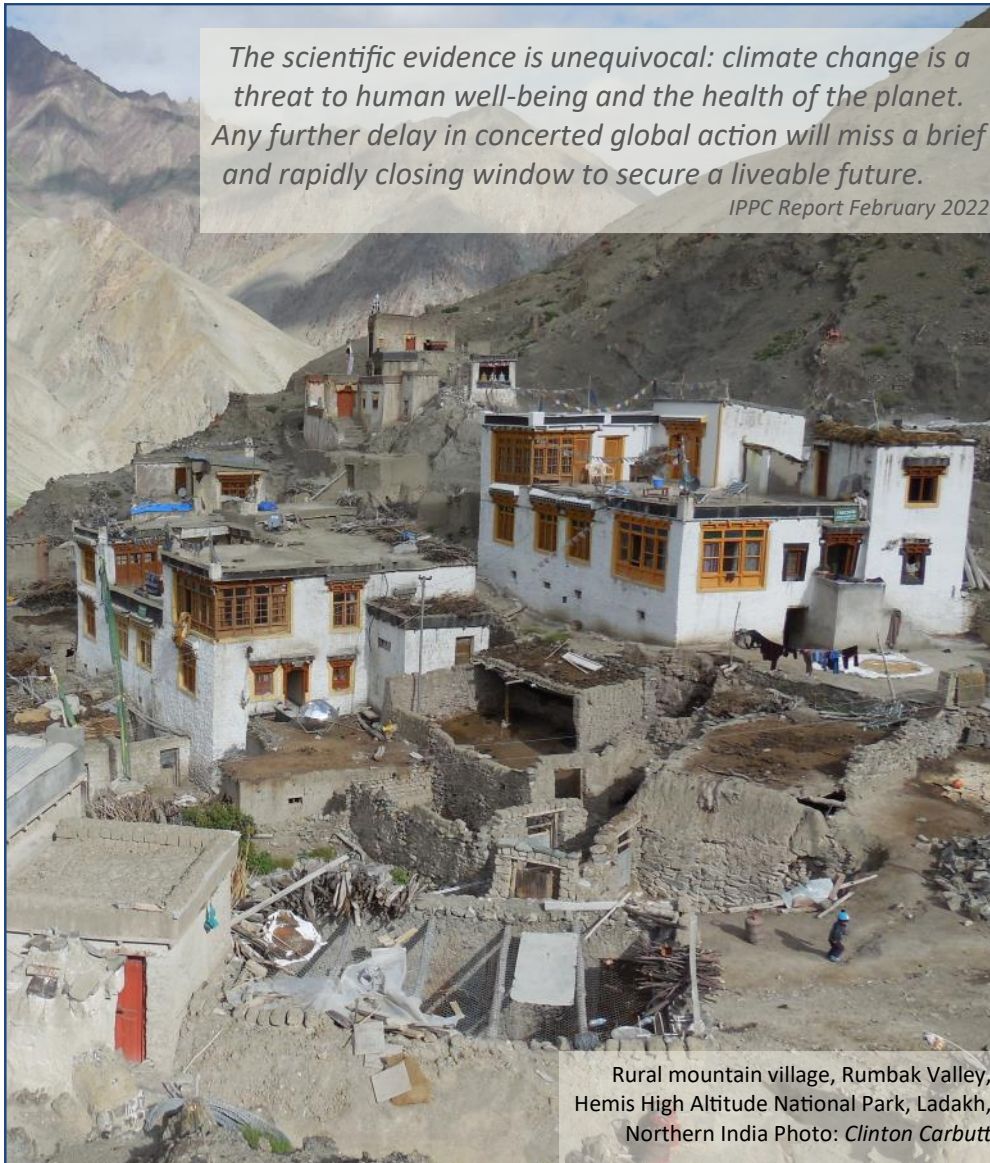


Mountain Protected Areas

UPDATE

March 2022 # 113



The scientific evidence is unequivocal: climate change is a threat to human well-being and the health of the planet. Any further delay in concerted global action will miss a brief and rapidly closing window to secure a liveable future.

IPPC Report February 2022

Rural mountain village, Rumbak Valley, Hemis High Altitude National Park, Ladakh, Northern India Photo: *Clinton Carbutt*

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Tools, Publications other Media

Mountain SG Committee

A note from the editor

Welcome to the 113th issue of the Mountain UPDATE. In this year of Sustainable Mountain Development, wouldn't it be good if protection of mountain cultures and ecosystems was high on everyone's agenda...and in wealthy, privileged, well resourced countries like Australia we'd do well to remember the vital role mountains play in the livelihoods of billions of people who depend upon healthy mountain environments for their water, crops, shelter, cultural and spiritual wellbeing.

Please read on for a whole bunch of mountain stories about glaciers, animals, national parks and other mountain landscapes from around the world...and in these uncertain, challenging times, stay safe!

March 2022

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.

IUCN WCPA Mountain UPDATE # 113 Editor: Gillian Anderson peopleinnature@bigpond.com

From People and Mountains around the world:

International Year of Mountain Sustainability



From The Mountain Partnership February 2022

Photo: Clinton Carbutt

The United Nations General Assembly declared the year 2022 as the International Year of Sustainable Mountain Development, at the proposal of the Government of the Kyrgyz Republic. The corresponding resolution was sponsored by 94 governments and was adopted by United Nations General Assembly last December.

The resolution titled "International Year of Sustainable Mountain Development, 2022" invites Member States, organizations of the United Nations system, other international organizations and stakeholders, including civil society, private sector and academia, to observe the International Year to **increase awareness of the importance of sustainable mountain development and the conservation and sustainable use of mountain ecosystems.**

The year 2022 also marks the 20th anniversary from the first International Year ever devoted to mountains (International Year of Mountains 2002) as well as the 20th anniversary of the Mountain Partnership.

As part of the resolution's implementation, the Kyrgyz Republic will promote an initiative for the adoption of a five-year action plan for the development of mountain regions at the United Nations.



Are the Winter Olympics unsustainable?

From ABC News February 2022

Climate change is threatening the Winter Olympics and the future of snow sports, experts have warned in a report published by the sport ecology group at Loughborough University in England and the Protect Our Winters environment group.

The report says climate change will reduce the number of suitable Winter Olympic venues in future and snow venues in France, Canada, America, Norway and Austria are now deemed "high-risk" or "unreliable" to host future events.

"This is not only energy- and water-intensive, frequently using chemicals to slow [any] melt, but also delivers a surface that many competitors say is unpredictable and potentially dangerous," the researchers said. Read more [here](#).



2022

International Year of
SUSTAINABLE
MOUNTAIN
DEVELOPMENT



The Games, which started on February 4, will be the first Winter Olympics to use almost 100 per cent artificial snow, deploying more than 100 snow generators and 300 snow cannons, working flat out to cover the ski slopes.

