Climate risk assessment Sustainable Climate Outcomes for People of Eastern Slovakia (SCOPE)

Mišo Hudák

City of Košice

Barcelona, 11.6.2025

KOŠICE

The CLIMAAX project is funded by the European Union under Grant agreement ID 101093864.
This publication was funded by the European Union. Its contents are the sole responsibility of the author(s) and do not necessarily reflect the views of the European Union.

CLIMAAX
climate ready regions

Introduction

KOŠICE

- city population 230.000 metro 380.000
- 22 districts + 40 surrounding municipalities
- heat waves + extreme rainfall
- dissemination - wider context of popularisation of the topic
- digital tools - technical support for faster mapping
- governance - horizontal cooperation with partners outside our territory

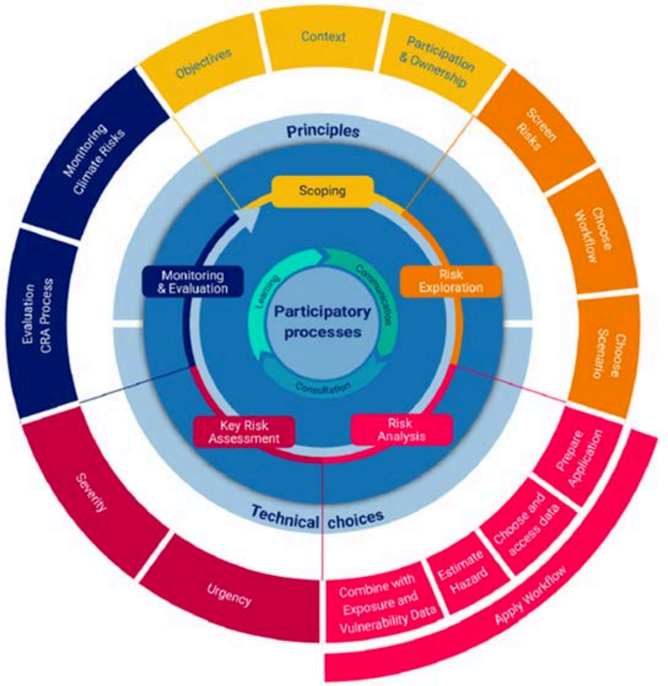
The CLIMAAX project is funded by the European Union under Grant agreement ID 101093864. This publication was funded by the European Union.
Its contents are the sole responsibility of the author(s) and do not necessarily reflect the views of the European Union.

Material and methods

The project follows the CLIMAAX methodology, consisting of five steps: Scoping, Risk Exploration, Risk Analysis, Key Risk Assessment, and Monitoring.

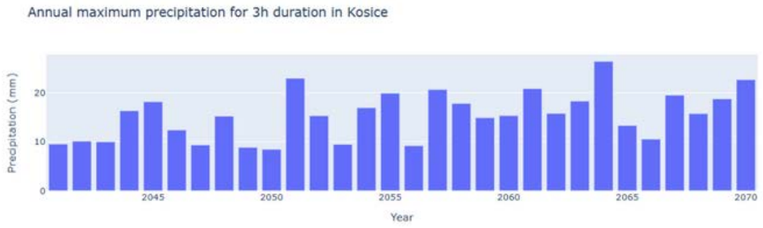
Two main workflows were selected: **extreme rainfall and heatwaves**. Data sources include Euro-CORDEX simulations (RCP 8.5), local records from SHMI, WorldPop data, and Landsat 8 satellite imagery.

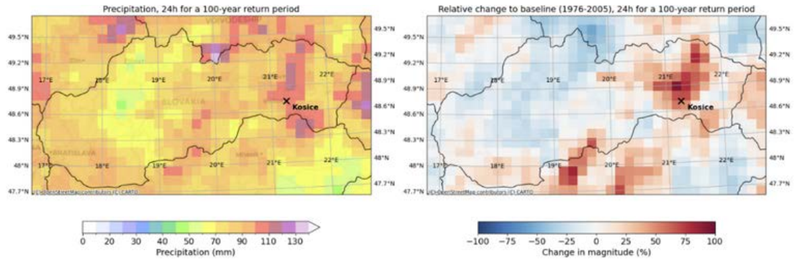
Stakeholders from the city, regional government, universities, NGOs, and other institutions were engaged in co-design and validation processes.

