

the 7th Conference on Regional Climate and Environmental Dynamics:

**GEOSCIENCE IN THE CARPATHIAN AND BLACK SEA REGION
(GCBS 2023)**

VATRA DORNEI, SUCEAVA COUNTY, ROMANIA, 14-17 SEPTEMBER 2023

INQUA REGIONAL MEETING

This scientific event is an initiative of the **University of Suceava** (Applied Sciences Doctoral School) in collaboration with the **Geoconcept Association of Applied Geography**, supported by the International **Union for Quaternary Research (INQUA)** and **Ministry of Research, Innovation and Digitization (MCID)** and endorsed by *Carpathian Climate and Environment Working Group-CarpClim (PAGES)*, *Science for Carpathians (S4C)* and the *Carpathian Convention (CC)*.

In this 7th edition we propose an interdisciplinary scientific event focusing on past and current climate and environmental changes in the **Carpathian** and **Black Sea Region** since the Last Glacial Maximum. The conference aims to provide more insight into the most recent advances in geoscience and paleoscience and to support regional collaboration in research, which is still understated despite the fact that significant steps have been taken in recent years.

GCBS 2023 can be regarded as a follow-up event on the previous conferences and workshops organized by our team from 2011 to 2022 which have provided a good framework for sharing research and collaboration for further investigation of the Carpathian – Lower Danube – Balkan region.

Link for online access:

meet.google.com/wea-bmpq-bci

Web site:

<https://geoconcept.ro/gcbs2023/>

PROGRAM

THURSDAY, September 14th, 2023

Arrival of participants at the conference venue

VENUE:

VATRA DORNEI (Suceava county, Romania)

Centrul de Pregatire si Formare Continua Vatra Dornei, Universitatea Suceava/
Distance Education and Life-Long Learning Office Vatra Dornei, University of Suceava

Address:

Parcului 2 St., Vatra Dornei 725700, Suceava county, Romania.

Coordinates: 47.3418816, 25.3574445



The conference takes place in a mountain resort in the picturesque region of Bucovina. This area is well known for its painted monasteries and uniquely preserved agro-forest-pastoral landscapes and nature.

FRIDAY, September 15th, 2023

9.00: OPENING CEREMONY

9.00 - 9.15

MARCEL MINDRESCU. Charmain of conference, University of Suceava and GEOCONCEPT Association of Applied Geography (Romania)

9.15 - 9.30

LAURA BOURIAUD. Director of the Council for Doctoral University Studies, University of Suceava (Romania)

Keynote speakers:

9.30 - 9.55

KATRIN MEISSNER, DEEPASHREE DUTTA, STEVE SHERWOOD, MARTIN JUCKER, ALEX SEN GUPTA

Polar Amplification: What are our current climate models missing?

Climate Change Research Centre, University of New South Wales, Sydney, Australia,
k.meissner@unsw.edu.au

9.55 - 10.20

ANGELICA FEURDEAN

Grasslands, climate change and disturbances

Department of Physical Geography, Goethe University, Frankfurt am Main, Germany,
angelica.feurdean@gmail.com

10.20 - 10.45

EMMANUEL CHAPRON

Understanding lacustrine delta sedimentary records of environmental changes and natural hazards in formerly glaciated active mountain ranges

GEODE laboratory, Toulouse University, France, manu.chapron@gmail.com

10.45 - 11.00: COFFEE BREAK

11.00 - 13.00: SESSION 1

Moderator: ANGELICA FEURDEAN

Department of Physical Geography, Goethe University, Frankfurt am Main, Germany

11.00 - 11.15

NATALIA GERASIMENKO

The Holocene climatic and environmental changes in the forest-steppe and steppe belts of Ukraine and their impact on ancient cultures

Taras Shevchenko University of Kyiv, Ukraine, n.garnet2@gmail.com

11.15 - 11.30

JULIANA NOGUEIRA¹, MILOŠ RYDVAL¹, KREŠIMIR BEGOVIĆ¹, MARTIN LEXA¹, YUMEI JIANG¹, GEORG VON ARX^{2,3}, JESPER BJÖRKLUND², KRISTINA SEFTIGEN^{2,4}, JAN TUMAJER⁵, VICTOR GOMES⁶

