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**GEA International Scientific Conference "Global challenges
and Local solutions in natural resource management"**

Conference Programme



Program



Ministarstvo ekologije,
održivog razvoja i razvoja sjevera

29-31 May 2025, Podgorica, Montenegro

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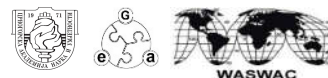
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GEA (Geo Eco-Eco Agro) international scientific research platform;
World Association of Soil and Water Conservation (WASWAC), Beijing, China.



Co-organisers:

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Ministry of Ecology, Sustainable Development and Northern Region Development
Environment Protection Agency of Montenegro – EPA Montenegro;
Ministry of Culture and Media;
Center for Conservation and Archaeology of Montenegro, Cetinje, Montenegro;
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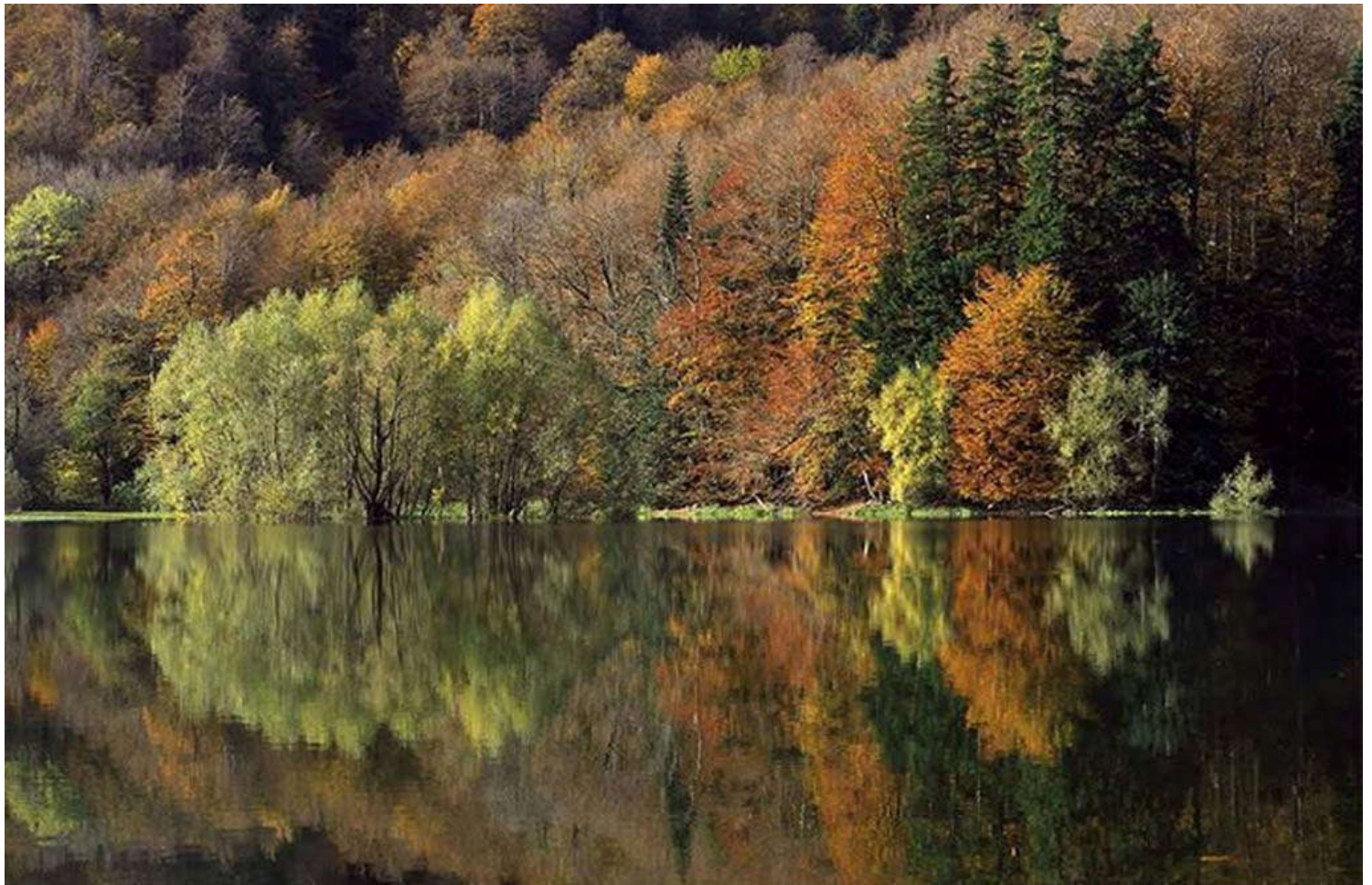
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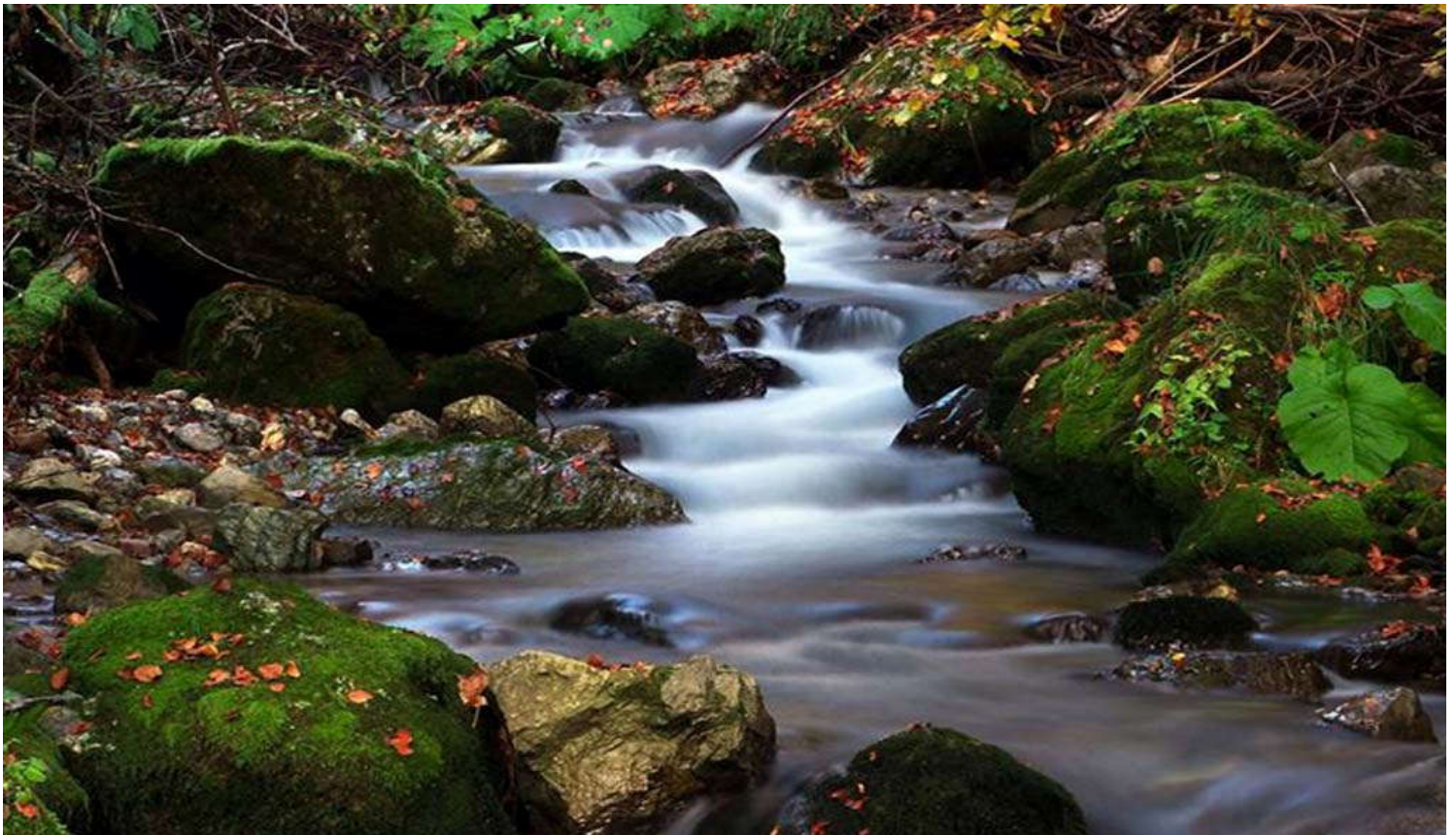
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Foreword

The International GEA (Geo Eco-Eco Agro) Conference represents a modern platform for scientific collaboration and knowledge exchange in the fields of geosciences, ecology-economy, agriculture, as well as the protection and preservation of archaeological, geological, and cultural heritage. The conference gathers scientists, experts, and professionals from the region and beyond, with the aim of strengthening existing and building new scientific and professional networks.

This three-day event is dedicated to current topics such as climate change adaptation, resilience of natural and human systems, and natural resource management, with a special emphasis on their interactions with agriculture, forestry, economics, and ecology. A central role in the program is given to young researchers, who are provided the opportunity to present their work, engage in discussions, and establish professional contacts.

In light of growing challenges such as demographic changes, environmental pressures, and the need for sustainable development, the protection and responsible management of natural resources has become a key task of modern science and society. The scientific community has the duty to propose sustainable and effective action plans that ensure resilience to environmental risks and safeguard resources for future generations.

All submitted abstracts will undergo peer review and will be published in the Book of Abstracts (CIP, ISBN, COBISS.CG-ID), while peer-reviewed full papers will be published in respected international journals of the conference partners (SCI and SCOPUS).

English is the official language of the Conference.

Conference Goals. The goals of the International GEA Scientific Conference are oriented toward encouraging dialogue, knowledge exchange, and collaboration among professionals in various disciplines that deal with natural resources, ecological risks, and sustainable development. The conference seeks to bring together scientists, researchers, and institutional stakeholders to create synergies and enhance intersectoral cooperation—essential for addressing the complex challenges of resource protection and sustainable use.

One of the key aspects of the conference is showcasing the latest scientific achievements while identifying future research priorities that can contribute to more informed decision-making, more efficient resource management, and mitigation of ecological risks. Through this process, the GEA Scientific Conference supports the development of innovative approaches, promoting interdisciplinary work across geosciences, ecology, economics, agriculture, and cultural-natural heritage conservation.

Additionally, the conference places strong emphasis on the development of conceptual and practical solutions for sustainable natural resource management, considering the specific challenges present in different regions. In this way, GEA contributes not only to the scientific community but also to the design of actionable strategies that can enhance environmental quality and improve quality of life for future generations.

Who Is the Conference For? The GEA Conference is intended for a wide range of participants who share a common interest in sustainable development and natural resource protection. Primarily, it provides a valuable platform for researchers and students engaged in multidisciplinary work on environmental issues, climate change, and sustainable resource management. It allows them to showcase their research, exchange ideas with peers, and receive feedback from experts in various disciplines.

The conference is also relevant for members of professional associations, policymakers, and the general public, particularly those actively involved in shaping and implementing sustainability policies. For them, GEA offers a forum for dialogue, networking, and knowledge sharing that can directly inform practice in environmental protection and resource use.