America—north

Denali National Park (USA) human waste management

From US National Parks Service

It is every climber's responsibility to help keep the glacier environment clean, both for the benefit of your own climbing experience and for the sake of future generations. Proper disposal of trash, fuel cans, and human waste is not only the right thing to do, it is required.

Regrettably, violation notices are given out each season to climbers who do not respect these Leave No Trace practices.

Proper disposal of human waste is critical. Intestinal distress, vomiting and diarrhea may result from contamination of food or drinking water. The resulting dehydration can become a serious or life-threatening problem at altitude. Since all drinking water is obtained from melted snow, precaution must be taken when gathering snow from well-used camps.

For the health and safety of all, everyone must follow these simple steps:

- When possible use an existing, centrally located urine or pee spot at camps. If you need to establish a new one, mark it with a wand and inform any other groups in the area.
- For solid waste, all expeditions will be issued **Clean Mountain Cans (CMCs)** - biodegradable bags will be given with each CMC.

The Clean Mountain Can (CMC) was designed specifically to collect and transport human waste in Denali's fragile, remote terrain. The durable CMC comes with a harness system that locks the lid in place, and is sturdy enough to strap on a pack or sled. The CMC comes equipped with a two-way Gortex vent that allows for the release of gases and enables air to enter the can when descending from high altitude. The CMC is designed to have its contents dumped directly out or lined with a compostable bag. Currently, the CMC's are manually cleaned and disinfected to approved NPS standards.

The bags are made from a combination of PHA and PLA, the latter of which is derived from plants that produce starch or sugar. PHA is derived from Algae and switchgrass, and the polymers are harvested from them. NPS research in Talkeetna observed the bags taking 2 to 3 years to breakdown in our colder climate.

Read more: <https://www.nps.gov/dena/planyourvisit/cleanclimb.htm>



Late season trash melt-out. NPS Photo



Packin' it out. NPS Photo/Robinson



The compostable liner bags we provide are made of 'bioplastics' with components derived from renewable raw materials.

America—north

Major conservation gains reported in Yellowstone to Yukon (Y2Y)

From Y2Y News December 2021

A new paper lays out evidence that a big audacious vision of connecting and protecting the mountains from Yellowstone in Wyoming to the Arctic Circle in the Yukon has led to measurable on the ground conservation across an almost 3,400-kilometer long region. Read whole article: [How a conservation goal went from “audacious” to authentic](#)



This progress is directly connected to people with a passion for nature and an amazing group of partners who support the Y2Y mission. That includes pinpointing core habitats, keeping those places connected, and providing tools and approaches for wildlife and people to coexist. says Jodi Hilty, Yellowstone to Yukon (Y2Y) Conservation Initiative chief scientist and president, and paper co-author.

This conservation progress has direct impacts on:

- **Wildlife connectivity.** There are now at least 117 road-wildlife crossings in the region dedicated to keeping people and wildlife safe, with more on the way;
- **Maintaining intactness.** From 1968-1993 there were 268 new protected areas, with an additional 149 from 1993-2018, totaling 417. The increase in protected areas helps to conserve the wildlife and wild places now and into the future;
- **Grizzly bear recovery.** Sustained growth in protected areas and private land conservation has been complemented by the expansion of grizzly bear ranges in the U.S. portion of the region;
- **Private lands conservation.** The single largest instance of private land conservation in the U.S. is inspired, in part, by the Y2Y vision. Additional other voluntary private land conservation measures help advance keeping core habitats connected.

Massive wolf kill in northern Rocky Mountains, USA

From Science January 2022

Hunters are killing gray wolves in the northern Rocky Mountains in numbers not seen since the animals were driven to near extinction in the 20th century. The killing of more than 500 wolves—including nearly 20% of the wolves that sometimes range outside of Yellowstone National Park—threatens to undermine a decades-old effort to restore the predators to the landscape and disrupt [a long-term Yellowstone research project that has produced influential findings on how wolves help shape ecosystems.](#)



The loss of the Yellowstone wolves “is a huge setback,” says wildlife biologist Doug Smith of the National Park Service, who leads the park’s wolf restoration and study project, which began in 1995. “We had in Yellowstone one of the best models for understanding the behaviors and dynamics of a wolf population unexploited by humans.” Now, he says, researchers will “do what we can to keep the science going—what we have left of it.”

The killings are the result of a change in legal protections for *Canis lupus*. For decades, the wolves were strictly protected under the federal Endangered Species Act (ESA), but more than 10 years ago successful restoration efforts prompted federal officials to ease protections and give state governments a greater say in managing the species. With wolf numbers in the northern Rockies reaching about 3100 in late 2020, several states have legalized or expanded wolf hunts.

Editors Note: Mountain Update often reports on plight of wolves around the world, please see more about wolves in Norway in Scree & Talus.

America—south (& elsewhere)

Why figure out how much ice glaciers hold?

From The Conversation February 2022

Mountain glaciers are essential water sources for nearly a quarter of the global population. But figuring out just how much ice they hold – and how much water will be available as glaciers shrink in a warming world – has been notoriously difficult.

In a new study, scientists mapped the speed of over 200,000 glaciers to get closer to an answer. They discovered that widely used estimates of glacier ice volume [may be off by about 20%](#) in terms of how much Earth's glaciers outside the Greenland and Antarctic ice sheets could contribute to sea level rise.

Many also rely on glacier water for hydropower generation or agriculture, particularly in the dry season. But the vast majority of glaciers around the world are losing more mass than they gain during the year as the climate warms, and they are slowly disappearing. That will profoundly affect these populations.

These communities need to know how long their glaciers will continue to provide water and what to expect as the glaciers disappear so they can prepare.

In most places, research found significantly lower total ice volumes than previous estimates indicated.

In the tropical Andes, from Venezuela to northern Chile, for example, it was found that the glaciers have about 23% less ice than previously believed. This means downstream populations have less time to adjust to climate change than they may have planned for.

Policymakers should look at these new estimates to revise their plans. The research does not provide new predictions of the future, but it does provide a better description of what the glaciers and their water supplies look like today.

Please read [whole article](#) here.

Even in the European Alps, where scientists have a lot of direct ice thickness measurements, we found that the glaciers may have 8% less than previously thought.

The big exception is the Himalayas. We calculated that there may be 37% more ice in these remote mountains than previously estimated. This buys some time for communities that rely on these glaciers, but it does not change the fact that these glaciers are melting with global warming.