Advancing insights into climatic variability in Eastern Europe based on multiparameter tree ring chronologies

(1) Department of Forest Ecology, Czech University of Life Sciences Prague, Czech Republic, snogueira.j@gmail.com, (2) DendroSciences, Swiss Federal Research Institute for Forest, Snow and Landscape Research (WSL), Switzerland, (3) Oeschger Centre for Climate Change Research, University of Bern, Switzerland, (4) Department of Earth Sciences, University of Gothenburg, Sweden, (5) Department of Physical Geography and Geoecology, Charles University, Czech Republic, (6) LARAMG – Radioecology and Climate Change Laboratory, Department of Biophysics and Biometry, Rio de Janeiro State University, Brazil.

11.30 - 11.45

LILIA POPOVA¹, BOGDAN RIDUSH², YANA POPIUK²

The Carpathians and Lower Danube as a barrier for the dispersal of steppe rodents in the Pleistocene and Pliocene: ground squirrels as a case study

(1) I.I. Schmalhausen Institute of Zoology, National Academy of Science of Ukraine, Kyiv, Ukraine, liliapopovalilia@gmail.com, (2) Yuriy Fedkovych Chernivtsi National University, Department of Physical Geography, Geomorphology and Paleogeography, Chernivtsi, Ukraine

11.45 - 12.00

MILICA G. RADAKOVIĆ^{1*}, ERIC A. OCHES², PHILIP D. HUGHES³, RASTKO S. MARKOVIĆ⁴, QINGZHEN HAO⁵, ZORAN M. PERIĆ⁶, BOJAN GAVRILOVIĆ⁷, PATRICK LUDWIG⁸, TIN LUKIĆ¹, KRSMANOVIĆ PETAR¹, MILIVOJ B. GAVRILOV¹, SLOBODAN B. MARKOVIĆ^{1,9}

Do palaeo July temperatures obtained from the loess gastropods (Serbia) support the European Middle Pleistocene “missing” glaciations?

(1) Department of Geography, Tourism and Hotel Management, Faculty of Sciences, University of Novi Sad, Trg Dositeja Obradovića 3, 21000 Novi Sad, Serbia, milica.radakovic.95@gmail.com, (2) Department of Natural and Applied Sciences, Bentley University, Waltham, MA 02452, USA, (3) Department of Geography, School of Environment, Education and Development, The University of Manchester, Manchester M13 9PL, UK, (4) Department of Geography, Faculty of Science, University of Niš, Višegradska 11, 18000 Niš, Serbia, (5) Institute of Geology and Geophysics, Chinese Academy of Sciences, Beijing 100029, China, (6) Department of Geology, Lund University, Sölvegatan 12, SE-223 62 Lund, Sweden

(7) Institute of Forestry, Kneza Višeslava 3, 11030 Belgrade, Serbia, (8) Institute of Meteorology and Climate Research, Karlsruhe Institute of Technology, 76137 Karlsruhe, Germany, (9) Department of Mathematics, Physics and Geosciences, Serbian Academy of Sciences and Arts, Kneza Mihaila 35, 11000 Belgrade, Serbia

12.00 - 12.15

DARIIA KHOLIIVCHUK, DARYNA SHKAIIEVA, VOLODYMYR ZELENCHUK

Climate variability in the Bukovynian Carpathians and foreland at the turn of the 20th century

Yuriy Fedkovych Chernivtsi National University, Chernivtsi, Ukraine, d.kholyavchuk@chnu.edu.ua

12.15 - 12.35

WEIGUO ZHANG, XUANQI ZHAO, MEIQI CHEN, FENGYUE QIU, XIAOMEI NIAN

Landform Evolution of the Southern Yangtze River Deltaic Plain and its Driving Forces

State Key Laboratory of Estuarine and Coastal Research, East China Normal University, Shanghai 200241, PR China, wgzhang@sklec.ecnu.edu.cn