Furthermore, scientists and practitioners working on the development of methodologies and interdisciplinary approaches to assess natural resources and ecological risks—whether at local, regional, or global levels—will find in the GEA Conference a valuable source of inspiration, collaboration, and practical solutions. Their role in bridging theory and practice is essential to achieving the goals promoted by the conference.

Welcome to Podgorica and Montenegro – a land of exceptional natural beauty and scientific potential. We believe that your participation in the GEA Conference will enrich your professional experience and contribute to the global exchange of ideas for a more sustainable future.

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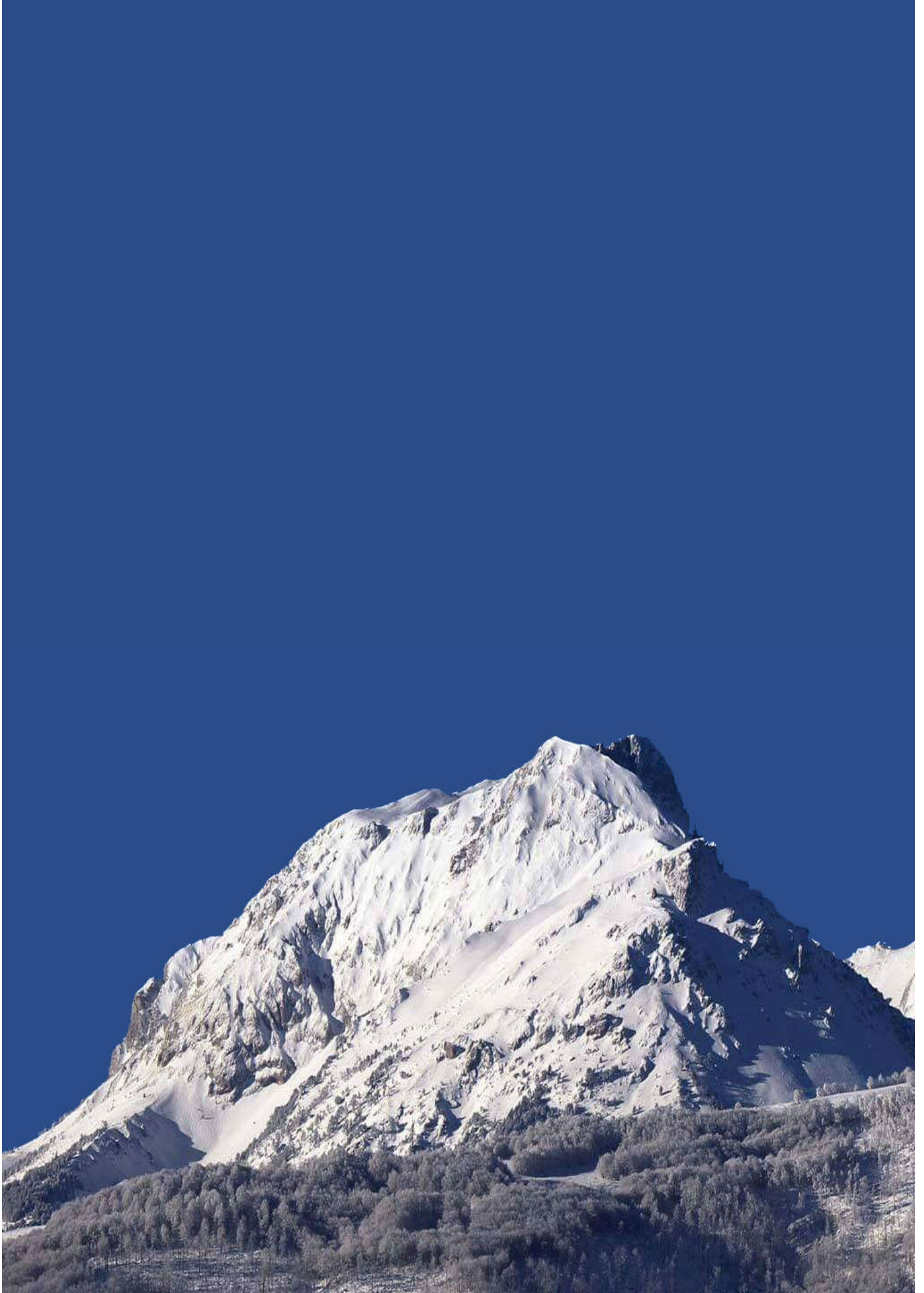
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Predgovor

Međunarodna GEA (Geo Eco-Eco Agro) konferencija predstavlja savremenu platformu za naučnu saradnju i razmjenu znanja iz oblasti geonauka, ekologije-ekonomije, poljoprivrede, ali i zaštite i očuvanja arheo-, geo- i kulturnog nasljeđa. Konferencija okuplja naučnike, stručnjake i profesionalce kako iz regiona, tako i sa međunarodne scene, u cilju jačanja postojeće i stvaranja nove mreže naučnih i stručnih veza.

Trodnevni skup posvećen je aktuelnim temama poput prilagođavanja klimatskim promjenama, otpornosti prirodnih i ljudskih sistema, te upravljanju prirodnim resursima, uz poseban fokus na njihove interakcije sa poljoprivredom, šumarstvom, ekonomijom i ekologijom. Značajno mjesto u programu zauzimaju mladi istraživači, kojima je pružena prilika da predstave svoja istraživanja, aktivno učestvuju u diskusijama i uspostave profesionalne kontakte.

U svjetlu sve većih izazova poput demografskih promjena, klimatskih pritisaka i potrebe za održivim razvojem, zaštita i odgovorno upravljanje prirodnim resursima postaju ključni zadaci savremene nauke i društva. Naučna zajednica ima dužnost da predloži održive i efikasne akcione planove, koji će osigurati otpornost na ekološke rizike i očuvanje resursa za buduće generacije.

Svi prijavljeni apstrakti biće recenzirani i objavljeni u Zborniku apstrakata (CIP, ISBN, COBISS.CG-ID), dok će recenzirani radovi biti objavljeni u renomiranim međunarodnim časopisima partnera konferencije (SCI i SCOPUS).

Zvanični jezik konferencije je engleski.

Ciljevi konferencije. Ciljevi Međunarodne naučne GEA konferencije usmjereni su ka podsticanju dijaloga, razmjeni znanja i izgradnji saradnje među stručnjacima iz različitih oblasti koje se bave prirodnim resursima, ekološkim rizicima i održivim razvojem. Konferencija ima za cilj da okupi naučnike, istraživače i institucionalne aktore kako bi se stvorile sinergije i unaprijedila međusektorska saradnja, neophodna za suočavanje sa savremenim izazovima u oblasti zaštite i korišćenja prirodnih dobara.

Jedan od ključnih aspekata jeste predstavljanje aktuelnih naučnih dostignuća, ali i identifikovanje pravaca budućih istraživanja koji mogu doprinijeti kvalitetnijem donošenju odluka, efikasnijem upravljanju resursima i ublažavanju posljedica ekoloških rizika. Kroz ovaj proces, GEA naučna konferencija daje podršku razvoju inovacija, podstičući primjenu interdisciplinarnih pristupa u oblastima geonauka, ekologije, ekonomije, poljoprivrede i očuvanja kulturno-prirodnog nasljeđa.

Takođe, poseban značaj daje se razradi konceptualnih i praktičnih rješenja za održivo upravljanje prirodnim resursima, uzimajući u obzir specifične izazove koji se javljaju u različitim regionima. Na taj način, konferencija doprinosi ne samo naučnoj zajednici, već i razvoju konkretnih strategija koje imaju potencijal da unaprijede životnu sredinu i kvalitet života budućih generacija.

Kome je konferencija namijenjena? GEA konferencija namijenjena je širokom spektru učesnika koji dijele interesovanje za održivi razvoj i zaštitu prirodnih resursa. Prije svega, ona pruža prostor istraživačima i studentima koji se bave multidisciplinarnim temama iz oblasti životne sredine, klimatskih promjena i održivog upravljanja prirodnim resursima. Njima se otvara mogućnost da predstavljaju svoja istraživanja, razmijene iskustva sa kolegama i dobiju povratne informacije od stručnjaka iz različitih oblasti.

Konferencija je takođe relevantna za članove stručnih udruženja, donosiocima odluka i širu javnost, posebno one koji su aktivno uključeni u kreiranje i sprovođenje politika vezanih za održivi razvoj. Njima GEA nudi forum za dijalog, umrežavanje i razmjenu znanja koje može unaprijediti praksu u oblasti zaštite životne sredine i racionalnog korišćenja prirodnih dobara.

Pored toga, naučnici i praktičari koji rade na razvoju metodologija i interdisciplinarnih pristupa u procjeni prirodnih resursa i ekoloških rizika – bilo na lokalnom, regionalnom ili globalnom nivou – pronaći će u GEA konferenciji važan izvor inspiracije, saradnje i konkretnih rješenja. Njihova uloga u povezivanju teorije i prakse biće od suštinskog značaja za postizanje ciljeva koje konferencija promovise.

Dobrodošli u Podgoricu i Crnu Goru – zemlju izuzetnih prirodnih ljepota i naučnih potencijala. Vjerujemo da će učešće na GEA konferenciji obogatiti vaše profesionalno iskustvo i doprinijeti širenju ideja za održivu budućnost.

Prof. Dr. Velibor Spalević,
Predsjednik
Naučnog odbora GEA
GEA (Geo Eco-Eco Agro),
WASWAC;
Univerzitet Crne Gore,
Crna Gora

Prof. Dr. Duihu Ning,
Predsjednik Počasnog
odbora GEA
Predsjednik Svjetske
asocijacije za očuvanje
zemljišta i voda
(WASWAC), Kina

Prof. Dr. Igor Djurović,
Predsjednik Organizacionog
odbora GEA
Crnogorska akademija
nauka i umjetnosti,
Univerzitet Crne Gore
Crna Gora



<https://www.geasci.org/gea2025>





GEA International Scientific Conference

"Global challenges and Local solutions in natural resource management"

29-31 May 2025, Podgorica, Montenegro

THEMATIC AREAS

1. Natural Resource Management

Environment protection, natural resource management, natural hazards, geodiversity, geo-conservation, geoheritage, geotourism, geosites, soil, water, air, landscapes, soil conservation, soil erosion, climate change impacts on resources, application of new methodologies in environmental protection and sustainable resource management. Other subjects related to environmental protection and resource conservation.

2. Sustainable Development

Sustainability strategies, circular economy, green infrastructure, ecosystem services, sustainable land-use planning, sustainable energy solutions, sustainable cities, environmental policies, environmental ethics, and governance. Social, economic, and technological aspects of sustainable development, as well as case studies on best practices.

3. Climate Change Adaptation

Climate change impact assessments, adaptation strategies, resilience building, mitigation policies, disaster risk reduction, early warning systems, carbon sequestration, greenhouse gas emissions, climate-smart agriculture, and adaptation in forestry, water management, and urban planning. Innovative approaches for addressing climate-related challenges.

4. Geo and Archeo Heritage

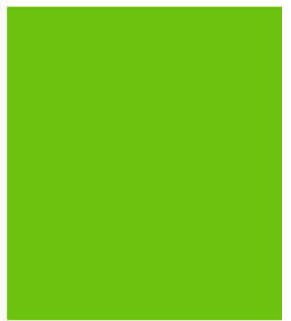
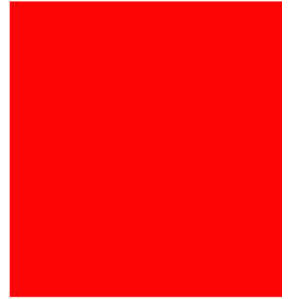
Conservation of geological and archaeological heritage, geoarchaeology, cultural landscapes, UNESCO World Heritage Sites, historical land use, traditional knowledge in resource management, paleoenvironments, excavation methodologies, digital technologies in geo- and archaeological heritage conservation, and sustainable heritage tourism.