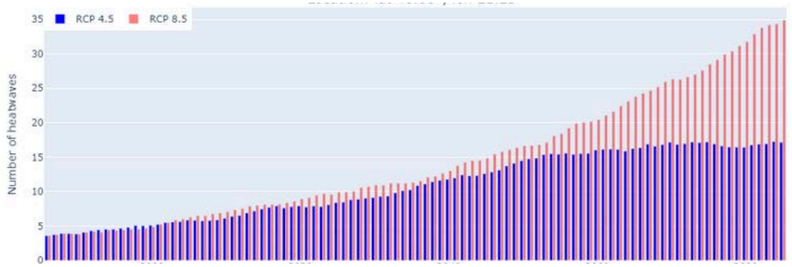


The CLIMAAX project is funded by the European Union under Grant agreement ID 101093864. This publication was funded by the European Union.
Its contents are the sole responsibility of the author(s) and do not necessarily reflect the views of the European Union.

Results







Two main hazards were identified, based on the results generated through the workflows.

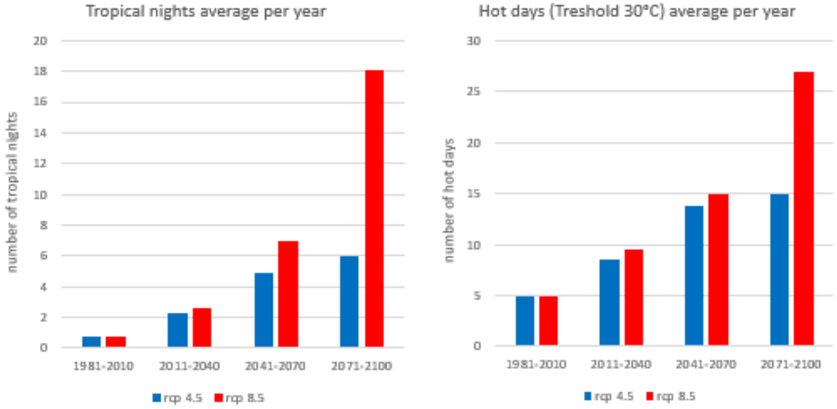
Climate projections indicate a significant increase in both frequency and intensity of extreme rainfall and heatwave events for the 2041–2070 period.

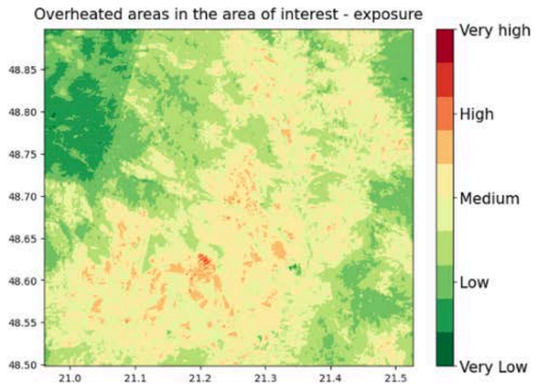
For instance, a rainfall event with a historical return period of 50 years could occur every 14 years.

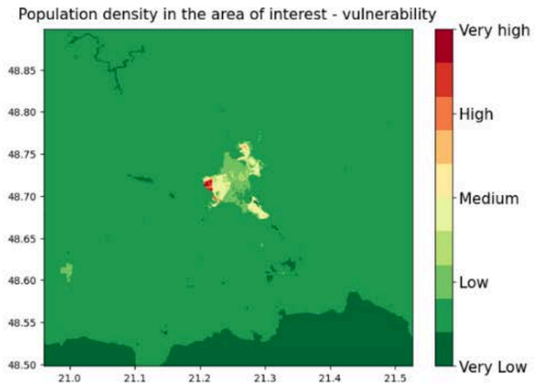
Flood-prone zones were identified near the Hornád River and in depressed urban areas with insufficient drainage.