12.35 - 12.50

BERNADETTA ZAWILIŃSKA

Bridging natural and social systems: An integrative model of national parks in the Carpathians

Department of Social and Economic Geography, Cracow University of Economics, Poland, zawilinb@uek.krakow.pl

13.00 - 14.30: LUNCH

14.30 - 16.00: SESSION 2

Moderator: KATRIN MEISSNER

Climate Change Research Centre, University of New South Wales, Sydney, Australia

14.30 - 14.55

WALTER FINSINGER

The role of fire disturbances, human activities and climate change for long-term forest dynamics in European mountains

CNRS, University of Montpellier, France, walter.finsinger@umontpellier.fr

14.55 - 15.10

ALINA TUDRYN¹, ELISABETH GIBERT-BRUNET¹, HAMID A.K. LAHIJANI², PIOTR TUCHOLKA³, SERGE MISKA¹, OLIVIER DUFAURE¹

The evolution of the Caspian Sea over the last 20,000 years: mineralogical data.

(1) University of Paris-Saclay, CNRS, UMR 8148-GEOPS, 91405 Orsay, France, alina.tudryn@universite-paris-saclay.fr, (2) Iranian National Institute for Oceanography and Atmospheric Science (INIOAS), (3) Faculty of Geology, Warsaw University, 02-089 Warsaw, Poland

15.10 - 15.25

PETAR KRSMANOVIĆ¹, MILICA G. RADAKOVIĆ¹, ZORAN M. PERIĆ², WARREN THOMPSON³, CATHAL RYAN², SLOBODAN B. MARKOVIĆ^{1,4}

Geochemical analysis of aeolian and fluvial sediments at Danube fluvial terrace, Velika Vrbica (Serbia)

(1) Department of Geography, Tourism and Hotel Management, Faculty of Sciences, University of Novi Sad, Trg Dositeja Obradovića 3, 21000 Novi Sad, Serbia, petarkrsm@gmail.com, (2) Department of Geology, Lund University, Sölvegatan 12, SE-22362 Lund, Sweden, (3) Nordic Laboratory for Luminescence Dating, Risø Campus, DTU Physics, DK-4000, Roskilde, Denmark, (4) Serbian Academy of Sciences and Arts, Knez Mihajlova 35, 11000 Belgrade, Serbia

15.25 - 15.40

NAZAROV PARVIZ¹, ZHONGSHAN SHEN², MAMADJANOV YUNUS¹, SAJID ZULQARNAIN³

Loess deposits in southern Tajikistan (Central Asia): Magnetic properties and paleoclimate

(1) Institute of Geology, Earthquake Engineering and Seismology of the Academy of Science of the Republic of Tajikistan, parviz@nazarov.tj, (2) Institute of Geology and Geophysics, Chinese Academy of Sciences, China, (3) University of the Punjab, Department: Institute of Geology, Pakistan

15.40 - 15.55

PIOTR KŁAPYTA¹, JERZY ZASADNI², MARCEL MÎNDRESCU³

The impact of local topoclimatic conditions (snowblow and avalanches) on ELA of paleoglaciers in the Eastern Carpathians

(1) Jagiellonian University, Faculty of Geography and Geology, Institute of Geography and Spatial Management, Gronostajowa 7, 30-387 Kraków, Poland, woytastry@gmail.com, (2) Faculty of Geology, Geophysics and Environmental Protection, AGH University of Science and Technology, Mickiewicza 30, 30-059 Kraków, Poland, (3) Department of Geography, University of Suceava, Suceava, Romania

16.00 - 16.30: COFFEE BREAK

16.30 - 18.00: SESSION 3

Moderator:

BOGDAN RIDUSH

Yuriy Fedkovych Chernivtsi National University, Ukraine

16.30 - 16.45

SERHII KYRYLIUK

Study of groundwater in rural settlements

Yurii Fedkovych Chernivtsi National University, Department of Physical Geography, Geomorphology and Paleogeography, s.kyrylyuk@chnu.edu.ua

16.45 - 17.00

ALIONA ISAC

Trends in land cover/land use of the Republic of Moldova for the period 2000-2019