5. Environmental Conservation

Biodiversity conservation, ecosystem restoration, ecological monitoring, protected areas management, habitat conservation, species protection, conservation policies and strategies, pollution control, waste management, and eco-friendly technologies for conservation. Strategies for balancing economic development with environmental protection.

6. Agriculture and Forestry

Sustainable agriculture, precision farming, agroecology, soil fertility and health, agroforestry, forestry management, biodiversity in agriculture, climate-smart agriculture, water management in farming, rural development, and the socio-economic impact of sustainable farming and forestry practices.



Međunarodna naučna konferencija GEA
„Globalni izazovi i lokalna rješenja u upravljanju prirodnim resursima“
29–31. maj 2025, Podgorica, Crna Gora

TEMATSKE OBLASTI

1. Upravljanje prirodnim resursima

Zaštita životne sredine, upravljanje prirodnim resursima, prirodne nepogode, geokonzervacija, geonaslijeđe, geoturizam, geolokaliteti, zemljište, voda, vazduh, pejzaži, očuvanje zemljišta, erozija zemljišta, uticaj klimatskih promjena na resurse, primjena novih metodologija u zaštiti životne sredine i održivom upravljanju resursima. Druge teme povezane sa zaštitom životne sredine i očuvanjem resursa.

2. Održivi razvoj

Strategije održivosti, cirkularna ekonomija, zelena infrastruktura, usluge ekosistema, održivo planiranje korišćenja zemljišta, rješenja za održivu energiju, održivi gradovi, politike zaštite životne sredine, etika i upravljanje u oblasti ekologije. Društveni, ekonomski i tehnološki aspekti održivog razvoja, kao i studije slučaja o najboljim praksama.

3. Prilagođavanje klimatskim promjenama

Procjene uticaja klimatskih promjena, strategije prilagođavanja, izgradnja otpornosti, politike ublažavanja posljedica, smanjenje rizika od katastrofa, sistemi ranog upozoravanja, emisije gasova sa efektom staklene bašte, klimatski pametna poljoprivreda i prilagođavanje u šumarstvu, upravljanju vodama i urbanom planiranju. Inovativni pristupi rješavanju izazova vezanih za klimu.

4. Geo i arheo naslijeđe

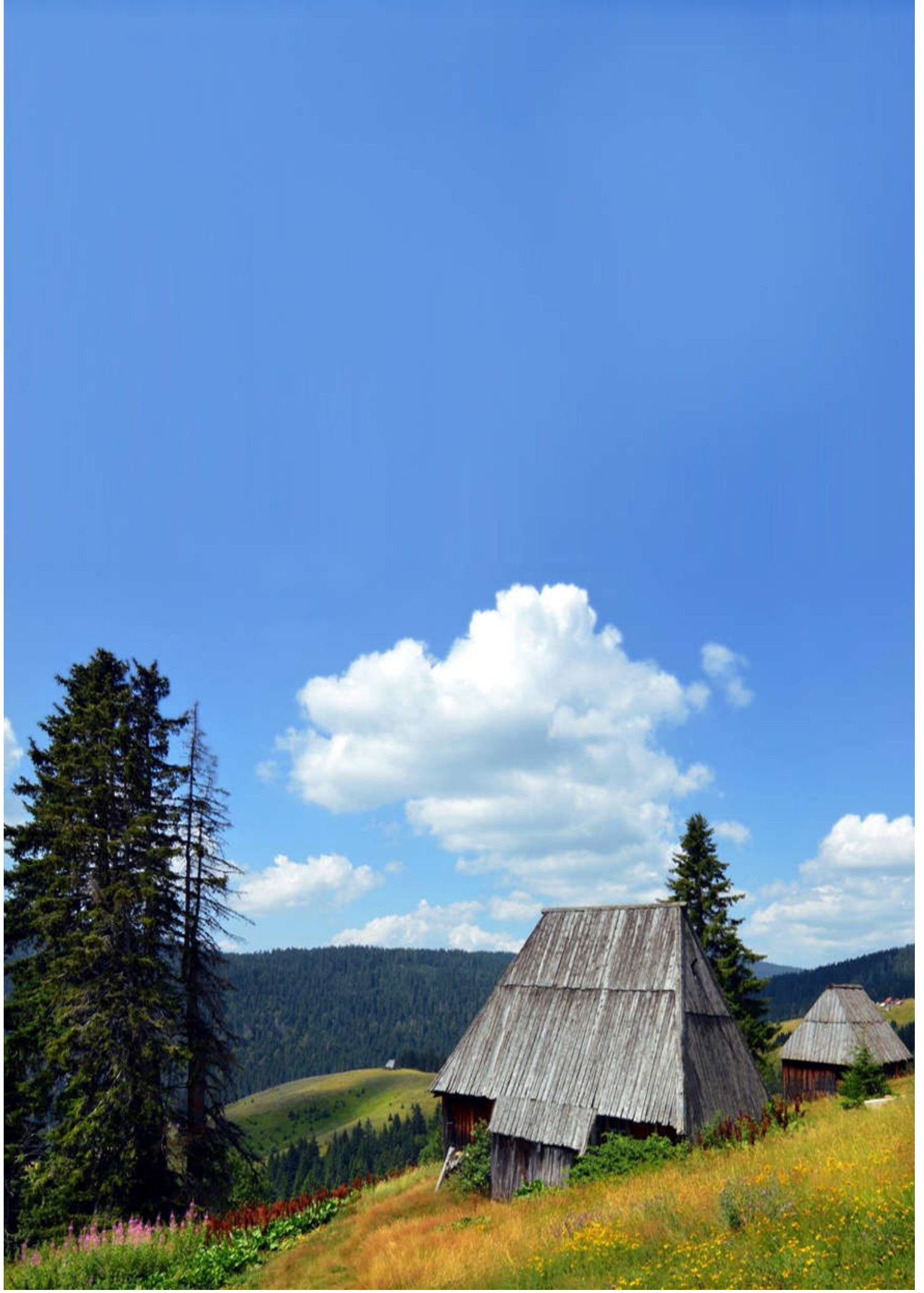
Očuvanje geo- i arheo- naslijeđa, geoarheologija, kulturni pejzaži, lokaliteti pod zaštitom UNESCO-a, istorijsko korišćenje zemljišta, tradicionalna znanja u upravljanju resursima, paleookruženja, metodologije, digitalne tehnologije u očuvanju geo- i arheološkog naslijeđa, održivi turizam zasnovan na naslijeđu.

5. Zaštita životne sredine

Očuvanje biodiverziteta, obnova ekosistema, ekološki monitoring, upravljanje zaštićenim područjima, zaštita staništa, zaštita vrsta, politike i strategije očuvanja, kontrola zagađenja, upravljanje otpadom i ekološki prihvatljive tehnologije za očuvanje. Strategije za balansiranje ekonomskog razvoja i zaštite životne sredine.

6. Poljoprivreda i šumarstvo

Održiva poljoprivreda, precizna poljoprivreda, agroekologija, plodnost i zdravlje zemljišta, agrošumarstvo, upravljanje šumama, biodiverzitet u poljoprivredi, klimatski pametna poljoprivreda, upravljanje vodama u poljoprivredi, ruralni razvoj i socio-ekonomski uticaj održivih praksi u poljoprivredi i šumarstvu.



GEA International Scientific Conference
"Global challenges and Local solutions in natural resource management"
29-31 May 2025, Podgorica, Montenegro

Symposium venue

Montenegrin Academy of Sciences and Arts
Rista Stijovića 5, 81000 Podgorica, Montenegro

Program

29–30 May 2025, Podgorica, Montenegro

Science in Motion: A 24-Hour GEA–WASWAC Scientific Journey to Montenegro
Global Challenges and Local Solutions in Natural Resource Management

The conference will officially open on 29 May at 17h with a ceremonial session featuring addresses by organizers, partners, and honorary guests. The first day will also include introductory panels and **keynote presentations of young researchers** that will set the thematic framework for the event.

The working sessions of the conference will take place on 30 May, with participants from various countries presenting their scientific research, sharing experiences, and discussing challenges and solutions in natural resource management. The day will feature thematic sessions, open discussions, and opportunities for interdisciplinary collaboration and networking.

Saturday, 31 May 2025, Biogradska Gora National Park, Montenegro

Field Visit: Exploring the Natural Treasures of Biogradska Gora

Research Activities: Continued field research by two teams on the Biogradsko Lake Moraine.

Sediment Analysis: Investigation of lakebed sediments. Lunch: Traditional Montenegrin cuisine. Guided Tour: Exploration of the park with guests and GEA conference participants.

Sunday, 1 June – Sunday, 15 June 2025, Montenegro and Bosnia and Herzegovina

GEA: Bridging Seas, Valleys, and Mountains – Selected researchers from Montenegro, Serbia and China Exploring the Unseen: A Cross-Border Scientific Expedition in Montenegro and Bosnia and Herzegovina (2024-2027).



Detailed program

MONTENEGRIN ACADEMY OF SCIENCES AND ARTS

Department of Natural Sciences
Committee on Agriculture and Forestry

GEA International Scientific Conference

GLOBAL CHALLENGES AND LOCAL SOLUTIONS IN NATURAL RESOURCE
MANAGEMENT

P R O G R A M M E

May 29–30, 2025, MASA, Podgorica

Organizers:

- **Montenegrin Academy of Science and Arts, Podgorica, Montenegro;**
- **GEA (Geo Eco-Eco Agro) international scientific research platform;**
- **World Association of Soil and Water Conservation (WASWAC), China.**

Co-organizers:

- Ministry of Agriculture, Forestry and Water Management of Montenegro
 - Water Administration;
 - Ministry of Ecology, Sustainable Development and Northern Region Development
 - Environment Protection Agency of Montenegro — EPA Montenegro;
 - Ministry of Culture and Media;
 - Center for Conservation and Archaeology of Montenegro, Cetinje, Montenegro;
 - University of Montenegro, Podgorica, Montenegro;
 - Adriatic University Bar, Faculty of Business Economics and Law, Bar;
 - Biotechnical Center, Bijelo Polje, Montenegro.
-

Organizing Committee:

- **Igor Đurovic**, Chair of the GEA Organizing Committee, Montenegrin Academy of Science and Arts, Podgorica, Montenegro
- **Velibor Spalevic**, Chair of the GEA Scientific Committee, GEA international scientific research platform, WASWAC Counsellor, Podgorica, Montenegro
- **Duihu Ning**, Chair of the GEA Honorary Committee, President of the World Association of Soil and Water Conservation (WASWAC), Beijing, China
- **Miodrag Zlatić**, Vice president of the World Association of Soil and Water Conservation (WASWAC), Belgrade, Serbia
- **Goran Škataric**, World Association of Soil and Water Conservation (WASWAC), Podgorica, Montenegro

- **Vladimir Jokovic, Minister**, Ministry of Agriculture, Forestry and Water Management of Montenegro
 - **Vesna Bajovic, Director**, Water Administration, Montenegro

