

# Mountain Protected Areas UPDATE



March 2024 # 121



*I hear the wind blow, I see the flowers bloom*

*I see the sun set, I smell the mowtin air*

*I feel a bit cold*

*I see mownt fethertop, I am at the botim ov molly hill*

*I hear the stove boiling!*

*Poppy Bailey 6 years March 2024*

*Photo: Mt Feathertop, Australian Alps national parks*

## A note from the editor

Welcome to the 121th Mountain UPDATE.

As ever I hope you enjoy reading this UPDATE compiled over last three months or so. By coincidence this issue has a number of repeated themes...Nepal and the Himalayas, the dilemma of ski resorts 'chasing the last snow flake' and the rights and knowledge of indigenous peoples in mountain conservation.

There are so many organisations and individuals doing an unbelievable amount toward the understanding and protection of mountains that this only captures a minuscule fraction of what is going on around the world.

*March 2024*

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Mountain Update is a quarterly newsletter distributed to members of the Mountain Protected Areas Network.

The Mountain Specialist Group acknowledges the First Peoples and Nations of the lands and waters where we live and work and we pay our respects to their Elders past, present and emerging. We acknowledge and respect the deep spiritual connection and the relationship they have to Country.

The views expressed in this UPDATE are not necessarily those of the IUCN WCPA.

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## Global

### WILD12—in the Black Hills of South Dakota



From Amy Lewis, CEO WILD.org

At the invitation of the Sicangu Lakota Treaty Council, WILD12 has an all too rare opportunity to reassess wilderness through Indigenous meanings and relationships. Despite progress at the international level which makes wilderness a more inclusive framework, we still have not formally and collectively revisited this concept with the broad input of Indigenous leaders from around the world. WILD12 is our opportunity as global community to do so with the intent of producing concrete declarations that inform national and international policy.

This Congress (August 2024) will continue the wilderness tradition upon which it is built and will also include the special theme of reimagining wilderness through Indigenous meanings. To learn more about submitting abstract or attending visit: [www.wild12.org](http://www.wild12.org)



Badlands National Park, South Dakota Photo: NPS

### What's next for '30 by 30'?

**Taken from an article in Mongabay “Global protected area policies spark conflicts with Mexico Indigenous groups” March 2024**

According to a study by National Autonomous University of Mexico (UNAM) the application of international conservation strategies (such as Target 3 of the biodiversity framework) without considering the local populations who inhabit the land, is one reason why conservation conflicts arise.

Although the framework mentions the need for “equitable” and “effective” management in the increase of protected surface area, governments and policymakers still have not figured out an effective strategy to measure a country's compliance with its other targets.

Malena Oliva, a researcher and lead author of the study said *the design of locally relevant indicators remains a challenge around the world because it's much harder to quantify the achievement of targets related to human rights, social impacts and local participation. Indicators related to Indigenous peoples include trends in the practice of traditional occupations, respect for traditional knowledge and land use changes.*

Despite this, efforts are being made to open up a new pathway for Indigenous and local communities to be taken into consideration in achieving conservation targets, beyond protected areas and surface-based conservation measures.

In December, the IUCN launched [Act30](#), an initiative co-designed with the International Indigenous Forum on Biodiversity, which seeks to work at the government level to map out diverse and effective pathways to meet the 30 by 30 goal while upholding Indigenous peoples' territories, rights and knowledge.

Also the WWF, IUCN World Commission on Protected Areas and The Nature Conservancy [developed a guide](#) to “inclusive, equitable and effective implementation” of the 30 by 30 goal.

Countries have until the [next U.N. biodiversity conference](#) in October to submit their new national strategies, known as NBSAPs, to meet the biodiversity framework's goals.



## Africa

### *Value of Long-term Ecological Research for Safeguarding Mountain Ecosystems: Drakensberg Mountains, South Africa*



*LTER site Drakensberg NP First fertilizer application  
photo: Alan Manson*

***From Dr Clinton Carbutt (Scientist, Ezemvelo KZN Wildlife, and IUCN WCPA Mountain Specialist Group regional representative: Southern and East Africa)***

Mountain ecosystems are facing a barrage of threats in the Anthropocene. Pervasive threats include warming, increased frequency and intensity of natural disasters, ingress of alien biota, overutilization of natural resources, and habitat loss through agricultural intensification and urbanisation. A more insidious and therefore overlooked threat is nutrient enrichment, which may take place through atmospheric deposition (wet and dry sources), or changes to soil chemistry and soil nutrient economies through warming or altered soil hydrology. The ultimate driver augmenting all such processes is the global increase in consumers.

A long-term ecological research (LTER) experiment simulating nutrient enrichment through fertilizer additions, part of the globally distributed and replicated Nutrient Network, was established in a protected area in the Drakensberg Mountains, South Africa, in 2018. Some six years of data from this experiment are showing that these montane grasslands are highly dynamic in response to fertilizer treatments. Shifts in native species composition, proliferation of invasive alien species, increase in grass biomass of certain species and changes in soil fertility are some of the most significant responses to date.

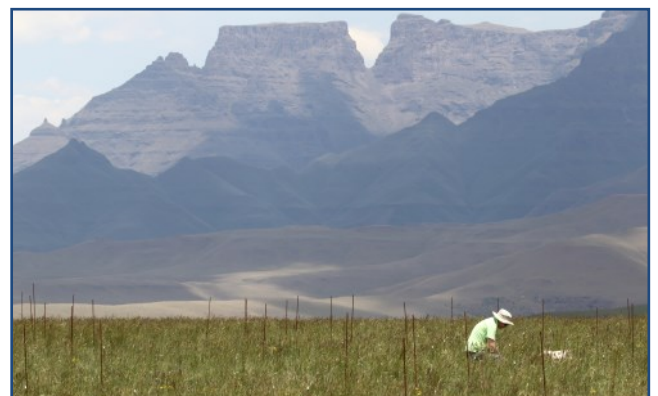
Long-term datasets are essential to formulating evidence-based policy to guide future management actions and interventions.

The applied research described above also promotes interdisciplinary, systems-based collaborative science and will help to better manage grassland-dominated mountain protected areas within an adaptive management framework.



*Soil Survey photo above: C. Carbutt*

*LTER site Drakensberg Mountains photo below: A. Manson*



***South Africa historically has well formulated water and fire policy informed by multi-decadal mountain catchment and burning experiments, respectively. Perhaps a “nutrient policy” should also be established that incorporates management interventions mitigating nutrient enrichment, or at the very least a more integrated policy also informed by measures to mitigate such impacts.***

## America—south

### *Struggle to protect Amboró National Park, Bolivia*



Amboró National Park and Integrated Management Natural Area is one of 22 national protected areas in Bolivia and encompasses some 636,000 hectares (1.57 million acres). The park is located in the Santa Cruz department of central Bolivia, at the confluence of three different ecosystems: the Amazon, the northern Bolivian Chaco and the Andes.

