



# Science for Carpathians: Update and recommendations

**12th Meeting of the Carpathian Convention Implementation Committee**

**18 November 2021**

# Outline

- Update
  - Forum Carpathicum 2021
  - MOU with the Caucasus Research Network
  - New activities
- Recommendations
- Outlook

# 6th FORUM CARPATICUM

Linking the Environmental, Political and Societal Aspects for Carpathian Sustainability

**Date:** 21 June - 25 June, 2021

**Main Organizer:** Mendel University, Brno, Czech Republic

**Format:** online

**19 sessions and 5 workshops**

**>180 registered participants**

Supported by Visegrad Fund



<http://forumcarpaticum.czechglobe.cz/>

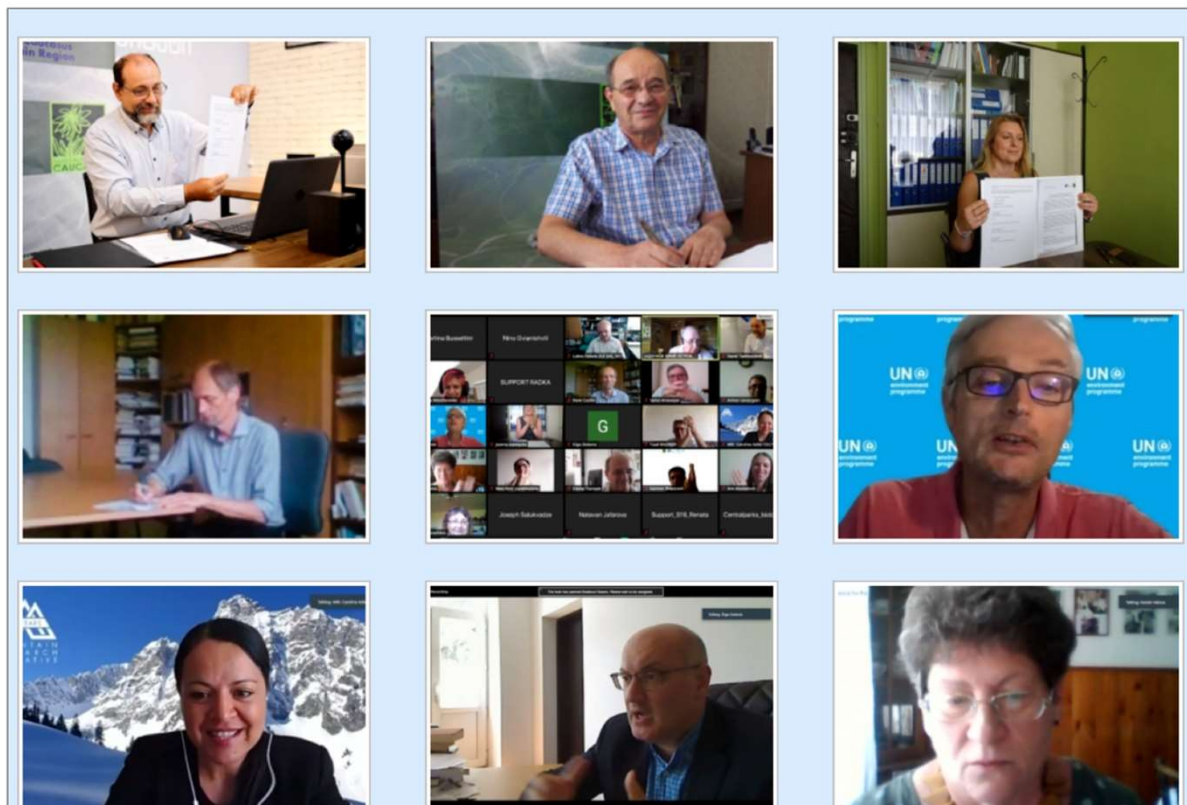


# Recent developments

- **MOU with the Caucasus Scientific Network (SNC-mt)**
  - developed, with support of the Convention Secretariat
  - aimed at supporting exchange of information and joint research activities



Science for the Carpathians



# Recommendations

## **Recommendations: Forest ecosystems and resource vulnerabilities to climate change**

- Enforce existing conservation measures to secure effective protection of forests
- Focus on protection, restoration and re-connection of habitats
- Avoid losses of carbon stocks from existing forests
- Support development of novel concepts for adaptive forest management and forest policy in order to create healthy and stable forests for the next generation in the context of climate change and its unavoidable impacts on ecosystem services

## Recommendations: Carpathian waters: From knowledge to management

- Facilitate integrated, adaptive land and water resource management
- Support integrated efforts to map, assess, monitor and mitigate plastic pollution of Carpathian rivers
- Require management of mountain rivers that considers river history and interactions within entire river corridor
- Support monitoring and sustainable management of sediment and large wood transport
- Strengthen support for monitoring of restoration projects
- Consider and support ongoing projects on restoration and conservation of wetlands and peat bogs (incl. Natura 2000 areas).

