

Adaptation to climate change in Hungary, the NAGiS project

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The NAGiS project

The overall objective of the **National Adaptation Geo-information System (NAGiS)** project is to develop a multipurpose geo-information system that can facilitate the policy-making, strategy-building and decision-making process related to the impact assessment of climate change and the adoption of necessary adaptation measures in Hungary. Considerably NAGiS aims to play a key role in addressing the global challenge of climate change and developing smart adaptation measures tailored to regional, local needs.

Project promoter is the Geological and Geophysical Institute of Hungary.

Link: <http://nater.mfgi.hu/en>

Hungarian Meteorological Service (OMSZ) has been involved in the project from the beginning with producing climate data for the periods 1961-2010, 2021-2050 and 2071-2100.

- 0.1° spatial resolution
- Homogenized gridded data for the period 1961-2010 (extension of CARPATCLIM data for the territory of Hungary)
- Climate projections for 2 targets:
 1. 2021–2050: „short-term” planning
 2. 2071–2100: long-term strategy, robustness & significance

Impact studies in NAGiS based on meteorological data:

- Hydrology: ground water, drinking water
- Natural ecosystems
- Agriculture, forestry

The CRIGiS project

Recently OMSZ is supported in the frame of “EEA and Norway Financial Mechanism Hungary – Climate Change” for the extension of NAGiS to other sectors.

The main objective of the “Vulnerability/Impact Studies with a focus on Tourism and Critical Infrastructures (CRIGiS)” project is to prepare indicators based on existing dataset of NAGiS and on database to be established newly in the project. These indicators will be used to assess the vulnerability (due to climate change) which will foster the development of adaptation strategies and objective decision making.

The project is focusing on three important sectors within the tourism and critical infrastructure:

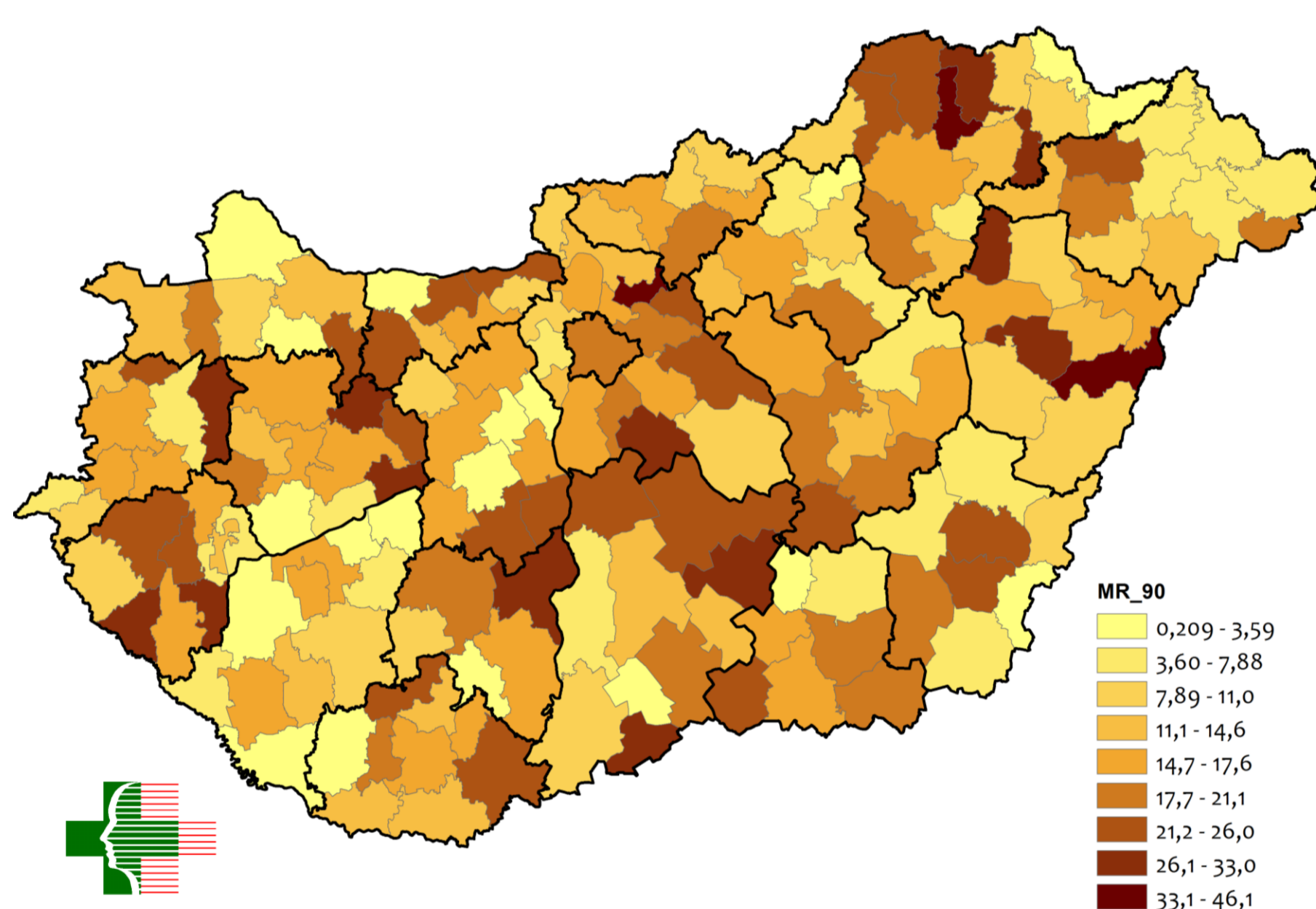
- Heatwave-induced excess mortality,
- Impacts of extreme weather events on road accidents,
- Impacts of climatic conditions on tourism.