 - **Damjan Culafic, Minister**, Ministry of Ecology, Sustainable Development and Northern Region Development of Montenegro
 - **Milan Gazdic, Director**, Environment Protection Agency of Montenegro — EPA Montenegro

 - **Tamara Vujovic, Minister**, Ministry of Culture and Media
 - **Željko Kalezic, Director**, Center for Conservation and Archaeology of Montenegro, Cetinje, Montenegro

 - **Milivoje Radovic, President of the Governing Board**, University of Montenegro, Podgorica
 - **Rajko Novicevic, Dean**, Adriatic University Bar, Faculty of Business Economics and Law, Bar, Montenegro
 - **Dejan Zejak, Director**, Biotechnical Center, Bijelo Polje, Montenegro
-

P R O G R A M M E

- **Venue: Montenegrin Academy of Sciences and Arts,**
Rista Stijovica 5, 81000 Podgorica
-

THURSDAY, MAY 29, 2025

17.00–17.30 Opening of the Conference
WELCOME ADDRESS

Chairs: Igor Đurovic and Velibor Spalevic

- **Ljubiša Stankovic**, President, Montenegrin Academy of Sciences and Arts
 - **Igor Đurovic**, Chair of the GEA Organizing Committee, Montenegrin Academy of Sciences and Arts
 - **Duihu Ning**, President of WASWAC, Chair of the GEA Honorary Committee
 - **Vladimir Jokovic**, Minister of Agriculture, Forestry and Water Management of Montenegro
 - **Tamara Vujovic**, Minister of Culture and Media of Montenegro
 - **Damjan Culafic**, Minister of Ecology, Sustainable Development and the Development of the Northern Region of Montenegro
 - **Velibor Spalevic**, Chair of the GEA Scientific Committee, Advisor to WASWAC
-

17.30–18.30 Cocktail Reception, MASA Club

18.30–19.40 YOUNG SCIENTISTS PRESENT THEIR RESEARCH PAPERS

Chaired by Gordan Karaman, Seyed Hamidreza Sadeghi, José Luis Rubio

18.30–18.45 • Filip Vujovic (Montenegro)

Mapping Urban Heat Islands in Montenegro Using Landsat 8 and Google Earth Engine

18.45–19.00 • Changhong Liu (China)

Sediment Chronology and Diatoms of Black Lake in Montenegro

19.00–19.15 • Olga Ergunova (Russia)

Application of Neural Networks in Green Urban

Policy: Forecasting Socio-Occupational Risks

19.15–19.30 • Luka Sabljic (Bosnia and Herzegovina)

Remote Sensing-Based Drought Dynamics - Case Study of the Ukrina River Basin

19.30–19.40 Discussion and Questions

FRIDAY, MAY 30, 2025

08.00–08.30 Participants registration

08.30–08.35 OPENING REMARKS

Igor Durovic (Montenegro), Chair of the GEA Organizing Committee, Montenegrin Academy of Sciences and Arts

08.30–10.15 Session I — Opening Scientific Session

GLOBAL INSIGHTS AND LOCAL CHALLENGES IN ENVIRONMENTAL PROTECTION

Chaired by Velibor Spalevic, Miodrag Zlatic and Milan Gazdic

08.35–08.50 • Slobodan B. Markovic (Serbia)

Paleoclimatic and Paleoenvironmental Research and Bio conservation

08.50–09.05 • Seyed Hamidreza Sadeghi (Iran)

Watershed Health Assessment: A New Approach to Natural Resource Management

09.05–09.20 • José Luis Rubio (Spain)

Nature-Based Solutions and the Future of Urban Land

09.20–09.35 • Philip D. Hughes (UK)

Glaciers in Mediterranean Mountains and Climate Change

09.35–09.50 • Grzegorz Poreba (Poland)

Radioisotopes and Luminescence Dating

09.50–10.05 • Jelena Boškovic, Vera Popovic (Serbia)

The Use of Genetic Engineering in Agriculture: Opportunities and Risks 10.05–10.15

Discussion and Questions

10.15–10.30 Coffee Break

„Kaleidoscope”: Digital Poster Display and Interaction with Authors

Chaired by Branislav Dudic, Goran Škataric, Radovan Pejanovic

10.30–12.10 Session II — Regional dialogue: From Past to Future

NATURE, MEMORY, FUTURE: A REGIONAL DIALOGUE ON SUSTAINABILITY

Chaired by Vesna Bajovic, Goran Škataric, Slobodan B. Markovic

10.30–10.40 • Gordan Karaman (Montenegro)

Amphipods (Crustaceans) as Bioindicators of Environmental Quality

10.40–10.50 • Dragutin Đukic (Serbia)

Microbial Indicators of Soil Contamination

10.50–11.00 • Svetimir Dragovic (Serbia)

Irrigation and Drainage in Vojvodina

11.00–11.10 • Ivan Simunic (Croatia)

History of Land Reclamation in Croatia

11.10–11.20 • Radovan Pejanovic (Serbia)

Climate Change and Agriculture: The Need for Adaptation

11.20–11.30 • Otilija Sedlak (Serbia)

The Agricultural Sector, Employment, and Demographic Trends

11.30–11.40 • Dženan Becirovic (B&H)

Forests: Monitoring Nature's Contribution

11.40–11.50 • Miodrag Zlatic, Stanimir Kostadinov (Serbia)

Nature-Based Approaches to Disaster Risk Reduction

11.50–12.00 • Ivan Blinkov (North Macedonia)

Mapping Soil Erosion in North Macedonia

12.00–12.10 Discussion and Questions

10.30–12.10 Parallel Session 2:

COMMUNICATION — SCIENCE AND MEDIA

12.10–12.30 Coffee Break

„Kaleidoscope”: Digital Poster Display and Interaction with Authors

Chaired by Goran Škataric, Branislav Dudic, Radovan Pejanovic

12.30–14.10 Session III

CONNECTING CONTINENTS: JOINT GEOECOLOGICAL RESEARCH

Chaired by José Luis Rubio, Aleksandar Radivojevic, Seyed Sadeghi

12.30–12.45 • Luo Wang (China)

Meltwater Pulse-1A & Abrupt Cooling, Southern China

12.45–13.00 • Qingzhen Hao (China)

East Asian Winter Monsoon During MIS 8

13.00–13.15 • Binggui Cai (China)

Stalagmites as Indicators of Erosion, Yunnan, China

13.15–13.30 • Jianhui Jin (China)

Coastal Dunes and Sea Level During the Late Holocene

13.30–13.45 • Guoliang Lei (China)

Stable Isotopes in Shells — Climate Reconstruction

13.45–14.00 • Miaofa Li (China)

Speleothem Record of Jet Stream Variability, Serbia

14.00–14.10 Discussion and Questions

14.10–15.00 Lunch, MASA Club

„Kaleidoscope“: Digital Poster Display and Interaction with Authors

Chaired by Branislav Dudic, Goran Škataric, Radovan Pejanovic

15.00–17.00 Session IV

THE HERITAGE OF NATURE AND HUMANITY

Chaired by Željko Kalezic, Dobrila Vlahovic, Slobodan B. Markovic

15.00–15.10 • Miloš Živanovic (Montenegro)

The Geoarchaeological Identity of Medun

15.10–15.20 • Dušan Boric (Italy) Nikola Borovinic (Montenegro)

Mobility and Resources in Prehistory

15.20–15.30 • Rastko Markovic (Serbia)

Depopulation and Its Impact on Erosion

15.30–15.40 • Milica Radakovic (Serbia)

Oxygen Isotopes in Snail Shells

15.40–15.50 • Milica Filipovic (Montenegro)

Erosion Modeling and Land Use

15.50–16.00 • Vladimir Pejanovic (Serbia)

Smart Agriculture: Approaches to Adaptation

16.00–16.10 • Mileva Brajuškovic Popovic (Montenegro)

Demographic Consequences of Population Aging in Montenegro Today

16.10–16.20 • Olga Kopitovic Jokanovic (Montenegro)

Safety of Dairy Products

16.20–16.30 • Milica Maric (B&H)

BEAMING: Bioeconomy for the Green Transition

16.30–16.40 • Milo Radovic (Montenegro)

Implementation of the Water Framework Directive in Montenegro: Steps Toward

Sustainable Water Resource Management

16.40–16.50 Discussion and Questions

16.50–17.00 OFFICIAL CLOSING OF THE CONFERENCE AND CONCLUSIONS

Duihu Ning, José Luis Rubio, Seyed Hamidreza Sadeghi,

Slobodan B. Markovic, Miodrag Zlatic, Goran Škataric,

Radovan Pejanovic, Igor Đurovic, Velibor Spalevic

Saturday, May 31, 2025

08:30–17:00 | Field Visit

Departure: In front of the Montenegrin Academy of Sciences and Arts

Location: Biogradska Gora National Park, Montenegro

Activities:

- Field research at Biogradsko Lake and the moraine
- Sediment sampling
- Tour of the National Park
- Traditional Montenegrin lunch





Detaljni program

CRNOGORSKA AKADEMIJA NAUKA I UMJETNOSTI

Odjeljenje prirodnih nauka

Odbor za poljoprivredu i šumarstvo

GEA Međunarodna naučna konferencija
GLOBALNI IZAZOVI I LOKALNA RJEŠENJA
U UPRAVLJANJU PRIRODNIM RESURSIMA

P R O G R A M

29–30. maj 2025, CANU, Podgorica

Organizatori:

- Crnogorska akademija nauka i umjetnosti, Podgorica, Crna Gora;
- GEA (Geo Eko-Eko Agro) međunarodna naučna istraživačka platforma;
- Svjetska asocijacija za zaštitu zemljišta i voda (WASWAC), Kina.

Suorganizatori:

- Ministarstvo poljoprivrede, šumarstva i vodoprivrede Crne Gore
- Uprava za vode
- Ministarstvo ekologije, održivog razvoja i razvoja sjevera
- Agencija za zaštitu životne sredine Crne Gore — EPA Montenegro
- Ministarstvo kulture i medija
- Centar za konzervaciju i arheologiju Crne Gore, Cetinje, Crna Gora
- Univerzitet Crne Gore, Podgorica, Crna Gora
- Fakultet za poslovnu ekonomiju i pravo, Univerzitet Adriatik Bar
- Biotehnički centar, Bijelo Polje, Crna Gora

Organizacioni odbor:

- **Igor Đurović**, predsjednik Organizacionog odbora GEA, Crnogorska akademija nauka i umjetnosti, Podgorica, Crna Gora
- **Velibor Spalević**, predsjednik Naučnog odbora GEA, GEA međunarodna naučna istraživačka platforma, savjetnik WASWAC-a, Podgorica, Crna Gora
- **Duihu Ning**, predsjednik Počasnog odbora GEA, predsjednik Svjetske asocijacije za očuvanje zemljišta i voda (WASWAC), Peking, Kina
- **Miodrag Zlatić**, potpredsjednik Svjetske asocijacije za očuvanje zemljišta i voda (WASWAC), Beograd, Srbija
- **Goran Škatarić**, Svjetska asocijacija za očuvanje zemljišta i voda (WASWAC), Podgorica, Crna Gora

- **Vladimir Joković**, ministar, Ministarstvo poljoprivrede, šumarstva i vodoprivrede Crne Gore
 - **Vesna Bajović**, direktorica, Uprava za vode, Crna Gora
 - **Damjan Ćulafić**, ministar, Ministarstvo ekologije, održivog razvoja i razvoja sjevera Crne Gore
 - **Milan Gazdić**, direktor, Agencija za zaštitu životne sredine Crne Gore — EPA
 - **Tamara Vujović**, ministarka, Ministarstvo kulture i medija
 - **Željko Kalezić**, direktor, Centar za konzervaciju i arheologiju Crne Gore, Cetinje, Crna Gora
 - **Milivoje Radović**, predsjednik Upravnog odbora, Univerzitet Crne Gore, Podgorica
 - **Rajko Novičević**, dekan, Fakultet za poslovnu ekonomiju i pravo, Univerzitet Adriatik, Bar, Crna Gora
 - **Dejan Zejak**, direktor, Biotehnički centar, Bijelo Polje, Crna Gora
-

P R O G R A M

- Mjesto održavanja:
Crnogorska akademija nauka i umjetnosti Rista Stijovića 5, 81000 Podgorica
-

ČETVRTAK, 29. MAJ 2025.