## **Recommendations: Recent and future changes of agricultural areas of Carpathians**

- Help modify funding schemes to tackle challenges facing the Carpathians: abandonment of rural areas; uncontrolled urbanization, unstable socio-economic factors; climate change and environmental degradation
- Create an Atlas of Representative Biocultural Landscape Types of the Carpathian Region
- Prioritize strong protection of existing natural or semi-natural habitats (esp.) with lower regeneration capacity and facilitate restoration when needed
- Support the domestic population to work in the local agro-sector



## **Recommendations: Resilience, adaptations, innovations for the sustainable development of Carpathians tourist destinations**

- Facilitate practical implementation of research into visitor management in protected areas
- Prioritize effective cooperation between destination management organizations for common tourism development and provision of attractive offer on local level
- Map tourism phenomena in a unified format for the entire Carpathian region
- Support regulations requiring new tourism infrastructure to harmonize with local climate and culture
- Consider local art practices as models of ecological resilience

# Recommendations: Cultural heritage and traditional knowledge

- Consider material and immaterial cultural heritage
- Promote the identification and increased use of traditional ecological knowledge in nature conservation and sustainable land management.
- Adapt agri-environmental support schemes to consider local-regional cultural environments
  - help adapt traditional practices to the recent socio-ecological changes
  - include empowerment of local communities in these developments
- Designate bio-cultural refugia in the richest cultural landscapes of the region
- Help local, marketable product production
- Develop local-regional school curricula, with increasing respect towards heritage and traditional knowledge.

## **Recommendations: Scientists and humanists working together to propose new (and maintain old) approaches to ecology in the Carpathians**

- Focus on local identity, traditional knowledge, values and (in)tangible cultural heritage
- Strengthen aspects of social sciences and exchange experiences with research in other European mountain ranges
- Map sustainable cultural practices to facilitate greater societal awareness about intangible cultural heritage and support governance schemes aiming at a societal and ecological change
- Develop locally embedded transgenerational, transnational and transdisciplinary „schools” to help elaborate on questions of subsistence and adaption

## **Recommendations: Mediation for sustainable use and reuse of the Carpathians resources**

- Recognize and use Forest Stewardship Council public reports in addressing forest management issues
- Consider trade-offs between energy strategies and ecosystem service scenarios
- Consider building common policy for forest certification requirements among the Carpathian countries
- Facilitate cooperation and trade-offs between policy makers, stakeholders and communities to optimize benefits from local bioenergy strategies while protecting Carpathian ecosystems

## **Recommendations: The power of Social Innovation to steer a sustainable governance of nature**

- Define Social Innovation (SI) in the Carpathian context
- Create the Carpathian database of examples of SI and social-ecological innovations
  - to popularize & share positive examples
  - to create a workable network between successful cases
  - to facilitate transboundary cooperation and SI diffusion
- Create tools for dissemination of scientific results for use by regional/local policy makers and other stakeholders (via policy briefs and practice guides)
- Look for financial support (seed money) to enhance the emergence/growth of SI and help with its success

# Recommendations: The power of Social Innovation to steer a sustainable governance of nature

## *Citizen Science*

- Support promoting citizen science, adopting its principles and unifying its methodology
- Facilitate networking of CC Secretariat with existing initiatives of:
  - European Citizen Science Association and
  - European Network of Living Labs

## Citizen Science

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- Public participation in answering scientific questions
- Solving conservation challenges – well communicated aims and motivated participants

# Recommendations: Education for Sustainable Development - best practices

- Support better involvement of Carpathian countries in the international ESD scene
- Strengthen institutional and structural support for life-long teacher training
- Enhance communication and collaboration among academia, teachers and local stakeholders
- Develop common topics and educational materials on SD in the Carpathians in native languages to be integrated into education systems



Federal Ministry  
for the Environment, Nature Conservation  
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## **Recommendations: Cross sectoral issues: the Carpathians valued as a living place**

- Promote development, collection and use of data in strategic and local decision making and spatial planning, incl. cross-sectoral and trans-border dimension (harmonisation of data and management practices across national borders)
- Ensure harmonized, coordinated provision by national agencies of relevant thematic data on Carpathian environment and socio-economic topics
- Support conversion of adequate (scientific) data into more operational formats applicable for decision makers, planners, local organizations and communities.
- Facilitate improved management capacities of Carpathian protected areas