A herder walks beside a water pipe near La Paz, Bolivia. A glacier long relied on for water there is nearly gone. *Photo:* Tim Clayton/Corbis via Getty Images

Africa

Climate adaptation in mountains of Djibouti, East Africa



Arrei Mountains, Djibouti

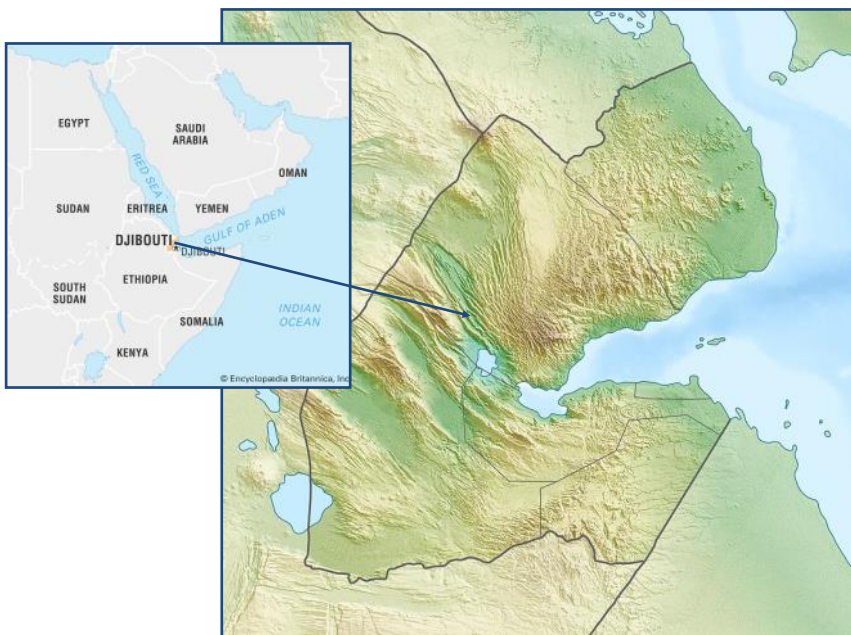
From Adaption at Altitude

Read more here [adaptation-to-climate-change-in-mountainous-regions-of-djibouti](#)

Implemented in two rural mountainous areas of Djibouti, East Africa, this solution sought to address the vulnerability of rural populations to climate-related impacts through **institutional strengthening, climate-smart water management and targeted investment.**

Water scarcity and droughts are two of the most common climate-related problems experienced by local populations in the semi-arid country of Djibouti, one of the most water-stressed countries in Africa. However, in recent years, such issues have increased in both frequency and intensity, further impacting the livelihoods of communities and particularly affecting those who rely heavily on natural resources as their main source of income.

Through the implementation of this project, which was carried out between 2015 and 2020, the national government sought to address these climate-related impacts in the mountainous areas of Adailou (Tadjourah region) and Assamo (Ali Sabieh region), which were identified as vulnerable and lacking livelihood alternatives other than agricultural activities.



Djibouti, small country on NE coast on Horn of Africa



Community adaptation program was implemented in Goda Mountains (above) & Arrei Mountains (top)

Oceania—Australia

Bullying, threats, harassment...



Healthy alpine wetland Australian Alps national parks

Adapted from Invasive Species Council and Reclaim Kosci February 2022

A recently aired Four Corners episode (Australian current affairs TV program) revealed the ugly side of the battle to protect Kosciuszko National Park from impact of feral horses. Even as the episode went to air the Invasive Species Council received a phone call threatening the team, telling them that they are **coming for them** and that it's an **'eye for an eye'**!

But this is nothing compared with what the park rangers and scientists working to save this alpine ecosystem have had to, and continue to, endure. Many rangers will not wear their uniforms in the local town adjoining the park for fear of abuse.

As Richard Swain, the Invasive Species Council Indigenous ambassador said, *The next decade is critical for Kosciuszko National Park. If we don't start getting horses out now it's a death sentence for our native wildlife and for Country.*

The sooner the NSW Government implements their feral horse management plan, the sooner the destruction will end, and restoration can begin.

There is still a big challenge ahead. Four Corners revealed that some feral horse advocates will look to disrupt horse removal operations and will not relent.

After decades of excuses, debates and delays there is finally a plan to remove horses and progress is slowly getting going.

Feral horse impacts are pushing at least 34 threatened native plant and animal species closer to extinction. Horse numbers in Kosciuszko National Park are increasing by about 18% per year. Sensitive waterways and ecosystems are being continually degraded while the NSW Government continues to delay to act. Horses need to be removed as soon as possible. The Four Corners episode can be viewed [here](#) or on ABC iView



The source of the Murray River in the Australian Alps has been heavily grazed and trampled by horses.



Horses create bare ground and destroy wetland habitat.



Feral horses in Kosciuszko National Park.

Oceania—Australia

99.5% decline...in a little but vital brown moth



Decline in Bogong moth numbers due to land clearing, severe drought and pesticides.

Adapted from The Guardian December 2021

Bogong **eggs** are part of the ancient history of the Australia Alps: cooked bogong remains were found on 2,000-year-old grinding stones in a cave in the Australian Alps, in Gunaikurnai country, believed to be the oldest archaeological evidence anywhere in the world of insects as a food source.

Every year the moths, which weigh only a third of a gram, fly as far as 1,000km, from southern Queensland to the mountains of Victoria – including Mount Bogong, the state’s highest peak.

But these amazing insects are in trouble. After decades of gradual decline in the population, scientists reported a sudden catastrophic drop: mountain caves that were once dense with mind-boggling numbers of the insects – as many as 17,000 moths per square metre – now contained so few that they could be counted on just one hand.

The loss of any species is a tragedy in its own right, but the rapid disappearance of bogong moths has much wider effects. Like many insects, bogongs are near the bottom of the food chain. They are a major food source for another critically endangered animal, the mountain pygmy-possum, and a boon for the entire alpine ecosystem.

The moths provide a necessary feast for mountain pygmy-possums awakening from hibernation, and are also a key food source for birds, other mammals ... reptiles and frogs, many of which are endangered in alpine regions.

Even other invertebrates, such as ants and spiders, are seen feasting on the moths. The nutrients left every year by the moths are also important to the alpine soil and plants. Marissa Parrott, Zoos Victoria

A miracle of navigation

Ken Green, (Australian National University) and an expert on the moths, says they navigate their long migrations in several ways, each moth following the route for the first time in its short life. Most remarkably, they can sense the earth’s magnetic fields – but this is energy-sapping, so once they have got their bearings “they’ll switch off their magnetic sensors”, Green says.

If the night sky is clear they can instead navigate by the stars.

“The Milky Way is brighter in the south than it is in the north, so when they’re migrating in spring they just head for the brightest bit which brings them south, and when they turn to go home again they swap to the northern end of the Milky Way,” Green says. And if the stars aren’t visible, “they can pick where the moon is even when it’s seven degrees below the horizon”.

