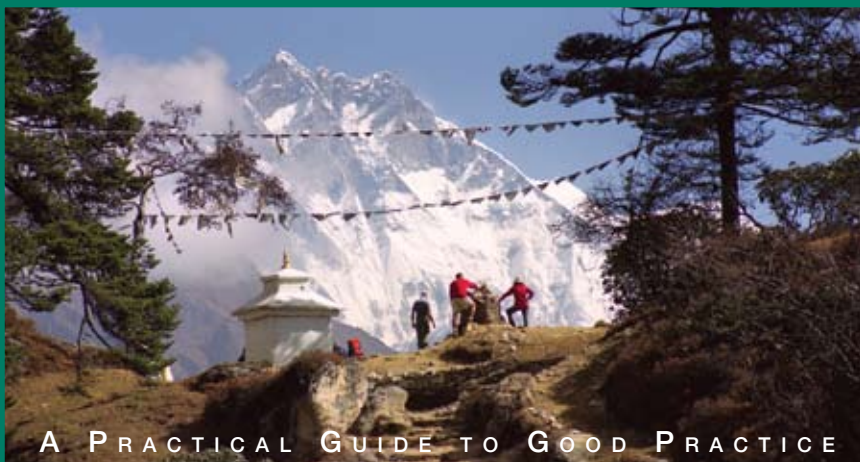




TOURISM AND MOUNTAINS

*A Practical Guide to Managing the
Environmental and Social Impacts
of Mountain Tours*

UNITED NATIONS ENVIRONMENT PROGRAMME



A PRACTICAL GUIDE TO GOOD PRACTICE



TOUR OPERATORS INITIATIVE
FOR SUSTAINABLE TOURISM DEVELOPMENT

TOURISM AND MOUNTAINS

A Practical Guide to Managing the Environmental and Social Impacts of Mountain Tours

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FOREWORD

Mountains have been a source of wonder and inspiration for human societies and cultures since time immemorial. Our fascination for these unique wilderness areas has been partly based on their remoteness and inaccessibility. Yet, today, the elements that attract people to mountains – clean air, diverse landscapes, rich biodiversity, and unique cultures – are under threat, partly because of poorly managed and non-sustainable tourism.

Travel to mountain areas, which already attracts up to 20 percent of global tourism, is increasing rapidly. The investment, operational and managerial decisions of tour operators, other tourism professionals and the wider industry are helping to determine the level of both negative and positive impacts of tourism in mountain environments. It is therefore vital to work with this sector to develop and promote sustainable tourism practices.

This Guide to Good Practice, the latest in a series to help the tourism sector integrate sustainability into its business, was developed through a collaborative process by the United Nations Environment Programme, the Tour Operators' Initiative for Sustainable Development, Conservation International and their partners. It offers a key resource for operators and purchasers of mountain recreational tours.

We invite you to read the guide, and to work with us in promoting sustainable tourism development that benefits the mountain environment, its people and your business.

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INTRODUCTION

WHY WE CREATED THIS GUIDE

Travel to mountain ecosystems is increasing at a rapid pace, as growing numbers of tourists are attracted to the clean air, unique landscapes and wildlife, scenic beauty, culture, history, and recreational opportunities that mountain destinations offer. Yet, while this growth provides important benefits to local communities and national economies, the very popularity of mountain areas also poses a potential threat to the health of their natural and cultural resources. Mountains, which make up nearly a quarter of all land area on Earth and are home to at least 12 percent of the world's human population,¹ contain a wide variety of habitats, many of which have extremely high levels of unique and rich biodiversity. Poorly planned and implemented tours and tourist activities can have a serious impact on these often fragile ecosystems, as well as on the communities that inhabit mountain regions.

This guide has been created to help mountain-based tour operators and other mountain recreation professionals improve their environmental and social performance. We begin with an overview of mountain ecosystems and communities and a discussion of the nature and potential impacts of mountain tourism and tour activities. Next, we review good practices for a range of key issues related to mountain tourism. These issues are grouped into three main categories: good business practices, good environmental practices and good practices for specific tour activities. For each individual issue, we offer a brief summary, the rationale for good practices, recommendations of specific activities and practices, and examples of what other operators around the world are doing. A self-assessment checklist is included – at the back of this guide – for tour operators to use both to identify areas of business activity that need improvement and as a tool for choosing business partners and suppliers based on sustainability criteria.

This publication is part of a series of Practical Guides to Good Practice developed by Conservation International and the United Nations Environment Programme for various sectors of the tourism industry. One set of these guides, which is aimed at tourism professionals, including the marine recreation sector, the cruise sector and the accommodations sector, encourages providers to implement good practices and work jointly with national and local agencies to develop and implement sustainable tourism strategies. Another group of guides – of which this publication is one – is aimed specifically at tour operators offering tours in particular environments, including rainforest-based tours, desert-based tours and land-based tours. For more on these other publications, please see the Sources of Further Information section at the end of this guide.