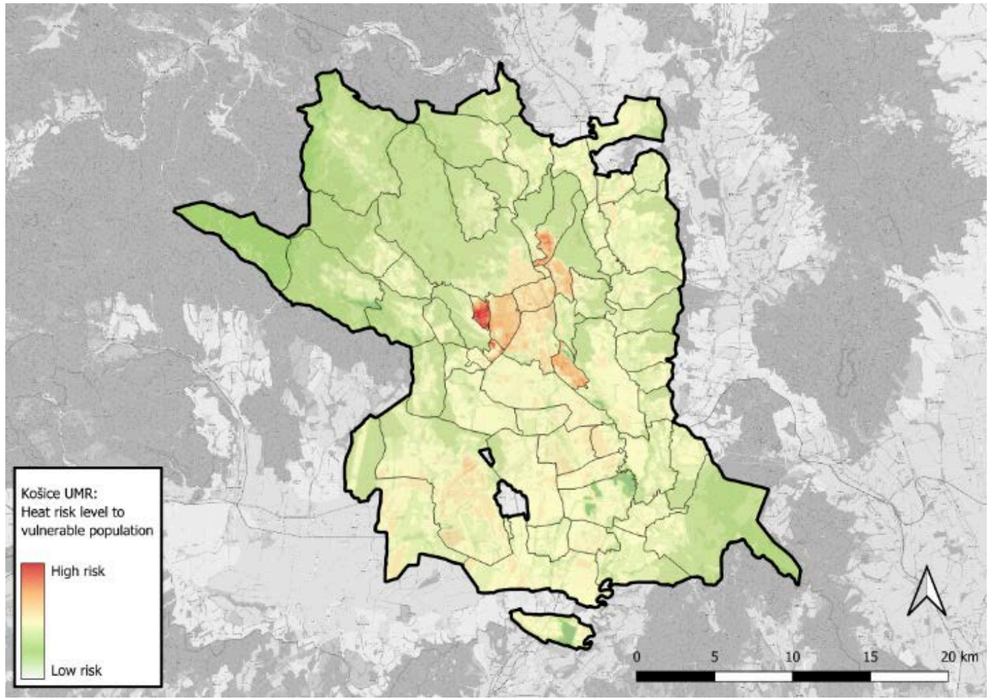
The CLIMAAX project is funded by the European Union under Grant agreement ID 101093864. This publication was funded by the European Union.
Its contents are the sole responsibility of the author(s) and do not necessarily reflect the views of the European Union.