The indicators will be quantified, on the one hand, for the past and present based on observational data, and on the other hand, for the future based on regional climate model outputs.

Link: kriter.met.hu

Preliminary results of the CRIGiS project

Heatwave-induced excess mortality

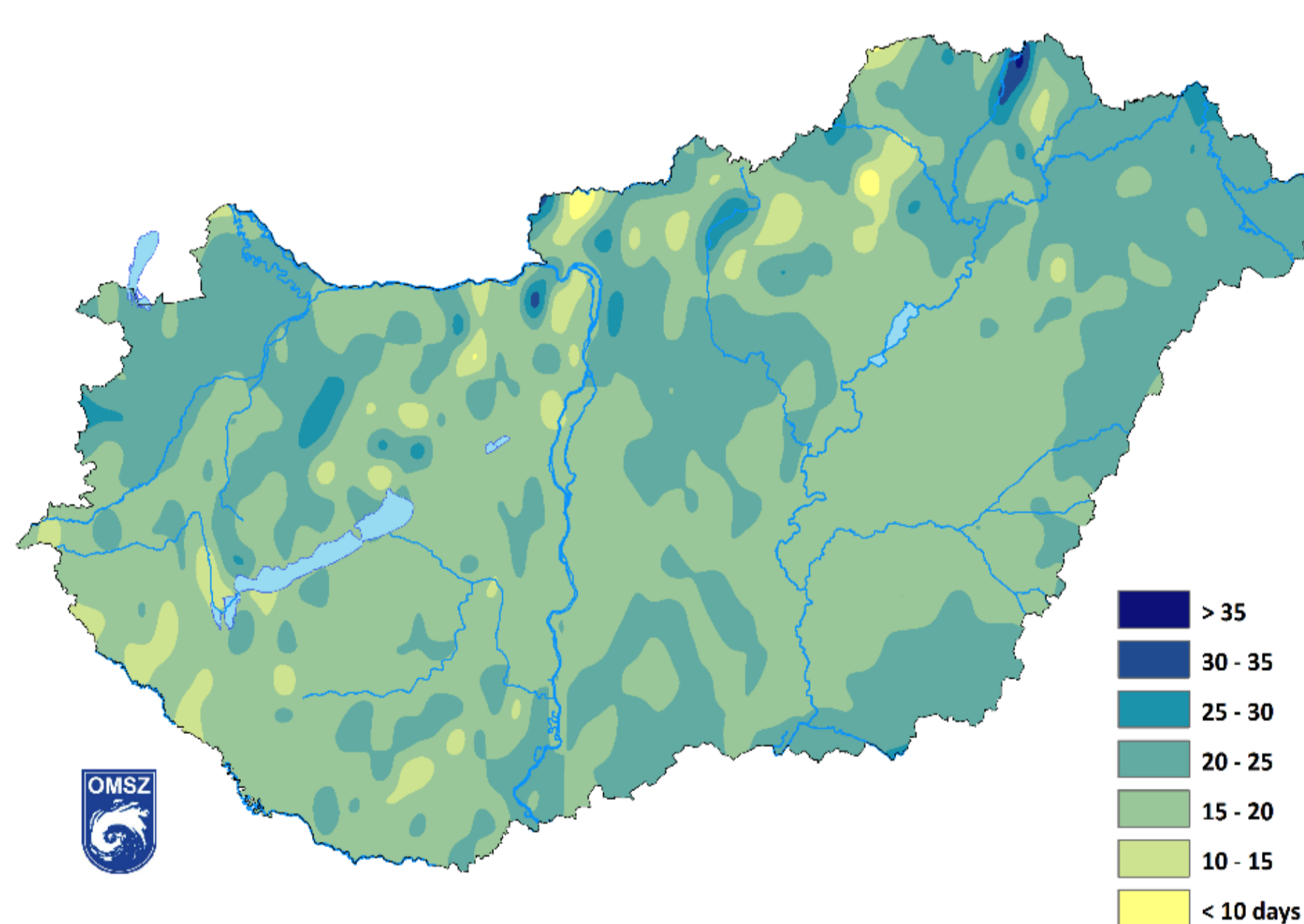


Excess mortality related to heatwaves (%) in summer (01.05-30.10), 2005-2013
Definition of heatwaves: days with temperature exceeding the 90% percentile of daily mean temperature

Páldy, A., Bobvos, J.

