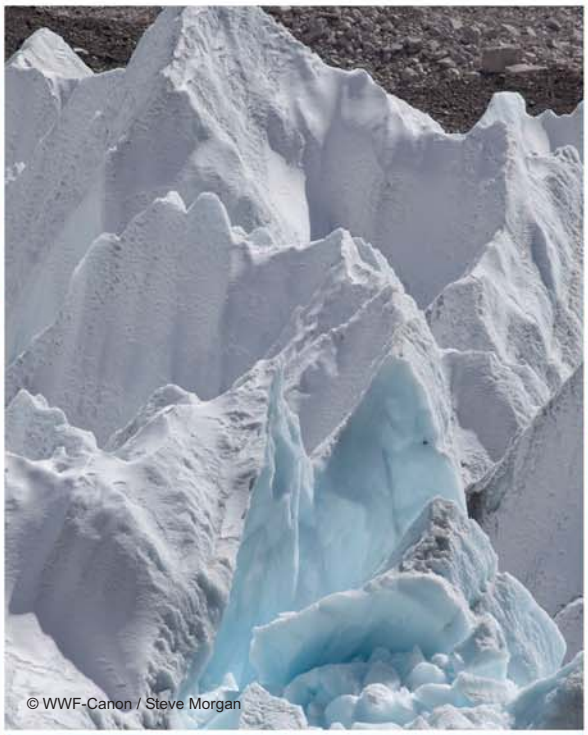
WWF

FACT SHEET

LIVING HIMALAYAS

Melting Mountains

Climate change and the Himalayas



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Known as the Water Towers of Asia, the Himalayas are the source of many of the world's largest river systems, including the Indus, Ganges, Brahmaputra and Yangtze, and have the most glaciers outside the polar region. More than a billion people throughout Asia depend on these vast stores of fresh water for domestic and industrial use, agriculture and power generation, in essence, their survival.

The Himalayan region is one of the world's most sensitive hotspots to climate change impacts, with many of its glaciers retreating at a rapid pace. The Himalayas may mean "home of snow" in Sanskrit, but that definition may one day become obsolete. Possible decreases in snow accumulation in the high peaks may contribute to acute water shortages in the future, and continued climate change is predicted to lead to major changes in freshwater flows. This will in turn affect biodiversity, people and their livelihoods.

By promoting a shared sustainable development vision, WWF believes that real progress can be made in tackling climate change issues in the Eastern Himalayas, and thereby secure the fresh water and livelihoods of millions of people throughout the region. Only a concerted focus and a shared vision can maintain a living Himalayas for people and nature.

GLACIAL IMPACTS

A significant climate change impact on the Himalayas is the formation of a large


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number of glacial lakes. Due to an increase in the rate at which ice and snow melt; the accumulation of water in these lakes has been increasing rapidly. If the rubble dams holding back the waters were to break, a tsunami of water, mud, ice and rubble will sweep down the valleys. Such events can have devastating consequences to infrastructure – such as washing away roads and bridges, severely damaging dams and hydropower stations – and communities living downstream by washing away fields, livestock, houses and people.

In the short term, melting glaciers and unpredictable seasonal rainfall may cause greater water flows, causing intense floods; the lack of rainfall can lead to more frequent dry spells. However, in the longer term, water flows are expected to decrease. As the region's agriculture and power generation are fully dependent on the freshwater of the Himalayan rivers, any significant reduction in river flow will be catastrophic. In the Himalayan tributaries of the Ganga and Brahmaputra rivers, for example, the loss of glacier melt water could cause a water shortage for millions of people.

WWF is working with the governments in the Eastern Himalayas as well as the public and private sectors to be "climate smart" and ecologically responsible towards developing and managing water infrastructures, and to protect natural freshwater systems for sustainable regional development in the face of climate change.

LOCAL ADAPTATION

Local communities in the Eastern Himalayas need to be equipped to cope with the rising threat of extreme dry and wet periods, and to respond to changing and unpredictable weather patterns. Adapting to climate change calls for having a better understanding of its impacts on river systems in order to build resilience. WWF is working on the ground in the Eastern Himalayas to help communities take protective measures against the adverse effects of climate change.

In Bhutan, for example, a major effort is underway by the government, local communities, WWF and others to prevent the Thorthormi Tsho glacial lake from bursting. This is being done by a team of hundreds of workers from throughout the country, including farmers, yak herders and women, who are draining the lake by channeling the water elsewhere. This is one of many local success stories of climate change adaptation in action.

Adaptation strategies at the community level are designed to be locally appropriate and are developed in close collaboration with the communities themselves. This includes advising farmers on crop diversification and choice of agricultural practices under changing climatic conditions.

WWF is also working with governments to ensure adaptation is integrated into local development planning and river management, including ensuring that any potentially new hydropower plants are sustainable and meet environmental regulations.

"Climate change is already wreaking havoc in the Himalayas and glaciers are in retreat across the range. This and many other climate change impacts are threatening not only the lives of people and rich biodiversity of the region, but also the development aspirations of hundreds of millions of people downstream."

— James P. Leape, Director General, WWF International


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