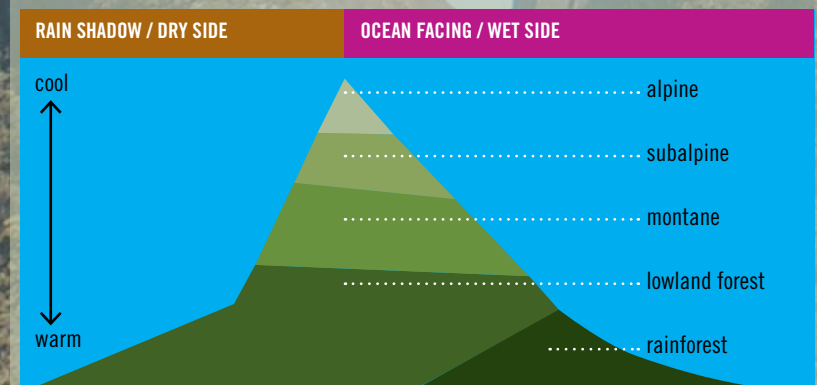
MOUNTAINS OF THE WORLD

Mountains cover about 24 percent of the world's land surface, ranging over every continent and all major types of ecosystems, from deserts and tropical forests to polar icecaps (see map on following page).

All mountains have one major common characteristic: rapid changes in altitude, climate, vegetation and soil over very short distances that lead to dramatic differences in habitat and high levels of biodiversity. Mountain weather can be unpredictable, and rainfall varies significantly.

Due to this diversity of conditions, it is difficult to develop a standard definition of a mountain. In general, mountains can be said to be higher than 300 meters (984 feet), but it is more appropriate to discuss them in terms of zones of similar altitude, slope and vegetation type. In very general terms, mountains usually comprise a montane, subalpine and alpine zone (see Figure 1). Each zone tends to contain a unique range of plant and animal species, many of which may be endemic to a particular location.

Figure 1: Mountain Life Zones



Source: United States Department of the Interior, National Parks and Wildlife Service online 2006

MOUNTAIN RANGES OF THE WORLD

North America

- **Alaska Range**
| United States
- **Appalachian Mountains**
| United States
- **Brooks Range**
| United States
- **Coastal Mountains**
| United States, Canada
- **Rocky Mountains**
| United States, Canada
- **Sierra Madre**
| Mexico

South America

- **Andes**
| Argentina, Chile, Bolivia, Peru, Ecuador, Columbia

Europe

- **Alps**
| Central Europe
- **Caucasus Mountains**
| Ukraine
- **Kjolen Mountains**
| Norway
- **Pyrenees**
| France, Spain
- **Taurus Mountains**
| Turkey
- **Thian Mountains**
| Eastern Europe
- **Ural Mountains**
| Russia

Africa

- **Atlas Mountains**
| Morocco, Algeria
- **Crystal Mountains**
| Gabon, Congo, Zambia, Angola
- **Drakensberg Mountains**
| South Africa
- **Mitumba Mountains**
| Zambia

Asia

- **Altay Mountains**
| Mongolia
- **Himalayan Mountains**
| Afghanistan, Pakistan, India, Tibet, Nepal, Kashmir, China
- **Tian Shan**
| Tajikistan, Kyrgyzstan
- **Zagros Mountains**
| Iran

Oceania

- **Great Dividing Range**
| Australia
- **Southern Alps**
| New Zealand

The alpine zone includes the higher, colder and more snow-prone parts of mountains, where vegetation is sparse due to a short growing season and the extreme environmental conditions. In the subalpine zone, which includes mid-altitude areas, vegetation covers more of the landscape and trees tend to take on a low, shrub-like and twisted appearance known as *krummholz*. The montane zone covers the lower part of mountains, where forests grow tall and dense.

The biodiversity of mountain ecosystems and the uniqueness of many of their landscapes and animal and plant species represent important conservation values. Mountains also supply important resources and benefits to human society. They are the source of about 80 percent of global fresh water supplies and provide significant food, hydroelectricity, timber and mineral products to more than half of the world's population.

MOUNTAIN COMMUNITIES

About 12 percent of the world's human population live in the mountains, with another 14 percent living next to or very near mountain areas and dependent on their resources. Of these people, about half are concentrated in the Andes, the Hengduan-Himalaya-Hindu Kush system and a variety of different African mountains. While mountains in the northern hemisphere are often sparsely populated, some tropical mountain areas have population densities of more than 400 people per square kilometer.²

Most mountain communities are rural, and most live in poverty. These communities often have little or no political power and are dependent on economies based largely on barter trade and agriculture. Mountain ecosystems hold important social, cultural, environmental and economic significance for the health and livelihood of these communities, and their close relationship with the land has helped them develop unique cultural identities, knowledge and skills.