#### **From Mongabay March 2024**

In 2020, a Mongabay reporting team visited Bolivia’s Amboró National Park and Integrated Management Natural Area and found that portions of its protected forest had been cleared and replaced by illegal coca crops. Coca is a plant native to South America and is used to produce cocaine.

Satellite imagery and data show that deforestation has increased in Amboró since then. However, Vice Minister of Social Defense and Controlled Substances, told Mongabay and El Deber reporters that authorities had eradicated some 443 hectares (1,094 acres) of coca crops in the park as of October 2023.

[Global Forest Watch](#) recorded some 256,000 deforestation alerts between November 2021 and November 2023 in Amboró. Each of the alerts represents the loss of 30 square meters of tropical forest (98.4 square acres). Many of these alerts coincided with fire activity in the park.

National and departmental officials say Amboró authorities aren’t doing enough to keep encroachers out of the park. But rangers in Amboró say they don’t have enough resources to effectively enforce regulation.

One of Amboró’s park rangers, who asked to remain anonymous for fear of retaliation, said that in spite of limited resources he and his colleagues risk their lives to care for the park.

“We can’t face coca growers or drug traffickers on our own because they’d simply kill us,” he said.

The region is home to trees such as mahogany (*Swietenia macrophylla*) and peach palm (*Bactris gasipaes*), along with jaguars (*Panthera onca*), Andean bears (*Tremarctos ornatus*) and with other mammal species, plus around 800 different bird species.



The Peruvian spider monkey (*Ateles chamek*) one of many species that inhabits the region comprising Amboró NP



# America—north

## Y2Y—a wild intact mountain landscape



From Y2Y News February 2024

**Research reveals the Yellowstone to Yukon (Y2Y) region along the Rocky Mountains is the world’s most intact and least developed mountain system, emphasizing its crucial role in conserving biodiversity and supporting human well-being.**

Mountains are not only critical for conserving biodiversity but also ensuring human well-being. Now, new research shows North America is home to the world’s most intact, least developed mountain system.

A new paper highlights the 3,400-kilometer-long (2,100 miles) Yellowstone to Yukon region up the spine of the Rocky Mountains among the few remaining large mountain areas of connected habitat left on Earth.

Yellowstone to Yukon Conservation Initiative (Y2Y) is excited to share findings from a new research paper led by David Theobald at Conservation Planning Technologies, [Evaluating ecosystem protection and fragmentation of the world’s major mountain regions](#)

This paper, published in Conservation Biology, significantly advances our understanding of conserving large landscapes and provides valuable insight into gaps in protecting nature.

This innovative research looked at the six largest continuous mountainous regions on each continent outside of Antarctica, including Africa’s Albertine Rift, Europe’s Alps, South America’s Andes, Australia’s Great Eastern Ranges, Asia’s Himalayas, and the Yellowstone to Yukon region in North America’s Rockies.

**Of the six study areas, the Yellowstone to Yukon region stands out as the one with the lowest levels of human modification and the highest levels of intact, or “wild” landscapes, with minimal fragmentation. Yet, at 15.6 per cent, this region falls short in terms of the amount of landscape protected.**

## Chickadee in the snowbank: Sierra Nevada Mountains

In recent history, intense winters are often followed by drought years here in the Sierra Nevada and in much of the U.S. West. This teeter-totter pattern has been identified as one of the unexpected symptoms of climate change, and its impact on the chickadees is providing an early warning of the disruptions ahead for the dynamics within these coniferous forest ecosystems. Long-term research following these chickadees provides a unique window into the relationships between winter snow, chickadee populations and the biological community around them, such as coniferous forests and insect populations. A mountain chickadee facing deep snow is like a canary in a coal mine – its survivability tells us about the challenges ahead.

Snow cover is good for overwintering insects in most cases, as it provides an insulating blanket that saves them from dying during those freezing months. However, if the snow persists too long into the summer, insects can run out of energy and die before they can emerge, or emerge after chickadees [really need them](#). Drought years also can drive insect population decline.

Extremes at both ends of the spectrum are making it harder for chickadees to thrive, and more and more we are seeing oscillations between these extremes.

These compounded effects mean that in some years chickadees simply don’t successfully nest at all. This leads to a decline in chickadee populations in years with worse whiplash – drought followed by high snow on repeat – especially at high elevations.

This is especially concerning, as many [mountain-dwelling avian species are forecasted to move up in elevation](#) to escape warming temperatures, which may turn out to be hazardous.



Conditions in the high Sierras can be harsh, if chickadees can’t remember where their food is, they die. Chickadees rely on seeds that they gather and stash away for winter.

photo: Benjamin Sonnenberg

From The Conversation January 2024

Read whole article: [The chickadee in the snowbank: A ‘canary in the coal mine’ for climate change in the Sierra Nevada mountains \(theconversation.com\)](#)

# America—north

## *Ski Resorts and the Climate Crisis*

From The Guardian Mar 2024

[Ski resorts' era of plentiful snow may be over due to climate crisis, study finds](#) | [Climate crisis](#)  
| [The Guardian](#)

If you have been enjoying skiing or snowboarding this winter then such an experience could soon become a receding memory, with a new study finding that an era of reliably bountiful snow has already passed due to the climate crisis.

The US ski industry has lost more than \$5bn over the past two decades due to human-caused global heating, the new research has calculated, due to the increasingly sparse nature of snowfall on mountain ranges. Previous studies have shown that in many locations precipitation is now coming in the form of rain, rather than snow, due to warming temperatures.

This situation, the new study states, has shortened the average ski season in the US by five to seven days over the past half century, costing the industry an average of \$252m a year from lost revenue and the rising [cost of making snow via machines](#).

“We are probably past the era of peak ski seasons,” said Daniel Scott, a scientist at the University of Waterloo in Canada, [who undertook the research with colleagues at the University of Innsbruck](#). “Climate change is an evolving business reality for the ski industry and the tourism sector.”

In the US, sites across the western half of the country have [reported](#) less than half the normal snowpack, causing resorts to scramble into greater snow production or scale back their offering to skiers.

Snowpack in the western US has already [declined by 23% since 1955](#), and climbing temperatures have pushed the snowline in Lake Tahoe, California – which is home to more than a dozen resorts – from 1,200 to 1,500 feet. A [recent study found](#) that much of the northern hemisphere is heading off a “snow-loss cliff” where even marginal increases in temperature could prompt a dramatic loss of snow.



On one hand, making snow requires enormous amounts of energy, which creates planet-warming emissions. On the other, a warming planet means that artificial snow is increasingly essential to an industry that, while admittedly a luxury, pumps over \$20bn annually into ski towns nationwide.

The good news is that, in the face of these growing threats, resorts have been dramatically improving the efficiency of their snowmaking operations – a move they hope will help them outrun rising temperatures.