State Hydrometeorological Service, Chisinau, Republic of Moldova, isacaliona0224@gmail.com

17.00 - 17.15

COȘCODAN DIANA

Influence of environmental factors on children's health and adaptation

State Pedagogical University "Ion Creangă", Chisinau, Republic of Moldova, coscodan.diana@upsc.md

17.15 - 17.30

ADRIAN PURDEL^{1,2}, MONICA OJOG-PASCU¹, BOGDAN NIGA¹

A comparison between flash-floods and river(basin) floods in Moldova river basin

(1) University „Stefan cel Mare “, Suceava, Romania, eu_andy@yahoo.com, (2) National Institute of Hydrology and Water Management, Bucharest, Romania

17.30 - 17.45

CARMEN-ANDREEA BĂDĂLUȚĂ, ARITINA HALIUC, IONEL POPA

Weather-related disasters over the past centuries in the Eastern Carpathians based on documentary evidences

Department of Geography, Stefan cel Mare University, Suceava, Romania, carmenbadaluta@yahoo.com

17.45 - 18.00

HEITOR EVANGELISTA

Central Andes Climate Sensitivity Since Early 20th Century

Rio de Janeiro State University, Lab. Radioecology and Global Changes, RJ, Brazil, evangelista.uerj@gmail.com

18.00 - 20.00: DINNER

SATURDAY, September 16th, 2023

09.00 - 11.00: SESSION 4

Moderator: JULIANA NOGUEIRA

Department of Forest Ecology, Czech University of Life Sciences Prague, Czech Republic

09.00 - 09.25

SLOBODAN B. MARKOVIĆ^{1,2}, QUINGZHEN HAO³, BINGUI CAI⁴, XINBO GAO³, NAMIER NAMIER³, YU FU³, YANG SONG³, MILICA RADAKOVIĆ¹, ZORAN PERIĆ⁵, PETAR KRSMANOVIĆ¹, RASTKO MARKOVIĆ⁶

How similar are Chinese and Serbian loess?

(1) Department of Geography, Tourism and Hotel Management, Faculty of Science, University of Novi Sad, Trg Dositeja Obradovića 3, 21000 Novi Sad, Serbia, baca.markovic@gmail.com, (2) Serbian Academy of Arts and Sciences, Knez Mihailova 35, 11000 Belgrade, Serbia, (3) Key Laboratory of Cenozoic Geology and Environment, Institute of Geology and Geophysics, Chinese Academy of Sciences, Beijing 100029, China, (4) Key Laboratory for Humid Subtropical Eco-Geographical Processes of the Ministry of Education, School of Geographical Sciences, Fujian Normal University, Fuzhou 350007, Fujian, China, (5) Lund Luminescence Laboratory, Department of Geology, Lund University, Sölvegatan 12, SE-223 62 Lund, Sweden, (6) Department of Geography and Tourism, Natural Sciences and Mathematics, University of Niš, 18000 Niš, Serbia

09.25 - 09.50

DARIIA KHOLIIVCHUK¹, STEFAN MAYR², WOLFGANG GURGISER³

Developments of Carpathian forests from Holocene to Anthropocene

(1) Geographical Faculty, Yuriy Fedkovych Chernivtsi National University, Chernivtsi, Ukraine, d.kholyavchuk@chnu.edu.ua, (2) Faculty of Biology, Department of Botany, University of Innsbruck, Innsbruck, Austria, (3) RA Mountain Regions, University of Innsbruck, Innsbruck, Austria

09.50 - 10.05

ANCA PETRAȘ, MARCEL MINDRESCU

Relationship between fire and mining activities during the late Holocene in a peat core sequence in the northern Carpathians, Romania

Department of Geography, Ștefan cel Mare University, Suceava, Romania, ancuta.petras@usm.ro

10.05 - 10.20

MONICA OJOG-PASCU, ADRIAN PURDEL, ANISOARA FILIP

Periglacial tors in Curvature Carpathians - identification, spatial distribution and appearance, changing environments and touristic potential

Department of Geography, Ștefan cel Mare University of Suceava, Romania, monicapascu85@yahoo.com