17.00–17.30 Otvaranje konferencije

POZDRAVNE RIJEČI

Predsjedavaju: **Igor Đurović i Velibor Spalević**

- **Ljubiša Stanković**, predsjednik, Crnogorska akademija nauka i umjetnosti
 - **Igor Đurović**, predsjednik Organizacionog odbora GEA, Crnogorska akademija nauka i umjetnosti
 - **Duihu Ning**, predsjednik WASWAC-a, predsjednik Počasnog odbora GEA
 - **Vladimir Joković**, ministar poljoprivrede, šumarstva i vodoprivrede Crne Gore
 - **Tamara Vujović**, ministarka kulture i medija Crne Gore
 - **Damjan Ćulafić**, ministar ekologije, održivog razvoja i razvoja sjevernog regiona Crne Gore
 - **Velibor Spalević**, predsjednik Naučnog odbora GEA, savjetnik WASWAC-a
-

17.30–18.30 Koktel prijem, Klub CANU

18.30–19.40 MLADI NAUČNICI PREDSTAVLJAJU SVOJE RADOVE

Predsjedavaju: Gordan Karaman, Seyed Hamidreza Sadeghi, José Luis Rubio

18.30–18.45 • Filip Vujović (Crna Gora)

Mapiranje urbanih toplotnih ostrva u Crnoj Gori korišćenjem Landsat 8 i Google Earth Engine-a

18.45–19.00 • Changhong Liu (Kina)

Hronologija sedimenata i dijatomeje Crnog jezera u Crnoj Gori

19.00–19.15 • Olga Ergunova (Rusija)

Primjena neuronskih mreža u zelenoj urbanoj politici: predviđanje socio-profesionalnih rizika

19.15–19.30 • Luka Sabljic (Bosna i Hercegovina)

Dinamika suša na osnovu daljinske detekcije – studija slučaja sliva rijeke Ukaine

19.30–19.40 Diskusija i pitanja

PETAK, 30. MAJ 2025.

08.00–08.30 Registracija učesnika

08.30–08.35 UVODNE NAPOMENE

Igor Đurović (Crna Gora), predsjednik Organizacionog odbora GEA, CANU

08.30–10.15 Sesija I – Uvodna naučna sesija

GLOBALNI UVIDI I LOKALNI IZAZOVI U ZAŠTITI ŽIVOTNE SREDINE

Predsjedavaju: Velibor Spalević, Miodrag Zlatić i Milan Gazdić

08.35–08.50 • Slobodan B. Marković (Srbija)

Paleoklimatska i paleoekološka istraživanja i biokonzervacija

08.50–09.05 • Seyed Hamidreza Sadeghi (Iran)

Procjena zdravlja slivova: novi pristup upravljanju prirodnim resursima

09.05–09.20 • José Luis Rubio (Španija)

Rješenja zasnovana na prirodi i budućnost urbanog zemljišta

09.20–09.35 • Philip D. Hughes (Ujedinjeno Kraljevstvo)

Lednici u mediteranskim planinama i klimatske promjene

09.35–09.50 • Grzegorz Poreba (Poljska)

Radioizotopi i datiranje luminescencijom

09.50–10.05 • Jelena Bošković, Vera Popović (Srbija)

Upotreba genetskog inženjeringa u poljoprivredi: mogućnosti i rizici

10.05–10.15 Diskusija i pitanja

10.15–10.30 Pauza za kafu

„Kaleidoskop“: Digitalni prikaz postera i interakcija sa autorima

Predsjedavaju: Branislav Dudic, Goran Škataric, Radovan Pejanovic

**10.30–12.10 Sesija II — Regionalni dijalog: Od prošlosti ka budućnosti
PRIRODA, SJEĆANJE, BUDUĆNOST: REGIONALNI DIJALOG O
ODRŽIVOSTI**

Predsjedavaju: Vesna Bajović, Goran Škataric, Slobodan B. Marković

10.30–10.40 • Gordan Karaman (Crna Gora)

Amfipode (rakovi) kao bioindikatori kvaliteta životne sredine

10.40–10.50 • Dragutin Đukić (Srbija)

Mikrobni indikatori zagađenja zemljišta

10.50–11.00 • Svetimir Dragović (Srbija)

Navodnjavanje i odvodnjavanje u Vojvodini

11.00–11.10 • Ivan Šimunić (Hrvatska)

Istorija melioracije zemljišta u Hrvatskoj

11.10–11.20 • Radovan Pejanović (Srbija)

Klimatske promjene i poljoprivreda: potreba za adaptacijom

11.20–11.30 • Otilija Sedlak (Srbija)

Poljoprivredni sektor, zapošljavanje i demografski trendovi

11.30–11.40 • Dženan Bećirović (BiH)

Šume: praćenje doprinosa prirode

11.40–11.50 • Miodrag Zlatić, Stanimir Kostadinov (Srbija)

Pristupi zasnovani na prirodi za smanjenje rizika od katastrofa

11.50–12.00 • Ivan Blinkov (Sjeverna Makedonija)

Mapiranje erozije zemljišta u Sjevernoj Makedoniji

12.00–12.10 Diskusija i pitanja

10.30–12.10 Paralelna sesija 2:

KOMUNIKACIJA — NAUKA I MEDIJI

12.10–12.30 Pauza za kafu

„Kaleidoskop“: Digitalni prikaz postera i interakcija s autorima

Predsjedavaju: Goran Škataric, Branislav Dudic, Radovan Pejanovic

12.30–14.10 Sesija III

**POVEZIVANJE KONTINENATA: ZAJEDNIČKA GEOEKOLOŠKA
ISTRAŽIVANJA**

Predsjedavaju: José Luis Rubio, Aleksandar Radivojević, Seyed Sadeghi

12.30–12.45 • Luo Wang (Kina)

Impuls otapanja leda 1A i naglo zahlađenje, južna Kina

12.45–13.00 • Qingzhen Hao (Kina)

Zimski monsun istočne Azije tokom MIS 8

13.00–13.15 • Binggui Cai (Kina)

Stalagmiti kao indikatori erozije, Yunnan, Kina

13.15–13.30 • Jianhui Jin (Kina)

Obalne dine i nivo mora tokom kasnog holocena

13.30–13.45 • Guoliang Lei (Kina)

Stabilni izotopi u školjkama — rekonstrukcija klime

13.45–14.00 • Miaofa Li (Kina)

Zapisi speleotema o varijabilnosti mlazne struje, Srbija

14.00–14.10 Diskusija i pitanja

14.10–15.00 Ručak, Klub CANU

„Kaleidoskop“: Digitalni prikaz postera i interakcija sa autorima

Predsjedavaju: Branislav Dudic, Goran Škataric, Radovan Pejanovic

15.00–17.00 Sesija IV

NASLJEĐE PRIRODE I ČOVJEČANSTVA

Predsjedavaju: Željko Kalezić, Dobrila Vlahović, Slobodan B. Marković

15.00–15.10 • Miloš Živanović (Crna Gora)

Geoarheološki identitet Meduna

15.10–15.20 • Dušan Borić (Italija), Nikola Borovinić (Crna Gora)

Mobilnost i resursi u praistoriji

15.20–15.30 • Rastko Marković (Srbija)

Depopulacija i njen uticaj na eroziju

15.30–15.40 • Milica Radaković (Srbija)

Izotopi kiseonika u školjkama puževa

15.40–15.50 • Milica Filipović (Crna Gora)

Modeliranje erozije i način korišćenje zemljišta

15.50–16.00 • Vladimir Pejanović (Srbija)

Pametna poljoprivreda: pristupi adaptaciji

16.00–16.10 • Mileva Brajušković Popović (Crna Gora)

Demografske posljedice starenja stanovništva u Crnoj Gori danas

16.10–16.20 • Olga Kopitović Jkanović (Crna Gora)

Bezbjednost mliječnih proizvoda

16.20–16.30 • Milica Marić (Bosna i Hercegovina)

BEAMING: Bioekonomija za zelenu tranziciju

16.30–16.40 • Milo Radović, Vesna Bajović (Crna Gora)

Implementacija Okvirne direktive o vodama u Crnoj Gori: koraci ka održivom upravljanju vodnim resursima

16.40–16.50 Diskusija i pitanja

16.50–17.00 ZVANIČNO ZATVARANJE KONFERENCIJE I ZAKLJUČCI

Duihu Ning, José Luis Rubio, Seyed Hamidreza Sadeghi,
Slobodan B. Marković, Miodrag Zlatić, Goran Škatarić,
Radovan Pejanović, Igor Đurović, Velibor Spalević

Subota, 31. maj 2025.

08.30–17.00 | Terenska posjeta

Polazak: Ispred Crnogorske akademije nauka i umjetnosti

Lokacija: Nacionalni park Biogradska gora, Crna Gora

Aktivnosti:

- Terensko istraživanje Biogradskog jezera i morene
- Uzimanje uzoraka sedimenata
- Obilazak Nacionalnog parka
- Tradicionalni crnogorski ručak



GEA 2025 Authors, Posters, Abstracts, YouTube presentations

By Alphabetical order:

1. Abdessalam Ouallali: Magnetic susceptibility as a proxy for pedogenetic dynamics in erosion-prone soils of the Moroccan Rif
2. Aleksandar Anđelković, Vesna Nikolić Jokanović, Dušan Jokanović, Velibor Spalević: Analysis of the influence of applied anti-erosion measures on delivery of sediment and organic matter in the Duboki Potok Reservoir, Serbia
3. Aleksandar Andjelković, Vesna Nikolic Jokanović, Dusan Jokanović and Velibor Spalević: Organic Matter and Sediment Deposition in Small Water Reservoirs: The Role of Vegetation and Erosion Control Measures
4. Aleksandr L. Zhelyaskov, Oksana Fotina: Use of agricultural lands in the suburbs of large Ural Cities (Socio-Territorial Aspect)
5. Aleksandr Romanov: Dating tree cutting events using annual ring formation patterns in scots pine (*Pinus sylvestris* L.) for forensic forestry investigations
6. Aleksandra Pavlović: The role of Circular Economy in driving Economic Growth in Serbia
7. Aleksandra Stanojković Sebic, Zoran Dinic, Jelena Maksimović, Aleksandar Stanojković, Darko Jaramaz: Soil suitability for agricultural production in the area of Petrovcic, Surcin Municipality, Belgrade, Serbia
8. Aleksandra Stanojković Sebic: The possibility of using steel slag as a soil amendment to acid soil in crop cultivation
9. Amila Brajić, Ajla Hota, Bruno Marić, Mersudin Avdibegović, Sabina Delić, Dženan Bećirović: Green roofs as a strategic approach to enhance the quality and accessibility of green infrastructure in Sarajevo
10. Andrijana Drenovac, Milica Filipović, Velibor Spalević: Assessment of Soil Erosion Intensity and Runoff Using the River Basin Model in the Rikavac Watershed, Bar, Montenegro
11. Binggui Cai: Soil erosion history indicated by Stalagmite records: A case study from Yunan China
12. Blinkov Ivan, Trendafilov Aleksandar, Mincev Ivan, Trendafilov Bozin: Modification of some parameters of EPM during preparation new erosion map of the Republic of North Macedonia
13. Bozhin Trendafilov, Dejan Mandzukovski, Aco Teofilovski and Ivan Minchev: Comparative Analysis of Vegetation Mapping and Supervised Classification Techniques in the Southwestern Region of North Macedonia
14. Changhong Liu, Luo Wang, Velibor Spelević, Goran Škatarić, Qingzhen Hao, Binggui Cai, Slobodan B. Marković, Miaofa Li, Guoliang Lei: A study of Black Lake sediments using sediment coring, radiometric dating, and diatom analysis
15. Danijela Raičević, Ivana Rondović, Tatjana Popović, Radmila Pajović-Šćepanović: Physical-chemical and sensory characteristics of lager and ale beers in Montenegro

16. Danijela Raicević, Tatjana Popović, Radmila Pajović Scepanović, Violeta Ivanova-Petropulos: Grape seed addition in traditional winemaking: effects on the polyphenolic composition and sensory properties of vranac, kratošija, and cabernet sauvignon wines
17. Darko Stijepović: Affirmation of Agrarian-Rural Services as a Guarantee for the Survival of Small Family Farms
18. Darko Stijepović: Development of Sustainable Mountain Agriculture and International Experiences in Agro-Industry Development
19. Darko Stijepović: Land Potential of the Agricultural Complex – A Key Factor in the Development of the Durmitor Region
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21. Dejan Zejak, Aleksandar Radović: Peach (*Prunus persica* (L.) Batsch) production in World and Montenegro in period 2015-2020
22. Dejan Zejak, Branislav Dudić, Aleksandar Radović: Olive production trends in Montenegro (2015–2020): Yield variability and Agro-Ecological Influences
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24. Dejan Zejak, Branislav Dudić, Mirjana Radović, Natasa Vojinović: Organic Agriculture in Montenegro (2016–2023): Trends and Challenges for Sustainable Resource Management
25. Dejan Zejak, Ivan Glisic, Velibor Spalević, Jelena Mladenović, Radmila Ilić: The influence of basic climatic parameters on the chemical properties of raspberry fruit (*Rubus idaeus* L.) from the continental part of Montenegro
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27. Dejan Zejak: Level of Competence, Knowledge and Interest of Agronomists in the Digitalisation of Agriculture in Montenegro
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54. Guoliang Lei, Yun Zhu, Jibao Dong, Wenxiang Zhang, Geping Jiang, Lihong Xu, Haiyan Fang: Stable and clumped isotopes of modern *Radix* and *Margarya* shells: Implications for reconstructions
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56. Gustavo Ferreira Afonso, Derielsen Brandão Santana, Mariana Raniero, Fellipe Silva Gomes, Eduardo Gusmão Fachina, Guilherme da Silva Rios, Rajko Novićević, Goran Škatarić, Diogo Olivetti, Felipe Gomes Rubira, Ronaldo Luiz Mincato: Collaborative ontology for representation and structuring of watershed data
57. Hao, Q., Peng, S., Gao, X., Marković, S., Li, S., Zhang, J., Li, F., Han, L., Fu, Y., Wu, X., Wang, L., Yu, J., Xu, B., Qiao, Y., Guo, Z.: Unusual changes in East Asian winter monsoon during MIS 8 as recorded in Chinese loess and the implications for ice age dynamics
58. Ivan Minchev, Ivan Blinkov, Aleksandar Trendafilov, Bozhin Trendafilov: Defining regions vulnerable to desertification and soil erosion processes in North Macedonia
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66. Kawiecki Clement, Martina Andjic, Nemanja Zekovic, Matija Aleksic, Ksenija Bojovic, Dijana Vusovic, Velibor Spalevic: Assessing Soil Erosion and Flash Flood Potential in Mediterranean Mountain Catchments: Local Risk Management in Bar Municipality, Montenegro
67. Ljubomir Pejović, Velibor Spalević: Viticultural Science in Montenegro Between Tradition and Innovation: The Scientific Basis (1949–2025) for Grape Variety Policy in the 21st Century
68. Luisa Baptistella Zanete, Caio Tavoraro Melo, Gustavo Antonio Silva Nogueira, Raissa Eduarda da Silva Archanjo, Isabella de Oliveira Carvalho, Guilherme da Silva Rios, Derielsen Brandão Santana, Artan Hysa, Velibor Spalević, Ronaldo Luiz Mincato, Felipe Gomes Rubira: Geodiversity index of sub-basins associated with the surroundings of the Furnas Reservoir (MG), Brazil
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71. Metka Pepelnak, Saša Brnović: The Use of Natural Pigments in Painting – Between Tradition, Sustainability and Contemporary Challenges
72. Miaofa Li, Binggui Cai, Slobodan B. Marković, Luo Wang, Velibor Spalević, Qiangzhen Hao: Winter North Atlantic jet stream strength and precipitation variability recorded by high-resolution speleothem proxies ($\delta^{18}\text{O}$, Mg/Ca) in Serbia
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76. Milica G. Radaković, Slobodan B. Marković, Rastko S. Marković, Lei Guoliang, Binggui Cai, Miaofa Li, Qingzhen Hao: Preliminary results of the $\delta^{18}\text{O}$ composition of snail shells from the last ice age at northern Serbia

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78. Miloš M. Živanović: Geo-Archaeological Identity of Medun: Traditional Landscapes and Heritage Preservation Challenges
79. Miodrag Zlatić, Stanimir Kostadinov: Nature-based disaster risk reduction in Serbia
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81. Mirjana Bojanić Rašović: Veterinary insights into soil contamination and bioremediation through good agricultural practice
82. Mirko Knežević, Ana Topalović, Budimir Fuštić: Soil of Montenegro – A Multifunctional Resource Under Pressure and the Need for Sustainable Management
83. Mirko Knežević, Ana Topalović, Tatjana Nikolić: Carbon farming for soil quality improvement and agricultural resilience
84. Mohsen Janmohammadi, Naser Sabaghnia: Harnessing Nano-Fertilizers for sustainable agriculture: Bridging global challenges and local solutions in natural resource management
85. Monika M. Stojanova, Dragutin A. Djukic, Marina T. Stojanova, Yalcin Kaya: Nanotechnology in precision agriculture: Impact of nanofertilizers on apricot chemical composition and antioxidant properties
86. Mostafa Zabihi Silabi, Seyed Hamidreza Sadeghi, and Mehdi Vafakhah: Watershed Elasticity Assessment: A Novel Platform for Integrated Watershed Management
87. Naser Sabaghnia, Mohsen Janmohammadi: Enhancing tolerance in Chickpea via application of Mesoporous Zn+Si nanoparticles: Implications for sustainable agriculture under water stress
88. Naser Sabaghnia, Mohsen Janmohammadi: Machine learning applications for sustainable agriculture and natural resource management by optimizing chickpea yield and resilience
89. Nikola Rakašćan, Jela Ikanović, Vera Popović, Viliana Vasileva, Radmila Bojović, Vladimir Strugar, Milica Kantardžić: Maize in the function of obtaining biogas
90. Ognen Onchevski, Ivan Minchev, Machito Mihara: Assessing the surface area distribution and opportunities for restoration and rehabilitation of the tree windbreak systems in the Ovche Pole Region in North Macedonia
91. Olga Ergunova, Alexander Lebedev, Vladimir Pejanović: AI as a Driver of Agrotechnologies in the Context of Sustainable Development: A Comparative Study of Russia and Serbia
92. Olga Ergunova, Andrey Somov, Anna Sedyakina: AI-Driven Forecasting of Socio-Labor Risks in Megacities: A Neural Network Approach to Sustainable Urban Governance
93. Olga Jokanović Kopitović, Marko Nikolic, Snežana Vucinic, Zorica Pavićević, Ivana Zuber, Slavko Mirecki, Dusica Radonjic: Food Safety in Traditional Dairy Products: Findings from a National Surveillance Study in Montenegro
94. Pedro Freitas Ramos Grande, Raissa Eduarda da Silva Archanjo, Isabella de Oliveira Carvalho, Gustavo Antonio Silva Nogueira, Guilherme da Silva Rios, Mariana Raniero, Velibor Spalević, Milica Filipović, Everton Rodrigues da Silva, Ronaldo

- Luiz Mincato, Felipe Gomes Rubira: Assessment of pre-fire vegetation conditions in Serra do Papagaio State park through spectral indices, Brazil
95. Philip Hughes, Bingdian Wang, Chris M. Darvill, Jamie C. Woodward: Glaciers in the Mediterranean mountains: the effects of recent climate change and implications for water supply
96. Radmila Bojović, Vera Popović, Nenad Đurić, Milan Vučković, Ljubica Šarčević Todosijević, Vladimir Strugar, Milica Kantardžić: Effect of mineral nutrients on the number of leaves and root weight of Sugar Beet Variety Severina
97. Radovan Pejanović, Reka Korhec, Otilija Sedlak: Demographic Shifts and Employment Dynamics in Serbia's Agricultural Sector
98. Radovan Pejanović: The negative effects of Climate Change on Agriculture and the necessity of Mitigation and Adaptation Measures and Instruments
99. Rastko Marković, Aleksandar Radivojević, Velibor Spalević, Milena Gocić, Nina Randelović, Maja Mitić, Shuraik Kader: Impact of depopulation in South Serbia on erosion processes: Case Study of Barje and Brestovačko Lake Reservoirs
100. Seyed Hamidreza Sadeghi, Reza Chamani, Negin Behnia, Vahid Moosavi, Mostafa Zabihi Silabi, Mohammad Tavosi, Mohammad Hossein Shoushtari, Padideh Sadat Sadeghi, Abdulvahed Khaledi Darvishan, Mahin Kalehouee, Hamid Nouri, Azadeh Katebikord, Mehdi Vafakhah, and Hamidreza Moradi Rekabdarkolaei: Comprehensive Watershed Health Assessment: A Paradigm Shift in Natural Resources Management
101. Shachi Pandey: Global Trends in Soil Erosion Vulnerability Assessment: A Three-Decade Review and Future Directions
102. Slobodan B. Marković, Philip Hughes, Goran Škatarić, Vladimir Pešić, Belma Šestović, Nedeljko Latinović, Tin Lukić, Qingzhen Hao, Binggui Cai, Luo Wang, Miaofa Li, Milica Radaković, Aleksandar Radivojević, Rastko Marković, Velibor Spalević: Paleoclimate and paleoenvironmental research and bio conservation
103. Slobodan B. Marković, Tobias Sprafke, Zoran Perić, Randall Schaetzl, Angelica Feurdean, Igor Obreht, Milica G. Radaković, Qingzhen Hao, Petar Krsmanović, Christian Zeeden, Frank Lehmkuhl, Binggui Cai, Miaofa Li, Milivoj B. Gavrilov, Rastko S. Marković, Velibor Spalević, Nikola Bačević, Tin Lukić: Spatial pattern of the Pleistocene interglacial paleo-environments in the southeastern Carpathian Basin based on data from loess-paleosol sequences
104. Slobodan B. Marković: Soil as a Witness to Change: Quaternary Reconstructions
105. Slobodan Popović, Dragan Čavić, Dragana Popović: The importance of financial management and control and internal audit in the operations of public enterprises established for the maintenance of green areas and the improvement of the ecology
106. Sretenka Srđić, Zorica Srđević, Ružica Stričević, Nataša Čereković, Pavel Benka, Nada Rudan, Mladen Todorović: Evapotranspiration based irrigation management for sustainable agriculture in Bosnia and Herzegovina