Bogongs are a major food source for another critically endangered animal, the mountain pygmy-possum.

Photo: Department of Sustainability and Environment/Tim Arch



The new [European Biodiversity Strategy for 2030](#), set new objectives for the protection of biodiversity in the European Union. Among these objectives, the strategy sets the target of achieving 30% of protected lands (an increase of 4% compared to 2020) and 10% of strictly protected areas (compared to 3% in 2020).

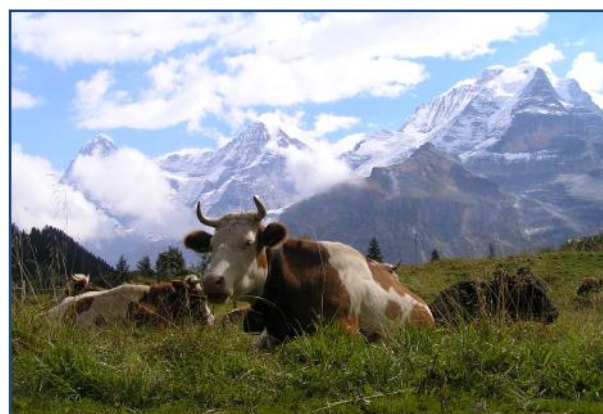
The European Commission's will to further protect areas of high environmental value and vulnerable in the face of climate change has an impact on mountain territories, considering that 43% of Natura 2000 areas are for example currently located in mountainous areas.

How will these new protected areas be selected, what activities will be allowed in the strictly protected areas and what will be the implications for mountain people?

What is and is not allowed in strictly protected areas?

The 10% of strictly protected areas are a subset of the 30% protected areas target, meaning that strictly protected areas will apply the conservation conditions applicable to protected areas as well as additional and more restrictive preservation measures. According to the European Commission, these strictly protected areas must be territories "particularly rich in biodiversity and must be left untouched by human activity". Yet, in these so called "non-intervention areas", some limited activities should remain authorized if they do not interfere with the natural processes or if they enhance them. Such activities include:

- Scientific research.
- Natural disaster prevention (like measures to prevent wildfires, such as the actions that will be carried out through our Horizon 2020 project [FIRE-RES](#)).
- Invasive alien species control.
- Non-intrusive activities and installations.
- Non-intrusive and strictly controlled recreational activities. In the views of the European Commission, such activities should however be in line with the conservation targets of the area and should be subject to a case-by-case assessment.
- Sustainable grassland management.



Mowing or grazing of grasslands is being recognized by the European Commission as a human intervention that contributes to preserving and enhancing habitats. However, the guidelines also point out that grazing should be allowed if limited to the intensity needed to preserve the grasslands in question. This underlines the importance of sustainable grassland management, as demonstrated by the LIFE project OREKA

Euromontana welcomes the guidelines drawn up by the European Commission and is pleased that strictly protected areas do not ban all human activity. In many mountain areas, the absence of human activity like pastoralism would lead to a rewilding trend that could damage local habitats and species and could lead to a loss of ecosystem services (prevention against avalanches or rock fall, carbon sequestration for instance).

In addition, mountains remain rich in biodiversity and landscapes. Hence, it is essential that local communities and visitors can enjoy their landscapes without causing harm to the environment through over-tourism, which can affect species reproduction, habitat conservation and soil erosion. Euromontana thus welcomes the possibility of controlled recreational activities in strictly protected areas.

The European Commission's guidelines, however, remain non-binding recommendations for the Member States. Euromontana therefore calls upon Member States to act in concertation with regional and local authorities and with local communities to define these new protected and strictly protected areas in order to avoid any conflicts in the use of these lands.

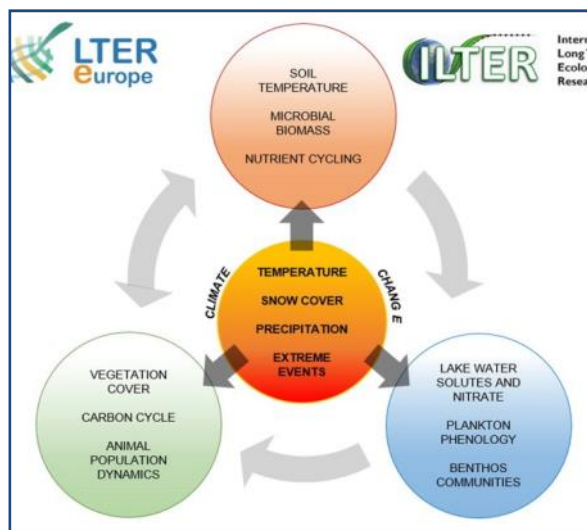
Europe

Overheating destroys ecosystems—including permafrost

Taken from *European Wilderness Society News (EWS)*

In the German Alps, half of all mountainous plant species are endangered. They are not only threatened by a changing climate in their current habitat, but also by plants from lower altitudes that spread upwards due to the warming climate and create new competition. In addition, intense agriculture including pesticide use and extensive fertilization is spreading to higher elevations, where the specialized vegetation is highly vulnerable.

The climate overheating is especially dangerous in cold areas because it melts the permafrost, the ground that is normally frozen all year round. In the Arctic, formerly solid ground turns into marshes and everything built on them starts sinking or breaking apart, including oil tanks that can cause huge damage. In the mountains, thawing permafrost and the rapid melting of glaciers has an even more immediate effect on human lives. This summer, a village in Italy near the **Mont Blanc** has been evacuated because part of the glacier was at the risk of collapsing. And rockfalls are increasing all over the Alps because the permafrost is no longer holding together fragile rock formations.



Melting permafrost makes the ground unstable and changes the ecosystem completely.

Himalayas

Piloting permafrost research in Humla, Nepal

Taken from *ICIMOD January 2022* [Piloting permafrost research in Humla](#)

As climate changes, permafrost starts to thaw, causing problems for roads, houses and other infrastructure constructed on permafrost ground. “Permafrost is fairly invisible. You cannot observe it directly, but you can see features like hummocky grounds and rock glaciers that indicate its presence,” – [Miriam Jackson, Programme Coordinator, Cryosphere Initiative.](#)



The team mainly focused on the installation of temperature sensors and a climate station in Humla Valley. Data from these is essential in assessing the changes in soil temperature and moisture in different locations of the Humla Valley. These changes will help understand the implications of regional warming in areas with permafrost.



Team members and local residents Photo: Prashant Baral, ICIMOD

Indigenous knowledge of communities is often overlooked in cryosphere research. These interactions helped the team members understand local perceptions and experiences of climate change. According to Khenrap Lama, a local resident of Halji and field assistant the impacts of warming in the region are clearly visible.