10.20 - 10.35

ALINA MARCU-NISTOR¹, BOGDAN NISTOR², DUMITRU MIHĂILĂ¹

Correlative links between wind as a climatic element and particle pollution in the atmosphere of cities from Moldova

(1) Department of Geography, Faculty of History and Geography, Ștefan cel Mare University, Suceava, Romania, alyana_nstr@yahoo.com, (2) Școala Gimnazială Nr. 4, Suceava, Romania

10.35 - 10.50

RAUL DOMINIC BECICA

The vulnerability of settlements to climate change. Study case

Department of Geography, Ștefan cel Mare University of Suceava, Romania, rauldomenic@gmail.com

11.00 - 12.30: POSTER SESSION

Moderator:

DARIIA KHOLIIVCHUK

Yuriy Fedkovych Chernivtsi National University, Chernivtsi, Ukraine

IRYNA DOBYNDA, IRYNA HODZINSKA, MYROSLAV PROSKURNIAK, BOGDAN RIDUSH, YANA POPIUK, SERHII KYRYLIUK, DARIIA KHOLIIVCHUK, LYUDMYLA KOSTENIUK

Discovering past and present nature of remote Ukrainian mountains: Bukovynian Carpathians within the National Nature Park Cheremoskyi

Yuriy Fedkovych Chernivtsi National University, Chernivtsi, i.dobynda@chnu.edu.ua

ANISOARA FILIP, CARMEN-ANDREEA BADALUTA, ARITINA HALIUC AND ANCLE TEAM MEMBERS

Tracing human activities over the past eight millennia in SE Europe using multi-proxy approaches from lake sediment records

Department of Geography, University of Suceava, Romania

SIMON M HUTCHINSON, KAREN L. BACON, M. JANE BUNTING, LIZ HURRELL, DEREK A. MCDOUGALL

The Virtual Palaeoscience (ViPs) Project: resources for online learning and their potential for more inclusive Environmental Education

University of Salford, United Kingdom, s.m.hutchinson@salford.ac.uk

GHEORGHE BĂDĂLUȚĂ¹, MARCEL MÎNDRESCU¹, ANGELICA FEURDEAN², SIMON M. HUTCHINSON³, DIRK NOWACKI², GABRIELA FLORESCU¹

Reconstructing 6000 years of lake level variation in central Transylvania, Romania

(1) Ștefan cel Mare University of Suceava, Romania, (2) Goethe-Universität Frankfurt am Main, Germany, (3) University of Salford, United Kingdom

MÁTÉ KARLIK¹; IONELA GRĂDINARU²; MARCEL MÎNDRESCU²

The historical evolution of the environmental conditions in the Lake Bolătău-Feredeu area within the Bukovina region

(1) Institute for Geological and Geochemical Research, CSFK, Hungary, karlikmate@gmail.com, (2) Department of Geography, Ștefan cel Mare University, Suceava, Romania

ULIANA KOSTIUK, YANA POPIUK, BOGDAN RIDUSH

The development of gypsum karst in Northern Bukovyna in Late Pleistocene – Holocene

Yuriy Fedkovych Chernivtsi National University, Chernivtsi, Ukraine, b.ridush@chnu.edu.ua

LIUDMYLA KOSTENIUK

Using GIS tools in the study of paleovalley in the Verchny Prut basin

Yuriy Fedkovych Chernivtsi National University, Chernivtsi, Ukraine, l.kosteniyk@chnu.edu.ua

MĂDĂLINA FRÎNCULEASA¹, ALIN FRÎNCULEASA², OVIDIU MURĂRESCU¹, GEORGE MURĂTOREANU¹, MIHAELA SENCOVICI¹

Neotectonic movements in the Romanian Plain (the Călmățui Basin) and their influences on the demography of prehistoric human settlements

(1) Valahia University of Târgoviște, Department of Geography, Romania, ovidiu.murarescu@yahoo.com, (2) Prahova County Museum of History and Archeology, Romania

AGNIESZKA ZIERNICKA-WOJTASZEK

The evolution of the climatic water balance in Poland in the light of progressing climate change