Mountain communities include several thousand different ethnic groups, and the uniqueness and diversity of these cultures is particularly attractive to many tourists. Well-managed tourism can be an ally in preserving local culture and values, while at the same time improving the social conditions of the poor and local communities. Poorly managed tourism, however, can contribute to the loss of cultural integrity and identity through cultural assimilation.

MOUNTAIN TOURISM

Mountain areas are second only to coasts and islands as popular tourism destinations, generating 15-20 percent of annual global tourism, or US\$70-90 billion per year. Tourists are attracted to mountain destinations for many reasons, including the climate, clean air, unique landscapes and wildlife, scenic beauty, local culture, history and heritage, and the opportunity to experience snow and participate in snow-based or nature-related activities and sports.

While modern forms of transportation have made even remote mountain areas accessible to increasing numbers of visitors, mountain tourism tends to be very unevenly distributed, with a small proportion of locations having significant tourism infrastructure. For example, in the European Alps, where tourism now exceeds 100 million visitor-days per year, 40 percent of communities have no tourism at all, while 10 percent have extensive and specialized tourism infrastructure.³

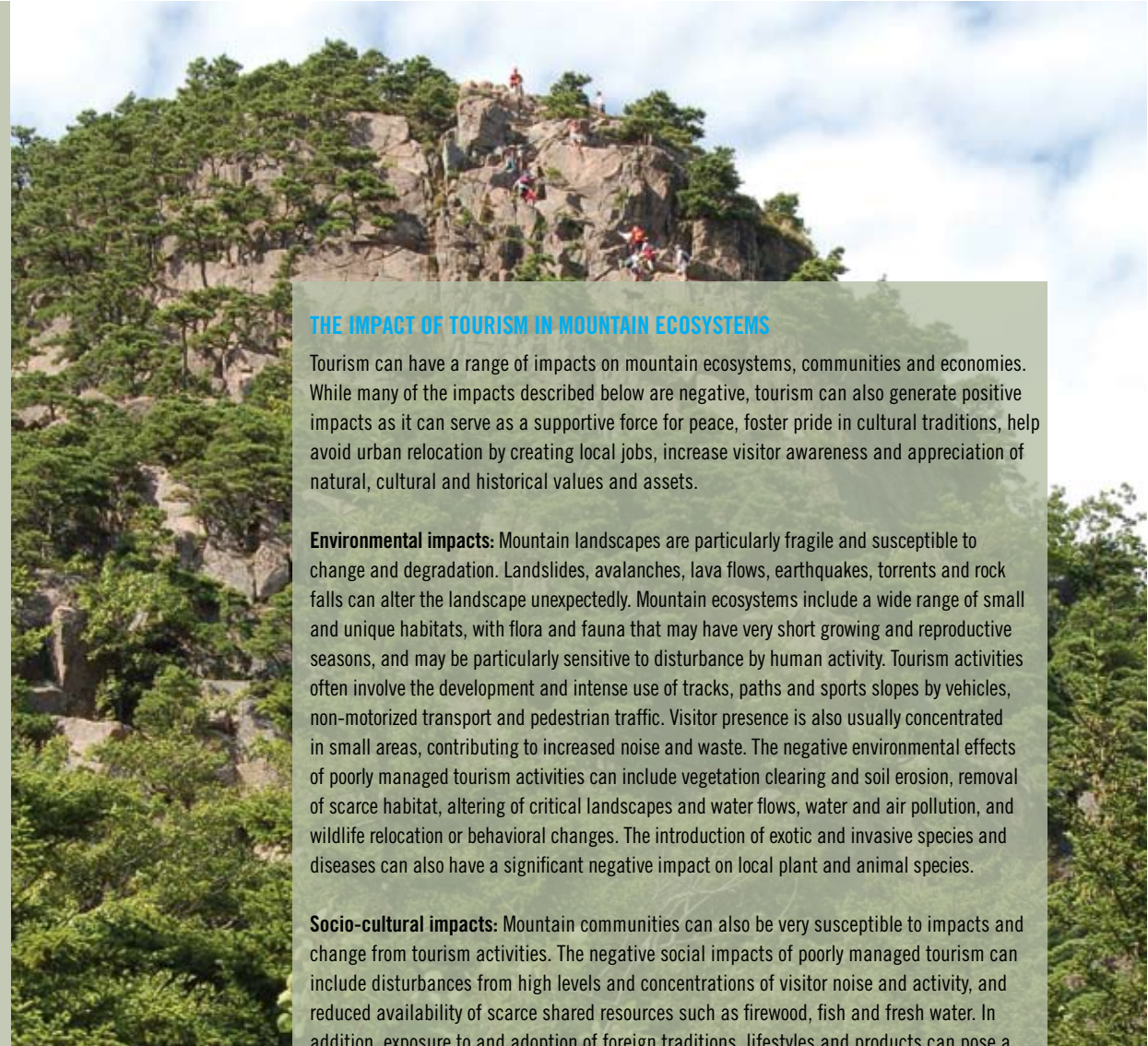
MOUNTAIN TOURS

Mountain tours may be self-guided or led by a tour guide. They may last hours, days or weeks and can involve a range of land-, snow- and freshwater-based activities.