Bromley Mountain Ski Resort is among the many snowmakers that have been able to eliminate, or drastically reduce, its dependence on diesel air compressors.

Electrifying the job has also allowed some resorts to incorporate renewable energy. A more revolutionary development in snowmaking is the move toward automated systems that can be operated almost entirely remotely.

Snowmaking gun that is blowing fresh flake on the Blue Ribbon trail at Bromley Mountain Ski Resort. Photo above: Bromley Ski Resort





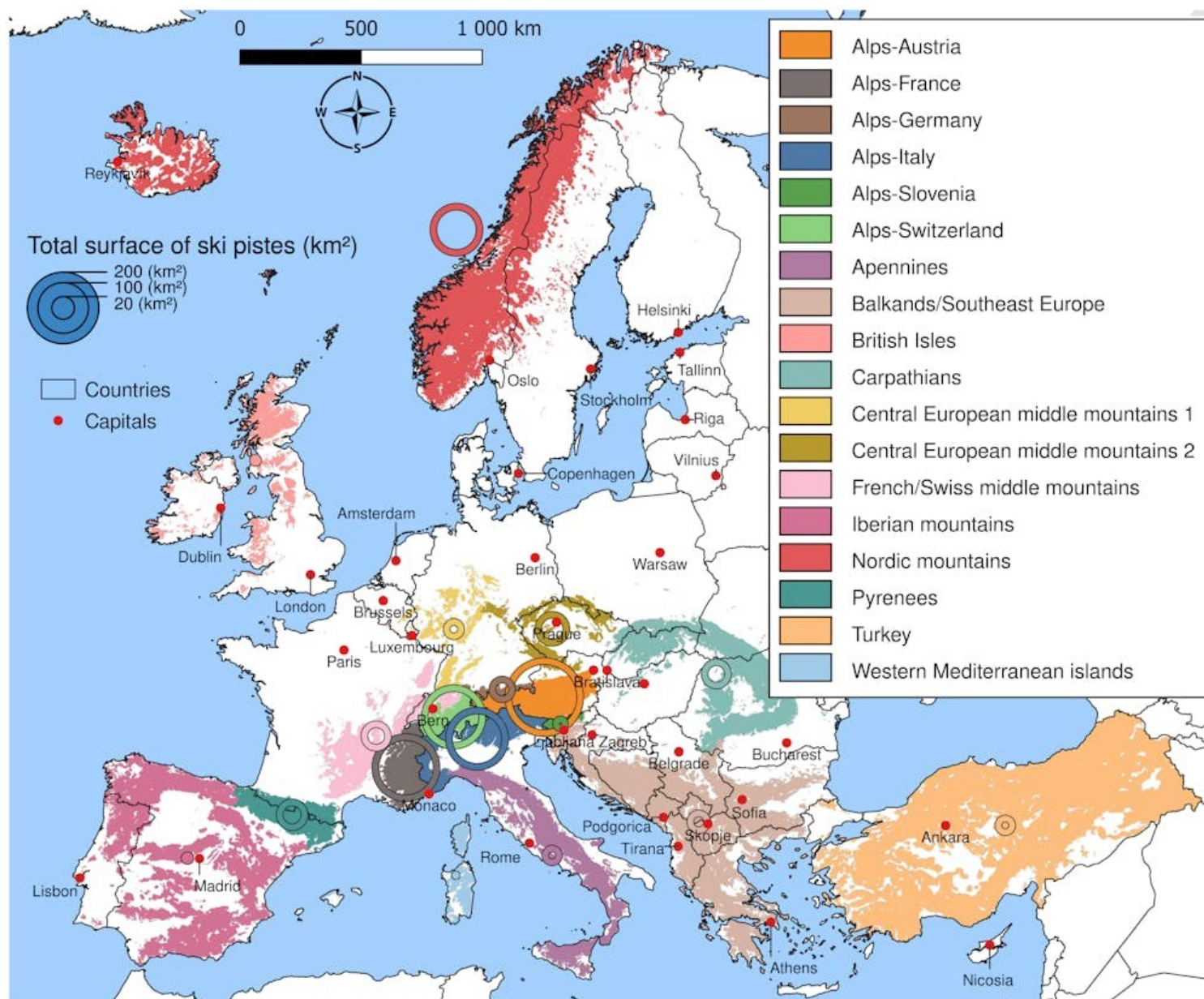
# Europe

## *Will we be able to ski in a +2°C world?*

from The Conversation January 2024 [Will we be able to ski in a +2°C world? \(theconversation.com\)](https://theconversation.com/will-we-be-able-to-ski-in-a-+2c-world-2024-01)

This question is not just a concern for amateur or professional skiers. Skiing is also an economic issue, with a total turnover estimated at 30 billion euros in Europe.

In France alone, 120,000 jobs depending directly and indirectly on the ski economy.



Winter sports resorts are unevenly distributed in 18 mountain massifs across Europe. Adapted from François et al., 2023, Fourni par l'auteur

# Europe

## *Will we be able to ski in a +2°C world? cont.*



At 2°C of global warming above pre-industrial levels, 53% of European resorts are at very high risk of low snowfall. However, the picture varies at a national level: in the French Alps, this proportion concerns a third of resorts, while in the Pyrenees and in the Franco-Swiss mid-mountain massifs, 89% and 80% respectively of resorts are affected by a very high level of risk of low snowfall.

**Extracts taken from *The Conversation* January 2024 [Will we be able to ski in a +2°C world? \(theconversation.com\)](https://theconversation.com/will-we-be-able-to-ski-in-a-2c-world)**

Over the last months, the *raison d'être* of winter sports has been threatened more than ever by a range of challenges and controversies. From the occupation by activists of the glacier of Girose, Southeastern France, to protest against plans for a new cable car (see next article), to doubts over whether to hold pre-season sporting events following the partial destruction of the Théodule glacier in Switzerland, scarce snow is pitting people against one another.

**Behind all these tensions lies the same question: what does the future hold for skiing on an overheating planet?**

In recent decades, France has seen some ski resorts close due to a lack of snow or a sustainable business model. However, the majority of resorts continue to cling on to the hope of adapting to rising temperatures. But will reproducing the tried and tested recipes of the past be enough to meet the climate challenges ahead?

Published in [\*Nature Climate Change\*](#), a [study](#) of 2,234 winter sports resorts in Europe sought to measure the impact of global warming on snowmaking in resorts, and the possible room for manoeuvre available to adapt.

Climate change is a global phenomenon impacting resorts worldwide, but not all mountain areas are affected to the same degree or with the same speed, and the ability to limit the impact of these changes through snow production also varies greatly.

Like natural snow, snow production is affected by rising temperatures, because snow production requires sufficiently cold weather conditions. This dual pressure is leading to increased investment to ensure that sufficient snow can be produced, thereby increasing the dependency of mountain resorts on snow tourism.