Central Asia

Restoring mountain landscapes



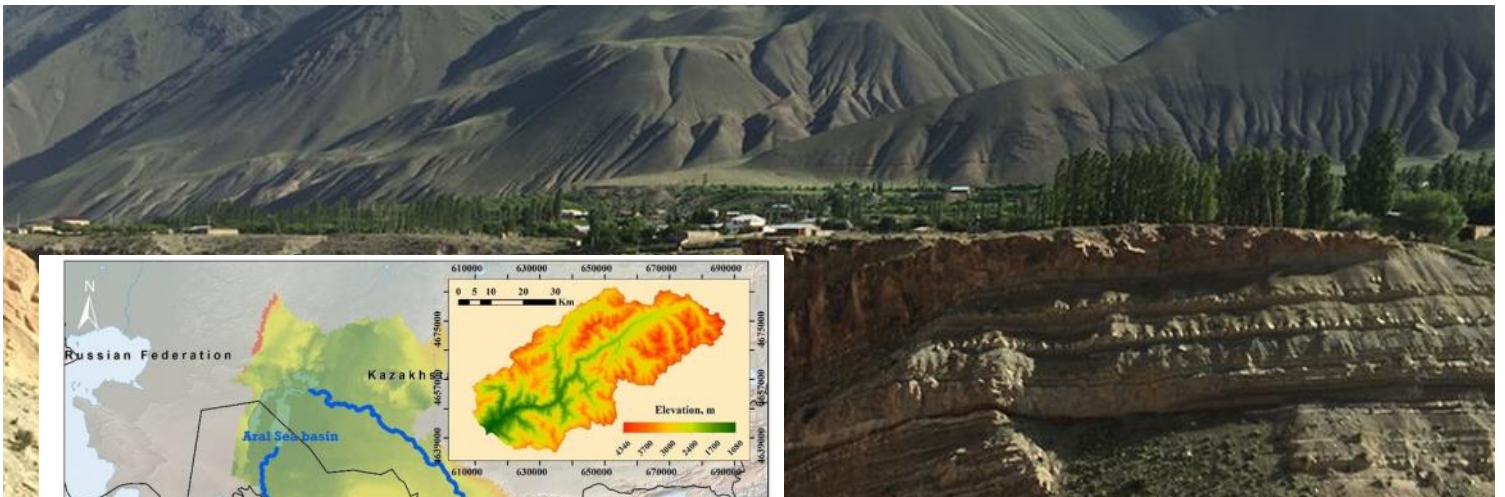
Karakol Valley, Kyrgyz Republic. Photo: Michal Knitl.

Taken from World Bank blog December 2021

The Pamir and Tian Shan — Central Asia’s main mountain ranges— extend across Kazakhstan, the Kyrgyz Republic, Tajikistan, and Uzbekistan. For rural populations residing in these upland and mountainous areas, agriculture is the principal source of income. Unfortunately, climate change and unsustainable land use practices here are harming people and the environment.

Mountains and ecosystems know no borders, so strong regional cooperation is key. Along with a number of other organisations the World Bank’s Climate Adaptation and Mitigation Program in the Aral Sea Basin (CAMP4ASB) has been supporting mountainous regions in Tajikistan and Uzbekistan to address the basin’s common climate and environmental challenges. Works include projects to improve regional cooperation and adoption of climate-smart agriculture and landscape management in those rural communities most vulnerable to climate impacts and extreme weather events

Nearly 6,000 farmers have learned and adopted sustainable climate-smart agricultural, landscape, and water management practices on 18,450 hectares across Tajikistan and Uzbekistan. The project has contributed to conservation agriculture, sustainable mountain ecosystems, and ecotourism, while supporting energy efficient improvements and renewable energy. Some 200,000 rural poor have benefitted from an enhanced knowledge base and investments in crop diversification, climate-resilient seed banks, and efficient water resource management.



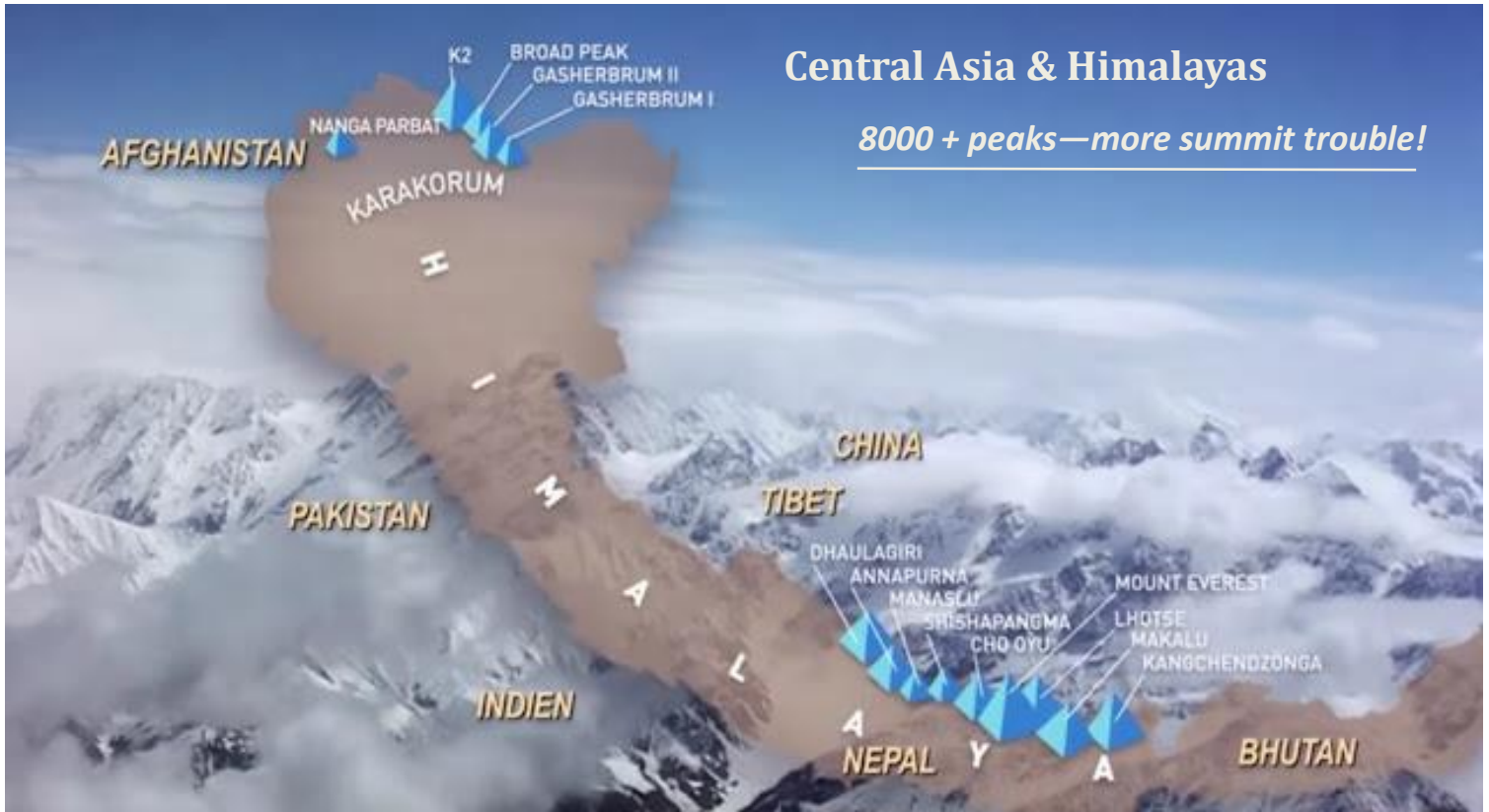
Zeravshan, Tajikistan. Photo : Nigara Abate

