

Editorial – eco.mont 17-2

Mountains are recognised not only as ecological treasures but also as living laboratories where the interplay of biodiversity, climate dynamics, and human culture converge. In this issue of eco.mont, we present a range of articles that exemplify the geographic diversity, thematic depth, and interdisciplinary scope of contemporary mountain research, from the Baekdudaegan range of Korea to the highlands of Austria, Switzerland, and China.

Research frontiers in Asia's mountain ecosystems

The article on the Baekdudaegan Mountains Reserve offers a bibliometric and topic modelling analysis of scientific literature on the Baekdudaegan Mountains – a 1,400 km-long protected mountain range that is central to the ecological and cultural identity of the Korean peninsula. Using bibliometric analysis and the Latent Dirichlet Allocation (LDA) method, the authors identify six dominant research clusters: biochemical pathways, forest dynamics, genomic taxonomy, seedling ecology, biodiversity conservation, and climate change. This integrative approach not only highlights the growing scientific attention to the region – particularly since 2017 – but also serves as a valuable resource for guiding future conservation policy and interdisciplinary research.

Similarly, a case study from the Daqi Mountain Provincial Nature Reserve in central China draws attention to the fragile balance of highland forest ecosystems. The reserve is home to several endangered species that now face existential threats from global warming, biological invasions and human disturbance. The article calls for improved fire management strategies and a broader framework for biodiversity monitoring, and highlights the urgent need for coordinated conservation efforts.

Protected areas in Europe: glacial legacies and wilderness narratives

Turning to the European Alps, we visit the Hohe Tauern National Park (HTNP), Austria's oldest and largest national park, which has a long tradition of glaciological research dating back to 1879. The study details the development of glacier monitoring and discusses the educational and ecological importance of the park's glaciers. As glacier retreat accelerates, HTNP is becoming an important site not only for scientific study, but also for environmental education and advocacy.

Switzerland's oldest national park, the Swiss National Park (SNP), offers a different but equally compelling story. Founded in 1914 as a rewilding experiment, the SNP has long struggled to communicate the meaning and value of wilderness to the public. An insightful article in this issue chronicles the development of a major new permanent exhibition at the National Park Centre in Zernez, which opened in 2023. The exhibition represents years of planning and public engagement, translating complex ecological issues into a tangible and engaging visitor experience.

Global networks and local action

Finally, we feature an update on the World Network of Mountain Biosphere Reserves (WNMBR), established in 2021 under the auspices of UNESCO's Man and the Biosphere programme. Comprising over 80 mountain biosphere reserves, the WNMBR aims to foster collaboration and innovation across mountain regions. Through knowledge exchange, joint research, and inclusive governance, the network underscores the necessity of global cooperation in addressing the challenges of sustainable development in mountainous areas.

Together, these contributions reflect the growing complexity and global scope of mountain research. Whether through technological innovation, conservation strategy, or public education, the work featured highlights the critical importance of mountains as sentinels of environmental change and custodians of cultural and biological heritage. We hope this issue inspires further interdisciplinary exploration and action across mountain landscapes worldwide.

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co-editor
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