Not all ski resorts will equally be able to adapt to rising temperatures by producing snow. At +2°C global warming, snowmaking, if applied to 50% of the ski area, would reduce the proportion of resorts exposed to a very high risk of low snowfall in the Alps and Pyrenees to 7% and 9% respectively, while in the mid-range mountain ranges the proportion would be 56%. These differences are even more marked at higher levels of warming.

Finally, it is impossible to dissociate snow production from the tourism activity that calls for it. In reality, it is responsible for only a fraction of the carbon footprint of a winter sports tourist destination, with skiers' transport and accommodation proving most polluting. Carbon emissions could nevertheless rise as people travel further and further afield to find snow.

**Would the economic benefits be worth it? The study calls on the tourism sector to craft a strategy based on climate adaptation and decarbonisation as resorts look to the future.**



# Europe

## Activists, scientists & naturalists occupy part of the Girose glacier, Hautes-Alpes: France



**Zone to Defend or ZAD** (French: zone à défendre) is used to refer to an occupation that is intended to physically blockade a development project. By occupying the land, activists aim to prevent the project from going ahead.

*From Reporterre October 2023*

***"We don't need to climb higher and higher to catch the last snowflakes."***

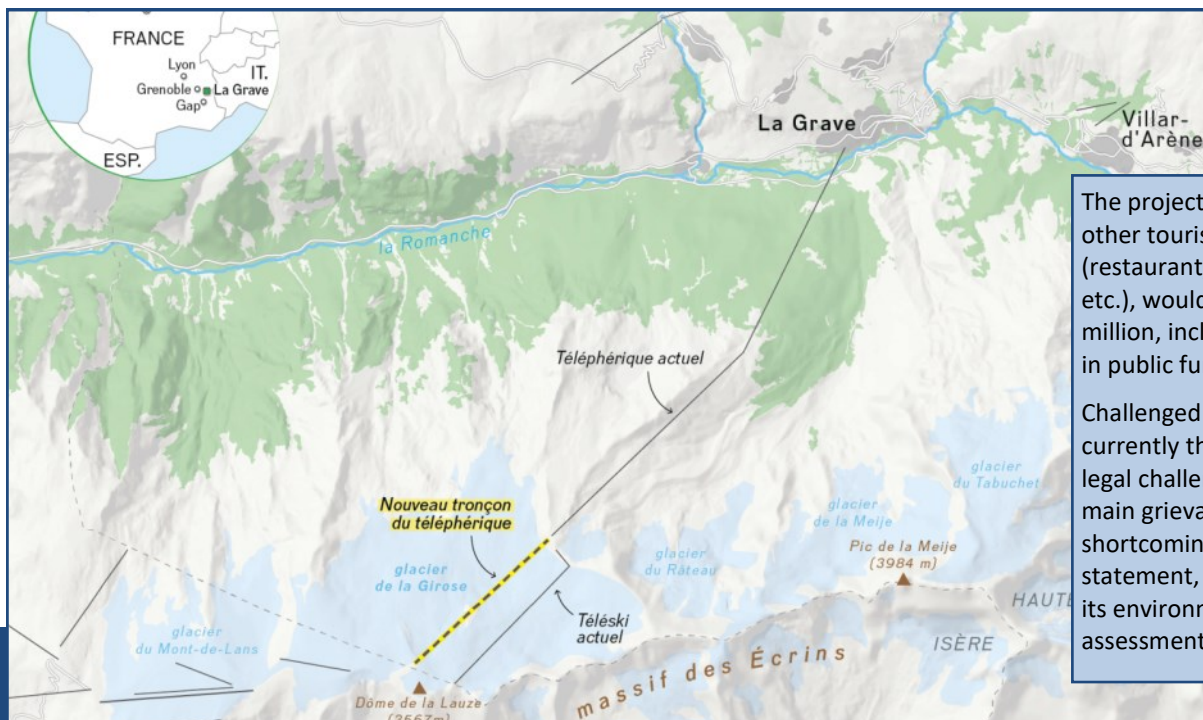
The Girose glacier sits on the heights of La Grave, a small resort in the Hautes-Alpes 100% off-piste, renowned for freeride and mountaineering. All around, the view embraces the jagged peaks of the Écrins. The panorama is sublime and accessible: you can climb it in a "benne", a cable car from the 1970s, which climbs to an altitude of 3,200 metres. From here it is planned to build a new section of the cable car, to replace an obsolete ski lift, to climb even higher, to 3,600 metres.

In October 2023, the Earth Uprisings began the occupation of the cable car construction site on the Girose glacier... at an altitude of 3,400 metres. **The ZAD thus created became the highest in Europe.**

In the middle of the glacier rises a rocky islet, where a pylon construction site is being prepared, the centrepiece of the project to build the new cable car. To *"put a stop to the exploitation and artificialization of the mountains"*, the activists set up their tents and banners. They have announced their intention to occupy the site until it is abandoned, or at least until the winter break in work, officially scheduled for October 14.

"We had to set up this occupation as a matter of urgency, because we were caught off guard by the start of the work. Officially, the company was only supposed to install protective nets for the *Dauphiné androsace*, a protected species threatened by the project," said one of the mountaineering activists.

**Ed Note: story to be continued ...**



The project, which includes other tourist facilities (restaurant, "glaciorium", etc.), would cost €14 million, including €4 million in public funds.

Challenged locally, it is currently the subject of a legal challenge. One of the main grievances is the shortcomings of the impact statement, a crucial step in its environmental assessment.

## SE Asia—Oceania

### *Healers of Siquijor: Mt Bandilaan National Park, Philippines*

Mount Bandilaan National Park's highest peak 557 m Photo: Keith Fabro

#### **From Mongabay**

The island of Siquijor in the southern Philippines is famed for its traditional healing practices; less well known is the role its healers play in conserving the island's forests.

Most of the healers live near Mount Bandilaan National Park, a 271-hectare (670-acre) protected forest reserve where traditional practices and beliefs encourage respectful and sustainable harvest of medicinal plants. Through both traditional practices and a government reforestation initiative, efforts to protect the park from deforestation and degradation contribute to combating climate change and preserving the island's rich biodiversity.

The island's healers' association also collaborates with researchers and a government reforestation initiative to monitor and cultivate medicinal trees in the island's forests.

Bandilaan is Siquijor's highest peak, at 557 meters (1,827 feet). Its forests are home to 188 identified plant species, of which 19 are considered threatened, according to a 2019 floristic assessment by experts from Bohol Island State University and the University of the Philippines Los Baños. A 2021 study found the park is also home to seven amphibian species, 12 bird species and eight bat species, some of which are endemic and endangered in the Philippines.

### *Arrests and Trespass Convictions in Tasmanian Mountain Forests, Australia*

#### **From Bob Brown Foundation News February / March 2024**

Despite another arrest, **former Greens leader Bob Brown** feels "very strong". Brown was calling for "an end to native forest logging in Australia", protesting along the edge of the Tasmanian wilderness world heritage area, when he was arrested for trespass with other activists.