The Aral Sea basin is comprised of two main rivers (Amu-Darya from the South and Syr-Darya from the North)

<https://earthexplorer.usgs.gov>

Central Asia & Himalayas

8000 + peaks—more summit trouble!



Graphic: MountainSprings 8000m+

Adapted from NASA Earth Observatory

The first person to summit all 14 eight-thousanders was Italian Reinhold Messner in 1986, who did not use supplementary oxygen. In 2010 Spaniard Edurne Pasaban became the first woman to summit all 14, but with the aid of supplementary oxygen.

But recently issues with false summits (e.g. Cho Oyu, Annapurna I and Dhaulagiri), or separated dual summits (e.g. Shishapangma and Manaslu), have led to disputed claims of ascents. In 2021, a team of international experts started a project to re-verify which climbers, if any, have actually been on the true summit of all 14 eight-thousanders.

Eight thousand is a perfectly arbitrary number. Yet, no other number looms larger for mountain climbers.

Fourteen mountain peaks stand taller than 8,000 meters (26,247 feet). There could have been many more of these “eight-thousanders” if the French commission that established the length of the meter (in 1793) had made it just a bit shorter; there would be hardly any if they had made the meter longer. The decision to make a meter equivalent to one ten-millionth of the distance between the equator and the North Pole left the world with fourteen 8K peaks. All of them are found in either the Karakoram or Himalayan mountain ranges of central Asia.



A new documentary chronicles the lengths Nirmal Purja went to as he attempted to break one of mountaineering’s toughest records

The emotional tug-of-war between the greater glory and the greater good is what lies at the core of [14 Peaks – the recently released Netflix documentary](#) chronicling Nims’ attempt to summit the world’s 14 highest peaks (all of which stand 8,000m or higher) in seven months during 2019. For context, the previous record was seven years, and among the first men to set it was Reinhold Messner – easily one of the most accomplished explorers in recent history.

Scree and Talus

IUCN WCPA Membership Renewal https://portals.iucn.org/commissions/node/add/application_wcpa

[Via Alpina Support the Via Alpina now, kilometre by kilometre!](#)

Through crowdfunding, CIPRA, which manages the Via Alpina office, aims to improve safety and orientation through routing apps along the adapted red trail. The Via Alpina website will be developed into a modern information and networking platform in five languages, where all interested parties can find out and exchange information about hiking conditions, mountain huts and route guidance. **The Via Alpina is a unique long-distance hiking trail that runs from Trieste/I to Monaco through all eight Alpine countries.**



Photo: © C. Ragetti

[105 years of Russian protected areas](#)

The Russian system of protected areas has been celebrating 105 years this year. On January the 11th of 1917 the first Russian Zapovednik was created starting the history of its unique system. Currently, there are 237 protected areas of federal significance in Russia, including 109 zapovedniks, 65 national parks and 63 zakazniks.

[The lynx is the animal of the year in Austria](#) EWS January 2022

The Eurasian lynx was once widely distributed on the European continent. By the end of the 19th century it was hunted remorseless and eradicated. More than 100 years later, Austria nominates the lynx as animal of the year 2022, symbolizing an animal which is still having troubles to repopulate its old homeland.



Lynx needs human acceptance to establish long-term populations in Austria and all over Europe.

[Mount Everest's highest glacier](#)

From MRI - published by the University of Maine. View the original article on the [University of Maine website](#).

Melting and sublimation on Mount Everest's highest glacier due to human-induced climate change have reached the point that several decades of accumulation are being lost annually now that ice has been exposed, according to a University of Maine-led international research team that analyzed data from the world's highest ice core and highest automatic weather stations.

The extreme sensitivity of the high-altitude Himalayan ice masses in rapid retreat forewarns of quickly emerging impacts that could range from increased incidence of avalanches and decreased capacity of the glacier stored water for drinking water and irrigation.

[Santa Monica Mountain Lion Kittens](#) From US NPS News December 2021

National Park Service biologists assisted the California Department of Fish and Wildlife with 4 mountain lion kittens that were discovered under a picnic table near Thousand Oaks office that abuts open space. "We did everything we could to reunite these kittens with their mother, but I'm afraid she was likely already dead or had abandoned them," said an NPS biologist with Santa Monica Mountains National Recreation Area. NPS has been studying mountain lions in and around the Santa Monica Mountains to determine how they survive in a fragmented and urbanized environment for the last two decades.



Santa Monica Mountains National Recreation Area (SMMNRA) is the largest urban national park in USA, encompassing more than 150,000 acres of mountains and coastline. A unit of the National Park Service, it comprises a seamless network of local, state, and federal parks interwoven with private lands and communities. As one of only five Mediterranean ecosystems in the world, SMMNRA preserves the rich biological diversity of more than 450 animal species and 26 distinct plant communities.



SMMNRA [nps.gov/samo](https://www.nps.gov/samo)

[Global wolverine research spanning 20 years shows what the species needs to survive](#)

From Y2Y blog January 2022

A new paper indicates wolverine research and conservation can't stop at political borders to be effective at helping the elusive species.



Wolverine trail-cam

Scree and Talus cont.

[How heavy are hiker footprints becoming in pristine wilderness areas – and who has the right to make them?](#)

From Sydney Morning Herald September 2021

Bob Brown, environmentalist and ex Australian Greens politician says he has no trouble with tourism but believes commercial organisations in it to make a buck should not be the ones prioritised when it comes to deciding access to our national parks. “Tasmania is known as the wilderness island. People value that,” he says. “But wilderness is arguably the world’s fastest-disappearing natural resource. Wilderness has a problem: it’s priceless, and yet its value on the market is almost nothing.” Read whole article [here](#)

Editors NB: This is a really interesting article about the boom in walking holidays and development of huts (some luxury) in wilderness and relatively pristine areas of national parks. This applies world wide, not only in Australia.