Mountain tours often include one or more overnight stays. Where temporary forms of accommodation, such as tents or vehicles (e.g. camping trailers or mobile homes) are used, these stays are considered camping. The equipment and provisions needed for nature walks and camping activities vary depending on the duration of the walk, the weather conditions and predictability of the weather, and environmental conditions, such as the incline, likelihood of ice on trails or the level of snow. The availability of facilities, such as toilets, food, water and shelter, along the route will also help determine the necessary supplies.

The most common elements of mountain-based tours include:

Nature walks. An important means of experiencing the mountain flora, fauna and landscape, walks provide tourists with an opportunity to view, interact with and learn about native birds, mammals, reptiles, insects and other wildlife. Encounters with wildlife, which may be unplanned and occur unexpectedly during a tour or purposefully sought out and offered as a core part of a tour program, add significant value for visitors. The scenery and specific experiences of a walk may be quite different, depending on the season, and can be a particularly important source of summer income for areas that are generally dependent on snow-based activities.



THE IMPACT OF TOURISM IN MOUNTAIN ECOSYSTEMS

Tourism can have a range of impacts on mountain ecosystems, communities and economies. While many of the impacts described below are negative, tourism can also generate positive impacts as it can serve as a supportive force for peace, foster pride in cultural traditions, help avoid urban relocation by creating local jobs, increase visitor awareness and appreciation of natural, cultural and historical values and assets.

Environmental impacts: Mountain landscapes are particularly fragile and susceptible to change and degradation. Landslides, avalanches, lava flows, earthquakes, torrents and rock falls can alter the landscape unexpectedly. Mountain ecosystems include a wide range of small and unique habitats, with flora and fauna that may have very short growing and reproductive seasons, and may be particularly sensitive to disturbance by human activity. Tourism activities often involve the development and intense use of tracks, paths and sports slopes by vehicles, non-motorized transport and pedestrian traffic. Visitor presence is also usually concentrated in small areas, contributing to increased noise and waste. The negative environmental effects of poorly managed tourism activities can include vegetation clearing and soil erosion, removal of scarce habitat, altering of critical landscapes and water flows, water and air pollution, and wildlife relocation or behavioral changes. The introduction of exotic and invasive species and diseases can also have a significant negative impact on local plant and animal species.

Socio-cultural impacts: Mountain communities can also be very susceptible to impacts and change from tourism activities. The negative social impacts of poorly managed tourism can include disturbances from high levels and concentrations of visitor noise and activity, and reduced availability of scarce shared resources such as firewood, fish and fresh water. In addition, exposure to and adoption of foreign traditions, lifestyles and products can pose a

- Land-based adventure activities.** Such activities include cycling, mountain biking, quadbiking, horseback riding, canyoneering and, less often, rock climbing, ice climbing, hang gliding and caving. While the weather conditions (snow, ice-covered or dry) and access to sites may differ (e.g. frozen rivers or lakes or obscured or blocked trails), these activities can occur in mountain areas both on and off snow season.
- Freshwater-based recreational activities.** Activities including river tours, canoeing, sailing, windsurfing, kite surfing, kayaking, rafting and freshwater fishing may also be a part of mountain tours.
- Snow-dependent recreation activities.** Activities such as cross country, downhill and glacier skiing, heli-skiing, snow scootering, snowboarding, tobogganing, snowshoe walking and sledding are generally restricted to higher alpine mountain areas and concentrated in snowfall seasons.

One or more of the above activities might be incorporated into a tour as a point of interest, or an entire tour can be created around just one of these niche activity areas. In either case, operators need to be prepared to cater to a range of visitor ages, skill levels and equipment needs. Some visitors may be complete novices, just interested in trying something different, while others may be more experienced and traveling solely for the purpose of engaging in one or more of these activities. Some may bring everything with them, while others will expect operators to be able to supply equipment, clothes, transport and/or lessons.

Tour activities are largely dictated by environmental conditions. For example, snow- and ice-based activities are dependent on the existence and extent of ice or snow cover, while water- and nature-based activities may easily be restricted by too much snow and ice. All activities are susceptible to temperature changes, blizzards, landslides and weather conditions. In some

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