Brown said: *We slept out in the forest overnight and got arrested at 9 o'clock this morning, when the loggers turned up to start work.*

He describes hearing the owls calling and wind blowing overnight, and a fantail bird darting around his hair just before being arrested in the morning.

*Nearby was a stump over three metres across, which is one of the world's tallest flowering trees, and it had been there for centuries, and in half an hour on Friday it was brought down. I think Australia's heritage deserved better than that.*

The forest is "right up against the world heritage area" and Brown says "should be in the world heritage area".

The governments are failing to uphold international laws which protect world heritage for us ... But secondly, we are in an age of environmental and global warming crisis and extinction crisis. The United Nations says the best thing to do there is to stop logging native forests. On both counts it is the best and the cheapest option.



Forestry Tasmania has prohibited community members from 800,000 hectares of public land in what is the latest round of attempts to silence scrutiny of their forest destruction.

Nineteen citizens issued with notices prohibiting them from entering state forests have filed a Supreme Court challenge to Forestry Tasmania's misuse of their safety provisions.

"At the heart of this Supreme Court case is a government agency that thinks it can silence public opposition to native forest logging, by prohibiting those who protest their activity from publicly owned forests. These prohibition notices state that we cannot re-enter public forests until given written permission by Forestry Tasmania," said Bob Brown Foundation takayna / Tarkine Campaigner Scott Jordan.



# Oceania—SE Asia

## *Tallest Flowering Plant in the World, Australia*

*Extracts from The Conversation October 2023 Chris Taylor, Author*

When we think of extinction, we think of individual species. But nature doesn't operate like that. Entire communities and even whole ecosystems are now so compromised they could be lost entirely. Australia now has about 100 ecological communities at risk.

**One of those is the iconic Mountain Ash (*Eucalyptus regnans*) community in Victoria's Central Highlands. But decades of logging, repeated wildfires, and fragmentation of these forests means they and the species which rely on them like Leadbeater's possum and gliders now face existential threats.**

These pressures have pushed these forests to the edge. They could readily collapse and be replaced by an entirely different community, dominated by wattles and prone to more fire, more often. The collapse of the Mountain Ash community would have catastrophic implications for the five million people who live in Melbourne. The city's famously good drinking water relies almost entirely on run-off from Mountain Ash forest to the east.

The ending of industrial logging in 2024 might help – if we undertake a massive restoration effort. Many tracts of forest are simply not regenerating after logging – up to 30%. Restoring tree cover, species diversity and making the ecosystem functional again will take a great deal of work.

**It's not just Victoria's iconic mountain ash trees at risk – it's every species in their community. The case is compelling for listing Victoria's Mountain Ash community as threatened.**

Huge efforts will be required to stop the populations of animals such as the southern greater glider from plunging. Recently, we have been testing new nesting box designs to help populations recover. These boxes are meant to be a stop-gap substitute as nesting hollows to replace natural cavities.

We'll also have to do our best to keep out high-intensity wildfire from as many areas of Mountain Ash forest as possible, so the young trees have a chance to mature and develop hollows.

This kind of restoration is compatible with efforts by conservationists to declare a Great Forest National Park to protect Mountain Ash communities.

It's well established that protecting areas does work. For example, an estimated 25% of the world's bird species are alive today because they have been protected in reserves.

Listing an ecological community as threatened isn't a one-way street to extinction. We can – and have – reversed the damage for other communities and species. We need do it for Mountain Ash forests, and it must be done now.



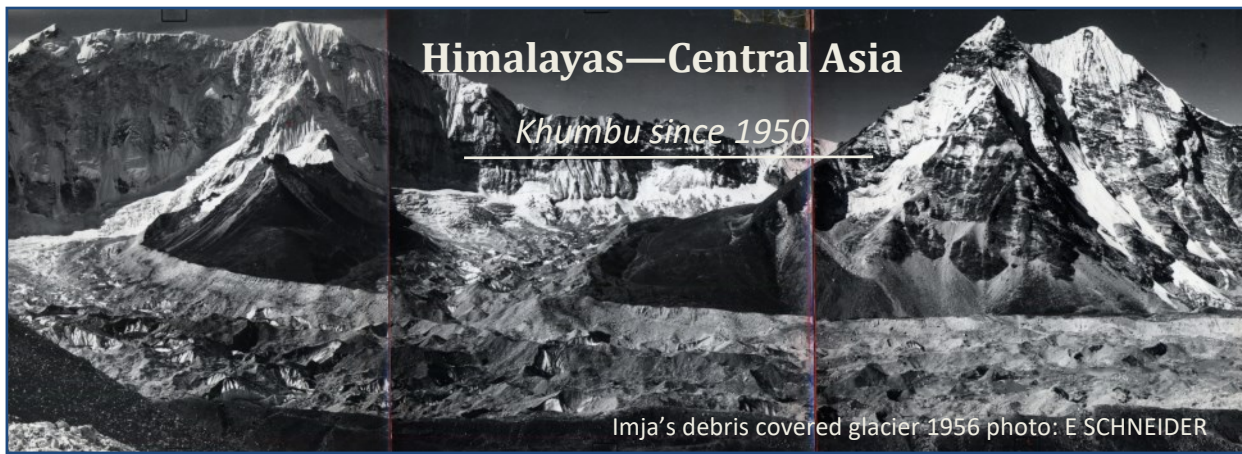
The following extract from "*Forests of Australia*" (1967) indicates the massive proportions of these trees. It (sadly) records the felling of a tree in Tasmania in 1942:

*"It is recorded that two expert axemen, working on a platform 15 feet above the ground, took two and a half days to cut a scarf 6 feet deep into the mighty butt as a preliminary to sending the giant toppling to earth. The crash of its fall resounded for miles around and even hardened bushworkers are said to have downed tools in silent homage to the fallen monarch. Its age was put at 400 years..."*

*The tree "yielded 6770 cubic feet of wood which was pulped into 75 tons of newsprint."*

From Australian Native Plants Society





From Alton C. Byers, Ph.D. 2023-2026 Fulbright Specialist (Global) (editors notes below taken from a review by Jack Ives in [Nepal Times Khumbu Since 1950](#) ) Also see publications page.

**Alton C Byers and Lhakpa Sonam Sherpa have teamed up to expand, update, and improve the first edition of Khumbu Since 1950 published in 2017. The result is a first-rate photographic documentation of the dramatic changes which have occurred in the villages, forests, and glaciers of the Mt Everest region over the past 73 years.**

This leads to assessments of the impacts of the massive increase in trekking tourism and mountaineering since the early 1970s, together with the effects of current climate warming. It follows that the photographic collection is of vital importance as a historical document, and in the words of Lhakpa Norbu Sherpa “...could very well serve as the foundation for future monitoring, and subsequent management, of the Sagarmatha National Park and Buffer Zone’s changing cultural and physical landscapes”.

