United Nations Decade on Biodiversity

Living in harmony with nature

Mountain Biodiversity

Mountains encompass spectacular landscapes, a wide variety of ecosystems, a great diversity of species, and distinctive human communities. The world's principal biome types—from hyper-arid hot desert and tropical forest to arid polar icecaps—all occur in mountains. Almost every area that is jointly important for plants, amphibians and endemic birds is located within mountains.

Mountain areas have been affected by loss of diversity as a result of human activities, largely due to changes in land use. Mountain forests are threatened by uphill expansion of agriculture and human settlements, logging for timber and fuel wood and replacement by highland pastures.

Climate change largely affects mountain biodiversity by reducing available land area for organisms adapted to the cold. The pace of plant species moving uphill, possibly due to climate change, is quite high, increasing the number of species in the upper belts in the short term, but outcompeting rare species or those adapted to the cold in the long term.

The Convention on Biological Diversity adopted the programme of work on mountain biodiversity, which has a set of actions addressing characteristics and problems specific to mountain ecosystems. It aims to conserve mountain biodiversity and maintain the goods and services of mountain ecosystems, and contribute to poverty alleviation and to the achievement of the Millennium Development Goals, as well as improve the capabilities of institutions and organizations to promote conservation and sustainable use of biodiversity.

UNEP

Convention on Biological Diversity

www.cbd.int/mountain

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Fast Facts

- Referred to as the 'water towers of the world', mountain systems cover about 27% of the world's land surface and directly support 22% of the world's people and provide the freshwater needs of more than half of humanity
- Mountains support about one quarter of world's terrestrial biodiversity and include nearly half of the world's biodiversity 'hotspots'
- Of the 20 plant species that supply 80% of the world's food, six (maize, potatoes, barley, sorghum, tomatoes, and apples) originated in mountains
- Evergreen tropical cloud forests, which harbour the wild relatives and sources of genetic diversity of important staple crops such as beans, potatoes and coffee, are the most fragile and most diminished part of mountain forests
- A large portion of domestic mammals—sheep, goats, domestic yak, llama, and alpaca—originated in mountain regions
- Genetic diversity tends to be higher in mountains associated with cultural diversity and extreme variation in local environmental conditions
- Mountains are often sanctuaries for plants and animals long-gone from the more transformed lowlands. For example, the last mountain gorillas survive among the volcanoes of Rwanda and Uganda
- Mountains are vulnerable to many natural and anthropogenic threats, including seismic hazards, fire, land cover change and agricultural intensification, infrastructure development, and armed conflict

Learn More

Chapter 13 of Agenda 21 on Sustainable Mountain Development
▸ http://earthwatch.unep.ch/agenda21/13.php

Global Mountain Biodiversity Assessment ▸ http://gmba.unibas.ch

Mountain Partnership ▸ www.mountainpartnership.org

Mountain Forum ▸ www.mtnforum.org

Mountain Research Institute ▸ http://mri.scnatweb.ch

UNEP-World Conservation Monitoring Centre ▸ www.unep-wcmc.org

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