Department of Ecology, Climatology and Air Protection, Faculty of Environmental Engineering and Land Surveying, University of Agriculture in Kraków, Poland; agnieszka.ziernicka-wojtaszek@urk.edu.pl

KAROL PLESIŃSKI¹, ANNA BUCAŁA-HRABIA², ARTUR RADECKI-PAWLIK³, MACIEJ HAJDUKIEWICZ⁴

The hydrodynamic conditions of a mountain river reach: The Ochotnica River in the Polish Western Carpathians

(1) University of Agriculture in Krakow, Faculty of Environmental Engineering and Land Surveying; karol.plesinski@urk.edu.pl, (2) Polish Academy of Sciences, Institute of Geography and Spatial Organization, (3) Cracow University of Technology, Faculty of Civil Engineering, (4) Kielce University of Technology, Faculty of Environmental, Geomatic and Energy Engineering

KRZYSZTOF MIRAJ¹, KAROL PLESIŃSKI²

Pebbles in the architecture of the Podhale region

(1) The Podhale State Collage of Applied Sciences in Nowy Targ, (2) University of Agriculture in Krakow

ANATOLIE PUȚUNTICĂ

Temporal variation of atmospheric rainfall in the Bâc hydrographic basin

Ion Creangă State Pedagogical University, Chișinău, Moldova, aputuntica@gmail.com

ELENA SOCHIRCĂ, VITALIE MAMOT

Analysis of the contents of the National Curriculum from the perspective of climate change and the formation of climate resilience skills in students. Case study: Republic of Moldova

State Pedagogical University „Ion Creanga” from Chisinau (UPSC), Republic of Moldova, sochirca.elena@upsc.md

ELENA SOCHIRCĂ¹, ELENA JECHIU²

Didactic strategies for development the competence of climate resilience for adolescents

(1) Universitatea Pedagogică de Stat” Ion Creangă” din Chişinău, Republica Moldova, sochirca.elena@upsc.md, (2) Liceul Academic de Arte Plastice” Igor Vieru” din Chişinău, Republica Moldova

DIANA YUZYK

National Park «Cheremoskyi», interannual dynamics of meteorological indicators on its territory

National Park "Cheremoskyi", Ukraine, muscicapa@ukr.net

HALYNA MARCHUK, IVANNA MARCHUK

Analysis of Climate Change Trends Based on Long-Term Observations in the National Nature Park “Vyzhnytskyi”

National Nature Park “Vyzhnytskyi”, Ukraine, galinavpark@gmail.com

ALIONA BOTNARI¹, ANDREI BOTNARI²

Impact of late and early frost on agriculture. Case study – Republic of Moldova

(1) Institute of Ecology and Geography, Universitatea de Stat din Moldova (USM), Chisinau, lionkabotnari@gmail.com, (2) Institute of Geology and Seismology, Universitatea de Stat din Moldova (USM), Chisinau

ALINA MARCU-NISTOR¹, BOGDAN NISTOR², DUMITRU MIHĂILĂ¹

Correlative links between wind as a climatic element and particle pollution in the atmosphere of cities from Moldova

(1) Department of Geography, Faculty of History and Geography, Stefan cel Mare University, Suceava, Romania, alyna_nstr@yahoo.com, (2) Şcoala Gimnazială Nr. 4, Suceava, Romania

DIANA ISTRATE

Contributions regarding the natural population movement of Sadova village (Suceava county) during the period 1992-2021

Stefan cel Mare University, Department of Geography, Suceava, Romania, rotidia@yahoo.com

12.30: CLOSING CEREMONY

13.00 - 14.30: LUNCH

SUNDAY, September 17th, 2023

Departure of participants

GCBS 2023 ORGANIZING COMMITTEE:

Chairman

Marcel MINDRESCU

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Vice Chairmen

Laura BOURIAUD

Forestry Department, University of Suceava, Romania, laura.bouriaud@usm.ro

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Secretary

Ionela GRADINARU

Geoconcept Association of Applied Geography, Romania, ionela.gradinaru@gmail.com

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