Lhakpa Sonam Sherpa tells the story of how, in spite of losing his hearing to meningitis at the age of 19, he has overcome the resultant challenges to become one of Nepal’s foremost landscape photographers, the founder of the new Sherpa Culture Museum in Namche Bazaar, and the recent recipient of a prestigious award for his lifetime achievements from the Government of Nepal.

A new chapter, Introduction to the Sagarmatha National Park and Buffer Zone, Khumbu, Nepal: Past Present, and Future introduces the reader to an updated account of the people, history, vegetation, and glaciers of the region, written from the perspectives of one author who has studied the region for over 50 years, and the other who was born there.

Many good things have resulted from tourism and the modernisation of Khumbu, several of the consequences remain chronically troubling. Thousands of tons of plastic, aluminum, electronic, medical waste continue to be burned and buried each year in the hundreds of landfills that now pockmark the region, poisoning the air, water, people, and animals that live there.

***In spite of nearly 200 years of mountaineering history throughout the world, strategies to effectively manage human waste at high altitudes continue to elude the mountaineer and development practitioner alike. Khumbu Since 1950 is thus a reminder that, in spite of much progress, much work remains to ensure a thorough collaboration between the local mountain people and visiting supporters toward sustainable mountain development.***



Imja glacial lake panorama 2017 photo: ALTON BYERS



# Himalayas—Central Asia

## *The Road less Travelled in Dolpo, Nepal*

**From Norbu Lama in Nepali Times December 2023**

Till recently, Dolpo and Humla were the only two districts in Nepal without motorable roads. Interestingly, Dolpo is better connected to China at the moment than to the rest of Nepal. Dolpo is located on the trans-Himalayan plateau, and is Nepal's biggest district by area, but has a population of only 45,000.

The view is divided about whether roads are good or bad for Dolpo. They have made it easier and cheaper for the sick to be taken to city hospitals for treatment, or for the annual winter migration south.

However, there are worries about the theft of religious objects, as well as the destruction of chorten and mani walls by bulldozers.

The road network will inevitably spread in Dolpo in the coming years, so we might as well be prepared to minimise its impact, especially on tourism. The roads more or less follow the former trekking routes, which themselves were once the yak trails used by traders, as depicted in Eric Valley's documentary *Caravan* in the 1980s.

All these roads also make it less tenable to justify the high restricted area fees. The Shey Phoksundo Rural Municipality is trying to make sure that a road is not built up the Suligad River, so that the lake, the Bon Po monastery in Pungmo and the southern part of the national park will only be for wilderness hiking.

***Norbu Lama is an ecotourism operator in Dolpo and runs the Gateway Inn in Chekpa.***



Photo: SONAM CHOEKYI LAMA



## *Hydro in Protected Areas, Nepal*

**From Mongabay October 2023**

**Nepal is home to 12 national parks, a wildlife reserve, a hunting reserve, six conservation areas and 13 buffer zones extending from lowland Terai to high mountains, covering 23.39% of the country's total land area, according to the Department of National Parks and Wildlife Conservation. While local communities were displaced to establish national parks in the southern lowlands, people continue to live inside some national parks and conservation areas, such as Sagarmatha (Mount Everest), Langtang and Annapurna, famous worldwide for their scenic trekking routes.**

The Ministry of Forest and Environment has proposed a new procedure that would allow large-scale hydropower development inside protected areas, with fewer environmental safeguards and more legal loopholes. The new document is intended to replace its predecessor framed and implemented 15 years ago. The old document bans the development of any power project that entirely occupies an area inside a national park or a protected area.

However, the old document allows a concession to local communities to build plants of up to 1 MW (provided they are not connected to the national grid) for local use. It states that at least 50% of the monthly natural flow should be maintained in the river during the peak dry season after the water passes through the hydropower plant.

Conservationists and legal experts have criticized the proposal as going against the Constitution and the National Parks and Wildlife Conservation Act as well as risking the biodiversity and ecosystem services of Nepal's protected areas. They have also warned that the proposal could undermine the balance between development and conservation and expose the country to more climate change impacts such as floods and landslides.

The Department of National Parks and Wildlife Conservation has defended the proposal as documenting the existing practices and bolstering the balance, not upsetting it.

# Himalayas—Central Asia

## Climate Alliances of Himalayan Communities, Nepal

**From Ang Tshering Sherpa, Kathmandu November 2023 (taken from his briefing to UN Secretary General HE Antonio Guterres)**

The Himalayas and the Himalayan Communities are the most vulnerable to the impact of climate change, global warming and natural hazards.

During my lifetime, I have seen the Everest region undergo astonishing change. I have seen the snowlines of Himalayas recede within a matter of few decades. I have had the unfortunate experience of witnessing many glacial lake outburst floods (GLOFs), which two of the striking GLOFs I saw are in 1977 and 1985 in Pangboche and Bhote Koshi valley of the Khumbu region.

Unfortunately Glacial Lakes are not the only problem. Temperature increase has brought about whole lot of problems for us the mountain people in the Himalayas. The mosquitoes that used to be limited to tropical and subtropical areas have moved up bringing diseases to the communities that were never exposed to them. Flash floods, avalanches, landslides, forest fires have become much more common and intense.

Climate Change which we hardly made any negative contribution towards, is threatening our very culture, very identity. Massive amount of immigration is happening to low-lands, neighboring countries and abroad because of all these problems.

Some recommendations to strengthen global cooperation:

- We, the mountain people must come together, share experiences, and raise our voices, locally, regionally and globally...we need institutional support from across the world to build our own capacity and be able to do the awareness and advocacy work that we are pursuing.
- Promoting “Climate Smart Villages in the Himalayas”. The model is built around three pillars- climate awareness, climate adaptation, and mitigation. We have chosen a few sites to pilot such projects. We need the technical and financial support of the global community to make that happen. Our idea is to propagate this idea across Nepal’s Himalayas on the 1555 KM long The GREAT HIMALAYA TRAIL.
- There is a lot for the world to learn from the mountain communities. The weather systems in the Himalayas have always been erratic- the mountain community knows a lot how to deal with them. In my way of looking the Himalayas can be a living laboratory on climate change.
- Advancing the work on climate change adaptation in the mountains - developing and implementing adaptation plan and programme for the mountains. It is necessary to encourage mountain countries to prepare and implement national adaptation plan (NAP), and if possible prepare and implement sub-regional NAP.
- We wish to urge funding agencies to allocate a modest fund for the implementation of the climate change adaptation actions/options in the mountains and to build and/or enhance community capacity in coping climate change impacts.
- Presently, large number of cooking gas and kerosene is being carried for cooking and lighting. All these are carried all the way from Kathmandu. It is proposed here to install Solar, community based micro hydro power, and Wind power instead of cooking gas and kerosene in popular trekking and mountaineering areas.