107. Stefanos Stefanidis, Nikolaos Proutsos, Velibor Spalević: Comprehensive Strategies for Mountainous Watershed Management: Enhancing Resilience to Flooding and Water Scarcity
108. Sudabeh Gharemahmudli and Seyed Hamidreza Sadeghi: Biocontrol of Saline Soil Erosion: Cyanobacterial Inoculation as a Game-Changer in Dryland Ecosystems
109. Sunčica Bodružić, Nikola Travar, Marina Antić, Stefani Tepić, Nataša Čereković: Bioecological assessment of dendroflora in Protected Area Park Architecture Monument "University city", Banja Luka
110. Svetimir Dragović: Historical Evolution and Strategic Outlook of Drainage and Irrigation Systems in Vojvodina
111. Svetozar Savić: Preserving Montenegrin Viticultural heritage: Challenges and opportunities within environmental and socioeconomic change
112. Tiago Rafael dos Santos Alves: The challenges of environmental education in Brazil - A brief reflection
113. Tin Lukić, Luka Sabljic, Dušan Puhar, Slobodan B. Marković, Milica G. Radaković, Velibor Spalević: Evaluating causal factors of deep landslides on the Danube slope: A case study from Novi Sad, Serbia
114. Valentina Smolović: Equine-Assisted Therapy as a Local Sustainable Solution in Nature-Based Health Practices
115. Valentina Smolović: Rural Rehabilitation: A Case of Seasonal Placement of Juvenile Residents from the Center "Ljubović", Montenegro (1990–2018)
116. Velibor Spalević, Milica Filipović: Red Mediterranean Soils (Terra Rossa) in Montenegro's Coastal Belt: Genesis, Characteristics, and Local Resource Management Perspectives
117. Velibor Spalević, Nikola Abramović, Ivana Tomasević, Goran Škatarić, Slobodan B. Marković: Evaluation of Landslide Risks in Bar Municipality, Montenegro: Mitigation Strategies for Disaster Preparedness and Sustainable Land Use
118. Velibor Spalević: Natural Resource Management, Montenegro: Aligning with EU Policies
119. Velibor Spalević: Resource Stress and Rural Migration in the Upper Polimlje Region
120. Velibor Spalević: Rethinking Montenegro's soils for Erosion, Climate, and Land Use
121. Vladimir Pejanović: Smart Agriculture & Industry 4.0: Integration of retrofitting concept
122. Željko Kalezić, Velibor Spalević, Slobodan Marković, Milos Marjanović: Hydrogeological Risk & Heritage Preservation: A Multidisciplinary Approach at the Carine VIII Site
123. Željko Kalezić, Velibor Spalević, Slobodan B. Marković, Milos Marjanović: Integrated Conservation of Geo- and Archaeoheritage in Coastal Environments: The Case of Ulcinj Citadel, Montenegro
124. Željko Vaško, Dragan Čomić, Aleksandar Ostojić, Gordana Rokvić Knežić, Dragana Radulović, Nataša Čereković, Milica Marić: Bioeconomy excellence alliance for stimulating innovative and inclusive green transition (BEAMING)
125. Zofia Zakrzewska, Joanna Roczniak, Julia Bulanda, Patrycja Kasprzyk, Piotr Lesiecki, Michał Wojcik, Andrzej Wojtalak, Fatima Pawełczyk, Grzegorz Poręba: Effect of naturally occurring radioisotopes in heavy minerals on luminescence dose rate calculations

List of 299 authors participating in the GEA Scientific Conference, presenting 125 research results, representing all continents—Europe, Asia, Africa, North America, South America, and Oceania. Countries represented include: (1) Albania, (2) Australia, (3) Bosnia and Herzegovina, (4) Brazil, (5) Bulgaria, (6) China, (7) Croatia, (8) France, (9) Greece, (10) India, (11) Iran, (12) Italy, (13) Japan, (14) Montenegro, (15) Morocco, (16) Nepal, (17) North Macedonia, (18) Poland, (19) Romania, (20) Russia, (21) Serbia, (22) Slovakia, (23) Slovenia, (24) Spain, (25) Sri Lanka, (26) Sweden, (27) Switzerland, (28) Turkey, (29) United Kingdom (UK), (30) United States (USA).

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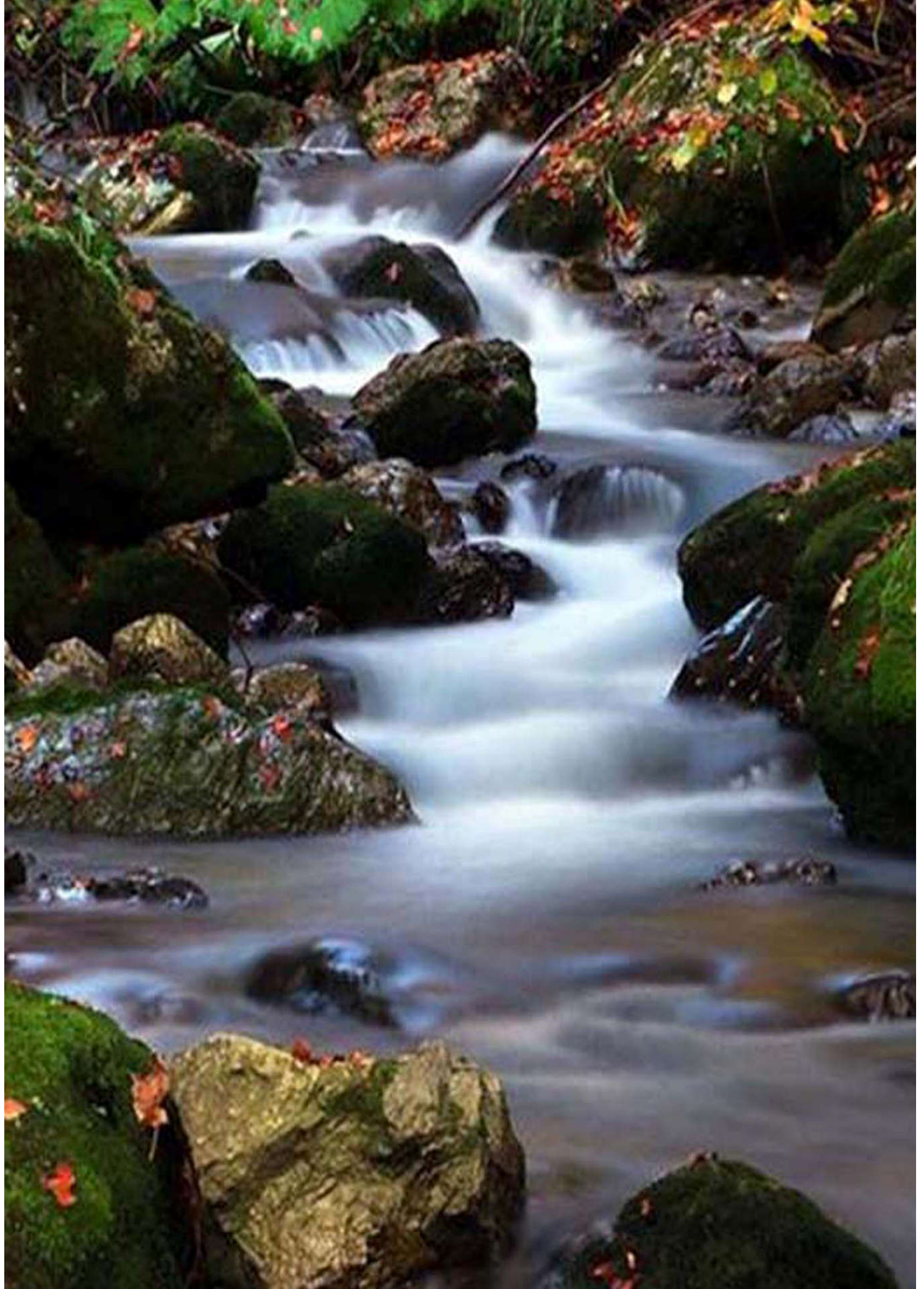
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GEA Scientific Conference, 29-31 May 2025, Podgorica, Montenegro - Conference **Program**

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289. Yun Zhu, China
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298. Zorica Pavićević, Montenegro
299. Zorica Srđević, Serbia





Saturday, 31 May 2025

08:30 - 17:00 – GEA Field Trip

A Day in the Heart of Biogradska Gora

Join us for a full-day scientific field excursion to one of Europe's last virgin forests – Biogradska Gora National Park, a living laboratory rich in biodiversity, glacial formations, and vibrant ecosystems.

Two Research Teams for the moment – Two Missions

Team A will conduct field sampling and terrain analysis on the Biogradsko Lake moraine, focusing also on vegetation and landscape formation.

Team B will perform sediment coring and environmental analysis from the lakebed, exploring historical climate and ecological dynamics.

Guided Walk Around Biogradsko Lake

Take part in a light, scenic walk along the educational trail surrounding the lake — keep your eyes open, you might spot a deer, fox, or an eagle overhead.

Lunch Break

Enjoy a relaxed, traditional Montenegrin lunch at the park station, with local flavors and warm hospitality.

Logistics

Departure from Podgorica at 08:30, return by 17:00. Comfortable footwear and layered clothing are recommended.



Post – conference

GEA Field Research Program: June 1–15, 2025

"Bridging the Seas, Valleys, and Mountains – Exploring the Unseen"

A Cross-Border Scientific Expedition in Montenegro and Bosnia and Herzegovina

Following the official conference proceedings, an extended 15-day field expedition will take place across Montenegro and parts of Bosnia and Herzegovina. This scientific journey brings together a team of international and regional experts — including WASWAC presidency team, and eight researchers from Fujian Normal University and the Institute of Geology and Geophysics, Chinese Academy of Sciences, along with scientists from Montenegro and Serbia.

The itinerary covers diverse landscapes — from coastal zones and river valleys to high mountain ranges — with a focus on natural resource mapping, sediment analysis, geomorphological surveying, and geoheritage documentation.

Key Participants Include:

The international scientific delegation from WASWAC, the team from China includes a group of highly respected researchers specializing in geology, geophysics, and environmental sciences. Representing Fujian Normal University, Binggui Cai and Guoliang Lei bring extensive experience in field research and geoscientific analysis. Joining them are colleagues from the prestigious Institute of Geology and Geophysics at the Chinese Academy of Sciences, including Wenying Jiang, Luo Wang, Qingzhen Hao, Changhong Liu, and Miaofa Li. Their collective expertise spans sedimentology, paleoclimatology, geomorphology, and advanced coring and sampling techniques.

