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Glaciers Are Melting Faster Than Expected, UN Reports

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Summary: The world's glaciers are continuing to melt away with the latest official figures showing record losses, the UN Environment Programme has announced. Data from close to 30 reference glaciers in nine mountain ranges indicate that between the years 2004-2005 and 2005-2006 the average rate of melting and thinning more than doubled.

FULL STORY

The world's glaciers are continuing to melt away with the latest official figures showing record losses, the UN Environment Programme (UNEP) announced today.

Data from close to 30 reference glaciers in nine mountain ranges indicate that between the years 2004-2005 and 2005-2006 the average rate of melting and thinning more than doubled.

The findings come from the World Glacier Monitoring Service (WGMS), a centre based at the University of Zurich in Switzerland and that is supported by UNEP.

It has been tracking the fate of glaciers for over a century. Continuous data series of annual mass balance, expressed as thickness change, are available for 30 reference glaciers since 1980.

Prof. Dr. Wilfried Haeberli, Director of the Service said: "The latest figures are part of what appears to be an accelerating trend with no apparent end in sight."

The Service calculates thickening and thinning of glaciers in terms of 'water equivalent'. The estimates for the year 2006 indicate that further shrinking took place equal to around 1.4 metres of water equivalent compared to losses of half a metre in 2005.

"This continues the trend in accelerated ice loss during the past two and a half decades and brings the total loss since 1980 to more than 10.5 metres of water equivalent," said Professor Haberli. During 1980-1999, average loss rates had been 0.3 metres per year. Since the turn of the millennium, this rate had increased to about half a metre per year.

The record loss during these two decades – 0.7 metres in 1998 – has now been exceeded by three out of the past six years: 2003, 2004 and 2006.

On average, one metre water equivalent corresponds to 1.1 metres in ice thickness indicating a further shrinking in 2006 of 1.5 actual metres and since 1980 a total reduction in thickness of ice of just over 11.5 metres or almost 38 feet.

Achim Steiner, UN Under-Secretary General and UNEP Executive Director, said: "Millions if not billions of people depend directly or indirectly on these natural water storage facilities for drinking water, agriculture, industry and power generation during key parts of the year," said Mr Steiner.

"There are many canaries emerging in the climate change coal mine. The glaciers are perhaps among those making the most noise and it is absolutely essential that everyone sits up and takes notice," he said.

"To an important and significant extent that is already happening—indeed the elements of a Green Economy are already emerging from the more than $100 billion being invested in renewable energies to the responsible investment principles endorsed by 300 financial institutions with $13 trillion-worth of assets," said Mr Steiner.

"The litmus test will come in late 2009 at the climate convention meeting in Copenhagen. Here governments must agree on a decisive new emissions reduction and adaptation-focused regime. Otherwise, and like the glaciers, our room for man oeuvre and the opportunity to act may simply melt away," he added.

The WGMS findings also contain figures from around 100 glaciers, of which 30 form the core assessment, found in Antarctica, Asia, Europe, North America, Latin America and the Pacific.

Some of the most dramatic shrinking has taken place in Europe with Norway's Breidalblikkbrea glacier thinning by close to 3.1 metres (2.9 metre water equivalent) during 2006 compared with a thinning of 0.3 metres (0.28 metres water equivalent) in the year 2005.

Other dramatic shrinking has been registered at Austria's Grosser Goldbergkees glacier, 1.2 metres in 2006 versus 0.3 in 2005; France's Ossoue glacier, nearly 3 metres versus around 2.7 metres in 2005; Italy's Malavalle glacier 1.4 metres versus around 0.9 metres in 2005; Spain's Maladeta glacier, nearly 2 metres versus 1.6 metres in 2005; Sweden's Storglaciaeren glacier, 1.8 metres versus close to 0.080 metres in 2005 and Switzerland's Findelen glacier, 1.3 metres versus 0.22 metres in 2005.

Not all of the close to 100 glaciers monitored posted losses with some thickening during the same period including Chile's Echaurren Norte glacier while others, such as Bolivia's Chacaltaya glacier; Canada's Place glacier; India's Hamtah glacier and the Daniels and Yawning glaciers in the Untied States shrank less in 2006 than they did in 2005.

However, for the close to 30 reference glaciers only one (Echaurren Norte in Chile) thickened over the same period.

Melting glaciers and water needs

Himalayan glaciers are receding in a similar way as glaciers in other mountain ranges at low latitudes. Many glaciers in these areas could, at current rates of global warming, disappear within the coming decades.

Half a billion people in the Himalaya-Hindu-Kush region and a quarter billion downstream who rely on glacial melt waters could be seriously affected.

The current trends in glacial melt suggest that the Ganga, Indus, Brahmaputra and other rivers that criss-cross the northern Indian plain may become seasonal rivers in the near future as a consequence of climate change with important ramifications for poverty and the economies in the region.

North America: "Heavily-utilized water systems of the western US and Canada, such as the Columbia River, that rely on capturing snowmelt runoff will be especially vulnerable," says the Fourth report of IPCC Working Group II.

A two degree C warming by the 2040s is likely to lead to sharply reduced summer flows coinciding with sharply rising demand.

The report estimates that Portland, Oregon will by then require over 26 million additional cubic meters of water as a result of climate change and population growth. This will coincide with a fall in summer supplies from the Columbia River by an esti-

mated five million cubic meters.

Meanwhile, just over 40 per cent of the supply to southern California is likely to be vulnerable by the 2020s due to warming triggering losses of the Sierra Nevada and Colorado River basin snow pack.

In Latin America, the IPCC warns of a melting of most tropical glaciers in the near future (2020-2030).

The glacier retreat trend reported in the Third Assessment Report of the IPCC is continuing and reaching critical conditions in Bolivia, Peru, Colombia and Ecuador.

Recent studies indicate that most of the South American glaciers from Colombia to Chile and Argentina (up to 25ºS) are drastically reducing their volume at an accelerated rate. Changes in temperature and humidity are the primary cause for the observed glacier retreat during the 2nd half of the 20th century in the tropical Andes. In the next 15 years inter-tropical glaciers are very likely to disappear, affecting water availability and hydropower generation.

Story Source:

Materials provided by **U.N. Environment Programme**. *Note: Content may be edited for style and length.*

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