*They say that the mountain people of Nepal are strong and resilient – I like to think so – but after the earthquakes and Covid 19 pandemic, we are reaching our limits of energy, capability and adaptation – now, like our brothers and sisters at sea level, we need global communities help to bring the world back into balance.*

*We, the Himalayan communities have a wealth of knowledge and strategies, accumulated over generations, on how to cope with harsh environments and to adapt to changes in the climate. We have rich experiences and indigenous solutions to climatic challenges.*

*However, we have never experienced anything to match the enormity of the current climate change problem. As a result, our traditional knowledge needs to be supported by advances in technology and our current resources and abilities need to be bolstered by those nations that are more developed.*



Himalayas, Nepal Photo: GHT



## Scree and Talus

On February 2, 2024, apart from the snow-covered slopes from the snow cannons, the surrounding Pyrenees mountains are far too brown. *Photo: L. Cholez—Reporterre*



### For now, we're still in the Holocene

*Science News March 2024*

*Science* has confirmed that a panel of two dozen geologists has voted down a proposal to end the Holocene—our current span of geologic time, which began 11,700 years ago at the end of the last ice age—and inaugurate a new epoch, the Anthropocene. Starting in the 1950s, it would have marked a time when humanity's influence on the planet became overwhelming. The vote, first reported by *The New York Times*, is a stunning—though not unexpected—rebuke for the proposal, which has been working its way through a formal approval process for more than a decade.

### Snowy insect barrier *Science December 2023*

Cold-adapted species can benefit from snow that persists across seasons. As human-induced climate change increases temperatures, such persistent snow patches are being reduced, with unknown impacts on these species. Hayes and Berger used visual observations of animals in the field to test whether mountain goats (*Oreamnos americanus*) in two sites in North America's Rocky Mountains displayed reduced respiration rates, a sign of reduced thermal stress, when on snow patches.

**They found no evidence for respiratory rate differences, perhaps owing to the countering effect of albedo on the cool snow; however, animals experienced reduced insect harassment, as measured by ear flicks, when lying on snow.**



Photo: C. Summers Minden Pictures

### Nepal suffers another winter drought *Nepali Times January 2024*

Climate impact: 8 of last 12 winters had prolonged drought affecting agriculture and sparking wildfires

In December, forecasters predicted that Nepal would receive more rain than the three decade average rainfall this winter. We are halfway through winter, and many parts of the country have not received a single drop of rain for four months.

Terrace fields in the mountains are dry, and in the plains winter wheat is drying up. Many Himalayan mountains are naked and snowless.



Dolpa, high and dry. Photo: SONAM CHOEKYI

### Thin Green Line We need your help.

The **Fallen Ranger Fund** provides families with a financial lifeline, with support often used for housing, education, funeral expenses, or to start a small business for sustainable, long-term income.

We recently provided this support to a young family in Ghana who tragically lost their husband and father, Daniel. Daniel was killed in an ambush by armed timber poachers while on duty. He was just 34 years old and left behind two children. Daniel worked tirelessly to protect Ghana's endangered rosewood trees – a prized resource that is more widely trafficked than elephant ivory, rhino horns, or pangolin scales.





## Scree and Talus cont.

### Far removed from unspoilt Andean mountain summits

*From Mongabay March 2024*

In a 17-year study, Chilean researchers observed that Andean condors (*Vultur gryphus*) use landfills as supplemental food sources when natural food is scarce.

The researchers found that females and juveniles lower in the pecking order are more likely to scavenge in landfills than older males.

While this food subsidy could help Andean condors when times are tight, it may also put them at an increased risk of poisoning.



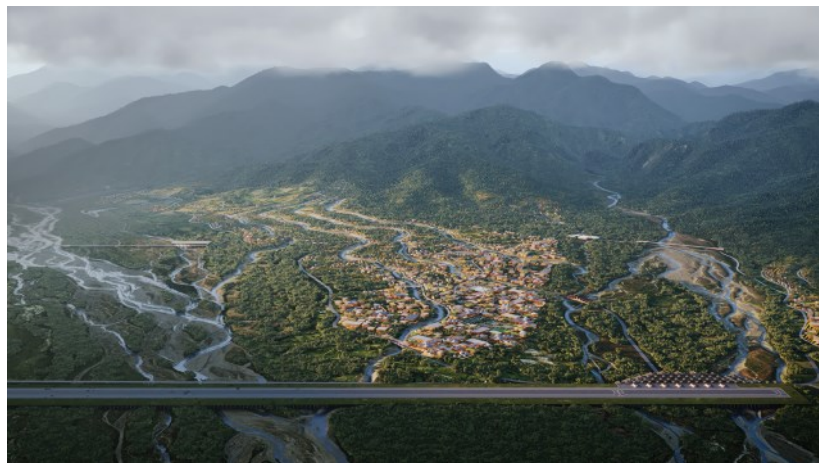
### 'Mindfulness City': Bridging Bhutan's Heritage and Future

*From Arch Daily December 2023*

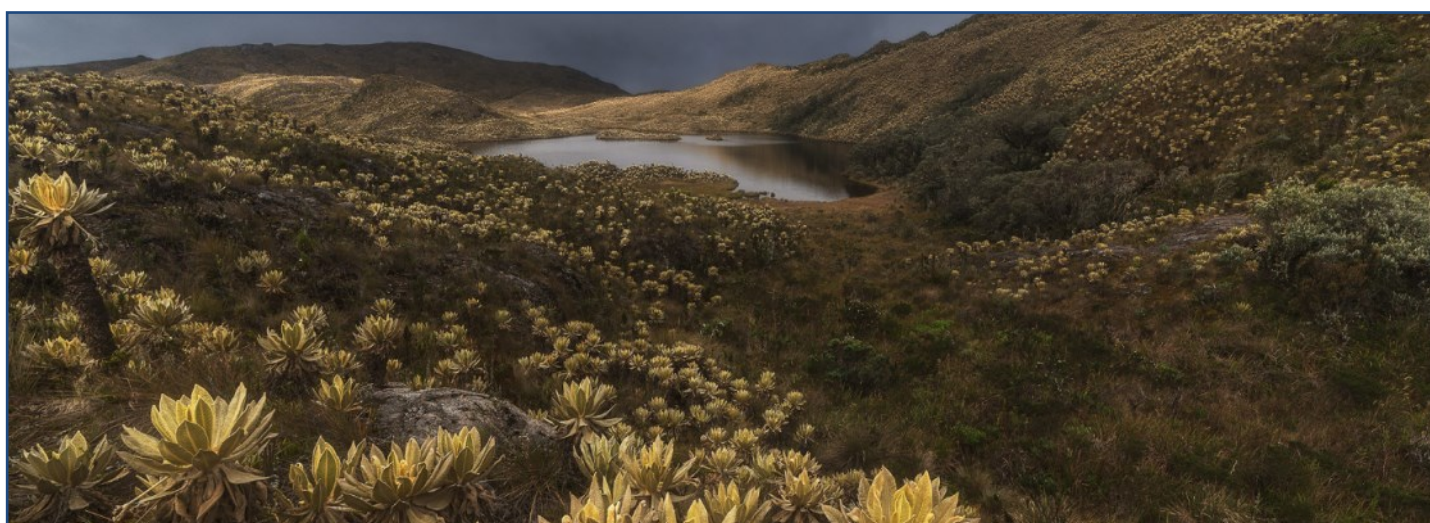
BIG has just unveiled "Gelephu," an envisioned master plan that draws from Bhutanese culture, Gross National Happiness principles, and spiritual heritage.