Avid hiker Anthony Sharwood: “We spend our lives following paths. There’s almost no randomness left.” Photo:K.Marshall

[Mapping extreme snowmelt and its potential dangers](#) From Science News Read article [here](#)

Rapid snowmelt can be dangerous, and understanding its drivers is important for understanding the world under the influence of climate change.

[Wolves – Norway](#) *The Guardian February 2022*

Nine endangered wolves were shot in one day in Norway after a court ruled that a [controversial hunt](#) could go ahead.

Fifty-one wolves were originally due to be slaughtered – a significant proportion of the 80 animals thought to live in Norway. Activists had secured a stay of execution when they got an injunction halting the hunt until an appeal over its validity could go ahead. They claimed that allowing hunters to kill wolves in a conservation zone would be against EU nature protection laws.

Twenty-five animals, within four packs, are in the “wolf zone”, an area of nature set aside to protect the predators, and these wolves were protected by the appeal.

Karoline Andaur, the CEO of the WWF in Norway, said: “This is a loss not only for the wolves, but also for biodiversity and rule of law in nature conservation. The wolf is critically endangered in Norway, and we have a national responsibility to take care of it.

“Now they are being shot just because they are living in Norwegian nature, even though they live in the wolf zone – an area where the authorities have decided that the wolf should have particularly strong protection.”



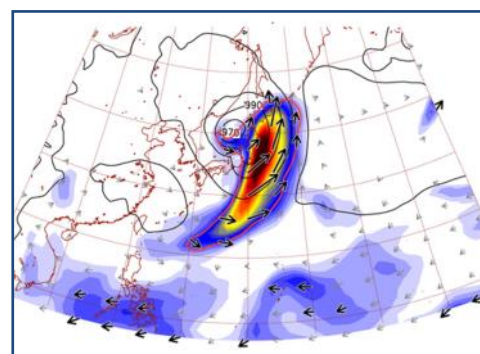
A European grey wolf in Norway. About 80 wolves are thought to live in the country. Photo: blickwinkel/ Alamy

["Rivers" in the sky](#)

With a warming climate, atmospheric rivers will likely bring record-breaking precipitation events to mountainous parts of East Asia such as the Japanese Alps, according to a new University of Tsukuba modeling study. This weather phenomenon is called “atmospheric rivers.”

As the name suggests, atmospheric rivers are long, narrow bands of concentrated water vapor flowing through the atmosphere. When one of these bands meets a barrier, such as a mountain range, it can produce extreme levels of rainfall or snowfall.

[10.1029/2021GL096030](https://doi.org/10.1029/2021GL096030)



Graphic: University of Tsukuba

[Bhutans Elephant Crossings](#)

Nearly [700 Asian elephants](#) roam Bhutan’s forest on the eastern edge of the Himalayas. On the 183km east-west motorway, Bhutan’s first elephant underpasses were constructed to help the threatened animals move through the landscape. Monitoring from 2015 to 2017 found that 70 groups of elephants were recorded near the passes, with three-quarters passing through the structures.



Scree and Talus cont.

[Project monitors mountainous watersheds and streams to mitigate pollution in the Black Sea](#) From Mountain Partnership February 2022

A new project financed by the European Union aims to reduce pollution in the Black Sea by monitoring pollutants and litter in mountainous streams and watersheds.

The "Protect Streams 4 Sea" project focuses on joint environmental monitoring of non-point source pollutants and litter. It aims to mitigate such pollutants from entering the Black Sea in an effort to prevent pollution from happening, rather than dealing with its aftermath once it is present in the landlocked body of water.

Most cleaning efforts to reduce pollution in the Black Sea focus on the sea itself or on coastal areas. Until now, attention has not been given to the watersheds leading to the Black Sea, despite their carrying a high quantity of pollutants and litter.



Tools, Publications and other Media

[Man and Biosphere Programme](#) From Valerie Braun

50 years ago in 1971, the UNESCO member states founded the MAB programme of UNESCO and is now celebrating its 50th anniversary worldwide with numerous events and activities.

To celebrate the anniversary the Austrian MAB National Committee decided to organise and finance a **special issue on biosphere reserves in mountain regions in eco.mont** – Journal for protected mountain areas research and management. The initiative was very successful: the 140-page special issue, whose cover also bears the official MAB-50 design, contains 16 articles.

The editors of the Special Issue are Günter Köck (ÖAW), Valerie Braun (ÖAW | IGF) and Arne Arnberger (BOKU Vienna). eco.mont

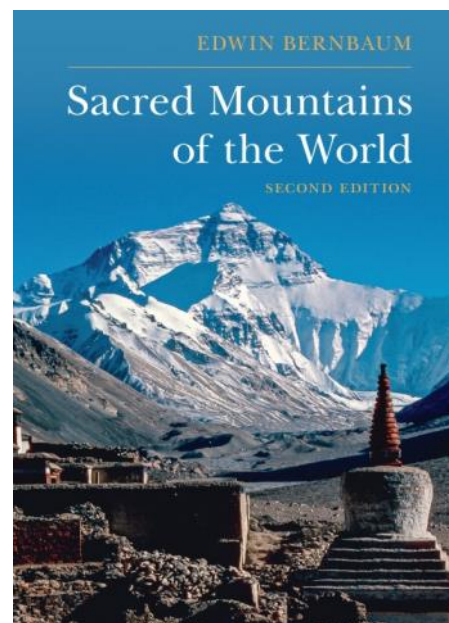


[Sacred Mountains of the Himalayas](#) 2nd Edition Cambridge University Press 2022

From the Andes to the Himalayas, mountains have an extraordinary power to evoke a sense of the sacred. In the overwhelming wonder and awe that these dramatic features of the landscape awaken, people experience something of deeper significance that imbues their lives with meaning and vitality.

Drawing on his extensive research and personal experience as a scholar and climber, Edwin Bernbaum's *Sacred Mountains of the World* takes the reader on a fascinating journey exploring the role of mountains in the mythologies, religions, history, literature, and art of cultures around the world. Bernbaum delves into the spiritual dimensions of mountaineering and the implications of sacred mountains for environmental and cultural preservation. This beautifully written, evocative book shows how the contemplation of sacred mountains can transform everyday life, even in cities far from the peaks themselves.