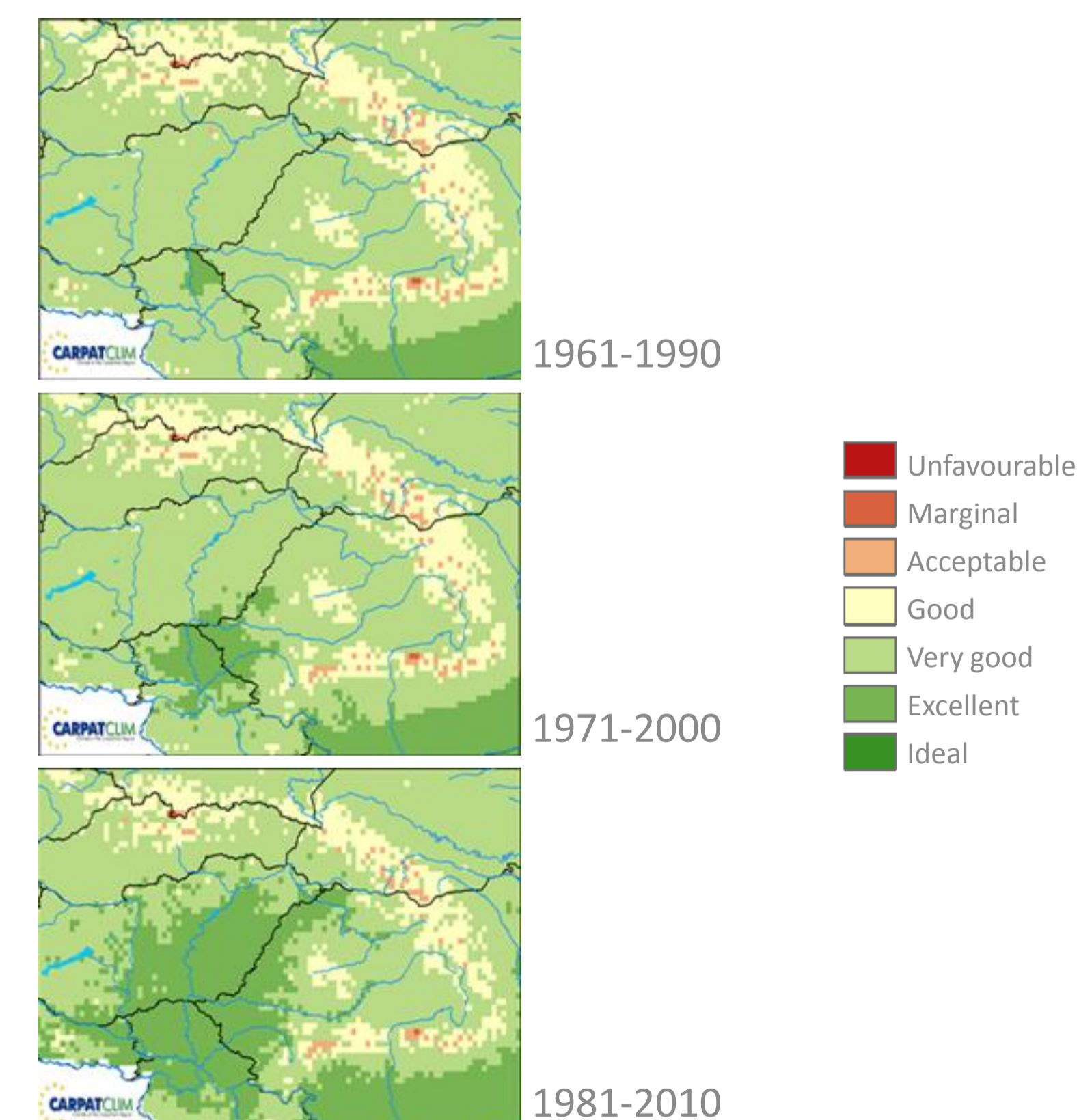
National Centre of Environmental Health

Impacts of extreme weather events on road accidents



Number of “zero crossing days with precipitation”, 1981-2010
“Zero crossing days with precipitation” is one of the indicators that we apply in the project to describe the dangerous weather situations

Impacts of climatic conditions on tourism



Average of Tourism Climatic Index of May in three 30 years periods in the CARPATCLIM region
The size of “excellent” areas increased in the southern region

Consortium:

Lead partner: Hungarian Meteorological Service
National Centre of Environmental Health
National Directorate General for Disaster Management, Ministry of the Interior
University of Szeged, Department of Climatology and Landscape Ecology