**Overall, Bhutan's 'Mindfulness City' aims to promote biodiversity in the middle of its varied ecosystems and natural surroundings.**

Making use of Gelephu's current agricultural infrastructure and landscapes, it envisions eleven distinct neighborhoods with progressively changing densities, all based on Mandala design principles.



The master plan is adhering to the sustainable standards of the world's first official carbon-negative country, Bhutan. Photo: BIG design plan



Colombia's páramos are essential ecosystems for the country's water security. But growing demand for avocados is putting them at risk. Photo: Sebastian Montoya.



## Tools, Publications & other media



*Khumbu Since 1950: Cultural, Landscape, and Climate Change in the Sagarmatha (Mt Everest) National Park, Khumbu, Nepal (second edition)*  
by Alton C Byers and Lhakpa Sonam Sherpa  
ECS Press Kathmandu, 2023  
200 pp \$25

CANDOLLEA BioOne VISTA – Botanical Research – September 2023

*Calamagrostis lonana* (Poaceae): a new grass species from the Pennine Alps (Switzerland)

*Examining Factors Influencing the Governance of Large Landscape Conservation Initiatives* From CCSG—University of Montana (USA) and Center for Large Landscape Conservation—research article in *Parks Stewardship Forum*

We found that "common keys to initiative success include stable financial resources and support, sustained community involvement, government support and participation, and strong, multiscale leadership." The paper is here: <https://doi.org/10.5070/P539362014>

*Convention on the Conservation of Migratory Species* <https://reporterre.net/>

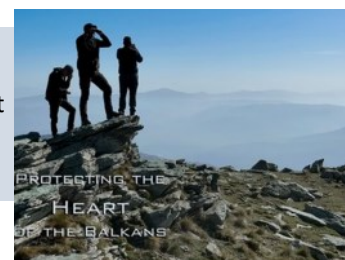
Nearly half (44%) of migratory species are in decline, according to a UN [report](#) released at the opening of the fourteenth edition of the Convention on the Conservation of Migratory Species (CMS) in Samarkand, Uzbekistan. One in five is threatened with extinction.

The report unsurprisingly highlights the critical role of human activities. Habitat loss and fragmentation and overexploitation are the two "greatest threats" to these populations. Climate change, pollution, invasive species, urbanization, and infrastructure construction are also contributing to this widespread decline.

CCSG Chair Gary Tabor and others attended the CoP-14 of the Convention on Migratory Species. You can read this [brief that CCSG prepared](#) on some of the policy-related aspects.

*New GC Video: Protecting the Heart of the Balkans*

Shar Mountains National Park is a stunning example of high elevation mountains and forests in the heart of the Balkans. Established in 2021, this wilderness and rich local culture represents a major hope for revitalizing local communities through ecotourism. [read more](#)



*Request for advice* From Emanuel Boscardin, Sports for Nature Programme Officer IUCN

[Sports for Nature](#) is a joint initiative of IUCN, International Olympic Committee (IOC), United Nations Environment Programme (UNEP), the Secretariat of the Convention on Biological Diversity (CBD) and Sails of Change.

The International Ski and Snowboard Federation (FIS) reached out to us as they are planning to develop the following over the coming months:

- **Training course for our Race Directors, Technical Delegates and Homologators** to help them understand the importance of nature protection and biodiversity related to ski slope management (3 modules of max. 45 minutes) - MAY 2024
- Tied in with this training is a **check list** to be given to them that they can use for further control when they go on inspections (especially in the summer) - at present they only check the sporting and athlete safety parts - MAY 2024
- A simple **guideline for event organisers with suggestions for protecting nature** (e.g. reduction in the use of chemicals, restoration/seeding techniques after the winter season, ...) - SEPTEMBER 2024
- A **one-hour webinar for the entire FIS world** on the importance of nature conservation and biodiversity in the mountains, also related to ski slope management - OCTOBER 2024

Please email [Emanuel.Boscardin@iucn.org](mailto:Emanuel.Boscardin@iucn.org) if you are interested in helping.

*Mountain Research and Development* Vol 43, No 2 available online and open access

Articles show how newcomers help preserve the cultural landscape in the European Alps, discuss the implications of a post-pandemic increase in visitors to the Swiss National Park, investigate Italian mountain farmers' attitudes to herd protection, propose an agenda for integrated, transdisciplinary monitoring to improve the management of Andean social-ecological systems, and present a transformative citizen science project in a Swiss mountain valley. <https://www.mrd-journal.org/>

Looking for Mountain Research and many other excellent tools and publications? The Mountain Update has only a very tiny selection!

Try [Global Mountain Biodiversity Assessment \(GMBA\)](#), [Mountain Research Initiative](#), [ICIMOD](#) and [Mountain Partnership](#)—to mention a just few great sources of mountain information!

Editor: Gillian Anderson [peopleinnature@bigpond.com](mailto:peopleinnature@bigpond.com)

## Important links

IUCN World Commission on Protected Areas for an outline of the role of Mountain Specialist Group [WCPA Mountain Specialist Group](#)

Please go to [https://youtu.be/ NuY89TWscI](https://youtu.be/NuY89TWscI) a short video of Protecting Mountains IUCN WCC presentation by Peter Jacobs (Chair Mountain Specialist Group).

## Some events of interest

[Events - MRI - Mountain Research Initiative](#)

Mountain Partnerships Events [Here](#)

WCPA Mountain Specialist Group Committee		
Executive Committee	Name	Email
Chair	Peter Jacobs	<a href="mailto:Buffalo_springs@bigpond.com">Buffalo_springs@bigpond.com</a>
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Young Professional Group	Shailyn Drukis	<a href="mailto:shailyn.drukis@gmail.com">shailyn.drukis@gmail.com</a>

While Mountain Network members can choose not to be WCPA members and still be involved and receive the Mountain UPDATE, the WCPA Chair, and Mountain Specialist Group Executive and would like to encourage all to become WCPA members. This helps to secure good governance and management of the WCPA and the Mountains Group and enlightens all members to the wider activities of the WCPA.

To learn more about WCPA membership go to: [WCPA Get Involved](#)

For any relevant mountain protected area news, please email me (Gill) on [peopleinnature@bigpond.com](mailto:peopleinnature@bigpond.com)

I look forward to hearing from you soon!