Results



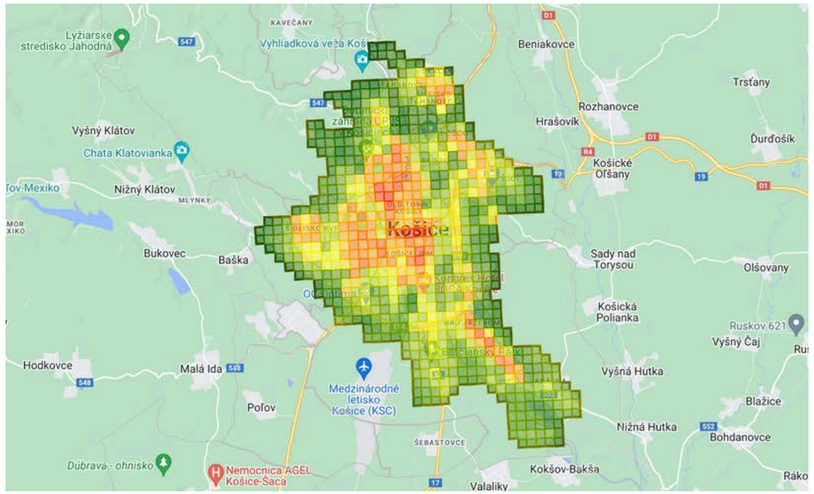


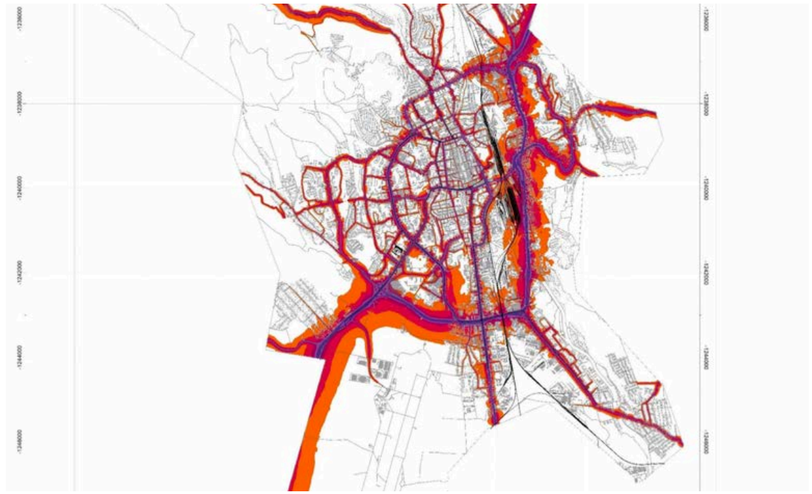


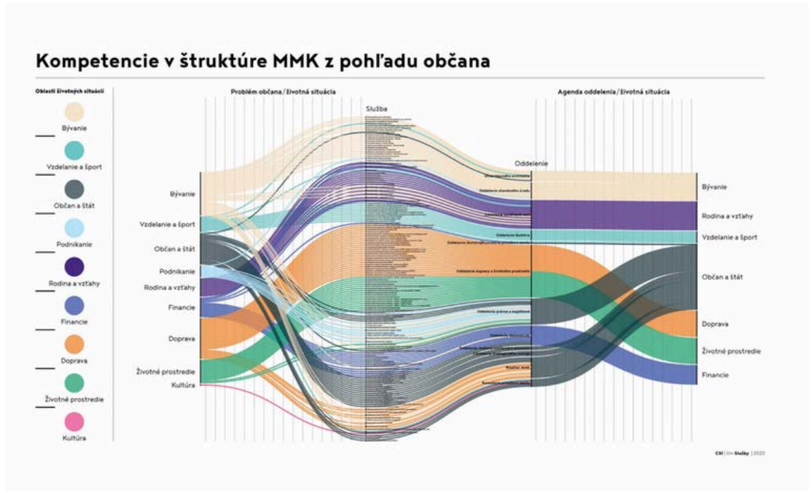


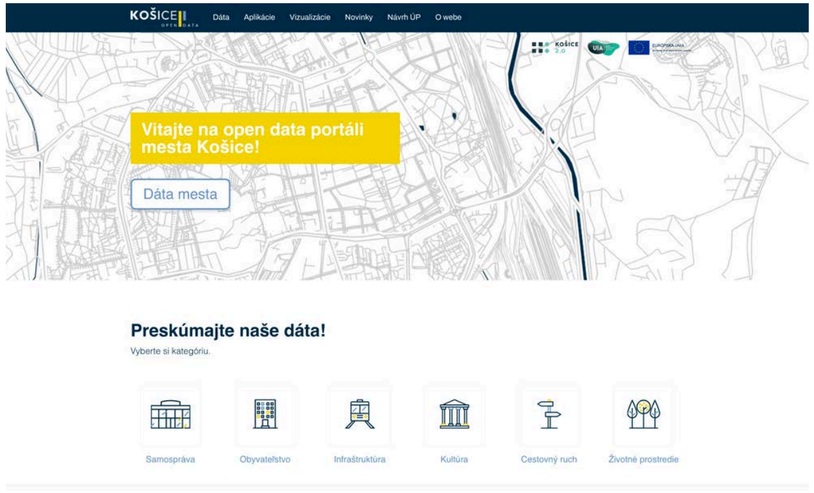
The CLIMAAX project is funded by the European Union under Grant agreement ID 101093864. This publication was funded by the European Union.
Its contents are the sole responsibility of the author(s) and do not necessarily reflect the views of the European Union.