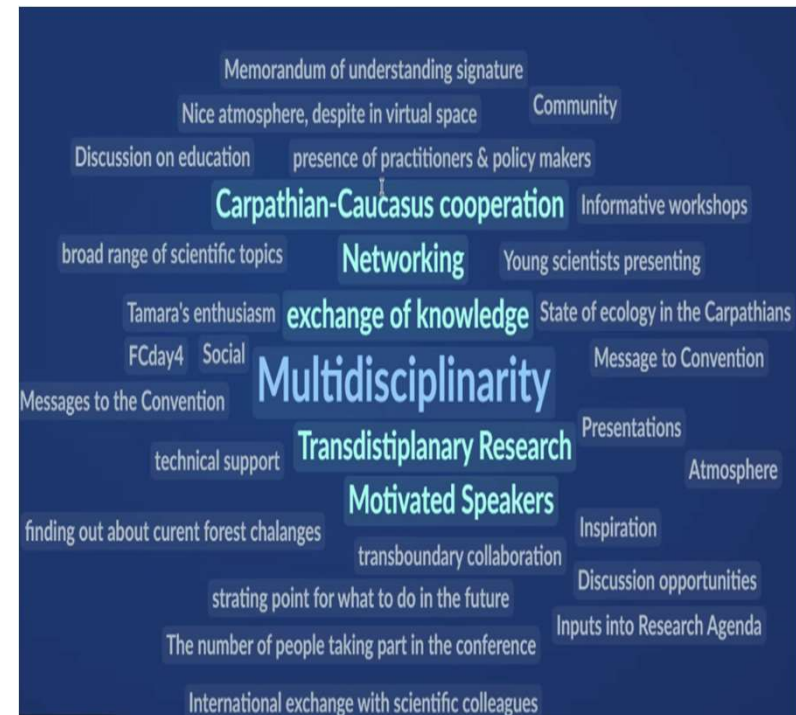


## **Recommendations: Modelling of the biodiversity and ecosystem functions/services for nature protection and sustainable use of natural resources in the Carpathians**

- Optimize landscape management practices to foster provision and conservation of relevant ecosystem services for tourism and recreation
- Promote carbon sinks through sustainable use of the landscape, particularly forests where carbon sinks are highest
- Support conservation of semi-natural areas and ecosystem services in the Carpathians, at local, national and international levels, and development of green infrastructure

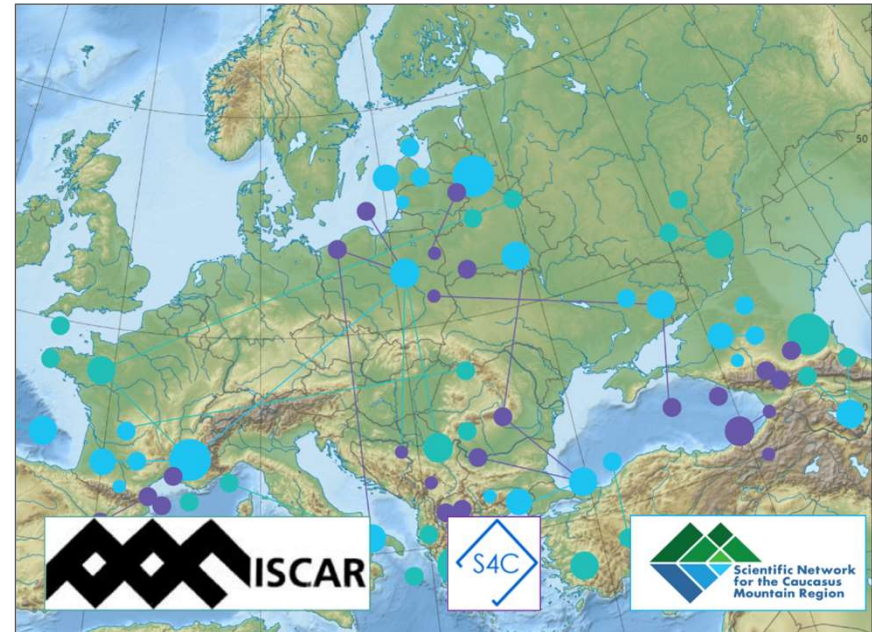
# Outlook

- Ensuring active membership in the S4C network
  - Involving young scientists and supporting their research focus on the topics relevant to the Carpathian Convention
- Updating the Research Agenda of the Carpathians
- Introduction of thematic working groups to facilitate cooperation within network and outside (as with CC WGs)
- Winter school (within the VF project) – pandemic situation permitting



# Outlook

- Continued close collaboration with the Secretariat
- Common activities with the Caucasus network
- Joint session on strengthening regional scientific networks with the Alpine and the Caucasus Scientific Networks at IMC 2022
- Carpathian Chapter for the GLOMOS publication *Safeguarding Mountain Social-Ecological Systems: a Global Challenge*



Long-term idea:  
Carpathian  
Environmental  
Outlook?

# New research agenda: proposed additions

- New chapters on Education for Sustainable Development and Cultural Heritage
- New topics:
  - Natural and human disturbances of ecosystems
  - Local communities' participation / involvement in research
  - Plastic pollution
- Addressing the role of non-English-language science for the Carpathian region.
- Integrating inter- and transdisciplinary approaches and participatory methods



# Thank You!



<http://carpathianscience.org>

The S4C engagement is co-financed by the Governments of Czechia, Hungary, Poland and Slovakia through Visegrad Grants from International Visegrad Fund. The mission of the fund is to advance ideas for sustainable regional cooperation in Central Europe

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