute



University of Ljubljana  
Faculty of Civil and Geodetic Engineering

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