Data Analysis & Data based- decision making









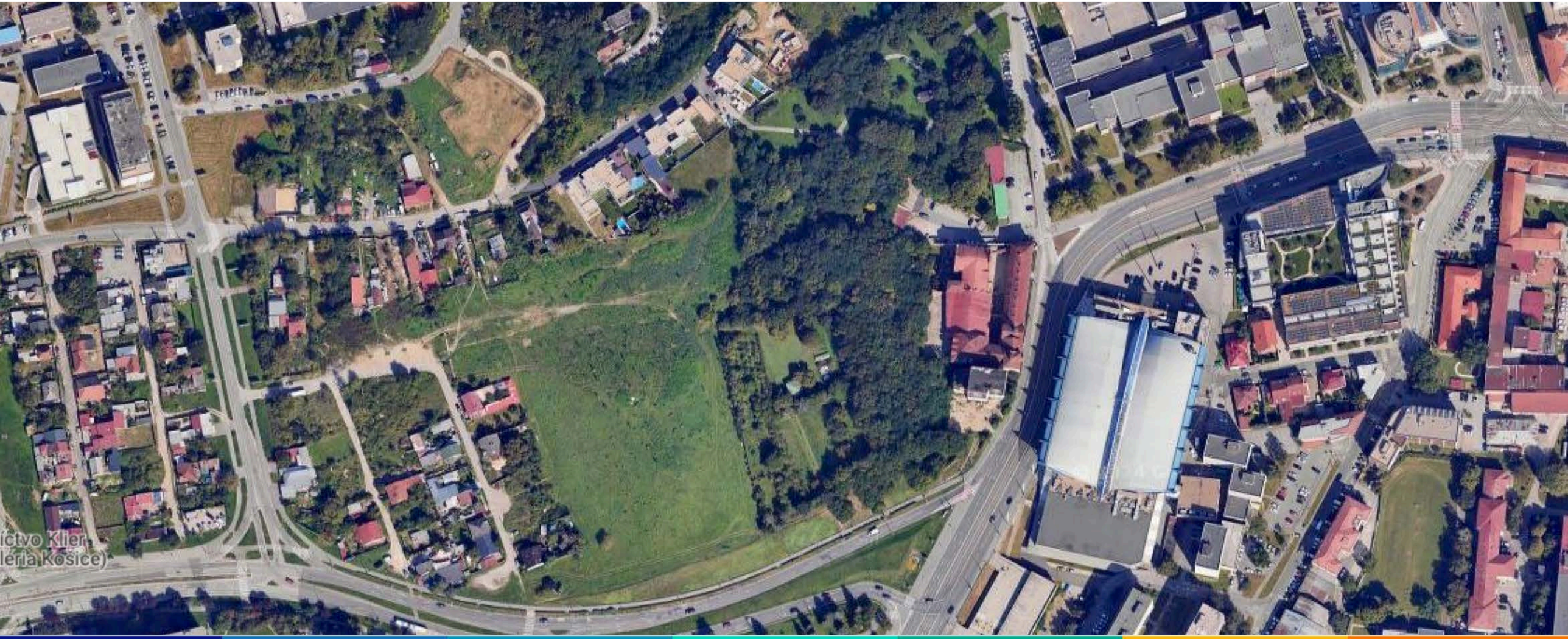
The CLIMAAX project is funded by the European Union under Grant agreement ID 101093864. This publication was funded by the European Union.
Its contents are the sole responsibility of the author(s) and do not necessarily reflect the views of the European Union.

Data Analysis & Data based- decision making

- incorporating detailed local socio-economic and infrastructure data
- expanding the hazard-impact event database (floods, heatwaves)
- implementing adaptation measures such as greening, shading, water retention, and early warning systems
- developing policy recommendations for spatial planning, civil protection, and climate-resilient infrastructure
- including additional workflows for drought and wildfire risk in Phase 2 of the project

The CLIMAAX project is funded by the European Union under Grant agreement ID 101093864. This publication was funded by the European Union.
Its contents are the sole responsibility of the author(s) and do not necessarily reflect the views of the European Union.