Together, these scientists form a strong interdisciplinary team that will contribute significantly to the success of the GEA cross-border expedition, working alongside regional experts to explore and better understand the diverse natural environments of Montenegro and Bosnia and Herzegovina.

From the region, the research team includes Filip Vujović, Milan Gazdić, Milica Radaković, Dejan Zejak, Zoran Govedar, and other experienced field researchers. Providing essential logistical support throughout the expedition is Bole, a professional driver from Novi Sad, known for his reliability in complex terrain and remote locations.

The field activities of the Post conference are coordinated by Velibor Spalević, Slobodan B. Marković, and Goran Škatarčić, ensuring smooth implementation of the scientific program, team coordination, and collaboration between international and local participants.



Field Activities Overview

June 1–7: The team will travel through the Montenegrin coast and central region, including Boka Bay, Skadar Lake, and Crna Gora Center, conducting field measurements, collecting samples, and documenting environmental conditions. Work will focus on erosion patterns, sediment transport, and landscape change.

June 8–10: The group transitions into Bosnia and Herzegovina, with planned overnight stops at Crvena Stijena, one of the most significant prehistoric archaeological sites in the Western Balkans. Located near the border between Montenegro and Bosnia and Herzegovina, it contains cultural layers dating back to the Middle Palaeolithic period, offering valuable insights into early human settlement in the region.

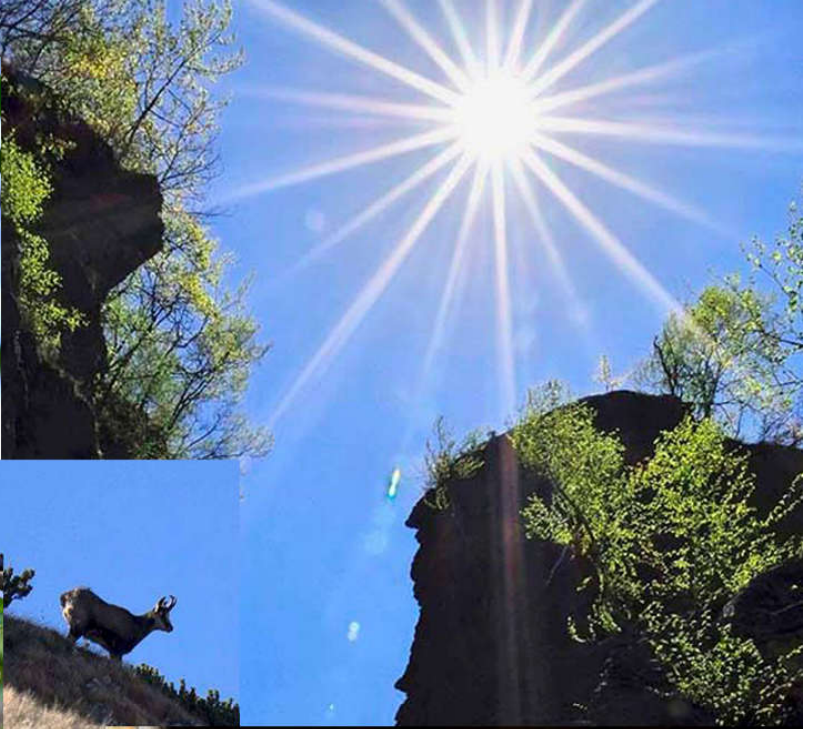
Region of Foča, and the surrounding river systems will be a part of field research. Special attention will be devoted to Trnovačko Lake, as well as nearby karst and glacial formations, which represent valuable natural archives for understanding past environmental changes.

In addition to the scientific focus, visits to Mostar and Sarajevo will provide participants with a deeper understanding of the cultural, historical, and national diversity of Bosnia and Herzegovina - offering valuable context for interpreting the region not only as a geographic space but also as a cultural landscape shaped by complex human-nature interactions over time.

June 11–13: Intensive work in Cave–Lake region, with two teams working in parallel: One group will study moraine formations and surrounding terrain, The second group will focus on sediment coring and lakebed analysis.

June 14–15: The final days will be spent in the Durmitor area, followed by a return to Podgorica on June 15.





Post-konferencijski program

GEA terenska istraživačka ekspedicija: 1–15. jun 2025

„Povezivanje mora, dolina i planina – Istraživanje nevidenog“

Prekogranična naučna ekspedicija u Crnoj Gori i Bosni i Hercegovini

Nakon zvaničnog dijela konferencije, uslijediće proširena petnaestodnevna terenska naučna ekspedicija širom Crne Gore i dijelova Bosne i Hercegovine. Ovo naučno istraživanje okuplja tim međunarodnih i regionalnih stručnjaka - uključujući rukovodstvo WASWAC-a, kao i osam istraživača sa Fujian Normal University i Instituta za geologiju i geofiziku Kineske akademije nauka, uz naučnike iz Crne Gore i Srbije.

Itinerar obuhvata raznovrsne pejzaže — od obalnih zona i riječnih dolina do visokoplaninskih oblasti — sa fokusom na mapiranje prirodnih resursa, analizu sedimenata, geomorfološka istraživanja i dokumentovanje geonasljeđa.

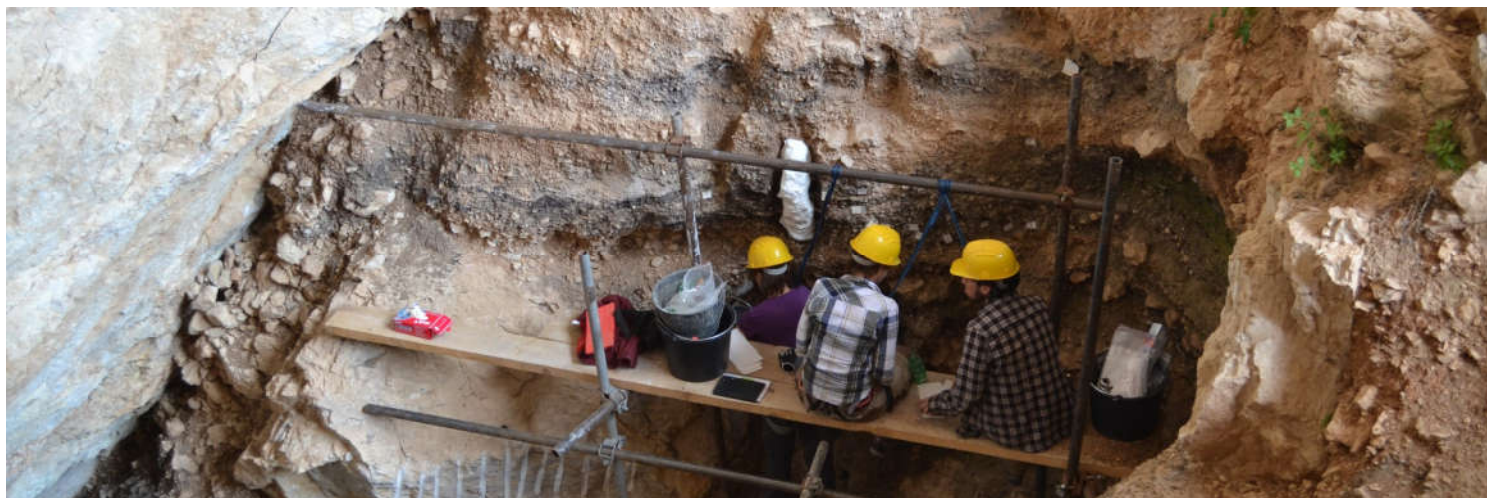
Ključni učesnici:

Međunarodnu naučnu delegaciju iz WASWAC-a prati tim iz Kine koji čine renomirani istraživači specijalizovani za geologiju, geofiziku i nauke o životnoj sredini. Binggui Cai i Guoliang Lei, sa Fujian Normal University, donose bogato iskustvo u terenskom radu i geonaučnim analizama. Njima se pridružuju kolege iz prestižnog Instituta za geologiju i geofiziku Kineske akademije nauka: Wenying Jiang, Luo Wang, Qingzhen Hao, Changhong Liu i Miaofa Li. Njihova zajednička ekspertiza obuhvata sedimentologiju, paleoklimatologiju, geomorfologiju i napredne tehnike uzorkovanja i bušenja.

Zajedno, ovi naučnici čine snažan interdisciplinarni tim koji će značajno doprinijeti uspjehu GEA prekogranične ekspedicije, radeći rame uz rame sa regionalnim stručnjacima na istraživanju i boljem razumijevanju raznolikih prirodnih sredina Crne Gore i Bosne i Hercegovine.

Iz regiona, istraživački tim čine Filip Vujović, Milan Gazdić, Milica Radaković, Dejan Zejak, Zoran Govedar i drugiiskusni terenski istraživači. Podršku tokom cijele ekspedicije pruža Bole, profesionalni vozač iz Novog Sada, poznat po svojoj pouzdanosti u zahtjevnim terenima i udaljenim predjelima.

Terenskim aktivnostima post-konferencijskog programa koordiniraju Velibor Spalević, Slobodan B. Marković i Goran Škatarić, obezbjeđujući realizaciju ovog naučnog programa, timsku koordinaciju i saradnju između međunarodnih i domaćih učesnika.



Pregled terenskih aktivnosti

1–7. jun: Tim će istraživati kroz crnogorsko primorje i centralni region, uključujući i posjete Boki Kotorskoj, istraživanje - Skadarsko jezero i šire područje središnje Crne Gore, gdje će se obavljati terenska mjerenja, prikupljanje uzoraka i dokumentovanje stanja životne sredine. Istraživanja će biti fokusirana na erozione procese, transport sedimenata i promjene u pejzažu.

8–10. jun: Ekspedicija prelazi u Bosnu i Hercegovinu, uz planirane noćenja kod Crvene stijene, jednog od najznačajnijih praistorijskih arheoloških nalazišta na prostoru zapadnog Balkana. Smještena blizu granice Crne Gore i Bosne i Hercegovine, Crvena stijena sadrži kulturne slojeve koji datiraju iz srednjeg paleolita, pružajući dragocjene uvide u rani ljudski život u regionu.

U okviru istraživanja biće obuhvaćen i region Foče i okolni riječni sistemi. Posebna pažnja biće posvećena Trnovačkom jezeru, kao i obližnjim karstnim i glacijalnim formacijama, koje predstavljaju važne prirodne arhive za razumijevanje istorijskih klimatskih i ekoloških promjena.

Pored naučnog dijela, planirane su posjete gradovima Mostar i Sarajevo, kako bi se učesnicima pružilo dublje razumijevanje kulturne, istorijske i nacionalne raznolikosti Bosne i Hercegovine. Time se region sagledava ne samo kao geografski prostor, već i kao kulturni pejzaž oblikovan složenim odnosima čovjeka i prirode kroz vrijeme.

11–13. jun: Intenzivan rad u istraživačkoj oblasti pećina–jezero, gdje će dva tima raditi paralelno:

- Jedan tim će istraživati morenske formacije i okolni teren,
- Drugi tim će se fokusirati na uzorkovanje sedimenata i analizu dna jezera.

14–15. jun: Posljednji dani terenskog rada biće provedeni na području Durmitora, nakon čega slijedi povratak u Podgoricu 15. juna.