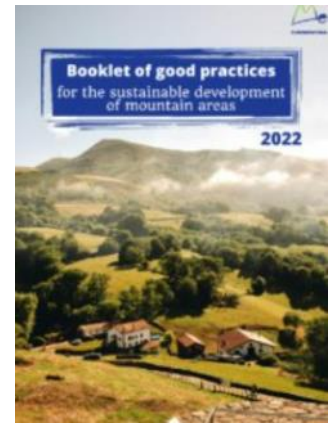
Thoroughly revised and updated, this new edition considers additional sacred mountains, as well as the impacts of climate change on the sacredness of mountains. Edwin Bernbaum is a mountaineer and scholar of comparative religion and mythology whose work focuses on the relationship between culture and nature.



Tools, Publications and other Media

[Euromontana's 2022 booklet of good practices out: 17 good practices to drive sustainable mountain development](#)

How can mountain areas stay attractive for the youth and how to create appealing job offers in villages? How can ski resorts change their model to mitigate and adapt to climate change? How can the on-demand approach be used to maintain access to rail or road transport for mountain populations?



[New Alpine Convention video](#). Through beautiful and captivating scenery and a symphonic soundtrack composed specially for the video, **the film introduces the Alpine Convention and the important work it does in the Alpine region.**


The new video is available on the [YouTube channel of the Alpine Convention](#).



From MRI

[Climate Change 2022: Impacts, Adaptation, and Vulnerability](#), the Working Group II contribution to the Sixth Assessment Report (AR6) of the Intergovernmental Panel on Climate Change was recently released. This includes the report's Cross-Chapter Paper on Mountains, which synthesizes mountain-specific evidence and assessments from across all topics and regions covered in AR6 – and for which MRI have been proud to serve as Co-Leads and Lead Authors.


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




PROTECTING MOUNTAINS:

WHERE WILL THE NEXT MOUNTAIN PROTECTED AREAS COME FROM?

Peter Jacobs - Chair WCPA Mountain Specialist Group



30% X 2030 WHAT DOES IT MEAN FOR MOUNTAINS?




WHAT'S IMPORTANT?

Levels of protection of Key Biodiversity Areas (KBA's) and mountain biomes and ecosystems are initial indicators of high environmental values and how well they are protected or conserved. In addition biodiversity hotspots, IUCN red listed ecosystems and species and a range of other values including OECM's have been taken into account when identifying and ranking priorities.

The world's system of protected areas includes many outstanding areas within the global mountain landscape; but significant mountain areas are not adequately protected.

As the world conservation movement advocates to expand the global coverage of protected areas over the next decade toward 30%, identifying priorities for new mountain protected and conserved areas will be most effective if it takes a strategic approach to ensure areas of highest ecological value and most in need of protection are identified.

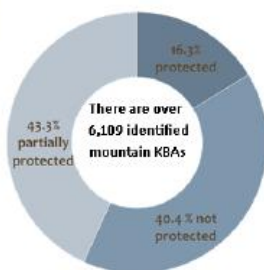
Employing a range of indicators, a new decision support tool helps determine where protection or conservation efforts need to be focussed.



MAKING IT HAPPEN: JOIN US!

The Decision Support Tool (Microsoft Excel document) and Paper can be found on the IUCN WCPA Mountains web page here: [Mountains Paper and Decision Support Tool](#)

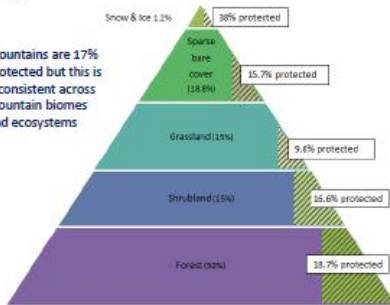
The Decision Support Tool contains up to date datasets on levels of protection and built-in selection and scoring functions, plus references for information as one works through the six steps.



There are over 6,109 identified mountain KBAs

- 16.3% protected
- 43.3% partially protected
- 40.4% not protected

Key Biodiversity Areas



Mountains are 17% protected but this is inconsistent across mountain biomes and ecosystems

- Snow & ice (1.2%): 38% protected
- Sparse tree cover (18.8%): 15.7% protected
- Grassland (13%): 9.6% protected
- Shrubland (15%): 16.8% protected
- Forest (62%): 18.7% protected

Mountain Biomes

Please go to <https://youtu.be/NuY89TWscl> a short video of Protecting Mountains IUCN WCC presentation by Peter Jacobs (Chair Mountain Specialist Group).

Important links

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

IUCN World Conservation Congress [IUCN World Congress](#)

Protected Area Governance and Management (book) [Management Book ANU Press](#)

The Mountain Partnership is a United Nations voluntary alliance of partners dedicated to improving the lives of mountain peoples and protecting mountain environments around the world. [Mountain Partnership](#)

WCPA Mountain Specialist Group Committee		
Executive Committee	Name	Email
Chair	Peter Jacobs	Buffalo_springs@bigpond.com
	Patrizia Rossi	patriziarossi.rossi@gmail.com
	Mike Tollefson	miketollefson1@gmail.com
	Fausto Sarmiento	fsarmien@uga.edu
Editor Mountain Update	Gillian Anderson	peopleinnature@bigpond.com
WCPA Regional Representatives	Name	Email
Southern Africa (Eastern & Southern)	Clinton Carbutt	Clinton.Carbutt@kznwildlife.com
West and Central Africa	Sonigitu Ekpe	sonigitu.ekpe@graduateinstitute.ch
North Africa, West Asia & Middle East	Dawud M.H. Al-Eisawi	aleisawi.d@gmail.com
East Asia	Chaozhi Zhang	zhchzhi@mail.sysu.edu.cn
North Eurasia (Central Asia)	Marc Foggin	marc.foggin@gmail.com
Oceania	Shane Orchard	orchard.dse@gmail.com
South America	Matias Ayarragaray	matiasayarra@gmail.com
South Asia (Pakistan)	Ashiq Ahmad Khan	ashiqahmad@gmail.com
South Asia	Pradeep Mehta	pmehtanainital@gmail.com
South Asia	Ruchi Badola	ruchi@wii.gov.in
Europe (Austria)	Michael Jungmeier	jungmeier@e-c-o.at
Europe (eastern)	Oğuz Kurdoğlu	oguzkurdoglu@gmail.com
North America	Erik Beever	ebeever10@gmail.com
Central America—Caribbean	Rolando Ramirez	rolandorami2010@gmail.com
Young Professional Group	Shailyn Drukis	shailyn.drukis@gmail.com

The World Commission for Protected Areas (WCPA) has a new Chair and the Mountains group would like to extend a welcome to [Madhu Rao](#) whilst saying thank you and paying tribute to past Chair Cathy McKinnon.

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: [IUCN WCPA Get Involved](#)

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