Data management & Spatial planning

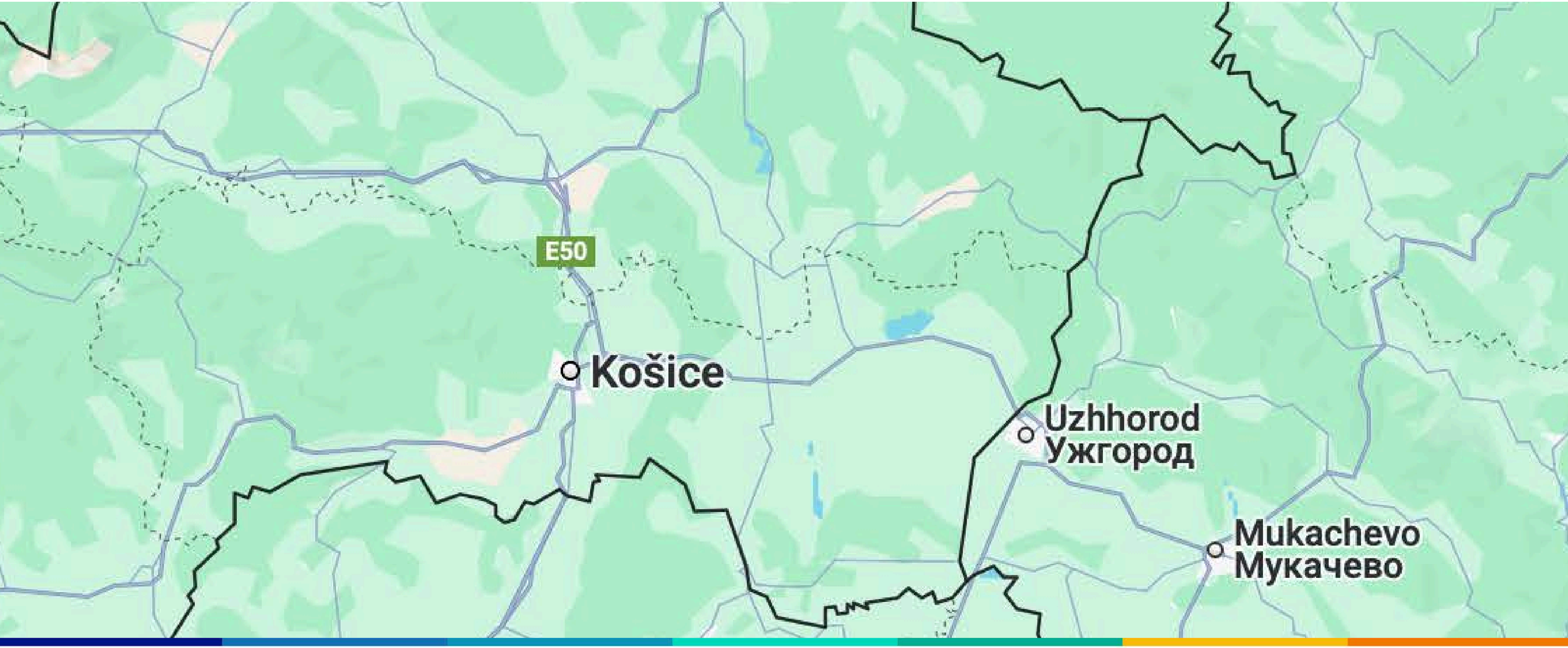


The CLIMAAX project is funded by the European Union under Grant agreement ID 101093864. This publication was funded by the European Union.
Its contents are the sole responsibility of the author(s) and do not necessarily reflect the views of the European Union.

Social engagement

The CLIMAAX project is funded by the European Union under Grant agreement ID 101093864. This publication was funded by the European Union.
Its contents are the sole responsibility of the author(s) and do not necessarily reflect the views of the European Union.

Territorial cooperation



The CLIMAAX project is funded by the European Union under Grant agreement ID 101093864. This publication was funded by the European Union.
Its contents are the sole responsibility of the author(s) and do not necessarily reflect the views of the European Union.

News

The CLIMAAX project is funded by the European Union under Grant agreement ID 101093864. This publication was funded by the European Union.
Its contents are the sole responsibility of the author(s) and do not necessarily reflect the views of the European Union.

CLIMAAX
climate ready regions

www.climaax.eu

That's all folks, thank you for your attention

The CLIMAAX project is funded by the European Union under Grant agreement ID 101093864. This publication was funded by the European Union.
Its contents are the sole responsibility of the author(s) and do not necessarily reflect the views of the European Union.